

# 2023 BIODIVERSITY NOTEBOOK





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of the company's challenges

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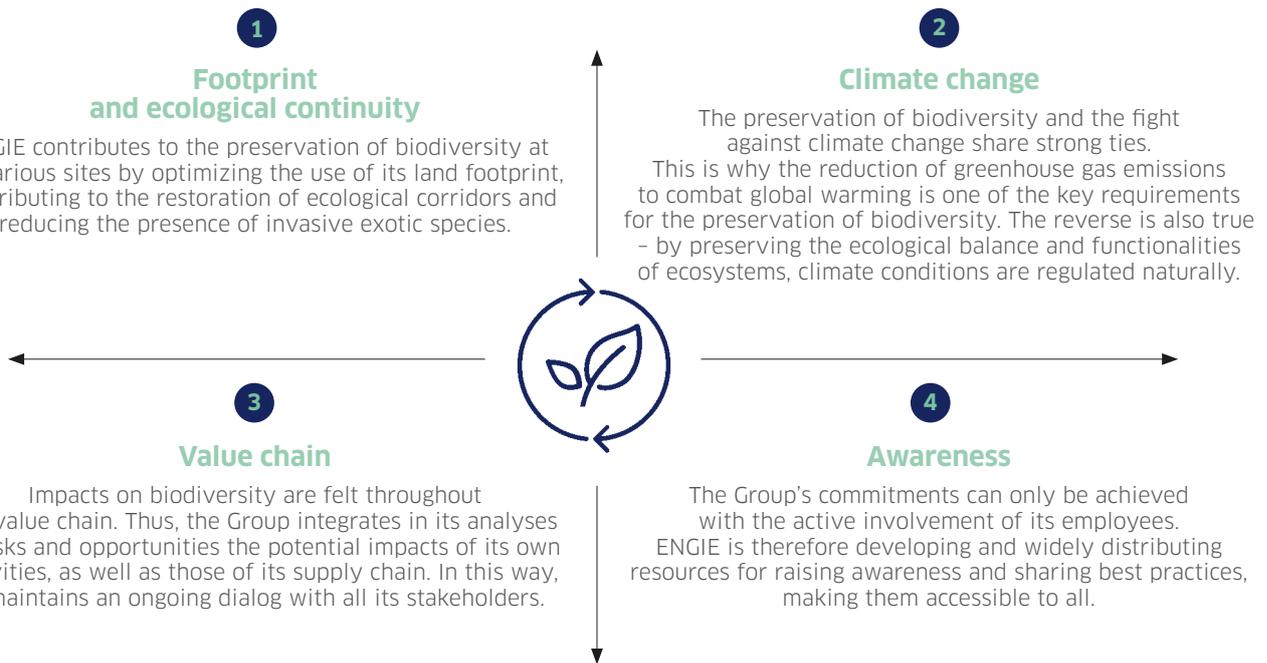
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# BIODIVERSITY AT THE HEART OF THE COMPANY'S CHALLENGES

In 2010, ENGIE committed to integrating biodiversity into its strategy. In order to take all dimensions of this challenge into consideration, the Group adopted a global avoidance and reduction approach that begins with project design and continues until the end of life of a site or an activity.

## COMMITMENTS IN FOUR AREAS



### A FOUNDATION OF NATIONAL AND INTERNATIONAL COMMITMENTS

Since 2012, this action within the Group is supported by external commitments to preserve biodiversity. ENGIE thus reaffirms the importance of biodiversity in its strategy, and its willingness to contribute to the achievement of global goals. In this context, ENGIE has been committed for several years to the French National Strategy for Biodiversity. Through the *Entreprises Engagées pour la Nature* (Companies Committed to Nature Initiative) and internationally through its involvement in act4nature since its beginning. In 2019, the Group also made a commitment with regard to natural and mixed sites included in the UNESCO world heritage sites. The Group is supported and challenged in its action through partnerships with the French Committee of the International Nature Conservation Union (IUCN), France Nature Environment (French federation of associations for the

protection of nature and the environment - FNE) and, since 2022, the United Nations Environment Program-World Conservation Monitoring Centre (UNEP-WCMC), which brings together experts in biodiversity.

### A NEW 2020-2030 ROADMAP

In 2021, ENGIE renewed its commitments in act4nature international and has been involved in *Entreprises Engagées pour la Nature*. The Group also set out a new road map for 2020-2030 based on the major pressures on biodiversity identified by the IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services), the United Nations SDGs (Sustainable Development Goals), common act4nature commitments and issues specific to its activities. The report on these actions is available on the ENGIE website.

### PROGRESS OF THE COP 15

The Conference of Parties (COP) on biodiversity is held every two years. COP 15, which was held in Montreal from December 7-19, 2022, adopted a new global framework for biodiversity with, for the first time, a strong presence from economic players (companies and financial analysts), including ENGIE.

The 196 States that participated in the Conference made a commitment to take "urgent measures" to avoid the collapse of life by 2030 by agreeing to a "peace pact with nature."

The agreement calls for protecting 30% of the planet, restoring 30% of ecosystems, halving risks from pesticide use and doubling funding for nature protection.

These different goals are broken down into 23 action targets, several of which involve companies, notably target 15, which encourages companies to identify their impacts and dependencies, measure them and publicly disclose them.

\* UN Environment Programme World Conservation Monitoring Centre

# IDENTIFY ITS FOOTPRINT TO LIMIT ITS IMPACT

**In constant interaction with biodiversity, the Group's activities can have indirect impacts on ecosystems. But they also benefit from services provided by nature, such as the raw material supply or the regulating cycles.**

## Identify the impacts on biodiversity to target actions

The Group's impacts and dependencies on biodiversity are analyzed with respect to five major pressures\*:

changes in land use, overexploitation of resources, climate change, pollution and invasive species.

The impacts of the Group's activities are:

### Changes in land use

- Direct land footprint of the sites.
- Extraction of raw materials.
- Indirect impacts from the production of biogas (utilization of agricultural or forest waste).
- Air footprint for birds and bats.
- Aquatic footprint (fish).

### Overexploitation of resources

- ENGIE has a small impact on the direct exploitation of resources, except for some forms of biomass coming almost exclusively from wood waste or agricultural waste (bagasse, straw, etc.).

### Climate change

- Greenhouse gas emissions (CH<sub>4</sub>, CO<sub>2</sub>, N<sub>2</sub>O essentially).

### Pollution

- Emissions into the air (NO<sub>x</sub>, SO<sub>2</sub>, particles, etc.),
- Releases into water.
- Waste.
- Light pollution;
- Noise.

### Invasive species

- The Group can also generate impacts on invasive exotic species because excavation work is potentially a vector for dissemination. In addition, the green spaces around the sites represent potential habitats for these undesirable species.

## Analysis of the impacts throughout the value chain

The majority of ENGIE's activities have been the subject of a life cycle analysis. Their impacts affect:

### Supply

- Dependence of the Group's technologies on natural gas, uranium and biomass resources.
- Use of rare earth metals and critical materials.
- Exposure to climate events: floods, drought, storms, heat waves, mild winters.

### Production

- Dependence of electrical and thermal energy production on the water resource.
- Ground footprint of the Group's sites and strong interaction with the natural ecosystems of the territory.

### End-of-life

- Recycling of the materials used, particularly for the production of wind turbines and solar panels.

## Multiple dependencies on nature

### Raw materials of natural origin

- The Group's activities depend on raw materials of natural origin, minerals (coal, natural gas, metals, rare earth elements) or vegetation (biomass).

### Water cycle

- Dependence of hydroelectric generation on waterways and their regulation.

### Climate regulation

- Dependence of solar and wind power production on climate regulation.
- Exposure of the Group's activities on climate events.

### Soil quality

- Dependence of the activities of the networks (transport, distribution, heating / cooling) on the stability of the soils provided by the ecosystemic services of support (water filtration, biodiversity of the sub-soil, etc.)

## REDUCING WATER USE WITH A NEW TARGET

The water challenge is a local issue closely tied to the availability of fresh water and the degree of water stress of the watershed.

For ENGIE, the activities that consume the most fresh water are thermal power plants, LNG terminals, heating / cooling networks and the creation by dissolution of salt caverns for gas storage.

**In 2022, ENGIE set a new target for 2030: the reduction of the fresh water consumption rate in relation to the energy produced (m<sup>3</sup> / MWh) for the consolidated entities of the Group with the following target: 0.100 m<sup>3</sup> / MWh.**

This target thus represents a reduction of 70% in fresh water consumption per energy produced at the end of 2030 compared with 2019.



## REDUCE THE IMPACT OF WIND FARMS ON BIODIVERSITY

Wind farms are sometimes criticized for their impact on birds.

The impacts can be minimized by avoiding sites that include the preferred areas of reproduction and food of birds or by using wind turbines that reduce the risk of collision.

In 2020, ENGIE launched a research project with the universities of Aix-Marseille and Groningen to study and predict the flight behavior of birds near the turbines and the connection with the rate of collisions. The study is being conducted at different wind farms, countries and on several species of birds of prey: the red kite, the common buzzard, the marsh harrier, the hen harrier and Montegu's harrier.

\* These pressures are identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

# COMMITMENT STRATEGY

Aware of the need to mitigate its own impacts on nature, ENGIE is committed to the fight against the global erosion of biodiversity. ENGIE takes a global approach, from project design to the end of life of a site, ensuring dialog with its stakeholders. The Group has defined a 2020-2030 roadmap whose targets and commitments are included in the act4nature international and *Entreprises Engagées pour la Nature* programs. Performance progress is measured annually and is published in official documents (website, Universal Registration Document and Integrated Report). Part of its results is verified by outside auditors.

## AREA 1: FOOTPRINT AND ECOLOGICAL CONTINUITY

### Opt for ecological site management

Implementation of ecological site management for all of the Group's industrial activities, with no phytosanitary products used and maintenance of green spaces in harmony with nature (differentiated landscaping).

- **OUR OBJECTIVES**
- 2025: 50% of sites
  - 2030: 100% of sites

- **2022 PROGRESS REPORT**
- As of the end of 2022, 34% of industrial sites are maintained without phytosanitary products and in compliance with local biodiversity programs.

### Define priority sites for biodiversity

Continued development of action plans for sites located in or near biodiversity hotspots using the new definition of a priority site and now including all sites located near a protected area, with no exceptions. This applies to 80% of sites, compared to the 20% covered by the previous criteria.

- **OUR OBJECTIVES**
- 2025: 50% of priority sites with action plans established in consultation with stakeholders
  - 2030: 100% of priority sites equipped with action plans established in consultation with stakeholders concerned

- **2022 PROGRESS REPORT**
- 60% of action plans deployed by the end of 2022



### PROTECTION OF THE VEGETATION ON A WIND FARM SITE

Since 2012, the Cape Scott (Canada) wind farm site has been committed to protecting the surrounding vegetation in accordance with an action plan adapted to the expectations of the native populations reluctant to use any chemical products.

In this context, manual scrub clearing must be used along the roads and electric transmission line. Herbicides must not be used and personnel are trained in the manual removal of invasive species.

As for trees and large bushes, they must be topped / pruned as needed along the corridor of the transport line, without touching the endemic bushes and species.

### MINIMIZE THE ENVIRONMENTAL FOOTPRINT OF THE FOS CAVAOU LNG TERMINAL

In order to reduce its carbon footprint and increase respect for environment, the LNG terminal at Fos Cavaou (France) selected a particularly innovative solution for water treatment. Based on marine biopolymers, i.e. sugars naturally produced by marine bacteria, this fully biodegradable solution limits the formation of biofouling - the phenomenon of surface colonization in an aqueous environment by living organisms. Simple to use, it is injected directly into the sea water circuit. It reduces the use of chlorine by more than 90%, preserves the facilities and avoids any eco-toxicity.

This eco-responsible choice was made possible thanks to the completion of a research project led by Elengy, in partnership with Polymar, a company that specializes in blue biotechnologies, and with ENGIE Lab Crigen.



## AREA 2: CLIMATE CHANGE

### Implement Nature-based Solutions

Contribution to the implementation of Nature-based Solutions (NbS) in the regions to act simultaneously on the challenges of climate change and biodiversity.

#### → OUR OBJECTIVES

- 2022: 10 projects identified that comply with the IUCN Standard for Nature-based Solutions
- 2025: implementation of these projects

#### → 2022 PROGRESS REPORT

10 solutions identified in the Group (Middle East, Brazil, United States, France)



### DEVELOP AGROFORESTRY IN BRAZIL

In Brazil, agroforestry systems adapted to the rural properties of the area covered by the São Salvador hydroelectric power plant have been developed to promote sustainable and economically viable agricultural production, in line with the conservation of the environment and the rational use of the biodiversity of the Cerrado region.

The activity of the agroforestry model is centered on the production of vegetables that cover the soil with plant stock and play the role of leaves and tree branches in the protection of the soil.

Shrubs and essential forest species are planted between the vegetables. In addition to providing organic matter to the system, the shrubs and other species will produce shade and fruit as well as essential forest elements in the medium and long term. In addition, the sustainability of the producer's revenues is improved.

All this work reduces the pressure on the existing forest, creates a crop that covers the soil, increases awareness of not using fire, and educates in conservation and biodiversity.

## AREA 3: VALUE CHAIN

### Make the “avoid-reduce-offset” (ARO) approach a reality

Implementation of the “avoid reduce offset” workflow in development projects submitted to the Commitments Committee (CDE) globally and in consultation with stakeholders.

#### → OUR OBJECTIVES

- 2022: 100% of files submitted to the Group Commitments Committee were analyzed for biodiversity issues in consultation with stakeholders.
- 2025: gradually extend the review procedure to files for amounts below the threshold for submission to the CDE Group

#### → 2022 PROGRESS REPORT

2022: 80% of the projects submitted were analyzed in consultation for biodiversity issues.

### Analyze the life cycle through the prism of biodiversity

Integration of biodiversity criteria in life-cycle assessments in order to perform an in-depth analysis of the impacts and dependencies on biodiversity related to the Group's activities throughout the value chain with a view to identifying the issues and the appropriate solutions to tackle them.

#### → OUR OBJECTIVES

- Examine two of the Group's activities every year until 2025

#### → 2022 PROGRESS REPORT

Two activities reviewed in 2022: hydroelectricity and hydrogen

### PROTECT THE ENDEMIC FLORA AT THE “FLOWERING DESERT” SITE IN CHILE

From the start of its project to build an electrical connection between northern and central Chile, the ENGIE subsidiary ENGIE, Transmisora Eléctrica del Norte (TEN) has been committed to the protection and conservation of the “Flowering Desert” site of the Atacama region, classified as a priority by Chile.

The soil was collected in order to save the genetic material of the flora to be replanted once construction has been completed.

TEN has been working to protect the flora by placing it in a nursery after collecting seeds and carrying out germination tests, then by repopulating it in ecologically appropriate areas.

This research is particularly pertinent because of the rarity or the lack of knowledge about the biology and ecology of the species affected by the management plan and, in general, about most of the flora in the Atacama desert.



## COMMIT TO THE APPROACHES AND TOOLS TO MEASURE THE BIODIVERSITY FOOTPRINT

After making a commitment in the TCFD and SBTi initiatives, the market became aware of an equivalent need for the cross impacts with biodiversity.

Since 2021, ENGIE has been part of the pilot phase in the development of the *Science Based Targets for Nature* (SBTN). This tool provides common rules to companies to analyze impacts and dependencies, and risks and opportunities concerning nature.

It also defines the targets and trajectories based on science. This pilot essentially allowed ENGIE to test the methodology and share its feedback.

Moreover, in 2020, tools were developed to assess the activity biodiversity footprint with the metric "Mean Species Abundance (MSA) per km<sup>2</sup>." The market uses the following in particular:

- The GBS, *Global Biodiversity Score* from *CDC Biodiversité*, which measures the total biodiversity footprint of a company, including its upstream chain and the total climate impact of its activities.
- The *Corporate Biodiversity Footprint* from *Iceberg Data Lab* and *Care & Consult*, which measures the biodiversity impact of portfolios with a broader indicator, integrating results from *Life Cycle Analysis*.

ENGIE tested the GBS with the support of the firm *Utopies* and contributes to the development of other tools with a local and global approach to measuring the footprint.

## AREA 4: AWARENESS

### Improve understanding of biodiversity issues

Provision of biodiversity awareness modules for all employees.

### Share best practices

Creation of a platform for sharing best practices, available since 2021.

### → OUR OBJECTIVES

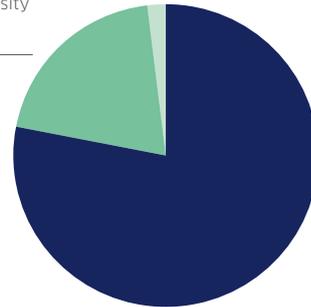
- At least 2 modules per year by 2025, offered in 3 languages
- 2022-2023: 3,000 employees trained / year
- 2024-2025: 5,000 employees trained / year

### → 2022 PROGRESS REPORT

Approximately 2,600 people trained in 2022:

Around **500** people participated in the biodiversity fresco.

**50** people took the annual introduction to biodiversity sessions.



**2,033** people took the e-learning module on biodiversity.

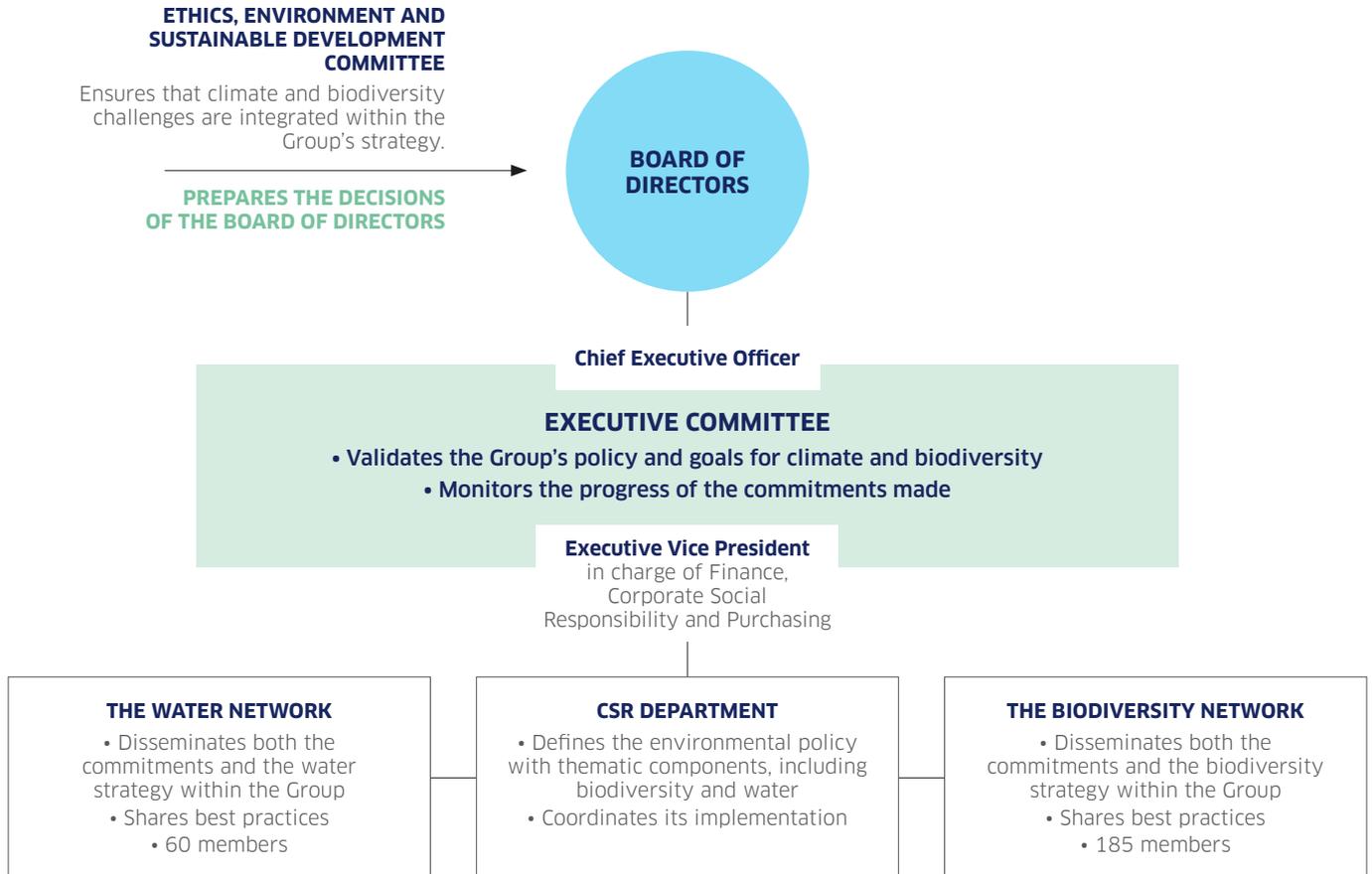


**Lucie Malouli,**  
Environmental engineer -  
ENGIE AMEA

"Sustainable practices promote ecological and economic health and vitality and their balance will help us protect our planet and our populations. Global consciousness of the environmental impacts is essential to reverse the trend. The biodiversity fresco is an excellent creative and collaborative activity. It highlights the basic science of biodiversity and gives us the means to act."

# MOBILIZED GOVERNANCE

In accordance with its environmental policy and its purpose, **ENGIE** is committed to the preservation of biodiversity, both internally and externally.



## SEARCH FOR EXPERTISE WITH PARTNERS



### FRANCE NATURE ENVIRONNEMENT (FNE)

FNE facilitates the establishment of concrete achievements and relationships between ENGIE and local associations. This partnership develops tools to adapt strategies or indicators at local and business levels, facilitates dialog on subjects of opportunity, conducts communication and awareness actions, such as the application of the "avoid-reduce-offset" sequence in France.



### THE IUCN FRENCH COMMITTEE

The IUCN French Committee is the network of organizations and experts of the International Union for Conservation of Nature in France. It brings its expertise to the company to integrate biodiversity more in its strategy and its activities and conduct joint reflections with its members, experts and business partners. ENGIE supports and participates in initiatives and projects conducted by the French Committee of the IUCN.



### UNEP-WCMC PROTEUS

Launched by the United Nations to monitor and protect nature, Proteus is an inter-sector collaboration of multinationals to drive improvement in the best practices to manage biodiversity. This partnership allows ENGIE to integrate the international challenges of biodiversity and to be supported in the implementation of new standards. It responds more broadly to the following objectives:

- recognize their responsibilities to nature and communicate about actions to protect or restore it,
- accelerate the roll-out of tools to support decision making,
- strengthen the commitment of companies to the global policy agenda on nature, and
- maintain a lasting and mutually beneficial partnership for all through inter-sector collaboration.



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