

Case study Summary sheet

Context

CASE STUDY

Footprint use category: Corporate level

Assessment time: 2019

Perimeter

	LUEFN Pressure	CC Pressure	Aquatic Pressures
Scope 1	✓	✓	✓
Scope 2	✓	✓	✓
Scope 3	Tier 1	✓	✓
	Rest of value chain	✓	✓
	Downstream	○	○

COMPANY'S IDENTITY

Schneider Electric

Industry

Manufacturing

Sub-industry

Electrical machinery

2019 turnover

27.2 billion EUR

Listed

Euronext

Why?

QUANTIFY BIODIVERSITY HOTSPOTS AND OPPORTUNITIES ALL ALONG SCHNEIDER ELECTRIC'S VALUE CHAIN, WITH A GLOBAL AND SCIENTIFIC APPROACH

What?

END-TO-END (SCOPE 1, 2 AND 3 UPSTREAM) IMPACTS. ADDITIONALLY, DOWNSTREAM CLIMATE CHANGE IMPACTS HAVE BEEN ASSESSED

When?

2019 IMPACTS

For who?

ENVIRONMENTAL & STRATEGY TEAMS AT SCHNEIDER ELECTRIC EXTERNAL STAKEHOLDERS, INCLUDING A CALL TO ACTION TO OTHER BUSINESSES

How often?

REGULAR SIMPLIFIED ASSESSMENT TO MONITOR PROGRESS AND FULL ASSESSMENTS AT SIGNIFICANT UPDATES OF THE GBS.

How detailed?

CORPORATE LEVEL, TAKING INTO ACCOUNT DATA REPORTED AT VARIOUS LEVELS INCLUDING SITES AND PURCHASE CATEGORIES

DATA COLLECTED

Item	Description	Source
Land occupation	Scope 1 surface area occupied by manufacturing facilities, distribution centers (logistics), and offices (m ²)	Schneider Electric (SE): Internal reporting & calculations
Water consumption and withdrawal	Scope 1 volumes of water consumed or withdrawn by site or by country (m ³)	SE: Extra financial reporting
GHG emissions	GHG emissions for Scope 1, 2 and 3 (upstream and downstream) (kg CO ₂ -eq)	SE: Extra financial reporting
Raw material purchases	Tonnages of metal ores, crude oil and wood logs purchased (t)	SE: Internal reporting, carbon footprint calculations & specific assumptions
Purchases	Breakdown of direct purchases by procurement category (EUR)	SE: Internal reporting
Turnover	Total turnover and break down by industry and country (EUR)	SE: Financial reporting & internal reporting
Energy	Electricity bought by country and technology. Fossil fuels bought for heating.	SE: Extra financial reporting

Footprint analysis

RESULTS

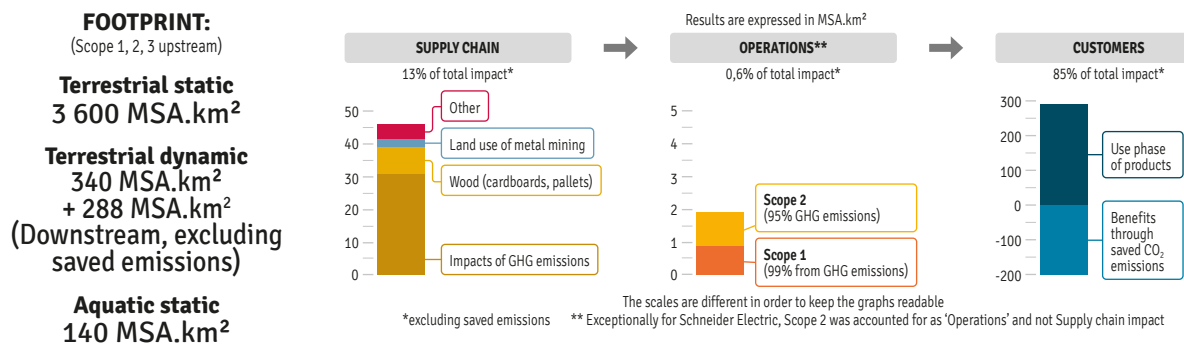


Figure 12: Terrestrial dynamic footprint of Schneider Electric

KEY MESSAGES

→ Upstream impacts make up a very significant part of Schneider Electric's impacts on biodiversity: engagement and traceability in the supply chain (especially plastics, metals and wood sourcing) are key to tackle biodiversity loss.

→ The main single contributor to biodiversity loss caused by Schneider Electric is downstream greenhouse gas emissions linked to product use: the ambitious carbon policy of Schneider Electric has strong synergies with the biodiversity policy it needs to adopt.

→ Impacts caused by direct operations are relatively limited (<1%) but levers of action also exist to reduce it further: land use intensity at offices, factories and distribution centers can be reduced through lower land occupation and water withdrawal and consumption in water-stressed watershed can be further reduced.

IMPROVEMENTS

→ Since upstream impacts represent such a high share of impacts, refinement of the estimations of raw material tonnages and of recycled content are required. It is also necessary to better understand the impact of recycled and certified wood

→ Developments on aquatic biodiversity assessment are needed in order to reduce uncertainties.

3.2 Schneider Electric

As a global specialist in energy management and automation in more than 100 countries, Schneider Electric offers integrated energy solutions across multiple market segments. Sustainability is at the heart of its strategy, and it has recently started its biodiversity journey. For Schneider Electric, the evaluation of its biodiversity footprint was

therefore an opportunity to quantify biodiversity hotspots and opportunities all along its value chain, with a global and scientific approach.

The Biodiversity Footprint Assessment of Schneider Electric's activities has been conducted following the 5 steps described in section 1.2.2.

In the following paragraphs, the application of those steps in the specific case of Schneider Electric will be discussed.

BOX 3

Invited witness – Esther Finidori on a simple belief when it comes to corporate environment: quantify, strategize, act



We are at a turning point for biodiversity and a drastic acceleration is needed to avoid major disruption in our society. The past ten years have taught us that a lot can be done at personal, governmental or company level to limit global warming. In the coming years we must replicate and fast-track the adoption of those best practices in the field of biodiversity.

To begin their biodiversity journey, companies must measure their impact across the entire value chain, define ambitious science-based strategies and take relevant action.

In 2020, Schneider Electric was the first company to measure its biodiversity footprint across the entire value chain, using the Global Biodiversity Score®. Based on this scientific approach, we committed to achieve No Net Biodiversity Loss in our direct operations by 2030.

Understanding our impacts allowed us to pinpoint solutions to act now. For instance, greenhouse gas emissions represent over 95% of Schneider Electric's biodiversity impact; hence, stepping up the fight against climate change is an essential lever for preserving biodiversity.

At Schneider Electric, we are committed to:

- **Develop solutions for biodiversity.** We innovate every day to help our customers reduce their CO₂ emissions. In 2020, with Schneider, our customers avoided 75 mt CO₂. In the coming years we will help them avoid 100 mt CO₂ in average every year.

- **Transform the value chain,** working with our suppliers to improve the traceability of raw materials and components, develop circular economy principles (both with our suppliers and our customers) and increase the share of low(er) environmental impacts materials
- **Act locally to preserve ecosystems.** Wherever we operate we are engaged to have a biodiversity preservation and restoration program by 2025.

We are well aware that we won't succeed in this journey alone and the entire economic system needs to step up to face the challenge. The financial sector also has a major role to play: for climate change it is today the engine that creates the needed momentum for an acceleration of corporate strategies.

The private sector can begin now to quantify its impacts on biodiversity, understand the interdependencies between nature and business, identify risks and define action plans by committing to No Net Biodiversity Loss. The responsibility of every company and investor is to be sure that its economic activities respect a trajectory to favour the biodiversity preservation and restoration.

Clear and measurable international targets must also be set during the coming international instances (such as the COP15), similar to the 1.5°C target which clearly shows us the way for climate action.

Time to act is now, and impact quantification is a must-have first step in that direction.

Esther Finidori,
VP Environment Schneider Electric

3.2.1 Framing

The framing of the evaluation is an important step since it sets the boundaries and lays the foundations of the study. It usually involves the project owner and the assessors and, in the case of Schneider Electric (here the project owner), it lasted a couple of weeks.

A PERIMETER

The following questions were answered for the definition of the perimeter of Schneider Electric's evaluation:

- *Which business units, subsidiaries?* Whole Schneider Electric group
- *Which countries, site?* Global
- *What is the time period of the assessment?* 2019
- *Which Scopes?* End to end: Scope 1, 2 and 3 upstream. Additionally, downstream climate change impacts have been assessed.

B SCREENING OF BIODIVERSITY ISSUES

To identify the most impactful steps within value production, a first screening of sectoral level impacts is usually conducted based on the turnover split per region and sector with the GBS. At the site level, a screening of the presence of threatened species (IUCN Red List for example) or protected areas nearby can be conducted with tools such as the Integrated Biodiversity Assessment Tool or IBAT⁽¹⁾, as recommended in UNEP-WCMC report on extractives biodiversity indicators (UNEP-WCMC 2019).

- *What are the main sources of biodiversity impact within the value chain of the company?*

(1) <https://www.ibat-alliance.org/>

Table 20: Example of a fictitious (not related to Schneider Electric's case) representation of the screening of the main sources of impacts (●=least material; ●●●●●=most material)

SCOPES	LAND USE CHANGE	DIRECT EXPLOITATION OF BIOLOGICAL RESOURCES	CLIMATE CHANGE	POLLUTION	INVASIVE ALIEN SPECIES
Scope 1	●	●	●●●	●●	
Scope 2	●	●	●●●●●	●	
Upstream Scope 3	●●●●	●●●●●	●●●●	●●●	

Table 21: Schneider Electric's collected data (Schneider Electric and CDC Biodiversité 2020)

IPBES PRESSURES	SCOPE 1	SCOPE 2	UPSTREAM SCOPE 3	DOWNSTREAM SCOPE 3
Land use change	○ Surface of the land occupied (m ²)	Not yet assessed in the GBS	●	Not yet assessed in the GBS
Direct exploitation of biological resources	○ Volumes of water consumed or withdrawn by site or by country (m ³)		●●●●● Tonnages of metal ores, crude oil and wood logs purchased (t)	
Pollution	○ Assessed through financial data		●●● Purchases by procurement category (EUR) Electricity bought by country and technology.	
Climate change	●●● GHG emissions (kg CO ₂ -eq)			
Invasive alien species	Not yet assessed in the GBS			

Caption: ○ not material ● material ●●● very material

In the case of Schneider Electric, the first screening of the impacts with the GBS highlighted the importance of Climate change impacts as well as upstream Scope 3 impacts. Therefore, the data collection was mainly focused on these elements.

- *What are the endangered species, protected areas, critical habitat, etc. around the sites of the company?*

Schneider Electric is planning to use IBAT in addition to the GBS to gain knowledge on protected areas and endangered species around their sites (Schneider Electric and CDC Biodiversité, 2020).

3.2.2 Data collection

Data collection is probably one of the most time-consuming steps of a BFA. Collecting the best and most relevant available data requires the involvement of many different departments of the assessed company. Efforts should be concentrated on the pressures identified as the most material during the screening: in other words, efforts to collect data should be proportional to the expected impacts associated to them (e.g. 80% of efforts for the data associated to 80% of the impacts). In the case of Schneider Electric, this step lasted around 2 months and involved the project owners and consultants, the procurement team, as well as Life Cycle Assessment experts.

- *What type of data can be collected?*

Based on the results of Step 1, the data collection focused on procurement data and climate change. For procurement data, LCA experts from Schneider Electric's teams worked together with the procurement in order to get the raw material data behind the manufactured products.

Table 21 summarises Schneider Electric's data, for each pressure on biodiversity and each Scope; as well as the materiality of the associated impact, as identified in the previous step.

3.2.3 Computation

The computation step is performed using a simple user interface from the R package developed by CDC Biodiversité. It is fed the data collected in the previous step, organised in standard inputs developed to facilitate the modelling process. The biodiversity impacts of the activities of the assessed company are computed: standard charts and an Excel file containing the results are generated to facilitate analysis. Figure 13 shows the user interface and an extract of the standard charts automatically generated.

In the case of Schneider Electric, the computation was conducted by the consultants and did not require a long period.

3.2.4 Analyses

This step is the quantitative and qualitative interpretation of the results. It involves the project owners, the consultants, and can require the help of some experts, especially for the qualitative analysis. In the case of Schneider Electric, it lasted about a month and a half.

A QUANTITATIVE ANALYSIS

The quantitative analysis aims at interpreting the results computed in the previous step. The questions related to this step are listed below and answered for the case of Schneider Electric.

- *What is the size of the impact of the company on various natural ecosystems and what are the impact hotspots?*

BOX 4 FOCUS – Reporting rules for GBS-based Biodiversity Footprint Assessments

Results of BFAs should be broken down by:

- **Realm – Terrestrial vs Freshwater:** reporting impacts on the two realms separately is required in order not to downplay aquatic impacts. Aquatic ecosystems cover a much smaller surface area of the Earth, meaning that an impact of 100 MSA.km² is a much larger share of aquatic biodiversity than it is of terrestrial biodiversity. It also means that aquatic impacts are usually quantitatively much smaller than terrestrial impacts (in MSA.km²), while still being equally significant.
- **Accounting category – Dynamic vs Static:** in line with the BD Protocol, periodic gains/losses (dynamic impacts) and cumulated negative impacts (static impacts) should be reported separately (Endangered Wildlife Trust 2020). Besides, unlike dynamic impacts, static impacts cannot be summed up over reporting periods since they represent a stock of impacts.
- **Ecotoxicity impacts:** the ecotoxicity module in GBS 1.x versions being subject to greater uncertainties, ecotoxicity results should be reported separately and not compared directly to non-Ecotoxicity impacts.
- **Climate change impacts (optional):** reporting Climate change impacts separately highlights impacts already tackled through the entity's climate policy and the non-climate impacts it needs to tackle through additional actions.

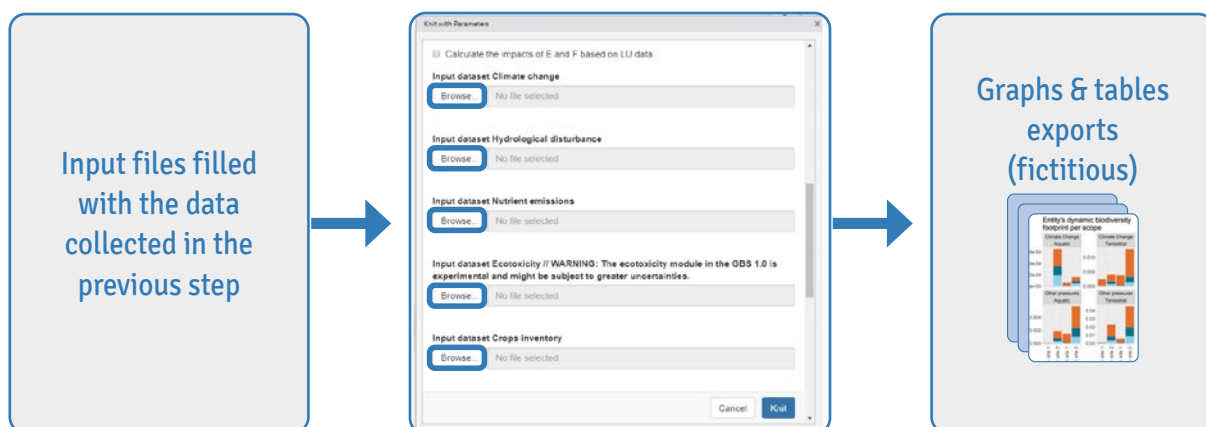


Figure 13: Representation of the computation step

The overall results of Schneider Electric’s biodiversity footprint assessment are presented in the case study summary sheet. Scope 1 has a low impact in comparison to the rest of the value chain, most of the impact being generated in the downstream Scope 3, caused by the CO₂ emitted during the use phase of Schneider Electric’s products. Excluding downstream impacts, 98% of the rest of the impacts are due to purchases, in upstream Scope 3 (Schneider Electric and CDC Biodiversité 2020).

► How does the company compare with others in terms of biodiversity footprint?

Figure 14 provides an overview of Schneider Electric’s performance against different benchmarks:

- The *Scope 1 Global average* which represents the average impact of companies globally⁽¹⁾.
- An average company of the same sector as Schneider Electric: “Manufacture of electrical machinery and apparatus n.e.c. (not elsewhere classified)” (*Industry average*) (see Box 5).

(1) It is computed by simply dividing the total annual biodiversity loss predicted by GLOBIO-IMAGE by the total monetary value of the 2011 world production reported in EXIOBASE (latest year available).

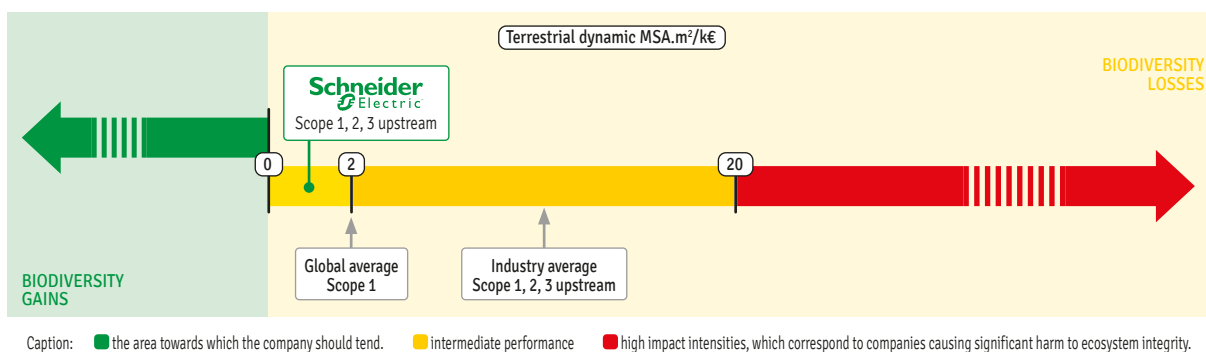


Figure 14: 2019 terrestrial dynamic performance of Schneider Electric against benchmarks (Schneider Electric and CDC Biodiversité 2020)

BOX 5 FOCUS – Sectoral benchmarks

CDC Biodiversité is developing a series of 13 factsheets⁽²⁾ designed for companies or investors to assess a sector’s impact on biodiversity, as computed by the Global Biodiversity Score®. It is supported by an explanatory appendix. It can be used by companies to compare their impact to the sector average or to estimate their impact and main pressures on biodiversity, and by investors to screen their biodiversity impact, or to rate the performance of specific companies against sectoral benchmarks.

(2) <https://www.mission-economie-biodiversite.com/actualites/fiches-benchmark-benchmark-factsheets>

B QUALITATIVE ANALYSIS

The objective of this analysis is to assess to what extent the quantitative analysis covers all biodiversity impacts of the company, within the boundaries of the study, and to list limitations.

► *What are the blind spots of the study?*

Besides the GBS limitations, the data collected for the biodiversity footprint assessment of Schneider Electric also

suffer from limitations. Despite the efforts of LCA experts and the procurement teams, the data were still lacking precision – especially for fabricated or recycled products. It was also not possible to know where the raw materials were coming from, so global impact factors had to be used instead of more precise country impact factors (Schneider Electric and CDC Biodiversité 2020).

BOX 6 FOCUS – Environmental Safeguards

Factors and pressures that may influence the impact of economic activities on biodiversity but are not (yet) covered by the biodiversity footprinting methodology will not show up in the footprint results. To make sure that these factors and pressures are not overlooked in the decisions taken following a footprint, the company should address these factors and pressures by means of different actions. Examples of such actions or ‘environmental safeguards’ are included in Table 22. Sector specific environmental safeguards can be found in each benchmark factsheet.

Table 22: Environmental Safeguards to implement to complete the quantitative assessment of a BFA (CDC Biodiversité 2020f)

ISSUES NOT (FULLY) COVERED BY THE GBS APPROACH	CRITERIA TO APPLY TO DIRECT OPERATIONS AND THE VALUE CHAIN (ESPECIALLY SUPPLIERS) TO ASSESS IF ACTIONS SHOULD BE TAKEN	ACTIONS ADDRESSING THE ISSUE
Location specific impact characteristics		
Water scarcity	→ If some activities in water-scarce areas	→ Establish and implement a water management system
Proximity of HCVA's (High Conservation Value Areas) / protected areas	→ If operating in or near these areas	→ Establish and implement a Biodiversity Management Plan or Biodiversity Action Plan for the entities concerned → Respect legal requirements related to the mitigation hierarchy
Presence of threatened or protected species	→ If endangered or threatened species are suspected to be locally affected by the activities → If activities must comply with the mitigation hierarchy	
Impact on soil fertility/soil quality		
Impacts on soil fertility/soil quality	→ If activities impact soil fertility or quality	→ Switch to production or sourcing only from organic or low impact agriculture
Drivers of biodiversity loss		
Introduction of invasive alien species	→ If activities can introduce invasive alien species to new areas (e.g. through transport)	→ <i>Specific certification initiatives may be used/required to guarantee compliance</i> → Require the implementation of a management system to prevent the introduction of invasive species → Ban the use of Genetically Modified Organisms (GMOs)
Overexploitation	→ If activities are contributing to over-harvesting or over-use of living species, pushing their populations to decline	→ In case of ‘high risk’ sectors: companies should assess a sustainable level of exploitation → <i>Specific certification initiatives may be used/required to guarantee compliance</i> → Comply with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) → Ban the use of IUCN Red List species
Disturbance	→ If activities are expected to significantly disturb biodiversity (e.g. based on an environmental impact assessment)?	→ Carry out an Environmental Impact Assessment (EIA) and implement its recommendations → If fisheries, no salting-out.

C STRATEGY & ACTION PLAN

In this last step, targets and measures are suggested to tackle biodiversity loss.

► *How can the company's impacts be compatible with the planetary boundaries?*

The results of the assessment have enabled Schneider Electric to make decisions and set targets: in addition to working on local biodiversity on its sites, Schneider Electric also wants to influence beyond its Scope 1 and partner with its suppliers to reduce impacts in its supply chain. The main areas for action will be, as shown by the results of the assessment, GHG emissions, wood and metal sourcing (Schneider Electric and CDC Biodiversité 2020).

BOX 7 Focus – Possible targets at business level

Figure 15 shows possible targets at business level, with different levels of ambition. These levels of ambition are not specific to Schneider Electric's assessment (and indeed were not available when it conducted its assessment in 2020), and as the other boxes of this section, aim to showcase what companies conducting BFA can refer to. As of 2021, the "best in class" have published objectives in line with the "First stage to start the journey" objectives described in Figure 15, which are already a significant step, requiring significant efforts. First movers will have to ratchet up their ambition in the future, and other companies will have to follow their lead.

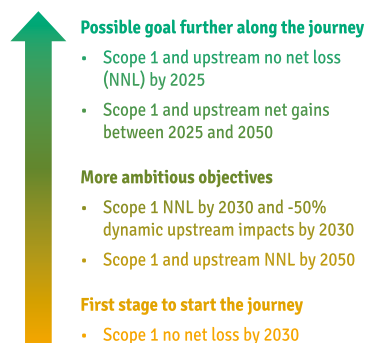


Figure 15: Possible targets at business level