Image credits: AdobeStock |#299058653

DISCLAIMER: This is a draft version of the Nature Tools Compass, please do not use or reference. All tool descriptions will be updated post-consultation phase, pending review by tool developers.

To share your thoughts on the Nature Tools Compass, please click here.
As part of this public consultation, we are seeking feedback from businesses, financial institutions, regulators, tool developers and expert organizations.

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The Nature Tools Compass

The Nature Tools Compass supports businesses, financial institutions and regulators. The Nature Tools Compass can help you with navigating tools for assessing their nature dependencies, impacts, risks and opportunities. It provides a list of tools for the different phases of the Taskforce on Nature-related Financial Disclosures (TNFD) LEAP (Locate, Evaluate, Assess and Prepare) approach. The featured tools are licensed for commercial use and offer a free-of-charge access option. For more information on the tool selection criteria, see here.

The Nature Tools Compass is structured around two tailored pathways: one for businesses and one for financial institutions. The finance pathway may also be useful for regulators exploring sectoral or macroeconomic exposure to nature-related dependencies, impacts, risks and opportunities related to nature.

Instructions on how to use the Nature Tools Compass

For more information on the TNFD LEAP approach, please see the guidance here. TNFD also offers a Tools Catalogue that includes over 200 tools, see here. For information on the SUSTAIN project, please see the acknowledgements page here. An 'About' page with more details on the Nature Tools Compass can be found here, with details on the approach here and a list of tools included here.

Business

Click here for guidance on how to navigate nature-related assessments as a business

Nature Tools Compass for business

Finance

Click here for guidance on how to navigate nature-related assessments as a financial institution or regulator

Nature Tools Compass for finance

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About the Nature Tools Compass

The Nature Tools Compass supports businesses, financial institutions and regulators with conducting assessments of their nature-related dependencies, impacts, risks and opportunities. It provides information on nature tools that can be used for the different components of the LEAP approach developed by TNFD. All tools included are licensed for commercial use and offer some version or mode that is accessible free-of-charge. For each LEAP component, the Nature Tools Compass indicates the corresponding step of the SBTN target-setting methodology and ESRS Implementation Guidance. While the Nature Tools Compass mainly focuses on tools, some pages also provide links to other resources that you may find useful. For more information on how the Nature Tools Compass was developed, see the approach section here.

The Nature Tools Compass offers advice on how relevant tools can support each component of the LEAP approach. For guidance on the LEAP approach, please refer to the dedicated guidance developed by TNFD. You may notice that in the Nature Tools Compass, some components of the LEAP approach have been merged to simplify the presentation of the tools. For example, component E2: Identification of dependencies and impacts, was merged with component E3: Dependency and impact measurement as they can be supported by similar tools. They remain two distinct components of the assessment process, as outlined in the TNFD LEAP guidance.

To complete a component of the LEAP approach, you may need to combine outputs from multiple tools or complement them with additional data and analysis. Each tool has its own limitations, which should be carefully considered to determine whether the tool is appropriate for your company's assessment and to interpret outputs from the tool correctly. An overview of key limitations of the tools is available in the Tools Descriptions section at the end of the Nature Tools Compass (here).

As the Nature Tools Compass aims to support businesses, financial institutions and regulators with activities in different parts of the world, it primarily features nature tools that have a global geographical coverage. Organizations are encouraged to look for national and regional tools and datasets relevant to their geographical footprint.

The Nature Tools Compass is an output of the Strengthening Understanding and Strategies of Business to Assess and Integrate Nature (SUSTAIN) Horizon Europe project. The development of the Nature Tools Compass was led by UNEP-WCMC, with contributions from SUSTAIN Partners: Capitals Coalition, the International Union for Conservation of Nature (IUCN), Oxford Sustainable Finance Group (OxSFG), ShareAction, and the World Business Council for Sustainable Development (WBCSD). Other SUSTAIN partners provided a review of selected sections, including PBL Netherlands Environmental Assessment Agency, ETH Zürich, Fundación Biodiversidad and IUCN Europe. The Nature Tools Compass benefited from additional feedback gathered through consultations with technical experts, user research, user testing and a public consultation. To learn more about the SUSTAIN project, consult the full list of reviewers and see the suggested citation, see the 'Acknowledgement' section (here).

Approach (1 of 2)

Methods

The Nature Tools Compass was developed between mid-2024 and mid-2025 using a multi-stage approach:

- Initial mapping of tools: We reviewed tools highlighted in leading corporate assessment and disclosure guidance documents, such as the TNFD Recommendations and LEAP Guidance, SBTN Step 1-3 Methods, ESRS Implementation Guidance. We also reviewed tools featured in existing compilations of tools, including TNFD Tools Catalogue, SBTN Step 1 Toolbox, WBCSD Nature Positive Roadmaps, PBAF toolbox and the list of business tools and mechanisms developed by the Convention on Biological Diversity (CBD) Secretariat.
- Desk-based research and screening of tools against selection criteria: We conducted additional research on available tools and gather information to assess tools against the selection criteria.
- Consultations with technical experts: We sought inputs from experts within SUSTAIN project consortium and from other organisations with expertise in nature-related assessments and disclosure.
- User engagement: We researched user needs and preferences and gathered feedback from representatives of the target user groups - business, finance and regulators. This included usability testing sessions where representatives of target users piloted the design and navigation features.
- Reviews and public consultation: A draft version of the Nature Tools Compass was reviewed by technical experts and practitioners from business and finance. A public consultation on an advanced draft of the Nature Tools Compass was organized in October 2025.

Definition of nature tools

The Nature Tools Compass includes biodiversity and nature tools that fall under one of the following categories (adapted from Kemp et al., expected 2025):

1. Data portals and repositories, which are tools or data systems that provide access to data. Including data sources (portals), libraries/catalogues and repositories.
2. Decision-support tools, which are dedicated tools that assist users in carrying out one or more specific tasks and generate tailored information using a predefined methodology relying on original or third-party data. This includes data sources (portals), libraries/catalogues and repositories.
3. Flexible analysis platforms, which are platforms that provide access to multiple datasets that allow users to develop their own processes.
4. Data capture/reporting systems, which are systems that intend to gather data from users.

To differentiate from other toolboxes focusing on climate, Nature Tools Compass excludes any tools that focus solely on climate. While the Nature Tools Compass mainly focuses on tools, some pages also provide links to other resources that organizations may find useful. These are marked as resources and include guidance documents, reports and other methodologies.

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Approach (2 of 2)

Tools selection criteria

Tools featured in the Nature Tools Compass were selected based on the following criteria, which were determined at the start of the research in consultation with experts from SUSTAIN consortium and beyond:

- The tool may be useful for a business or financial institution assessing nature-related dependencies, impacts, risks and opportunities.
- The tool is licensed for commercial use.*
- The tool is free to access or offers a free mode that provides key functionalities.
- The tool has global or multi-regional geographical coverage.
- The tool is recognized in leading guidance on corporate assessment and disclosure of nature-related dependencies, impacts, risks and opportunities.To consult a list of guidance documents considered, please see the methodology and references. AND/OR The tool was recommended to be included based on feedback from technical experts and practitioners from business and finance on commonly used tools.

Note:

The list of tools and resources included in the Nature Tools Compass is instructive but non-exhaustive.

The Nature Tools Compass does not include the ‘Prepare’ phase of TNFD LEAP.

*We strongly recommend that all organizations check that any tools they intend to use are licensed for their specific use case ahead of using said tool(s).

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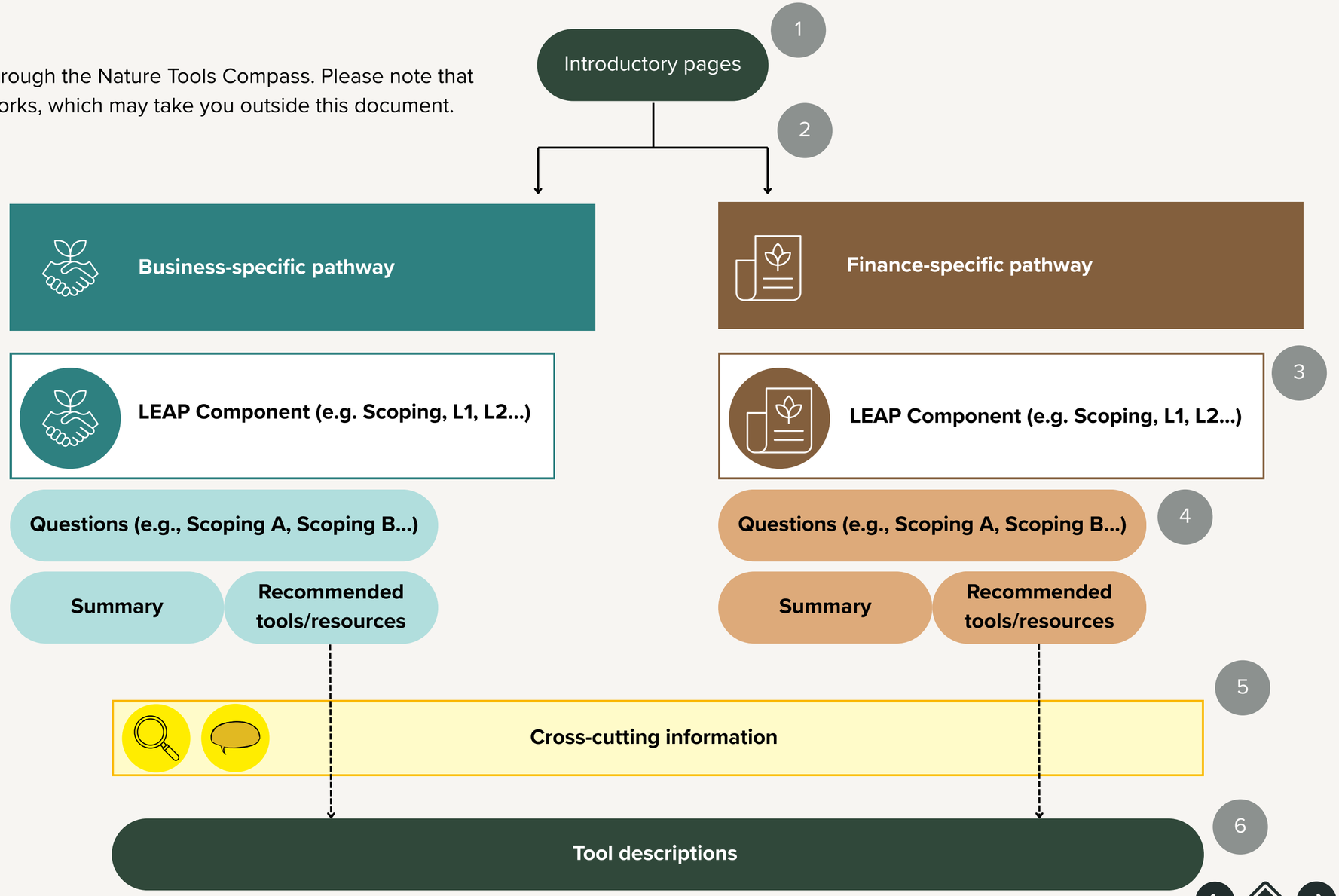
Instructions

The diagram on this page represents the two pathways through the Nature Tools Compass. Please note that this document includes links to external tools and frameworks, which may take you outside this document.

1. Start at the introductory pages to the Nature Tools Compass.
2. From the home page or the top bar of any page, choose the area that interests you: business or finance. This will take you to the overview of all of TNFD LEAP components for either business or finance.
3. Select the component of the LEAP approach that is relevant to your needs. You can follow the components sequentially or jump to a specific component based on your organization's current priorities.
4. Within that component, select the question that is relevant to your needs. This will take you to a summary and a recommended tool list to help you answer this question. When tools are not available, you will find a list of resources.
5. At any component, you can navigate to cross-cutting information.
6. If you would like to learn more about a specific tool, click "[Learn more]" to navigate to a tool description page with key information on the tool. The tool descriptions can all be found at the end of the Nature Tools Compass in alphabetical order (click here for the tool index).



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Business

Please select “View more” on the component that you are interested in to view tool recommendations. For components in the finance pathway, please click “Finance” on the bar above.

Scoping
Scoping an assessment
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Span of the business model and value chain
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L2
Dependency and impact screening
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L3
Interface with nature
View more

L4
Interface with sensitive locations
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E1
Identification of environmental assets, ecosystem services and impact drivers
View more

E2 & E3
Identification and measurements of dependencies and impacts
View more

E4
Impact and dependency materiality assessment
View more

A1
Risk and opportunity identification
View more

A2
Adjustment of existing risk mitigation and risk and opportunity management
View more

A3
Risk and opportunity measurement and prioritization
View more

A4
Risk and opportunity materiality assessment
View more

Cross-cutting
Scenario analysis
View more

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders
View more

Finance

Please select “View more” on the component that you are interested in to view tool recommendations. For components in the business pathway, please click “Business” on the bar above.

Scoping
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L1
Span of the business model and value chain
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E4
Impact and dependency materiality assessment
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A1
Risk and opportunity identification
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Adjustment of existing risk mitigation and risk and opportunity management
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Cross-cutting
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Back to the business steps

View next phase

Scoping

In this phase, you conduct a quick, high-level preliminary scan of internal and external data. You also review relevant reference sources. The aim is to generate a hypothesis about your company's potential nature-related dependencies, impacts, risks and opportunities. This step also helps you build senior management support and align vision and resources for a full nature-related assessment.

This aligns with: TNFD Scoping, SBTN Step 1, ESRS Step A

Question(s):

- Scoping A: Conduct a high-level, preliminary scan of your company's direct operations activities. Which activities in the company's direct operations are likely to have material nature-related dependencies, impacts, risks and opportunities?
- Scoping B: Conduct a high-level, preliminary scan of the activities in your company's upstream and downstream value chains. Which activities in the company's value chains are likely to have material nature-related dependencies, impacts, risks and opportunities?
- Scoping C: Consider your company's current level of capacity, skills and data, as well as your organizational goals. What resource (financial, human, and data) considerations and time allocations are required and agreed upon for undertaking an assessment?

Note: The Nature Tools Compass does not provide a list of tools for the Scoping C question on estimated resources and time, as answering this primarily relies on your internal understanding and company data. However, we recommend using insights from your responses to Scoping A and B to inform your approach to Scoping C. You can find guidance on addressing this Scoping question starting on page 31 of the TNFD LEAP approach (here).

Cross-cutting
Scenario analysis
View more

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders
View more

Instructions: Please click on the headings on the left hand side column to navigate to those question(s).

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Back to the business steps

View next phase

Scoping
Scoping an assessment

Summary Tools

Scoping A: Conduct a high-level, preliminary scan of your company's direct operations activities. Which activities in the company's direct operations are likely to have material nature-related dependencies, impacts, risks and opportunities?

Identify the main economic activities and sectors within your company's direct operations and gain a high-level understanding of their potential nature-related dependencies, impacts, risks and opportunities. This will help you gain an initial insight into nature-related issues that may be relevant for your business.

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Back to the business steps

View next phase

Scoping
Scoping an assessment

Scoping A

Scoping B

Summary Tools

Scoping A: Conduct a high-level, preliminary scan of your company's direct operations activities. Which activities in the company's direct operations are likely to have material nature-related dependencies, impacts, risks and opportunities?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
ENCORE [Learn more]	Exploring Natural Capital Opportunities, Risks and Exposures (ENCORE) provides you with information on potential nature-related pressures/impact drivers and dependencies for 271 economic activities. For each activity, ENCORE provides materiality ratings that range from Very Low to Very High. These economic activities are categorized based on ISIC Groups or Classes. You can use the tool, particularly the online natural capital module, to screen your company's direct operations activities and prioritize for further assessment those that are likely to be associated with higher material impacts and dependencies (e.g., those with Medium, High and/or Very High materiality ratings).	List of sectors / economic activities in direct operations	List of pressures and ecosystem service dependencies that are likely to be associated with the direct operations activities and their materiality ratings
SBTN High Impact Commodity List [Learn more]	The SBTN High Impact Commodity List (HICL) includes commodities identified by SBTN as high impact, along with their potential material pressures and traceability scores. You can use this list to identify which commodities your company is producing or processing that are categorized as having a high impact on nature.	List of commodities produced or processed	List of commodities used or produced in a company's direct operations that have potentially high impacts on nature
SASB Standards Navigator [Learn more]	The Sustainability Accounting Standards Board (SASB) Standards Navigator tool allows you to identify your industry by filtering through company name or industry key word. The tool also allows you to compare industries and access all 77 industry-specific SASB Standards. It includes a list of relevant disclosure and activity metrics for you to report on. The tool can help you identify the sustainability-related risks and opportunities most likely to affect your company's cash flows. The navigator supports you in identifying opportunities for access to finance and in assessing your cost of capital over the short, medium, or long term. The tool also helps you pinpoint the disclosure topics and metrics that are most useful to investors.	List of sectors / economic activities in direct operations (at SASB industry level)	List of sustainability risks and opportunities (including environmental) likely to be material to report to investors which are associated with direct operations activities

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Back to the business steps

View next phase

Scoping
Scoping an assessment

Summary Tools

Scoping B: Conduct a high-level, preliminary scan of the activities in your company's upstream and downstream value chains. Which activities in the company's value chains are likely to have material nature-related dependencies, impacts, risks and opportunities?

Identify the main economic activities and sectors within key upstream and downstream value chain links of your company and gain a high-level understanding of their potential nature-related dependencies, impacts, risks and opportunities. This will help you gain an initial insight into nature-related issues that may be relevant for your business.

Scoping
Scoping an assessment

Scoping A

Scoping B

Summary | Tools (1 of 2)

Scoping B: Conduct a high-level, preliminary scan of the activities in your company's upstream and downstream value chains. Which activities in the company's value chains are likely to have material nature-related dependencies, impacts, risks and opportunities?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
ENCORE [Learn more]	The ENCORE natural capital value chain functionality provides you with a visualization of key value chain links for different direct operations activities. This information is based on an Environmentally-Extended Multi-Regional Input-Output database (EE-MRIO) adapted from EXIOBASE version 3.6. The value chain links are categorized based on ISIC Divisions and cover two tiers upstream and two tiers downstream for the 271 direct economic activities assessed in ENCORE. You can use the tool to screen which sectors or economic activities are likely to be found in your company's value chains, along with the associated pressures and dependencies materiality ratings, ranging from Very Low to Very High. This information can help you prioritize further assessment.	List of sectors / economic activities in direct operations	List of key value chain links covering two tiers upstream and two tiers downstream List of pressures and ecosystem service dependencies that are likely to be associated with these activities and their materiality ratings
SBTN High Impact Commodity List [Learn more]	The SBTN High Impact Commodity List (HICL) includes commodities identified by SBTN as high impact, along with their potential material pressures and traceability scores. The HICL is a recommended tool for your materiality screening process. You can use this tool to determine the material pressures and traceability tier for the relevant commodities you source or produce.	List of commodities produced or sourced or relevant economic activities in direct operations or upstream value chain	List of commodities produced or used in the company's value chain that have potentially high impacts on nature
SASB Standards Navigator [Learn more]	The Sustainability Accounting Standards Board (SASB) Standards Navigator tool allows you to identify your industry by filtering through company name or industry key word. The tool also allows you to compare industries and access all 77 industry-specific SASB Standards. The tool includes a list of relevant disclosure and activity metrics for you to report on. The standards also outline industries that might be in your company's upstream or downstream value chain. You can use the tool to scope which activities have the most potential material nature-related risks and opportunities.	List of all the known economic activities in the company's value chain	List of sustainability risks and opportunities, including environmental factors, likely to be material, associated with value chain activities

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Back to the business steps

View next phase

Scoping
Scoping an assessment

Scoping A

Scoping B

Summary Tools (2 of 2)

Scoping B: Conduct a high-level, preliminary scan of the activities in your company's upstream and downstream value chains. Which activities in the company's value chains are likely to have material nature-related dependencies, impacts, risks and opportunities?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Trase [Learn more]	Trase combines data on commodity production and trade to map supply chain links for forest-related commodities. It also provides information on exposure to deforestation and GHG emissions risks. You can use the tool to gain a better understanding of your supply chains for commodities such as soy, beef, cocoa, palm oil and others and to screen your exposure to deforestation risks in specific sourcing countries.	List of commodities produced or sourced	List of likely sourcing countries/regions and/or countries/regions where downstream value chain partners are likely to be located
The Global Environmental Impacts of Consumption Indicator dashboard [Learn more]	The Global Environmental Impacts of Consumption (GEIC) Indicator dashboard "provides estimates of global environmental impacts and risks driven by consumption and production activities" (CommodityFootprints.earth 2025). The tool links the production of over 160 agricultural commodities across 240 producer countries and territories, embedded within domestic and international supply chains, to selected environmental impacts and risks. It includes data on the impacts of different commodity types. You can use this tool to visualize where consumption and production activities in a "home" country leads to environmental impacts along the value chain. You can also use it to identify relevant commodities with the potential for high impact on nature.	List of commodities produced or sourced	List of likely sourcing countries/regions and/or countries/regions where downstream value chain partners are experiencing potentially high risk

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Back to the business steps

View next phase

L1: Span of the business model and value chain

In this component, you develop an understanding of the parts of your company's business model and value chain, considering any initial hypotheses formed in the scoping exercise. This includes identifying the sectors, economic activities and any commodities in your direct operations, as well as in your upstream and downstream value chains, and determining the geographic locations of the activities in your direct operations.

This aligns with: TNFD L1, SBTN Step 1, ESRS Step A

Question(s):

- L1.A: What are your company's direct operations activities by sector, commodities and geography?
- L1.B: What are the activities in your company's upstream and downstream value chain by sector, commodities and geography?

Cross-cutting
Scenario analysis
View more

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders
View more

Instructions: Please click on the headings on the left hand side column to navigate to those question(s).

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Back to the business steps

View next phase

Summary Resources

L1.A: What are your company's direct operations activities by sector, commodities and geography?

Compile internal data to identify your company's economic activities in direct operations and their locations. Expand on your findings from the Scoping phase.

This component relies primarily on your company's internal data on activities within your direct operations and their locations. However, outputs from tools used in the Scoping phase can be used as an initial starting point and refined based on company-specific information.

Click here for Scoping A for further information

L1
Span of the business model and value chain

L1. A

L1. B

Summary | Resources (1 of 2)

L1.A: What are your company's direct operations activities by sector, commodities and geography?

The following are resources that can support you when identifying and classifying your company's economic activities in direct operations and their locations.

Type of resource	Resource
International and regional sector classifications	International Standard Industrial Classification (ISIC) Rev. 4 (available here)
	SASB sector classification (SICS) + SICS ® look-up tool (available here)
	The Global Industry Classification Standard (GICS) (available here)
	Nomenclature génerale des Activités économiques dans les Communautés Européennes (NACE) Rev.2 (available here)
	EU Taxonomy Compass (available here) Note: EU Taxonomy under review as a result of the Omnibus regulation proposal
	North American Industry Classification System (NAICS) (available here)
National sector classifications	UN Statistics Division (UNSD) National Classifications Database (available here) Contains information on classifications from 125 countries, sorted by country or classifications category.

L1
Span of the business model and value chain

L1. A

L1. B

Summary | Resources (2 of 2)

L1.A: What are your company's direct operations activities by sector, commodities and geography?

Type of resource	Resource
Correspondence tables between sector classifications	ISIC Rev.4 - NACE - GICS crosswalk available within ENCORE knowledge base (available here)
	ISIC Rev.4 – NACE2 Correspondence table UNSD official correspondence table between ISIC Rev.4 and NACE2 (available here)
	ISIC Rev.4 - NAICS 2022 Correspondence table (available here) United States Census Bureau official concordance table
Correspondence tables with EXIOBASE	EXIOBASE – NACE1.1 correspondence (available here) EXIOBASE is based on NACE1.1 and the correspondence to NACE1.1 codes is indicated directly in EXIOBASE data.
	EXIOBASE – NACE2 - ISIC Rev.4 crosswalk available within ENCORE knowledge base (available here)

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Back to the business steps

View next phase

L1
Span of the business model and value chain

L1. A

L1. B

Summary Tools

L1.B: What are the activities in your company's upstream and downstream value chain by sector, commodities and geography?

Compile internal data to identify the economic activities in your company's upstream and downstream value chains and the likely locations of the activities. Where you have limited information on suppliers or customers beyond a certain tier of the value chain, tools based on sector- or country-level data can be helpful until transparency of the value chain is improved. Expand on your findings from the Scoping phase.

This component relies primarily on your company's internal data on activities on your suppliers' and customers' activities and their locations, in relation to your value chain. Companies may also engage with suppliers and customers to collect this information. Outputs from tools used in the Scoping phase can be used as an initial starting point and refined based on company-specific information.

Click here for Scoping B for further information

Challenge: Limited information on upstream and downstream value chain beyond a certain tier

Improving the availability of data on your company's upstream and downstream value chain partners is critical. Until better information on economic activities in the value chain and the geographical locations of their operations is collected by the company i.e. through supplier engagement, consider using tools based on sector- or country-level data to understand who are likely to be your most relevant value chain partners and where they are located. It is important to ensure that these locations correspond to the actual operation sites, instead of the partner's headquarters.

L1
Span of the business model and value chain

L1. A

L1. B

Summary | Tools (1 of 3)

L1.B: What are the activities in your company's upstream and downstream value chain by sector, commodities and geography?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Trase [Learn more]	You can use Trase to combine data on commodity production and trade to map supply chain links for forest-related commodities. It also helps you assess exposure to deforestation and GHG emissions risks. Trase includes data on Forest 500 commodity scores of companies based on their sustainability commitments, which can help you identify potentially material partners. You can also use this tool to determine where activities in your upstream or downstream value chains might have potentially material nature-related dependencies, impacts, risks and opportunities.	List of likely sourcing countries/regions and/or countries/regions where downstream value chain partners are likely to be located	Likely country locations of material value chain partners and activities
Trade Map [Learn more]	The Trade Map tool includes information on the global trade performance and demand of products and services. It also includes a directory of importing and exporting companies. You can use this tool to identify where their relevant products and services are imported from.	List of commodities, in Harmonized System (HS) nomenclature, and services of your direct operations that have potentially high impacts on nature List of HS commodities and services with potential high impacts on nature in the value chain (upstream and downstream)	Likely country/regional locations of products and/or services
The Global Environmental Impacts of Consumption Indicator dashboard [Learn more]	The Global Environmental Impacts of Consumption (GEIC) Indicator dashboard provides estimates of global environmental impacts and risks driven by consumption and production activities. The dashboard includes relevant metrics such as deforestation, predicted number of species lost and blue water use. You can use the dashboard to determine at the country level where potentially material activities/products have the highest potential risks and impacts.	List of commodities used or produced in a company's direct operations that have potentially high impacts on nature List of expected upstream activities (tier 1 suppliers) List of industries/sectors that are connected to an industry/sector of interest based on trade flow data	Likely country/regional location of products and/or activities with potentially material activities

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Back to the business steps

View next phase

L1
Span of the business model and value chain

L1. A

L1. B

Summary Tools (2 of 3)

L1.B: What are the activities in your company's upstream and downstream value chain by sector, commodities and geography?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
EXIOBASE (v3.8) [Learn more]	This tool includes data on the carbon, water, land and materials embodied in trade and final consumption. You can use this data to identify at the country level, where activities in your upstream or downstream value chains might have potentially material nature-related dependencies and impacts.	List of industries/sectors that are connected to an industry/sector of interest based on trade flow data, estimated value added and estimated environmental footprint indicator values for selected pressures	Likely country/regional location of potentially material activities
REX3 [Learn more]	REX3 database merges EXIOBASE v3.8 with Eora26, production data from FAOSTAT and bilateral trade data from the BACI database to create a highly-resolved multi-regional input-output database. It provides data on 189 countries and 163 sectors with time series coverage from 1995 to 2022 and several environmental and socioeconomic extensions. The REX3 database includes a metric on global environmental impact assessment that includes water stress and biodiversity impact from land occupation, land use change and eutrophication. You can use this tool to determine at the national level where potentially material activities/products have the highest impacts.	List of sectors that are connected to a sector of interest based on trade flow data and estimated value added	Likely country/regional locations of products and/or services with potentially material impacts and dependencies on nature

L1
Span of the business model and value chain

L1. A

L1. B

Summary Tools (3 of 3)

L1.B: What are the activities in your company's upstream and downstream value chain by sector, commodities and geography?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
UN Comtrade Database [Learn more]	The United Nations Comtrade tool, is a database that allows companies to understand trade flows. The database covers information for approximately 200 countries, representing more than 99% of the world's merchandise trade. The tool allows to filter annual or monthly data for different trade flows (e.g., import, exports) among countries. You can use this database to understand trade flows from specific important commodities classified in the HS nomenclature. The tool can help identify which countries certain commodities might be sourced from.	List of commodities of interest (e.g., likely to have high impacts on nature) in direct operations and supply chains in HS nomenclature List of countries to which the commodities are imported	List of countries from which key commodities for the business are likely being sourced

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Back to the business steps

View next phase

L2: Dependency and impact screening

In this component, you should consider which activities and sectors in your direct operations, and elements of your company's value chains are likely to have moderate or high dependencies and impacts on nature.

This aligns with: TNFD L2, SBTN Step 1, ESRS Step B

Question(s):

- L2.A: Which of your company's activities and sectors, in both direct operations and your upstream and downstream value chains, are associated with potentially moderate or high dependencies and impacts on nature?

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L2
Dependency and impact screening

L2. A

Summary Tools

L2.A: Which of your company's activities and sectors, in both direct operations and your upstream and downstream value chains, are associated with potentially moderate or high dependencies and impacts on nature?

Expand on your findings from the Scoping section and identify the potential dependencies and impacts in direct operations and value chains. You can prioritize economic activities based on their level of dependency and impact on nature.

L2
Dependency and impact screening

L2. A

Summary | Tools (1 of 4)

L2.A: Which of your company's activities and sectors, in both direct operations and your upstream and downstream value chains, are associated with potentially moderate or high dependencies and impacts on nature?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
ENCORE [Learn more]	The ENCORE tool includes sector-level estimates on potential nature-related pressures/impact drivers and dependencies. You can use ENCORE to determine which economic activities within your company's direct operations or value chains are likely to have medium, high or very high dependencies (on ecosystem services) or impacts (based on pressures on nature). If you want to do a more in-depth analysis you can download the ENCORE knowledge base (here). Several companies have used the tool to create heatmaps of dependencies and impacts associated with different economic activities.	ISIC Division, Group or Class of your company	List of pressures and ecosystem service dependencies that are likely to be associated with the direct operations activities and their materiality ratings List of potential key value chain links, two tiers upstream and downstream, and associated materiality ratings Note: potential pressures, dependencies and key value chain links are also possible to visualise in diagrams
SBTN High Impact Commodity List [Learn more]	The SBTN High Impact Commodity List includes commodities identified by SBTN as high impact, their potential material pressures and traceability scores. You can use the HICL to determine which commodities in your company's direct operations and value chain are potentially high impact.	List of commodities in direct operations and upstream	List of potential high impact commodities in direct operations and upstream
SASB Standards Navigator [Learn more]	The SASB Standards Navigator tool allows users to identify the Sustainability Industry Classification for companies, compare industries and access all 77 industry-specific SASB Standards. The tool includes a list of relevant disclosure and activity metrics for companies to report on. You can use this tool and the relevant metrics to quantitatively determine which of your company's activities and sectors have higher dependencies and impacts on nature.	List of relevant economic activities in direct operations, upstream and downstream value chains	List of potentially moderate or high impact activities

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L2.A: Which of your company's activities and sectors, in both direct operations and your upstream and downstream value chains, are associated with potentially moderate or high dependencies and impacts on nature?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Wastewater Impact Assessment Tool [Learn more]	The Wastewater Impact Assessment tool allows for site-level assessment of the pressures/changes on the state of nature and the impacts on climate, biodiversity and water security, resulting from industrial wastewater and water use. You can use this information to estimate your company's potential wastewater impacts.	Wastewater treatment and water use data for each operation site of interest	Estimated impact on water quality, water availability and GHG emissions estimates and a visualization of the potential impacts at a site level
Water Watch - CDP Water Impact Index [Learn more]	The CDP Water Watch tool ranks over 200 individual activities within 13 industries according to their potential impact on water resources (water quantity and quality). You can use the tool to determine the relative impact of your company's direct operations and supply chain on water resources.	List of sectors / economic activities in direct operations and supply chain (at ISIC group level)	A qualitative assessment by ranking of impact (0 to 3) on freshwater resources at different stages of the value chain, to give a final overall water impact rank
WWF Biodiversity Risk Filter [Learn more]	The World Wildlife Fund (WWF) Biodiversity Risk Filter provides a suite of 33 indicators related to potential biodiversity issues and pressures that may represent risks to companies in different locations. You can use this tool to identify which direct operations and value chain activities are likely to be associated with high nature-related risks, including some dependency- and pressure-related risks.	List of sectors / economic activities in direct operations and supply chain (at ISIC group level) for each operation site of interest Coordinate data to run a specific location analysis	List of activities in direct operations and the value chain that have high associated potential nature risks, dependencies and impacts

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L2.A: Which of your company's activities and sectors, in both direct operations and your upstream and downstream value chains, are associated with potentially moderate or high dependencies and impacts on nature?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
WWF Water Risk Filter [Learn more]	The WWF Water Risk Filter risk assessment framework accounts for business dependencies and impacts on water by calculating risk scores. You can use this tool to identify which direct operations and value chain activities are likely to be associated with high water-related risks, including some dependency- and pressure-related risks.	List of sectors / economic activities in direct operations and supply chain (at ISIC group level) for each operation site of interest	List of activities in direct operations and the value chain that have high associated potential water risk, dependencies and impact
Trase [Learn more]	Trase combines data on commodity production and trade to map supply chain links for forest-related commodities. Trase includes indicators on annual deforestation and emissions in a region or country where the company operates. You can use the tool to determine the relative impact in different regions and countries for certain deforestation risk-related commodities.	List of sectors / economic activities in direct operations and supply chain	List of potentially high impact forest-related commodities and countries where you operate
CDP Data [Learn more]	The 'CDP Scores, A List and Corporate Response' dataset are part of the CDP independent environmental disclosure system for companies to manage their environmental impacts. The tools mentioned host data on different reported environmental indicators such as water withdrawal and deforestation. CDP offers free access to the CDP scores and the A list. In addition, companies who are part of the CDP supplier programme get access to their supply chain partners' programme (not the whole dataset). You can use the CDP suite of tools to identify where the impacts of your suppliers can exist within your company's supply chain.	List of sectors / economic activities in supply chain (at ISIC group level)	List of suppliers and/or activities that are likely to be associated with potentially high impacts on nature

L2
Dependency and impact screening

L2. A

Summary | Tools (4 of 4)

L2.A: Which of your company's activities and sectors, in both direct operations and your upstream and downstream value chains, are associated with potentially moderate or high dependencies and impacts on nature?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
EXIOBASE (v3.8) [Learn more]	EXIOBASE is a global input-output database developed by harmonizing and detailing supply-use data for 44 countries and 5 'Rest of the World' groups by continent. You can use EXIOBASE data on trade links between 163 industries and sectors to understand which industries or sectors are likely to be found in your company's upstream and downstream value chains. You can also use the data on estimated environmental footprints to assess potential pressures and dependencies on nature.	List of sectors/economic activities in direct operations	List of industries/sectors that are connected to an industry/sector of interest based on trade flow data, estimated value added and estimated environmental footprint indicator values for selected pressures
REX3 [Learn more]	The Resolved EXIOBASE v3 (REX3) database merges EXIOBASE v3.8 with Eora26, production data from FAOSTAT, and bilateral trade data from the BACI database to create a highly-resolved multi-regional input-output database. It provides greater geographic coverage compared to EXIOBASE, with data on 189 countries and 163 sectors, with time series coverage from 1995 to 2022 and several environmental and socioeconomic extensions. You can use REX3 data on trade links between 163 sectors to understand which sectors are likely to be found in your upstream and downstream value chains. You can also use the estimated environmental footprint data to assess potential pressures and dependencies on nature.	List of sectors/economic activities in direct operations	List of sectors that are connected to a sector of interest based on trade flow data, estimated value added and estimated environmental footprint indicator values for selected pressures

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L3: Interface with nature

The aim of this component is for you to more precisely identify the geographic locations where your company may have potentially moderate or high dependencies and impacts on nature. This component also involves identifying the biomes and ecosystems your company interacts with at these locations.

This aligns with: TNFD L3, SBTN Step 1, ESRS Step A

Question(s):

- L3.A: Where are your company's sectors and activities, in both your direct operations and value chains with potentially moderate or high dependencies and impacts located?
- L3.B: Which biomes and specific ecosystems do your company's direct operations interface with? Which biomes and ecosystems do the sectors and value chains with moderate or high dependencies and impacts interface with?

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L3
Interface with nature

L3. A

L3. B

Summary Tools

L3.A: Where are your company's sectors and activities, in both your direct operations and value chains with potentially moderate or high dependencies and impacts located?

Expand on your findings from Scoping, L1 and L2, to identify the geographic locations of potentially moderate and high dependencies and impacts on nature.

This component builds on information on the geographical location of activities gathered in the Scoping phase and L1. It relies primarily on your company's internal data on the location of activities within your direct operations, and data collected from suppliers on value chains where available. This component can also build on information on the area of influence around their locations, which companies collect during the Evaluate phase.

Click here for Scoping for further information

Click here for L1 for further information

Click here for Evaluate for further information

Challenge: Small or Medium-sized company with limited GIS capacity starting to gather location information

Nature-related risks are location specific. Many tools supporting nature-related assessments require GPS coordinates or polygons to generate useful insights. Fortunately, finding out GPS coordinates of a company's operation site is easy, and does not require GIS analytical capacity. Even small or medium-sized companies can start developing databases of their direct operation sites' locations using easy-to-navigate and free tools and Excel templates.

L3
Interface with nature

L3. A

L3. B

Summary Tools

L3.A: Where are your company's sectors and activities, in both your direct operations and value chains with potentially moderate or high dependencies and impacts located?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
VSME Digital Template [Learn more]	The Voluntary Sustainability Reporting Standard for Non-Listed SMEs (VSME) Digital Template was developed by The European Financial Reporting Advisory Group (EFRAG). It aims to support non-listed SMEs and includes guidance on laying out a spreadsheet to collect information on locations of sites in an organized and standardized manner. The tool calculates the GPS coordinates for geolocation once an address has been entered into the tool, enabling you to start collecting GIS-compatible information.	List of sites with moderate to high dependencies and/or impacts	Excel template with summarized information and GPS coordinates or operation sites
Google Earth [Learn more]	Google Earth includes information about our planet from satellite imagery and GIS data. You can use Google Earth to identify GPS coordinates of relevant operating locations.	List of sites with moderate to high dependencies and impacts	Map with site locations or a list of sites with their GPS coordinates
Google Maps [Learn more]	Google Maps provides GIS information about countries, regions and sites around the world. You can use Google Maps to identify GPS coordinates of relevant operating locations.	List of sites with moderate to high dependencies and/or impacts	Map with site locations or a list of sites with their GPS coordinates
IBAT [Learn more]	The Integrated Biodiversity Assessment Tool (IBAT) hosts and maintains three global biodiversity datasets: the World Database on Protected Areas, IUCN Red List of Threatened Species and World Database of Key Biodiversity Areas (KBAs). The IBAT platform also hosts the Species Threat Abatement and Restoration metric (STAR), which uses data on the distribution, threats and extinction risk of the IUCN Red List of Threatened species. IBAT includes an Excel template for uploading data, which could serve as a template for your company to collect GPS coordinates for operation sites.	List of sites with moderate to high dependencies or impacts	Map with site locations or list of sites with their GPS coordinates in Excel

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L3
Interface with nature

L3. A

L3. B

Summary Tools

L3.B: Which biomes and specific ecosystems do your company's direct operations interface with? Which biomes and ecosystems do the sectors and value chains with moderate or high dependencies and impacts interface with?

In this component, you identify the biomes and ecosystems present in the locations of your company's direct operations and value chain activities that have moderate or high dependencies and impacts on nature.

L3
Interface with nature

L3. A

L3. B

Summary Tools (1 of 2)

L3.B: Which biomes and specific ecosystems do your company's direct operations interface with? Which biomes and ecosystems do the sectors and value chains with moderate or high dependencies and impacts interface with?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
WWF Terrestrial Ecoregions of the World (biomes) [Learn more]	WWF Terrestrial Ecoregions of the World (biomes) includes a global map of 867 terrestrial ecoregions, classified into 14 different biomes. You can use this map to identify which terrestrial ecoregions and biomes your company's activities interface with.	Geographic location data (at site, region or country level)	Information on terrestrial ecoregions/biomes in which sites are located or (if imported to a GIS software) a map of site locations overlapping with different terrestrial ecoregions and biomes
SBTN Natural Lands Map [Learn more]	The SBTN Natural Lands Map includes layers on different land use types (classified as natural and non-natural). You can use this map to identify which types of land use interface with your company's activities.	Geographic location data (at site, region or country level)	Information on land use types in which sites are located or (if imported to a GIS software) a map of site locations overlapping with natural and non-natural land use type classifications
ENCORE [Learn more]	ENCORE does not provide location specific information in the natural capital module. However, the tool's knowledge base can support you with understanding the links between the ecosystem services that your company depend on and environmental assets (or natural capital). In ENCORE, natural capital is comprised of ecosystem components within ecosystem types. Ecosystem components include species, water, atmosphere (among others). Ecosystem types provide another layer of nuance to components and are based on the the IUCN Global Ecosystem Typology 2.0. For example, ecosystem types in ENCORE include biomes like desert and semi-deserts, tropical-subtropical forest or temperate-boreal forests and woodlands (among others). The knowledge base also provides links between the economic activities, pressures/impact drivers and mechanisms of change that can affect the state of nature. As the ENCORE natural capital module does not provide location specific information, it should only be used when location specific information is not available, or in combination with other tools.	ISIC Section, Division, Group or Class of economic activity	A summary highlighting the potential use of freshwater, land and seabed area in the undertaking of an economic activity

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L3
Interface with nature

L3. A

L3. B

Summary Tools (2 of 2)

L3.B: Which biomes and specific ecosystems do your company's direct operations interface with? Which biomes and ecosystems do the sectors and value chains with moderate or high dependencies and impacts interface with?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Global Forest Watch [Learn more]	Global Forest Watch is a platform compiling multiple datasets on forest cover and land use e.g. global intact forest, natural forest and net forest change. You can use this platform to create a map to identify which forest ecosystems your company's activities interface with.	Geographic location data (at site, region or country level)	Information on forest characteristics where sites are located or a map in the platform to visualize site locations overlapping with areas of high or low forest cover and land use
Bioregions 2023 [Learn more]	The Bioregions 2023 tool includes a global map with 185 discrete bioregions, with different scales such as biomes, subrealms and ecoregions. You can use this map to identify which bioregions their company activities interface with.	Geographic location data (at site, region or country level)	Information on bioregion characteristics where sites are located, or (if imported to a GIS software) a map of site locations overlapping with different bioregions

L4: Interface with sensitive locations

In this component, you build on the assessment from L1 to L3 to identify which of your activities, within your direct operations or key value chain locations, are situated in ecologically sensitive areas. For the upstream and downstream value chains, you can focus primarily on value chain links associated with potentially moderate and high dependencies and impacts on nature.

Ecologically sensitive locations include:

- Areas important for biodiversity, including species; 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.

This aligns with: TNFD L4, SBTN Step 1, SBTN Step 2, ESRS Step A

Question(s):

- L4.A: Which of your company's activities in direct operations and upstream and downstream value chains are located in areas of biodiversity importance?
- L4.B: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of high ecosystem integrity?
- L4.C: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of rapid decline in ecosystem integrity?
- L4.D: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of high physical water risk?
- L4.E: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and affected stakeholders?

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L4
Interface with sensitive locations

L4. A

L4. B

L4. C

L4. D

L4. E

Summary Tools

L4.A: Which of your company's activities in direct operations and upstream and downstream value chains are located in areas of biodiversity importance?

Identify which of your company's activities in direct operations and key value chain locations are located in areas of biodiversity importance.

The TNFD LEAP guidance suggests that you identify sensitive locations only for your company's activities with moderate and high dependencies and impacts. However, you can choose to broaden your assessment to include locations with low potential dependencies and impacts if you wish. In doing so, you may uncover impacts that are more significant than expected due to the highly sensitive nature of those locations.

Areas of biodiversity importance includes (adapted from TNFD 2023):

- Protected areas, by legal or other effective means
- Areas scientifically recognized as important for biodiversity
- Areas important for threatened, migratory, range-restricted and endemic species
- Areas of rare, localized, highly threatened ecosystems
- Areas with ecosystems that are important for key evolutionary processes
- Areas important for ecological connectivity

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L4
Interface with sensitive locations

L4. A

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L4. E

Summary Tools (1 of 2)

L4.A: Which of your company's activities in direct operations and upstream and downstream value chains are located in areas of biodiversity importance?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
IBAT [Learn more]	The IBAT tool can be used to identify where your company's direct operations and value chains overlap with Protected Areas (PA), Key Biodiversity Areas (KBA) and species on the IUCN Red list of Threatened Species.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapping with or near to Key Biodiversity Areas, Protected Areas and areas with Threatened species
WWF Biodiversity Risk Filter [Learn more]	The WWF Biodiversity Risk Filter includes map layers that relate to different biodiversity risk aspects. The tool includes a map of a biodiversity risk indicator based on the overlap of assessment units with Key Biodiversity Areas (e.g. region has very high biodiversity risk if they have >50% overlap with a KBA). The tool also includes risk layers on levels of ecosystem intactness, connecting and overlap with Other Important Delineated Areas. The tool can be used to identify where your company's activity locations might have potentially higher biodiversity risk.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of areas with higher biodiversity risk, based on different characteristics such as % overlap with KBAs
Global Forest Watch [Learn more]	The Global Forest Watch tool includes biodiversity data layers, such as Key Biodiversity Areas, endemic bird areas and global biodiversity intactness and significance. These layers are only available for Peru, Brazil, Indonesia and Cambodia. The Global Forest Watch can be used to identify where your company's activities overlap with areas of biodiversity importance.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on different biodiversity indicators for the countries of Peru, Cambodia, Indonesia and Brazil

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Interface with sensitive locations

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L4. E

L4.A: Which of your company's activities in direct operations and upstream and downstream value chains are located in areas of biodiversity importance?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Global Critical Habitat Screening Layer [Learn more]	The Global Critical Habitat Screening Layer includes spatial data on Critical Habitat, "habitats of significant importance to threatened, endemic, congregatory and migratory species, threatened or unique ecosystems, and key evolutionary process" (UNEP-WCMC 2025). The layer can be used to identify where your company's activities overlap with locations of likely or potential Critical Habitat aligned with the definitions in the International Finance Corporation's Performance Standard 6.	Site locations of activities with moderate and high dependencies and impacts	Information on Critical Habitat in which sites are located, or (if imported to a GIS software) a map of site locations in likely/potential Critical Habitat areas

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Interface with sensitive locations

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L4. E

Summary Tools

L4.B: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of high ecosystem integrity?

Identify which of your company's activities in direct operations and key value chain locations are located in areas of high ecosystem integrity.

The TNFD LEAP guidance suggests that you identify your company's sensitive locations only for activities with moderate and high dependencies and impacts. However, you can choose to broaden your assessment to include locations with low potential dependencies and impacts if you wish. In doing so, you may identify impacts that are actually more significant due to the highly sensitive nature of those locations.

Ecosystem integrity is the *"extent to which the composition, structure and function of an ecosystem falls within the natural range of variation. It should be characterised at a landscape scale, using an appropriate area of assessment, such as an ecoregion."* (TNFD 2023)

Areas of high ecosystem integrity are areas that *"contain large opportunities for safeguarding stocks of environmental assets and maintaining ecosystem service provision, both locally and globally."* (TNFD 2023)

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Interface with sensitive locations

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Summary Tools

L4.B: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of high ecosystem integrity?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Ecosystem Integrity Index (EII) [Learn more]	The EII is a metric that "measures, monitors and reports on ecosystem integrity at any geographical scale" (UNEP-WCMC 2022). The metric is a combination of the Biodiversity Intactness Index (BII) and other biodiversity indicators. The Ecosystem Integrity Index (EII) layer can be used to identify a metric for integrity of terrestrial ecosystems. From this layer your company can identify where direct operations and value chain activities overlap with terrestrial areas of high ecosystem integrity.	Site locations of activities with moderate and high dependencies and impacts	A map (if imported to a GIS software) of site locations overlapped with ecosystem integrity index metrics
Global Forest Watch [Learn more]	Global Forest Watch includes data on the intactness of forests and areas of low forest loss, which could be one estimate of higher ecosystem integrity. You can use this data to identify which direct operations and value chain activities overlap with areas of high forest intactness.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on forest intactness and loss
Natural and Modified Habitat Screening Layer [Learn more]	The Natural and Modified Habitat Screening Layer includes data on human pressure and habitat as a proxy for the loss and intactness of ecological functions and species composition. The layer is aligned with IFC PS6 definitions of Natural and Modified Habitat. Ecosystem functioning is a component of ecosystem integrity. From this data layer companies can identify which of their direct operations and value chain activities are located in areas of high ecosystem integrity.	Site locations of activities with moderate and high dependencies and impacts	A map (if imported to a GIS software) of site locations overlapped with data on areas where human pressures on habitats are more or less prevalent

L4
Interface with sensitive locations

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Summary Tools

L4.C: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of rapid decline in ecosystem integrity?

Identify which of your company's activities in direct operations and key value chain locations are located in areas of rapid decline in ecosystem integrity.

The TNFD LEAP guidance suggests that you identify your company's sensitive locations only for activities with moderate and high dependencies and impacts. However, you can choose to broaden your assessment to include locations with low potential dependencies and impacts if you wish. In doing so, you may uncover impacts that are actually more significant due to the highly sensitive nature of those locations.

Areas of rapid decline in ecosystem integrity are *"areas with declining resilience of ecosystem service provision, high exposure to an organization's dependency-related risks and potentially at risk of ecological tipping points. This could include areas that have declined to a low state of integrity"* (TNFD 2023).

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Interface with sensitive locations

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L4.C: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of rapid decline in ecosystem integrity?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Global Forest Watch [Learn more]	Global Forest Watch can be used to identify where your activities overlap with areas of non-intact forest or areas of high forest loss, which could be one estimate of declining ecosystem integrity.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on the levels of forest intactness and loss
Trends.Earth [Learn more]	The Trends.Earth tool includes global and more localized data on land degradation, land conversion and drought. You can use this data to identify where direct operations and value chain activities overlap with areas of higher land degradation and consumption, as an estimate of declining ecosystem integrity.	Site locations of activities with moderate and high dependencies and impacts	A map (if imported to a GIS software) of site locations overlapped with data on land degradation and consumption
ENCORE [Learn more]	Within the ENCORE tool, users can find spatial maps on hotspots of natural capital depletion for the marine and terrestrial realms. These maps provide a global overview of where natural capital is being depleted at the highest rates. For the terrestrial realm the maps consider depletion of atmosphere, biodiversity, soil and sediments and water stocks. For the marine realm the maps show potential depletion of marine assets (i.e., marine sediment carbon, coral reefs, seagrasses, mangroves, saltmarshes, tidal flats, seamounts cold seeps and hydrothermal vents) based on presence of human pressures on nature. You can use these layers to understand at a coarse level where there is decline in natural capital. The maps are available for download (here).	Site locations of activities with moderate and high dependencies and impacts	A map of site locations overlapped with data on hotspots of natural capital depletion

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Interface with sensitive locations

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L4.D: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of high physical water risk?

Identify which of your activities in direct operations and key value chain locations are located in areas of high physical water risk.

Areas of high physical water risk include areas of *"limited water availability, flooding and poor quality of water. This also includes marine areas with high levels of land-based pollution."* (TNFD 2023)

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Summary Tools

L4.D: Which of your company's activities direct operations and upstream and downstream value chains are located in areas of high physical water risk?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
WWF Water Risk Filter [Learn more]	The WWF Water Risk Filter includes spatial data on areas with high water risk. You can use this tool to identify which direct operations and value chain activities are in areas of different levels of water risk.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on water risk
WRI Aqueduct - Water Risk Atlas [Learn more]	The Water Risk Atlas includes a global map on overall water risk indicators, including water stress, depletion and flood risk. You can use this tool to identify which direct operations and value chain activities are in areas with high levels of physical water risk.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on water risk
Coastal Risk Index [Learn more]	The Coastal Risk Index includes data on coastal flood risk. You can use the tool to identify which direct operations and value chain activities are located in coastal areas with high flooding risk with and without the presence of ecosystem services.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on coastal flood risk

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Interface with sensitive locations

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L4. E

L4.E: Which activities in the organization's direct operations and upstream and downstream value chains are located in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and stakeholders?

Compile internal information and external sources to understand: 1. The areas important for the delivery of ecosystem service benefits, including to Indigenous Peoples and local communities and other affected stakeholders, and 2. Potential impacts on affected stakeholders by direct operations and upstream and downstream value chains.

Companies may also use information collected in the Evaluate phase, in particular the descriptions and measurement of ecosystem services, to inform L4.

Note: This section includes only the tools directly relevant to the intersection of Indigenous Peoples, local communities and affected stakeholders in relation to ecosystem services. Please be aware that these tools do not cover all territories of Indigenous Peoples, local communities and affected stakeholders. The tools should be considered a starting point. We strongly advise conducting further due diligence. To explore other tools and resources for these stakeholders related to different aspects of the TNFD LEAP, please consult the relevant cross-cutting section here.

"*Areas important for delivery of ecosystem service benefits, including to Indigenous Peoples and local communities. These include areas in which healthy ecosystems and biodiversity support local livelihoods, areas in which biodiversity and ecosystem services are important for the realisation of human rights, areas that have been traditionally owned, occupied or otherwise used and/or acquired by Indigenous Peoples and local communities, and areas of biocultural importance to Indigenous Peoples and local communities*." (TNFD 2023)

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Interface with sensitive locations

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Summary Tools Resources

L4.E: Which activities in the organization's direct operations and upstream and downstream value chains are located in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and stakeholders?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Global Forest Watch [Learn more]	The Global Forest Watch includes data layers on Indigenous Peoples and Community lands. You can use this tool to identify which direct operations and value chain activities are located in areas owned by Indigenous Peoples and local communities.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on areas owned by Indigenous Peoples and local communities
Critical Natural Assets Map [Learn more]	The Critical Natural Assets Map provides information on natural capital assets in natural and semi-natural ecosystems that provide 90% of the total current magnitude of 14 types of nature's contributions to people (NCP). The map also includes data on cultural diversity. You can use this tool to identify which direct operations and value chain activities are located in areas with critical natural assets and areas of high cultural diversity.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on critical natural assets, nature's contributions to people and cultural diversity
InVEST [Learn more]	InVEST models can be used to quantify and map the values of ecosystem services. You can use the tool to map and identify which direct operations and value chain activities are located in areas of high ecosystem service value. The models include information about the location and activities of people who benefit from ecosystem services.	Site locations of activities with moderate and high dependencies and impacts	Landscape-level maps of ecosystem services.
GLOBIO [Learn more]	The GLOBIO model simulates global environmental consequences of human activities. GLOBIO can be used in different ways, including to identify benefits that people obtain from nature (ecosystem services).	Site locations (with maps) with direct operations and value chain activities	A map of site locations overlapped with data on the supply of ecosystem services

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Summary Tools Resources

L4.E: Which activities in the organization's direct operations and upstream and downstream value chains are located in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and stakeholders?

Type of resource	Resource	Brief description
Guidance	TNFD guidance on engagement with Indigenous Peoples, Local Communities and affected stakeholders	The TNFD has guidance on how companies can engage with Indigenous Peoples, local communities and affected stakeholders, as well as a summary of relevant concepts and definitions related to the topic. You can use this guidance as a starting point to determine the types of ecosystem services that Indigenous Peoples, local communities and stakeholders may depend on. You can also use this guidance to determine generally which types of activities should involve engagement with Indigenous Peoples, local communities and affected stakeholders.

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E1
Identification of environmental assets, ecosystem services and impact drivers

E1: Identification of environmental assets, ecosystem services and impact drivers

In this component, you develop a location-specific understanding of your company's dependencies and impacts, by identifying and measuring the impact drivers, ecosystem services and environmental assets associated with your company's activities and locations. You are encouraged to engage line and site managers, suppliers, and customers as part of this process.

This component relies primarily on location and company-specific data. It can be helpful to refer to outputs from tools in components L2 and L3, which identify potential impact drivers, ecosystem services and environmental assets associated with business activities and locations. These can be used as initial starting points, to be refined using location- and company-specific information in this component.

Click here for L2 for further information

Click here for L3 for further information

This aligns with: TNFD L4, SBTN 1, ESRS Step B

Cross-cutting
Scenario analysis

View more

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

View more

Instructions: Please click on the headings on the left hand side column to navigate to those question(s).

E2 & E3: Identification and measurements of dependencies and impacts

In these components you can use company- and location-specific data to identify your company's dependencies and impacts. You should identify, estimate and where possible, measure the following factors:

- The company's impact drivers;
- The company's dependencies on ecosystem services;
- Changes in the state of nature and supply of ecosystem services that may result from impact drivers and may affect the company's dependencies;
- Any relevant external factors that could affect the company's dependencies, impacts, risks and opportunities.

This component is iterative. As you improve the granularity of data on the company's value chains and direct operations, and identify risks and opportunities in the Assess phase, this component can be repeated to improve the accuracy of the results. This toolbox maps mainly global nature tools to support the nature assessment. Companies are encouraged to look for national and regional tools and datasets relevant for their geographical coverage.

For information on the components of impact and dependency measurement **View more**

This aligns with: TNFD E2, SBTN Step 1, ESRS Step B

Question(s):

- E2 & E3.A. What are the impact drivers at each location within your direct operations and upstream and downstream value chains?
- E2 & E3.B: What are the dependencies on ecosystem services at each location of your company's direct operations and upstream and downstream value chains?
- E2 & E3.C: What are the changes in the state of nature at locations within your company's direct operations and upstream and downstream value chains?

Another component of E2 and E3 is to identify and measure external factors and trends affecting the state of nature at each location. To do so, we recommend you consulting the tools available in the Scenario Analysis and Engagement cross-cutting sections below. The tools in the Scenario Analysis cross-cutting section include primarily nature some tools but you may want to complement these with additional climate change tools to enrich your nature assessment.

Cross-cutting
Scenario analysis **View more**

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders **View more**

E2 & E3
Identification and measurements of dependencies and impacts

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Instructions: Please click on the headings on the left hand side column to navigate to those question(s).

E2 & E3: Identification and measurements of dependencies and impacts

In these components you can use company- and location-specific data to identify your company's dependencies and impacts. You should identify, estimate and where possible, measure the following factors:

Information: Components of impact and dependency measurement

Components of impact measurement	Components of dependency measurement
Measurement of the scope of impact that a company has in a particular location ideally includes the following components: • Impact drivers (i.e., pressures exerted by a company in a given location) and its associated magnitude and severity • Changes in the state of nature • External factors and trends affecting state of nature • Changes in the ecosystem services availability and quality caused or likely to be caused by the changes in the state of nature Adapted from: Align, 2022, TNFD 2023, Natural Capital Protocol	Measurement of the level of dependency that a company has in a particular location ideallyincludes the following components: • Reliance on a given ecosystem service (i.e. amount of ecosystem service consumed or otherwise providing benefits) • Current and/or projected future state of nature Impact drivers (i.e., pressures exerted by a company in a given location) • External factors and trends affecting state of nature • Changes in the ecosystem service's availability and quality caused or likely to be caused by the changes in the state of nature Adapted from: UNEP-WCMC 2023, TNFD 2023, Natural Capital Protocol

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Identification and measurements of dependencies and impacts

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Summary Tools

E2 & E3.A: What are the impact drivers at each location within your direct operations and upstream and downstream value chains?

Drawing on the mapping of your company's locations in direct operations and value chain, identify and quantify your company's impact drivers in each location. This will help understand the scale and scope of your company's impacts on nature, alongside with other components of impact measurement.

Where possible, you should draw on primary data to measure the company's actual impact drivers at different locations in direct operations or upstream and downstream value chains. Several impact drivers are already expected to be measured for processes other than nature-related reporting (e.g. Environmental Impact Assessments (EIAs), project risk management, compliance with local regulation on water quality). Companies should consolidate relevant data they are already collecting and progressively introduce collection of other primary data on impact drivers that may be needed.

Where primary data is not yet available, you can explore use of secondary data sources to estimate the potential impact drivers in different locations. If your company has a large number of locations, estimated impact drivers, or biodiversity footprints, can also be used to narrow down the number of locations for more detailed assessment.

Companies should always clearly differentiate between measurements of actual impact drivers and estimates, and they should transparently disclose any assumptions or limitations of their approach to quantifying impact drivers.

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Identification and measurements of dependencies and impacts

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Summary Tools (1 of 6)

E2 & E3.A: What are the impact drivers at each location within your direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools - for site-level measurement	Farm Sustainability Assessment [Learn more]	The Farm Sustainability Assessment enables the assessment of potential impact drivers at agricultural sites. The assessment has a questionnaire that includes questions around water management, waste management and fertilizer use. The tool gives you a performance score on your company's economic, environmental and social sustainability. Quantitative data on impact drivers may be collected as part of the self-assessment questionnaire, such as records of water use and satellite images of land use change.	Internal economic, environmental and social data for farm sites	Performance scores to indicate the relative importance of certain impact drivers
Primary data tools - remote sensing	Copernicus Land Monitoring Service [Learn more]	This tool provides remote sensing data on land cover. While the tool does not attribute land cover to a specific company, you could use the baseline and current data to estimate the change in land use on and around your sites.	Locations of sites for direct operations and value chain activities	Information on changes in land use on and around site locations
	Copernicus Coastal Hub [Learn more]	The Copernicus Coastal Hub includes Earth Observation data layers in the European Coastal zones including sea water potential temperature, coastal zones and river networks. The data in this tool does not attribute pressures and changes to specific companies but you could use the tool to establish baseline/reference values and estimate changes in a given area where your company has activities.	Locations of sites for direct operations and value chain activities	List of/estimate of changes in coastal/marine pressures at each site location
	NASA Landsat [Learn more]	The NASA Landsat data includes spatial data on the land's surface. You can use this data to measure changes in land coverage at your company's sites. These changes could not be directly attributed to your company but could be used as an estimate.	Locations of sites for direct operations and value chain activities	Estimate of changes in land coverage for each site location

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E2 & E3
Identification and measurements of dependencies and impacts

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Summary Tools (2 of 6)

E2 & E3.A: What are the impact drivers at each location within your direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools - remote sensing	Dynamic World App [Learn more]	The Dynamic World App includes spatial data on nine land use/land cover types including water, trees, crops and built-up areas. The data in this tool does not attribute pressures and changes to specific companies but could be used to establish baseline/reference values and estimate changes in a given area where your company has activities.	Locations of sites for direct operations and value chain activities	Estimate of changes in land coverage for each site location
Secondary data tools – databases of company pressure / impact driver data	CDP Data [Learn more]	The CDP Corporate Response dataset is part of the CDP independent environmental disclosure system for companies to manage their environmental impacts. The tools mentioned host a plethora of data on different reported environmental indicators, such as water withdrawal and deforestation. CDP offers free access to the CDP scores and the A list. In addition, companies who are part of the CDP supplier programme get access to their supply chain partners' programme (not the whole dataset). You can use the CDP data to identify what potential impacts exist within your company's supply chain (see here).	Locations of sites for direct operations and value chain activities	List of suppliers and/or activities that are likely to be associated with potential high impact to nature
	Sustainability Reporting Navigator [Learn more]	This tool includes the sustainability reports for 554 companies globally. You can use this navigator to consolidate your company's most recent and past sustainability reports. These reports can include information on relevant pressures and impact drivers at certain sites, or company-wide. If you have not started reporting you could also draw on reports from other businesses who work in the same industry. However, the validity and accuracy of such information would need to be verified before you can consider it a relevant reflection of your company's activities.	Locations of sites for direct operations and value chain activities	History of a company or industry relevant pressures and impact drivers

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Identification and measurements of dependencies and impacts

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Summary Tools (3 of 6)

E2 & E3.A: What are the impact drivers at each location within your direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – footprinting approaches	InVEST [Learn more]	InVEST is a tool to measure human activities and their impacts on ecosystem services. InVEST is a spatial software. It can be used to identify impact drivers at the site level. InVEST can also be used to quantify changes in ecosystem structure and function at the landscape level and the effect on the flows of ecosystem services, although these measurements cannot be attributed directly to your company.	Locations of sites for direct operations and value chain activities	Landscape-level maps of ecosystem structure, function and services in the area
	GLOBIO [Learn more]	The GLOBIO tool measures local terrestrial biodiversity intactness as a function of six human pressures, expressed via a global map of mean species abundance (MSA). The model highlights pressure-impact relationships from the past and predicted future pressure levels. You can use this tool to quantify the contribution of pressures to the losses in MSA at the site and regional level. These changes may not be directly attributed to your company but could be used as an estimate.	Site locations (with maps) with direct operations and value chain activities	MSA scores for relevant sites and regions
	Biodiversity footprint calculator [Learn more]	The Biodiversity footprint calculator measures the impact of land use and GHG emissions pressures on terrestrial biodiversity. The tool is location-specific and measures the impact of these pressures related to direct operations (production) and the upstream and downstream value chain (transports and supply chain). You can use this tool to quantify your company's contribution to its biodiversity impact/footprint through their GHG emissions and land use.	Types of land use, production and emissions data for Locations of sites for direct operations and value chain activities	Graph of Biodiversity impact (expressed in MSA.ha) based on company-specific land use and GHG emissions pressures

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Identification and measurements of dependencies and impacts

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Summary | Tools (4 of 6)

E2 & E3.A: What are the impact drivers at each location within your direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – Life Cycle Assessment (LCA) databases	openLCA [Learn more]	openLCA is a tool for determining the Life Cycle Assessment footprint of a product or service. The tool is useful for impact assessment. You can use this tool to determine a product or process's contribution to the company's overall biodiversity impact. You can also use the tool to identify impact hotspots.	Site level data on types of goods and the quantity produced.	Charts showing the contribution of a certain product/process to the company's overall biodiversity impact. Sankey diagram for visualizing the impacts of processes on specific flows and impacts.
	Global LCA Data Access [Learn more]	This tool is a directory of independently-operated Life Cycle Assessment (LCA) databases. You can use this tool to identify relevant LCA datasets that can be used to estimate potential impact drivers associated with your company's products, materials or processes.	List of relevant products or economic activities	List of relevant Life Cycle Assessment (LCA) datasets
	IMPACT World+ (LCA) [Learn more]	This tool aids in life cycle impact assessment through characterization of substances for which impacts have been spatially and temporally differentiated. The methodological framework outlines types of emissions and materials with a list of relevant pressure and impact indicators. You can use this tool to identify the relevant indicators to focus on based on the types of products or pollutants your company produces/extracts.	List of relevant substances and emission types	List of relevant indicators to measure impact drivers at the local (site) and regional level

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Summary Tools (5 of 6)

E2 & E3.A: What are the impact drivers at each location within your direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – sectoral pressure databases or data layers	Resource Watch [Learn more]	Resource Watch provides global spatial data on pressures such as climate change, water consumption and land use. The tool also separates pressure data by sector, including agriculture and energy. Companies can use this tool to estimate relevant pressure contributions in areas where sites are located. You can also use this tool to determine the most relevant impact drivers in areas where your company's sites operate.	Locations of sites for direct operations and value chain activities	List of relevant impact drivers based on sectors and areas. Global maps with estimates of impact drivers (e.g., Human Impacts on Oceans, Climate Change Impacts on Crop Production)
	Global Forest Watch [Learn more]	Global Forest Watch includes global spatial data on land use and deforestation via tree cover loss and tree cover loss by dominant driver, referring to the main cause of tree cover loss within an area. The tool also includes country-specific data on biodiversity, such as global biodiversity intactness and global biodiversity significance. Used in tandem, you can identify or estimate relevant deforestation/land use changes contributions to biodiversity loss in countries or regions where your company's sites are located.	Locations of sites for direct operations and value chain activities	Estimate of land use and deforestation contributions to biodiversity loss

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Summary Tools (6 of 6)

E2 & E3.A: What are the impact drivers at each location within your direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – input-output databases	EXIOBASE (v3.8) [Learn more]	EXIOBASE (v3.8) estimates emissions and resource extractions by industry and country. You can use this data to determine the relevant impact drivers for a certain type of product. The data in the tool can also be used to estimate levels of certain impact drivers.	Locations of sites for direct operations and value chain activities including relevant products or processes involved at each site	Estimate of GHG emissions and resource use at the product level
	REX3 [Learn more]	This tool expands on EXIOBASE (v3.8) by including regional-level data on climate impacts, PM health impacts, water stress and biodiversity impact from land occupation, land use change and eutrophication resulting from certain industries. You can use this data to estimate the aforementioned impact drivers and at a more granular spatial level.	Locations of sites for direct operations and value chain activities	Estimate of land use change, climate impacts and water stress at the sector-level

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Identification and measurements of dependencies and impacts

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Summary Tools

E2 & E3.B: What are the ecosystem services and dependencies of your company's direct operations and upstream and downstream value chains?

Drawing on the mapping of the company's locations in direct operations and value chain, identify the ecosystem services which your company depends on in each location. This will, alongside with other components of dependency measurement, help you understand the scale and scope of your company's dependencies on nature.

Where possible, you should be drawing on primary data on the company's ecosystem services benefits at different locations in direct operations or upstream and downstream value chains. This includes data on consumption of natural resources (e.g. water, timber, fish), which are also referred to as provisioning ecosystem services. It also includes data on operation sites benefiting from regulatory and maintenance ecosystem services or cultural ecosystem services. Several ecosystem service benefits are already expected to be measured for processes other than nature-related reporting (e.g. Environmental Impact Assessments (EIAs), project risk management, product life cycle assessments). You should consolidate relevant data the company is already collecting and progressively introduce collection of other primary data on dependencies that may be needed.

Where primary data is not yet available, you can explore use of secondary data sources to estimate the potential dependencies in different locations. Estimated dependencies, can also be used by companies with large numbers of locations to narrow down the number of locations for more detailed assessment.

Companies should always clearly differentiate between measurements of actual dependencies and potential estimates, and they should transparently disclose any assumptions or limitations of their approach to quantifying dependencies.

E2 & E3
Identification and measurements of dependencies and impacts

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E2 & E3.B: What are the ecosystem services and dependencies of your company's direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools – remote sensing	Copernicus Land Monitoring Service [Learn more]	The Copernicus Land Monitoring Service tool includes global spatial data on several indicators that contribute to ecosystem services, including vegetation and soil moisture. You can use this data, in tandem with other tools listed in this section, to estimate the dependency of a site or product on an ecosystem service.	Locations of sites for direct operations and value chain activities	Site level map (if imported to a GIS software) with environmental characteristics to inform estimates of potentially relevant dependencies
	Copernicus Coastal Hub [Learn more]	The Copernicus Coastal Hub includes global spatial data on a large number of environmental variables for marine, coastal and freshwater ecosystems. You can use this data to predict relevant ecosystem services that might be derived from certain ecosystems.	Locations of sites for direct operations and value chain activities	A list of predicted ecosystem services relevant for the company
	Dynamic World App [Learn more]	The Dynamic World App includes spatial data on nine land use/land cover types including water, trees, crops and built-up area. The data in this tool does not attribute dependencies to specific ecosystems or ecosystem services, but you could use the tool to establish baseline/reference values and estimate changes in a given area where they have activities.	Locations of sites for direct operations and value chain activities	Estimate of changes in land coverage for each site location

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Summary | Tools (2 of 3)

E2 & E3.B: What are the ecosystem services and dependencies of your company's direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data tools – databases of company pressure / impact driver data	CDP Data [Learn more]	The CDP questionnaire includes questions on dependencies. For example, businesses report data on GHG emissions and environmental data on the supply chain, such as dependency on water. You can use this data to determine potential dependencies throughout your company's value chain.	List of sectors / economic activities in direct operations and supply chain (at ISIC group level)	List of suppliers and/or activities that are likely to be associated with potentially high dependencies to on nature
	Sustainability Reporting Navigator [Learn more]	This tool includes the sustainability reports for 554 companies globally. You can use this navigator to consolidate your company's most recent and past sustainability reports which can include information on relevant dependencies at certain sites, or company-wide. If your company has not started reporting, you may wish to consult reports from other companies who work in the same industry.	Locations of sites for direct operations and value chain activities	History of a company or industry relevant dependencies
Secondary data – ecosystem service models	InVEST [Learn more]	The InVEST tool measures human activities and their impacts on ecosystem services (e.g. crop production and pollination). InVEST is a spatial software platform, so can be used at the site level. You can use InVEST to quantify changes in ecosystem structure and function at the landscape level and the effect on the flows of ecosystem services, although these measurements cannot be attributed directly to companies. Measuring the change in flows to ecosystem services can be used as a measure of nature-related dependencies.	Locations of sites for direct operations and value chain activities	Landscape-level and site-level maps of ecosystem service provision

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Summary Tools (3 of 3)

E2 & E3.B: What are the ecosystem services and dependencies of your company's direct operations and upstream and downstream value chains?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data tools – databases of company pressure / impact driver data	Ecosystem Services Footprinting tool [Learn more]	The Ecosystem Services Footprinting tool calculates metrics of the impact of human-made structures (from the location of corporate assets) on certain ecosystem services, based on their physical spatial footprint. Ecosystem services measured are coastal risk reduction, nitrogen retention, sediment retention and nature access. You can use this tool to quantify your company's dependencies on these services.	Locations of sites for direct operations and value chain activities	A site-level spatial footprint of ecosystem services

E2 & E3
Identification and measurements of dependencies and impacts

E2 & E3. A

E2 & E3. B

E2 & E3. C

1 Ecosystem extent

2 Ecosystem condition

3 Change in status of species

Summary Tools

E2 & E3.C: What are the changes in the state of nature at locations within your company's direct operations and upstream and downstream value chains?

This step is made up of three questions:

1. **Measure ecosystem extent:** Ecosystem extent is the area coverage of a particular ecosystem within a given area, measured in hectares or km^2 (Adapted from TNFD 2023)
2. **Measure ecosystem condition:** Ecosystem condition is the quality of an ecosystem in terms of its living (biotic) and physical (abiotic) characteristics. To measure ecosystem condition, the following elements of an ecosystem should be assessed; the composition, structure and function. (Adapted from Align 2023).
3. **Measure change in the status of species:** The change in the status of species can be assessed by measuring:
   a. Changes in the population size of a species
   b. Extinction risk: this can include measuring the contributions to species extinction risk. The change in available species habitat can also be used as a proxy for extinction risk. (Adapted from TNFD 2023)

E2 & E3
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1 Ecosystem extent

2 Ecosystem condition

3 Change in status of species

Summary | Tools

E2 & E3.C: What are the changes in the state of nature at locations within your company's direct operations and upstream and downstream value chains?

1. Measure ecosystem extent

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools - remote sensing	Copernicus Land Monitoring Service [Learn more]	The Copernicus Land Monitoring Service includes spatial data on full coverage land cover & use. Companies can use this data to measure ecosystem extent at sites.	Locations of sites for direct operations and value chain activities	Map (if imported to a GIS software) of ecosystem extent for sites
	Dynamic World App [Learn more]	The Dynamic World App includes spatial data on nine land use/land cover classes. You can use this data to measure ecosystem extent at sites.	Locations of sites for direct operations and value chain activities	Map and summary statistics of land use/land cover
	NASA Landsat [Learn more]	The NASA Landsat tool includes spatial data on the land's surface. You can use this data to help determine/measure ecosystem extent of sites.	Locations of sites for direct operations and value chain activities	Map (if imported to a GIS software) of sites with extent boundaries
	Global Forest Watch [Learn more]	The Global Forest Watch tool includes spatial data spatial data on forest cover/extent. You could use this data to help determine/measure extent of forest ecosystems at or near sites.	Locations of sites for direct operations and value chain activities	Map (viewable in the platform) of sites with extent boundaries

E2 & E3
Identification and measurements of dependencies and impacts

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1 Ecosystem extent

2 Ecosystem condition

3 Change in status of species

Summary Tools

E2 & E3.C: What are the changes in the state of nature at locations within your company's direct operations and upstream and downstream value chains?

2. Measure ecosystem condition

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools – for site-level measurement	Farm Sustainability Assessment [Learn more]	The Farm Sustainability Assessment tool includes a questionnaire that covers questions on the condition of habitats (e.g. primary forest wetland, peatland, etc.). You can use the tool to determine ecosystem condition scores at the level of individual farms.	Locations of sites for direct operations and value chain activities (farm/agricultural sites)	Primary data on habitat condition and biodiversity performance score for farm site locations
Primary data tools – remote sensing	Copernicus Coastal Hub [Learn more]	The Copernicus Coastal Hub includes spatial data on physical environmental characteristics of marine and freshwater ecosystems. You can use this data to contribute to measurements of ecosystem condition at sites.	Locations of sites for direct operations and value chain activities	Ecosystem condition scores and (if imported to a GIS software) maps for sites
Secondary data tools – modelled ecosystem condition data layers	Ecosystem Integrity Index (EII) [Learn more]	The EII is a metric that "measures, monitors and reports on ecosystem integrity at any geographical scale" (UNEP-WCMC 2022). The metric is a combination of the Biodiversity Intactness Index (BII) and other biodiversity indicators. The Ecosystem Integrity Index (EII) layer can be used to estimate identify a metric for integrity of terrestrial ecosystems.	Site locations of activities with moderate and high dependencies and impacts	Estimated EII for a specific site or landscape

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E2 & E3. A

E2 & E3. B

E2 & E3. C

1 Ecosystem extent

2 Ecosystem condition

3 Change in status of species

Summary Tools

E2 & E3.C: What are the changes in the state of nature at locations within your company's direct operations and upstream and downstream value chains?

3. Change in status of species

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data - eDNA databases	OBIS eDNA Services, Expertise and Data Publication [Learn more]	The OBIS tool collates data on genetic material from environmental samples, such as water or soil. This data can help to characterize the presence of a certain species in an area. You can use this data to measure the change in the type and status of species over time.	Locations of sites for direct operations and value chain activities	Map (if imported to a GIS software) of site locations overlapped with eDNA spatial layer
Secondary data - database of species data	The STAR metric [Learn more]	The STAR metric measures the contribution that activities can make to reducing species' global extinction risk. You can use this tool to assess the change in extinction risk to species on or near your company's sites after efforts to restore habitats or abate relevant threats. This metric is also available within IBAT.	Locations of sites for direct operations and value chain activities	Map (viewable in the platform) with species extinction risk at sites and a metric for company contributions to preventing biodiversity loss
	GBIF [Learn more]	The Global Biodiversity Information Facility (GBIF) tool collates data from companies on species at the site level. The tool hosts data on occurrence, check lists, sampling events and metadata formats. You can use this data to determine species presence and changes happening at or near your company's sites of interest.	Locations of sites for direct operations and value chain activities	Map (if imported to a GIS software) with site locations overlapped with the species occurrence layer
	Map of Life [Learn more]	The Map of Life collates data on species and habitats. You can use this data to determine changes in species occurrence and change in the available habitat for species in locations of, or locations similar to, to your company's sites or industry.	Locations of sites for direct operations and value chain activities	Map (viewable in the platform) with scores on the annual change in the size and quality of habitats supporting species populations.

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E4
Impact and dependency materiality assessment

E4: Impact and dependency materiality assessment

This component builds from E1, E2 and E3 to prioritize what impacts and dependencies are most material for reporting.

Companies should refer to the definition of impact materiality used in the relevant disclosure framework. This will inform the steps required to assess the materiality of each impact. Most of this component will need to be answered through internal assessments. If the company is also covering materiality to society consultation with potential affected stakeholders to determine materiality is advised.

This aligns with: TNFD E4, ESRS Step C

Other useful resources:

- TNFD Guidance on impact prioritization in LEAP (available here)
- GRI Materiality Assessment guidance (available here)
- Natural Capital Protocol (available here)
- TNFD Guidance on engagement with Indigenous Peoples, local communities and affected stakeholders (available here)

Cross-cutting
Scenario analysis

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

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A1: Risk and opportunity identification

In the Assess phase of LEAP, you can identify, measure and prioritize your company's nature-related risks and opportunities. This is informed by the dependencies and impacts on nature identified in the Locate and Evaluate phases.

This aligns with: TNFD A1, ESRS Step C

Question(s):

- A1.A: What are the risks for your company?
- A1.B: What are the opportunities for your company?

Cross-cutting
Scenario analysis
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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders
View more

Instructions: Please click on the headings on the left hand side column to navigate to those question(s).

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools

A1.A: What are the risks for your company?

Using information on dependencies and impacts on nature from the Locate and Evaluate phases, identify your nature-related risks.

This component relies on company-specific data and company-specific findings from the Locate and Evaluate phases. The nature-related risks to your company will vary depending on the location of your operations, suppliers and customers, business model and production methods. The tools highlighted in the tools tab include tools that can be used for high-level screening of potential risks. These screening tools should not replace the location- and company-specific analysis needed to identify your risks. But they can provide an initial long list of potential risks, which should then be tailored using company- and location-specific information.

Click here for L1 for further information

Click here for E1 for further information

Nature-related risk	TNFD definitions
Physical risks	Nature-related physical risks are *"risks to a company stemming from the degradation of nature and the resulting loss of ecosystem services. These risks can be acute or chronic and arise from changes in the biotic (living) and abiotic (non-living) conditions that underpin healthy, functioning ecosystems. They are typically specific to particular locations"* (TNFD 2023). .
Transition risks	Nature-related transition risks *"include changes in regulation and policy, legal precedent, technology, or investor sentiment and consumer preferences. They can also arise from activities aimed at restoring nature that no longer align with, for example, revised policies"* (TNFD 2023).
Systemic risks	Nature-related systemic risks *"are characterised by modest tipping points combining indirectly to produce large failures and cascading interactions of physical and transition risks"* (TNFD 2023).

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (1 of 4)

A1.A: What are the risks for your company?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Nature-related risks				
Tools to support location- and company-specific identification of risks	TNFD Nature-related Risk and Opportunity Registers [Learn more]	The TNFD Nature-related Risk and Opportunity Registers outline different categories of nature-related risks, indicate useful information to record for each specific risk identified and provide connections to other categories of metrics and prioritization criteria outlined in the TNFD LEAP approach. You can use the tool as a reference list to search and screen for different types of nature-related risks, and record all the identified nature-related physical, transition and systemic risks by completing the template provided in the register as you work through the Assess phase.	Information on the identified nature-related risks, including physical, transition and systemic risks as required in the register (e.g. realm and location)	A detailed record of all the nature-related risks that the company has identified
Secondary data sources – data on risks reported by your organisation's suppliers and customers	CDP Data [Learn more]	The CDP Corporate Response dataset includes data on nature-related risks reported by the companies disclosing through CDP. It can be used to gather data on risks of your companies' upstream and downstream value chain partners. CDP offers free access to the CDP scores and the A list. In addition, companies who are part of the CDP supplier programme get access to data for their supply chain (not the full dataset).	Names of your companies' upstream and downstream value chain partners	Qualitative and quantitative data on nature-related risks that your value chain partners have reported through CDP
	Sustainability Reporting Navigator [Learn more]	This tool includes sustainability reports for 554 companies globally. You can use it to find sustainability reports of your companies' upstream and downstream value chain partners. These usually include information on relevant nature-related risks at certain sites, or company-wide.	Names of your companies' upstream and downstream value chain partners	Information on nature-related risks that you value chain partners have reported in their sustainability reports

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (2 of 4)

A1.A: What are the risks for your company?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Risk screening tools	Nature-related Financial Risks Database [Learn more]	Nature-related Financial Risks Database synthesizes academic research, case studies and grey literature on nature-related risks associated with different economic sectors. You can use it to find publications on nature-related risks for the sector in which your company is operating and sectors located in the upstream and downstream parts of your company's value chain. The database covers physical as well as transition risks.	Country, sector, time horizon	Longlist of potential nature-related risks associated with a given sector
Physical risks				
Risk screening tools	WWF Biodiversity Risk Filter [Learn more]	WWF Biodiversity Risk Filter can be used to identify potential physical risks, such as pollution and land, freshwater and sea use change.	List of industrial activities relevant to your company and GPS coordinates or address of sites	A map or longlist of potential physical and reputational risks related to biodiversity, scored from very low to very high
	WWF Water Risk Filter [Learn more]	WWF Water Risk Filter can be used to identify potential physical risks, such as water depletion and flood hazard.	List of industrial activities relevant to your company and GPS coordinates or address of sites	A map or longlist of potential physical and reputational risks related to water, scored from very low to very high

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (3 of 4)

A1.A: What are the risks for your company?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Risk screening tools	Global Forest Watch [Learn more]	Global Forest Watch can be used to identify areas of ecosystem change, such as net change in forest cover, which can indicate exposure to potential nature-related physical risks.	Site locations (specific, regional, etc.)	A map of sites overlapping with areas of habitat change
	WRI Aqueduct - Water Risk Atlas [Learn more]	WRI Aqueduct – Water Risk Atlas can be used to identify potential physical risks related to water quantity and water quality.	Site locations (specific, regional etc.)	Longlist of potential water risks, rated from Low to Extremely high
	Coastal Risk Index [Learn more]	Coastal Risk Index can be used to identify potential physical risks related to flood risk.	Site locations (specific, regional etc.)	List of sites potentially exposed to coastal flood risk with risk rating from Low to Severe and estimated potential damage
	ENCORE [Learn more]	The ENCORE spatial data provides global spatially resolved data layers on ecosystem components, pressures and hotspots of natural capital depletion. These data layers can help you screen and identify potential source of nature-related physical and transition risks across your company's direct operations and value chains. The ENCORE map allows you to view a selection of data layers from the ENCORE spatial data list. You can search for a location and overlay data layers.	Site locations (specific, regional etc.)	Map or location-specific data estimating where nature-related risks are likely to be found due to potential disruption to ecosystem services, high levels of pressures and natural capital depletion)

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (4 of 4)

A1.A: What are the risks for your company?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Transition risk				
Risk screening tools	IPR Forecast Policy Scenario + Nature [Learn more]	The Inevitable Policy Response Forecast Policy Scenario + Nature (IPR FPS + Nature) can be used to explore how policy, technological and social trends could impact key land use and energy-related value drivers. This includes area of restored habitats and revenue of restoration.	List of activities relevant to the company	Long list of potential transition risks relevant to the company
	Carrot and Sticks Database [Learn more]	The Carrots and Sticks Database provides information on environmental, social and governance (ESG) related policies from 130 countries. You can use it to identify policies that may drive nature-related transition risks for your company.	List of regions and industries relevant to the company	Long list of policies potentially relevant to the company

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A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools

A1.B: What are the opportunities for your company?

Using information on dependencies and impacts on nature from the Locate and Evaluate phases, identify your nature-related opportunities.

This component relies on company-specific data and company-specific findings from the Locate and Evaluate phases. The nature-related opportunities for your company will vary depending on the location of your operations, suppliers and customers, business model and production methods. The tools highlighted in the tools tab include tools that can be used for high-level screening of potential opportunities. These screening tools should not replace the location- and company-specific analysis needed to identify your opportunities. But they can provide an initial long list of potential opportunities, which should then be tailored using company- and location-specific information.

Click here for L1 for further information

Click here for E1 for further information

Nature-related opportunity	TNFD definition
Opportunity for negative impact mitigation	Occurs when *"organisations avoid, reduce, mitigate or manage nature-related risks, for example, connected to the loss of nature and its associated ecosystem services that the organisation and society depend on"* (TNFD 2023). Examples include circular economy measures and pollution reduction measures.
Opportunity for positive impact	Occurs through *"strategic transformation of business models, products, services, markets and investments that actively work to halt or reverse the loss of nature, including the implementation of conservation, restoration and nature-based solutions, or support for them through financing or insurance"* (TNFD 2023). Examples include regeneration and conservation activities.

A1
Risk and opportunity identification

A1. A

A1. B

Summary | Tools (1 of 3)

A1.B: What are the opportunities for your company?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Tools to support location- and company-specific identification of opportunities	TNFD Nature-related Risk and Opportunity Registers [Learn more]	The TNFD Risk and Opportunity registers outline different categories of nature-related opportunities, indicate useful information to record for each opportunity identified and provide connections to other categories of metrics and prioritization criteria outlined in the TNFD LEAP approach. You can use the tool to record all the identified nature-related opportunities for negative impact mitigation and positive impact by completing the template provided in the register as they work through the Assess phase.	Information on the identified nature-related opportunities as required in the register (e.g. realm and location)	A detailed record of all the nature-related opportunities, including the opportunities for negative impact mitigation and positive impact, that you have identified
Secondary data sources – data on opportunities reported by your organisation's suppliers and customers	CDP Data [Learn more]	The CDP Corporate Response dataset includes data on nature-related opportunities reported by the companies disclosing through CDP. It can be used to gather data on opportunities of your companies' upstream and downstream value chain partners. CDP offers free access to the CDP scores and the A list. In addition, companies who are part of the CDP supplier programme get access to data for their supply chain (not the full dataset).	None	Qualitative and quantitative data on nature-related opportunities that your value chain partners have reported through CDP
	Sustainability Reporting Navigator [Learn more]	This tool includes sustainability reports for 554 companies globally. You can use it to find sustainability reports of your companies' upstream and downstream value chain partners. These may include information on relevant nature-related opportunities at certain sites, or company-wide.	None	Information on nature-related opportunities that your value chain partners have reported in their sustainability reports

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A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (2 of 3)

A1.B: What are the opportunities for your company?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Opportunity screening tools	ENCORE [Learn more]	ENCORE's Biodiversity Module (currently available for agriculture and mining sectors only) can support you in exploring alignment of your company's business strategy with a nature positive goals. It helps you estimate your company's opportunitiesrelated to species extinction risk reduction (based on STAR) and to the reduction of threats to ecological integrity (based on biodiversity importance-adjusted Mean Species Abundance). The module provides you with a global overview of your portfolio's exposure and breakdowns per ecoregion or administrative boundary. You can also view a list of possible actions that your company could consider to further align with nature positive goals.	For agriculture, you need to input countries and either cropland area (ha) or turnover (USD) For mining, you need to input company names and country locations	High-level estimate of your companies' potential to reduce species' extinction risk and ecological integrity risk. List of possible actions to consider for alignment with nature positive goals.
	The Restoration Explorer [Learn more]	The Restoration Explorer helps companies identify or evaluate existing businesses ideas focused on ecosystem restoration. You can use the tool to screen for opportunities to generate positive outcomes with strong revenue potential by aligning business ideas with ecosystem types, sustainability goals and impact approaches. The tool also provides a comprehensive checklist across business, legal, environmental and operational dimensions to identify gaps and recommend targeted actions.	Information on the ecosystem type and state of nature at the site(s)	High-level screening for opportunities related to ecosystem restoration
	Conservation Evidence [Learn more]	Conservation Evidence is a platform that provides companies with access to global scientific research on the effectiveness of conservation actions. It helps users explore a wide range of possible restoration actions tailored to individual species, habitats, or conservation issues, supported by plain-language summaries and expert assessments. You can use the tool to screen for nature-related opportunities by identifying interventions most likely to deliver positive biodiversity outcomes in your company's specific context.	Site locations and information on species, ecosystems and state of nature on the site(s)	A list of nature-related opportunities across the sites and respective methodologies that can generate positive impacts

A1
Risk and opportunity identification

A1. A

A1. B

Summary | Tools (3 of 3)

A1.B: What are the opportunities for your company?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Opportunity screening tools	Restor [Learn more]	Restor is an open data platform designed to connect, map and monitor ecosystem restoration projects across the globe. It helps developers of ecosystem restoration projects to plan, track and showcase their efforts using scientific data and satellite imagery. Users can map their project areas and access real-time metrics on biodiversity, carbon and water. By visualizing site-specific ecological data, companies can also use the tool to identify areas with high restoration potential and screen for opportunities that deliver a positive impact.	Site location	Long list of sites that have high restoration potential which can deliver a positive impact
	SUSTAIN Inventory of Nature Impact Reduction Strategies [Learn more]	The SUSTAIN Inventory of nature impact reduction strategies is developed to help businesses in the agriculture, energy and built environment sectors identify strategies to reduce the pressures/impact drivers they exert on nature. It maps over 150 response options to different pressures/impact drivers based on scientific and grey literature. The response options are also categorized by stages of the value chain. You can use the tool to screen for nature-related opportunities—particularly those focused on negative impact mitigation.	Information on pressures/impact drivers of your company or your value chain partners	A list of potential nature-related opportunities and options to mitigate negative impacts by reducing environmental pressures across the value chain

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View next phase

A2
Adjustment of existing risk mitigation and risk and opportunity management

A2. A

A2: Adjustment of existing risk mitigation and risk and opportunity management

Question(s):

- A2.A: What existing risk mitigation and risk and opportunity management processes and elements is your company already applying? How can risk and opportunity management processes and associated elements (e.g. risk taxonomy, risk inventory, risk tolerance criteria) be adapted?

This aligns with: TNFD A2, ESRS Step C

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A2
Adjustment of existing risk mitigation and risk and opportunity management

A2. A

Summary Tools

A2.A: What existing risk mitigation and risk and opportunity management processes and elements is your company already applying? How can risk and opportunity management processes and associated elements (e.g. risk taxonomy, risk inventory, risk tolerance criteria) be adapted?

This component relies on company specific data. The right risk and opportunity management approach will depend on your organisation's business model, structure, location and existing risk management processes. The tools highlighted for this component are useful resources for exploring additional risk and opportunity management actions to consider.

A2
Adjustment of existing risk mitigation and risk and opportunity management

A2. A

Summary Tools

A2.A: What existing risk mitigation and risk and opportunity management processes and elements is your company already applying? How can risk and opportunity management processes and associated elements (e.g. risk taxonomy, risk inventory, risk tolerance criteria) be adapted?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
TNFD Nature-related Risk and Opportunity Registers [Learn more]	The TNFD Risk and Opportunity Registers outline different categories of nature-related risks and opportunities, specify the types of information to record for each identified risk and opportunity and provide links to relevant metrics and ratings from the TNFD LEAP approach. You can use the tool to review your company's existing risk mitigation and opportunity management processes by examining the nature-related risks and opportunities screened, identified and documented in earlier components of the register. This helps identify which elements are already in use and where you can further adapt or strengthen your company's current practices—such as risk taxonomy, risk inventory and risk tolerance criteria.	Information on the identified nature-related risks and opportunities and your company's risk management processes	A categorized list of nature-related risks and opportunities that are: (1) covered by existing risk mitigation and risk and opportunity management processes and elements; (2) not yet covered; and (3) associated processes and elements that can be further adapted and enhanced.
WWF Water Risk Filter [Learn more]	WWF Water Risk Filter (WRF) helps companies and financial institutions identify and prioritize water-related risks across their operations and supply chains. You can also use the tool to map risks to your company's existing risk mitigation and risk and opportunity management processes, aligning the WRF's taxonomy with your company's internal frameworks to identify gaps and adapt management approaches. The tool also includes a questionnaire on site-specific water risks, which points users to actionable insights to refine and strengthen risk mitigation and risk and opportunity management processes across sites and portfolios.	List of industrial activities relevant to your company and GPS coordinates or address of sites Site-level operational data	A list of sites showing: 1) where risk mitigation and risk and opportunity management processes are covered with the water risks identified by the Water Risk Filter; 2) where they are not covered and need improvement; and 3) where operational risks require further adaptation of these processes.
ENCORE [Learn more]	ENCORE's Biodiversity Module (currently available for agriculture and mining sectors only) can support you in exploring alignment of your company's business strategy with nature positive goals. Among other insights, it allows you to view a list of possible actions that your company could consider to manage biodiversity risks.	For agriculture, list of input countries, cropland area (ha) or turnover (USD). For mining, list of company names and country locations	A list of actions towards potential portfolio alignment to a nature-positive future tailored to your portfolio

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View next phase

A3: Risk and opportunity measurement and prioritization

You should assess the severity of your nature-related risks and opportunities as determined by the intersection of their magnitude, likelihood and additional criteria, such as impact on nature and impact on society. You can prioritise risks and opportunities based on this assessment.

This aligns with: TNFD A3, ESRS Step C

Question(s):

- A3.A: What is the severity of nature-related risks to your company? Which risks should be prioritized?
- A3.B: What is the scope of nature-related opportunities to your company? Which opportunities should be prioritized?

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Instructions: Please click on the headings on the left hand side column to navigate to those question(s).

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools

A3.A: What is the severity of nature-related risks to your company? Which risks should be prioritized?

You should assess the severity of nature-related risks as determined by their magnitude, likelihood and additional criteria, such as impact on nature and impact on society. The magnitude and likelihood of risks can be difficult to measure. You can estimate them by analysing company- and location-specific data and findings from Locate and Evaluate phases. The table below provides an overview of key guidance documents on how company- and location-specific data on nature impacts and dependencies can inform risk assessments.

Type of resource	Resource
Guidance on risk assessment	TNFD Guidance on risk and opportunity assessment in LEAP (available here)
	Natural Capital Protocol (available here)
Methodology to estimate nature-related risks at portfolio level	Nature Risk Profile: A Methodology for Profiling Nature Related Dependencies and Impacts (available here)
	SUSTAIN Nature-related risk assessment methodology (Deliverable 2.1 led by Oxford Sustainable Finance Group) (to be added once publsihed)

For information on tools for estimating the magnitude and likelihood of risks **View more**

Challenge: Valuation of nature-related risks

To enable prioritization between different nature-related risks, it is helpful to estimate the value associated with dependencies and impacts. Valuation can be qualitative, quantitative or monetary. Each valuation approach has limitations, which should be carefully considered when interpreting the results and using them as a basis for prioritisation of risks. For example, cost of disruptions to non-consumptive ecosystem services or societal benefits can be challenging to value accurately. The tools listed below can be useful in valuation of risks.

A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools

Information: Where to find more information in the Nature Tools Compass on tools for estimating the magnitude and likelihood of risks

	Aspect to assess	Relevant section of the Nature Tools Compass
Physical risk	Location of operations and downstream and upstream value chain partners	See L1
	Current ecosystem condition	See E2&3 C and L4
	Human made pressures on nature	See E2&3 A
	Trends affecting state of nature	See Scenario Analysis
	Changes to ecosystem services availability and quality	See E2&3 B
	Valuing physical risk	See A3.A tools tab
Transition risk	Current policy, market and consumer context	See transition risk screening tools under A1.A
	Changes to policy, market and consumer context	See Scenario Analysis
Systemic risk		Limited availability of tools, refer to Scenario Analysis and guidance on risk assessment guidance

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools (1 of 2)

A3.A: What is the severity of nature-related risks to your company? Which risks should be prioritized?

The following are tools to support valuation of nature-related risks

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
InVEST [Learn more]	The InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs) tool is an open-source software suite that quantifies and maps the benefits people obtain from ecosystems, showing how land use, management, or climate changes affect services like water purification, coastal protection, carbon storage and food production. It provides quantitative, spatially explicit and often monetary estimates, linking ecological change to human well-being and economic outcomes. You can use the tool to perform risk valuation, especially by translating ecosystem service changes into financial metrics such as avoided damages, economic losses, or the monetary value of preserved benefits. You can also identify risk exposure, mapping areas where ecosystem degradation could increase risks like flooding or water scarcity, and estimate consequences, quantifying the scale and severity of potential impacts under different scenarios. This analysis expresses your environmental risks in economic terms and can help you prioritize actions, as well as integrate them into broader risk mitigation and opportunity management processes.	Specific site location and a long list of nature related risks	Long list with a valuation of identified risks
ARIES for SEEA [Learn more]	ARIES for SEEA (Artificial Intelligence for Environment and Sustainability for the System of Environmental-Economic Accounting) is a web-based application that helps companies compile ecosystem accounts in line with the UN SEEA framework. Users can define a geographic area, spatial resolution and timeframe to produce standardized environmental-economic accounting outputs. The tool generates ecosystem accounts that map and quantify ecosystem extent, measure ecosystem condition, calculate the physical and monetary values of ecosystem services using SEEA-compliant methods and produce aggregated results as tables or spatial datasets for different geographic units. You can use the tool to support the valuation of nature-related risks by assigning monetary values to ecosystem services and translating biophysical flows into financial terms, such as the economic contribution of forests to carbon sequestration or avoided costs from natural flood protection.	Location of sites	A list of ecosystem accounts showing the physical and monetary value of ecosystem services, which companies can use to apply a value to dependencies and impacts on nature and the risks that may arise from ecosystem degradation

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools (2 of 2)

A3.A: What is the severity of nature-related risks to your company? Which risks should be prioritized?

The following are tools to support valuation of nature-related risks

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Monetized environmental impact data and valuation templates from the Impact-Weighted Accounts Project at Harvard Business School [Learn more]	The databases from the Impact-Weighted Accounts Project at Harvard Business School provide monetized environment impact data, available for over 6,000 companies. You can use the data as part of monetary valuation to assign monetary values to environmental impacts. This can help you assess which risks are material to your company.	Company name and country	List of companies with the total environmental impact for a certain year, in monetary terms.

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools

A3.B: What is the scope of nature-related opportunities to your company? Which opportunities should be prioritized?

You should assess the scope of potential benefits from your nature-related opportunities in order to prioritise them. In addition to considering benefits, you may consider additional criteria, such as the scope of the positive impact on nature and the value of the impact on society. The benefits from opportunities can be difficult to measure. You can estimate them by analysing company- and location-specific data and findings from Locate and Evaluate phases. The list below provides an overview of key guidance documents on how company- and location-specific data on nature impacts and dependencies can inform opportunity assessments.

Guidance on risk assessment using location- and company-specific data

- TNFD Guidance on risk and opportunity assessment in LEAP (available here)
- Natural Capital Protocol (available here)

A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools

A3.B: What is the scope of nature-related opportunities to your company? Which opportunities should be prioritized?

The tools listed below can be useful for estimating potential benefits associated with nature-related opportunities. Where possible, complement outputs from these tools with additional location- and company-specific data to obtain more accurate benefit estimates.

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Positive Impact Indicators Directory [Learn more]	The Positive Impact Indicators Directory, developed by UNEP and UNEP-WCMC, is a reference tool designed to help financial institutions and other companies identify indicators for monitoring and reporting environmental and social impacts of investments, particularly in the land-use sector. The Directory consolidates 22 indicators, selected from over 180 reviewed options, and groups them into four areas: biodiversity, sustainable production, climate action and sustainable livelihoods. It provides information on each indicator and recommended monitoring methods to support more consistent, comparable and SDG-aligned reporting. Companies, especially those involved in land use and those supporting smallholders in their supply chains, can use this Directory as a reference for selecting relevant metrics to scope nature-related opportunities and to estimate, measure and track positive environmental and social outcomes over time.	None	A list of indicators that can be used to estimate/measure nature-related opportunities that are linked to the land use sector
STAR (restoration) [Learn more]	STAR (restoration) is a component of the Species Threat Abatement and Restoration (STAR) metric developed by IUCN using IUCN Red List data. It identifies areas where restoration actions, such as habitat recovery or ecosystem rehabilitation, could make the greatest contribution to reducing global species extinction risk. STAR (restoration) scores are calculated using data on species presence, extinction risk levels, the proportion of their historical range in a given area and the severity of threats they face. High STAR (restoration) scores highlight locations where restoring degraded or lost habitats would most effectively benefit multiple threatened species, making them priority areas for potential interventions. Companies can use STAR (restoration) to screen for restoration opportunities, particularly where past habitat loss has significantly impacted threatened species, and to estimate the scope and potential of nature-related opportunities linked to habitat restoration efforts.	Site location	List of sites that can make the greatest contribution to reduce global species extinction risk (i.e. largest scope of opportunities)

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A4
Risk and opportunity materiality assessment

A4: Risk and opportunity materiality assessment

In the Assess phase of LEAP, you can identify, measure and prioritize your company's nature-related risks and opportunities. This is informed by the dependencies and impacts on nature identified in the Locate and Evaluate phases.

This component builds from A1, A2 and A3 to prioritize what risks and opportunities are most material and should be disclosed. This component will be informed by the company's approach to materiality, which is closely related to the objectives of the assessment and disclosures. "Other useful resources" below lists relevant guidance and resources.

Click here for A1 for further information

Click here for A2 for further information

Click here for A3 for further information

This aligns with: TNFD A4, ESRS Step C

Other useful resources:

- TNFD Guidance on impact prioritization in LEAP (available here)
- ISSB Sustainability Standards (available here) and an educational document on disclosure of material information (available here)
- Natural Capital Protocol (available here)

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Scoping
Scoping an assessment

Scoping A

Scoping

In this phase, you conduct a quick, high-level, preliminary scan of internal and external data. You also review relevant reference sources. The aim is to generate a hypothesis about the potential nature-related dependencies, impacts, risks and opportunities for your financial institution. In this phase, you also build senior management support and align vision and resources for a full nature-related assessment.

This aligns with: TNFD Scoping, SBTN Step 1, ESRS Step A

Question(s):

- Scoping A: Conduct a high-level, preliminary scan of your financed activities and assets. Which financed activities and assets are likely to have material nature-related dependencies, impacts, risks and opportunities?
- Scoping B: Consider your company's current level of capacity, skills and data, as well as your organizational goals. What resource (financial, human, and data) considerations and time allocations are required and agreed upon for undertaking an assessment?

Note: The Nature Tools Compass does not provide a list of tools for the Scoping B question on estimated resources and time, as answering this primarily relies on your internal understanding and company data. However, we recommend using insights from your responses to Scoping A to inform your approach to Scoping B. You can find guidance on addressing this Scoping question starting on page 31 of the TNFD LEAP approach (here).

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Scoping
Scoping an assessment

Scoping A

Summary Tools

Scoping A: Conduct a high-level, preliminary scan of your financed activities and assets. Which financed activities and assets are likely to have material nature-related dependencies, impacts, risks and opportunities?

Identify the main economic activities and sectors within your portfolio and gain a high-level understanding of their potential nature-related dependencies, impacts, risks and opportunities. This will help you gain an initial insight into nature-related issues that may be relevant for you.

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Scoping
Scoping an assessment

Scoping A

Summary | Tools

Scoping A: Conduct a high-level, preliminary scan of your financed activities and assets. Which financed activities and assets are likely to have material nature-related dependencies, impacts, risks and opportunities?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
ENCORE [Learn more]	Exploring Natural Capital Opportunities, Risks and Exposures (ENCORE) provides you with information on potential nature-related pressures/impact drivers and dependencies for 271 economic activities. For each activity, ENCORE provides materiality ratings that range from Very Low to Very High. These economic activities are categorized based on ISIC Groups or Classes. You can use the tool, particularly the online natural capital module, to screen your financed activities and assets and prioritize for further assessment those that are likely to be associated with higher material impacts and dependencies (e.g., those with Medium, High and/or Very High materiality ratings).	List of financed economic activities	List of pressures and ecosystem service dependencies that are likely to be associated with the financed activities and their materiality ratings
SBTN High Impact Commodity List [Learn more]	The SBTN High Impact Commodity List (HICL) includes commodities identified by SBTN as high impact, along with their potential material pressures and traceability scores. You can use this list to identify which of the commodities which are featured in your portfolio that are categorized as having a high impact on nature.	List of commodity value chains financed	List of financed commodities that have potentially high impacts
SASB Standards Navigator [Learn more]	The Sustainability Accounting Standards Board (SASB) Standards Navigator tool allows you to identify your industry by filtering through company name or industry key word. The tool also allows you to compare industries and access all 77 industry-specific SASB Standards. It includes a list of relevant disclosure and activity metrics for you to report on. The tool can help you identify the sustainability-related risks and opportunities most likely to affect your cash flows. The navigator supports you in identifying opportunities for access to finance and in assessing your cost of capital over the short, medium, or long term. This tool also helps you pinpoint the disclosure topics and metrics that are most likely to be useful to investors.	List of economic activities in direct operations or value chain (at SASB industry level)	List of sustainability risks and opportunities (including environmental) likely to be material to report to investors which are associated with direct operations activities

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L1: Span of the business model and value chain

In this component, you develop an understanding of the parts of your portfolio that were selected for further assessment during the scoping exercise. This includes identifying the sector, value chain, geography and asset class of financed activities and assets.

This aligns with: TNFD L1, SBTN Step 1, ESRS Step A

Question(s):

- L1.A: What are your financed activities and assets by value chain, geography and asset class?

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View next phase

L1
Span of the business model and value chain

L1. A

Summary Resources

L1.A: What are your financed activities and assets by value chain, geography and asset class?

Compile internal data to identify, classify and locate your financed activities and assets. Expand on your findings from the Scoping phase. Classifying activities by “value chain” in this context refers to identifying the value chains in which the companies in your portfolio participate.

This component relies primarily on internal data held by your financial institution on your activities and assets that you finance. However, outputs from tools used in the Scoping phase can be used as an initial starting point and refined based on information specific to your financial institution and your portfolio.

Click here for Scoping A for further information

Challenge: Limited information on upstream and downstream value chain beyond a certain tier

Improving the availability of data on your portfolio companies’ upstream and downstream value chain partners is critical. Until better information on economic activities in the value chain and their geographical locations becomes available, consider using tools based on sector- or country-level data to understand who are likely to be the most material value chain partners and where they are located.

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L1
Span of the business model and value chain

L1. A

Summary Resources (1 of 2)

L1.A: What are your financed activities and assets by value chain, geography and asset class?

The following are resources that can support you when identifying, classifying and locating your financed activities and assets.

Type of resource	Resource
International and regional sector classifications	International Standard Industrial Classification (ISIC) Rev. 4 (available here)
	SASB sector classification (SICS) + SICS ® look-up tool (available here)
	The Global Industry Classification Standard (GICS) (available here)
	Nomenclature génerale des Activités économiques dans les Communautés Européennes (NACE) Rev.2 (available here)
	EU Taxonomy Compass (available here) Note: EU Taxonomy under review as a result of the Omnibus regulation proposal
	North American Industry Classification System (NAICS) (available here)
National sector classifications	UN Statistics Division (UNSD) National Classifications Database (available here) Contains information on classifications from 125 countries, sorted by country or classifications category.

L1
Span of the business model and value chain

L1. A

Summary | Resources (2 of 2)

L1.A: What are your financed activities and assets by value chain, geography and asset class?

Type of resource	Resource
Correspondence tables between sector classifications	ISIC Rev.4 - NACE - GICS crosswalk available within ENCORE knowledge base (available here)
	ISIC Rev.4 – NACE2 Correspondence table UNSD official correspondence table between ISIC Rev.4 and NACE2 (available here)
	ISIC Rev.4 - NAICS 2022 Correspondence table (available here) United States Census Bureau official concordance table
Correspondence tables with EXIOBASE	EXIOBASE – NACE1.1 correspondence (available here) EXIOBASE is based on NACE1.1 and the correspondence to NACE1.1 codes is indicated directly in EXIOBASE data.
	EXIOBASE – NACE2 - ISIC Rev.4 crosswalk available within ENCORE knowledge base (available here)

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L2: Dependency and impact screening

In this component, you should consider which financed activities or assets are likely to present moderate or high dependencies and impacts on nature.

This aligns with: TNFD L2, SBTN Step 1, ESRS Step B

Question(s):

- L2.A: Which of your financed activities and assets are associated with potentially moderate or high dependencies and impacts on nature?

Information: Heatmapping:

A heatmap can help financial institutions identify sectors exposed to nature-related risk. By overlaying datasets from sources including ENCORE or IBAT into matrices, you can visualize hot spots of potential high dependencies or impacts on nature. This can be used to prioritize sectors, financed activities or assets for further in-depth assessment. For further information on heatmapping, please refer to TNFD's LEAP approach here (pg. 44-49), or TNFD's Nature-related Risk and Opportunity Management and Disclosure Framework (here) (pg. 2-5).

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L2
Dependency and impact screening

L2. A

L2.A: Which of your financed activities and assets are associated with potentially moderate or high dependencies and impacts on nature?

Expand on your findings from the Scoping phase and identify the potential dependencies and impacts in direct operations and value chains. You can prioritize economic activities based on their level of dependency and impact on nature.

L2
Dependency and impact screening

L2. A

Summary Tools (1 of 4)

L2.A: Which of your financed activities and assets are associated with potentially moderate or high dependencies and impacts on nature?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
CDP Data [Learn more]	The 'CDP Scores, A List and Corporate Response' dataset are part of the CDP independent environmental disclosure system for companies to manage their environmental impacts. The tools mentioned host data on different reported environmental indicators, such as water withdrawal and deforestation. CDP offers free access to the CDP scores and the A list. In addition, companies who are part of the CDP supplier programme get access to their supply chain partners' programme (not the whole dataset). You can use the CDP suite of tools to identify where the impacts can exist within your portfolio companies' supply chains.	List of sectors/economic activities in supply chain (at ISIC group level)	List of suppliers and/or activities that are likely to be associated with potentially high impacts on nature
ENCORE [Learn more]	The ENCORE tool includes sector-level estimates on potential nature-related pressures/impact drivers and dependencies. You can use ENCORE to determine which economic activities within your portfolio are likely to have medium, high or very high dependencies (on ecosystem services) or impacts (based on pressures on nature). If you want to do a more in-depth analysis, you can download the ENCORE knowledge base (here). Several organizations have used the tool to create heatmaps of dependencies and impacts associated with different economic activities.	ISIC section, division and group/class of activities within your portfolio	List of pressures and ecosystem service dependencies that are likely to be associated with activities and assets in your portfolio and their materiality ratings List of potential key value chain links of the activities in your portfolio, including two tiers upstream and downstream Note: potential pressures, dependencies and key value chain links are also possible to visualise in diagrams
Forest IQ [Learn more]	The Forest IQ platform can help you identify the potential impacts and level of impact associated with relevant commodities used in supply chains, activities or assets in your portfolio.	List of companies and their industrial activities in your portfolio	Metrics on exposure, materiality and performance

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L2.A: Which of your financed activities and assets are associated with potentially moderate or high dependencies and impacts on nature?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Nature-Finance Alignment tool [Learn more]	The Nature-Finance Alignment tool allows users to screen their portfolios by mapping their exposure to countries and sectors, and assessing them against alignment scores for nature positive outcomes. By linking sectors with high dependencies on ecosystem services, and overlaying country-level nature alignment data, it highlights which financed activities are likely to be associated with nature-related risks.	List of investments, loans, or holdings in your portfolio at company, sector, or asset level	List of scores of alignment with nature positive outcomes for portfolio holdings, with breakdowns by sector and geography.
SASB Standards Navigator [Learn more]	The SASB Standards Navigator tool allows users to identify the Sustainability Industry Classification for companies, compare industries and access all 77 industry-specific SASB Standards. The tool includes a list of relevant disclosure and activity metrics for companies to report on. You can use this tool and the relevant metrics to quantitatively determine which activities and sectors have higher dependencies and impacts on nature.	List of relevant economic activities in your portfolio	List of potentially moderate or high impact activities
SBTN High Impact Commodity List [Learn more]	The SBTN High Impact Commodity List includes commodities identified by SBTN as high impact, their potential material pressures and traceability scores. You can use the HICL to determine which commodities in your portfolio are potentially high impact.	List of commodities in your portfolio	List of potential high impact commodities
Trase [Learn more]	Trase combines data on commodity production and trade to map supply chain links for forest-related commodities. Trase includes indicators on annual deforestation and emissions in a region or country where the organization operates. You can use the tool to determine the relative impact in different regions and countries for certain deforestation risk-related commodities	List of sectors / economic activities in your portfolio	List of potentially high impact forest-related commodities and countries

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L2.A: Which of your financed activities and assets are associated with potentially moderate or high dependencies and impacts on nature?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
WWF Biodiversity Risk Filter [Learn more]	The World Wildlife Fund (WWF) Biodiversity Risk Filter provides a suite of 33 indicators related to potential biodiversity issues and pressures that may represent risks to companies in different locations. You can use this tool to identify the direct operations and value chain activities of a portfolio company that are likely to be associated with high nature-related risks, including some dependency- and pressure-related risks.	List of sectors / economic activities in your portfolio (at ISIC group level) for each operation site of interest	List of activities in direct operations and the value chain that have high associated potential nature risks, dependencies and impacts
Water Watch - CDP Water Impact Index [Learn more]	The CDP Water Watch tool ranks over 200 individual activities within 13 industries according to their potential impact on water resources (water quantity and quality). Users can use the tool to determine the relative impact of a portfolio company's direct operations and supply chain on water resources.	List of sectors / economic activities in direct operations and supply chain (at ISIC group level)	A qualitative assessment by ranking of impact (0 to 3) on freshwater resources at different stages of the value chain, to give a final overall water impact rank
Wastewater Impact Assessment Tool [Learn more]	The Wastewater Impact Assessment tool allows for site-level assessment of the pressures/changes on the state of nature and the impacts on climate, biodiversity, and water security, resulting from industrial wastewater and water use. You can use this information to estimate potential wastewater impacts of activities in your portfolio.	Wastewater treatment and water use data for each operation site of interest	Estimated impact on water quality, water availability and GHG emissions estimates and a visualization of the impacts at a site level
WWF Water Risk Filter [Learn more]	The WWF Water Risk Filter risk assessment framework accounts for business dependencies and impacts on water by calculating risk scores. You can use this tool to identify a portfolio company's direct operations and value chain activities that are likely to be associated with high water-related risks, including some dependency-and pressure-related risks	List of sectors / economic activities in your portfolio (at ISIC group level) for each operation site of interest	List of activities in direct operations and the value chain that have high associate water risk, dependencies and impact

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L2.A: Which of your financed activities and assets are associated with potentially moderate or high dependencies and impacts on nature?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
EXIOBASE (v3.8) [Learn more]	EXIOBASE is a global input-output database developed by harmonizing and detailing supply-use data for 44 countries and 5 'Rest of the World' groups by continent. You can use EXIOBASE data on trade links between 163 industries and sectors to understand which industries or sectors are likely to be found in your company's upstream and downstream value chains. You can also use the data on estimated environmental footprints to assess potential pressures and dependencies on nature.	List of financed sectors/economic activities	List of industries/sectors that are connected to an industry/sector of interest based on trade flow data, estimated value added and estimated environmental footprint indicator values for selected pressures
REX3 [Learn more]	The Resolved EXIOBASE v3 (REX3) database merges EXIOBASE v3.8 with Eora26, production data from FAOSTAT, and bilateral trade data from the BACI database to create a highly-resolved multi-regional input-output database. It provides greater geographic coverage compared to EXIOBASE, with data on 189 countries and 163 sectors, with time series coverage from 1995 to 2022 and several environmental and socioeconomic extensions. You can use REX3 data on trade links between 163 sectors to understand which sectors are likely to be found in your upstream and downstream value chains. You can also use the estimated environmental footprint data to assess potential pressures and dependencies on nature.	List of financed sectors/economic activities	List of sectors that are connected to a sector of interest based on trade flow data, estimated value added and estimated environmental footprint indicator values for selected pressures

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L3: Interface with nature

The aim of this component is to more precisely identify the geographic locations of activities and assets in your portfolio associated with potentially moderate and high dependencies and impacts on nature. The component also includes identifying the biomes and ecosystems with which your portfolio companies interface at these locations.

This aligns with: TNFD L3, SBTN Step 1, ESRS Step A

Question(s):

- L3.A: Where are the financed activities or assets which have potentially moderate and/or high dependencies and impacts on nature located?
- L3.B: Which biomes and specific ecosystems interface with the activities or assets with potentially moderate and/or high dependencies and impact?

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L3
Interface with nature

L3. A

L3. B

Summary Tools

L3.A: Where are the financed activities or assets which have potentially moderate and/or high dependencies and impacts on nature located?

Expand on your findings from Scoping, L1 and L2, to identify the geographic locations of potentially moderate and high dependencies and impacts on nature.

This component builds on information on the geographical location of activities gathered in the Scoping phase and L1. It relies primarily on your internal data, or the internal data of the companies you finance. This component can also build on information on the area of influence around financed activities or assets, collected during the Evaluate phase.

Click here for Scoping for further information

Click here for L1 for further information

Click here for Evaluate for further information

L3
Interface with nature

L3. A

L3. B

Summary Tools (1 of 2)

L3.A: Where are the financed activities or assets which have potentially moderate and/or high dependencies and impacts on nature located?

The following tools can be used if your financial institution lacks information on the geographical location of activities and sectors. These tools can be used to estimate the geographic distribution of certain activities or sectors at country or regional level.

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
EXIOBASE (v3.8) [Learn more]	EXIOBASE (v3.8) is a global input-output dataset developed by harmonizing and detailing supply use data for 44 countries and 5 Rest of the World regions. This tool includes data on the carbon, water, land and materials embodied in trade and final consumption. This data can be used to identify at the country level, where activities in your portfolio companies' upstream or downstream value chains might have potentially material nature-related dependencies and impacts.	List of industries/sectors that are connected to an industry/sector of interest based on trade flow data, estimated value added and estimated environmental footprint indicator values for selected pressures	Likely country/regional location of potentially material activities
REX3 [Learn more]	REX3 database merges EXIOBASE v3.8 with Eora26, production data from FAOSTAT, and bilateral trade data from the BACI database to create a highly-resolved multi-regional input-output database. It provides data on 189 countries and 163 sectors with time series coverage from 1995 to 2022 and several environmental and socioeconomic extensions. The REX3 database includes a metric on global environmental impact assessment that includes water stress and biodiversity impact from land occupation, land use change and eutrophication. You can use this tool to determine at the national level where potentially material activities/products have the highest impacts.	List of sectors that are connected to a sector of interest based on trade flow data, estimated value added and estimated	Likely country/regional locations of products and/or services with potentially material impacts and dependencies on nature

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L3
Interface with nature

L3. A

L3. B

Summary Tools (2 of 2)

L3.A: Where are the financed activities or assets which have potentially moderate and/or high dependencies and impacts on nature located?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Trase [Learn more]	Trase combines data on commodity production and trade to map supply chain links for forest-related commodities. It It also provides information on exposure to deforestation and GHG emissions risks. Trase also includes data on Forest 500 commodity scores of organizations based on their sustainability commitments, which could be useful information to determine which companies are potentially the most material partners. You can also use this tool to determine where activities in upstream or downstream value chains might have potentially material nature-related dependencies, impacts and risks.	List of likely sourcing countries/regions and/or countries/regions where downstream value chain partners are likely to be located	Likely country locations of material value chain partners and activities

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L3
Interface with nature

L3. A

L3. B

L3.B: Which biomes and specific ecosystems interface with the activities or assets with potentially moderate and/or high dependencies and impact?

In this component, you identify the biomes and ecosystems present in the locations of, or are relevant to, the activities or assets that you finance with moderate and/or high dependency and impacts on nature.

L3
Interface with nature

L3. A

L3. B

Summary Tools (1 of 2)

L3.B: Which biomes and specific ecosystems interface with the activities or assets with potentially moderate and/or high dependencies and impact?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
WWF Terrestrial Ecoregions of the World (biomes) [Learn more]	WWF Terrestrial Ecoregions of the World (biomes) includes a global map of 867 terrestrial ecoregions, classified into 14 different biomes. You can use this map to identify which terrestrial ecoregions and biomes your financed activities interface with.	Geographic location data (at site, region or country level)	Information on terrestrial ecoregions/biomes in which sites are located or (if imported to a GIS software) a map of site locations overlapping with different terrestrial ecoregions and biomes
SBTN Natural Lands Map [Learn more]	The SBTN Natural Lands Map includes layers on different land use types (classified as natural and non-natural). You can use this map to identify which types of land use interface with your financed activities.	Geographic location data (at site, region or country level)	Information on land use types in which sites are located or (if imported to a GIS software) a map of site locations overlapping with natural and non-natural land use type classifications
ENCORE [Learn more]	ENCORE does not provide location specific information in the natural capital module. However, the tool's knowledge base can support financial institutions with understanding the links between the ecosystem services that they depend on and environmental assets (or natural capital). In ENCORE, natural capital is comprised of ecosystem components within ecosystem types. Ecosystem components include species, water, atmosphere (among others). Ecosystem types provide another layer of nuance to components and are based on the IUCN Global Ecosystem Typology 2.0. For example, ecosystem types in ENCORE include biomes desert and semi-deserts, tropical-subtropical and temperate-boreal forests and woodlands (among others). The knowledge base also provides links between the economic activities, pressures/impact drivers and mechanisms of change that can affect the state of nature. As the ENCORE natural capital module does not provide location specific information, it should only be used when location specific information is not available, or in combination with other tools.	ISIC Sector, Division and Group or Class of economic activity	A summary highlighting the potential use of freshwater, land and seabed area in the undertaking of an economic activity

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L3
Interface with nature

L3. A

L3. B

Summary Tools (2 of 2)

L3.B: Which biomes and specific ecosystems interface with the activities or assets with potentially moderate and/or high dependencies and impact?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Global Forest Watch [Learn more]	Global Forest Watch is a platform compiling multiple datasets on forest cover and land use e.g. global intact forest, natural forest and net forest change. You can use this platform to create a map to identify which forest ecosystems the activities and assets you finance interface with.	Geographic location data (at site, region or country level)	Information on forest characteristics where sites are located or a map in the platform to visualize site locations overlapping with areas of high or low forest cover and land use
Bioregions 2023 [Learn more]	The Bioregions 2023 tool includes a global map with 185 discrete bioregions, with different scales such as biomes, subrealms and ecoregions. From this map, you can identify which bioregions the activities and assets you finance interface with.	Geographic location data (at site, region or country level)	Information on bioregion characteristics where sites are located, or (if imported to a GIS software) a map of site locations overlapping with different bioregions

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L4: Interface with sensitive locations

In this component, you build on the assessment in L1 to L3 to identify which of the activities or assets that you finance are located in areas which are ecologically sensitive. This may draw on external analyses or directly from client or investee data.

Ecologically sensitive locations include:

- Areas important for biodiversity, including species; 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.

This aligns with: TNFD L4, SBTN 1, SBTN 2, ESRS Step A

Question(s):

- L4.A: Which of your clients or investees operate in areas of biodiversity importance?
- L4.B: Which of your clients or investees operate in areas of high ecosystem integrity?
- L4.C: Which of your clients or investees operate in areas of rapid decline in ecosystem integrity?
- L4.D: Which of your clients or investees operate in areas of high physical water risk?
- L4.E: Which of your clients or investees operate in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and stakeholders?

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Summary Tools

L4.A: Which of your clients or investees operate in areas of biodiversity importance?

Identify which activities or assets that you finance are located in ecologically sensitive locations.

The TNFD LEAP guidance suggests that organizations identify sensitive locations for activities, assets, or sectors with moderate and high dependency and impacts only. You can broaden your assessment, to assess locations that have low potential dependencies and impacts. In doing so, you may identify impacts that are more significant due to the highly sensitive nature of the locations.

Areas of biodiversity importance includes (adapted from TNFD 2023):

- Protected areas, by legal or other effective means
- Areas scientifically recognized as important for biodiversity
- Areas important for threatened, migratory, range-restricted and endemic species
- Areas of rare, localized, highly threatened ecosystems
- Areas with ecosystems that are important for key evolutionary processes
- Areas important for ecological connectivity

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Summary Tools (1 of 2)

L4.A: Which of your clients or investees operate in areas of biodiversity importance?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
IBAT [Learn more]	The IBAT tool can be used to identify where your portfolio companies' direct operations and value chains overlap with Protected Areas (PA), Key Biodiversity Areas (KBA) and species on the IUCN Red list of Threatened Species.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapping with or near to Key Biodiversity Areas, Protected Areas and areas with Threatened species
WWF Biodiversity Risk Filter [Learn more]	The WWF Biodiversity Risk Filter includes map layers that relate to different biodiversity risk aspects. The tool includes a map of a biodiversity risk indicator based on the overlap of assessment units with Key Biodiversity Areas (e.g. region has very high biodiversity risk if they have >50% overlap with a KBA). The tool also includes risk layers on levels of ecosystem intactness, connecting and overlap with Other Important Delineated Areas. The tool can be used to identify where your portfolio companies' activity locations might have potentially higher biodiversity risk.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of areas with higher biodiversity risk, based on different characteristics such as % overlap with KBAs
Global Forest Watch [Learn more]	The Global Forest Watch tool includes biodiversity data layers, such as Key Biodiversity Areas, endemic bird areas and global biodiversity intactness and significance. These layers are only available for Peru, Brazil, Indonesia and Cambodia. The Global Forest Watch can be used to identify where your portfolio companies' activities overlap with areas of biodiversity importance.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on different biodiversity indicators for the countries of Peru, Cambodia, Indonesia and Brazil

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L4.A: Which of your clients or investees operate in areas of biodiversity importance?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Global Critical Habitat Screening Layer [Learn more]	The Global Critical Habitat Screening Layer includes spatial data on potential or likely Critical Habitat, "habitats of significant importance to threatened, endemic, congregatory and migratory species, threatened or unique ecosystems, and key evolutionary process" (UNEP-WCMC 2025). The layer can be used to identify where your companies' activities overlap with locations of likely or potential Critical Habitat aligned with the definitions in the International Finance Corporation's Performance Standard 6.	Site locations of activities with moderate and high dependencies and impacts	Information on Critical Habitat in which sites are located, or (if imported to a GIS software) a map of site locations in likely/potential Critical Habitat areas

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L4.B: Which of your clients or investees operate in areas of high ecosystem integrity?

Identify which of your financed activities and/or assets are located in areas of high ecosystem integrity.

The TNFD LEAP guidance suggests that you identify sensitive locations only for activities with moderate and high dependencies and impacts. However, you can choose to broaden your assessment to include locations with low potential dependencies and impacts if you wish. In doing so, you may identify impacts that are more significant due to the highly sensitive nature of those locations.

Ecosystem integrity is the *"extent to which the composition, structure and function of an ecosystem falls within the natural range of variation. It should be characterised at a landscape scale, using an appropriate area of assessment, such as an ecoregion."* (TNFD 2023)

Areas of high ecosystem integrity are areas that *"contain large opportunities for safeguarding stocks of environmental assets and maintaining ecosystem service provision, both locally and globally."* (TNFD 2023)

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Summary Tools

L4.B: Which of your clients or investees operate in areas of high ecosystem integrity?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Ecosystem Integrity Index (EII) [Learn more]	The EII is a metric that "measures, monitors and reports on ecosystem integrity at any geographical scale" (UNEP-WCMC 2022). The metric is a combination of the Biodiversity Intactness Index (BII) and other biodiversity indicators. The Ecosystem Integrity Index (EII) layer can be used to identify a metric for integrity of terrestrial ecosystems. From this layer you can identify where your portfolio companies' direct operations and value chain activities overlap with terrestrial areas of high ecosystem integrity.	Site locations of activities with moderate and high dependencies and impacts	A map (if imported to a GIS software) of site locations overlapped with ecosystem integrity index metrics
Global Forest Watch [Learn more]	Global Forest Watch includes data on the intactness of forests and areas of low forest loss, which could be one estimate of higher ecosystem integrity. You can use this data to identify which of your portfolio companies' direct operations and value chain activities overlap with areas of high forest intactness.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on forest intactness and loss
Natural and Modified Habitat Screening Layer [Learn more]	The Natural and Modified Habitat Screening Layer includes data on human pressure and habitat as a proxy for the loss and intactness of ecological functions and species composition. The layer is aligned with IFC PS6 definitions of Natural and Modified Habitat. Ecosystem functioning is a component of ecosystem integrity. From this data layer you can identify which of your portfolio companies' direct operations and value chain activities are located in areas of high ecosystem integrity.	Site locations of activities with moderate and high dependencies and impacts	A map (if imported to a GIS software) of site locations overlapped with data on natural and modified habitats

Summary Tools

L4.C: Which of your clients or investees operate in areas of rapid decline in ecosystem integrity?

Identify which of your financed activities and/or assets are located in areas of rapid decline in ecosystem integrity.

The TNFD LEAP guidance suggests that you identify sensitive locations only for activities with moderate and high dependencies and impacts. However, you can choose to broaden your assessment to include locations with low potential dependencies and impacts if you wish. In doing so, you may uncover impacts that are more significant due to the highly sensitive nature of those locations.

Areas of rapid decline in ecosystem integrity are *"areas with declining resilience of ecosystem service provision, high exposure to an organization's dependency-related risks, and potentially at risk of ecological tipping points. This could include areas that have declined to a low state of integrity"* (TNFD 2023).

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Summary Tools

L4.C: Which of your clients or investees operate in areas of rapid decline in ecosystem integrity?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Global Forest Watch [Learn more]	Global Forest Watch can be used to identify where your portfolio companies' activities overlap with areas of non-intact forest or areas of high forest loss, which could be one estimate of declining ecosystem integrity.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on the levels of forest intactness and loss
Trends.Earth [Learn more]	The Trends.Earth tool includes global and more localized data on land degradation, land conversion and drought. You can use this data to identify where your portfolio companies' direct operations and value chain activities overlap with areas of higher land degradation and consumption, as an estimate of declining ecosystem integrity.	Site locations of activities with moderate and high dependencies and impacts	A map (if imported to a GIS software) of site locations overlapped with data on land degradation and consumption
ENCORE [Learn more]	Within the ENCORE tool, users can find spatial maps on hotspots of natural capital depletion for the marine and terrestrial realms. These maps provide a global overview of where natural capital is being depleted at the highest rates. For the terrestrial realm the maps consider depletion of atmosphere, biodiversity, soil and sediments and water stocks. For the marine realm the maps show potential depletion of marine assets (i.e., marine sediment carbon, coral reefs, seagrasses, mangroves, saltmarshes, tidal flats, seamounts cold seeps and hydrothermal vents) based on presence of human pressures on nature. You can use these layers to understand at a coarse level where there is decline in natural capital. The maps are available for download (here).	Site locations of activities with moderate and high dependencies and impacts	A map of site locations overlapped with data on hotspots of natural capital depletion

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Summary Tools

L4.D: Which of your clients or investees operate in areas of high physical water risk?

Identify which of your financed activities and/or assets are located in areas of high physical water risk.

Areas of high physical water risk include areas of *"limited water availability, flooding and poor quality of water. This also includes marine areas with high levels of land-based pollution"* (TNFD 2023).

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Summary Tools

L4.D: Which of your clients or investees operate in areas of high physical water risk?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
WWF Water Risk Filter [Learn more]	The WWF Water Risk Filter includes spatial data on areas with high water risk. You can use this tool to identify which of your portfolio companies' direct operations and value chain activities are in areas of different levels of water risk.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on water risk
WRI Aqueduct - Water Risk Atlas [Learn more]	The Water Risk Atlas includes a global map on overall water risk indicators, including water stress, depletion and flood risk. You can use this tool to identify which of your portfolio companies' direct operations and value chain activities are in areas with high levels of physical water risk.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on water risk
Coastal Risk Index [Learn more]	The Coastal Risk Index includes data on coastal flood risk. You can use the tool to identify which of your portfolio companies' direct operations and value chain activities are located in coastal areas with high flooding risk with and without the presence of ecosystem services.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on coastal flood risk

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L4.E: Which of your clients and investees operate in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and stakeholders?

Compile internal information and external sources to understand: 1. The areas important for the delivery of ecosystem service benefits, including to Indigenous Peoples and local communities and other affected stakeholders, and 2. Potential impacts on affected stakeholders by direct operations and upstream and downstream value chains of your portfolio companies.

You may also use information collected in the Evaluate phase, in particular the descriptions and measurement of ecosystem services, to inform L4.

Note: This section includes only the tools directly relevant to the intersection of Indigenous Peoples, local communities and affected stakeholders in relation to ecosystem services. Please be aware that these tools do not cover all territories of Indigenous Peoples, local communities and affected stakeholders. The tools should be considered a starting point. We strongly advise conducting further due diligence. To explore other tools and resources for these stakeholders related to different aspects of the TNFD LEAP, please consult the relevant cross-cutting section here.

“Areas important for delivery of ecosystem service benefits, including to Indigenous Peoples and local communities. These include areas in which healthy ecosystems and biodiversity support local livelihoods, areas in which biodiversity and ecosystem services are important for the realisation of human rights, areas that have been traditionally owned, occupied or otherwise used and/or acquired by Indigenous Peoples and local communities, and areas of biocultural importance to Indigenous Peoples and local communities.” (TNFD 2023)

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Summary Tools (1 of 2) Resources

L4.E: Which of your clients and investees operate in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and stakeholders?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Global Forest Watch [Learn more]	The Global Forest Watch includes data layers on Indigenous Peoples and Community lands. You can use this tool to identify which direct operations and value chain activities of portfolio companies are located in areas owned by Indigenous Peoples and local communities.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on areas owned by Indigenous Peoples and local communities
Critical Natural Assets Map [Learn more]	The Critical Natural Assets Map provides information on natural capital assets in natural and semi-natural ecosystems that provide 90% of the total current magnitude of 14 types of nature's contributions to people (NCP). The map also includes data on cultural diversity. You can use this tool to identify which direct operations and value chain activities of portfolio companies are located in areas with critical natural assets and areas of high cultural diversity.	Site locations of activities with moderate and high dependencies and impacts	A map (viewable in the platform) of site locations overlapped with data on critical natural assets, nature's contributions to people and cultural diversity
InVEST [Learn more]	InVEST models can be used to quantify and map the values of ecosystem services. You can use the tool to map and identify which direct operations and value chain activities of portfolio companies are located in areas of high ecosystem service value. The models include information about the location and activities of people who benefit from ecosystem services.	Site locations of activities with moderate and high dependencies and impacts	Landscape-level maps of ecosystem services.
Global ensembles of Ecosystem Service map outputs [Learn more]	The Global ensembles of Ecosystem Service map outputs, contains global maps of five modelled ecosystem services: water supply, the cultural service recreation, carbon storage, fuelwood and forage production. You can use this tool to identify which direct operations and value chain activities of portfolio companies are located in areas of modelled ecosystem service provision.	Site locations of activities with moderate and high dependencies and impacts	A map of site locations overlapped with data on five ecosystem services.

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L4.E: Which of your clients and investees operate in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and stakeholders?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
GLOBIO [Learn more]	The GLOBIO model simulates global environmental consequences of human activities. GLOBIO can be used in different ways, including to identify benefits that people obtain from nature (ecosystem services).	Site locations (with maps) with direct operations and value chain activities	A map of site locations overlapped with data on the supply of ecosystem services

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L4.E: Which of your clients and investees operate in areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, local communities and stakeholders?

Type of resource	Resource	Brief description
Guidance	TNFD guidance on engagement with Indigenous Peoples, Local Communities and affected stakeholders	The TNFD has guidance on how companies can engage with Indigenous Peoples, local communities and affected stakeholders, as well as a summary of relevant concepts and definitions related to the topic. You can use this guidance as a starting point to determine the types of ecosystem services that Indigenous Peoples, local communities and stakeholders may depend on. You can also use this guidance to determine generally which types of activities should involve engagement with Indigenous Peoples, local communities and affected stakeholders.

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E1
Identification of environmental assets, ecosystem services and impact drivers

E1: Identification of environmental assets, ecosystem services and impact drivers

In this component, you develop a location-specific understanding of your portfolio companies' dependencies and impacts, by identifying and measuring the impact drivers, ecosystem services and environmental assets associated with your portfolio companies' activities and locations. You are encouraged to engage clients and investees as part of this process.

This aligns with: TNFD L4, SBTN 1, ESRS Step B

Where possible, this component should draw on data reported by the companies in your portfolio. Your financial institution may already be gathering environmental data on companies and assets in your portfolio. Where additional data is needed, you should engage with the companies in your portfolio to collect data that is specific to their context, if possible. Where company-specific data is not available, financial institutions can identify environmental assets, ecosystem services and impact drivers that are commonly associated with sectors and their typical business activities. More guidance on this can be found in component E1 of the TNFD LEAP Guidance.

For tools that can be used to identify potential impact drivers and ecosystem services at the sector level, see component L2 of the Finance pathway. For tools that can be used to identify potential environmental assets at the sectors level, see component L3 of the Finance pathway.

Click here for L2 for further information

Click here for L3 for further information

Cross-cutting
Scenario analysis

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

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Instructions: Please click on the headings on the left hand side column to navigate to those question(s).

E2 & E3: Identification and measurements of dependencies and impacts

In these components you can use company- and location-specific data to identify your portfolio company's dependencies and impacts. This may require engagement with portfolio companies and the use of external data. You should identify, estimate and where possible, measure the following factors:

- The portfolio company's impact drivers;
- The portfolio company's dependencies on ecosystem services;
- Changes in the state of nature and supply of ecosystem services that may result from impact drivers and may affect the portfolio company's dependencies;
- Any relevant external factors that could affect the portfolio company's dependencies, impacts, risks and opportunities.

This component is iterative. As portfolio companies improve the granularity of data on their value chains and direct operations, and identify risk and opportunities in the Assess phase, this component can be repeated to improve the accuracy of the results. This toolbox, maps mainly global nature tools to support the nature-assessment. As organizations move towards refining their assessment it is important also to consult biodiversity data at the country or sub-national level.

For information on the components of impact and dependency measurement **View more**

This aligns with: TNFD E2, SBTN Step 1, ESRS Step B

Question(s):

- E2 & E3.A. What are the impact drivers at each location of portfolio companies' activities with the highest dependencies and impacts?
- E2 & E3.B: What are the dependencies on ecosystem services at each location of portfolio companies' activities?
- E2 & E3.C: What are the changes in the state of nature at each location of portfolio companies' activities?

Another component of E2 and E3 is to identify and measure external factors and trends affecting the state of nature at each location. To do so, we recommend you consulting the tools available in the Scenario Analysis and Engagement cross-cutting sections below. The tools in the Scenario Analysis cross-cutting section include primarily nature some tools but you may want to complement these with additional climate change tools to enrich your nature assessment.

Cross-cutting
Scenario analysis **View more**

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Engagement with Indigenous Peoples, local communities and affected stakeholders **View more**

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E2 & E3: Identification and measurements of dependencies and impacts

In these steps you can use company- and location-specific data to gain a more refined understanding of dependencies and impacts. This may require engagement with portfolio companies and the use of external data. You should identify, estimate and where possible, measure the following factors:

Information: Components of impact and dependency measurement

Components of impact measurement	Components of dependency measurement
Measurement of the scope of impact that a portfolio company has in a particular location ideally includes the following components: • Impact drivers (i.e., pressures exerted by a portfolio company in a given location) and its associated magnitude and severity • Changes in the state of nature • External factors and trends affecting state of nature • Changes in the ecosystem services availability and quality caused or likely to be caused by the changes in the state of nature Adapted from: Align, 2022, TNFD 2023, Natural Capital Protocol	Measurement of the level of dependency that a portfolio company has in a particular location ideally includes the following components: • Reliance on a given ecosystem service (i.e. amount of ecosystem service consumed or otherwise providing benefits) • Current and/or projected future state of nature • Impact drivers (i.e., pressures exerted by a portfolio company in a given location) • External factors and trends affecting state of nature • Changes in the ecosystem service's availability and quality caused or likely to be caused by the changes in the state of nature Adapted from: UNEP-WCMC 2023, TNFD 2023, Natural Capital Protocol

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

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E2 & E3
Identification and measurements of dependencies and impacts

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Summary Tools

E2 & E3.A: What are the impact drivers at each location of portfolio companies' activities with the highest dependencies and impacts?

Drawing on the mapping of the locations of the business processes and activities of portfolio companies, identify and quantify your portfolio company's impact drivers at each location. This will help you understand the scale and scope of your impacts on nature, alongside other components of impact measurement.

Where possible, you should draw on data reported by your portfolio companies on impact drivers at different locations. Your financial institution may already be gathering environmental data on companies and assets in your portfolio. Where additional data is needed, you should engage with the companies in your portfolio to collect data that is specific to their context, if possible.

Encourage your portfolio companies to measure actual impact drivers at locations using primary data, if possible. If your portfolio companies are reporting impact drivers based on estimates or proxies, understand the assumptions and limitations behind their estimation approach.

Where data reported by companies is not yet available, you can explore the use of remote sensing tools or secondary data sources to estimate the potential impact drivers in different locations. If you are assessing a large number of locations, estimated impact drivers or biodiversity footprints can also be used to narrow down the number of locations for more detailed assessment. For more detailed guidance, see components E2 and E3 in the TNFD LEAP Guidance.

E2 & E3
Identification and measurements of dependencies and impacts

E2 & E3. A

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E2 & E3. C

Summary Tools (1 of 6)

E2 & E3.A: What are the impact drivers at each location of portfolio companies' activities with the highest dependencies and impacts?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools - remote sensing	Copernicus Land Monitoring Service [Learn more]	This tool provides remote sensing data on land cover. While the tool does not attribute land cover to a specific company, you could use the baseline and current data to estimate the change in land use on and around the sites in your portfolio.	Locations of sites for direct operations and value chain activities	Information on changes in land use on and around site locations
	Copernicus Coastal Hub [Learn more]	The Copernicus Coastal Hub includes Earth Observation data layers in the European Coastal zones including sea water potential temperature, coastal zones and river networks. The data in this tool does not attribute pressures and changes to specific companies but you could use the tool to establish baseline/reference values and estimate changes in a given area where your portfolio companies have activities.	Locations of sites for direct operations and value chain activities	List of/estimate of changes in coastal/marine pressures at each site location
	NASA Landsat [Learn more]	The NASA Landsat data includes spatial data on the land's surface. You can use this data to measure changes in land coverage at your portfolio companies' sites. These changes could not be directly attributed to those companies but could be used as an estimate.	Locations of sites for direct operations and value chain activities	Estimate of changes in land coverage for each site location
	Dynamic World App [Learn more]	The Dynamic World App includes spatial data on nine land use/land cover types including water, trees, crops and built-up areas. The data in this tool does not attribute pressures and changes to specific companies but could be used to establish baseline/reference values and estimate changes in a given area where your portfolio companies have activities.	Locations of sites for direct operations and value chain activities	Estimate of changes in land coverage for each site location

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E2 & E3
Identification and measurements of dependencies and impacts

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E2 & E3.A: What are the impact drivers at each location of portfolio companies' activities with the highest dependencies and impacts?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data tools – databases of company pressure / impact driver data	CDP Data [Learn more]	The CDP Corporate Response dataset is part of the CDP independent environmental disclosure system for organizations to manage their environmental impacts. The tools mentioned host a plethora of data on different reported environmental indicators, such as water withdrawal and deforestation. CDP offers free access to the CDP scores and the A list. In addition, companies who are part of the CDP supplier programme get access to their supply chain partners' programme (not the whole dataset). You can use the CDP data to identify what potential impacts exist within your portfolio companies' supply chains (see here).	Locations of sites for direct operations and value chain activities	List of suppliers and/or activities that are likely to be associated with potential high impact to nature
	Sustainability Reporting Navigator [Learn more]	This tool includes the sustainability reports for 554 companies globally. You can use this navigator to consolidate your portfolio companies' most recent and past sustainability reports. These reports can include information on relevant pressures and impact drivers at certain sites, or company-wide. If your portfolio companies have have not started reporting, they could draw on reports from other businesses who work in the same industry. However, the validity and accuracy of such information would need to be verified before they can consider it a relevant reflection of their company's activities.	Locations of sites for direct operations and value chain activities	History of a company or industry relevant pressures and impact drivers
Secondary data – footprinting approaches	InVEST [Learn more]	InVEST is a tool to measure human activities and their impacts on ecosystem services. InVEST is a spatial software. It can be used to identify impact drivers at the site level. InVEST can also be used to quantify changes in ecosystem structure and function at the landscape level and the effect on the flows of ecosystem services, although these measurements cannot be attributed directly to your portfolio companies.	Locations of sites for direct operations and value chain activities	Landscape-level maps of ecosystem structure, function and services in the area

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E2 & E3
Identification and measurements of dependencies and impacts

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Summary Tools (3 of 6)

E2 & E3.A: What are the impact drivers at each location of portfolio companies' activities with the highest dependencies and impacts?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – footprinting approaches	GLOBIO [Learn more]	The GLOBIO tool measures local terrestrial biodiversity intactness as a function of six human pressures, expressed via a global map of mean species abundance (MSA). The model highlights pressure-impact relationships from the past and predicted future pressure levels. This tool can be used to quantify the contribution of pressures to the losses in MSA at the site and regional level. These changes may not be directly attributed to your portfolio companies but could be used as an estimate.	Site locations (with maps) with direct operations and value chain activities	MSA scores for relevant sites and regions
	Biodiversity footprint calculator [Learn more]	The Biodiversity footprint calculator measures the impact of land use and GHG emissions pressures on terrestrial biodiversity. The tool is location-specific and measures the impact of these pressures related to direct operations (production) and the upstream and downstream value chain (transports and supply chain). You can use this tool to quantify your portfolio companies' contribution to their biodiversity impact/footprint through their GHG emissions and land use.	Types of land use, production and emissions data for Locations of sites for direct operations and value chain activities	Graph of Biodiversity impact (expressed in MSA.ha) based on company-specific land use and GHG emissions pressures

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E2 & E3
Identification and measurements of dependencies and impacts

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Summary Tools (4 of 6)

E2 & E3.A: What are the impact drivers at each location of portfolio companies' activities with the highest dependencies and impacts?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – LCA databases	openLCA [Learn more]	openLCA is a tool for determining the Life Cycle Assessment footprint of a product or service. The tool is useful for impact assessment. You can use this tool to determine a product or process's contribution to a portfolio companies' overall biodiversity impact. You can also use the tool to identify impact hotspots.	Site level data on types of goods and the quantity produced.	Charts showing the contribution of a certain product/process to the company's overall biodiversity impact. Sankey diagram for visualizing the impacts of processes on specific flows and impacts.
	Global LCA Data Access [Learn more]	This tool is a directory of independently-operated Life Cycle Assessment (LCA) databases. You can use this tool to identify relevant LCA datasets that can be used to estimate potential impact drivers associated with your portfolio companies' products, materials or processes.	List of relevant products or economic activities	List of relevant Life Cycle Assessment (LCA) datasets
	IMPACT World+ (LCA) [Learn more]	This tool aids in life cycle impact assessment through characterization of substances for which impacts have been spatially and temporally differentiated. The methodological framework outlines types of emissions and materials with a list of relevant pressure and impact indicators. You can use this tool to identify the relevant indicators to focus on based on the types of products or pollutants your portfolio companies produce/extract.	List of relevant substances and emission types	List of relevant indicators to measure impact drivers at the local (site) and regional level

E2 & E3
Identification and measurements of dependencies and impacts

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Summary Tools (5 of 6)

E2 & E3.A: What are the impact drivers at each location of portfolio companies' activities with the highest dependencies and impacts?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – sectoral pressure databases or data layers	Resource Watch [Learn more]	Resource Watch provides global spatial data on pressures such as climate change, water consumption and land use. The tool also separates pressure data by sector, including agriculture and energy. You can use this tool to estimate relevant pressure contributions in areas where portfolio company sites are located. You can also use this tool to determine the most relevant impact drivers in areas where your portfolio companies operate.	Locations of sites for direct operations and value chain activities	List of relevant impact drivers based on sectors and areas. Global maps with estimates of impact drivers (e.g., Human Impacts on Oceans, Climate Change Impacts on Crop Production)
	Global Forest Watch [Learn more]	Global Forest Watch includes global spatial data on land use and deforestation via tree cover loss and tree cover loss by dominant driver, referring to the main cause of tree cover loss within an area. The tool also includes country-specific data on biodiversity, such as global biodiversity intactness and global biodiversity significance. Used in tandem, you can identify or estimate relevant deforestation/land use changes contributions to biodiversity loss in countries or regions where your portfolio companies' sites are located.	Locations of sites for direct operations and value chain activities	Estimate of land use and deforestation contributions to biodiversity loss

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E2 & E3
Identification and measurements of dependencies and impacts

E2 & E3. A

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Summary Tools (6 of 6)

E2 & E3.A: What are the impact drivers at each location of portfolio companies' activities with the highest dependencies and impacts?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – input-output databases	EXIOBASE (v3.8) [Learn more]	EXIOBASE (v3.8) estimates emissions and resource extractions by industry and country. You can use this data to determine the relevant impact drivers for a certain type of product. The data in the tool can also be used to estimate levels of certain impact drivers.	Locations of sites for direct operations and value chain activities including relevant products or processes involved at each site	Estimate of GHG emissions and resource use at the product level
	REX3 [Learn more]	This tool expands on EXIOBASE (v3.8) by including regional-level data on climate impacts, PM health impacts, water stress and biodiversity impact from land occupation, land use change and eutrophication resulting from certain industries. You can use this data to estimate the aforementioned impact drivers and at a more granular spatial level.	Locations of sites for direct operations and value chain activities	Estimate of land use change, climate impacts and water stress at the sector-level

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E2 & E3
Identification and measurements of dependencies and impacts

E2 & E3. A

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Summary Tools

E2 & E3.B: What are the dependencies on ecosystem services at each location of portfolio companies' activities?

Drawing on the mapping of the locations of the business processes and activities of portfolio companies, identify the ecosystem services on which those companies depend in each location. This will, alongside other components of dependency measurement, help you understand the scale and scope of your dependencies on nature.

Where possible, you should be drawing on data reported by your portfolio companies on the ecosystem services benefits at different locations. This includes data on the consumption of natural resources (e.g. water, timber, fish), which are also referred to as provisioning ecosystem services. It also includes data on operation sites benefiting from regulatory and maintenance ecosystem services or cultural ecosystem services. Your financial institution may already be gathering environmental data on companies and assets in your portfolio. Where additional data is needed, you should engage with the companies in your portfolio to collect data that is specific to their context, if possible.

Encourage your portfolio companies to measure actual dependencies associated with specific locations using primary data, if possible. If your portfolio companies are reporting dependencies based on estimates or proxies, understand the assumptions and limitations behind their estimation approach.

Where data reported by companies is not yet available, you can explore the use of remote sensing tools or secondary data sources to estimate the potential dependencies in different locations. Estimated dependencies can also be used by financial institutions with large numbers of locations within their portfolio to narrow down the number of locations for a more detailed assessment. For more detailed guidance, see components E2 and E3 in the TNFD LEAP Guidance.

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E2 & E3
Identification and measurements of dependencies and impacts

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Summary Tools (1 of 3)

E2 & E3.B: What are the dependencies on ecosystem services at each location of portfolio companies' activities?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools - remote sensing	Copernicus Land Monitoring Service [Learn more]	The Copernicus Land Monitoring Service tool includes global spatial data on several indicators that contribute to ecosystem services, including vegetation and soil moisture. You can use this data, in tandem with other tools listed in this section, to estimate the dependency of a site or product on an ecosystem service.	Locations of sites for direct operations and value chain activities	Site level map (if imported to a GIS software) with environmental characteristics to inform estimates of potentially relevant dependencies
	Copernicus Coastal Hub [Learn more]	The Copernicus Coastal Hub includes global spatial data on a large number of environmental variables for marine, coastal and freshwater ecosystems. You can use this data to predict relevant ecosystem services that might be derived from certain ecosystems.	Locations of sites for direct operations and value chain activities	A list of predicted ecosystem services relevant for the company
	Dynamic World App [Learn more]	The Dynamic World App includes spatial data on nine land use/land cover types including water, trees, crops and built-up area. The data in this tool does not attribute dependencies to specific ecosystems or ecosystem services, but you could use the tool to establish baseline/reference values and estimate changes in a given area where they have activities.	Locations of sites for direct operations and value chain activities	Estimate of changes in land coverage for each site location

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E2 & E3
Identification and measurements of dependencies and impacts

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Summary Tools (2 of 3)

E2 & E3.B: What are the dependencies on ecosystem services at each location of portfolio companies' activities?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data tools – databases of company pressure / impact driver data	CDP Data [Learn more]	The CDP questionnaire includes questions on dependencies. For example, businesses report data on GHG emissions and environmental data on the supply chain, such as dependency on water. You can use this data to determine potential dependencies throughout your portfolio companies' value chain.	List of sectors / economic activities in direct operations and supply chain (at ISIC group level)	Estimate of changes in land coverage for each site location
	Sustainability Reporting Navigator [Learn more]	This tool includes the sustainability reports for 554 companies globally. You can use this navigator to consolidate your portfolio companies' most recent and past sustainability reports which can include information on relevant dependencies at certain sites, or company-wide.	Locations of sites for direct operations and value chain activities	List of suppliers and/or activities that are likely to be associated with potentially high dependencies to on nature
Secondary data – ecosystem service models	InVEST [Learn more]	The InVEST tool measures human activities and their impacts on ecosystem services (e.g. crop production and pollination). InVEST is a spatial software platform, so can be used at the site level. You can use InVEST to quantify changes in ecosystem structure and function at the landscape level and the effect on the flows of ecosystem services, although these measurements cannot be attributed directly to companies. Measuring the change in flows to ecosystem services can be used as a measure of nature-related dependencies.	Locations of sites for direct operations and value chain activities	Performance indicators for natural resource usage and ecosystem services

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E2 & E3
Identification and measurements of dependencies and impacts

E2 & E3. A

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E2 & E3. C

Summary Tools (3 of 3)

E2 & E3.B: What are the dependencies on ecosystem services at each location of portfolio companies' activities?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data – ecosystem service models	Ecosystem Services Footprinting tool [Learn more]	The Ecosystem Services Footprinting tool calculates metrics of the impact of human-made structures (from the location of corporate assets) on certain ecosystem services, based on their physical spatial footprint. Ecosystem services measured are coastal risk reduction, nitrogen retention, sediment retention and nature access. You can use this tool to quantify your portfolio companies dependencies on these services.	Locations of sites for direct operations and value chain activities	Landscape-level and site-level maps of ecosystem service provision

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Summary Tools

E2 & E3.C: What are the changes in the state of nature at each location of portfolio companies' activities?

Drawing on the mapping of the locations of the business processes and activities of portfolio companies, measure the changes in the state of nature at each location. This will help you understand the scale and scope of impacts and dependencies on nature, alongside other components of impact and dependency measurement.

This step is made up of three sub-steps:

1. M**easure ecosystem extent:** Ecosystem extent is the area coverage of a particular ecosystem within a given area, measured in hectares or km^2 (Adapted from TNFD 2023)
2. **Measure ecosystem condition:** Ecosystem condition is the quality of an ecosystem in terms of its living (biotic) and physical (abiotic) characteristics. To measure ecosystem condition, the following elements of an ecosystem should be assessed; the composition, structure and function. (Adapted from Align 2023).
3. **Measure change in the status of species:** The change in the status of species can be assessed by measuring:
   a. Changes in the population size of a species
   b. Extinction risk: this can include measuring the contributions to species extinction risk. The change in available species habitat can also be used as a proxy for extinction risk. (Adapted from TNFD 2023)

Where possible, you should draw on state of nature data reported by your portfolio companies for different locations. Your financial institution may already be gathering environmental data on companies and assets in your portfolio. Where additional data is needed, you should engage with the companies in your portfolio to collect data that is specific to their context, if possible.

Encourage your portfolio companies to measure all state of nature at locations using primary data and to cover all three aspects of state of nature: ecosystem extent, ecosystem condition and species risks. If your companies are reporting state of nature data based on estimates or proxies, understand the assumptions and limitations behind their estimation approach.

Where data reported by companies is not yet available, you can explore the use of remote sensing tools or secondary data sources to estimate the state of nature in different locations. If you are assessing a large number of locations, you can consider prioritizing locations that have a deteriorated or rapidly declining state of nature (see also component L4). For more detailed guidance, see components E2 and E3 in the TNFD LEAP Guidance.

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Identification and measurements of dependencies and impacts

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1 Ecosystem extent

2 Ecosystem condition

3 Change in status of species

Summary | Tools

E2 & E3.C: What are the changes in the state of nature at each location of portfolio companies' activities?

1. Measure ecosystem extent

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools - remote sensing	Copernicus Land Monitoring Service [Learn more]	The Copernicus Land Monitoring Service includes spatial data on full coverage land cover & use. Companies can use this data to measure ecosystem extent at sites.	Locations of sites for direct operations and value chain activities	Map (if imported to a GIS software) of ecosystem extent for sites
	Dynamic World App [Learn more]	The Dynamic World App includes spatial data on nine land use/land cover classes. You can use this data to measure ecosystem extent at sites.	Locations of sites for direct operations and value chain activities	Map and summary statistics of land use/land cover
	NASA Landsat [Learn more]	The NASA Landsat tool includes spatial data on the land's surface. You can use this data to help determine/measure ecosystem extent of sites.	Locations of sites for direct operations and value chain activities	Map (if imported to a GIS software) of sites with extent boundaries
	Global Forest Watch [Learn more]	The Global Forest Watch tool includes spatial data spatial data on forest cover/extent. You could use this data to help determine/measure extent of forest ecosystems at or near sites.	Locations of sites for direct operations and value chain activities	Map (viewable in the platform) of sites with extent boundaries

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E2 & E3
Identification and measurements of dependencies and impacts

E2 & E3. A

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E2 & E3. C

1 Ecosystem extent

2 Ecosystem condition

3 Change in status of species

Summary Tools

E2 & E3.C: What are the changes in the state of nature at each location of portfolio companies' activities?

2. Measure ecosystem condition

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Primary data tools – remote sensing	Copernicus Coastal Hub [Learn more]	The Copernicus Coastal Hub includes spatial data on physical environmental characteristics of marine and freshwater ecosystems. You can use this data to contribute to measurements of ecosystem condition at sites.	Locations of sites for direct operations and value chain activities	Ecosystem condition scores and (if imported to a GIS software) maps for sites
Secondary data tools – modelled ecosystem condition data layers	Ecosystem Integrity Index (EII) [Learn more]	The EII is a metric that “measures, monitors and reports on ecosystem integrity at any geographical scale” (UNEP-WCMC 2022). The metric is a combination of the Biodiversity Intactness Index (BII) and other biodiversity indicators. The Ecosystem Integrity Index (EII) layer can be used to estimate identify a metric for integrity of terrestrial ecosystems.	Site locations of activities with moderate and high dependencies and impacts	Estimated EII for a specific site or landscape

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Identification and measurements of dependencies and impacts

E2 & E3. A

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E2 & E3. C

1 Ecosystem extent

2 Ecosystem condition

3 Change in status of species

Summary Tools

E2 & E3.C: What are the changes in the state of nature at each location of portfolio companies' activities?

3. Change in status of species

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Secondary data - eDNA databases	OBIS eDNA Services, Expertise and Data Publication [Learn more]	The OBIS tool collates data on genetic material from environmental samples, such as water or soil. This data can help to characterize the presence of a certain species in an area. You can use this data to measure the change in the type and status of species over time.	Locations of sites for direct operations and value chain activities	Map (if imported to a GIS software) of site locations overlapped with eDNA spatial layer
Secondary data - database of species data	The STAR metric [Learn more]	The STAR metric measures the contribution that activities can make to reducing species' global extinction risk. You can use this tool to assess the change in extinction risk to species on or near your company's sites after efforts to restore habitats or abate relevant threats. This metric is also available within IBAT.	Locations of sites for direct operations and value chain activities	Map (viewable in the platform) with species extinction risk at sites, and a metric for company contributions to preventing biodiversity loss
	GBIF [Learn more]	The Global Biodiversity Information Facility (GBIF) tool collates data from companies on species at the site level. The tool hosts data on occurrence, check lists, sampling events and metadata formats. You can use this data to determine species presence and changes happening at or near your company's sites of interest.	Locations of sites for direct operations and value chain activities	Map (if imported to a GIS software) with site locations overlapped with the species occurrence layer
	Map of Life [Learn more]	The Map of Life collates data on species and habitats. You can use this data to determine changes in species occurrence and change in the available habitat for species in locations of, or locations similar to, to your company's sites or industry.	Locations of sites for direct operations and value chain activities	Map (viewable in the platform) with scores on the annual change in the size and quality of habitats supporting species populations.

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E4
Impact and dependency materiality assessment

E4: Impact and dependency materiality assessment

This component builds from E1, E2 and E3 to prioritize what impacts and dependencies are most material for reporting.

Financial institutions should refer to the definition of impact materiality used in the relevant disclosure framework. This will inform the steps required to assess the materiality of each impact.

This aligns with: TNFD E4, ESRS Step C

Other useful resources:

- TNFD Guidance on impact prioritization in LEAP (available here)
- GRI Materiality Assessment guidance (available here)
- Natural Capital Protocol (available here)
- TNFD Guidance on engagement with Indigenous Peoples, local communities and affected stakeholders (available here)

Cross-cutting
Scenario analysis

View more

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

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View next phase

A1: Risk and opportunity identification

In the Assess phase of LEAP, you can identify, measure and prioritize your nature-related risks and opportunities. This is informed by the dependencies and impacts on nature identified in the Locate and Evaluate phases.

This aligns with: TNFD A1, ESRS Step C

Question(s):

- A1.A: What are the risks that you face through your financed activities or assets?
- A1.B: What are the opportunities that you face through your financed activities or assets?

Cross-cutting
Scenario analysis

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

View more

Instructions: Please click on the headings on the left hand side column to navigate to those question(s).

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools

A1.A: What are the risks that you face through your financed activities or assets?

Using information on dependencies and impacts on nature from the Locate and Evaluate phases, identify the nature-related risks that your financial institution faces through your portfolio companies.

This component relies on company-specific data and company-specific findings from the Locate and Evaluate phases. Your nature-related risks will vary depending on the location of your portfolio companies' operations, their suppliers and customers, business model and production methods. The tools highlighted in the tools tab include tools that can be used for high-level screening of potential risks. These screening tools should not replace the location- and company-specific analysis needed to identify your risks. But they can provide an initial long list of potential risks, which should then be tailored using company- and location-specific information.

Click here for L1 for further information

Click here for E1 for further information

Nature-related risk	TNFD definitions
Physical risks	Nature-related physical risks are *"risks to a company stemming from the degradation of nature and the resulting loss of ecosystem services. These risks can be acute or chronic and arise from changes in the biotic (living) and abiotic (non-living) conditions that underpin healthy, functioning ecosystems. They are typically specific to particular locations"* (TNFD 2023). .
Transition risks	Nature-related transition risks *"include changes in regulation and policy, legal precedent, technology, or investor sentiment and consumer preferences. They can also arise from activities aimed at restoring nature that no longer align with, for example, revised policies"* (TNFD 2023).
Systemic risks	Nature-related systemic risks *"are characterised by modest tipping points combining indirectly to produce large failures and cascading interactions of physical and transition risks"* (TNFD 2023).

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (1 of 4)

A1.A: What are the risks that you face through your financed activities or assets?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Nature-related risks				
Tools to support location- and company-specific identification of risks	TNFD Nature-related Risk and Opportunity Registers [Learn more]	The TNFD Nature-related Risk and Opportunity Registers outline different categories of nature-related risks, indicate useful information to record for each specific risk identified and provide connections to other categories of metrics and prioritisation criteria outlined in the TNFD LEAP approach. You can use the tool as a reference list to search and screen for different types of nature-related risks, and record all the identified nature-related physical, transition and systemic risks by completing the template provided in the register as you work through the Assess phase.	Information on the identified nature-related risks, including physical, transition and systemic risks as required in the register (e.g. realm and location)	A detailed record of all the nature-related risks that the company has identified
Secondary data sources – data on risks reported by your organisation's suppliers and customers	CDP Data [Learn more]	The CDP Corporate Response dataset includes data on nature-related risks reported by the companies disclosing through CDP. It can be used to gather data on risks of your portfolio companies' upstream and downstream value chain partners. CDP offers free access to the CDP scores and the A list. In addition, organizations who are part of the CDP supplier programme get access to data for their supply chain (not the full dataset).	Names of your portfolio companies' upstream and downstream value chain partners	Qualitative and quantitative data on nature-related risks that value chain partners have reported through CDP
	Sustainability Reporting Navigator [Learn more]	This tool includes sustainability reports for 554 companies globally. You can use it to find sustainability reports of your portfolio companies' upstream and downstream value chain partners. These usually include information on relevant nature-related risks at certain sites, or company-wide.	Names of your portfolio companies' upstream and downstream value chain partners	Information on nature-related risks that you value chain partners have reported in their sustainability reports

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (2 of 4)

A1.A: What are the risks that you face through your financed activities or assets?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Risk screening tools	Nature-related Financial Risks Database [Learn more]	Nature-related Financial Risks Database synthesizes academic research, case studies and grey literature on nature-related risks associated with different economic sectors. You can use it to find publications on nature-related risks for the sectors relevant to your financed activities. The database covers physical as well as transition risks.	Country, sector, time horizon	Long list of potential nature-related risks associated with a given sector
Physical risks				
Risk screening tools	WWF Biodiversity Risk Filter [Learn more]	WWF Biodiversity Risk Filter can be used to identify potential physical risks, such as pollution and land, freshwater and sea use change.	List of industrial activities relevant to your portfolio and GPS coordinates or address of sites	A map or longlist of potential physical and reputational risks related to biodiversity, scored from very low to very high
	WWF Water Risk Filter [Learn more]	WWF Water Risk Filter can be used to identify potential physical risks, such as water depletion and flood hazard.	List of industrial activities relevant to your portfolio and GPS coordinates or address of sites	A map or longlist of potential physical and reputational risks related to water, scored from very low to very high

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (3 of 4)

A1.A: What are the risks that you face through your financed activities or assets?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Risk screening tools	Global Forest Watch [Learn more]	Global Forest Watch can be used to identify areas of ecosystem change, such as net change in forest cover, which can indicate exposure to potential nature-related physical risks.	Site locations (specific, regional, etc.)	A map of site overlapping with areas of habitat change
	WRI Aqueduct - Water Risk Atlas [Learn more]	WRI Aqueduct – Water Risk Atlas can be used to identify potential physical risks, related to water quantity and water quality.	Site locations (specific, regional etc.)	Long list of potential water risks, rated from Low to Extremely high
	Coastal Risk Index [Learn more]	Coastal Risk Index can be used to identify potential physical risks, related to flood risk.	Site locations (specific, regional etc.)	List of sites potentially exposed to coastal flood risk with risk rating from Low to Severe and estimated potential damage
	ENCORE [Learn more]	The ENCORE spatial data provides global spatially resolved data layers on ecosystem components, pressures and hotspots of natural capital depletion. These data layers can help you screen and identify potential source of nature-related physical and transition risks across your portfolio. The ENCORE map allows you to view a selection of data layers from the ENCORE spatial data list. You can search for a location and overlay data layers.	Site locations (specific, regional etc.)	Map or location-specific data estimating where nature-related risks are likely to be found due to potential disruption to ecosystem services, high levels of pressures and natural capital depletion

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (4 of 4)

A1.A: What are the risks that you face through your financed activities or assets?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Transition risk				
Risk screening tools	IPR Forecast Policy Scenario + Nature [Learn more]	The Inevitable Policy Response Forecast Policy Scenario + Nature (IPR FPS + Nature) can be used to explore how policy, technological and social trends could impact key land use and energy-related value drivers. This includes area of restored habitats and revenue of restoration.	List of activities relevant to your financial institution	Long list of potential transition risks relevant to your financial institution
	Carrot and Sticks Database [Learn more]	The Carrots and Sticks Database provides information on environmental, social and governance (ESG) related policies from 130 countries. You can use it to identify policies that may drive nature-related transition risks for your financial institution.	List of regions and industries relevant to your financial institution	Long list of policies potentially relevant to your financial institution

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools

A1.B: What are the opportunities that you face through your financed activities or assets?

Using information on dependencies and impacts on nature from the Locate and Evaluate phases, identify your nature-related opportunities.

This component relies on company-specific data and company-specific findings from the Locate and Evaluate phases. Your nature-related opportunities will vary depending on the location of your portfolio companies' operations, suppliers and customers, business model and production methods. The tools highlighted in the tools tab include tools that can be used for high-level screening of potential opportunities. These screening tools should not replace the location- and company-specific analysis needed to identify your opportunities. But they can provide an initial long list of potential opportunities, which should then be tailored using company- and location-specific information.

Click here for L1 for further information

Click here for E1 for further information

Nature-related opportunity	TNFD definition
Opportunity for negative impact mitigation	Occurs when *"organisations avoid, reduce, mitigate or manage nature-related risks, for example, connected to the loss of nature and its associated ecosystem services that the organisation and society depend on"* (TNFD 2023). Examples include circular economy measures and pollution reduction measures.
Opportunitys for positive impact	Occurs through *"strategic transformation of business models, products, services, markets and investments that actively work to halt or reverse the loss of nature, including the implementation of conservation, restoration and nature-based solutions, or support for them through financing or insurance"* (TNFD 2023). Examples include regeneration and conservation activities.

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View next phase

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (1 of 3)

A1.B: What are the opportunities that you face through your financed activities or assets?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Tools to support location- and company-specific identification of opportunities	TNFD Nature-related Risk and Opportunity Registers [Learn more]	The TNFD Risk and Opportunity registers outline different categories of nature-related opportunities, indicate useful information to record for each opportunity identified and provide connections to other categories of metrics and prioritisation criteria outlined in the TNFD LEAP approach. You can use the tool to record all the identified nature-related opportunities for negative impact mitigation and positive impact by completing the template provided in the register as they work through the Assess phase.	Information on the identified nature-related opportunities as required in the register (e.g. realm and location)	A detailed record of all the nature-related opportunities, including the opportunities for negative impact mitigation and positive impact, that you have identified.
Secondary data sources – data on opportunities reported by your organisation's suppliers and customers	CDP Data [Learn more]	The CDP Corporate Response dataset includes data on nature-related opportunities reported by the companies disclosing through CDP. It can be used to gather data on opportunities of your portfolio companies' upstream and downstream value chain partners. CDP offers free access to the CDP scores and the A list. In addition, companies who are part of the CDP supplier programme get access to data for their supply chain (not the full dataset).	None	Qualitative and quantitative data on nature-related opportunities that value chain partners have reported through CDP
	Sustainability Reporting Navigator [Learn more]	This tool includes sustainability reports for 554 companies globally. You can use it to find sustainability reports of your portfolio companies' upstream and downstream value chain partners. These may include information on relevant nature-related opportunities at certain sites, or company-wide.	None	Information on nature-related opportunities that value chain partners have reported in their sustainability reports

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (2 of 3)

A1.B: What are the opportunities that you face through your financed activities or assets?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Opportunity screening tools	ENCORE [Learn more]	ENCORE's Biodiversity Module (currently available for agriculture and mining sectors only) can support you in exploring alignment of your financed activities with a nature- positive goals. It helps you estimate your opportunities related to species extinction risk reduction (based on STAR) and to the reduction of threats to ecological integrity (based on biodiversity importance-adjusted Mean Species Abundance). The module provides you with a global overview of your portfolio's exposure to risk and breakdowns per ecoregion or administrative boundary. You can also view a list of possible actions that you could consider to further align with nature -positive goals.	For agriculture, you need to input countries and either cropland area (ha) or turnover (USD) For mining, you need to input company names and country locations	High-level estimate of your companies' potential to reduce species' extinction risk and ecological integrity risk. List of possible actions to consider for alignment with nature positive goals.
	The Restoration Explorer [Learn more]	The Restoration Explorer helps companies identify or evaluate existing businesses ideas focused on ecosystem restoration. You can use the tool to screen for opportunities to generate positive outcomes with strong revenue potential by aligning business ideas with ecosystem types, sustainability goals and impact approaches. The tool also provides a comprehensive checklist across business, legal, environmental and operational dimensions to identify gaps and recommend targeted actions.	Information on the ecosystem type and state of nature at the site(s)	High-level screening for opportunities related to ecosystem restoration
	Conservation Evidence [Learn more]	Conservation Evidence is a platform that provides companies with access to global scientific research on the effectiveness of conservation actions. It helps users explore a wide range of possible restoration actions tailored to individual species, habitats, or conservation issues, supported by plain-language summaries and expert assessments. You can use the tool to screen for nature-related opportunities by identifying interventions most likely to deliver positive biodiversity outcomes in your financial institution's specific context.	Site locations and information on species, ecosystems and state of nature on the site(s)	A list of nature-related opportunities across the sites and respective methodologies that can generate positive impacts

A1
Risk and opportunity identification

A1. A

A1. B

Summary Tools (3 of 3)

A1.B: What are the opportunities that you face through your financed activities or assets?

Category	Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Opportunity screening tools	Restor [Learn more]	Restor is an open data platform designed to connect, map and monitor ecosystem restoration projects across the globe. It helps developers of ecosystem restoration projects to plan, track and showcase their efforts using scientific data and satellite imagery. Users can map their project areas and access real-time metrics on biodiversity, carbon and water. By visualizing site-specific ecological data, you can also use the tool to identify areas with high restoration potential and screen for opportunities that deliver a positive impact.	Site location	Long list of sites that have high restoration potential which can deliver a positive impact
	SUSTAIN Inventory of Nature Impact Reduction Strategies [Learn more]	The SUSTAIN Inventory of nature impact reduction strategies is developed to help businesses in the agriculture, energy and built environment sectors identify strategies to reduce the pressures/impact drivers they exert on nature. It maps over 150 response options to different pressures/impact drivers based on scientific and grey literature. The response options are also categorized by stages of the value chain. You can use the tool to screen for nature-related opportunities—particularly those focused on negative impact mitigation	Information on pressures/impact drivers of your company or your value chain partners	A list of potential nature-related opportunities and options to mitigate negative impacts by reducing environmental pressures across the value chain

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A2: Adjustment of existing risk mitigation and risk and opportunity management

This aligns with: TNFD A2, ESRS Step C

Question(s):

- A2.A: What existing risk mitigation and risk and opportunity management processes and elements are you already applying? How can risk and opportunity management processes and associated elements (e.g. risk taxonomy, risk inventory, risk tolerance criteria) be adapted?

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A2
Adjustment of existing risk mitigation and risk and opportunity management

A2. A

Summary Tools

A2.A: What existing risk mitigation and risk and opportunity management processes and elements are you already applying? How can risk and opportunity management processes and associated elements (e.g. risk taxonomy, risk inventory, risk tolerance criteria) be adapted?

This component relies on data and information specific to your financial institution. The right risk and opportunity management approach will depend on your portfolio, business model, structure, geographical coverage, existing risk management processes and systems and existing stewardship policies. The tools highlighted for this component are useful resources for exploring additional risk and opportunity management actions to consider. For more detailed guidance, see component A2 in the TNFD LEAP Guidance.

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A2
Adjustment of existing risk mitigation and risk and opportunity management

A2. A

Summary Tools

A2.A: What existing risk mitigation and risk and opportunity management processes and elements are you already applying? How can risk and opportunity management processes and associated elements (e.g. risk taxonomy, risk inventory, risk tolerance criteria) be adapted?

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
TNFD Nature-related Risk and Opportunity Registers [Learn more]	The TNFD Risk and Opportunity Registers outline different categories of nature-related risks and opportunities, specify the types of information to record for each identified risk and opportunity and provide links to relevant metrics and ratings from the TNFD LEAP approach. You can use the tool to review your existing risk mitigation and opportunity management processes by examining the nature-related risks and opportunities screened, identified and documented in other components of the register. This helps identify which elements are already in use and where you can further adapt or strengthen your current practices—such as risk taxonomy, risk inventory and risk tolerance criteria.	Information on the identified nature-related risks and opportunities and your risk management processes	A categorized list of nature-related risks and opportunities that are: (1) covered by existing risk mitigation and risk and opportunity management processes and elements; (2) not yet covered; and (3) associated processes and elements that can be further adapted and enhanced.
WWF Water Risk Filter [Learn more]	WWF Water Risk Filter (WRF) helps companies and financial institutions identify and prioritize water-related risks across their operations and supply chains. You can also use the tool to map risks to your existing risk mitigation and risk and opportunity management processes, aligning the WRF's taxonomy with your internal frameworks to identify gaps and adapt management approaches. The tool also includes a questionnaire on site-specific water risks, which points users to actionable insights to refine and strengthen risk mitigation and risk and opportunity management processes across sites and portfolios.	List of industrial activities relevant to your you and GPS coordinates or address of sites Site-level operational data	A list of sites showing: 1) where risk mitigation and risk and opportunity management processes are covered with the water risks identified by the Water Risk Filter; 2) where they are not covered and need improvement; and 3) where operational risks require further adaptation of these processes.
ENCORE [Learn more]	ENCORE's Biodiversity Module (currently available for agriculture and mining sectors only) can support you in exploring alignment of your financed activities in the agriculture and mining sectors with important global goals for nature. Among other insights, it allows you to view a list of possible actions that you could consider to manage biodiversity risks.	For agriculture, list of input countries, cropland area (ha) or turnover (USD) For mining, list of company names and country locations	A list of actions towards potential portfolio alignment to a nature-positive future tailored to your portfolio

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A3: Risk and opportunity measurement and prioritization

You should assess the severity of your nature-related risks and opportunities as determined by the intersection of their magnitude, likelihood and additional criteria, such as impact on nature and impact on society. You can prioritize risks and opportunities based on this assessment.

This aligns with: TNFD A3, ESRS Step C

Question(s):

- A3.A: What is the severity of nature-related risks to your financial institution? Which risks should be prioritized?
- A3.B: What is the scope of nature-related opportunities to your financial institution? Which opportunities should be prioritized?

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools

A3.A: What is the severity of nature-related risks to your financial institution? Which risks should be prioritized?

You should assess the severity of nature-related risks as determined by their magnitude, likelihood and additional criteria, such as impact on nature and impact on society. The magnitude and likelihood of risks can be difficult to measure. You can estimate them by analysing company- and location-specific data and findings from Locate and Evaluate phases. The table below provides an overview of key guidance documents on how company- and location-specific data on nature impacts and dependencies can inform risk assessments.

Type of resource	Resource
Guidance on risk assessment	TNFD Guidance on risk and opportunity assessment in LEAP (available here)
	Natural Capital Protocol (available here)
Methodology to estimate nature-related risks at portfolio level	Nature Risk Profile: A Methodology for Profiling Nature Related Dependencies and Impacts (available here)
	SUSTAIN Nature-related risk assessment methodology (Deliverable 2.1 led by Oxford Sustainable Finance Group) (to be added once published)

For information on the components of impact and dependency measurement **View more**

Challenge: Valuation of nature-related risks

To enable prioritization between different nature-related risks, it is helpful to estimate the value associated with dependencies and impacts. Valuation can be qualitative, quantitative or monetary. Each valuation has limitations, which should be carefully considered when interpreting the results and using them as a basis for prioritisation of risks. For example, cost of disruptions in non-consumptive ecosystem services or societal benefits can be challenging to value accurately. The tools listed below can be useful in valuation of risks.

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools

Information: Where to find more information in the Nature Tools Compass on tools for estimating the magnitude and likelihood of risks

	Aspect to assess	Relevant section of the Nature Tools Compass
Physical risk	Location of operations and downstream and upstream value chain partners	See L1
	Current ecosystem condition	See E2&3 C and L4
	Human made pressures on nature	See E2&3 A
	Trends affecting state of nature	See Scenario Analysis
	Changes to ecosystem services availability and quality	See E2&3 B
	Valuing physical risk	See A3.A tools tab
Transition risk	Current policy, market and consumer context	See transition risk screening tools under A1.A
	Changes to policy, market and consumer context	See Scenario Analysis
Systemic risk		Limited availability of tools, refer to Scenario Analysis and guidance on risk assessment guidance

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools (1 of 2)

A3.A: What is the severity of nature-related risks to your financial institution? Which risks should be prioritized?

The following are tools to support valuation of nature-related risks

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
InVEST [Learn more]	The InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs) tool is an open-source software suite that quantifies and maps the benefits people obtain from ecosystems, showing how land use, management, or climate changes affect services like water purification, coastal protection, carbon storage and food production. It provides quantitative, spatially explicit and often monetary estimates, linking ecological change to human well-being and economic outcomes. You can use the tool to perform risk valuation, especially by translating ecosystem service changes into financial metrics such as avoided damages, economic losses, or the monetary value of preserved benefits. You can also identify risk exposure, mapping areas where ecosystem degradation could increase risks like flooding or water scarcity and estimate consequences, quantifying the scale and severity of potential impacts under different scenarios. This analysis expresses your environmental risks in economic terms and can help you prioritize actions, as well as integrate them into broader risk mitigation and opportunity management processes.	Specific site location and a long list of nature related risks	Long list with a valuation of identified risks
ARIES for SEEA [Learn more]	ARIES for SEEA (Artificial Intelligence for Environment and Sustainability for the System of Environmental-Economic Accounting) is a web-based application that helps companies compile ecosystem accounts in line with the UN SEEA framework. Users can define a geographic area, spatial resolution and timeframe to produce standardized environmental-economic accounting outputs. The tool generates ecosystem accounts that map and quantify ecosystem extent, measure ecosystem condition, calculate the physical and monetary values of ecosystem services using SEEA-compliant methods and produce aggregated results as tables or spatial datasets for different geographic units. You can use the tool to support the valuation of nature-related risks by assigning monetary values to ecosystem services and translating biophysical flows into financial terms, such as the economic contribution of forests to carbon sequestration or avoided costs from natural flood protection.	Location of sites	A list of ecosystem accounts showing the physical and monetary value of ecosystem services, which companies can use to apply a value to dependencies and impacts on nature and the risks that may arise from ecosystem degradation

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

A3.A: What is the severity of nature-related risks to your financial institution? Which risks should be prioritized?

The following are tools to support valuation of nature-related risks

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Monetized environmental impact data and valuation templates from the Impact-Weighted Accounts Project at Harvard Business School [Learn more]	The databases from the Impact-Weighted Accounts Project at Harvard Business School provide monetized environment impact data, available for over 6,000 companies. You can use the data as part of monetary valuation to assign monetary values to environmental impacts. This can help you assess which risks are material to your financial institution.	Company name and country	List of companies with the total environmental impact for a certain year, in monetary terms.

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools

A3.B: What is the estimated or measured scope of opportunities to your financial institution? Which opportunities should be prioritized?

You should assess the scope of potential benefits from their nature-related opportunities in order to prioritize them. In addition to considering benefits to your financial institution, you may consider additional criteria, such as the scope of the positive impact on nature and the value of the impact on society. The benefits from opportunities can be difficult to measure. You can estimate them by analysing company- and location-specific data and findings from Locate and Evaluate phases. The list below provides an overview of key guidance documents on how company- and location-specific data on nature impacts and dependencies can inform opportunity assessments.

Guidance on risk assessment using location- and company-specific data

- TNFD Guidance on risk and opportunity assessment in LEAP (available here)
- Natural Capital Protocol (available here)
- Restoration Project Developers' Playbook on Private Finance (Europe) (available here)
- CPIC Investment Blueprints (available here)

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A3
Risk and opportunity measurement and prioritization

A3. A

A3. B

Summary Tools

A3.B: What is the estimated or measured scope of opportunities to your financial institution? Which opportunities should be prioritized?

The tools listed below can be useful for estimating potential benefits associated with nature-related opportunities. Where possible, complement the analysis with data specific to your financial institution and your portfolio to obtain more accurate benefit estimates.

Tool	How can this tool be used in this component?	Key input data needed	Output of the tool relevant for this component
Positive Impact Indicators Directory [Learn more]	The Positive Impact Indicators Directory, developed by UNEP and UNEP-WCMC, is a reference tool designed to help financial institutions and other companies identify indicators for monitoring and reporting environmental and social impacts of investments, particularly in the land-use sector. The Directory consolidates 22 robust indicators, selected from over 180 reviewed options, and groups them into four impact areas: biodiversity, sustainable production, climate action and sustainable livelihoods. It provides information on each indicator and recommended monitoring methods to support more consistent, comparable and SDG-aligned reporting. Financial institutions, especially those with financed activities in land use and those supporting smallholders in their portfolio companies' supply chains, can use this Directory as a reference for selecting relevant metrics to scope nature-related opportunities and to estimate, measure and track positive environmental and social outcomes over time.	None	A list of indicators that can be used to estimate/measure nature-related opportunities that are linked to the land use sector.
STAR (restoration) [Learn more]	STAR (restoration) is a component of the Species Threat Abatement and Restoration (STAR) metric developed by IUCN using IUCN Red List data. It identifies areas where restoration actions, such as habitat recovery or ecosystem rehabilitation, could make the greatest contribution to reducing global species extinction risk. STAR (restoration) scores are calculated using data on species presence, extinction risk levels, the proportion of their historical range in a given area and the severity of threats they face. High STAR (restoration) scores highlight locations where restoring degraded or lost habitats would most effectively benefit multiple threatened species, making them priority areas for potential interventions. Financial institutions can use STAR (restoration) to screen for restoration opportunities, particularly where past habitat loss has significantly impacted threatened species and to estimate the scope and potential of nature-related opportunities linked to habitat restoration efforts.	Site location	List of sites that can make the greatest contribution to reduce global species extinction risk (i.e. largest scope of opportunities)

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A4
Risk and opportunity materiality assessment

A4: Risk and opportunity materiality assessment

In the Assess phase of LEAP, you can identify, measure and prioritize your financial institutions nature-related risks and opportunities. This is informed by the dependencies and impacts on nature identified in the Locate and Evaluate phases.

This component builds from A1, A2 and A3 to prioritize what risks and opportunities are most material and should be disclosed. This component will be informed by your approach to materiality, which is closely related to the objectives of the assessment and disclosures. “Other useful resources” below lists relevant guidance and resources.

Click here for A1 for further information

Click here for A2 for further information

Click here for A3 for further information

This aligns with: TNFD A1, ESRS Step C

Other useful resources:

- TNFD Guidance on impact prioritization in LEAP (available here)
- ISSB Sustainability Standards (available here) and an educational document on disclosure of material information (available here)
- Natural Capital Protocol (available here)

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Cross-cutting
Scenario analysis

Cross-cutting: Scenario analysis

TNFD recommends that across all phases of the LEAP approach, companies use scenario analysis to explore how their nature-related issues may evolve under different plausible futures. Considering how the state of nature, policy, market and society might evolve and how these changes may affect your company, can enrich your analysis of current and potential future dependencies and impacts on nature. This can help you identify additional risks and opportunities that your company is facing and anticipate which risks and opportunities could increase in significance in the near- or long-term future. For more guidance on scenario analysis in LEAP, see TNFD Guidance on Scenario Analysis.

Scenario analysis supports the LEAP assessment, prompting questions around:

- Future changes
- How could those changes unfold over a period of time and why?
- Are there any nature-related risks and opportunities that may arise as a result of those changes?
- Which of those changes are most important to the resilience of the organization?
- Are there any key uncertainties that may affect potential changes?

TNFD approach to scenarios	*"Scenarios are a set of plausible descriptions or narratives about how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces and critical uncertainties. They are used to provide a view of the implications of developments external to the organisation and inform actions by the organisation. They are intended to challenge thinking about what the future might be like and how an organisation might respond under circumstances different from those it faces today."* (TNFD 2023)

This section provides an overview of tools and other resources that can be useful for scenario analysis. The list in the "Support tools" tab does not include integrated assessment models (IAMs) such as those developed by the Integrated Assessment Modeling Consortium. Even though IAMs are useful for future change prediction, they are coarse-scope, scientific tools, requiring dedicated research teams and high technical capacities. For an overview of the different types of IAMs and their limitations, see Van Eynde et al. (2024) (available here).

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Cross-cutting
Scenario analysis

Tools	Description
TNFD Scenario Toolbox	Alongside the dedicated guidance on scenario analysis, TNFD developed a downloadable and printable set of graphics and worksheets that companies can use as a tool during the interdepartmental exercise to develop scenarios.
Climate Transition Scenario Tool for Companies in the Food, Agriculture and Forest Products Sectors	This online scenario tool, developed by WBCSD, provides you with a curated set of reference scenarios tailored to food, agriculture and forest products, supporting your decision-making as a business, investor, or policymaker. The tool models multiple drivers across these sectors to generate a diverse range of climate scenarios. You can explore scenario options, review the underlying assumptions and assess potential market and environmental impacts for your climate scenario analysis.
FABLE Calculator **[Learn more]**	This Excel-based tool, developed by the Food, Agriculture, Biodiversity, Land-Use and Energy (FABLE) Consortium, allows you to develop long-term integrated pathways and support decision-making around sustainable food and land use systems. You can use it to simulate future food and land-use scenarios related to population growth, potential dietary changes, agricultural expansion, deforestation and the balance between food production, climate change mitigation and biodiversity conservation.
International Institute for Applied Systems Analysis (IIASA) – Biodiversity and Natural Resources (BNR) filter	IIASA brings together a library of models, tools and datasets on different topics including water quality modelling, wildfire climate impacts and economic-environment linkages. The library includes a filter on Biodiversity and Natural Resources, which you can use to find relevant data and resources.
k.LAB (Knowledge Laboratory)	This open-source platform is designed to help you model complex human and natural systems. K.LAB allows you to explore topics in Natural Capital, Conservation and Restoration and Ecosystem Services. The platform integrates five different techniques: 1) Spatial data and GIS for visualizing maps, 2) Deterministic models based on equations and lookup tables, 3) Bayesian probabilistic models for expert-based, data-scarce conditions, 4) Process-based models for dynamic ecological processes and 5) Agent-based models for dynamic, interdependent ecological and social agents.
Notre Dame Global Adaptation Initiative (ND-GAIN)	The ND-GAIN Country Index is a free, open-source index that can help you assess a country's current vulnerability to climate disruptions. It considers ecosystems, habitats and water among its vulnerability indicators. It can support your assessment of a country's readiness to leverage private and public sector investment for adaptive actions.

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Cross-cutting
Scenario analysis

Summary Support tools Resources (1 of 3)

Type of resource	Resource	Description
Guidance/ Methodology	TNFD Scenario Analysis Guidance	This guidance aims to support you in implementing the TNFD LEAP with a focus on scenarios, recognizing the importance of scenarios mainly during the Assess phase. It provides information on the primary objectives of scenario analysis, their benefits and where to start. The guidance also includes a step-by-step, four-step process that takes you from identifying relevant driving forces to pinpointing high-level business decisions. The framework uses a critical uncertainty matrix with four plausible futures based on variables like ecosystem service degradation (physical risks) and the alignment of market forces (transition risks).
	Assessing the Materiality of Nature-Related Financial Risks for the UK	This report proposes and applies a methodology to assess the materiality of nature-related risks to the UK economy and financial sector, both in the near term and the longer term. The methodology includes a scenario-based analysis. You can consult this report and its methodology to replicate, as relevant, for your organization. The report was developed by Green Finance Institute, University of Oxford, University of Reading, UNEP-WCMC, and the National Institute for Economic and Social Research (2024).
	The Methodological Assessment Report on Scenarios and Models of Biodiversity and Ecosystem Services	This IPBES (2016) report presents a global integrated ecosystem-economy modelling exercise. It can help you assess economic policy responses to the global biodiversity crisis. By modelling the interaction between nature's services and the global economy through 2030, the report highlights a range of policy scenarios and combinations you can use to reduce the impact of nature's loss on economies.
	NGFS Technical Recommendations on Nature Scenarios	This document by the NGFS (2023) provides you with recommendations towards the development of scenarios to assess nature-related financial risks. The recommendations consider the specificities of nature-related issues by building on our existing knowledge of climate-related scenarios. It will allow central banks and supervisors to eventually conduct full-fledged forward-looking nature risk assessments.
	Applied Justice Taxonomy and Assessment Framework (AJUST)	You can use the AJUST framework from IIASA to include diverse perspectives about justice while developing nature scenarios. The framework helps you conduct explicit justice assessments and design more successful transition policies. You can apply it to diverse contexts and tailor it to different spatial and temporal scales. You can also find scenario narratives building on the framework here.

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Cross-cutting
Scenario analysis

Type of resource	Resource	Description
Guidance/ Methodology	Global review of models for scenario analysis: capabilities and gaps in informing the CBD Kunming-Montreal Global Biodiversity Framework - WC0912	This report provides recommendations to governments, international policy communities and the modelling community on enhancing the use of scenarios and models to improve the implementation of the Kunming-Montreal Global Biodiversity Framework. The recommendations are based on an evaluation of 60 models, which you can use to work towards achieving goals on protection and restoration (Goal A) and nature contribution's to people (Goal B). This report was developed by UKCEH, NHM, University of Vienna and UNEP-WCMC (2025).
Existing scenario analyses	The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways	This World Bank report (2021) presents a global integrated ecosystem-economy modelling exercise to help you assess economic policy responses to the global biodiversity crisis. By modelling the interaction between nature's services and the global economy through 2030, it highlights a range of policy scenarios and combinations you can use to reduce the impact of nature's loss on economies.
	IPR Forecast Policy Scenario + Nature [Learn more]	The Inevitable Policy Response Forecast Policy Scenario + Nature (IPR FPS + Nature) (2023) is the first integrated nature and climate scenario designed for your use as an investor. It fills a crucial gap in risk assessments and provides you with an exploratory forward-looking view on how policy, technological and social trends could impact key land use and energy-related value drivers. It represents a set of 'beta version' scenarios of what might happen when nature-related policy is incorporated into a climate-related scenario.
	Bending the curve of terrestrial biodiversity needs an integrated strategy	These scenarios by Leclère et al. (2020), use different land-use and biodiversity models to assess whether and how humanity can reverse the declines in biodiversity as a result of habitat conversion. Their results show that ambitious conservation efforts and food system transformations are key to achieve global biodiversity goals.
	Global trends and scenarios for terrestrial biodiversity and ecosystem services from 1900 to 2050	This paper by Pereira et al. (2024), forecasts changes in biodiversity loss and ecosystem services with a 2050 horizon, comparing them with changes from 1900 to 2015, combining 13 different models with climate change considerations.

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Cross-cutting
Scenario analysis

Type of resource	Resource	Description
Existing scenario analyses	Investing in nature can improve equity and economic returns	Johnson et al. (2022), developed an earth-economy model that integrates the Global Trade Analysis Project (GTAP) economic model with the Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST) model of fine-scale, spatially explicit, ecosystem services. The model determines land use, environmental conditions, ecosystem services, market prices, supply and demand, trade and metrics like GDP. It can support you to understand GDP changes based on ecosystem degradation. It considers four ecosystem services: pollination, timber provision, marine fisheries and carbon sequestration.

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

Summary | Questions | Due diligence | Tools | Resources

Cross-cutting: Engagement with Indigenous Peoples, local communities and affected stakeholders

Engagement with Indigenous Peoples, local communities and affected stakeholders is a key cross-cutting component of the LEAP approach. TNFD's recommended disclosures specifically highlight the importance of meaningful and effective organisational stakeholder engagement and human rights policies and processes specifically in general requirement 6 and recommended disclosure Governance C.

TNFD engagement – general requirement 6	*"The organisation should describe its process for engaging Indigenous Peoples, local communities and affected stakeholders about their concerns and priorities with respect to nature-related dependencies, impacts, risks and opportunities in its direct operations and value chain."* (TNFD 2023)
TNFD recommended disclosure – Governance C	*"Describe the organisation's human rights policies and engagement activities, and oversight by the board and management, with respect to Indigenous Peoples, local communities, affected and other stakeholders, in the organization's assessment of, and response to, nature-related dependencies, impacts, risks and opportunities."* (TNFD 2023)

TNFD's Guidance on engagement with Indigenous Peoples, Local Communities and affected stakeholders, hereafter referred to as 'TNFD Engagement Guidance' aims to support organizations engage meaningfully with Indigenous Peoples, local communities, affected and other stakeholders in their nature assessment process in line with LEAP (2023). The guidance identifies questions that can support your company's engagement in line with the LEAP approach (see tab 'Questions'). This cross-cutting section of the Nature Tool Compass offers an overview of key tools and resources that may support your engagement activities throughout the assessment process. We encourage you to consult the full TNFD Engagement Guidance for more detailed advice (here).

Click here for key terms and definitions

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

Summary Questions Due diligence Tools Resources

Term	Definitions used in TNFD engagement guidance
Stakeholder engagement	*"Ongoing process of interaction and dialogue between an enterprise and its stakeholders that enables the enterprise to hear, understand and respond to their interests and concerns, including through collaborative approaches"* (TNFD 2023, adapted from UN 2012) The Corporate Responsibility to Respect Human Rights: An Interpretive Guide
Indigenous Peoples	While there is no single, unified definition of the term 'Indigenous Peoples', the UN has developed an understanding of this term based on the following: • Self- identification as Indigenous peoples at the individual level and accepted by the community as their member. • Historical continuity with pre-colonial and/or pre-settler societies. • Strong link to territories and surrounding natural resources. • Distinct social, economic or political systems. • Distinct language, culture and beliefs. • Form non-dominant groups of society. • Resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. The UN Factsheet on 'Who are Indigenous Peoples?' is available (here). It is important to consider that Indigenous Peoples can have detailed knowledge of the status, trends, drivers of change, dependencies and impacts on biodiversity and ecosystem services. Therefore, Indigenous Peoples and their knowledge systems should be effectively included to strengthen assessments on nature-related dependencies, impacts, risks and opportunities.
Local communities	While there is no single definition for 'local communities', this term can be understood as referring to communities that are: 1) not self-identified or specified under national legal frameworks as Indigenous Peoples, and; 2) recognized for having historical ties to places and natural resources. Like Indigenous Peoples, local communities can possess diverse ecological knowledge, management practices, and traditional systems and institutions that can support the sustainable governance of ecosystems and the services derived from them (NEA Initiative 2021)
Affected stakeholders	*"People or groups that have been, or may be, negatively affected by an organisation's operations, products, services and value chains, including an organisation's nature-related dependencies, impacts, risks and/or opportunities, and responses to those issues"* (TNFD 2023).
Rights-holders	TNFD recognises rights-holders as a sub-category of stakeholder, *"whose human rights may be put at risk due to business activities". "Rights-holders include individuals whose human rights are affected, including the right to water, food, an adequate standard of living and the right to a clean, healthy and sustainable environment. Rights-holders also include members of groups whose collective rights are affected, especially Indigenous Peoples and Local Communities"* (TNFD 2023).
Stakeholders	*"Stakeholders include financial institutions (such as investors, other capital providers and insurers), government agencies, policy makers and regulatory authorities, intergovernmental organisations, scientists, consumers, landowners, civil society organisations, other businesses and communities interacting with the same ecosystems and Indigenous Peoples and Local Communities"* (TNFD 2023).

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

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Engagement questions recommended by TNFD to guide engagement with Indigenous Peoples, local communities and affected stakeholders. This table can be consulted as 'Table 1' in the TNFD engagement guidance and is included here for reference.

LEAP phase	TNFD Engagement questions
Scoping	How do views, knowledge and input from Indigenous Peoples, local communities, affected and other stakeholders inform thinking on potentially material nature-related dependencies, impacts, risks and opportunities associated with the organisation's activities (direct operations and value chain)?
L1: Span of the business model and value chain	Are there Indigenous Peoples, local communities and affected stakeholders in the geographic locations of our direct operations? Where are they located?
L2: Dependency and impact screening	Are Indigenous Peoples, local communities and affected stakeholders typically involved in or impacted by the activities of these sectors and value chains?
L3: Interface with nature	Are there Indigenous Peoples, local communities and affected stakeholders in these locations? At which locations are our organisation and its value chains interfacing with Indigenous Peoples' lands, territories and sacred sites? What knowledge, including traditional knowledge, do Indigenous Peoples, local communities and other stakeholders have of these ecosystems? What is the perspective of Indigenous Peoples, local communities and other stakeholders on the value and importance of these ecosystems?
L4: Interface with sensitive locations	Are there any Indigenous Peoples, local communities and stakeholders who are also interfacing with nature in these sensitive locations? What are Indigenous Peoples, local communities and affected stakeholders' perspectives on our sensitive location identification?
E1: Identification of environmental assets, ecosystem services and impact drivers	Are there any Indigenous Peoples, local communities and stakeholders whose human rights and livelihoods, depend on these environmental assets and ecosystem services?

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View cross cutting information on scenarios

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

LEAP phase	TNFD Engagement questions
E2: Identification of dependencies and impacts	What environmental assets and ecosystem functions and services do Indigenous Peoples, Local Communities and affected stakeholders depend on or impact? What rights do they have over these environmental assets and ecosystem services?
E3: Dependency and impact measurement	Which Indigenous Peoples, local communities and stakeholders value and depend on nature and what is their dependency? How do the organisation's activities affect their dependencies on nature and ability to access ecosystem services?
E4: Determination of impact materiality	Which Indigenous Peoples, local communities and stakeholders may be impacted by our impact on nature? What are the actual and potential impacts on the rights and livelihoods of Indigenous Peoples, local communities and affected stakeholders? What are their perspectives on how they will be impacted in the immediate, short, medium and long term?
A1: Risk and opportunity identification	What are the insights into the risks and opportunities for our organisation based on our engagement with Indigenous Peoples, local communities and affected stakeholders?
A2: Adjustment of existing risk mitigation and risk and opportunity management	How do these mitigation and management processes consider related impacts on, relationships and engagement with Indigenous Peoples, local communities and affected stakeholders? What are the perspectives of Indigenous Peoples, local communities and affected stakeholders on the organisation's existing and adapted risk mitigation and risk and opportunity management processes?
A3: Risk and opportunity measurement and prioritisation	What are the perspectives of Indigenous Peoples, local communities and affected stakeholders on the risks and opportunities that the organisation should prioritise?
A4: Risk and opportunity measurement and prioritisation	How are the perspectives of Indigenous Peoples, local communities and affected stakeholders considered when determining the materiality of risks and opportunities to the organisation?

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

When engaging with Indigenous Peoples, local communities and affected stakeholders, it is key to be aware of existing international standards, guidelines that apply directly to businesses and of treaties and other sources of international law, as well as national legislation, that addresses business conduct in relation to nature, human rights, Indigenous Peoples and other potentially affected stakeholders. The table below provides an overview of key resources. Please note the list of resources below is instructive but non-exhaustive. When engaging with Indigenous Peoples, local communities and affected stakeholders, it is key to be aware of existing international standards, guidelines that apply directly to businesses and of treaties and other sources of international law, as well as national legislation, that addresses business conduct in relation to nature, human rights, Indigenous Peoples and other potentially affected stakeholders. The table below provides an overview of key resources. Please note the list of resources below is instructive but non-exhaustive. This table also does not include national and subnational laws, which should also be consulted.

Type of resource	Resource	Nature-focused/cross-cutting
UN principles, conventions and treaties *This category include sources for internationally recognized human rights.*	UN Guiding Principles on Business and Human Rights (available here)	Cross-cutting
	United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (available here)	Cross-cutting
	United Nations Human Rights Council thematic report titled 'Free, prior and informed consent: a human rights based approach', produced by the Expert Mechanism on the Rights of Indigenous Peoples. This resource outlines the principle of free, prior and informed consent (FPIC) as a key consideration when engaging with Indigenous Peoples, local communities and their knowledge systems (available here)	Cross-cutting
	The UN General Assembly Resolution 76/300 on rights to a healthy environment (available here)	Nature focused
	Convention on the Elimination of all forms of Discrimination against Women (CEDAW) (available here)	Cross-cutting
	The UN Declaration on the Rights of the Child (available here)	Cross-cutting

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View cross cutting information on scenarios

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

Type of resource	Resource	Nature-focused/cross-cutting
UN principles, conventions and treaties *This category include sources for internationally recognized human rights.*	UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (available here)	Cross-cutting
	The United Nations Declaration on the Rights of Indigenous Peoples: A Manual for National Human Rights Institutions (available here)	Cross-cutting
	UN Global Compact (available here)	Cross-cutting
	Convention on Biological Diversity (available here) Kunming-Montreal Global Biodiversity Framework (Section C) (available here) Voluntary Guidelines on Traditional Knowledge (Article 8j) 1. The Akwé: Kon Voluntary Guidelines for the conduct of cultural, environmental and social impact assessments 2. The Tkarihwaié:ri Code of Ethical Conduct to Ensure Respect for the Cultural and Intellectual Heritage of Indigenous and local communities Relevant to the Conservation and Sustainable Use of Biological Diversity 3. The Mo'otz Kuxtal Voluntary Guidelines to ensure the "free, prior and informed consent" 4. The Rutzolijirisaxik Voluntary Guidelines for the Repatriation of Traditional Knowledge Nagoya Protocol on Access and Benefit Sharing (available here)	Nature focused
Global Standards *This category indicate sources of guidance for businesses on expected conduct standards in connection with human rights.*	OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (available here)	Cross-cutting
	OECD Due Diligence Guidance on Meaningful Stakeholder Engagement (available here)	Cross-cutting
	The Taskforce on Inequality and Social-related Financial Disclosures (TISFD) (available here)	Cross-cutting
	AccountAbility AA1000 Stakeholder Engagement Standard (available here)	Cross-cutting

Note: Due diligence page 2 of 3.

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

Type of resource	Resource	Nature-focused/cross-cutting
Global Standards *This category indicate sources of guidance for businesses on expected conduct standards in connection with human rights.*	IFC Performance Standards (PS), including IFC PS 6 on Biodiversity and IFC PS 7 on Indigenous People (available here)	Cross-cutting

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

The table below provides resources that can help you respond to some elements of the TNFD LEAP engagement questions (see the 'TNFD LEAP engagement questions' tab). This includes tools that can support your initial scoping of locations where you operate or source from that may overlap with Indigenous Peoples' and local communities' territories. Note that these tools do not cover all territories of Indigenous Peoples, local communities and affected stakeholders. They should be considered a starting point and we strongly advise conducting further due diligence.

To fully address the TNFD LEAP engagement questions, you will need to engage with Indigenous Peoples, local communities and other affected stakeholders on the ground in a respectful, ethical and long-term way that is tailored to each specific context. Your engagements need to address power imbalances among stakeholders and follow the principle of Free, Prior, and Informed Consent (FPIC), as outlined in the Tkarihwaié:ri Code of Ethical Conduct. Evidence shows that more equitable governance often leads to significantly better ecological outcomes (Dawson et al. 2024).

Tool	What does the tool provide that is relevant for the section?	LEAP components that the tool could support, and engagement questions recommended by TNFD
LandMark Map [Learn more]	LandMark Map allows you to access layers showing Indigenous Peoples' and Community lands, both those recognized by governments and those that are not. It also includes Indicative Areas of Indigenous and Community Land Rights, as well as information on Indigenous and Community Natural Resource Rights. You can view country-level visualization of the percentage of land held by Indigenous Peoples and Communities, along with data on land rights and Indigenous populations. The platform also offers other layers related to biodiversity, climate, land use and land cover change, which you can overlay to support your analysis. You can download specific datasets. Each dataset may have different licenses.	**L1: Span of the business model and value chain** Are there Indigenous Peoples, local communities and affected stakeholders in the geographic locations of our direct operations? Where are they located? **L3: Interface with nature** Are there Indigenous Peoples, local communities and affected stakeholders in these locations? **L4: Interface with sensitive locations** Are there any Indigenous Peoples, local communities and stakeholders who are also interfacing with nature in these sensitive locations?
Global Forest Watch [Learn more]	Global Forest Watch visualizes data layers on Indigenous Peoples' and community lands, both acknowledged by governments and not acknowledged. It also includes data on Indicative Areas of Indigenous and Community Land Rights from LandMark. It allows you to overlay these data layers with others , such as biodiversity layers (e.g., global biodiversity intactness, global biodiversity significance, Alliance for Zero Extinction sites, Key Biodiversity Areas, biodiversity hotspots and Endemic Bird Areas).	

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View cross cutting information on scenarios

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

Tool	What does the tool provide that is relevant for the section?	LEAP steps that the tool could support, and engagement questions recommended by TNFD
Land Portal - Geoportal [Learn more]	Land Portal's Geoportal brings together statistical and geospatial data related to land issues. It includes data in categories such as Indigenous and Community Land Rights, Land and Gender, Land Stakeholders and Institutions and Land Conflicts, drawing on existing datasets from various sources. You can select and overlay up to three datasets at a time. You can download specific datasets. Each dataset may have different licenses.	**L1: Span of the business model and value chain** Are there Indigenous Peoples, local communities and affected stakeholders in the geographic locations of our direct operations? Where are they located? **L3: Interface with nature** Are there Indigenous Peoples, local communities and affected stakeholders in these locations? **L4: Interface with sensitive locations** Are there any Indigenous Peoples, local communities and stakeholders who are also interfacing with nature in these sensitive locations?
IBAT [Learn more]	IBAT tool can be used to identify where your company's direct operations and value chains overlap with Protected Areas , Key Biodiversity Areas (KBA) and species on the IUCN Red List of Threatened Species. The also tool has information on some territories and areas conserved by Indigenous Peoples and local communities (ICCAs). If you have information on site locations (with maps) of activities in direct operations and value chain, the tool can provide you with maps showing the overlaps with some ICCAs.	
LandScale [Learn more]	Under its free component, LandScale allows you to explore landscape initiatives that are included in the LandScale database and their locations on an interactive map. For each landscape initiative, the LandScale database specifies organisations and stakeholders that are involved, which may include Indigenous Peoples or local communities. Each landscape initiative is also assigned a maturity score based on its alignment with CDP's Landscape Maturity Matrix. The tool may help you identify landscape initiatives in or near the locations of your operations or value chain activities.	Cross-cutting
Practical Tool for Business on Human Rights Due Diligence and the Environment (HRDD+E) [Learn more]	This tool, developed by the UN Development Programme (UNDP), is in the form of an interactive PDF and can provide your company with practical advice and insights on how to integrate environmental dimensions into human rights and environmental due diligence and disclosure measures.	Cross-cutting

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Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

The table below provides references to additional guidance on engagement with Indigenous Peoples, local communities and affected stakeholders. Since a well-established way in which organisations can engage in multi-stakeholder processes is through jurisdictional or landscape approaches, you can also find below resources related to these approaches. For TNFD's guidance on multistakeholder engagement, see 'general principles on meaningful engagement' in the TNFD engagement guidance (p. 31, here).

Type of guidance	Resource	Brief description
Stakeholder engagement guidance	TNFD guidance on engagement with Indigenous Peoples, Local Communities and affected stakeholders (here)	This guidance provides you with direction on meaningful and respectful engagement with Indigenous Peoples, local communities and affected stakeholders as part of your organization's journey in implementing the TNFD LEAP approach. It also includes information on engagement and due diligence standards, principles for meaningful engagement and advice on designing and conducting engagement.
	Stakeholder engagement and science-based targets for nature (here)	The SBTN stakeholder engagement guidance supports you with resources and best practices to include in the implementation of the target-setting methods. It also provides information on the role of stakeholder engagement across the 5-step SBTN process.
	Voluntary Guidelines on Traditional Knowledge (Article 8j) (here)	The Guidelines provide you with a collaborative framework to ensure the full involvement of Indigenous Peoples and local communities in assessing the cultural, environmental and social impacts of proposed developments on sacred sites and on territories and waters they have traditionally occupied. The guide also includes information to help you account for traditional knowledge, innovations and practices as part of the impact assessment process, as well as the appropriate use of technologies.
	SHARED (Stakeholder Approach to Risk Informed and Evidence-based Decision-making) (here)	The SHARED methodology provides a framework that can support your company for making complex decisions in specific contexts, promoting more inclusive, inter-sectoral and inter-institutional integration to achieve desired outcomes. It is designed to help you build long-term relationships and foster cohesive communication across stakeholders and knowledge systems, in order to build capacity and evidence as part of a process within a decision pathway.

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View cross cutting information on scenarios

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

Summary Questions Due diligence Tools Resources (2 of 4)

Type of guidance	Resource	Brief description
Stakeholder engagement guidance	Value and Beyond Chains - How Collaboration Between Private Sector and Governments can Enhance Sustainable Commodity Production (here)	This guidance introduces you to how private sector companies and financial institutions can begin engaging with sustainability efforts beyond their value chains at different levels of government for positive systemic and business benefits. A case study compilation is also available for you to consult.
	Common minimum standards for multi-stakeholder engagement in the UN development assistance framework (here)	This guidance is originally aimed at providing minimum steps for UN country teams to forge stakeholder engagement of the 2030 Agenda. However, it provides you with a useful set of transferable guiding principles for respectful stakeholder engagement. The guide also acknowledges the importance of being aware of cultural differences and country-specific contexts.
	CARE Principles for Indigenous Data Governance (here)	As your company conducts stakeholder engagement it is important to consider the implications of data sharing for Indigenous Peoples. The CARE principles include the right to create value from Indigenous data in line with Indigenous Peoples' worldviews. These principles complement the FAIR principles, which encourage open data while considering people and purpose.
Frameworks on values	IPBES Methodological assessment of the diverse values and valuation of nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (here)	The assessment helps you explore different valuation methods and traditions of knowledge to understand the diverse values of nature, including their strengths and weaknesses. It also provides you with guidelines, tools, criteria and a roadmap to navigate these values in different decision-making contexts. Understanding these different values is key when you're involved in multi-stakeholder processes. To leverage the diverse values of nature for transformative change toward sustainability, you need to address power imbalances among stakeholders.
	High Conservation Value (HCV) Screening (here)	HCV is a resource that helps you identify which types of High Conservation Values (HCVs) may be present in a landscape of interest. Within its framework of six conservation values, number five helps you identify community needs and number six focuses on cultural values.

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View cross cutting information on scenarios

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

Summary Questions Due diligence Tools Resources (3 of 4)

Type of guidance	Resource	Brief description
Landscape/ Jurisdictional approaches	Landscape Scale Action for Forests, People and Sustainable Production (here)	This guidance helps you understand, through a business lens, best practices for advancing sustainable landscape and jurisdictional initiatives in commodity-producing geographies. It also highlights the risks you may face to the continuity of your supply, as well as the benefits of engaging at landscape and jurisdictional levels and aligning with multiple stakeholders. The guidance includes components to support you in building community and multistakeholder capacities, along with recommendations for linking your supply chain actions to landscape initiatives.
	Landscape Approaches (here)	The guidance parts from recognition that collaboration with stakeholders in a landscape helps improve business sustainability. It builds from the Landscape Scale Action for Forests, People and Sustainable Production report which can support your company on landscape and jurisdictional level engagement. It is organised under six intervention types and 20 different activities. Including building local community capacity to engage in multi-stakeholder processes and incentivize their engagement.
	Meeting Nature Goals: Landscape and Jurisdictional Approaches (here)	This CDP (2023) resource can support you with understanding the status of your company's disclosure in relation to their engagement with landscapes and jurisdictional processes. The report also features other resources such as a credibility maturity matrix and core criteria for landscape and jurisdictional engagements.
	Company Action in Collective Efforts (here)	Building from the CDP resource (2023), with specific insights from key deforestation-risk commodities, the Jurisdictional Action Network and the Tropical Forest Alliance published a report that provides you with insights and recommendations to advance the understanding and implementation of landscape and jurisdictional initiatives and approaches.
	Jurisdictional Approaches Resource hub (here)	The resource hub can allow you to explore stakeholders and actions that are required for jurisdictional approaches to drive change. It provides an interactive visualisation of stakeholder pathways throughout the process for financial institutions, sourcing companies, producing enterprises, Indigenous Peoples and local communities, subnational and national governments. It provides you with a theory of change for each stakeholder articulated by a multi-stakeholder platform. It contains a library of webinars, newsletters, guidance for organizations, impact stories and publications.

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View cross cutting information on scenarios

Cross-cutting
Engagement with Indigenous Peoples, local communities and affected stakeholders

Type of guidance	Resource	Brief description
Landscape/ Jurisdictional approaches	Landscape guidance and roadmap for companies (here)	Iseal provides you with a series of collective resources to support your company with guidance for effective investment and action in landscapes and jurisdictions. These resources include the characteristics of a landscape investment or action, the minimum and supporting information you should include to make effective action claims, the rationale for your investment in landscape monitoring and your roles and responsibilities as an organization.
	Business for Sustainable Landscapes (here)	This guidance can support you in implementing Integrated Landscape Management and building multi-stakeholder partnerships to achieve sustainable development. It covers the business case for engaging with these approaches, how to collaborate effectively in landscape partnerships, insights into financing integrated landscape investments and a list of resources and tools to support your work on landscape approaches.
	Landscapes in Practice: Our guides for landscape champions (here)	CIFOR and World Agroforestry, under the Landscapes for Our Future programme, provide you with a series of visual executive summaries designed for practitioners like you who are implementing Integrated Landscape Management. These include guidance on the overall approach and common principles, a guide for institutionalisation, iterative learning and adaptation, stakeholder identification and a preview of upcoming guidance on multi-stakeholder fora and developing a common vision.

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Tool descriptions - Index

- ARIES for SEEA
- Biodiversity Footprint Calculator
- Bioregions 2023
- Carrot & Sticks Report
- CDP Data
- Climate transition scenario tool for companies in the Food, Agriculture and Forest Products sectors
- Coastal Risk Index
- Conservation Evidence
- Copernicus
- Critical natural assets map
- Copernicus Coastal Hub
- Dynamic World App
- Ecosystem Services Footprinting Tool
- Ecosystem Integrity Index
- ENCORE
- EXIOBASE
- FABLE Calculator
- Farm Sustainability Assessment
- Forest IQ
- GBIF
- Global Critical Habitat Screening Layer
- Global ensembles of Ecosystem Service map outputs modelled at 1km resolution for water supply, recreation, carbon storage, fuelwood and forage production
- Global Environment Impacts of consumption Indicator database
- Global Forest Watch
- Global LCA Data Access (GLAD)
- GLOBIO
- Google Earth
- Google Maps
- IBAT
- IMPACT World+
- InVEST
- IPR Forecast Policy Scenario + Nature
- Land Portal Geoportal
- LandMark
- Landsat by NASA
- LandScale
- Map of Life
- Monetized environmental impact data and valuation templates
- Natural and Modified Habitat Screening Layer
- Nature-Finance Alignment tool
- Nature-related Financial Risks Database
- Ocean Biodiversity Information System (OBIS) eDNA services, expertise and data publication
- OpenLCA
- Practical Tool for Business on Human Rights Due Diligence and the Environment (HRDD+E)
- Positive Impact Indicators Directory
- Resource Watch
- Restor
- REX3
- SASB Standards Navigator
- SBTN High Impact Commodity List
- SBTN Natural Lands Map
- SUSTAIN Inventory of nature impact reduction strategies
- Sustainability reporting navigator
- STAR Metric
- The Restoration Explorer
- TNFD Risk and Opportunity Register
- Trade Map
- Trase
- Trends.Earth
- UN Comtrade Database
- VSME Digital Template
- Wastewater Impact Assessment tool
- Water Watch - CDP Water Impact Index
- WRI Aqueduct – Water Risk Atlas
- WWF Biodiversity Risk Filter
- WWF Terrestrial Ecoregions of the World
- WWF Water Risk Filter

Note: Navigate to the following page for details on the information categories included in the tool description pages

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Tool descriptions - Information categories

For each tool included in the Nature Tools Compass, we have a dedicated description that includes the following information:

Description	The description is a short, general overview of the tool. Where possible we have quoted directly from the tool website.
Limitations of tool	We have listed the key limitations of the tool in general and anything important that users should be aware of when using the tool for nature assessments (e.g. in preparation for TNFD reporting). The objective of gathering the limitations is not to de-value a tool or exclude it from the toolbox. Rather, we want to raise awareness about the fact that all of the tools have some limitations and that users should get in the habit of understanding these limitations, to be able to interpret the data correctly.
Cost to use tool	We have selected from three options : Free, Paid, Free & paid – where there are some functionalities available to all users, some requiring subscription
Date of last update	We have included one of the following options: Year of release, Date of last update, “Regularly updated”
Data format	We have selected from the following options: Spatial, Non-spatial, Both. If the tool contains both spatial and non-spatial information, we explain what spatial and non-spatial information is provided in the tool .
Granularity of the tool	We have selected from the below options. Multiple options have been selected when an analysis can be run at different scales: • Multinational – i.e. several countries • National – i.e. one value for the country provided • Sub-national – i.e. one value for the region/state/county provided • Ecoregion • Biome • Ocean • Site • Basin • Commodity-specific • Company-specific • Sector-average • Product • Industry • Granularity varies depending on data layer selected
Coverage of the tool	We have selected from the following options or specified any other level of granularity e.g. 1km2 resolution: Global, Country, Regional

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ARIES for SEEA

“The ARIES for SEEA Explorer is a web-based application built on the k.LAB Integrated Modelling Platform. The application has access to all information (data and models) available on the Integrated Modelling network, and provides a dedicated user interface to easily compile accounts within the UN System of Environmental-Economic Accounting (SEEA).”

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	
Data format	Spatial
Granularity of the tool	Country, Basin, Granularity varies depending on data layer selected
Coverage of the tool	Global
Components in which the tool is recommended	A3.A (Business only)

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Biodiversity Footprint Calculator

The Biodiversity Footprint Calculator can be used to assess the biodiversity footprint of a company's product at the landscape level, currently and in the future.

Click here to navigate to the tool website

Limitations of tool	• The method does not distinguish between current and previous land use conversion. • The calculator includes two pressures; greenhouse gas emissions and land use. Other pressures on biodiversity are not included. • Details on the limitations can be found on the Methodology page.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2024
Data format	Non-spatial
Granularity of the tool	Commodity-specific
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.A

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Bioregions 2023

TBioregions 2023 is a framework which “delineates 185 discrete bioregions organized within the world’s major biogeographical realms. … A bioregion is considered to be generally smaller in scale than a biogeographical realm but larger than an ecoregion […].” The bioregions can be explored through One Earth’s Interactive Navigator.

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	
Date of last update	Last update in 2023
Data format	Spatial
Granularity of the tool	Biome
Coverage of the tool	Global
Components in which the tool is recommended	L3.B

Tool index

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Carrot & Sticks Report

“Carrots & Sticks [Report Database] is a free online resource and publication capturing mandatory and voluntary policies that shape businesses’ Environmental, Social, and Governance (ESG) impact worldwide. It provides an in-depth analysis of policies from over 130 countries, nearly 80 international and regional organizations, and in 38 languages.” (GRI, n.d.) It can be used for understanding the regulatory context in which a company is operating.

Click here to navigate to the tool website

Limitations of tool	• The database does not aim to provide complete and consistent coverage of mandatory and voluntary reporting provisions. • Cannot guarantee that information is accurate and may contain inaccuracies. • Details on the limitations can be found on the Methodology page.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2006, last update in 2024
Data format	Non-spatial
Granularity of the tool	National
Coverage of the tool	Global, poor coverage of Africa
Components in which the tool is recommended	A1.A

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

CDP Data

CDP “runs an environmental disclosure system for companies, capital markets, cities, states, and regions to manage their environmental impacts.” Organizations can request a paid license from CDP to access the disclosed data and/or scores assessing companies from A to D-. The list of companies that have received the A score, called the CDP A List, is available for free.

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	Last update in 2024
Data format	Non-spatial
Granularity of the tool	Company-specific
Coverage of the tool	Global, but coverage will vary
Components in which the tool is recommended	L2.A, E2&3.A, E2&3.B, A1.A, A1.B,

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Climate transition scenario tool for companies in the Food, Agriculture and Forest Products sectors

The online scenario tool provides a curated set of reference scenarios tailored to food, agriculture, and forest products, supporting decision-making for businesses, investors, and policymakers. The tool models multiple drivers across the sectors to generate a diverse range of climate scenarios. Users can explore scenario options, review underlying assumptions, and assess potential market and environmental impacts for climate scenario analysis.

Click here to navigate to the tool website

Limitations of tool	• The scenarios are developed for specific countries or regions (e.g. United States, Tropical Africa), and specific commodities. • Details on the limitations can be found on the FAQ page.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2024
Data format	Non-spatial
Granularity of the tool	Global, Multi-national, National
Coverage of the tool	Global
Components in which the tool is recommended	Crosscutting: Scenario analysis

Coastal Risk Index

“The Coastal Risk Index (CRI) harnesses the power of data to enable financial institutions, investors, insurers, and policymakers to better assess coastal risk and improve decision-making in the climate crisis.” The tool currently focuses on flood risk under different climate scenarios, and the potential risk reduction benefits of coral reefs and mangroves.

Click here to navigate to the tool website

Limitations of tool	• Methodology does not fully account for future land subsidence or future changes in coastal protection infrastructure. • The projected flood risks are considered to underestimate what might actually occur in regions affected by extreme weather such as cyclones. • The tool does not currently differentiate between the impacts on different coastal habitats. • Details on the limitations can be found in the Methodology.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2003
Data format	Spatial
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	L4.D, A1.A

Tool index

Conservation Evidence

Conservation Evidence summarises information from scientific literature on the effects of conservation actions. The conservation actions are assessed for their effectiveness, certainty and potential unintended consequences.

Click here to navigate to the tool website

Limitations of tool	• The conservation actions listed are a starting point in deciding whether to implement the action. • There may be negative consequences to the action that have not been studied. • Details on the limitation can be found on the Assessing the evidence page.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Regularly updated
Data format	Non-spatial
Granularity of the tool	Size of study locations varies depending on the evidence
Coverage of the tool	Global
Components in which the tool is recommended	A1.B

Tool index

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Copernicus Land Monitoring Service

“Copernicus is the Earth observation component of the European Union’s Space programme, looking at our planet and its environment to benefit all European citizens. It offers information services that draw from satellite Earth Observation and in-situ (non-space) data.”

Click here to navigate to the tool website

Limitations of tool	• Limitations vary depending on the data layer selected. Details on the limitations can be found in the data layer documentation.
Cost to use tool	Free
Link to tool methodology	Varies depending on data layer selected
Date of last update	Last update in 2025
Data format	Spatial
Granularity of the tool	Granularity varies depending on data layer selected
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.A, E2&3.B, E2&3.C

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Critical natural assets map

Critical natural assets map shows the areas required to maintain local-scale nature's contribution to people (NCP), and global-scale NCP.

Click here to navigate to the tool website

Limitations of tool	• The critical natural assets map covers 14 of nature's contributions to people, however not all contributions can be mapped, for example relational values. • It is a global model, which does not reflect all local contexts. • Details on the limitations can be found in Chaplin-Kramer et al (2023).
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2023
Data format	Spatial
Granularity of the tool	2km2 resolution
Coverage of the tool	Global
Components in which the tool is recommended	L4.E

Tool index

Copernicus Coastal Hub

“The Coastal Thematic Hub is a Copernicus web portal that provides coastal data and information. It includes interactive maps and offers Copernicus data to support evidence-based decision-making and sustainable management practices.”

Click here to navigate to the tool website

Limitations of tool	• Coastal Hub hosts many data layers that organizations can select to view. Organizations should be aware of the limitations associated with the specific data layers selected.
Cost to use tool	Free
Link to tool methodology	Varies depending on data layer selected
Date of last update	Regularly updated
Data format	Spatial
Granularity of the tool	Granularity varies depending on data layer selected
Coverage of the tool	Global, Continent, Ocean
Components in which the tool is recommended	E2&3.A, E2&3.B, E2&3.C

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Dynamic World App

“Dynamic World is a near realtime 10m resolution global land use land cover dataset”

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Regularly updated
Data format	Spatial
Granularity of the tool	10m
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.A, E2&3.B, E2&3.C

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Ecosystem Services Footprinting Tool

The Ecosystem Services Footprinting Tool is a script which “calculates metrics of the impact of human-made structures on certain ecosystem services and measures of biodiversity, based on their physical footprint on the landscape. It uses point or polygon locations of corporate assets, along with raster layers of ecosystem services or biodiversity metrics to generate spatial and tabular results that can be used to compare impacts across assets, companies, and portfolios.”

Click here to navigate to the tool website

Limitations of tool	• The tool covers a select number of ecosystem services: coastal risk reduction, nitrogen retention, sediment retention and nature access. • There is not a user-friendly interface. The results are generated by running script, requiring coding skills. • Details on the limitations can be found in the readme.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2024
Data format	Spatial
Granularity of the tool	Site, Landscape
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.B

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Ecosystem Integrity Index

The Ecosystem Integrity Index (EII) “quantifies degradation to ecosystem integrity based on an aggregation of three components: ecosystem structure, composition, and function. The three component layers are combined into the EII.”

Click here to navigate to the tool website

Limitations of tool	• It does not yet directly quantify degradation to ecosystem integrity caused by climate change.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Pre-print submitted 2022, expected to be published in 2025
Data format	Spatial
Granularity of the tool	1km2 resolution
Coverage of the tool	Global
Components in which the tool is recommended	L4.B

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

ENCORE

ENCORE (Exploring Natural Capital Opportunities, Risks, and Exposure) is a free, online tool that “helps users better understand and visualize the impact of environmental change on the economy.” It links economic activities to ecosystem types and components through materiality ratings for dependencies and impacts on nature. It also includes a visualization functionality for selected spatial data layers to provide location-specific context to complement the sector-level ratings. The ENCORE biodiversity module “helps users explore the potential alignment of financial activities in the mining and agriculture sectors with a nature-positive future.”

Click here to navigate to the tool website

Limitations of tool	• The materiality ratings indicate typical level of materiality at global level. The actual materiality of dependencies and impacts is likely to vary significantly based on the specific context, company and location that is assessed • Details on the limitations can be found on the Limitations page.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2018, last update in 2024
Data format	Spatial: Data layers in the ENCORE map (e.g., hotspots of natural capital depletion in the terrestrial and marine realms; national, sub-national level) Non-spatial: Materiality ratings (global) and Biodiversity module (ecoregion, sub-national level)
Granularity of the tool	Sector-averages
Coverage of the tool	Global
Components in which the tool is recommended	Scoping A, Scoping B (Business only), L2.A, L3.B, L4.C, A1.A

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

EXIOBASE (v3.8)

“EXIOBASE (v3.8) is a global, detailed Multi-Regional Environmentally Extended Supply-Use Table (MR-SUT) and Input-Output Table (MR-IOT). It was developed by harmonizing and detailing supply-use tables for a large number of countries, estimating emissions and resource extractions by industry. Subsequently the country supply-use tables were linked via trade creating an MR-SUT and producing a MR-IOTs from this. The MR-IOT that can be used for the analysis of the environmental impacts associated with the final consumption of product groups.”

Click here to navigate to the tool website

Limitations of tool	• EXIOBASE covers 44 countries/territories. Other countries are categorized in five “Rest of the World” regions. • Not all environmental pressures are covered by the environmental extensions. • Details on the limitations can be found in Beylot et al. 2019
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2021
Data format	Non-spatial
Granularity of the tool	National, Multi-national
Coverage of the tool	Global
Components in which the tool is recommended	Scoping B (Business only), L1.A (Finance only), L1.B (Business only), L2.A, L3.A (Finance only), E2 & E3.A

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

FABLE Calculator

“The FABLE Calculator is a user-friendly Excel-based model that allows users to simulate future food and land-use scenarios.“ “It focuses on agriculture as the main driver of land-use change and tests the impact of different policies and changes in the drivers of these systems through the combination of a large number of scenarios. It includes 76 raw and processed agricultural products from the crop and livestock sectors“

Click here to navigate to the tool website

Limitations of tool	• The tool does not fully consider production practices and technologies. • Forestry sector is not considered, and water availability constraints are not considered in the tool. • Details on limitations can be found in the FABLE Calculator Documentation.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2023
Data format	
Granularity of the tool	National, Product
Coverage of the tool	Global
Components in which the tool is recommended	Crosscutting: Scenario analysis

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Farm Sustainability Assessment

“The Farm Sustainability Assessment (FSA) enables food and drink businesses to assess, improve, and validate on-farm sustainability in their supply chains. Built around a simple set of questions to farmers, the FSA standardises farm assessment.”

Click here to navigate to the tool website

Limitations of tool	• While the FSA is suitable for assess cultivated crops, it cannot be used to assess any other agricultural products.
Cost to use tool	Free & paid
Link to tool methodology	Accessible when logged in
Date of last update	Last update in 2022
Data format	Non-spatial
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.A (Business only), E2&3.C (Business only)

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Forest IQ

“The Farm Sustainability Assessment (FSA) enables food and drink businesses to assess, improve, and validate on-farm sustainability in their supply chains. Built around a simple set of questions to farmers, the FSA standardises farm assessment.”

Click here to navigate to the tool website

Limitations of tool	• Forest IQ does not cover all companies and financial institutions. • Forest IQ focuses on deforestation, conversion and associated human rights abuses. It does not cover other pressures such as water pollution or GHG emissions. • There are some data gaps which Forest IQ fills using sector proxies and adjusted scoring, based on available data. • The assessments are more likely to underestimate exposure than overestimate. • Details on the limitations can be found on the Resources and support page.
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	Last update in 2025
Data format	Non-spatial
Granularity of the tool	Commodity-specific
Coverage of the tool	Global, but coverage will vary depending on company
Components in which the tool is recommended	L2.A (Finance only)

Tool index

The Global Biodiversity Information Facility

The Global Biodiversity Information Facility (GBIF) is “an international network and data infrastructure funded by the world’s governments and aimed at providing anyone, anywhere, open access to data about all types of life on Earth.” It “provides data-holding institutions around the world with common standards, best practices and open-source tools enabling them to share information about where and when species have been recorded.” It also hosts a database of the datasets and allows users to search for relevant data.

Click here to navigate to the tool website

Limitations of tool	• Coordinates for species occurrence are not always available. • Data is not available for all species. • Details on the limitations can be found in the How-to guides.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2025
Data format	Spatial: Some species occurrence data are mapped Non-spatial: Some species occurrence data do not have coordinates
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.C

Tool index

Global Critical Habitat Screening Layer

The Global Critical Habitat Screening Layer helps organizations screen potential Critical Habitat early in the project planning phase. By combining terrestrial and marine screening layers, it supports the initial assessment of development sites, informing more detailed Critical Habitat evaluations. “Critical Habitat, as defined by the International Finance Corporation (IFC) Performance Standard 6 (PS6), represents areas of high biodiversity value. IFC PS6 requires projects in Critical Habitat to achieve a net gain in biodiversity” (IFC, n.d.).

Click here to navigate to the tool website

Limitations of tool	• The resolution, age, and completeness of the datasets create the potential for omissions. • Details on the limitations can be found in Brauneder et al (2018).
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2025
Data format	Spatial: Some species occurrence data are mapped Non-spatial: Some species occurrence data do not have coordinates
Granularity of the tool	1km2
Coverage of the tool	Global
Components in which the tool is recommended	L4.A

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Global ensembles of Ecosystem Service map outputs modelled at 1km resolution for water supply, recreation, carbon storage, fuelwood and forage production

The Global ensembles of Ecosystem service map "contains Global maps of five ecosystem services using 6 different among-model ensemble approaches: the provisioning services of water supply, biomass for fuelwood and forage production, the regulating service Carbon Storage for CO2 retention and the cultural non-material service Recreation."

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2023
Data format	Spatial: Some species occurrence data are mapped Non-spatial: Some species occurrence data do not have coordinates
Granularity of the tool	1km2
Coverage of the tool	Global
Components in which the tool is recommended	L4.E

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Global Environment Impacts of Consumption Indicator dashboard

Global Environment Impacts of Consumption (GEIC) Indicator dashboard estimates the global environmental impacts and risks that are driven by consumption and production. “It links the production of over 160 agricultural commodities across 240 producer countries / territories ‘embedded’ within domestic and international supply chains to selected environmental impacts and risks”. The tool covers environmental impacts and risks including deforestation, deforestation emissions, predicted species loss and blue and green water use.

Click here to navigate to the tool website

Limitations of tool	• Assesses 160 agricultural commodities. • Some data layers are less up to date than other (e.g. 2017).
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2024
Data format	Non-spatial
Granularity of the tool	National
Coverage of the tool	Global
Components in which the tool is recommended	Scoping B (Business only), L1.B (Business only)

Tool index

Global Forest Watch

“Global Forest Watch (GFW) is an online platform that provides data and tools for monitoring forests. By harnessing cutting-edge technology, GFW allows anyone to access near real-time information about where and how forests are changing around the world.” Alongside data on forests, there is data on biodiversity, Indigenous and Community lands, climate, and land use.

Click here to navigate to the tool website

Limitations of tool	• Forest Watcher does not support complex multi polygon areas or areas with thousands of points. • Global Forest Watch hosts many data layers that users can select to view. Organizations should be aware of the limitations associated with the specific data layers selected, included how recently the data layer was last updated.
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	First published in 2014, last update in 2025
Data format	Spatial
Granularity of the tool	Granularity depends on the data layer selected
Coverage of the tool	Global
Components in which the tool is recommended	L3.B, L4.A, L4.B, L4.C, L4.E, E2&3.A, E2&3.C, A1.A, Crosscutting: Engagement with Indigenous Peoples, local communities and affected stakeholders

Tool index

Global LCA Data Access (GLAD)

“The Global LCA Data Access network (GLAD) is the largest non-commercial directory of Life Cycle Assessment (LCA) datasets, from independent LCA database providers, from around the world.”

Click here to navigate to the tool website

Limitations of tool	• GLAD is a directory of LCA datasets, and not an LCA dataset itself
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Regularly updated
Data format	Non-spatial
Granularity of the tool	N/A: Global LCA Data Access is a directory of LCA datasets
Coverage of the tool	GLAD is a directory of LCA datasets. Coverage of each LCA dataset listed varies, from global to country-specific.
Components in which the tool is recommended	E2&3.A

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

GLOBIO

GLOBIO is a model that “calculates local terrestrial biodiversity intactness, expressed by the [mean species abundance] (MSA) indicator, as a function of six human pressures: land use, road disturbance, fragmentation, hunting, atmospheric nitrogen deposition and climate change. The core of the model consists of quantitative pressure-impact relationships that have been established based on extensive terrestrial biodiversity databases.”

Click here to navigate to the tool website

Limitations of tool	• GLOBIO calculates local terrestrial biodiversity intactness, it cannot be used to assess marine biodiversity intactness. GLOBIO-Aquatic can be used to assess freshwater biodiversity. • MSA is calculated based on six human pressures; pressures to biodiversity such as invasive species are not accounted for
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Regularly updated
Data format	Spatial
Granularity of the tool	Site (~300m)
Coverage of the tool	Global, Country, Watershed
Components in which the tool is recommended	L4.E, E2&3.A

Tool index

Google Earth

Google Earth is a web and computer programme, which provides a 3D map of the globe, based on satellite and aerial images.

Click here to navigate to the tool website

Limitations of tool	• Google Earth does not provide any biodiversity metrics or categorise the land use.
Cost to use tool	Free
Link to tool methodology	
Date of last update	Regularly updated
Data format	Spatial
Granularity of the tool	0.15-1000m
Coverage of the tool	Global
Components in which the tool is recommended	L3.A (Business only)

Tool index

Google Maps

Google Maps is a web programme, which provides a maps of the globe, based on satellite and aerial images.

Click here to navigate to the tool website

Limitations of tool	• Google Maps not provide any biodiversity metrics or categorise the land use.
Cost to use tool	Free
Link to tool methodology	
Date of last update	Regularly updated
Data format	Spatial
Granularity of the tool	15m
Coverage of the tool	Global
Components in which the tool is recommended	L3.A (Business only)

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

IBAT

The Integrated Biodiversity Assessment Tool (IBAT) “is a web-based mapping and reporting tool that provides access to authoritative global biodiversity information. It includes spatial analysis and reporting functionality to assist in the interpretation of this information in the context of a company or financial institution’s areas of interest. The datasets in IBAT include the World Database on Protected Areas, the World Database of Key Biodiversity Areas, the IUCN Red List of Threatened Species spatial ranges, and the global layers for the Species Threat Abatement and Restoration (STAR) metric, derived from the IUCN Red List.”

Click here to navigate to the tool website

Limitations of tool	• IBAT uses global datasets, which may not reflect all local contexts. • STAR is currently only available for terrestrial habitats. • Details on the limitations can be found in the downloadable reports from IBAT.
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	First published in 2008, last updated in 2025
Data format	Spatial: GIS downloads available Non-spatial: Depending on the subscription, organizations may access reports that summarise the biodiversity data.
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	L3.A (Finance only), L4.A, Crosscutting: Engagement with Indigenous Peoples, local communities and affected stakeholders

Tool index

IMPACT World+

IMPACT World+ is a method for life cycle impact assessment (LCIA). It characterises thousand of products, using 19 impact categories at mid-point level and 34 impact categories at damage level.

Click here to navigate to the tool website

Limitations of tool	• MPACT World+ includes 21 midpoint impact indicators. However, indicators such as noise and biotic resource use are not considered due to lack of data. • LCIA methods are based on assumptions and simplify the complex interactions of nature. • Details on the limitations can be found in Bulle et al (2019).
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2024
Data format	Non-spatial: environmental indicators Spatial: maps of differentiated impact categories
Granularity of the tool	Site, Product
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.A

Tool index

InVEST

“InVEST is a suite of free, open-source software models used to map and value the goods and services from nature that sustain and fulfil human life.”

Click here to navigate to the tool website

Limitations of tool	• Mapping software such as QGIS or ArcGIS is needed to view the results, and some skill using this software. • Details on the limitations of the models to assess the ecosystem services can be found in the User Guide.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2025
Data format	Spatial
Granularity of the tool	Global, Regional, Local
Coverage of the tool	Global
Components in which the tool is recommended	L4.E, E2&2.A, E2&2.B, A3.A,

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

IPR Forecast Policy Scenario + Nature

The Inevitable Policy Response Forecast Policy Scenario + Nature (IPR FPS + Nature) is “the first integrated nature and climate scenario for use by investors. […] It fills a crucial gap in risk assessments and provides financial institutions with an exploratory forward-looking view on how policy, technological and social trends could impact key land use and energy-related value drivers.” It represents a set of ‘beta version’ scenarios of “what might happen when nature-related policy is incorporated into a climate-related scenario.”

Click here to navigate to the tool website

Limitations of tool	• Country- or multinational- average information.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2023
Data format	Non-spatial
Granularity of the tool	Multi-national, National
Coverage of the tool	Global
Components in which the tool is recommended	A1.1, Crosscutting: Scenario analysis

Tool index

Land Portal Geoportal

“The Geoportal is a component of the Land Portal website, and aims to bring together and visualize statistical and geospatial data related to land issues. The portal is tailored to non-GIS experts to allow them to visualize data and understand land issues better.”

Click here to navigate to the tool website

Limitations of tool	• A select number of data sets are available to view on Land Portal Geoportal.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2019
Data format	Spatial
Granularity of the tool	Granularity varies depending on the data layer selected
Coverage of the tool	Global
Components in which the tool is recommended	Crosscutting: Engagement with Indigenous Peoples, local communities and affected stakeholders

Tool index

LandMark

LandMark offers “the first online, interactive global platform that is designed to help Indigenous Peoples and communities protect their land rights and secure tenure over their lands. [...] The Global Platform of Indigenous and Community Lands displays georeferenced information on collectively-held and used lands worldwide.”

Click here to navigate to the tool website

Limitations of tool	• There are gaps in coverage of the community-level and national-level data layers.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2015, last update in 2024
Data format	Spatial
Granularity of the tool	Site, Landscape
Coverage of the tool	Global
Components in which the tool is recommended	Crosscutting: Engagement with Indigenous Peoples, local communities and affected stakeholders

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Landsat by NASA

“The joint NASA [National Aeronautics and Space Administration]/USGS [United States Geological Survey] Landsat Program provides the longest continuous space-based record of Earth’s land in existence. Landsat data are essential for making informed decisions about Earth’s resources and environment.”

Click here to navigate to the tool website

Limitations of tool	• Limitations are dependent on the data layer selected.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2025
Data format	Spatial
Granularity of the tool	Granularity varies depending on the data layer selected
Coverage of the tool	Global, National
Components in which the tool is recommended	E2&3.A, E2&3.C

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

LandScale

“LandScale is a collaborative initiative dedicated to driving improvements at scale by making reliable information about landscape initiative maturity and sustainability widely available.”

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	Regularly updated
Data format	Spatial: Map of landscape initiatives Non-spatial: Landscape initiative case studies, landscape assessments
Granularity of the tool	Landscape
Coverage of the tool	Global
Components in which the tool is recommended	Crosscutting: Engagement with Indigenous Peoples, local communities and affected stakeholders

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Map of Life

Map of Life provides biodiversity indicators and species distribution maps.

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	Regularly updated
Data format	Spatial
Granularity of the tool	Granularity varies depending on data layer selected
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.C

Tool index

Monetized environmental impact data and valuation templates

The Impact-Weighted Accounts Project at Harvard Business School provides monetized environment impact data, available for over 6000 companies.

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2022
Data format	Non-spatial
Granularity of the tool	Company
Coverage of the tool	Global
Components in which the tool is recommended	A3.A

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Natural and Modified Habitat Screening Layer

Natural and Modified Habitat Screening Layer “classifies the global terrestrial land surface into one of four categories: likely Natural, potential Natural, potential Modified and likely Modified.” It is aligned with the definitions of natural and modified habitat from the International Finance Corporation’s Performance Standard 6 (IFC PS6). It “can be used beyond the IFC and could be integrated into the investment decision-making of global and regional banks, or the decision-making of international corporations.”

Click here to navigate to the tool website

Limitations of tool	• The screening layer may overestimate the amount of remaining Natural Habitat. • Not all aspects of human modification could be included because of data limitations. • Some areas may not be intact in terms of ecological function and species composition due to hunting and other anthropogenic pressures for which data are not available.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2020
Data format	Spatial
Granularity of the tool	Landscape
Coverage of the tool	Global
Components in which the tool is recommended	L4.B

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

Nature-Finance Alignment tool

Nature-Finance Alignment Tool is “a quantitative tool that allows private and public financial institutions, and governments to assess the alignment of their underlying financial flows with nature.”

Click here to navigate to the tool website

Limitations of tool	• The tool has a low spatial granularity and should be complemented with spatially explicit assessments
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2022
Data format	Non-spatiaal
Granularity of the tool	Multinational, National, Sector-average
Coverage of the tool	Global
Components in which the tool is recommended	L2.A (Finance only)

Nature-related Financial Risks Database

“The Nature-related Financial Risks Database is the result of a landscape analysis of existing academic research, case studies, empirical evidence and reports providing evidence on the relevant financial effects of nature-related risks on corporations and financial institutions.”

Click here to navigate to the tool website

Limitations of tool	• The database is a comprehensive resource to support understanding of nature-related financial risk. Tailored advice is required to adapt the content to an organization’s specific needs and context.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2025
Data format	Non-spatial
Granularity of the tool	Global, National, Regional, Local, Firm, Multi-firm, Industry, Multi-industry
Coverage of the tool	Global
Components in which the tool is recommended	A1.A

Tool index

Ocean Biodiversity Information System (OBIS) eDNA services, expertise and data publication

Click here to navigate to the tool website

The Ocean Biodiversity Information System (OBIS) “develops tools for the bioinformatic processing and analysis of eDNA data, works on the development of metadata standards, and can provide services to support partners in field sampling and lab work, and in making eDNA data findable, accessible, interoperable, and reusable (FAIR). As a data publication platform, OBIS provides rigorous quality control and can publish occurrence data derived from quantitative (qPCR/ddPCR) or community-level (metabarcoding) eDNA approaches following community-approved data standards. This data can in turn be queried and accessed from OBIS to increase the reach and application of eDNA-based biodiversity data.”

Limitations of tool	• As of July 2025, OBIS includes records for 195,990 species. • There may be data gaps in some records. • Details on the limitations can be found in the OBIS manual
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2025
Data format	Spatial
Granularity of the tool	Coordinates
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.C

Tool index

openLCA

openLCA is a LCA and sustainability assessment tool. openLCA provides “free and for purchase databases for use in openLCA.” openLCA allows users to “search for individual data sets, using a variety of search criteria such as product, sector, age, time, or price of the data set or database.”

Click here to navigate to the tool website

Limitations of tool	• openLCA includes free and paid databases. • Limitations will apply, depending on the database used for the assessment.
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	First published in 2006
Data format	Non-spatial
Granularity of the tool	Granularity varies depending on the use case
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.A

Tool index

Practical Tool for Business on Human Rights Due Diligence and the Environment (HRDD+E)

The Practical Tool for Business on Human Rights Due Diligence and the Environment can “support businesses’ efforts in gathering, monitoring and reporting information on their human rights and environmental performance to comply with increasing disclosure obligations.

Click here to navigate to the tool website

Limitations of tool	• The Practical Tool does not comprehensively cover the scope of businesses’ responsibility under the UN Guiding Principles on Business and Human Rights, or businesses’ legal obligations related to human rights and the environment.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2024
Data format	Non-spatial
Granularity of the tool	N/A
Coverage of the tool	Global
Components in which the tool is recommended	Crosscutting: Engagement with Indigenous Peoples, local communities and affected stakeholders

Tool index

Positive Impact Indicators Directory

The Positive Impact Indicators Directory “has been designed to help harmonise monitoring and reporting across a range of environmental and social impact areas: biodiversity, climate action, sustainable production, and livelihoods and gender.”

Click here to navigate to the tool website

Limitations of tool	• Each indicator includes a list of considerations for organizations when applying the indicator.
Cost to use tool	Free
Link to tool methodology	N/A
Date of last update	Last update in 2025
Data format	Non-spatial
Granularity of the tool	Site, Landscape, Portfolio
Coverage of the tool	Global
Components in which the tool is recommended	A3.B

Tool index

Resource Watch

“Resource Watch features hundreds of data sets all in one place on the state of the planet’s resources and citizens. Users can visualize challenges facing people and the planet, from climate change to poverty, water risk to state instability, air pollution to human migration, and more.”

Click here to navigate to the tool website

Limitations of tool	• Each data layer has its own methodology and associated limitations.
Cost to use tool	Free
Link to tool methodology	N/A
Date of last update	Last update in 2025
Data format	Spatial
Granularity of the tool	Granularity varies depending on data layer selected
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.A

Tool index

Restor

“Restor is an open data platform that connects restoration projects globally. It helps users map, monitor, and manage ecosystem restoration efforts, using scientific data and advanced tools to support decision-making and progress tracking.”

Click here to navigate to the tool website

Limitations of tool	• Caveats and assumptions are provided for each dataset used within the tool.
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	First published in 2020, regularly updated with new sites
Data format	Spatial
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	A1.B

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

REX3

Resolved EXIOBASE (REX3) is a highly resolved multiregional input-output (MRIO) database. It provides an environmental impact assessment for 189 countries and 163 sectors. “The environmental impact assessment includes climate impacts, PM health impacts, water stress, and biodiversity impact from land occupation, land use change, and eutrophication.”

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2024
Data format	Non-spatial
Granularity of the tool	National
Coverage of the tool	Global
Components in which the tool is recommended	Scoping B (Business only), L1.B (Business only), L3.A (Finance only), E2&3.A

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

SASB Standards Navigator

SASB (Sustainability Accounting Standards Board) Standards help companies disclose relevant sustainability information to their investors. Available for 77 industries, the SASB Standards identify the sustainability-related risks and opportunities most likely to affect an entity's cash flows, access to finance and cost of capital over the short, medium or long term and the disclosure topics and metrics that are most likely to be useful to investors."

Click here to navigate to the tool website

The SASB Standard Navigator can be used to search for the relevant disclosure topics and metrics, by company name or industry. Premium features include a materiality map, cross-sector search and licensing downloads.

Limitations of tool	• Some company names are included in the Navigator, allowing users to search for the company name and view the relevant disclosure topics. This search function does not include all company names.
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	Last update in 2023
Data format	Non-spatial
Granularity of the tool	Industry
Coverage of the tool	Global
Components in which the tool is recommended	Scoping A, Scoping B (Business only), L2.A,

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

SBTN High Impact Commodity List

The High Impact Commodity List is a resource developed by the Science Based Targets Network (SBTN) to help users determine which commodities to include within the target-setting process. The list of commodities includes the material pressures associated with the commodity and a traceability score, which indicates how likely it is to be able to trace the commodity back to its place of production.

Click here to navigate to the tool website

Limitations of tool	• Each commodity has a traceability score, which is based on global averages so may not reflect a company's actual value chain.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2024
Data format	Non-spatial
Granularity of the tool	Commodity
Coverage of the tool	Global
Components in which the tool is recommended	Scoping A, Scoping B (Business only), L2.A

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

SBTN Natural Lands Map

The SBTN Natural Lands Map classifies land into natural and non-natural land. It was intended to be used by companies as part of the target setting process, in particular setting the SBTN 'No conversion of natural ecosystems' target.

Click here to navigate to the tool website

Limitations of tool	• Earth observation data is limited in its ability to directly derive information on species composition, structure and ecological function – availability of data is not consistent across regions or types of plantations. • The use of regional data introduces methodological and definitional inconsistencies with areas outside those regions, so any organization using the Natural Lands Map will need to use caution when comparing performance in supply chains across geographies with different data sources. • Details on the limitations can be found in the technical documentation available to download from the Resources page
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2020, last update in 2025
Data format	Spatial
Granularity of the tool	30 km2 resolution
Coverage of the tool	Global
Components in which the tool is recommended	L3.B

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

SUSTAIN Inventory of nature impact reduction strategies

The SUSTAIN Inventory of nature impact reduction strategies “was developed for businesses within the agriculture, energy, and built environment sector to help mitigate their impacts on nature. Building on existing guidance from the Science Based Targets Network, the inventory provides a diverse but non-exhaustive list of options businesses could consider as a starting point for addressing their nature-related pressures identified by the ENCORE tool. These pressures range from noise disturbances, water quality issues, the spread of invasive species, land-use change to nutrient pollution.”

Click here to navigate to the tool website

Limitations of tool	• The inventory does not provide an exhaustive list of all possible response actions. The inventory is a starting point to develop further engagement. • Limitations are detailed with the User Guide included in the tool.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2025
Data format	Non-spatial
Granularity of the tool	Industry and value chain stage
Coverage of the tool	Global
Components in which the tool is recommended	A1.B

Tool index

Sustainability reporting navigator

Sustainability Reporting Navigator is a list of CSRD-compliant reports. The reports can be filtered by company, country, sector and industry.

Click here to navigate to the tool website

Limitations of tool	• Only reports written in English and PDF reports are listed.
Cost to use tool	Free
Link to tool methodology	N/A
Date of last update	Last updated May 2025
Data format	Non-spatial
Granularity of the tool	Company or financial institution
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.A, E2&3.B, A1.A, A1.B

Tool index

STAR Metric

"The Species Threat Abatement Restoration (STAR) metric uses IUCN Red List of Threatened Species data to estimate the potential reduction in species extinction risk that could be achieved at a site, across a corporate footprint, or within a country. It can also be used to set local or global species extinction risk targets, and measure progress towards those targets."

Click here to navigate to the tool website

Limitations of tool	• STAR uses the IUCN Red List Assessment data, which does not comprehensively cover all species. Gaps remain for species including freshwater fish and reptiles. • STAR is based on global assessments, and therefore required on-the-ground verification of the species and threats.
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	Last updated in 2021
Data format	Spatial
Granularity of the tool	5km2
Coverage of the tool	Global
Components in which the tool is recommended	E2&3.C, A3.B

Tool index

DRAFT CONTENT, PLEASE DO NOT USE OR REFERENCE

The Restoration Explorer

The Restoration Explorer “guides you from selecting your landscape and restoration strategies, through assessing your readiness, to generating a tailored roadmap for your business.”

Click here to navigate to the tool website

Limitations of tool	• The scores for business compatibility, and legal, environmental, business and resources considerations, provided in the tool are indicative, and not a definitive measure of success.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2024
Data format	Non-spatial
Granularity of the tool	Ecosystem
Coverage of the tool	Global
Components in which the tool is recommended	A1.B

TNFD Risk and Opportunity Register

“The TNFD risk and opportunity registers outline different categories of nature related risks and opportunities, indicate useful information to record for each risk and opportunity identified and provide connections to other categories of metrics and prioritization criteria outlined in the TNFD LEAP approach. The TNFD risk and opportunity registers provide a template that can be completed by an organisation as they work through the Assess phase.”

Click here to navigate to the tool website

Limitations of tool	• The TNFD Risk and Opportunity filter is a template that organizations may fill in.
Cost to use tool	Free
Link to tool methodology	N/A
Date of last update	Last updated in 2025
Data format	Non-spatial
Granularity of the tool	The register allows organizations to enter data for the product, entity, site/facility or location-specific
Coverage of the tool	Global
Components in which the tool is recommended	A1.B, A2.A

Tool index

Trade Map

“Trade Map provides - in the form of tables, graphs and maps - indicators on export performance, international demand, alternative markets and competitive markets, as well as a directory of importing and exporting companies”.

Click here to navigate to the tool website

Limitations of tool	• Subscription options and fees vary depending on the country.
Cost to use tool	Free & Paid
Link to tool methodology	Link
Date of last update	Last updated in 2024
Data format	Spatial: Maps displaying import values Non-spatial: Tables of indicators
Granularity of the tool	Multi-national National Product
Coverage of the tool	Global
Components in which the tool is recommended	L1.B (Business only)

Tool index

Trase

“Trase combines data on commodity production and trade from many different sources with a unique form of material flow analysis to map supply chains linking consumer markets, via traders, with regions of production.” It “quantifies exposure to deforestation and other environmental impacts for consumer markets sourcing commodities from regions of production.”

Click here to navigate to the tool website

Limitations of tool	• Time bound supply chain insights • Trase data (with the exception of Indonesian pulp) maps subnational regions of production rather than individual farms or concessions meaning that it cannot provide specific polygons. • Trase is not a traceability tool and does not map the individual transactions between producers, processors and traders
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2015, last update in 2024
Data format	Spatial
Granularity of the tool	Sub-national, Some commodities
Coverage of the tool	Select countries
Components in which the tool is recommended	Scoping B (Business only), L1.B (Business only), L2.A, L3.A (Finance only)

Tool index

Trends.Earth

“Trends.Earth is a free and open source tool to understand land change: the how and why behind changes on the ground. Trends.Earth allows users to draw on the best available information from across a range of sources - from globally available data to customized local maps.”

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Regularly updated
Data format	Spatial
Granularity of the tool	National, Regional, Site, Landscape
Coverage of the tool	Global
Components in which the tool is recommended	L4.C

Tool index

UN Comtrade Database

“The United Nations Comtrade database aggregates detailed global annual and monthly trade statistics by product and trading partner for use by governments, academia, research institutes, and enterprises. Data compiled by the United Nations Statistics Division covers approximately 200 countries and represents more than 99% of the world's merchandise trade.”

Click here to navigate to the tool website

Limitations of tool	• UN Comtrade Database has gaps in the data, which can cause inaccurate results when analyzing across countries. The data gaps can be viewed on the dashboard.
Cost to use tool	Free & paid
Link to tool methodology	Link
Date of last update	Regularly updated
Data format	Non-spatial
Granularity of the tool	National
Coverage of the tool	Global
Components in which the tool is recommended	L1.B (Business only)

Tool index

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VSME Digital Template

“The VSME Digital Template and XBRL Taxonomy are intended to enable digital sustainability reporting in accordance with the Voluntary Sustainability Reporting Standard for non-listed SMEs (VSME).”

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2025
Data format	Non-spatial
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	L3.A (Business only)

Tool index

Wastewater Impact Assessment tool

“The Wastewater Impact Assessment Tool (WIAT) allows for a site-level assessment of the pressures/changes on the state of nature and the impacts on climate, biodiversity, and water security, resulting from industrial wastewater (water quality) and water use (water quantity).”

Click here to navigate to the tool website

Limitations of tool	• The tool focuses on water quality, water quantity and greenhouse gas emissions.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2022
Data format	Spatial: Global data layers on population, water quantity and water quality Non-spatial: Site report on impact and levers for action
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	L2.A

Tool index

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Water Watch - CDP Water Impact Index

“Water Watch - CDP Water Impact Index highlights the business activities with the greatest impact on water. Water Watch is a first-of-its kind tool which ranks over 200 industrial activities within 13 industry sectors, according to their potential impact on water resources – both in terms of water quantity and water quality.”

Click here to navigate to the tool website

Limitations of tool	• The rankings reflect sector-averages and industry norms. • Global average information, which does not reflect individual country contexts. • The water impact ranking indicates the potential impact of a company, which may not reflect the actual impacts or risks a company is generating and/or exposed to. • The methodology available to download from the CDP Water Watch page details the tool’s limitations.
Cost to use tool	Free
Link to tool methodology	Methodology is included in the downloadable excel
Date of last update	First published in 2021, last update in 2023
Data format	Non-spatial
Granularity of the tool	Sector
Coverage of the tool	Global
Components in which the tool is recommended	L2.A

Tool index

WRI Aqueduct - Water Risk Atlas

“Aqueduct's global water risk mapping tool helps companies, investors, governments, and other users understand where and how water risks and opportunities are emerging worldwide. The Atlas uses a robust, peer reviewed methodology and the best-available data to create high-resolution, customizable global maps of water risk.”

Click here to navigate to the tool website

Limitations of tool	• Aqueduct allows for large-scale analysis and is less applicable to local-scale analyses. • The framework’s water quality indicators focus on nutrient pollution, and do not reflect the full range of water quality threats. • Local social dimensions of water risks are not incorporated into this framework and database. • Further details on the limitations can be found in the Technical note.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last updated in 2023
Data format	Spatial
Granularity of the tool	Basin
Coverage of the tool	Global
Components in which the tool is recommended	L4.D, A1.A

Tool index

WWF Biodiversity Risk Filter

“The WWF Biodiversity Risk Filter suite is a web-based, spatially explicit corporate- and portfolio-level screening and prioritization tool for biodiversity-related risks. It allows companies to understand and assess the biodiversity-related risks of their operational locations and their suppliers and to prepare an appropriate response plan.”

Click here to navigate to the tool website

Limitations of tool	• The WWF Biodiversity Risk Filter provides an indicator of potential risk rather than actual risk. • Nature-related opportunities are not included. • Details on the limitations can be found in the downloadable files on the Data & Methods page.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	First published in 2023, last update in October 2024
Data format	Spatial
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	L2.A, L4.A, A1.A

Tool index

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WWF Terrestrial Ecoregions of the World (biomes)

“Terrestrial Ecoregions of the World (TEOW) is a biogeographic regionalization of the Earth's terrestrial biodiversity. Our biogeographic units are ecoregions, which are defined as relatively large units of land or water containing a distinct assemblage of natural communities sharing a large majority of species, dynamics, and environmental conditions. There are 867 terrestrial ecoregions, classified into 14 different biomes such as forests, grasslands, or deserts. Ecoregions represent the original distribution of distinct assemblages of species and communities.”

Click here to navigate to the tool website

Limitations of tool	
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last updated in 2012
Data format	Spatial
Granularity of the tool	Ecoregion
Coverage of the tool	Global
Components in which the tool is recommended	L3.B

Tool index

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WWF Water Risk Filter

“The WWF Water Risk Filter suite is a web-based, spatially explicit corporate- and portfolio-level screening and prioritization tool for water-related risks. It allows companies to understand and assess the water-related risks of their operational locations and their suppliers and to prepare an appropriate response plan.”

Click here to navigate to the tool website

Limitations of tool	• The WWF Water Risk Filter provides an indicator of potential risk rather than actual risk. • Water-related opportunities are not included. • Details on the limitations can be found in the downloadable files on the Data & Methods page.
Cost to use tool	Free
Link to tool methodology	Link
Date of last update	Last update in 2024
Data format	Spatial
Granularity of the tool	Site
Coverage of the tool	Global
Components in which the tool is recommended	L2.A, L4.D, A1.A, A2.A

Tool index

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Acknowledgements

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