

Consultation on the Energy benchmark factsheet

September 8th 2022

Objective and agenda

Webinar objective: Getting feedback on the Energy benchmark factsheet

Agenda

16h30-16h40	<i>Welcome</i>
16h40-16h50	Introduction to the Global Biodiversity Score
16h50-17h00	Overview of the benchmark factsheet
17h00-17h10	Key biodiversity impacts & dependencies of the industry
17h10-17h30	Deep dive on the biodiversity impacts of the industry
17h30-17h40	Reduction actions & environmental safeguards
17h40-17h45	Key messages
17h45-17h55	Q&A, last free comments on the factsheet in Mentimeter
17h55-18h00	<i>Final words</i>

GLOBAL BIODIVERSITY SCORE

Consultation on the Energy benchmark factsheet

September 8th 2022



Ask your questions on Mentimeter

Let's start by getting to know each other...



Go to www.menti.com and enter
the code: 3018 4403



CDC BIODIVERSITÉ



Introduction to the Global Biodiversity Score



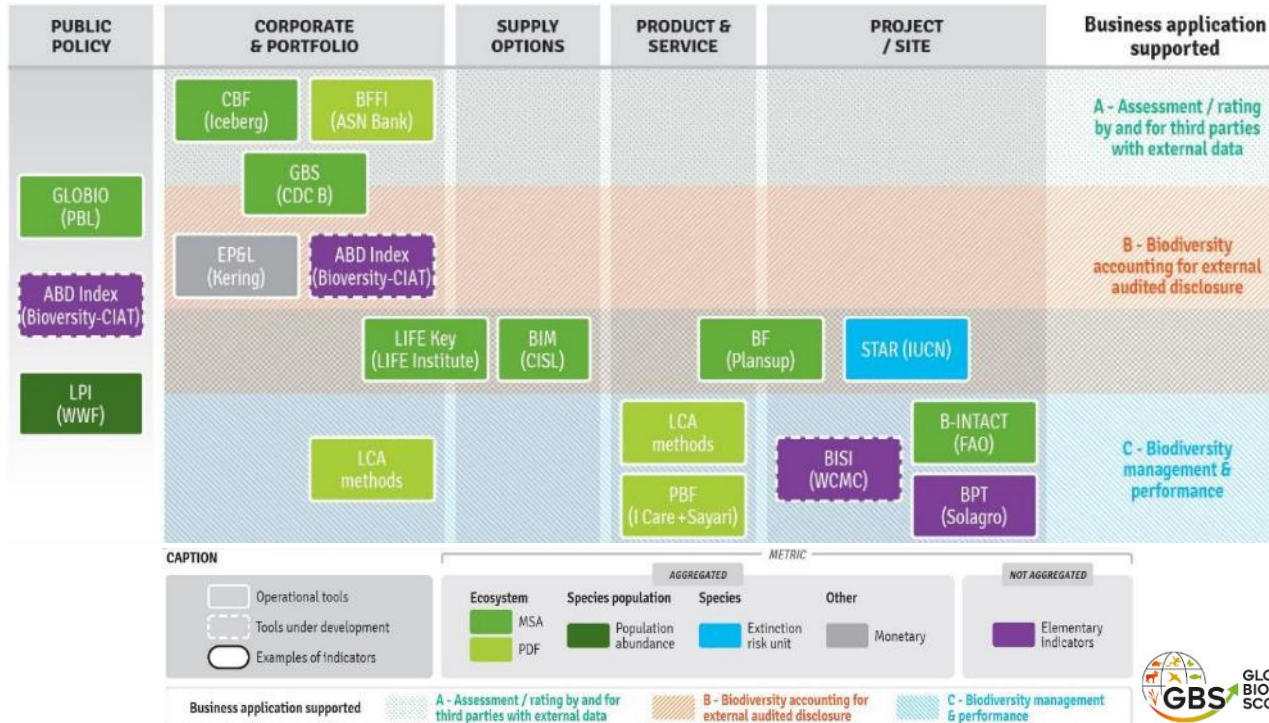
GLOBAL
BIODIVERSITY
SCORE

CDC BIODIVERSITÉ



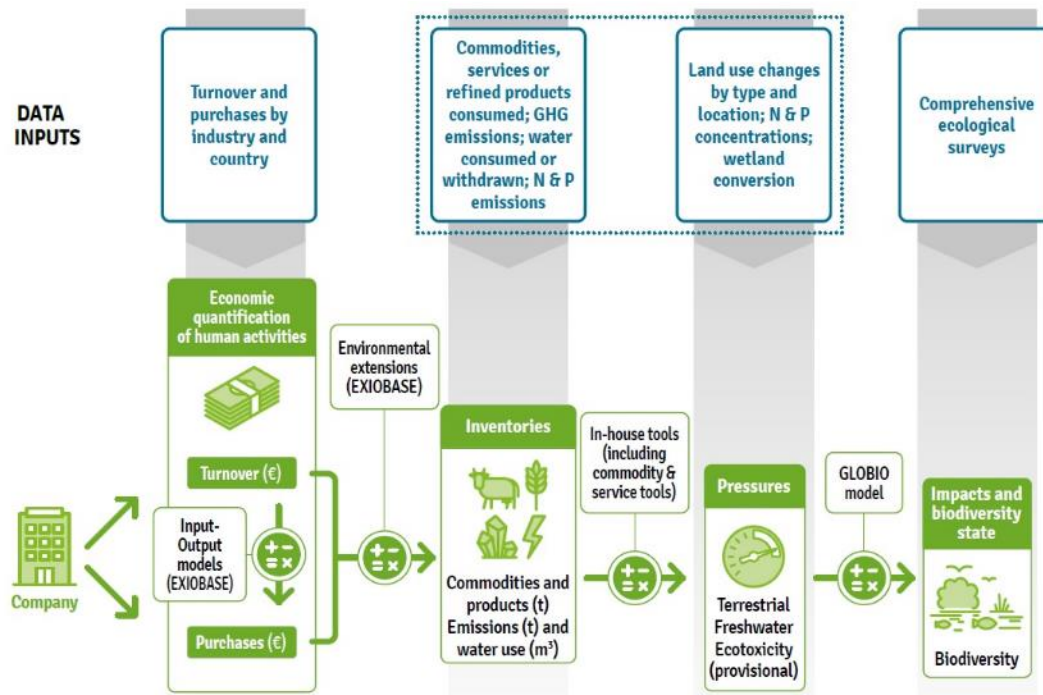
Biodiversity footprint existing tools' mapping

> The GBS focuses on companies and assets portfolios but still meet with the other dozen of existing tools at a the global level.



The Global Biodiversity Score tool : methodology

- The GBS relies on
 - the input-output EXIOBASE model that converts spend to activities and pressures
 - In-house tools using life-cycle analysis mid to endpoints impact factors to convert inventory data to pressure data
 - The pressure-impact GLOBIO model created by the PBL (Dutch Institute for the Environment), that converts pressure data to biodiversity impacts
- Company's data can be injected in the GBS at each step of the computation
- Financial data allows to assess a default biodiversity footprint that can be refined with inventory and pressure data



GBS Metric : the MSA describes ecosystem's integrity between 0% and 100%

MSA : Mean Species Abundance

FOREST ECOSYSTEM



Pristine forest



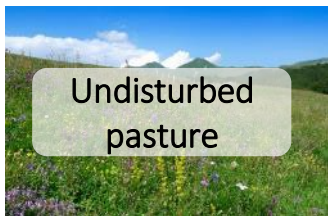
Selective logging



Plantation



Urban area



Undisturbed pasture



Extensive cattle farming



Intensive cattle farming



Urban area

PASTURE ECOSYSTEM

100 %

Remaining biodiversity

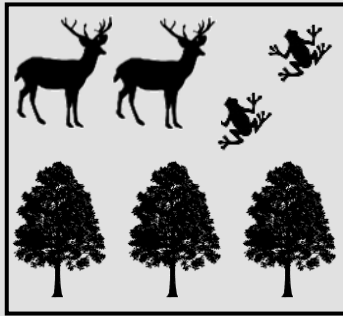
0 %

Remaining biodiversity

The Mean Species Abundance (MSA) : computation

- Only account for species present in undisturbed situation
- Ratios of species abundance between observed and undisturbed states can't exceed 1

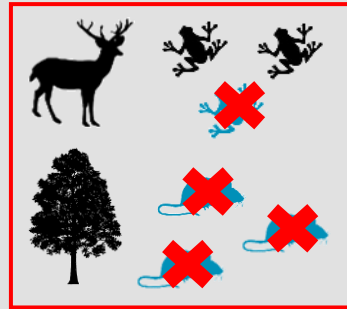
UNDISTURBED



$$\text{MSA} = 100\%$$

Remaining
biodiversity

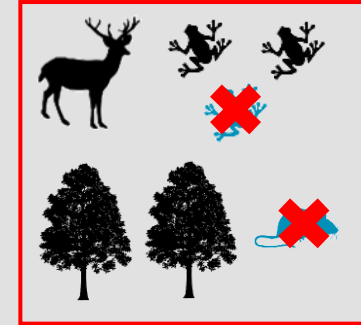
DISTURBED 1



$$\text{MSA} = \frac{\frac{1}{2} + \frac{1}{3} + \frac{2}{2}}{3} = 61\%$$

Remaining
biodiversity

DISTURBED 2

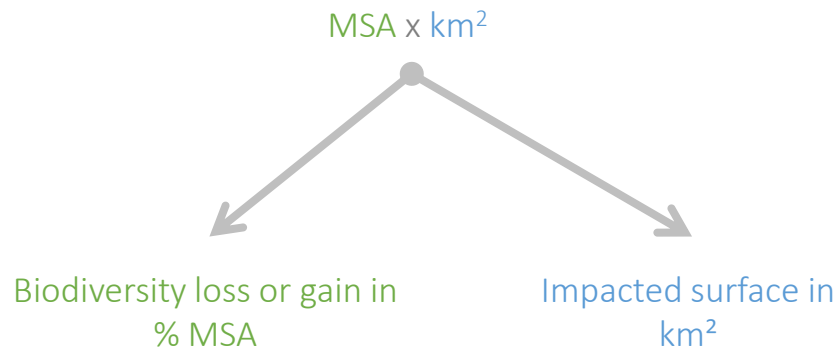


$$\text{MSA} = \frac{\frac{1}{2} + \frac{2}{3} + \frac{2}{2}}{3} = 72\%$$

Remaining
biodiversity

The GBS evaluates the fraction of biodiversity integrity lost or gained on a given surface, in MSA.km²

The unit used by the GBS integrates the MSA on the impacted surface



An impact of 1 MSA.km²
is equivalent to
the artificialisation of 1 km² of undisturbed natural ecosystem

Example

Conversion of pristine forest into a plantation
on 100 km²



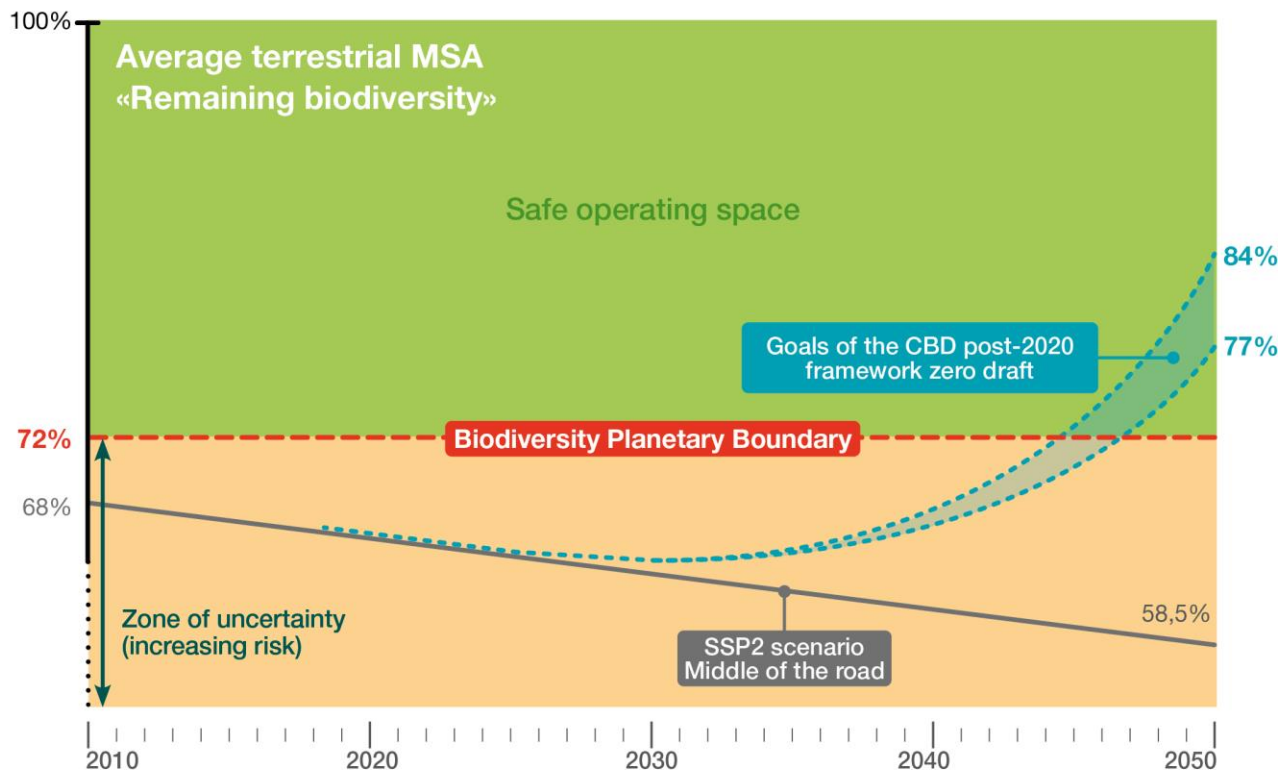
MSA = 100 %



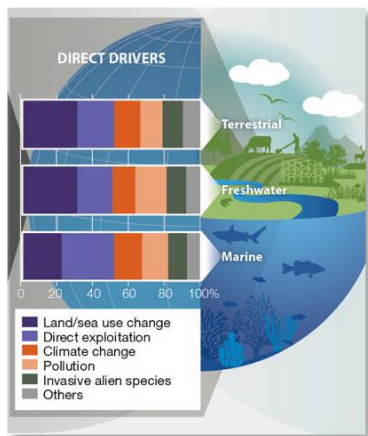
MSA = 30 %
(i.e. 70 % MSA of biodiversity loss)

This conversion causes an impact of 70 MSA.km²
(100 % - 30 %) x 100 km²

The planet crossed the planetary boundary for functional biodiversity and the contribution of businesses can be measured



The GBS covers the key pressures for terrestrial and freshwater biodiversity



IPBES PRESSURES

GBS / GLOBIO PRESSURES



Terrestrial



Freshwater



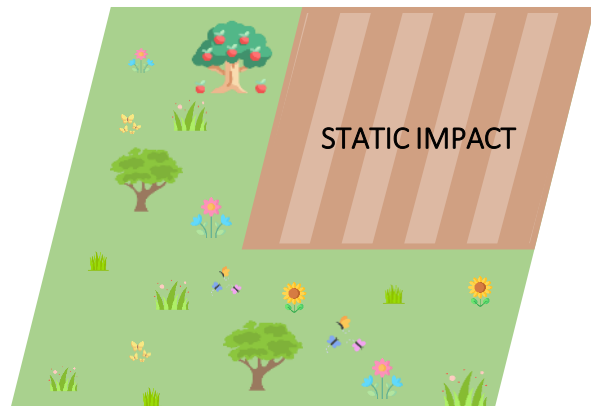
Marine

Land/sea use change	Land use Fragmentation of natural habitats Human encroachment	Wetland conversion	Not covered
Direct exploitation	Pressures due to resources extraction (crops, mining...)	Hydrological disturbance due to direct water use	
Climate change	Climate change	Hydrological disturbance due to climate change	
Pollution	Atmospheric nitrogen deposition Terrestrial ecotoxicity	Land use in catchment of rivers Land use in catchment of wetlands Freshwater eutrophication Freshwater ecotoxicity	
Invasive alien species	Not covered		

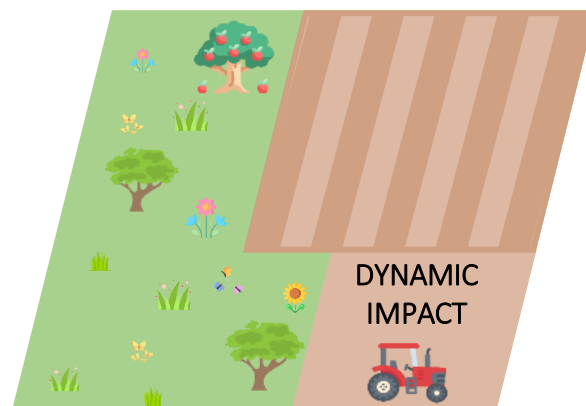
GBS accounts separately for static (stocks) and dynamic impacts (variation of stocks)

BD Protocol definitions :

Negative cumulated impacts



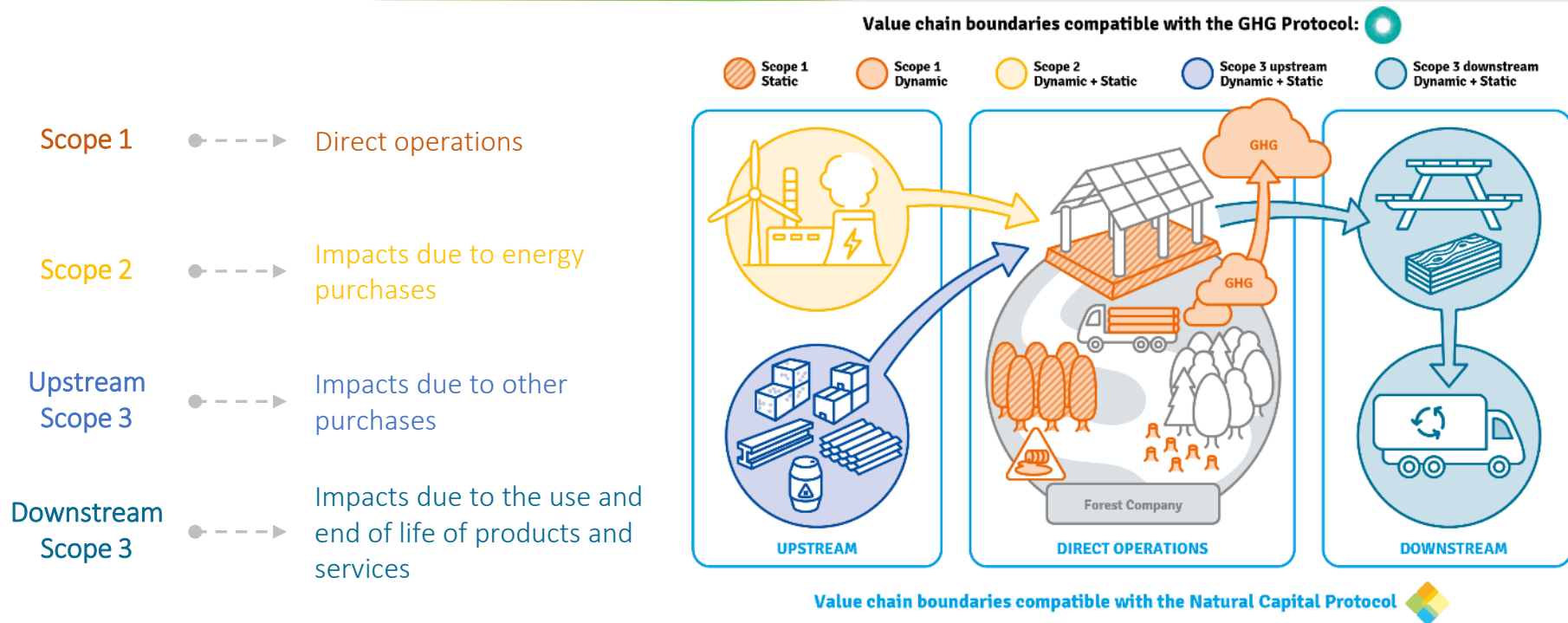
Periodic gains or losses



Current impacts at the beginning of the assessment
What is the area equivalent to the impacts of activities on biodiversity to date ?

Impact evolution during the assessment period
What is the area equivalent to the new impacts of activities on biodiversity during the assessment period ?

The concept of “Scopes” allows to consider the impacts of the entire value chain



Vertically integrated: Scope 1, Scope 2 and Upstream Scope 3 summed

GBS results can also be expressed in MSAppb and MSAppb* to allow aggregation

MSA.km²



- *What is the size of the impact of my company on various natural ecosystems ?*
- 1 MSA.km² lost is equivalent to the destruction of 1 km² of pristine natural areas

MSA.m²/kEUR

MSAppb/kEUR
MSAppb*/kEUR



- *How does my company compare with others in terms of biodiversity footprint ?*
- Reports biodiversity footprint to company's turnover to assess the **biodiversity intensity** of activities

MSAppb



- *What is the combined impact of my company on terrestrial and aquatic biodiversity ?*
- Aggregate impacts on terrestrial and aquatic biodiversity by expressing them as fraction of the total area of these compartments

Aggregated score (MSAppb*)



- *What is the overall biodiversity score of my company ?*
- Aggregates dynamic and static impacts

The MSAppb expresses terrestrial and aquatic impacts as a fraction of the total surface area of the ecosystem to allow aggregation

MSAppb

MSA parts per billion: expresses impacts as a fraction of the surface area of respectively terrestrial or aquatic ecosystems

It can be used for intensities also, e.g. to express $\text{MSA.m}^2/\text{kEUR}$ in MSAppb/bEUR

Respective areas of terrestrial and aquatic ecosystems

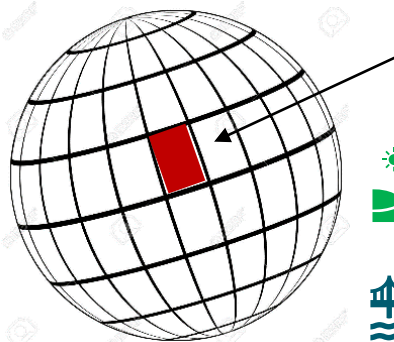


133 million km^2



11 million km^2

Part per billion (ppb): 1 ppb corresponds to one billionth of the surface



$$\frac{1}{10^{-9}} \text{ or :}$$



$$1 \text{ MSAppb} = 0.133 \text{ MSA.km}^2$$



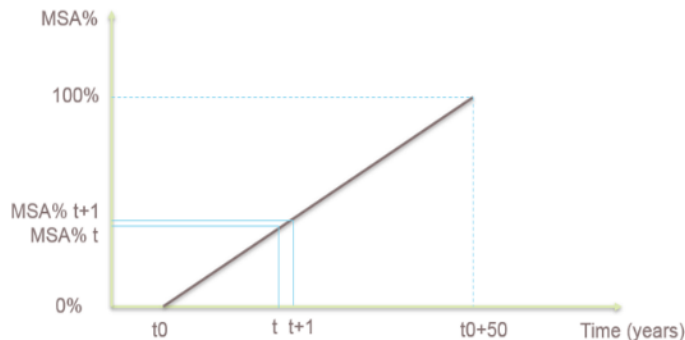
$$1 \text{ MSAppb} = 0.011 \text{ MSA.km}^2$$

The aggregated score in MSAppb* allows to aggregate static and dynamic impacts

- ❑ Recovery time assumption: **50 years + linear curve**
- ❑ Inline with time integrated metrics such as PDF.m2.yr

MSAppb*

- Static impacts can be seen as a missed opportunity for biodiversity recovery
- This opportunity can be estimated to 1/50 over 1 year
- To compare static and dynamic impacts, **we divide static impacts by 50** (assuming dynamic impacts are computed over a 1-year period)



Used essentially by **financial institutions** who are eager to have single indicators to manage their portfolios

Calculation of aggregated score: example



133 million km²



11 million km²

Impacts in MSA.km²

Not comparable
Cannot be summed

Impacts of the company



Static

Dynamic



Static

Dynamic

100 MSA.km²

1 MSA.km²

10 MSA.km²

0.5 MSA.km²



Impacts in MSAppb

Comparable
Terrestrial and aquatic can be summed

800 MSAppb

8 MSAppb

920 MSAppb

46 MSAppb

Static

Dynamic

1720 MSAppb

54 MSAppb

Impacts in MSAppb*

Comparable
Static and dynamic can be summed

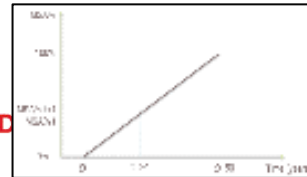
34 MSAppb*

54 MSAppb*

88 MSAppb*

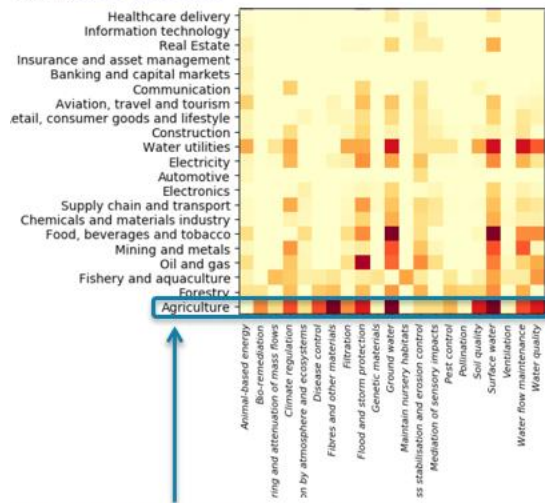


CD



CDC Biodiversité is developing an assessment methodology of operational risks related to biodiversity dependencies

Joint development with the **Ponts engineering school**
using **ENCORE data**



Dependencies can then be aggregated to come up with an overall dependency score per industry

20%	Very low
40%	Low
60%	Medium
80%	High
100%	Very high

To feed the works of central banks and financial institutions on **materiality** and **biodiversity dependencies** of economies and investments

DeNederlandscheBank

EUROSYSTEM

Indebted to Nature,
exploring biodiversity
risks for the Dutch
financial sector, 2020



EUROSYSTEM

Researchers at the French National Bank are conducting similar assessments

Learn more: our publications

- ❑ [Global Biodiversity Score: Establishing an ecosystem of stakeholders to measure the biodiversity performance of human activities. 2021 update.](#) (2021)
- ❑ [Measuring the contributions of business and finance towards the post-2020 global biodiversity framework – 2019 technical update](#) (2020)
- ❑ [Global Biodiversity Score: a tool to establish and measure corporate and financial commitments for biodiversity – 2018 technical update](#) (2019)
- ❑ [Common ground in biodiversity footprint methodologies for the financial sector](#) – CDC Biodiversité, ASN bank, ACTIAM, Finance in Motion (2018)
- ❑ [Global Biodiversity Score: measuring a company's biodiversity footprint](#) (November 2017)

The Energy benchmark factsheet

Context and factsheets completion

- Context: Action 31 of the French national biodiversity plan - "by 2022, we will support 4 priority industries so that they significantly reduce their biodiversity footprint throughout the production and supply chain [...]"

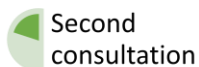
Sector	Status	High-priority sector targeted by the National Biodiversity Action Plan
Agriculture Agri-food	Published	X
Raw material extraction		
Construction sector	Published (draft version)	X
Chemicals industry	Published	X
Energy (production and supply of electricity)	Under consultation	X
Manufacture of electrical equipment	Under consultation	
Manufacturing industry		
Distribution sector		
Waste and waste management sector		
Transport		
Financial services		
Non-financial services and other activities		
Processing		

- The consultation process



First
consultation

B4B+ Club members
of the sector



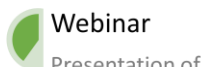
Second
consultation

B4B+ Club
members



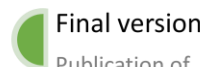
Final
consultation

Public



Webinar

Presentation of
the factsheet



Final version

Publication of
the factsheet

Factsheet objectives

- To assess the impact of a sector on biodiversity
- For companies:
 - compare their impact to the sector average
 - estimate their impact and the main pressures on biodiversity
- For investors: assess their impact on biodiversity
 - rate the performance of certain companies against sectoral benchmarks
- Feed into the work of the EU Green Taxonomy by identifying low impact companies

Visual aspect of the factsheet

FACTSHEET: ENERGY

Version 1 (August 2022)
F1

AIM OF THE FACTSHEET

The Energy Transition is a complex process involving various actors and a multitude of stakeholders. Companies are key actors in this transition. The factsheet provides an overview of the key issues of the sector and the role of companies in the transition. It also provides an overview of the key issues of the sector and the role of companies in the transition.

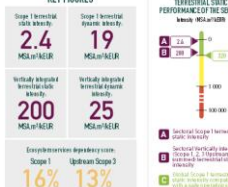
WHAT DOES THE SECTOR INCLUDE?

The Energy Transition includes the production, distribution, and consumption of energy. It also includes the production, distribution, and consumption of energy. The Energy Transition includes the production, distribution, and consumption of energy. It also includes the production, distribution, and consumption of energy.

KEY MESSAGES

- The Energy Transition is a complex process involving various actors and a multitude of stakeholders.
- Companies are key actors in this transition. The factsheet provides an overview of the key issues of the sector and the role of companies in the transition.
- The Energy Transition includes the production, distribution, and consumption of energy. It also includes the production, distribution, and consumption of energy.

KEY FIGURES



TERRESTRIAL DYNAMIC PERFORMANCE OF THE SECTOR



BIODIVERSITY FOOTPRINT

Item	Intensity, dynamic	Scenario 1: 2.4 MtonNEER	Scenario 2: 200 MtonNEER	Scenario 1: 19 MtonNEER	Scenario 2: 25 MtonNEER
Terrestrial	Dynamic	10	100	100	100
Aquatic	Dynamic	0.13	1.3	1.3	1.3

FACTSHEET: ENERGY

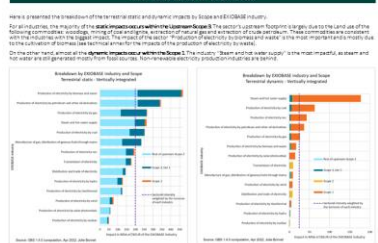
Version 1 (August 2022)
F2

KEY ISSUES OF THE SECTOR

ECOSYSTEM SERVICES

The Energy Transition is a complex process involving various actors and a multitude of stakeholders. Companies are key actors in this transition. The factsheet provides an overview of the key issues of the sector and the role of companies in the transition. It also provides an overview of the key issues of the sector and the role of companies in the transition.

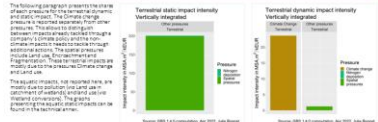
SCOPE AND INDUSTRY BREAKDOWN



FACTSHEET: ENERGY

Version 1 (August 2022)
F3

IMPACT DRIVERS BREAKDOWN



TRAJECTORIES TO ACHIEVE THE UPCOMING SCIENCE-BASED TARGETS



POSSIBILITIES TO REDUCE THE IMPACT ON BIODIVERSITY

The Energy Transition is a complex process involving various actors and a multitude of stakeholders. Companies are key actors in this transition. The factsheet provides an overview of the key issues of the sector and the role of companies in the transition. It also provides an overview of the key issues of the sector and the role of companies in the transition.

FACTSHEET: ENERGY

Version 1 (August 2022)
F4

ENVIRONMENTAL SAFEGUARDS

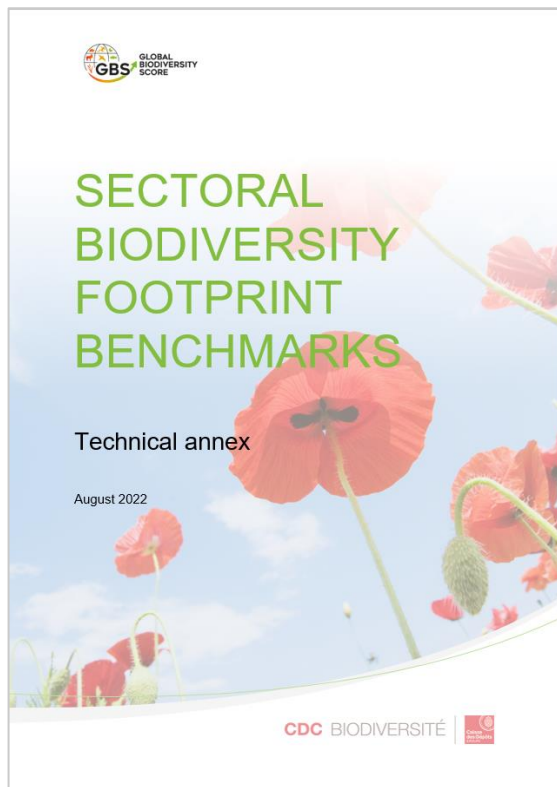
The Energy Transition is a complex process involving various actors and a multitude of stakeholders. Companies are key actors in this transition. The factsheet provides an overview of the key issues of the sector and the role of companies in the transition. It also provides an overview of the key issues of the sector and the role of companies in the transition.

BIODIVERSITY FOOTPRINT ASSESSMENT

The Biodiversity Footprint Assessment is a tool to assess the impact of the Energy Transition on biodiversity. It provides an overview of the key issues of the sector and the role of companies in the transition. It also provides an overview of the key issues of the sector and the role of companies in the transition.



Benchmark factsheet



The technical annex completes the factsheets by detailing the methodology and references and adding further results.

For the Energy benchmark factsheet, the technical annex includes:

- The **detailed perimeter** of the factsheet
- **Additional graphs** which could not fit into the factsheet
- **Different focuses and methodology explanations**
 - Estimation of the Climate change static impact
 - Estimation of the Scope 1 Land use static impact
 - The impact of wind energy on birds and bats
 - Transmission and distribution of electricity
 - Counterfactual scenarios
 - Focus on the HD_{water} impact
- **EU taxonomy guidelines**

You can read the document directly on :

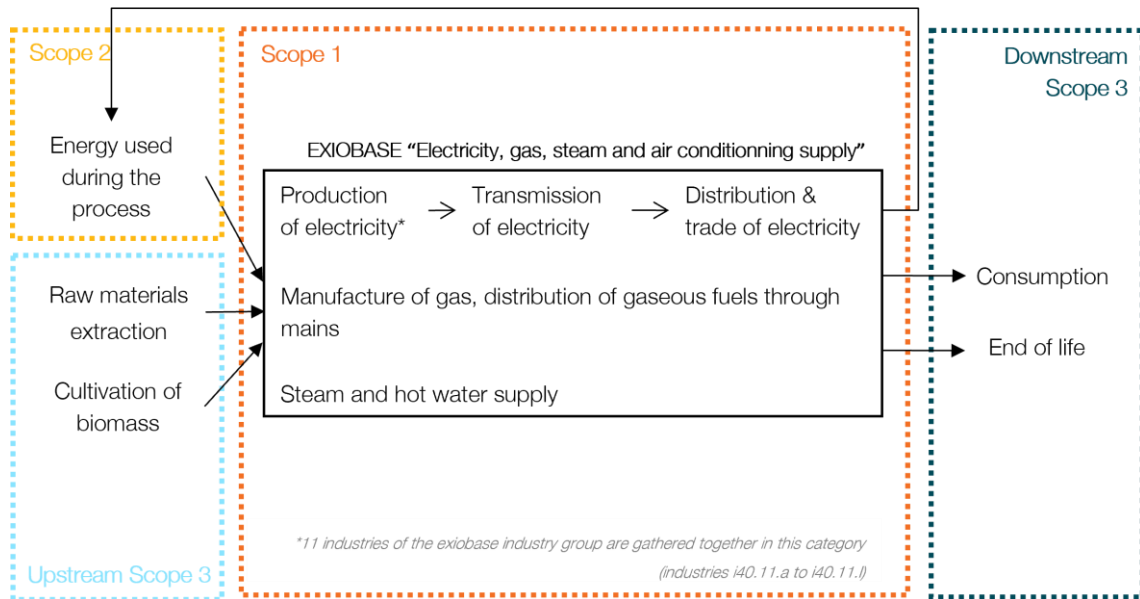
[Technical annex to the factsheet](#)

What does the sector include?

WHAT DOES THE SECTOR INCLUDE?

The Energy sector refers to the **section D of NACE rev 2**, and includes the production of electricity by coal, gas, nuclear, hydro, wind, petroleum and other oil derivative, biomass and waste, solar photovoltaic, solar thermal, tide, wave, ocean and geothermal, the transmission, distribution and trade of electricity, the manufacture of gas, the distribution of gaseous fuels through mains, and steam and hot water supply. The extraction of raw materials is not included but is part of the Upstream Scope 3 impacts.

EXIOBASE INDUSTRY	NACE rev2 CODE
Electricity, gas, steam and air conditioning supply	D.35 Electricity, gas, steam and air conditioning supply



KEY ISSUES OF THE SECTOR

ECOSYSTEM SERVICES DEPENDENCIES OF THE ENERGY SECTOR⁽¹⁾

The direct dependencies of the sector are calculated by the ENCORE model, a tool developed to provide knowledge on sectors' dependency on various ecosystem services (see the technical annex for the methodology).

The highest Scope 1 dependence of the sector is the ecosystem service **"surface water"** (dependency score of 56 %) which is provided through freshwater resources from collected precipitation and water flow from natural sources. This dependency is very high for three industries in particular: hydropower production, nuclear and thermal power stations (for cooling purposes), and water services.

The service **"flood and storm protection"** (dependency score of 48 %) is the second highest dependency score and provides sheltering, buffering and attenuating effects of natural and planted vegetation.

The figures displayed in the box "Key figures" are an aggregated score over all ecosystem services: 16 % for Scope 1 and 13 % for Upstream Scope 3.

HOW DOES THE SECTOR CONTRIBUTE TO CHANGES IN THE STATE OF NATURAL CAPITAL ?

The burning of fossil fuels is widely known to be a **major cause of climate change** through the emission of greenhouse gases, presenting a significant impact on biodiversity globally. In 2020, the electricity sector was responsible for 12.3 GT CO₂ emissions, representing 36% of all energy related emissions. Coal represents one-third of electricity supply but three-quarters of the sector CO₂ emissions. In second came natural gas both in terms of electricity supply and CO₂ emissions in the sector (World Energy Outlook 2021).

In terms of Scope 1 **Land use**, the area required per unit of energy varies according to local circumstances and technology but is **typically greater for renewable energy**, excluding biomass, than for natural gas, coal or nuclear energy. However, land use from non-renewable energy is more intensive with important impacts throughout the upstream life cycle, especially on existing water resources. Non-biomass renewables typically have smaller Land use impacts: while the area required is more important, non-intensive land use often allows

other simultaneous uses, with grazing and even agricultural production possible within wind or photovoltaic farms (Global Land Outlook 2017). See technical annex for details.

OPPORTUNITIES

Climate considerations are **pushing the sector toward renewable energy** to limit greenhouse gas emissions. Indeed, the decarbonisation of the economy is based on a rapid scale up of renewables.

While the potential risk on biodiversity of this scale up is important, especially in terms of land use, actions can be taken **to mitigate the sector's impact on biodiversity**. Unlike for other energy sources, the abundance of solar and wind energy provides **flexibility in project siting**, allowing the use of already converted or disturbed land or offshore locations away from high sensitivity areas (IUCN 2021).

GLOBAL BIODIVERSITY SCORE

Consultation on the Energy benchmark factsheet

September 8th 2022



Ask your questions on Mentimeter

Give us your feedback on these sections



Go to www.menti.com and enter
the code: 3018 4403

Key biodiversity impacts & dependencies of the industry (1/2)

KEY FIGURES

Scope 1 terrestrial static intensity:

2.4

MSA.m²/kEUR

Scope 1 terrestrial dynamic intensity:

19

MSA.m²/kEUR

Vertically integrated terrestrial static intensity:

200

MSA.m²/kEUR

Vertically integrated terrestrial dynamic intensity:

25

MSA.m²/kEUR

Ecosystem services dependency score:

Scope 1

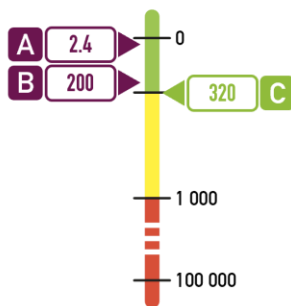
Upstream Scope 3

16%

13%

TERRESTRIAL STATIC PERFORMANCE OF THE SECTOR¹

Intensity (MSA.m²/kEUR)



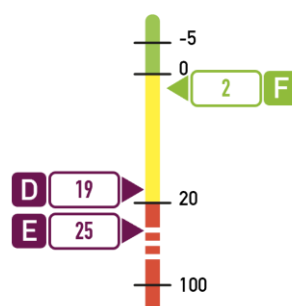
A Sectoral Scope 1 terrestrial static intensity

B Sectoral Vertically integrated (Scope 1, 2, 3 Upstream summed) terrestrial static intensity

C Global Scope 1 terrestrial static intensity compatible with a safe operating space

TERRESTRIAL DYNAMIC PERFORMANCE OF THE SECTOR¹

Intensity (MSA.m²/kEUR)



D Sectoral Scope 1 terrestrial dynamic intensity

E Sectoral Vertically integrated (Scope 1, 2, 3 Upstream summed) terrestrial dynamic intensity

F World average Scope 1 terrestrial dynamic intensity

1. The aquatic static impact is not presented here because of its lower materiality. The aquatic dynamic impact is not included in this factsheet due to the lack of reliability of the results.

The Climate change static impact is not included in these results.

The Land use impact estimated in slide 35 is not included in these results.

Key biodiversity impacts & dependencies of the industry (2/2)

BIODIVERSITY FOOTPRINT

Realm	Accounting category	Impact intensity - MSA.m ² /kEUR		Impact intensity - MSAppb/bEUR		Impact intensity - MSAppb*/bEUR ⁽²⁾	
		Scope 1	Vertically integrated	Scope 1	Vertically integrated	Scope 1	Vertically integrated
Terrestrial	Dynamic	19	25	150	190	150 – 290 ⁽³⁾	250 – 400 ⁽³⁾
	Static	2.4 – 960 ⁽³⁾	200 - 1 200 ⁽³⁾	18 - 7 200 ⁽³⁾	1 500 - 9 000 ⁽³⁾		
Aquatic	Static	0.13	15	12	1 400		

(2) The aquatic dynamic results are excluded from the calculation of the impact intensity in MSAppb*/bEUR. They are available in the technical annex if needed.

(3) The upper end includes an estimation of the Climate change static impact (see technical annex for calculation methodology). The other figures and charts presented on the factsheet do not include this climate change terrestrial static impact, unless stated otherwise.

GLOBAL BIODIVERSITY SCORE

Consultation on the Energy benchmark factsheet

September 8th 2022



Ask your questions on Mentimeter

Give us your feedback on these sections



Go to www.menti.com and enter
the code: 3018 4403

Deep dive on the biodiversity impacts of the sector

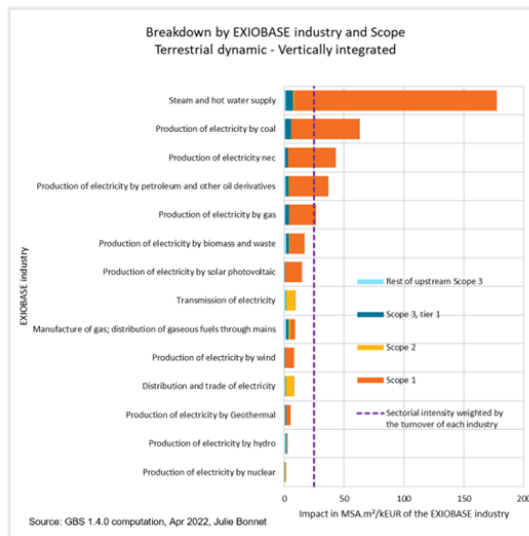
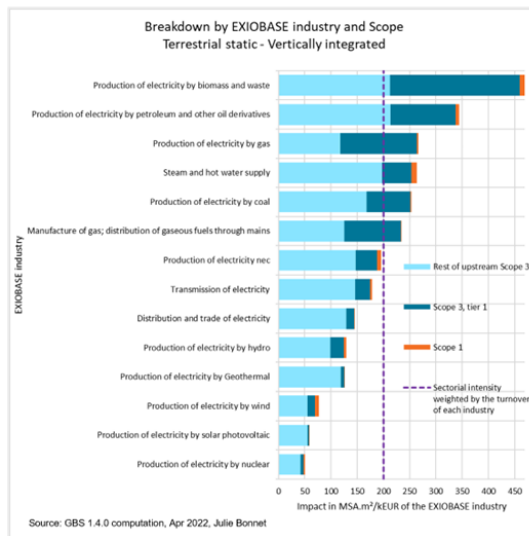
Scope and EXIOBASE industry breakdown

SCOPE AND INDUSTRY BREAKDOWN

Here is presented the breakdown of the terrestrial static and dynamic impacts by Scope and EXIOBASE industry.

For all industries, the majority of the **static impacts occurs within the Upstream Scope 3**. The sector's upstream footprint is largely due to the Land use of the following commodities: woodlogs, mining of coal and lignite, extraction of natural gas and extraction of crude petroleum. These commodities are consistent with the industries with the biggest impact. The impact of the EXIOBASE industry "Production of electricity by biomass and waste" is the most important and is mostly due to the cultivation of biomass.

On the other hand, almost all the **dynamic impacts occur within the Scope 1**. The industry "Steam and hot water supply" is the most impactful, as steam and hot water are still generated mostly from fossil sources. Non-renewable electricity production industries are behind.



The EXIOBASE land use inventory data of the production of electricity are not connected to the GBS, thus underestimating the Scope 1 Land use impact. This Land use impact is estimated in the technical annex (see slide 35) but is not included in these graphs.

The Climate change static impact is not included in these results.

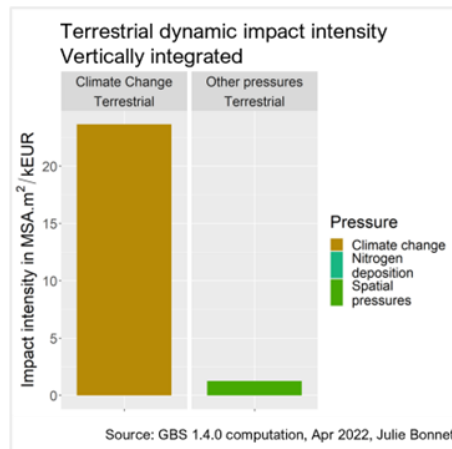
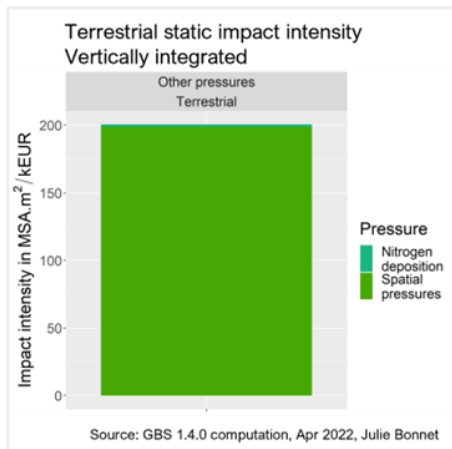
Deep dive on biodiversity impacts of the industry

Impact drivers breakdown

IMPACT DRIVERS BREAKDOWN⁽¹⁾

The following paragraph presents the shares of each pressure for the terrestrial dynamic and static impact. The Climate change pressure is reported separately from other pressures. This allows to distinguish between impacts already tackled through a company's climate policy and the non-climate impacts it needs to tackle through additional actions. The spatial pressures include Land use, Encroachment and Fragmentation. These terrestrial impacts are mostly due to the pressures Climate change and Land use.

The aquatic impacts, not reported here, are mostly due to pollution (via Land use in catchment of wetlands) and land use (via Wetland conversions). The graphs presenting the aquatic static impacts can be found in the technical annex.

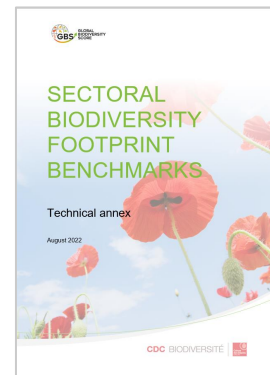
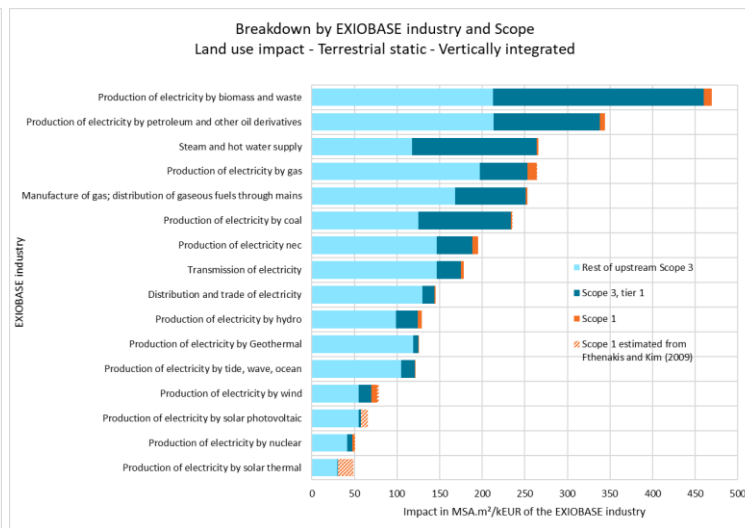
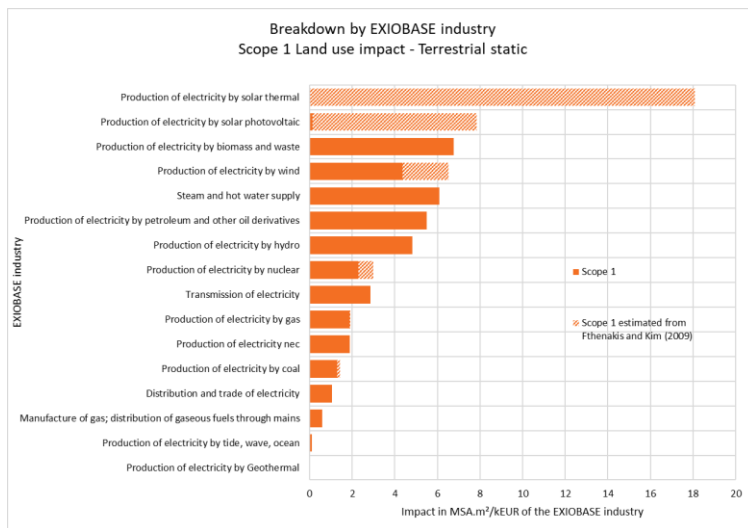


(1) The EXIOBASE land use inventory data of the production of electricity are not connected to the GBS, thus underestimating the Scope 1 Land use impact. This Land use impact is estimated in the technical annex (see slide 35) but is not included in these graphs.

The Climate change static impact is not included in these results.

Focus on the Scope 1 Land use static impact

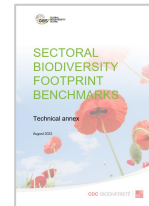
- The EXIOBASE land use inventory data of the energy sector are not connected to the GBS, thus underestimating the Scope 1 Land use impacts.
- The goal of this focus is to complete these impacts using available literature
- *“Land use and electricity generation: A life-cycle analysis”* (Fthenakis and Kim 2009).



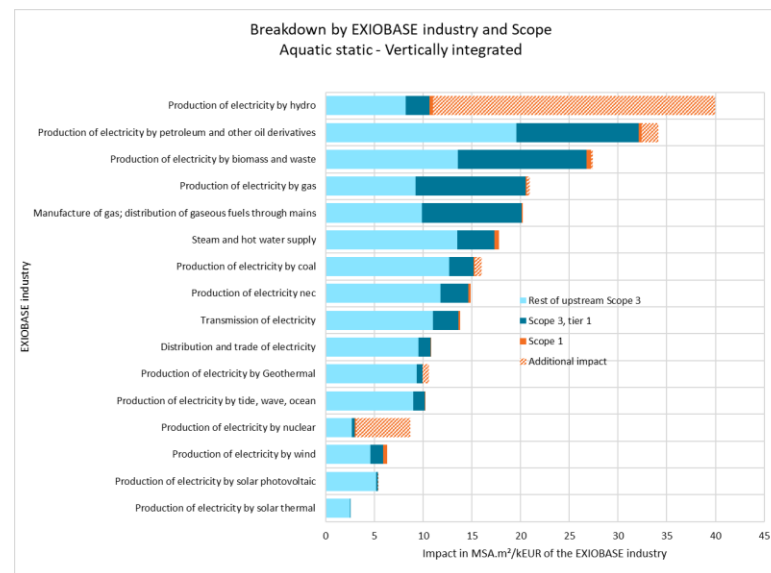
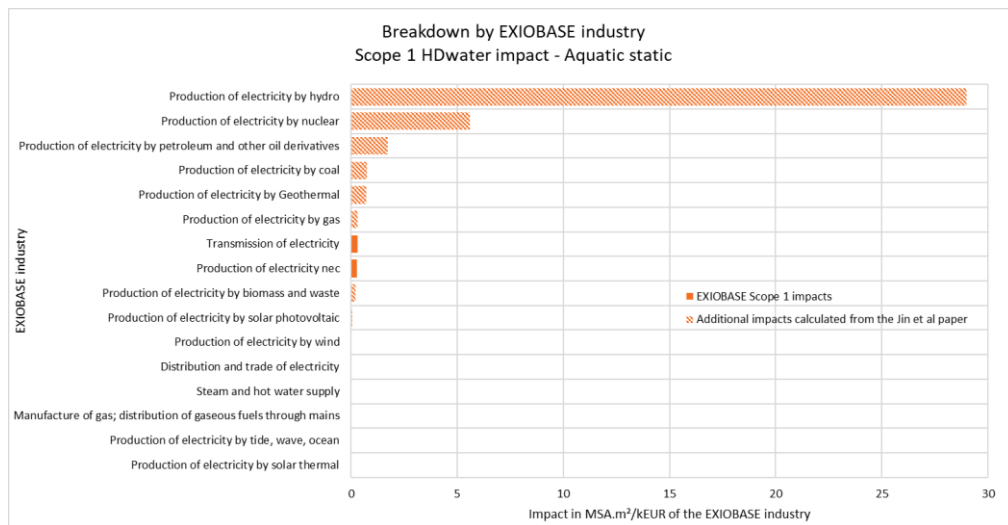
3.1 Energy
B.5 Focus on the Land use
terrestrial static impact

Focus on the Scope 1 HDwater static impact

- The EXIOBASE inventory data on water consumption and withdrawal of the energy sector are not connected to the GBS, thus underestimating the Scope 1 HD_{water} (Hydrological disturbance due to direct water use) impacts.
- The goal of this focus is to complete these impacts using available literature
- “Water use of electricity technologies: A global meta-analysis” (Jin et al. 2019)



3.1 Energy
B.10 Focus on
the HDwater
impact



GLOBAL BIODIVERSITY SCORE

Consultation on the Energy benchmark factsheet

September 8th 2022



Ask your questions on Mentimeter

Give us your feedback on these sections



Go to www.menti.com and enter
the code: 3018 4403

Possible actions to reduce the impact on biodiversity

POSSIBLE ACTIONS TO REDUCE THE IMPACT ON BIODIVERSITY	
SCOPE 1	<p>Apply the mitigation hierarchy (avoid, reduce, restore & offset) to all impacts from energy activities</p> <p>Avoid the implantation of power plants in important biodiversity areas</p> <p>Support the transition to renewables and low carbon power</p> <p>Wind power: favour smaller number of large turbines with greater energy output, design the infrastructures and operate them to reduce impacts (e.g. shutdown on demand to minimize collision risk, installation of Bird Flight Diverters on transmission lines)⁽²⁾ (IUCN 2021)</p> <p>Solar photovoltaic: develop agrivoltaic technology</p>
SCOPE 2	<p>Distribution, transmission and trade of electricity: optimise the process to reduce energy losses</p> <p>Encourage Power Purchase Agreements toward renewables</p>
UPSTREAM SCOPE 3	<p>Choose the timing of power plants construction activities to avoid disturbing biodiversity during sensitive periods (e.g. during breeding seasons) (IUCN 2021)</p> <p>Biomass: Favour low impact raw materials, such as residues, by-products, or raw materials with lower Land use impact</p> <p>Research lower impact substitutes for current raw materials</p> <p>Mining: Plan ecological rehabilitation strategies when decommissioning assets</p>
DOWNSTREAM SCOPE 3	<p>End of life: Choose the timing of decommissioning activities to avoid disturbing biodiversity during sensitive periods (IUCN 2021)</p> <p>Offshore wind: consider (if legislation allows) leaving infrastructure in place if there is a biodiversity/ecosystem services benefit such as the reef effect associated with foundation/scour protection (IUCN 2021)</p> <p>Incentivise energy sobriety and energy efficiency (via energetic renovations for example) (CDC Biodiversité 2020)</p>

ENVIRONMENTAL SAFEGUARDS

Some impacts and pressures are not covered by the figures displayed in this benchmark factsheet (partly due to limitations in the Global Biodiversity Score tool used to obtain them). They should not be ignored when defining the biodiversity action plan.

- **Avoid locating activities on or near sites of high environmental value** or establish a specific management plan. For instance, avoid deforestation and encroachment on protected areas.
- **Restore habitats** during operations and/or after operations (IFC 2012).
- Conduct a **systematic review** to identify priority ecosystem services, meaning those on which project operations are most likely to have an impact and those on which the project is directly dependent (e.g., water) (IFC 2012).

See the GBS review report "Quality assurance" for the full list of environmental safeguards to implement (CDC Biodiversité 2020; IFC 2012).

The **EU Taxonomy Climate Delegated Act**, published in the official journal in December 2021, describes conditions for activities within the "Energy" sector to make a substantial contribution to the climate objectives. Here are some examples of technical screening criteria:

- **Climate change mitigation:** a threshold of 100g CO₂e/kWh is proposed for electricity generation and heat production.
- **Climate change adaptation:** the economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

This first delegated act also describes in further details conditions of **Do No Significant Harm (DNSH)** for the six objectives. They are reported in the benchmark factsheet's technical annex. A second delegated act for the 4 remaining objectives should be published in 2022.

KEY MESSAGES

- The Energy sector is a **highly impacting industry** for which most dynamic impacts occur within the Scope 1. Most static impacts (excluding impacts due to Climate change) occur within the Upstream Scope 3 and the Climate change static impacts occur mostly within the Scope 1.
- There is a **high variability** of the impact intensity within the industry depending on the technology used.
- The key impact drivers to monitor and reduce are mainly **Climate change and Land use**. For the aquatic impacts, the key drivers include also Wetland conversion and Land use in catchment of wetlands (linked to pollution).

GLOBAL BIODIVERSITY SCORE

Consultation on the Energy benchmark factsheet

September 8th 2022



Ask your questions on Mentimeter

Give us your feedback on the key messages



Go to www.menti.com and enter
the code: 3018 4403



CDC BIODIVERSITÉ



Further comments

For future remarks, you can still comment the documents on the drive

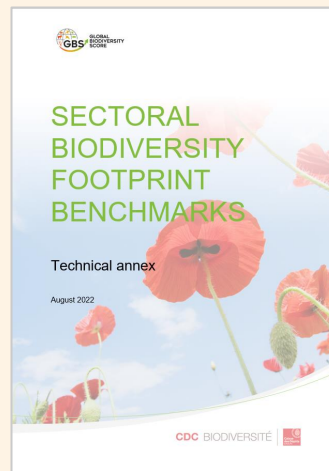
Factsheet documentation

☐ **Energy benchmark factsheet:**

The Energy benchmark factsheet is available [here](#)

☐ **Benchmark factsheets technical annex:**

The Benchmark factsheet technical annex is available [here](#)



You can also send an e-mail to the following address : gbp@cdc-biodiversite.fr

Position paper for the inclusion of MSA and MSA.km² as headline indicators for the Post-2020 GBF

Position paper (September 2022 update) – inclusion of MSA and MSA.km² as headline indicators in the post-2020 framework of the CBD

Public consultation

After a first draft released in June 2022, the position paper for the inclusion of MSA and MSA.km² as headline indicators in the post-2020 Global Biodiversity Framework of the Convention on Biological Diversity (CBD) has been updated. The second version is now available and under public consultation until September 27th. You are thus invited to share your comments and feedback in the present document.

The consultation phase will take an end with a dedicated consultation webinar, scheduled on Tuesday, 27th of September, from 11:30 to 12:30. All information is available [at this link](#).

A final version will be developed based on the consultation results and will be open for signatures up to the end of October 2022. The final paper will be shared with CBD negotiators and co-chairs of the open-ended working group in November – ahead of COP15 – which will be held in Montréal, Canada, from 7th to 18th December.

If you already want to support the position paper, you can become a co-signatory by filling the [dedicated form](#).



In May 2022, Business for Nature updated their position on the Convention on Biological Diversity's (CBD) post-2020 global biodiversity framework, in particular calling Parties to "adopt an ambitious Target 15 that requires business and financial institutions to transform their business practices" and "Adopt a clear, simple and rallying mission to halt and reverse biodiversity loss by 2030 based on the strong consensus expressed by Parties and Observers on this proposed mission at the OEWG3" (Business for Nature 2022). CDC Biodiversité supports this position, and wishes to contribute to reinforcing the monitoring framework for the post-2020 global biodiversity framework, through suggestions on Goal A and Target 15. Our objective is to contribute to a pragmatic and operational framework, taking into account both scientifically sound metrics and current market practices, so that business and financial institutions can measure progress against the framework's goals and targets, and contribute to their achievement. The Mean Species Abundance (MSA) is identified as a complementary indicator (a.43) for Goal A in the monitoring framework, but is not however identified as a possible headline indicator for Goal A, nor as a possible headline indicator for Target 15 (CBD 2022). CDC Biodiversité suggests MSA as a headline indicator for Goal A and Target 15, as well as MSA.km² as a headline indicator for Target 15.

Considering its properties, MSA has much potential as a metric: it is sensitive to change, easy to interpret (0-100 % scale), can be globally assessed based on pressure-impact relationships from the GLOBIO model (Jägerskiöld et al. 2009; Schipper et al. 2020), and is regularly used in scientific studies (Lecière et al. 2018; Lecière et al. 2020; Witting et al. 2017; Witting and van Oorschot 2017; Lucas and Witting 2018) and international outlook studies for the Living Planet Report (Almond, Grooten M. and Petersen 2020), IPBES (Roussel 2018; Brondizio et al. 2019) and the CBD (Secretariat of the Convention on Biological Diversity 2020). A first estimate of the global planetary boundary for

- ❑ After a first draft released in June 2022, the position paper for the inclusion of **MSA and MSA.km²** as headline indicators in the post-2020 Global Biodiversity Framework of the Convention on Biological Diversity (CBD) has been updated.
- ❑ You are thus invited to share your comments and feedback on the second version. The document is available at [this link](#).
- ❑ The consultation phase will end with a dedicated consultation webinar on September, 27th 2022, from 11:30 to 12:30 am. You can register [here](#).

- Next programmed events related to the GBS:
 - ❑ September 22nd: GBS training “Fundamentals of biodiversity footprint” EN, register [here](#).
 - ❑ September 27th: GBS training Level 1 FR, register [here](#).
 - ❑ September 27th from 11:30 am to 12:30 am (CET): consultation on the position paper for the inclusion of MSA and MSA.km² as headline indicators for the Post-2020 GBF, register [here](#).
 - ❑ October 3rd – 4th: GBS training Level 1 EN, register [here](#).
 - ❑ October 17th – 18th and October 19th – 20th: GBS training Level 2 EN, register [here](#).
 - ❑ October 27th from 4:00 pm to 5:00 pm (CET): short presentation webinar of CDC Biodiversité’s training, register [here](#).
 - ❑ November 7th: GBS training “Fundamentals of biodiversity footprint” EN, register [here](#).
 - ❑ November 10th: GBS training Level 1 FR, register [here](#).
 - ❑ November 17th from 12:50 am to 1:30 pm (CET): short presentation of the GBS, registration [here](#).
 - ❑ November 21st - 22nd: GBS training “Biodiversity footprint and reporting for financial institutions”, register [here](#).
 - ❑ November 29th – 30th: GBS training Level 2 FR, register [here](#).
 - ❑ December 8th: GBS training “Fundamentals of biodiversity footprint” EN, register [here](#).

Final words

- The next factsheet will be about the **raw materials extraction** sector
- To receive the presentation after the webinar, please ensure that you registered for the [Eventbrite event](#)
- Thanks for your participation, your feedback is very helpful to improve the sectoral biodiversity benchmarks!

CDC Biodiversité

102, rue Réaumur

75002 PARIS

Tel. : +33 (0)1 76 21 75 00

contact@cdc-biodiversite.fr

www.cdc-biodiversite.fr



Antoine Cadi

Directeur Recherche et Innovation

Mail : antoine.cadi@cdc-biodiversite.fr

Tel. : +33 (0)1 80 40 15 16

Mobile : +33 (0) 6 21 63 18 00

Joshua Berger

Chef de département empreinte biodiversité

Mail : joshua.berger@cdc-biodiversite.fr

Tel. : +33 (0)1 80 40 15 41

Mobile : +33 (0) 6 21 86 16 81



CDC BIODIVERSITÉ

