



SCIENCE BASED TARGETS NETWORK
GLOBAL COMMONS ALLIANCE

Summary of data requirements for the SBTN methods

Version History

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Summary of data requirements for the SBTN methods

Step 1: Assess

Data requirements defined in alignment with Step 1: Assess, v1.1, released in July 2024.

ORGANIZATIONAL INFORMATION AND DIRECT OPERATIONS ACTIVITIES

You will use this information in Step 1a and the first tasks of Step 1b. It should be readily available as part your company's previous reporting and sustainability assessments, or available from your operations teams. The Step 1 method points to external resources and references such as the Greenhouse Gas Protocol (GHGP), the International Standard Industrial Classification of all Economic Activities (ISIC), SBTN's High-Impact Commodity List, the EU's new Regulation on Deforestation-free products (EUDR), IUCN's Red List of Threatened Species, and CITES Appendices listing trade-regulated species, that you will use in your data collection. Note that the Step 1b value chain assessment requires 100% of your direct operations activities to be assessed for their material pressures and the State of Nature in their locations. The SoN assessment will require location data for all your sites (and off-site activities). Having precise location data (i.e., coordinates or street address) will facilitate your target-setting, implementation actions, and monitoring of progress in Steps 3, 4, and 5, but it's not required in all cases; however, the minimum level of spatial data accepted for direct operations is subnational data.

Organizational boundary	Business operations within your organization, including subsidiaries and affiliated companies, joint ventures, etc. Information on the ownership (incl. % of shares owned) and/or governance and decision-making regarding operational policies of each operation might be necessary depending on the approach taken to define the organizational boundary.
Business units	List of business units into which your business operations are organized. You may need to provide supporting information, such as organizational mapping or company reports, to show these units are already an existing arrangement in your organization.
Economic activities	List economic activities, defined in alignment with standardized ISIC codes, performed in your business operations (and, if relevant, in each business unit).
Sites and off-site activity locations	List of company sites, the standardized economic activity (-ies) performed at each of them, and their location (ideally identified as coordinates or street addresses, otherwise at least at subnational level). Companies that undertake significant economic activities outside their own sites (i.e., companies that operate in off-site areas) also need a list of their off-site areas, the standardized economic activity (-ies) performed at each of them, and their location (at least at subnational level).
High-impact and conversion-driving commodities	List of all commodities from the HIC and EUDR lists that you produce or extract in your direct operations (i.e., in primary production activities such as agriculture, logging, fishing, mining, and quarrying).
IUCN and CITES-listed species	List of all species (scientific and common names) in IUCN's red list of threatened species and CITES list of trade-regulated species that you produce or extract in your direct operations (i.e., in primary production activities such as logging, hunting, gathering, and fishing), the annual production or extraction volumes (tonnage or number of individuals), and the location (at least a subnational level) of production or extraction.

PROCUREMENT INFORMATION (UPSTREAM VALUE CHAIN ACTIVITIES)

You will use this information in Step 1a and the first tasks of Step 1b. It should be available from your company's operations or procurement teams. Note that upstream data only covers production inputs: those goods that you buy to are goods that the company acquires to process, transform, or integrate into new products, including those that are consumed in the process and become waste or byproducts, as well as packaging materials; or goods that are acquired to be resold. Excluded from the assessment will be all other procurement (capital goods, goods used in supporting activities such as management, maintenance, or enabling operations, and services). In addition to the resources used for direct operations, you may need to use previous sustainability and value chain traceability investments, including in supplier relations and certifications, to complement your data gathering. The Step 1b value chain assessment requires assessing your material pressures and the State of Nature of the value chain locations of 100% of EUDR-listed commodities, 90% of other High-Impact Commodities, and 67% of your total procurement to be considered complete (these thresholds are mutually-inclusive). The Step 1b methods includes guidance on which value chain stage to focus on (i.e., in some cases it will be that of your immediate suppliers, but in some other going to primary production will be required). As in direct operations, having more precise location data will be useful in later stages of the method (Steps 3-5) but in upstream there is no minimum level of spatial data needed; i.e., you can include "unknown" locations as part of your data.

List of production inputs procurement	List of production inputs procured, their volume (tonnage), and their immediate sourcing locations (defined at the most spatially-explicit level possible).
Economic activities	List of the economic activities, defined in alignment with standardized ISIC codes, associated with the most recent production or transformation value chain stage of the production input you source (in other words, the economic activities of your immediate or tier 1 suppliers).
High-impact and conversion-driving commodities	List of all commodities from the HIC and EUDR lists present in your production inputs, level of processing or transformation (e.g., raw, semiprocessed, fully transformed, etc.), and their proportion (volume percentage) in each production input, relative to other components). Companies that use animal products as production inputs also need to estimate EUDR-listed commodities used as animal feed, and their volumes.
Locations of origin of high-impact and conversion-driving commodity volumes	Original locations of production or extraction (i.e., sites of primary production) for the HIC and EUDR-listed commodities present in your procurement. In some instances, locations of more recent value chain stages, such as pre-processing, can be used (the methodology indicates when this is the case).

PRESSURE DATA (SUMMARY OF STEP 1B OUTPUTS)

Following the Step 1a materiality screening, you will have identified which environmental pressure categories are material for your economic activities (in direct operations and upstream). In Step 1b, you will use different approaches and tools to quantify one or more pressure indicators for each of the material pressure categories (of each value chain activity). Where possible, you will measure the pressures of your activities (in other words, get primary data from sensors, satellites, or other sources) but in other cases you will use models to estimate the pressure indicators based on volumes of associated products. Your procurement data (listed above) will be a helpful input for these estimations. It could be helpful to gather existing data on the pressure indicators listed here, noting that the Step 1b methods includes some additional requirements and guidance on how to quantify these indicators.

Land use and land use change	Land use	<p><i>Required:</i> Area (km² or ha) of land use, including known land management practices (e.g., crop rotation, tillage practices, or fire regimes).</p> <p><i>Recommended:</i> A description or quantification of additional intensity of use indicators such as pollution, resource exploitation, and invasive species.</p>
	Land use change	<p><i>Required:</i> Area (km² or ha) converted since 2020 (or earlier cutoff dates), by pre- and post-conversion ecosystem type and category of land use.</p>
Water use	Water withdrawals	<p><i>Required:</i> Volume of water withdrawn (m³/month or km³/month), per source.</p>
	Water consumption	<p><i>Optional*:</i> Volume of water consumed (i.e., withdrawals minus returns) (m³/month or km³/month), per source. * where you can justify that returns happen in the same place and time, and with the same water quality, as the withdrawals</p>
Soil pollution	Nutrient application to soils	<p><i>Required:</i> Nutrient (nitrogen and phosphorus) volume applied to soil per area (kg N/ha, kg P/ha, or kg NPK/ha).</p>
	Nutrient loading to soil via solid waste	<p><i>Recommended:</i> Estimated nutrient volume (kg N or kg P) in solid waste generated by the company, including its disposal mechanism and treatment (if known).</p>
	Other pollution loading to soil	<p><i>Recommended:</i> Estimated ecotoxic potential volume discharged to soil or total acidification potential volume discharged to soil, or other metrics of soil pollution</p>
Water pollution	Nutrient loading to freshwater via soil	<p><i>Required:</i> Rate of nutrient (nitrogen or phosphorus) application in soil (kg N, kg P, or kg NPK per month or year) or, where possible, nutrient discharge to freshwater systems.</p>
	Nutrient loading to freshwater via wastewater	<p><i>Required:</i> Rate of nutrient (nitrogen and phosphorus) loading in wastewater streams (kg N/month and kg P/month, or kg N/year and kg P/year), indicating discharge directly to the environment.</p>

STATE OF NATURE DATA (SUMMARY OF STEP 1B OUTPUTS)

Besides the pressure indicators listed above, you will have to gather data on the State of Nature in your value chain locations. You will need to gather data for the indicators that match the material pressure categories as well as at least two biodiversity indicators: one at the species level and one at the ecosystem level. For the categories of water use and water pollution, specific databases and models are required, but for other cases you need to consult the methods and SBTN's toolbox to identify which are adequate for your activities. Note that the SoN is associated with the value chain locations, rather than the activities, and, as noted earlier, having more precise location data will allow you gather more accurate data.

Land use and land use change	Ecosystem extent	Area (km ² or ha) of extent of natural ecosystems, ideally separated by ecosystem type.
	Ecosystem intactness/integrity	Complementary measures of ecosystem structure, function, and/or composition, derived from datasets describing ecosystem degradation from human activity.
Water use	Surface water flows	For all locations where water withdrawals come from surface water sources and/or water utility providers, surface water flows in the basin (km ³ /month or km ³ /year), as calculated by Hogeboom's (2020) global water quantity model or by SBTN's Unified Water Availability Dataset (depending on the spatial resolution available for the location data).
	Groundwater levels	Recommended indicator in cases where withdrawals from groundwater sources are more significant than surface water sources. Further guidance is forthcoming.
Soil pollution	Nutrient pollution levels in soil	Soil nitrogen (N) and phosphorus (P) concentrations or, if nutrient pollution is not relevant, other physical or chemical properties associated with soil pollution may be used instead.
Water pollution	Nutrient pollution levels in freshwater	Instream N or P concentrations in the basin for locations with nutrient loading to freshwater via soil or via wastewater pressures, as calculated by McDowell's (2020) water quality model or SBTN's Unified Water Pollution Dataset (depending on the spatial resolution available for the location data).
Biodiversity	State of biodiversity at species level	Includes indicators and metrics such as: Extinction risk (e.g., STAR), rarity-weighted richness, or other species-level biodiversity indicator, adequate for the realm (terrestrial, freshwater, marine) impacted by your activities.
	State of biodiversity at the ecosystem level	Includes indicators and metrics such as: Presence of protected and OECM areas, scientifically recognized areas for importance for biodiversity, species-rich habitats, ecological and migratory corridors, or other indicators adequate for the realm (terrestrial, freshwater, marine) impacted by your activities.
	Indicators of Nature's Contributions to People	Includes indicators and metrics such as: areas critical to NCPs and areas critical for NCPs to IPLCs.

Step 2: Interpret & Prioritize

Data requirements defined in alignment with Step 2: Interpret & Prioritize, v1.1, released in July 2024.

COMPLEMENTARY PRIORITIZATION DATA (OPTIONAL INPUTS OF STEP 2)

Step 2a and 2b will help you to interpret the data on environmental pressures and State of Nature gathered earlier, and to generate a list of locations ranked by the environmental urgency to act there. Step 2c will require you to gather additional data on social and justice issues, business dependencies on nature, or strategic and feasibility factors, to complement this ranking and to determine top-priority locations with a more holistic perspective. You are only required to gather one of three types of data (although you are recommended to gather all of it), and, in a first instance, only for the top locations in the ranking produced in Step 2b.

Map of stakeholders, needs and relationships	List of value chain locations where the company or its value chain or other partners know of key stakeholders such as (Indigenous Peoples and other affected stakeholders) that must be consulted and can work in partnership to set and achieve science-based targets. Documentation of stakeholder needs and relationships in these locations.
Business dependencies on nature	Description (qualitative) or scoring (based on screening data from ENCORE or on approaches such as those of the Nature Risk Profile) of business dependencies on nature in value chain locations, focusing on ecosystem services relevant to the Freshwater and Land targets.
Data availability and feasibility to set targets	Assessment of data availability and feasibility to obtain measurements of pressure data in value chain locations
Regulatory and reputational risks	Assessment of regulatory and reputational risks that may inform target-setting priorities in value chain locations.
Strategic significance	Assessment of strategic significance, incl. alignment with mission and goals, growth strategy, financial materiality, levers for change, and opportunities for scaling and learning, that may inform target-setting priorities in value chain locations.

Step 3 Freshwater: Measure, Set & Disclose

Data requirements defined in alignment with Step 3 Freshwater: Measure, Set & Disclose, v1.1, released in July 2024.

BASELINE DATA FOR WATER TARGETS (INPUT FOR STEP 3 FRESHWATER)

For Step 3 freshwater, you will need baseline data on your water quantity and water quality pressures. The methods provide further detail on the use of monthly or annual data and the possibility to use secondary data to estimate the baselines. This data is only required for the basins where you will set targets.

Water quantity baseline	<p>For direct operations: Average monthly volume of water withdrawals (ML/month), measured with primary data (e.g., from water meters), in each water basin where you are setting targets.</p> <p>For upstream: Average monthly or annual volume of water withdrawals (ML/month or ML/year), ideally measured with primary data (e.g., from water meters) but model-based estimations and estimations from the Blue-water footprint or other models of water use are also allowed, , in each water basin where you are setting targets.</p>
Water quality baseline	<p>For point sources in direct operations: Discharge flow (ML/month) and nutrient concentration in discharge volumes (mg N/L or mg P/L), , in each water basin where you are setting targets.</p> <p>For non-point sources: Monthly or annual mass of nutrient load to water systems (kg N/year or kg P/year), estimated from modeled estimates of nutrient load, or annual gray-water footprint (ML/year) if using the Gray-water footprint model), in each water basin where you are setting targets.</p>

Step 3 Land: Measure, Set & Disclose

Data requirements defined in alignment with Step 3 Land: Measure, Set & Disclose, v1.0, released in July 2024.

BASELINE DATA FOR LAND TARGETS (INPUT FOR STEP 3 LAND)

For Step 3 land, you will need your land use and land use pressure indicators and spatial data for some value chain locations and statistical data for yields of agricultural commodities in your value chains to calculate your baseline.

No conversion of natural ecosystems baseline	Area (has) and location of production of all high-impact and conversion-driving commodities in your value chains, defined with production unit-level data or with statistical data, depending on the level of traceability.
Land footprint reduction baseline	For companies that purchase agricultural products: Statistical data on volumes or mass (e.g. tonnes) of land-based products sourced, their locations of production, and average yields (tonnes/hectare) of each product in each location. For companies that produce agricultural products: Volume or mass (tonnes) of land-based products produced, area (has) of production (calculated from spatial or statistical data).
Landscape engagement baseline	List of prioritized value chain locations for land use and land use change from Step 2 and baseline data of the No conversion of natural ecosystems and Land Footprint reduction targets.
Landscape engagement initiative maturity assessment	For landscapes under consideration for the landscape engagement target, an assessment of existing initiatives based on their scale, involvement of multi-stakeholder groups in the process, identification of collective goals and action and investments to be deployed collectively to achieve the goals, and presence of transparent reporting or information systems.



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