

# Case study Summary sheet

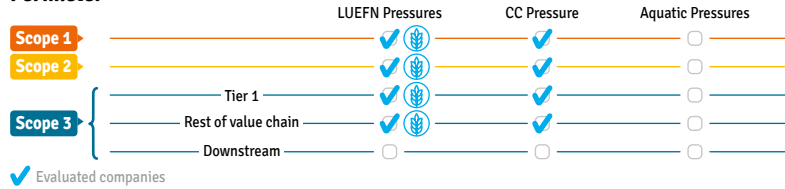
## Context

### CASE STUDY

**Footprint use category:** Corporate and portfolio  
**Assessment time:** 2011-2017

**Business application:** Biodiversity management & performance

#### Perimeter



### COMPANY'S IDENTITY

**VEOLIA**  
 Eau d'Ile-de-France  
 Déléataire du SEDIF

**Industry**  
 Collection, purification and distribution of water

**Turnover over 2011-2017**  
 EUR 2.4 billion

### Why?

ASSESS THE BIODIVERSITY IMPACT OF THE WHOLE ACTIVITY (SCOPES 1, 2, 3 UPSTREAM) OVER THE PERIOD 2011-2017

### When?

THE DEFAULT FOOTPRINT IS COMPUTED BASED ON VEOLIA EAU D'ILE DE FRANCE'S TURNOVER OVER THE 2011-2017 PERIOD

### How often?

ONE-OFF FOR THE PILOT BUT COULD BE LED EVERY ONE TO FOUR YEARS TO FEED NON-FINANCIAL REPORTING

### What?

TOTAL DEFAULT IMPACT OF THE ACTIVITY OVER THE PERIOD. THE IMPACT OF VEOLIA EAU D'ILE DE FRANCE'S SITES AND CARBON OFFSET PROJECTS ARE ASSESSED THROUGH A REFINED ASSESSMENT

### For who?

INTERNAL USE MONITORING OF ENVIRONMENTAL STRATEGIES

### How detailed?

CORPORATE LEVEL, TAKING INTO ACCOUNT SPECIFIC DATA ON VEOLIA EAU D'ILE DE FRANCE'S SITES AND THE CARBON OFFSET PROJECTS FINANCED

### DATA COLLECTED

Item	Details	Source
<b>Tunover</b>	Total turnover over the period 2011-2017 per region and industry	Veolia Eau d'Ile de France
<b>GHG emissions</b>	Total Scope 1 emissions over the period 2011-2018 Carbon offset per year and per project over the period 2011-2018	Veolia Eau d'Ile de France
<b>Land-use</b>	Surface areas per land-use type on Veolia Eau d'Ile de France's sites in 2011 and 2017 Location and surface areas per land-use type on carbon offsetting projects in 2011 and 2017, details on the content of each project	Veolia Eau d'Ile de France Up2green

## Footprint analysis

### RESULTS

Results of the refined assessment over the period 2011-2017

Total **Dynamic** footprint  
**-3.07 MSA.km<sup>2</sup>**  
 Total **Static** footprint  
**34 MSA.km<sup>2</sup>**

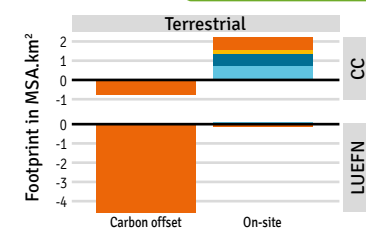


Figure 37: VEDIF's **dynamic** biodiversity footprint over the period 2011-2017, refined approach

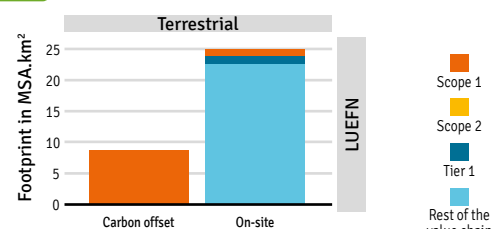


Figure 38: VEDIF's **static** biodiversity footprint over the period 2011-2017, refined approach

(source: GBS calculations, Oct. 2019)

### KEY MESSAGES

→ The case study showcases the "corporate footprint" use of the GBS, which is the main one. It enabled the assessment of the footprint of Veolia Eau d'Ile de France's whole activity

→ Across its Scope 1, 2 and 3 upstream, the refined total dynamic footprint of Veolia Eau d'Ile de France amounts to -3.07 MSA.km<sup>2</sup> (biodiversity gain), for an intensity of -1.3 MSA.m<sup>2</sup>/kEUR over the perimeter of pressures and raw

materials assessed. Veolia Eau d'Ile de France's impacts could be a loss of biodiversity when all pressures and raw materials are taken into account

→ The land use Scope 1 dynamic impact is a gain of approximately -4.6 MSA.km<sup>2</sup> thanks to carbon offsetting projects and -0.06 MSA.km<sup>2</sup> thanks to the implementation of late-mowing on Veolia Eau d'Ile de France's sites

→ The climate change dynamic impact is approximately 0.8 MSA.km<sup>2</sup> for its Scope 1 and 1.4 MSA.km<sup>2</sup> for its Scope 2 and 3 upstream. The Scope 1 impact is compensated by carbon offsetting, so *in fine* the Scope 1 net dynamic CC impact is 0 MSA.km<sup>2</sup>

→ Offsetting Scope 3 GHG emissions would allow Veolia Eau d'Ile de France to further reduce its footprint

### IMPROVEMENTS

→ Considering Veolia Eau d'Ile de France's activity, the greatest improvement would be to assess the impacts on aquatic biodiversity. This could be done through the integration of aquatic pressures and the consideration of the depollution activity

→ Integrating the impacts of other raw materials than primary crops and water consumption in the default assessment would improve the coverage of the study

## 4.4 Veolia Eau d'Ile-de-France

### 4.4.1 Context and objectives

Veolia Eau d'Ile-de-France is in charge of water collection, purification and distribution for 150 municipal areas and 4.6 million inhabitants in the Île-de-France region in France. Sustainable development issues are a pillar of Veolia Eau d'Ile-de-France's strategy and the company has been seeking to manage its environmental footprint since the beginning of its public service delegation contract, in 2011. This case study assesses the overall footprint of Veolia Eau d'Ile-de-France over its Scopes 1, 2 and 3 upstream over the 2011-2017 seven-year period. The GBS default approach is used based on Veolia Eau d'Ile-de-France's activity data (turnover over the assessment period). For two actions, a refined assessment is conducted: 1) Veolia Eau d'Ile-de-France's participation to 12 reforestation programmes conducted by the French NGO Up2green in Latin America and Sub-Saharan Africa in order to achieve its carbon neutrality objective and 2) the differentiated management of green areas over Veolia Eau d'Ile-de-France's sites. The reforestation projects aimed to go beyond simple tree plantations and to achieve biodiversity co-benefits.

### 4.4.2 Methodology

The default assessment is conducted through the Input-Output module of the GBS based on Veolia Eau d'Ile-de-France's activity data. Veolia Eau d'Ile-de-France operates only in France in the industry "Collection, purification and distribution of water" and its total turnover over the period 2011-2017 is EUR 2.4 billion. The static and dynamic biodiversity impacts due to terrestrial pressures (climate change, land use, encroachment, fragmentation and nitrogen deposition) are assessed for the 3 Scopes based on industry averages provided in the environmental extensions of EXIOBASE.

In the refined assessment, Scope 1 default data related to land use are replaced by real surface areas per land-use type in 2011 and 2017 on Veolia Eau d'Ile-de-France's sites (approximately 130 ha), which includes the implementation of late mowing over green spaces. Data on the carbon offsetting projects (approximately 1 500 ha and 4 million trees planted), which consist in reforestation projects, for instance converting degraded plantations into agroforestry, are also taken into account. Scope 1 default GHG data are also replaced by Veolia Eau d'Ile-de-France's real emissions. The refined assessment thus incorporates a refined value of the Scope 1 dynamic and static footprints, along with the default Scopes 2 and 3 impacts.

### 4.4.3 Results and discussion

The total dynamic footprint of Veolia Eau d'Ile-de-France's activity over the period 2011-2017 is  $-3.1 \text{ MSA.km}^2$ , *i.e.* biodiversity gains. The gains are achieved within Veolia Eau d'Ile-de-France's Scope 1 thanks to actions related to land use and climate change ( $-4.7 \text{ MSA.km}^2$ ) while losses due to climate change in the supply chain amount to  $1.4 \text{ MSA.km}^2$ . The static Scope 1 footprint is  $10 \text{ MSA.km}^2$ , 90% of which are due to carbon offset programmes. The rest of the static impacts ( $24 \text{ MSA.km}^2$ ) are computed by default and occur in the upstream value chain due to some limited purchases of crop products.

Scope 1 GHG emissions amount to 180 000 t CO<sub>2</sub>-eq over the period 2011-2017. Since these emissions are fully compensated by the offsetting projects financed by Veolia Eau d'Ile-de-France and led by Up2green, the Scope 1 climate change net impact is considered null.

Detailed data allowed to quantify the associated benefits for the land use pressure related to late-mowing and the reforestation projects. The data collected included 1) the surface areas of Veolia Eau d'Ile-de-France's sites for each land use type and 2) the content and location of carbon offsetting projects. As expected, the land use dynamic impact is a gain of 4.7 MSA.km<sup>2</sup>, highlighting the positive land use changes induced.

Combined with the null climate change net impact, this leads to a Scope 1 **dynamic** loss of -4.7 MSA.km<sup>2</sup> (negative losses, *i.e.* biodiversity gains). The supply chain impacts assessed are mainly due to climate change and amount to 1.6 MSA.km<sup>2</sup>. Figure 37 displays the breakdown of Veolia Eau d'Ile-de-France's dynamic footprint per Scope<sup>(62)</sup>.

The additional site and offset data also allow the computation of the refined **static** Scope 1 impact of Veolia Eau d'Ile-de-France. The impact is mainly due to the offsetting projects – which expands over 1 500 ha versus only 130 ha for Veolia Eau d'Ile-de-France's sites – and amounts to 0.9 MSA.km<sup>2</sup> on Veolia Eau d'Ile-de-France's sites and 9.2 MSA.km<sup>2</sup> on carbon offsetting projects. When the static impact from the supply chain is added, Veolia Eau d'Ile-de-France's overall static impact over the period is 34 MSA.km<sup>2</sup> as shown by Figure 38. The static impact may seem high, especially compared to the dynamic impact, yet it can be seen as an area over which opportunities to reduce the footprint exist, *e.g.* through restoration.

#### 4.4.4 Lessons learnt

The case study with Veolia Eau d'Ile-de-France was the first corporate assessment (whole activity) run with the GBS, thus showcasing the main use of the tool.

The biodiversity gains related to carbon offset projects and green space management show that positive impacts can be reached through dedicated actions. The results are however highly dependent on the land use categories chosen. A more conservative assessment was run, leading to dynamic biodiversity gains of 3.17 MSA.km<sup>2</sup> (compared to 4.61 MSA.km<sup>2</sup> with the current hypotheses). Furthermore, these gains are achieved through one-off actions such as switching from conventional management of green spaces to late-mowing: once late-mowing is in place, it will not be possible to reproduce the associated 0.06 MSA.km<sup>2</sup> gain in the future. Also, Veolia Eau d'Ile-de-France's footprint is incomplete since the perimeter of the case study excluded several impact sources (non-agricultural commodities, pollution) and impacts on aquatic biodiversity. Still, the study shows that positive impact trajectories could be reached and measured if ambitious strategies are set and dedicated actions implemented.

Thanks to the quality of the data provided by Veolia Eau d'Ile-de-France, this case study was among the firsts to enable the implementation of a refined assessment and the first one enabling the comparison of the default and refined assessments. As such, it provided the opportunity to develop and test the data collection files and computation procedures related to refined climate change and land use assessments. As expected, refined company data are very valuable to properly measure the company's footprint. In the case of Veolia Eau d'Ile-de-France, refining the analysis indeed caused the dynamic footprint to drop below 0, thus expressing biodiversity gains that could not be accounted for in the default assessment. On the contrary, the static impact increased by 40%. Though this result is very specific to this case study due both to Veolia Eau d'Ile-de-France's important investment in reforestation projects and to the perimeter studied, it confirms the need to make sure that the tool is flexible enough to incorporate the best available data and handle various data qualities simultaneously.

(62) As suggested by the US Environmental Protection Agency (2018) impacts related to carbon offsets are considered to belong to the same Scope as that of the impacts they mitigate (here Scope 1). It was decided to report carbon offset impacts separately rather than representing the net impact, *i.e.* to represent both the on-site negative Scope 1 GHG emissions impacts and Scope 1 carbon offset positive impacts.