

Biodiversity Footprint Tool

Plansup, Wageningen Environmental Research, Netherlands Environmental Assessment Agency (PBL)

Publication year: 2017

Version of tool: 1



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Overview

This tool enables a business to measure its impact on biodiversity based on the two major pressure factors 'Land use' (type of management and number of hectares) and 'Greenhouse gas emissions' (in tons CO2). The impact of selected products is measured for the suppliers/raw materials and for the production process itself. The tool uses existing cause-effect relations from the GLOBIO3 biodiversity model and calculates the biodiversity footprint in [MSA.hectare], once you have entered the data. The MSA indicator is a proxy for biodiversity, expressing the extent to which the natural state of ecosystems is still intact. You can assess both the present biodiversity performance of the company (/product/sector), and an alternative or future performance. This allows you to measure the effectiveness of these measures. In a next version of the tool the pressure factors 'Water use' and 'Emissions (N and P) to water' will be included.

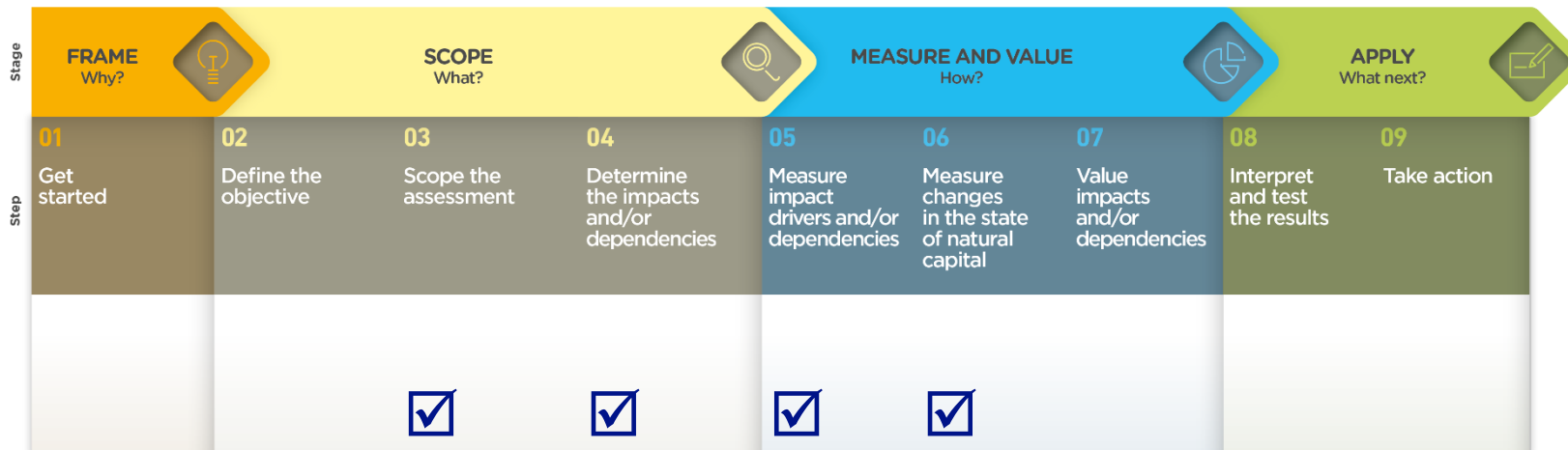
Section 1: Relationship to the Natural Capital Protocol

Impact drivers

Water use	Terrestrial ecosystem use <input checked="" type="checkbox"/>	GHG emissions <input checked="" type="checkbox"/>
Water pollutants	Fresh water ecosystem use	Non-GHG air pollutants
Soil pollutants	Marine ecosystem use	Disturbances <input checked="" type="checkbox"/>
Solid waste	Other resource use <input checked="" type="checkbox"/>	Impact on Biodiversity <input checked="" type="checkbox"/>

Dependencies

Energy	Regulation of physical environment	Knowledge
Materials <input checked="" type="checkbox"/>	Regulation of biological environment	Well-being and spiritual/ethical values
Nutrition	Regulation of waste and emissions	Dependency on biodiversity <input checked="" type="checkbox"/>
Water	Experience <input checked="" type="checkbox"/>	



Details on valuation if applicable:

- Qualitative
- Quantitative
- Monetary
- Value to business
- Value to society

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Section 2: Details for business users

Organizational Focus:

The part or parts of the business to be included in a natural capital assessment.

- Corporate:** Assessment of a corporation or group, including all subsidiaries, business units, divisions, different geographies or markets, etc.
- Project:** Assessment of a planned undertaking or initiative for a specific purpose. NOTE this includes assessments of sites, activities, processes, and incidents.
- Product:** Assessment of particular goods and/or services, including the materials and services used to produce these products

Value Chain Boundary

The part or parts of the business value chain to be included in a natural capital assessment.

- Upstream** (or cradle-to-gate): covers the activities of suppliers, including purchased energy
- Direct operations** (or gate-to-gate): covers activities over which the business has direct operational control Including majority-owned subsidiaries.
- Downstream** (or gate-to-grave): covers activities linked to the purchase, use, reuse, recovery, recycling, and final disposal of the business' products and services.

Geographical scope

- | | | | |
|---|--|-------------------------------------|--|
| <input checked="" type="checkbox"/> All | <input type="checkbox"/> Africa | <input type="checkbox"/> Antarctica | <input type="checkbox"/> Asia |
| <input type="checkbox"/> Europe | <input type="checkbox"/> North America | <input type="checkbox"/> Oceania | <input type="checkbox"/> South America |

Sectoral Scope

- | | |
|--|--|
| <input checked="" type="checkbox"/> All sectors | <input type="checkbox"/> Agriculture |
| <input type="checkbox"/> Apparel | <input type="checkbox"/> Banks, finance and insurance |
| <input type="checkbox"/> Capital goods (including electrical equipment and machinery) | <input type="checkbox"/> Chemicals |
| <input type="checkbox"/> Commercial and professional services | <input type="checkbox"/> Construction and engineering services |
| <input type="checkbox"/> Construction materials | <input type="checkbox"/> Consumer services (including hotels, restaurants and leisure) |
| <input type="checkbox"/> Energy: non-renewables (including oil, gas and consumable fuel) | <input type="checkbox"/> Energy: renewables |
| <input type="checkbox"/> Environmental and ecological management services | <input type="checkbox"/> Fisheries |
| <input type="checkbox"/> Food and beverage (including tobacco) | <input type="checkbox"/> Healthcare and pharmaceutical |
| <input type="checkbox"/> Household and personal | <input type="checkbox"/> Information and communication technology |
| <input type="checkbox"/> Media | <input type="checkbox"/> Metals and mining |
| <input type="checkbox"/> Paper and forest products | <input type="checkbox"/> Real estate |
| <input type="checkbox"/> Retailing | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Utilities (including electricity, gas and water) | |

Type of tool and key features

- | | |
|--|---|
| <input checked="" type="checkbox"/> Equations, formulae, methods used for computations | <input type="checkbox"/> Spatial mapping or modelling, GIS data or files of measurements/values |
| <input checked="" type="checkbox"/> General framework or guidelines | <input checked="" type="checkbox"/> Specially designed to compare multiple options/scenarios/strategies |
| <input type="checkbox"/> List of references and sources to find measurements/values | <input checked="" type="checkbox"/> Spreadsheet that already includes background measurements/values |
| <input checked="" type="checkbox"/> List of measurements/values | <input type="checkbox"/> Spreadsheet that does not include any background measurements/values |
| <input type="checkbox"/> Mechanism to collect ecological data | <input type="checkbox"/> Survey or questionnaire |
| <input checked="" type="checkbox"/> On-line calculator or model | |
| Other: N/A | |

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Section 3: Requirements of use

Intended User:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Business | <input checked="" type="checkbox"/> General public | <input checked="" type="checkbox"/> Conservation organization |
| <input checked="" type="checkbox"/> Policy / government | <input checked="" type="checkbox"/> Science / academia | |
| <input checked="" type="checkbox"/> Other: Educational | | |

Skills required:

- | | |
|---|---------------------------------------|
| <input checked="" type="checkbox"/> No specific skills are required | Modelling expertise |
| Some environmental background needed | LCA (Life Cycle Assessment) expertise |
| Environmental economics | Ecology expertise |
| GIS (Geographic Information Systems) expertise | Computing expertise |
| Other: N/A | |

Data required:

- No Yes

"If yes, details: Information on land use type and extent (ha) and GHG emissions, both for suppliers/use of raw materials and production process itself.

Information on future land use and GHG emissions"

Average time required:

- Hours Days Weeks Months Years

Variables that may affect the time required:

"- Data availability company on land use and GHG

- For assessment of future/alternative situation: Has business already developed scenarios for alternative/future processes?"

Software requirements if applicable:

No

Cost to access:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Free to access | Indefinitely (pay once, permanent access) |
| \$1 – 1,000 | Per use |
| \$1,001 – 5,000 | Per license |
| \$5,001 – 10,000 | Per year |
| >\$10,000 | |
| Other: None | |

Other information regarding the cost to access:

Just maintenance of website and cost for improvement of tool or in case company would like to receive advice

Other conditions of use:

No

Planned updates:

Not yet. Probably later this year. Will be decided upon this year

Links to pilots, case studies or reviews (max 3)

"Report first case study (Dutch): <http://www.natuurlijkkapitaal.com/wp-content/uploads/2016/06/Biodiversiteitsvoetafdruk-koploperbedrijven-eindrapport-01032016.pdf>

Technical summary of case study report (English): http://www.natuurlijkkapitaal.com/wp-content/uploads/2016/05/Plansup_Alterra-Wageningen-UR_JSScience-Technical-summary-Footprint-assessments.pdf"

N/A

N/A