Managing water in the energy transition

Communication on Progress 2024-2025
CEO Water Mandate and UN Sustainable Ocean principles

Managing ENGIE’s water footprint responsibility

The 2024 Global Economic Forum risks evaluation showed that the natural resource shortages is at the 4th place of the global risks in terms of impacts on the long term. In 10 years, **we will have to face a lack of fresh water and potential important conflicts on water use**. Moreover, **the ocean is vital to the wellbeing and prosperity of humankind**. As described in the Sustainable Development Goal 4 on Life Below Water, there is an urgent need to protect and restore the health of the ocean, which is rapidly deteriorating due to increasing temperatures, acidification, depletion of natural resources and pollution from land and sea. In this context knowing, anticipating, reducing the impacts on water of ENGIE’s activity is crucial and ensuring a healthy ocean provides significant opportunities for business and global economic growth.
The energy sector is the second water user on the earth after agriculture. Links are strong between energy and water. Hence, **we include water in our environmental priorities**, and we identify the sites which are more exposed to a water stress to develop action plans in consultation with the stakeholders involved in the watersheds.
Against a backdrop of heightened social, political and regulatory pressures, ENGIE aims to put forward long term solutions to the challenges faced. Principally active in the field of energy supply, the Group strives to maintain a balanced environmental impact throughout its businesses, promoting sustainability from the level of Group operations and all the way to the activities of its customers. As a leader of the energy transition, we **promote the water stewardship** and we are involved in **international initiatives relating to water governance, disclosure, risk assessment, supply chain involvement, water reuse, and nature valuation**. We also support the implementation of the water footprint methodologies for the energy activities.

In 2020, we have defined **a target for 2030 of reduction of the freshwater consumption** per energy produced, to 0.1 m^3/MWh by 2030, which takes all the activities on board. In 2022, the Group also made a **public commitment to the oceans** through the **10 UN “Sustainable Ocean principles",** that provide a framework for responsible business practices. In 2023, ENGIE signed the "Business Leaders' Open Call to Accelerate Water Action" launched at the UN Water Conference to demonstrate the mobilization of players around the subject of water.

ENGIE is very pleased to **renew the Group’s commitment to the CEO Water Mandate**. As a global leader in the energy transition, we are determined to minimize risk associated to climate change and its water impacts and further enhance the efficiency of water use in all of our operations, through the application of innovative technologies, continually improving our methods and raising awareness among our stakeholders at every level.

Executive Summary

- ENGIE is an **important user of water**, needed at **each step of the energy value chain** (extraction of fuels, cooling for power plants, hydropower, heating LNG, storage of natural gas, district heating or cooling systems, etc.).

- ENGIE has developed a **strong policy regarding water management**, which includes assessment of water risk, implementation of actions locally with the stakeholders involved in the watershed, and assessment of the water footprint of its activities. Actions are taken to **mitigate the impact on freshwater resources** and to **develop innovative approaches**.

- ENGIE considers the preservation of the water resource and the preservation of oceans as a key issue. The water management is part of the **environmental and societal responsibility policy**. It is important to develop **collective actions** and to be involved in water **governance issues**.

- Each year, the **water risk** is assessed by using the Aqueduct tool (World Resource Institute). For sites located in extreme or high water stressed area, a local analysis is done, and action plans are implemented where relevant, based on the Alliance for Water Stewardship standards (site and watershed levels, with the operational, regulatory and reputational dimensions, by integrating stakeholders and local context).

- We have also started an **analysis of the water risk for our suppliers**, mainly the upstream ones (fuels extraction).

- Since 2011, we have adapted the **water reporting** to better identify the main axes of action. Hence, we are now able to define internal targets for the Group.

Summary

01

Overview

ENGIE in a nutshell (FY 2024)

ENGIE is a world leader in the energy transition.
Accelerate the transition to a carbon-neutral economy

Enshrined in the Group's bylaws, "the purpose (raison d'être) of ENGIE is to act to accelerate the transition to a carbon-neutral economy, through low-energy solutions that are more respectful of the environment. This purpose brings together the company, its employees, customers and shareholders and reconciles economic performance and positive impact on people and the planet. ENGIE's action is assessed in its entirety and over time."

ENGIE in figures

98,000 employees

200,000+ B2B customers

19.5m B2C energy supply contracts

305,600 km of gas and electricity, transmission and distribution networks

46.1 GW(1) of total installed capacity in renewables (up 4.2 GW in 2024)

25.7 GW of decentralized installed energy production capacity (heating, cooling, electricity, etc.)(2)

54.7 GW of thermal electricity production capacity

2.6 GW of battery storage in operation

2024 financial indicators

€73.8bn in revenues

€25.4bn in green bonds issued since 2014(3)

€5.5bn in net recurring income, Group share from continuing operations

€7.3bn in growth CAPEX

3.1 Economic net debt/EBITDA ratio

€8.9bn in EBIT excluding nuclear

€1.48 2024 proposed dividend per share

Rating **Strong investment grade**

2024 ESG indicators

48 Mt CO_2 eq. of greenhouse gas emissions related to energy production

32% women among Group managers

43% in renewable electricity production capacity

(1) Total capacity including a 0.8 GW adjustment related to a change of definition.
(2) At 100%.
(3) Including the equivalent of €0.7bn in green bonds issued by ENGIE Energia Chile in 2024.

Water is part of ENGIE’s environmental and societal responsibility

Activities linked to water:


Geothermal energy


Hydroelectricity


Underground gas storage


Thermal generation (conventional, nuclear)


District heating and cooling networks


Regasification of LNG

Energy and water are essential to the economic and social development of over seven billion human beings. Because these activities are strategic for humanity, ENGIE aims at becoming a major benchmark in sustainable development, and water stewardship.

Water issue is part of the ENGIE’s environmental and societal responsibility strategy.

The ENGIE’s environmental and societal responsibility policy is mainstreamed throughout the entire Group (CSR policy).

It is put into actions across all of ENGIE’s business units. Each entity designs and implements an action plan based on the three policy orientations established by the Group. These lines are adjusted to fit the specific situations of each business.
Every year we evaluate the implementation of the action plan and how much progress each business entity has made.

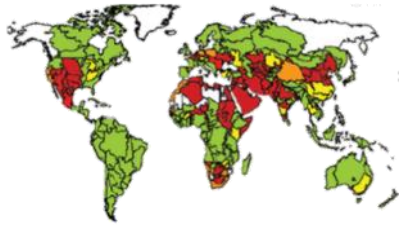
The environmental policy, includes the water policy and management (Environmental policy).

Water management methodology of ENGIE

1

Identifying sites located in water-stressed areas

AQUEDUCT



2

Assessing their water footprint

WULCA

AWARE method

3

Confirming the level of water stress locally

4

Implementing action plans in concertation with local stakeholders

ENGIE considers the United Nations Global Compact principles

In the formulations of its goals and policies and in the implementation of its operations and actions, ENGIE aims to always follow the United Nation Global Compact principles, which it supports.

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights;

Principle 2: make sure that they are not complicit in human rights abuses.

Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour;

Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility;

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

02

Governance and policy

ENGIE has fully integrated water matters in its strategy and policy

ENGIE has established **policies on ethics, fighting corruption, and sustainable development**. Its commitments in this regard are formally laid down in the Corporate Social Responsibility policy, the Ethics charter, and the Ethics guidelines for commercial relationships., that all comply with the **principles of the Global Compact** and **Sustainable Ocean Principles**, in particular those regarding Governance and Engagement :

Sustainable Ocean Principle 5

Engage responsibly with relevant regulatory or enforcement bodies on ocean-related laws, regulations and other frameworks.

Sustainable Ocean Principle 7

Respect human-, labour- and indigenous peoples' rights in the company's ocean-related activities, including exercise appropriate due diligence in their supply-chain, consult and engage with relevant stakeholders and communities in a timely, transparent and inclusive manner, and address identified impacts.

The Group has therefore renewed its Water and Oceans policy in 2024. Based on the core elements of the CEO Water Mandate, the main issues are:

- Identifying sites subject to **water stress**, and develop **action plans**
- Analyzing **water-related risks and opportunities** in projects
- Contributing to the improvement of **water management and governance** in the territories and working with stakeholders
- Implementing available technologies to **reduce the impact on discharges**
- Identifying **suppliers with a water issue**, based in particular on the work carried out on the water footprint, and encourage them to **develop action plans**
- Integrating sustainable water management into **customer services**
- Taking action for **access to water, sanitation and hygiene** in the workplace.

WATER AND OCEANS POLICY
Group General Policy

ENGIE has fully integrated sustainability in its purchasing policy (1/2)

As a global industrial company, ENGIE is convinced that companies can have a **direct impact on water management** in their own businesses, as well as an indirect impact. ENGIE has built a **strong Purchasing policy** including a sustainable development approach **in order to respect the UN Global Compact 10 principles.**

ENGIE incorporates its environmental and social concerns in its **purchasing procedures,** formalized in the Code of Conduct in Supplier Relations. For that reason, its contracting specifications include **criteria for selecting suppliers and products** as a function of its social and environmental commitments.

Purchasing officers at ENGIE make sure their **suppliers follow practices that comply with international standards**, such as the "OECD Guidelines for Multinational Enterprises" or the "Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy" of the International Labor Organization – as well as SA 8000 and ISO 14000.

Human rights are part of Group's commitments. The actions to be taken cover:

- Purchasing practices
- Nondiscrimination
- The right to organize and the right to negotiate
- Prohibition of child labor
- Prohibition of forced or compulsory labor
- Safety practices
- Rights of local populations.

https://www.engie.com/en/group/ethics-compliance/

CSR commitments in the engagement with suppliers

ENGIE aims to implement CSR initiative covering procurement chain management in all entities controlled by the Group, officialized by three key commitments:

- paying on-time our suppliers and subcontractors
- supporting the subcontractor Health & Safety policy
- integrating a continuous improvement process for CSR into operational processes and providing the corresponding training to key contributors.

ENGIE has fully integrated sustainability in its purchasing policy (2/2)

With a view of sustainable procurement, **Suppliers' selection and management of business relationships** are all based on a range of objective criteria, including:

- Respect of hygiene, health and safety rules
- Complying with Group ethical principles
- Technical and economic competitiveness
- Promotion of innovative approaches
- Environmental and social commitments
- Contractual commitments compliance
- Non-discrimination and diversity promotion

Suppliers' assessment

ENGIE has partnered with **EcoVadis** for the **evaluation of its Preferred Suppliers,** to monitor and measure the social and environmental performance of its supply chain. EcoVadis has developed a methodology for assessing company CSR engagement using 21 CSR criteria.
ENGIE sets **targets for preferential & major suppliers**, in particular on the onboarding rate and their assessment above a score of 45/100.

In the management of their purchases and of their suppliers, **the Group's Procurement entities must ensure to:**

- Select the best suppliers **using a fair, open, transparent process**, based on an expression of functional needs and on criteria relating to technical specifications, quality, deadlines, costs and contractual commitments.
- Manage **a panel of strategic, preferred or major suppliers** for our recurrent and global purchases.
- Appoint a single point of contact, the **Supplier Account Manager** (SAM), to establish balanced, long-term relations (sharing opportunities and risks).
- Explain the **Group's Health and Safety Policy** and help suppliers to implement it.
- Maintain **ethical relations** according to the Group's Procurement Charter.
- Conduct **relationship with suppliers ethically**, according to the Group's Procurement Charter.
- **Comply with legislation**, in particular with payment terms and competition laws.
- **Assess the market** so as to identify niche players and innovative start-ups.
- Foster **development of local suppliers** while **managing the risk of supplier dependency** on ENGIE.
- Seek to **resolve any disputes out of court**, such as through ENGIE mediation.

ENGIE's governance for water management

The Governance of the environmental and societal responsibility is a **top priority within the group** and therefore directly managed by the Governance.

- The Board of Director's **Ethics, Environment and Sustainable Development Committee** at the board level, oversees compliance with the individual and collective values and rules of conduct that form the basis of the group's actions, and prepares the decisions of the Board of Directors.
- The **Board of Directors** defines the strategic guidelines and directions of the business.
- The **Executive committee** validates the Group's policy and goals for climate, biodiversity and in particular, water. It implements the strategy and monitors the progress made to reach the commitments.
- The **CSR Department**, works in coordination with all the operational and functional divisions of the Group such as purchases, human resources, finances (etc.), to define the policies (e.g. water policy) and coordinate its implementation.
- The **Water network** disseminates the commitments and the water strategy within the Group and shares best practices.

(1) Reporting to the Legal, Ethics and Compliance Department.

Supply chain management – Fuel suppliers

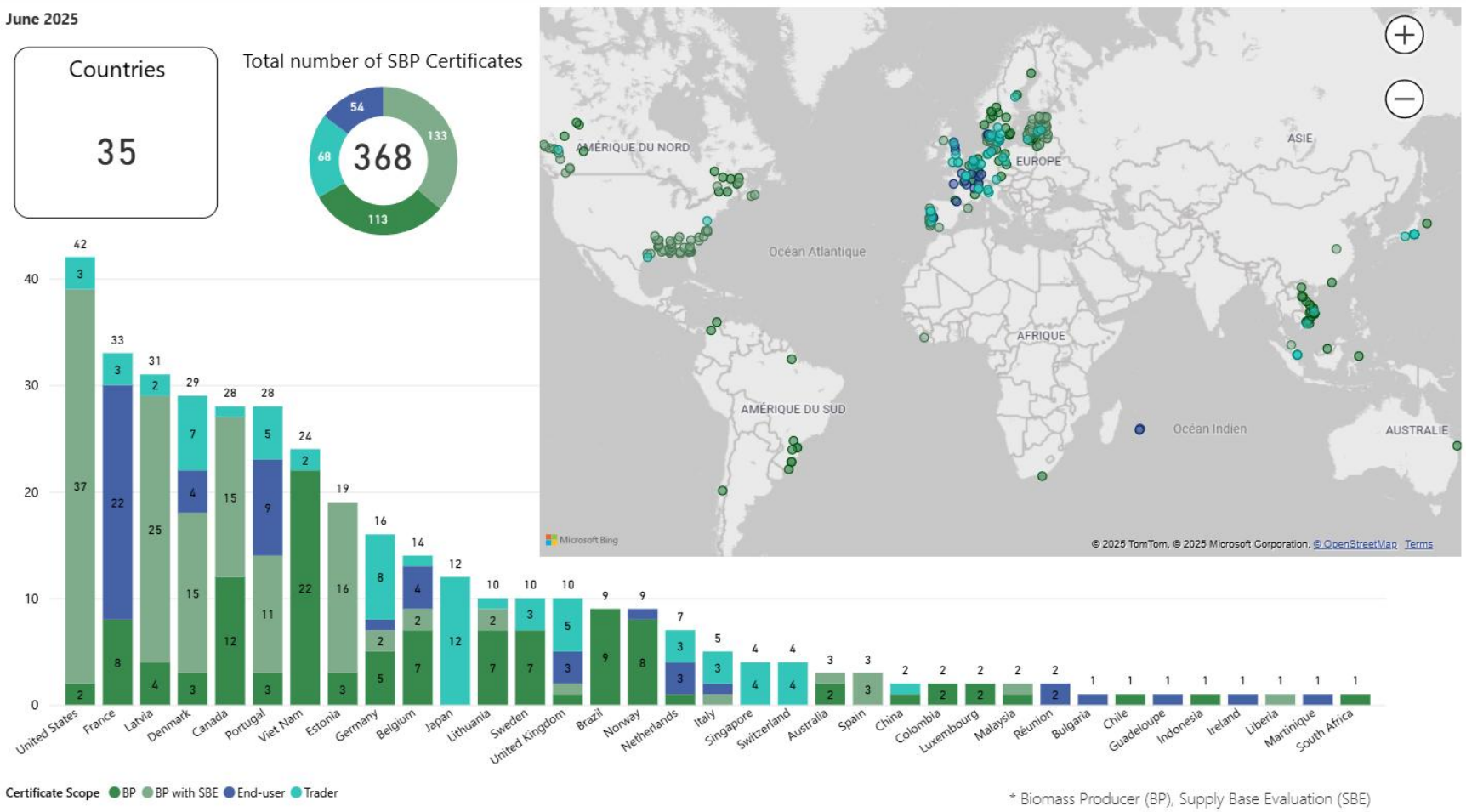
Sustainable biomass program

Sustainably active in the upstream supply chain, ENGIE is member of the Sustainable Biomass Partnership (SBP), a unique certification scheme designed for woody biomass, mostly in the form of wood pellets and wood chips, used in industrial, large-scale energy production.

SBP's vision is an **economically, environmentally and socially sustainable solid biomass supply chain** that contributes to a low carbon economy.

The risk assessment includes **water issues** such as impacts linked to the forest management, water supply, etc.

https://sbp-cert.org/



03

Water objectives and figures

Objectives and figures

ENGIE **consumes or uses wate**r for: cooling (thermal power plants) or heating (LNG terminals) systems, hydropower plants, demineralization, flues gas treatment, Industrial uses, district heating or cooling, etc…

Therefore, the Group needs to **assess its consumption and its impact along its value chain** (in particular, due to the dependence of energy production, both electrical and thermal, on water resources and their regulation).

Actions plans, objectives and synergies (between the energy sector and the supply chain) **are implemented to decrease the water consumption, and reduce the impacts on ecosystems and freshwater resources,** and are included in the climate change adaptation strategy of ENGIE. The reuse and recycling of the water is a solution considered by the plants.

ENGIE also adopts approaches and tools to **measure the Biodiversity Footprint**. Since 2021, ENGIE has been part of the pilot phase in the development of the **Science Based Targets for Nature (SBTN),** a tool that provides common rules to companies to **analyze impacts and dependencies, and risks and opportunities** concerning nature and defines the **targets and trajectories based on science**.

Moreover, in 2020, tools were developed to assess the activity biodiversity footprint with the metric “Mean Species Abundance (MSA) per km2.” 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.

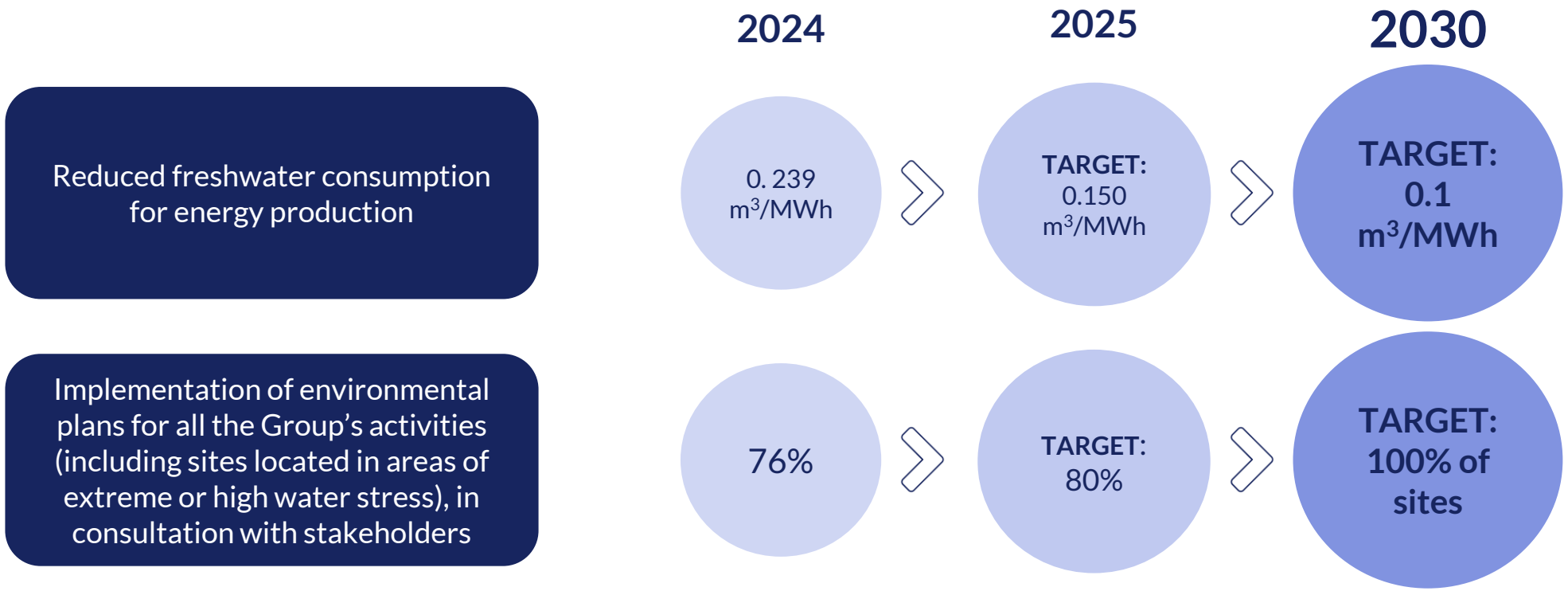
It echoes the first Sustainable Ocean Principle :

Sustainable Ocean Principle 1

Assess the short and long-term impact of their activities on ocean health and incorporate such impacts into their strategy and policies

ENGIE’s Water objectives

ENGIE has set voluntary targets for 2030 to reduce pressure on freshwater resources

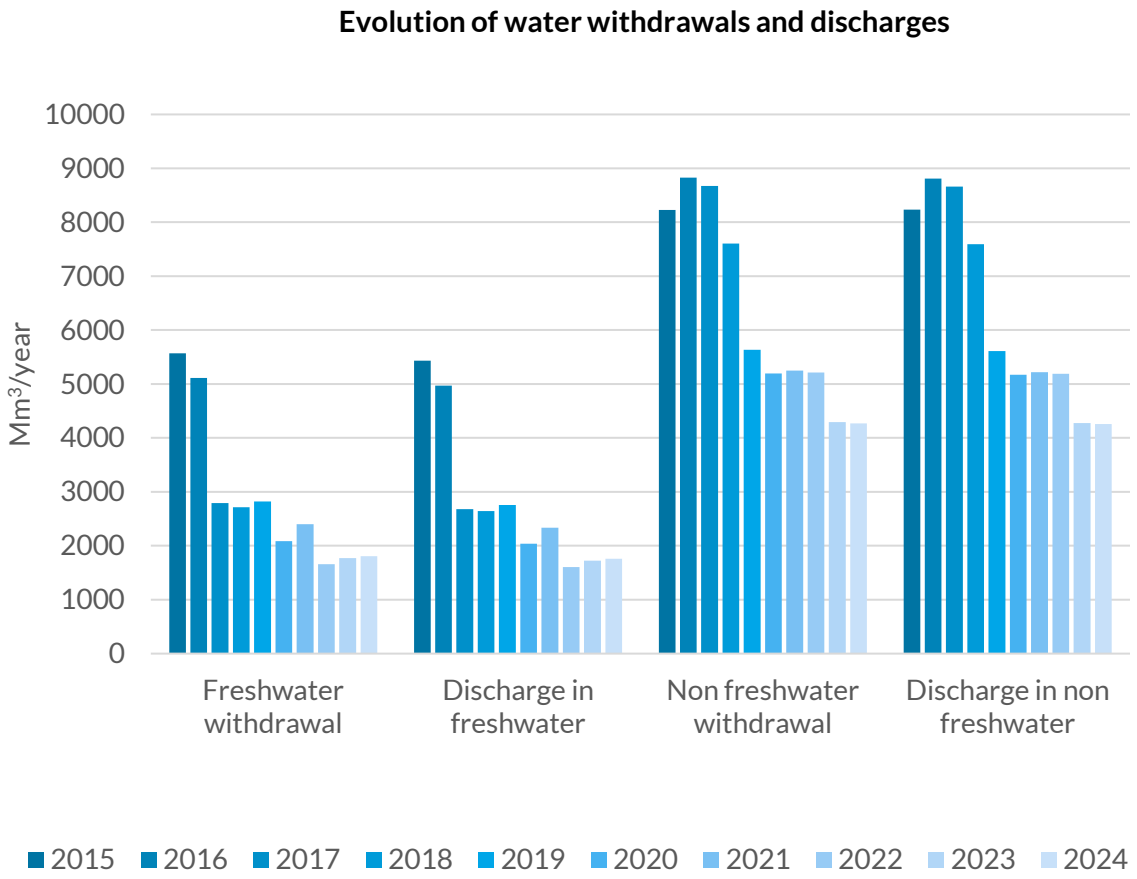


Water stress analysis and water consumption reduction

Each year the Group is updating its assessment of the water risk for the sites, by using the **Aqueduct tool** (World Resources Institute), with results made available to operational teams via a dedicated platform.

For sites in areas of extreme or high water stress, local analysis is carried out by operational teams, who draw up action plans where appropriate, using an approach similar to that set in the Alliance for Water Stewardship standards, i.e., at site and watershed level, covering operational, regulatory and reputational aspects, and allowing for stakeholder and local context factors.

In 2024, 152 sites were located in extreme water stress areas and 94 in high water stress areas. Seven of the sites in extreme water stress areas have significant freshwater requirements (freshwater consumption in excess of 100,000 m3 /year) and have implemented action plans to reduce pressure on water resources



Incoming frameworks and new targets keep pushing our ambition to contribute to a nature positive world by 2050 and to improve our water and marine resources management

CSRD

SCIENCE BASED TARGETS NETWORK
GLOBAL COMMONS ALLIANCE
Science-based targets for Nature

TNFD
Taskforce on Nature-related Financial Disclosures

LAND
Terrestrial (land-based) and subterranean-terrestrial ecosystems
Cultivated biological resources
Renewable energy resources
Mineral and energy resources
Land resources

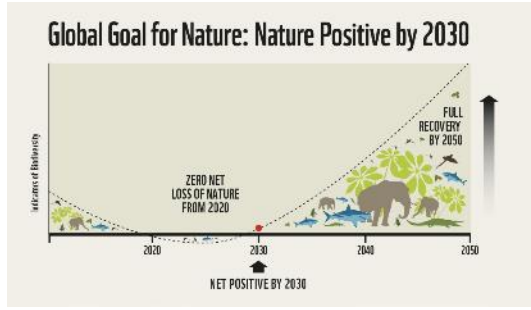
OCEAN
Marine (ocean) and subterranean marine ecosystems
Cultivated biological resources
Water resources
Underwater mineral and energy resources

SOCIETY
Business
Financial institutions
People

FRESHWATER
Freshwater and subterranean freshwater ecosystems
Cultivated biological resources
Mineral and energy resources
Water resources

ATMOSPHERE
Atmospheric systems

Convention on Biological Diversity



Ecoacsa | Global Goal for Nature : Nature positive by 2030

Trajectories expected on Nature by 2030 and 2050 with different scenarios such as climate

04

Operations and actions regarding water management

Compliance with official principles in operations and actions

In the implementation of its operations and actions, ENGIE aims to preserve water sources, to reduce its water consumption and its impact on watershed and ocean. In its actions, ENGIE respects the following Sustainable Ocean Principle :

Sustainable Ocean Principle 2

Consider sustainable business opportunities that promote or contribute to restoring, protecting or maintaining ocean health and productivity and livelihoods dependent on the ocean

Sustainable Ocean Principle 3

Take action to prevent pollution affecting the ocean, reduce greenhouse gas emissions in their operations to prevent ocean warming and acidification, and work towards a circular economy

Sustainable Ocean Principle 4

Plan and manage their use of and impact on marine resources and space in a manner that ensures long-term sustainability and take precautionary measures where their activities may impact vulnerable marine and coastal areas and the communities that are dependent upon them

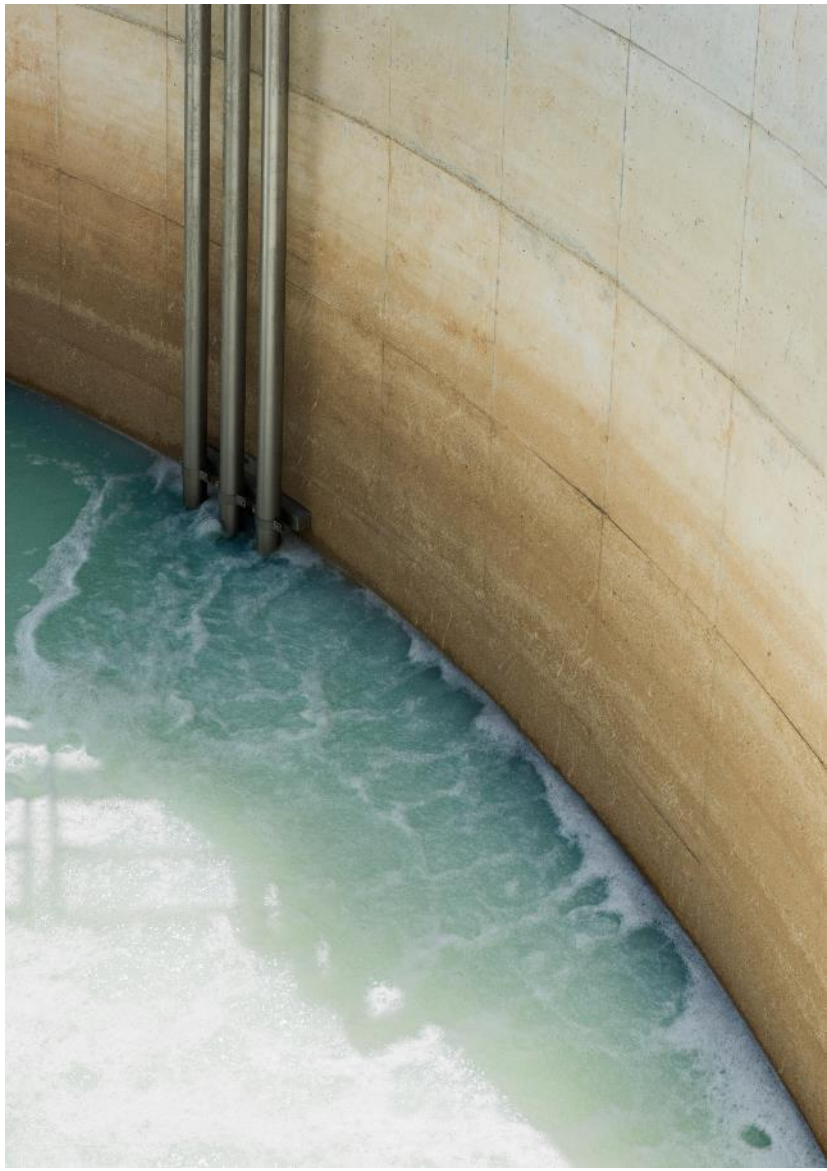
04.1

The sustainable use of water in ENGIE’s operations

Water in cooling and heating systems

Seawater desalination

Water reuse



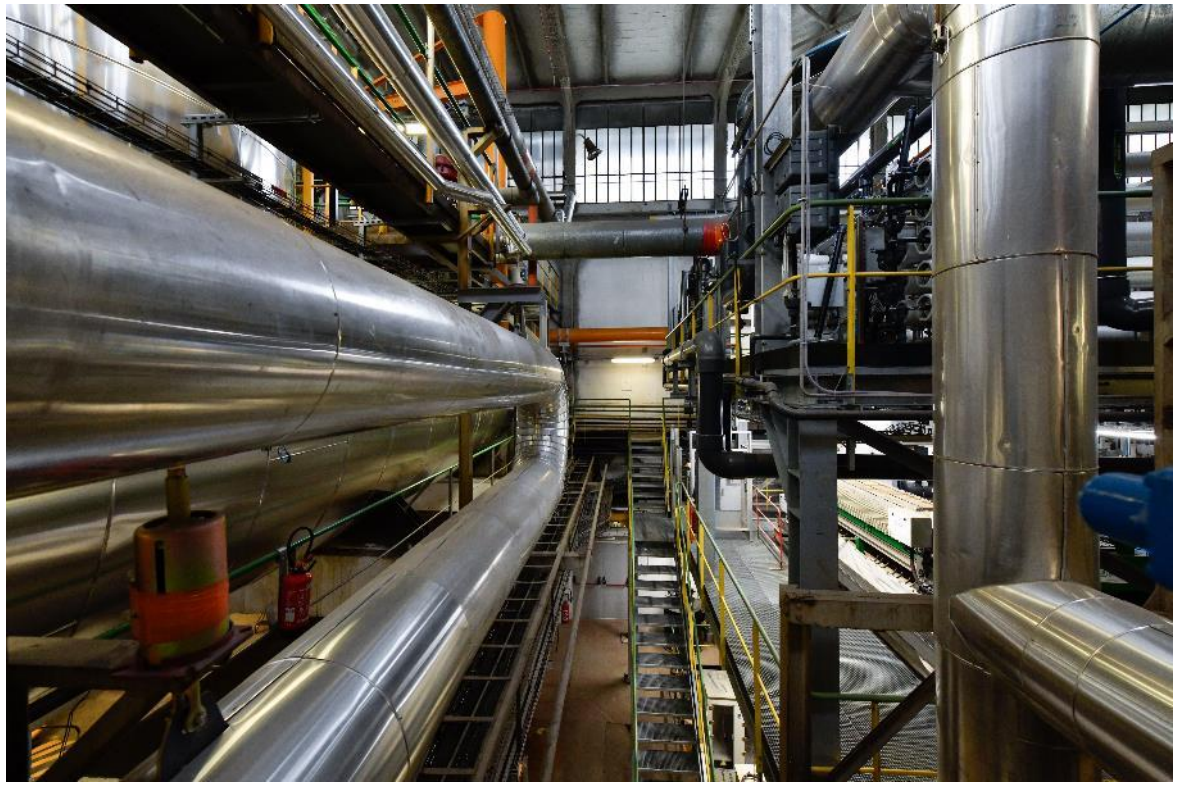
Water used in cooling and heating systems

France – CPCU (Compagnie Parisienne de Chauffage Urbain): implementation of a global program to improve the return of condensate to the heat production plants

The goal is to **reduce water losses** in the network and thus **reduce the volume of surface water collected** and the associated discharges. A global program was implemented including maintenance of the condensate return system and optimization of water uses.

A new dedicated **management tool** is currently being deployed to **optimize the operation of the return network** and further reduce water consumption.

In addition, **production facilities of makeup water for boilers were modernized**. Nearly 50% of the makeup water comes from **production lines of demineralization** by ion exchange and 25% from **reverse osmosis water units,** thereby limiting the release of suspended solids and reduction of at least 8% of boilers blowdown.



Water used in cooling and heating systems & water reuse

Chile – Mejillones LNG terminal – Self-sufficiency on drinking water thanks to the LNG heating system

The LNG terminal of Mejillones, located in a very arid zone, is **producing its own fresh water, through its heating system** used to warm the LNG to transform it in gas. They don't need to buy any drinking water from the network.

A part of the cooling water of Mejillones Conventional is **sold to a copper and molybdenum mining company** in the Antofagasta Region, **reducing the discharge of wastewater** into the sea and **avoiding the need to draw seawater** from elsewhere in the Bay of Mejillones.

Water is conveyed by a 140 km-long aqueduct between Mejillones and the mining site. Meetings are being held with local authorities to **promote the reuse of seawater** used in the cooling system of the site's plant.

Water reuse

Storengy - Brine reuse

In some places, natural gas is stored in saline cavities. The process consists in extracting brine from the cavities and injecting the gas in its place. Storengy signed a convention with a chemical industry to sell them this brine instead of losing it or sending it back, after treatment.
Thus **70% of the water withdrawal of Storengy in France is transformed in brine and reused by industry**.

SPEM, Montoir-de-Bretagne – Reuse of heated water

The implementation of the project SPEM of ENGIE, the first **combined cycle power plant** in western France, is fully consistent with a sustainable development approach. This plant helps to strengthen the grid through its technological and environmental performance for the region “Pays de la Loire”.
Proximity to the LNG terminal will **reduce the environmental impact**: water heated by the power plant may be used by the LNG terminal to regasify Liquefied Natural Gas, which keeps out water without impacting the ecosystem.

Seawater desalination (1/2)

Peru - Chilca desalination power plant – Eco-efficient use of ocean water to increase electricity production

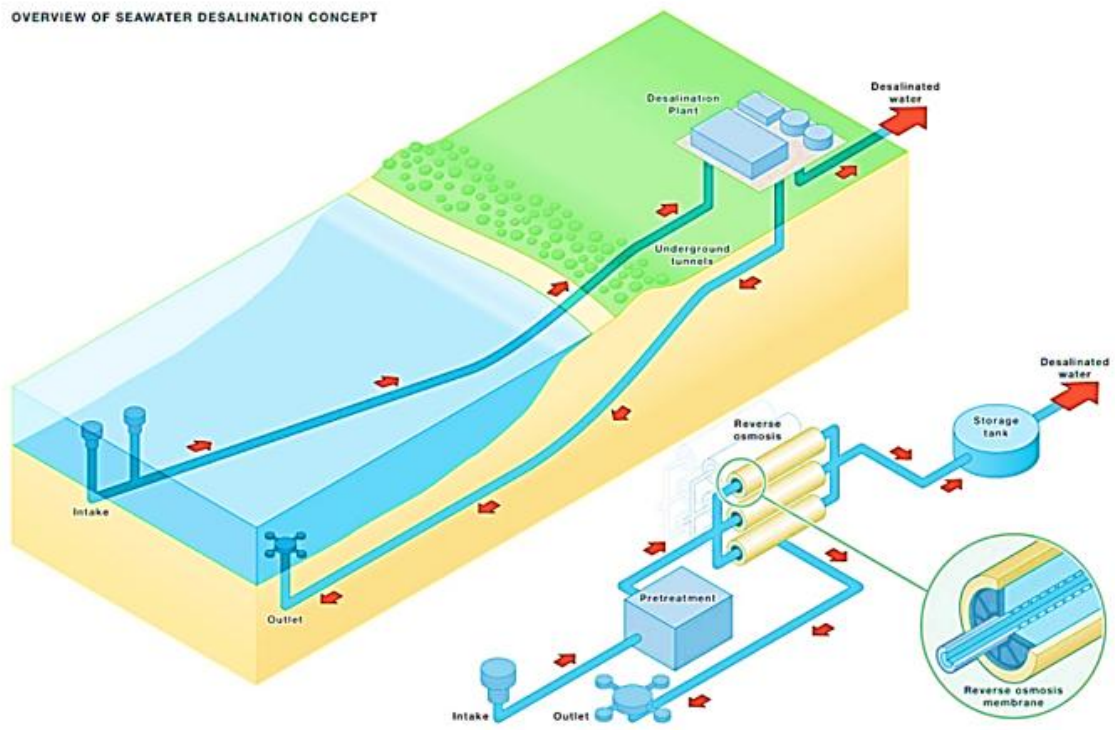
This thermal power plant, located on the coast of Chilca, **treats seawater for use in the electricity generation process**. The goal is to reduce the exploitation of wells and to avoid the use of scarce underground water.

The plant is equipped with a 650-meter-long seawater intake pipe, lying on the seabed and buried in the coastal area, and a brine discharge pipe known as an "emisor". The desalinated water is stored in a 150 m^3 tank and then transported via a 4.9 km pipeline to the Chilca Uno thermal power plant, where it undergoes a demineralization process that produces ultra-pure, low-conductivity water, used to fill the Combined Cycle's heat recovery boilers. Losses are also compensated by make-up water from the demineralized water plant.

The **average injection of replacement water is around 80 to 100 m^3/day.**

The water used in the cycle is also collected and discharged to a drainage catchment basin, where it is neutralized and reused to irrigate green spaces. This water undergoes quality control, daily laboratory checks and certifications, to ensure its compatibility with the environment.

In addition, Chilca UNO is implementing a program to **promote efficient water use** by using aerocondensors instead of water for the cooling process. This will reduce the amount of water required from 80,000 to 1,500 m^3/day.



The company has been awarded by the Sociedad Nacional de Míneria Petróleo y Energía on Sustainable Development for this project.

Seawater desalination (2/2)

Peru, Moquegua region – ILO plants - Water desalination, treatment and distribution system

The purpose of the water treatment process at the ILO 21 power plant is to **treat water from the sea to obtain desalinated, service, demineralized or drinking water**, for its own use (water reserve or consumption) or for the energy production process.

To achieve this, it has two water treatment plants:

1. ILO2 reverse osmosis plant: its main function is to desalinate water for use as reforestation water and for consumption in the power plant (drinking water).
2. Desalination plant ILO1: whose main function is to supply desalinated water for the plant's fire-fighting pumping equipment; and to supply water for demineralization treatment and subsequent use in production units ILO31 and ILO41.

The Water Desalination, Treatment and Distribution System also allows :

- The storage of all the different types of water as a reserve.
- The distribution of the different types of water to all the respective consumption points.
- The provision of desalinated water to the fire-fighting pumping equipment.
- The redundancy of treatment lines and rotating equipment, avoiding the possibility that the failure of one piece of equipment could cause the failure of the whole system.

The nominal production capacity is 130 m3/day of afforestation water and 100 m3/day of desalinated water.

04.2

The preservation of water and footprint minimization

Watershed involvement

Preservation of water sources

Contribution to ocean preservation

Minimization of environmental footprint on the ocean

Supply chain operations – Watershed involvement (1/2)

As an economic player, ENGIE is committed to working alongside other players in watersheds to preserve water resources.

In 2008, during the 16th Sustainable Development Commission, the United Nations confirmed the interest of water management by watershed. Today **managing water by watershed seems to be an obvious and clearly necessary activity**. We can't manage water without considering the other uses upstream and downstream of the river.
As a local actor and water consumer, **ENGIE is involved in the watersheds management**, and support and integrate regional plans. Local action plans are based on the Alliance for Water Stewardship approach with both operational and watershed actions.

Brazil - Tractebel Energia - "Good Water" program in the region surrounding its Salto Santiago hydroelectric plant.

By working closely with local partners, Tractebel Energia has launched a "Good Water" program in the region of its Salto Santiago hydroelectric plant. The objective is to develop a conservation program that preserves 300 water springs located on rural properties upstream of the hydroelectric dam.

Supply chain operations – Watershed involvement (2/2)

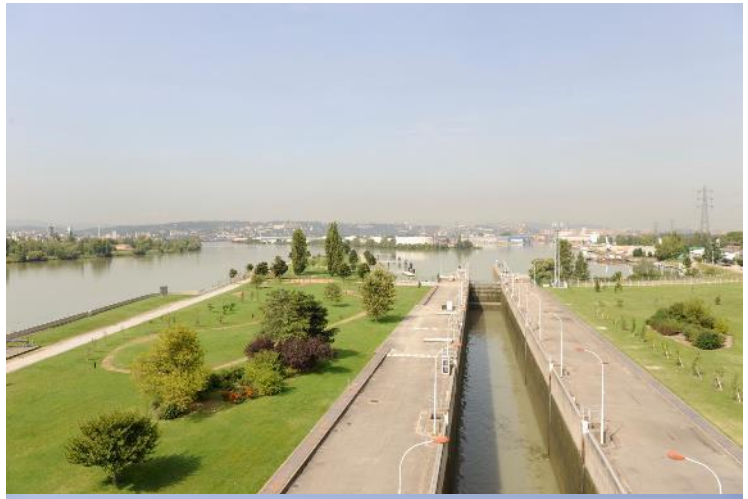
France – CNR - Plan of hydraulic and ecological restoration of the Rhône

The CNR (*Compagnie Nationale du Rhône*) is the concession holder for the Rhône for **hydroelectric power generation, river transport and agricultural uses**, and a French producer of exclusively renewable energy. As a land developer, CNR is a key player in the energy transition. Its expertise across the entire value chain of water, solar and wind energy makes it a leading partner in the development and balance of local communities.

The CNR implemented a **public-interest mission action plan** for the integrated management of the Rhône River, in line with France's ecological transition and **carbon neutrality by 2050**. It implies :

- an investment of more than 1 billion euros, to meet the energy and ecological challenges facing these regions
- studies and possible construction of a new hydroelectric scheme
- the construction of 6 hydroelectric power stations and 6 fish ladders
- an increased production capacity at the Montélimar plant, with the replacement of 3 of the 6 generating units.

After 4 five-year programs, **the 5th plan (Plan 5Rhône) has been launched in 2023**, with 5 components : hydropower generation and other energy uses, navigation and river transport, irrigation and other agricultural uses, environment and biodiversity, complementary actions in conjunction with local communities.



Preservation of water sources

Brazil – The Wellsprings Preservation Program – Preservation of water sources

The Wellsprings Preservation program began in 2010 in the municipality of Chopinzinho, in southwestern Paraná, and has been replicated in several regions where ENGIE Brazil operates.

The aim of the project is to protect watersheds, guarantee the supply of quality water to current and future generations of local communities, and create a culture of water resource preservation in the areas where ENGIE Brasil operates, relying on raising awareness among the population and involving them in preservation actions.

The project is implemented through partnerships between ENGIE, social entities and local communities, thanks to over 800,000 Brazilian reals invested, and enables the preservation of over 2,000 water sources, impacting over 1,500 families.

In 2022, the Spring Conservation Program received the Alliance for Brazilian Waters Seal, an initiative that encourages projects to revitalize hydrographic basins with a focus on water security.

Contribution to ocean preservation

The development of ENGIE's activities as part of the energy transition reinforces the Group's interest in contributing to the preservation of the oceans. In addition to the importance of preserving marine environments when discharging waste into sea water (through thermal power plants, desalination plants), the Group, alongside EDP **via its Ocean Winds subsidiary**, is becoming a key player in the **preservation of coastal areas and the associated biodiversity**.

Ocean Winds (OW) is the result of a joint venture announced in 2019 and controlled in equal parts by EDP Renováveis and ENGIE. Headquartered in Madrid, OW will act as **the exclusive investment vehicle of both companies to capture offshore wind energy opportunities** worldwide and it will become **one of the top five offshore global operators** by combining the industrial and development capacity of both parent companies.

Spyros Martinis, CEO of OW, explained: "*OW has been created with the intention of combining the experience and knowledge of two companies with a successful track record in the generation of renewable energy under one single firm, in order to take a leading position in the marine wind sector. We share a vision for the key role of renewables in general, and offshore in particular, in the new energy model. The creation of a company combining the experience and resources of both will give us the chance to lead a sector in this increasingly real and necessary transition.*"

The origin of the OW brand is no coincidence. When ENGIE and EDPR were looking for a name for the new business they brought in a team of scientists who could help to **identify the sound of the wind in the Roman alphabet**. They developed a specific algorithm and equipment to transcribe into letters the sound of the wind recorded offshore over a 48-hour period. The two most commonly occurring letters were "O" and "W", thus giving rise to the name Ocean Winds.

OW
OCEAN WINDS

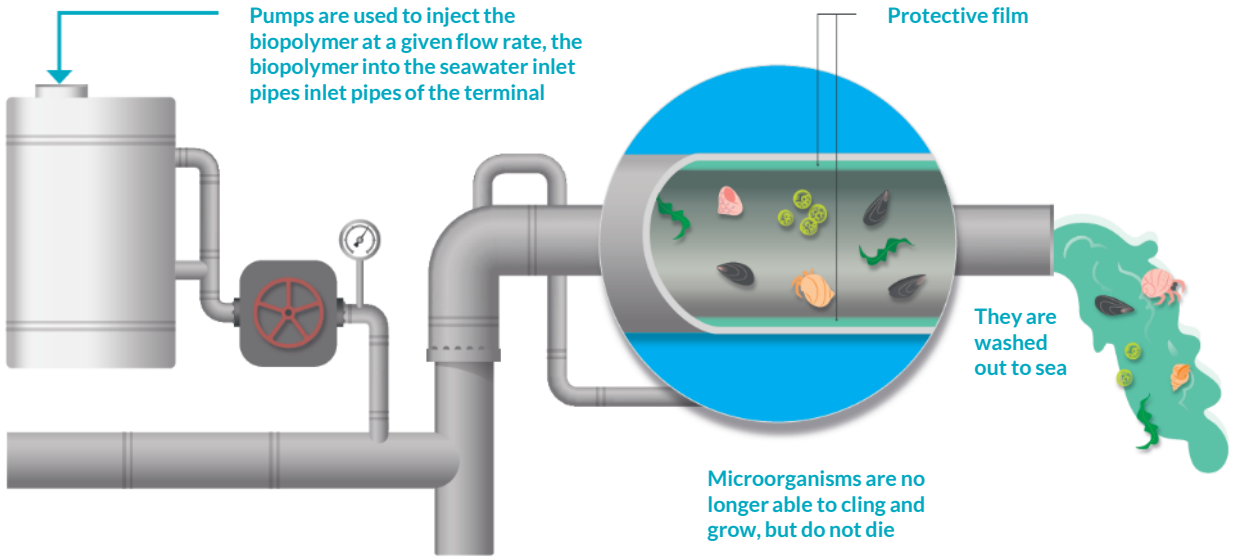
Minimization of the environmental footprint on the ocean

France - Fos Cavaou LNG Terminal - Minimizing the environmental footprint

The LNG Terminal at Fos Cavaou (France), located at the heart of the Fos-sur-Mer industrial port complex, **draws heavily on seawater** for process requirements, like most LNG terminals.
In order to reduce its carbon footprint and its GHG emissions, and to preserve green spaces, the LNG terminal selected an **innovative solution for water treatment**. Based on **marine biopolymers** (sugars naturally produced by marine bacteria), this solution **limits the formation of biofouling** – the phenomenon of surface colonization in an aqueous environment by living organisms, that clog pipes and reduce performance.
This antifouling solution is **soluble in water**, **biosourced** and **100% biodegradable** (digested by the marine environment). This easy-to-use solution is injected **directly into the seawater circuit**. This biopolymer does not eliminate algae and micro-organisms as chlorine does, but **works with nature**:

- it forms a protective film over the surface of plants and equipment to prevent the formation of stable microfouling,
- it takes the place of certain colonizing organisms, and since it is transitory, it is eliminated within a day.

It thus **prevents the deposition and proliferation of other living organisms** on equipment walls, but without killing them. The film then degrades in the water without any impact on the environment.



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

Results :

- **Reduction of the use of chlorine** (usually used to destroy biofuel deposits) **by more than 90%**
- **Preservation** of the facilities
- **No eco-toxicity** (BIOCIDE, REACH, endocrine disruptors)
- **400 MWh less electricity consumption**

04.3

Water and biodiversity

Biodiversity preservation

Fish preservation

Habitat restoration

Biodiversity preservation

Brasil - The ASAS and TamanduAsas initiative to preserve and restore biodiversity around our hydro plant

- The **Miranda Hydro Power Plant** is located on the Araguari River. Its environmental reserve is in the form of a Private Natural Heritage Reserve (RPPN), with the Cerrado as its predominant biome in an **area of approximately 358 hectares**.
- The Jacob RPPN is a **rehabilitation area** for wild animal's victims of trafficking, trampling and irregular captivity among other types of environmental crimes set up through a **partnership** between ENGIE and the Minas Gerais State Institute of Forests - IEF.
- The animals captured by the environmental agency pass through a **specialized treatment center** and are then received in the Jacob RPPN. Since 2020, we have **received and released more than 50 animals**.
- In the last year, we have **built two nurseries**, one for birds and the other one to rehabilitation of Tamanduas-Bandeira. After the rehabilitation, the **animals are released back** into the reserve.
- **To go further:** https://youtu.be/sQ_NYMPZLeg

Fish rescue and preservation

Spain – Protecting fishes during the maintenance operations

ENGIE Spain participates in a **Trout Rescue**, that takes place every year. In 2022, it took place in September at the Sossís Hydroelectric Power Plant. This channel is located in the Noguera Pallaresa river basin, in the province of Lleida, an **area classified as a trout genetic reserve**.

After an intense **3-day rescue** that included night shifts and through joint work, ENGIE Spain, together with the Rural Agents and other organizations, helped **rescue 6,543 specimens of native fauna in the Sossís channel**.
Of the 6,543 total specimens, **4,276 were trout, 2,105 native crabs and 162 red barbels**; of which, the adult species were **returned to the river**, in the closest stretch within the area of distribution of the species in the area, in accordance with the recommendations of the Rural Agents. The juveniles have been transferred to centers managed by the Regional Council together with the local fishermen's Societies.

It is important to note that **this rescue of specimens is the most important of those authorized by the Catalan Water Agency,** both for **the number of species rescued** and for **their purity**. 2022 was a particularly important year due to **the number of rescued crabs,** since it is an area in which the Rural Agents are working on the **reintroduction of this species that had practically disappeared in the area**.

This practice of environmental protection has been carried out for more than 20 years in Electrometalúrgica del Ebro as part of the **conservation tasks and periodic maintenance** of the channel of the Hydroelectric Power Plant, which is 6 kilometers long, although the number of species rescued in 2022 is a record number.

Fish preservation

France - SHEM - Encouraging fish migration

The SHEM, *Société Hydro-Electrique du Midi*, a subsidiary of ENGIE, has begun a **major ecological continuity project** in the Thuès commune in the Pyrénées-Orientales region.
SHEM intalled various devices to **facilitate the migration of the various species** that inhabit the river:

- a fine grid and a downstream spout to enable young fish to continue their descent;
- a ramp for the coming and going of the Pyrenean Desman;
- a new sluice gate to facilitate the transfer of sediment, in particular pebbles carried down the Carança during floods.

To date, **10 fishways have been installed**, along with France's first fish lift.

The SHEM will also take advantage of this project to carry out **civil engineering work on the water intake and associated structures**, as well as the electrical and telecom connections to the structure. One of the aims is to restore and maintain the river's proper functioning.

Ecosystems preservation on offshore wind farms (1/2)

France – Golfe du Lion - Offshore wind farm development projects designed to respect ecosystems

ENGIE's offshore wind farm development projects are designed to respect local ecosystems.

For the installation of floating wind turbines in the Parc naturel marin du golfe du Lion, measures have been put in place to respect ecosystems:

- making the **Marine Natural Park a mandatory contact** for successful project developers,
- act in full compliance with the "**Avoid, Reduce, Compensate**" doctrine,
- ensure the **socio-economic development** of the project,
- encourage the **maintenance of landscape quality**.

A mission to **study fish and marine life** is being carried out using an **observation buoy**, in order to identify the **best possible location for floating wind turbines**, a future preferred area for marine ecosystems.

The Park's Management Board has issued a **favorable opinion on the environmental impacts** and uses associated with the floating offshore wind farm pilot project, attesting to the project's sound environmental integration into its surroundings.

Ecosystems preservation on offshore wind farms (2/2)

France – Dieppe Le Tréport - Offshore wind farm development projects designed to respect ecosystems

With its offshore wind farm project off Dieppe Le Tréport, ENGIE is committed to **protecting marine biodiversity by reducing the environmental impact of the wind farms**. Different species of birds and marine mammals are present at different times of the year in and around the wind farm areas, which can create a variety of **potential effects** (collision, barrier, loss of habitat, sensitivity of animals to noise) and impact the projects, particularly in terms of their location, construction and operation.

In order to ensure the **best possible integration of the Dieppe Le Tréport offshore wind farm project into its environment**, ENGIE and the other partners of *Les Eoliennes en Mer Services* created in February 2020 a **Scientific Interest Group (SIG) Eolien en mer** to accompany the wind farm and **monitor the impacts** of the offshore wind project. The objective of the GIS is to contribute to **the improvement of scientific knowledge** of the marine environment in the Eastern Channel, and to **disseminate this knowledge to the largest possible audience**. Its research topics are the marine ecosystem, fishery resources, marine mammals, avifauna, acoustics, water quality...

The SIG is composed of various actors who bring a plurality of points of view: universities, public centers, environmental associations, private organizations. The activity of the SIG is planned for the entire life of the offshore wind farm, from its construction to the end of its dismantling.

The SIG has identified **5 studies that will complement the mandatory environmental monitoring of the park :**

- 5 natural (i.e. non-urban) gull colonies will be surveyed to estimate the number of nests,
- DNA analysis will be performed on seal droppings, to obtain additional information on the diet of these marine mammals
- DNA analysis will be carried out in plankton samples, to improve the knowledge on this compartment
- A study on food webs and their evolution following the establishment of the park, but also on a larger scale in relation to global warming;
- A study on bat populations and the evaluation of possible migrations to England using genetic and acoustic tools.

Avoidance, reduction and compensation measures are in place to reduce the potential impact of the wind farms on birdlife, notably through digital acoustic and aerial monitoring.

Biodiversity restoration

United Arab Emirates, Abu Dhabi – Mangroves Blue Carbon project

ENGIE Middle East, in association with the Abu Dhabi Environmental Agency, sponsored the launch of **the "Blue Carbon" environmental and social responsibility project**, which is also the first Nature-based Solution of the Group.

Through the Blue Carbon project, **5567,200 seeds planted across 17.45 hectares, bringing the total to over 750,000 seeds** by drone near the ENGIE site in Mirfa to **restore the mangroves** in Abu Dhabi's coastal waters. The success rate was 40%.

Mangroves are vital for storing blue carbon, which is carbon captured by the world's oceans and coastal ecosystems, including seagrasses, mangroves and salt marshes. Moreover, Further, in 2024, we engaged 100 Youth from the UAE to learn and participate in the project. The outcomes of the planting initiative underscore ENGIE's commitment to ecological restoration and the UAE's goal of 100 million mangroves.

Although much smaller in size than tropical forests, **mangroves sequester more carbon at a faster rate** and can do so for thousands of years.

This action creates an environmental benefit by **preserving and restoring biodiversity** and also addresses the challenge of climate change by reducing greenhouse gas emissions and by helping to **prevent flood risks.**

Habitat restoration

Portugal – Vilariça Compensation Habitat

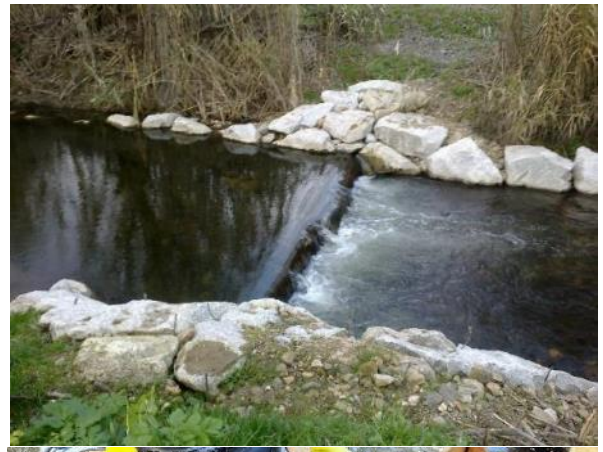
In Portugal, Vilariça, the **habitat of fish and aquatic species was modified**, because the dams are obstacles to their mobility and change the water regime.

- The actual impact is **monitored** (counting of population, genetic studies, monitoring of exotic species)
- **Mitigation measures** are implemented : fish translocation, restoration of alternative habitat, exotic species control, etc..

The ***Compensatory Measure 1 (MC1)*** – ***Vilariça Compensation Habitat*** aimed to:

- **Create a replacement habitat** for the autochthonous fishes - which used to use the final section of the Sabor river, as a spawning area
- Compensate for the impact in one important ***Natura 2000*** site (PTCON0021)

  - **MC1.1 – Water adduction system: Feiticeiro Dam to Vilariça stream :** reinforcement of flows, during breeding period, through the derivation of water from the downstream reservoir to the Vilariça stream.
  - **MC1.2 – Improving of the fish habitat :** biophysical recovery of the final 2km section of the Vilariça stream, increasing the habitat heterogeneity, with the promotion of pools, gravel beds, places of shelter and rifle/run sequences – prioritizing natural engineering.
  - **MC1.3 / 1.4 – Valuation/Recovery of the Riparian Gallery :** reinforcement and valuation of the riparian gallery of Vilariça stream, improving habitats, removing exotic species (as Arundo donax) and planting riparian woody species (as Alnus glutinosa, Fraxinus angustifolia, Salix spp....)
  - **MM1 - Translocation of autochthonous fish species** : transfer of barbels and nases, from Vilariça to upstream Sabor river, and otherwise, to promote genetic variability.



05

Collective actions

Collective actions and community engagement

The activities of ENGIE, as a provider of public utility services to local governments and companies around the world, lie at the heart of global sustainable development challenges:

- The access for all populations to basic essential services (energy);
- The water stewardship and the need to secure water supplies;
- The challenge of climate change and its adaptation;
- The depletion of natural resources and the need to promote circular economy.

To ensure these activities, **collective actions and community engagement are needed.**

Therefore, ENGIE contributes to **international projects** such the work of CDP and the CEO Water Mandate, but also WULCA, the Water for Energy framework and the OECD's water governance initiative.

These actions respond to the **Global Compact and Sustainable Ocean Principles.**

Sustainable Ocean Principle 6

Follow and support the development of standards and best practices that are recognized in the relevant sector or market contributing to a healthy and productive ocean and secure livelihoods.

Partnerships with international actors

Member since the beginning in 2007

3 key issues:
- Water disclosure (WRAF, CBWT)
- Access to water and sanitation
- Water action hub

Member since 2014, in the Water governance initiative, participant of the working group “Stakeholder engagement for effective water governance”

Ongoing works are focused on:
- impact indicators
- capacity development

Partners wince 2008, for nature and biodiversity conservation
- Technical support, exchange and forecasting
- Awareness-raising, communication and training
- Initiatives and projects.

Partners since 2022, to reach the Net Zero emissions, and to scale up global zero-carbon manufacturing practices
- Synergies between decarbonization levers to reduce scopes 1&2 emissions
- Renewable energy sourcing strategy
- Emerging technologies in decarbonization strategies

Member since 2019
A global online collaboration and knowledge sharing platform for water sustainability and helping companies address water risks with benchmarks, tools, proposed solutions, projects mapping, water data, etc.

Support of the development of water footprint methodologies

ENGIE is working on water footprint issues since 2012. We have assessed the water footprint of one kWh of electricity and of 1MJ of natural gas.

The WULCA working group works as an international working group focusing on water use assessment and water footprinting taking the life cycle perspective. The group was founded in August 2007 under the auspices of the UNEP/Society for Environmental Toxicology and Chemistry (SETAC) Life Cycle Initiative, a partnership to enable users around the world to put life cycle thinking into effective practice. The working group represents a community of people from academia, various industries (e.g. chemical, food and consumer goods industry, pulp and paper, water treatment, etc.) and public institutions. Constituting a multi-stakeholder group, the group acts globally and cross-sectoral.

In 2015-2016, ENGIE has contributed and supported financially to the development of the AWARE methodology, which aims to propose a consensual method to assess water scarcity footprint.

In 2015, ENGIE has developed with ETH Zurich, the most recognized research center in terms of water footprint impact assessment, and Quantis a specific methodology to assess the impacts of thermal pollution on ecosystem quality.

The methodology developed has been implemented within an operational tool that delivers a regionalized and temporalized assessment of the thermal pollution impact of ENGIE's plants. This tool can be used to support the decision-making process regarding water management at the plant level.

ENGIE, a societally responsible company, in relation with multiple stakeholders

ENGIE encourages **multi-stakeholders dialogue** (customers and populations served, employees, neighbors of installations, economic players, elected officials, opinion makers, suppliers, etc.), at all levels of the Group (in the field, within its operating entities, in its business lines, globally), in order to **continuously improve its sustainable development approach.**

A **community of practice on societal acceptability** has been established to exchange best practices and methods internally.

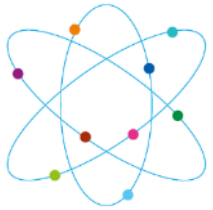
The Group measures its success by how well it is anchored within its territories and how well it implements **community actions with all stakeholders**.

As an international Group, ENGIE is **a societally responsible company** in all the countries where it operates and adapts to local socio-economic contexts to be as concrete and effective as possible.

As a participant in **long-term activities that provide essential services to populations**, ENGIE is a major player in local sustainable development. It is involved in many diverse areas:

- the establishment of new infrastructures (e.g. renewable energy and natural gas)
- conservation of the environment
- jobs creation
- support for development of local economies
- support for community groups and general interest participants
- improvement of living conditions through access to services
- solidarity, aid to low-income households

The **ENGIE Foundation** also implements actions as the continuation of the social, civic and environmental commitment of the Group. Created in September 2010, its 2 main spheres of activity are the **solidarity and the environment.**



The **Scientific Council** is conducted by its chairman and the ENGIE Research and Technology Division. Membership is offered to high level personalities, who are external to the Group with **recognized scientific skills**.

It acts as a **debating and advisory body** for the Group's General Management, providing advice and external insights regarding all the topics in its field of expertise that could have impact on the ENGIE Group. Via the personal network of its members, it grants **access to the most appropriate national, European and international knowledge.**

Example of a collective action regarding water management

ENGIE Tractebel Energia – The River Source Protection Program

Located in the region of Salto Osorio and Salto Santiago Power Plants, in the State of Paraná, the project, a partnership between ENGIE Brasil Energia and various local entities, have already protected a total of 2000 springs, benefiting 1500 families. The success of the project encouraged ENGIE Brasil Energia to expand the program to 3 other cities of the region.
The protection of river sources aims to contribute to the improvement of the quality of the water consumed by the Community and, consequently, reduce the incidence of diseases caused in children and adolescents by pathogenic organisms.

Wellsprings Preservation - ENGIE Brasil

06

Transparency

Transparency commitment according to UN Global Compact and Sustainable Ocean Principles

ENGIE was one of the first companies to join the Global Compact when the initiative was launched by the General Secretary of the United Nations. Leading companies recognize that **transparency and disclosure are crucial** in terms of meeting the expectations of a wide group of stakeholders. Such efforts help companies focus on continuous improvement and turning principles into results, a process which is crucial in terms of realizing gains and building trust.

The principles of the Global Compact reinforce **ENGIE's commitment to sustainable development** in its own activities and encourage internal synergy. In less than 10 years, the Global Compact has become a platform for the **exchange of views and information among the United Nations**, business, trade unions, and society at large – a place for promoting and sharing values and best practices for responsible management.

Every year, ENGIE prepares its **Communication on progress report for the UN Global Compact**. The Communication on progress can be found on various websites from the UN Global Compact (web to the French network "*association des amis du Pacte Mondial*") and ENGIE web site.

ENGIE also aims to share data with transparency, in accordance with the **Sustainable Ocean Principles 8 & 9 :**

Sustainable Ocean Principle 8

Where appropriate, share relevant scientific data to support research on and mapping of relevance to the ocean.

Sustainable Ocean Principle 9

Be transparent about their ocean-related activities, impacts and dependencies in line with relevant reporting frameworks.

Transparency actions & data sharing

ENGIE is answering each year to multiple rating agencies and questions from investors.

ENGIE sees sustainable development as contributing to the group's ability to **create long-term value** through the joint development of sustainable business and appropriate management of non-financial risks. Non-financial rating agencies focus the majority of their audit on **how companies manage these risks**. Their performance rating is not only a measure of external recognition, but also provides essential guidance for the process of improving how companies manage these risks.

The Group is answering among others to the **CDP Water** questionnaire each year, since the beginning. The answer is publicly available on their website. In 2024, the score obtained by ENGIE was A-.

CDP Water rating	2022	2023	2024
ENGIE rating	B	A-	A-

In 2024, the Group is included in the Dow Jones Best-In-Class World Index, Euronext Sustainable World 120, Euronext Sustainable Europe 120, Euronext Sustainable Euro 120, Euronext Sustainable France 20, CAC 40 ESG, MSCI EMU ESG and Europe ESG indices
In 2024, S&P Global awarded the Group a score of 73/100.

ENGIE also **share biodiversity and water data on GBIF data base**. The *Global Biodiversity Information Facility* is an international network and data infrastructure funded by the world's governments and aimed at providing anyone, anywhere, open access to data about all types of life on Earth. It provides data-holding institutions around the world with common standards, best practices and open-source tools enabling them to share information about where and when species have been recorded.

Transparency – performance indicators

For ENGIE, measuring sustainable development performance should be done through **environmental, social and financial reporting.**
In order to ensure the **transparency and reliability of the data** it publishes, ENGIE has initiated the **progressive review by its Auditors** of the quality of certain indicators related to the environmental and corporate data published. This is a well-established procedure implemented in accordance with the **Global Reporting Initiative guidelines** and with the French "New Economic Regulations" (NRE) Act and the Article 225 of the Grenelle II law.

For all the activities, **water indicators cover nearly all the information asked by the GRI guidelines**:

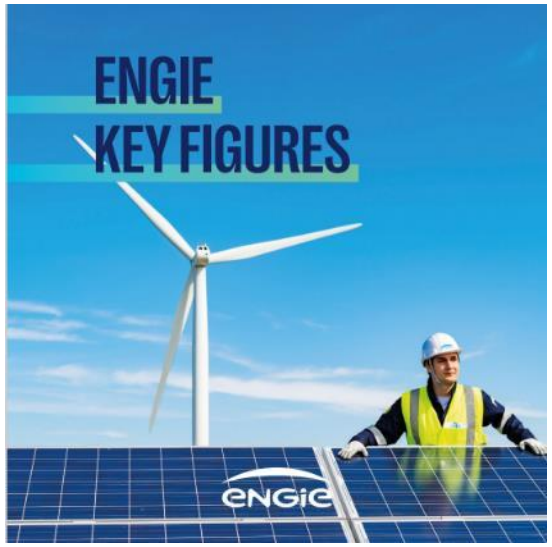
- Withdrawals
- Discharges
- Consumption
- Reuse and recycling

ENGIE has developed several working groups on environmental footprint and performance indicators:

- At the R&D department of ENGIE, dedicated teams work on the **elaboration of environmental footprint methodologies** for the Group
- At the R&D department we also work on the **integration of the water footprint in the Life Cycle Assessment** (LCA) of the kWh of electricity worldwide and the LCA of the natural gas chain
- The environmental network is currently working on the **future objective on water consumption**

Indicator	Unit	2024	2023	2022
Freshwater				
Total withdrawal	Mm3	1 809	1 773	1 658
Total discharge	Mm3	1 762	1 726	1 603
Non-freshwater				
Total withdrawal	Mm3	4 269	4 292	5 215
Total discharge	Mm3	4 255	4 276	5 191
Total consumption	Mm^3	60	62	80
of which fresh water	Mm^3	46	47	55
of which non-fresh water	Mm^3	14	16	24

Annex – Recent publications



All the documents are available on ENGIE's library online

https://www.engie.com/en/group/publications

engie.com