

# ACCELERATING THE ENERGY TRANSITION



This report has been validated by the Executive Committee and the members of the Board of Directors' Committee on Ethics, Environment and Sustainable Development (EESDC). The Statutory Auditors have also validated the compliance of certain indicators.

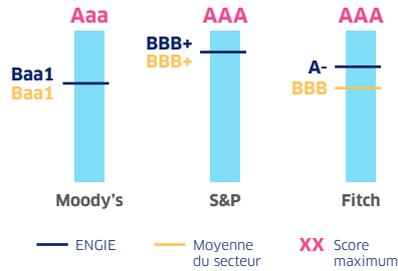
## ENGIE RECOGNIZED BY INTERNATIONAL INDICES AND RATING AGENCIES

### MAIN INDICES

Listed in Paris and Brussels (ENGI), the Group is represented in the main financial indices: CAC 40, Euronext 100, FTSE Euro 100, MSCI Europe.

ENGIE is listed in the principal non-financial indices: DJSI World, Euronext Vigeo Eiris Europe 120, Euronext Vigeo Eiris Eurozone 120, Euronext Vigeo Eiris France 20, MSCI EMU ESG Screened, MSCI EUROPE ESG Universal Select, Stoxx Europe 600 ESG-X, CAC 40 ESG, Bloomberg Gender-Equality Index. ENGIE has been included in the 2022 CDP Supplier Engagement Leaderboard and is among the top 8% of companies in terms of its suppliers engagement on climate change.

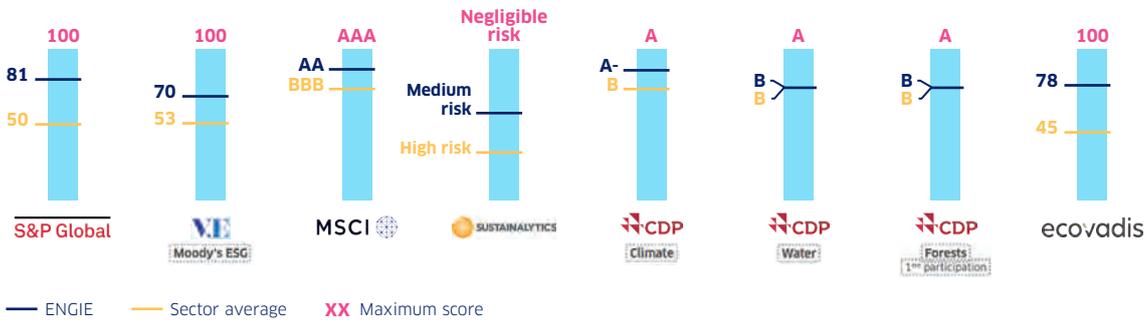
### CREDIT RATINGS AT FEBRUARY 21, 2023



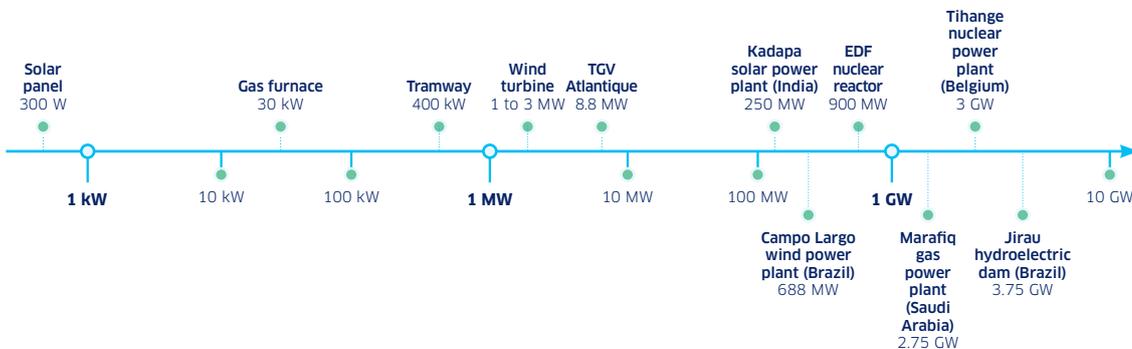
EDF, ENEL, Iberdrola, Orsted, SSE, EON, Fortum, Naturgy, EDP (+Vattenfall +Verbund +EnBW for S&P), (+Vattenfall +Verbund +EnBW +RWE for Moody's), (+RWE for Fitch)

### 2022 CSR RATINGS

ENGIE favors rating agencies with which the Group can maintain and develop constructive relationships to improve its CSR performance and pays particular attention to the evolution of these ratings.



### SOME POWER LEVELS AT FACILITIES ON A (LOGARITHMIC) SCALE



#### Some orders of magnitude

- 1 metric ton of CO<sub>2</sub> equals a Paris-New York round trip flight per passenger, or four Paris-Berlin (8,000 km) round trips in a thermal car, or one year of heating a 40 m<sup>2</sup> home with average insulation.
- A French person emits on average 12 metric tons of CO<sub>2</sub> per year.

# SUMMARY

06

## OUR AMBITION

HOW ARE WE PREPARING FOR THE FUTURE?

24

## OUR IMPACT

WHAT IS OUR VALUE CREATION?

50

## OUR GOVERNANCE

HOW DO WE DRIVE THE TRANSFORMATION OF THE GROUP?

60

## INDICATORS AND ANNEXES

64 CLIMATE NOTEBOOK / TCFD REPORT

80 BIODIVERSITY NOTEBOOK

88 RENEWABLE GASES NOTEBOOK

96 JUST TRANSITION NOTEBOOK

The information relating to the Task Force for Climate-Related Financial Disclosures, the United Nations Sustainable Development Goals and the European Union's Green Taxonomy can be found in the integrated report on the following pages:

 TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES	Climate Notebook	p. 64
 SUSTAINABLE DEVELOPMENT GOALS	ENGIE's contribution to the SDGs Business model	p. 14-15 p. 26-27
 EUROPEAN GREEN TAXONOMY	Business model Sustainable finance	p. 26 p. 46-47

ENGIE's climate and biodiversity strategies are detailed in the Climate and Biodiversity notebooks, respectively.

# ENGIE, A CHAMPION OF ZERO-CARBON ENERGY

A world leader in low-carbon energy supply and related services, ENGIE – with the support of its stakeholders – is working to accelerate the transition to a carbon-neutral world and develop a diversified energy mix in which the share of renewable energy is expected to grow significantly.

Guided by its purpose, which is enshrined in its bylaws, the Group assists its customers with decarbonization through more energy-efficient, cleaner solutions which it designs and implements. Operating in 31 countries, ENGIE relies on a streamlined business model that seeks to achieve the energy transition with confidence through its four core businesses: renewable energy, local energy networks, centralized networks, thermal generation and energy supply.

## 2022 KEY FIGURES



**96,400**  
employees



**29.9%**  
of women in  
management



**31**  
countries

**€93.9 bn**  
in revenues

**€9 bn**  
in EBIT

**€5.5 bn**  
in growth investments

**No. 1**

in natural gas distribution  
in Europe

**No. 2**

in natural gas  
transmission in Europe

**No. 1**

worldwide in urban  
cooling networks

**No. 3**

worldwide in urban  
heating networks



**60 Mt**  
of greenhouse gas  
emissions (scopes 1 & 3)  
from energy production



**38%**  
renewable energy  
in electricity  
production capacity

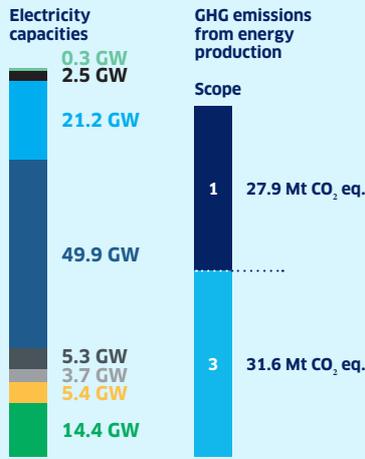


**No. 1**  
in wind and solar  
in France

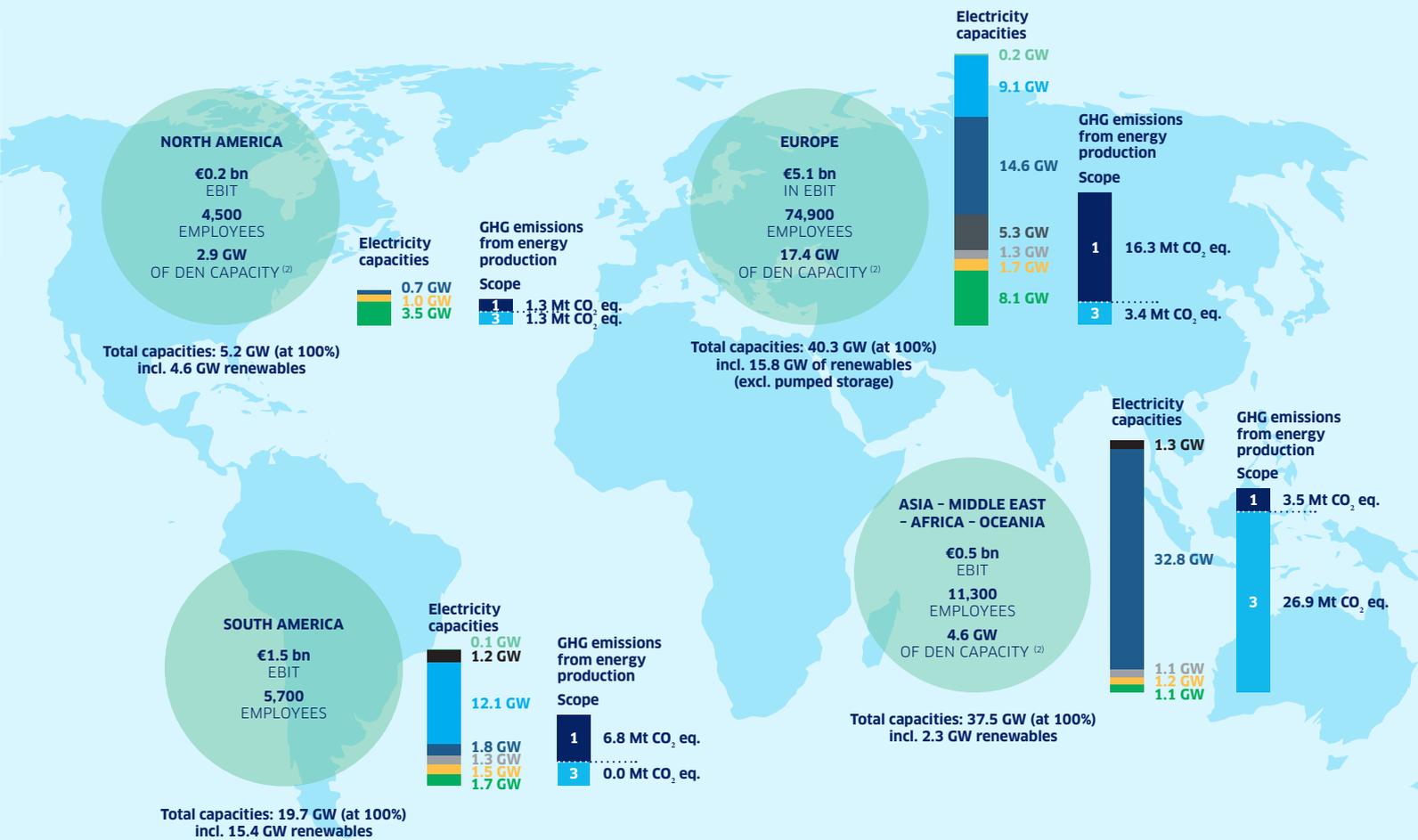
# TOTAL ELECTRICITY PRODUCTION CAPACITIES: 102.7 GW (at 100%) incl. 38 GW of renewables

excl. pumped storage and decentralized electric capacities (2,9 GW)

GROUP



- **255,400 km** gas distribution network
- **39,500 km** gas transmission network
- **4,900 km** of electricity transmission networks



## BREAKDOWN OF ELECTRICITY PRODUCTION CAPACITY BY TECHNOLOGY

- Nuclear
- Biomass and biogas
- Solar
- Natural gas
- Hydropower
- Other resources non-renewables
- Coal
- Wind Power

- Scope 1
- Scope 3

Data excluding EQUANS  
 (1) Other activities including GEMS: €1.7bn  
 (2) Decentralized Energy Network Capacities

# EDITORIAL

## WHAT IS YOUR VIEW OF THE TRANSFORMATIONS IN THE GLOBAL ENERGY LANDSCAPE?

**Jean-Pierre Clamadieu:** The outbreak of war in Ukraine triggered an unprecedented situation on the energy markets with the gradual isolation of Russia which, as recently as 2021, was the leading energy exporter. Against this backdrop, securing supplies and stepping up the energy transition to boost its strategic independence have become top priorities for Europe. This energy transition is all the more urgent as climate change is becoming increasingly visible, through extreme weather and climate phenomena which underline the pressing need to reduce our greenhouse gas emissions. At the same time, with regard to the commitments made by States, no major progress was achieved during COP27.

Notwithstanding its emergency responses, it is vital for Europe to understand that a combination of high energy prices and the implementation in the United States of a highly attractive framework for investors, and in particular those committed to green technologies, could weaken its industrial heritage in the long term. I believe that a European response is essential, by leveraging tools as simple and powerful as those set out in the *Inflation Reduction Act*.

“For the moment, Europe is ahead of the game in terms of energy transition and has set a target of achieving carbon neutrality by 2050. We cannot run the risk of taking a step backward.”

**Jean-Pierre Clamadieu**, Chairman of the Board of Directors

## HOW HAS ENGIE ADDRESSED THE CRISIS BROUGHT ABOUT BY THE WAR IN UKRAINE?

**Catherine MacGregor:** ENGIE has been at the forefront. We have successfully diversified and secured our gas supply source to meet our customers' needs. We have fulfilled our mission alongside other States, by maximizing the use of our gas networks, in terms of transport, distribution, and import and storage terminals. This allowed us to prepare for the winter with confidence.

We have also acted to support both our individual and corporate customers, alongside the public authorities. Our Group has been fully focused and I would like to thank the teams for their unwavering commitment.

At the same time, despite the crisis, we have continued to implement our strategic plan. ENGIE is now refocused on its core businesses and key markets and is in an excellent position to generate growth. We are fully committed to stepping up the energy transition, thanks to a more integrated, more digital and more industrial Group. This includes reinforcing our efforts in terms of health and safety at work, which is a top priority for ENGIE – this year we have launched a plan to rally the entire Group and its subcontractors around this crucial issue.

## WHAT CONSEQUENCES WILL THIS CRISIS HAVE ON THE EUROPEAN ENERGY MIX?

**Jean-Pierre Clamadieu:** For the moment, Europe is ahead of the game in terms of energy transition and has set a target of achieving carbon neutrality by 2050. We cannot run the risk of taking a step backward. On the contrary, we must accelerate this transition to build an energy mix that is diversified, carbon-free, and as affordable as possible. To do so, we must develop renewable energies, nuclear power in the countries that so wish, yet also the flexible production and storage facilities required to ensure a balanced and reliable network. In addition, the use of molecules, essential for the decarbonization of heavy industry and transport, will be a key element. Initially, natural gas will be used, but biogas and hydrogen are in line to rapidly replace it. To ensure the acceleration of this transition, further improve the competitiveness of our industry and provide a level of consumer protection, the European electricity market must evolve: ENGIE has made recommendations in this regard.

## HOW DO YOU SEE THE CONSEQUENCES OF THIS CRISIS FOR ENGIE?

**Catherine MacGregor:** It demonstrates the relevance of our strategy in meeting these challenges. Our vision for a balanced energy mix requires stepping up the development of renewable electricity and gas, while also maximizing the use of existing networks. We have commissioned 3.9 GW of renewable capacity this year, in line with our target of 50 GW by 2025 and 80 GW by 2030. We have also achieved major successes in heating and cooling networks, green mobility and on-site energy production. And we are pursuing our objectives in developing the energies of the future with 4 GW of green hydrogen by 2030 and 10 TWh of biomethane production annually,



also by 2030. Green molecules, biomethane, hydrogen and hydrogen derivatives are all essential to the mix as they represent the only solution for decarbonizing heavy mobility and heavy industry and providing the necessary flexibility to the system.

### **WAS 2022 ALSO A YEAR IN WHICH THE GROUP CONSOLIDATED ITS ESG COMMITMENTS?**

**Jean-Pierre Clamadieu:** Yes, the Group has of course maintained a significant level of ambition around this and the Board of Directors is particularly attentive to it. We confirm our adhesion to the 10 Principles of the United Nations Global Compact and to the 17 United Nations Sustainable Development Goals, as well as our 2030 ESG objectives. Moreover, we continue to progress along the path that will lead us to be Net Zero in 2045. During our last Shareholders' Meeting, our shareholders supported the Group's climate strategy with more than 96% of votes in favor of a resolution covering its key points.

I would add that the Group's main ESG objectives are part to the criteria upon which the calculation of the variable compensation of the Executive Committee and senior management is based.

Finally, the energy transition cannot be a success without ensuring that the benefits and costs of the transition are distributed fairly. We must pay close attention to our stakeholders, employees, territories, customers, and suppliers. This will be one of the objectives which will guide our efforts in 2023.

### **IN ORDER TO MEET THESE CHALLENGES, WHAT IS ENGIE'S POLICY IN TERMS OF TALENT MANAGEMENT?**

**Catherine MacGregor:** To achieve our ambition of becoming the leader in the energy transition, ENGIE relies on all of its talent and expertise. We have continued to strive to strengthen the Group's ability to attract, recruit

**“To achieve our ambition of becoming the leader in the energy transition, ENGIE relies on all of its talent and expertise.”**

**Catherine MacGregor,**  
Chief Executive Officer

and retain talent in an increasingly competitive market. As of this year, the Group has already met its target of 40% women on its Executive Committee by 2025. We aim to achieve gender equality among managers by 2030.

More generally, diversity, equity and inclusion are priorities for ENGIE. These are the aims of our global policy BeU@ENGIE that was launched in 2022.

## OUR PURPOSE

ENGIE's purpose is to act to accelerate the transition towards a carbon-neutral economy, through reduced energy consumption and more environmentally-friendly solutions. The purpose brings together the company, its employees, its clients and its shareholders, and reconciles economic performance with a positive impact on people and the planet. ENGIE's actions are assessed in their entirety and over time.



# OUR AMBITION

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## HOW ARE WE PREPARING FOR THE FUTURE?

**08**

A triple shock: geostrategic, energy and inflationary

**10**

ENGIE's responses

**12**

Integrate stakeholder expectations

**13**

Manage risks, seize opportunities

**14**

Contribute to the Sustainable Development Goals

**16**

Drive value creation by 2030

**19**

Increasing our commitments to make progress

**20**

Manage risks for greater control

**21**

Set up specific governance for climate issues

**22**

Make ethics central to our governance

**23**

Manage the vigilance plan through dedicated governance

# A TRIPLE SHOCK: GEOSTRATEGIC, ENERGY AND INFLATIONARY

**The robust economic recovery linked to the end of the pandemic in 2021, together with Russia's invasion of Ukraine, have created an unprecedented global energy and inflationary shock. These crises underscore the need to accelerate the energy transition amid new challenges.**

## A GLOBAL ECONOMY WEAKENED BY THE WAR IN UKRAINE

The economic recovery following the gradual end of the Covid-19 pandemic was accompanied by massive stimulus packages. This situation caused a bottleneck in supply chains and a surge in the price of commodities, including energy. Russia's invasion of Ukraine in February 2022 exacerbated these price pressures because of the severe supply disruptions it caused, especially for the raw materials produced by these two countries. Stoked by this unprecedented energy crisis, global inflation (8.8%<sup>(1)</sup>) has led to a tightening of monetary policy in most major economies and a slowdown in global growth.

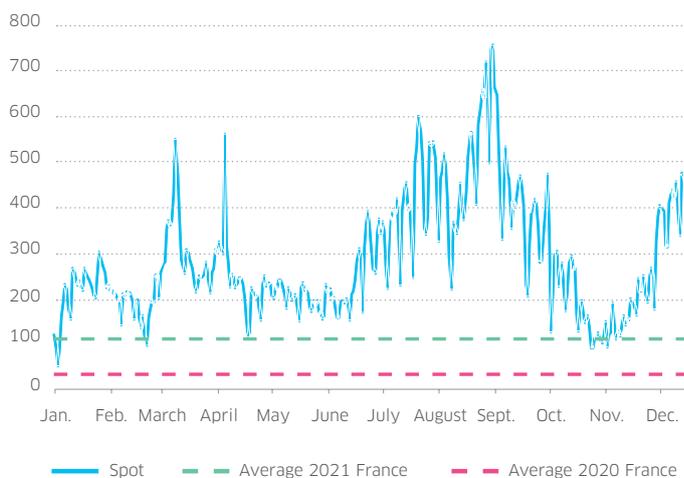
## EXCEPTIONAL EUROPEAN MEASURES

The significant European exposure to Russian gas (40% of consumption in 2021) caused gas prices – and therefore electricity prices – to soar. This was exacerbated by the reduced availability of the nuclear fleet in France and the unfavorable hydrological conditions. Europe therefore had to find short-term alternatives to maintain security of supply. This resulted in an increase in LNG imports – up by 45 billion m<sup>3</sup> from 2021<sup>(2)</sup> – and led to more than 90%<sup>(2)</sup> of gas storage being filled. It has also resulted in many countries temporarily restarting their coal-fired power plants.

European governments have taken steps to protect the purchasing power of businesses and consumers, with energy vouchers, price shields, a reduction in VAT, and even a windfall tax.

The European Commission has also introduced a temporary electricity price cap of €180 / MWh on the revenue of

## ELECTRICITY SPOT PRICE\* IN FRANCE IN 2022 (€ / MWh)



\* baseload power price day-ahead

producers of renewable and nuclear energy (so-called “inframarginal” producers) to partially finance these measures. Member States were allowed some freedom in implementing this decision.

In Belgium, for example, a cap of €130 / MWh was introduced from August 1, 2022 until June 30, 2023. In France, the 2023 Finance Act provides for the introduction of a cap on all electricity production exposed to market prices over a retroactive and extended period. In Italy, the government has already adopted an “extraordinary solidarity contribution” for companies in the energy sector. Despite this support, some energy-intensive companies have been forced to scale back or even cease their operations.

“With the 2022 *REPowerEU* plan, the European Union aims to reduce its energy dependence on Russia through energy savings, green energy production and diversification of supplies.”

(1) Source: IMF

(2) World Energy Outlook 2022 International Energy Agency p. 91

### TOWARD A CLEANER AND MORE RESILIENT SYSTEM?

For the International Energy Agency, the current crisis can be “a historic turning point towards a cleaner and more secure energy system thanks to the unprecedented response from governments around the world.”

This response has three main drivers: 1) ensuring energy security, 2) meeting climate commitments, and 3) developing targeted industrial policies in developed countries.

For example, under the *Inflation Reduction Act* (IRA), the United States has provided \$370 billion in funding and tax credits to stimulate investment in energy storage technologies, nuclear power, clean energy vehicles, hydrogen and CCUS<sup>(3)</sup>. Previously, the *Infrastructure Investment and Jobs Act* passed in 2021 set aside \$110 billion to pay for new transmission lines.

In Europe, the 2022 *REPowerEU* plan is designed to reduce energy dependence on Russia via energy savings, green energy production and diversification of supplies. Member States have maintained the target of a 40% share of renewable energy in final consumption by 2030, while confirming their commitment to accelerate the

procedure to grant permits by creating “renewables acceleration areas.” The plan also forecasts annual growth of 35% in biomethane production over the period 2022-2030 and raises the target for hydrogen production and imports.

In addition, to bolster the EU’s industrial policy, and following the example of the IRA, in February 2023 the European Commission proposed a targeted and temporary removal of the ceiling on State aid for companies, the increased use of tax credits, the redirection of European funds, the creation of a sovereign fund and a new law on critical raw materials.

### A LIMITED RISE IN CO<sub>2</sub> EMISSIONS

CO<sub>2</sub> emissions from energy production increased by 0.9% in 2022<sup>(4)</sup> due to electricity production and an upturn in air traffic. The unprecedented roll-out of renewable technologies and electric vehicles (14% of global sales) has thus helped to limit the rise in CO<sub>2</sub> emissions, with global renewable electricity production up by more than 600 TWh in 2022, the largest increase on record. Nevertheless, according to the Intergovernmental Panel on Climate Change (IPCC), global CO<sub>2</sub> emissions should be reduced by 43% by 2030 to limit global warming to 1.5°C.

### NEW CHALLENGES TO BE MET

For a successful transition to a carbon-neutral world, it is important to meet the energy system’s need for flexibility. Changes in demand and the increased share of renewables in the energy mix will double by 2030 and quadruple by 2050<sup>(5)</sup>. Thus, gas-fired power plants and battery storage could play an essential balancing role, complementing demand-side flexibility.

Since the low-carbon energy mix is much more dependent on critical minerals, these will come under pressure. The challenge is thus to reduce costs by other means, such as technological innovation, economies of scale and recycling. This challenge is all the greater because much of the energy value chain is concentrated in China. For this reason, the United States and the European Union must encourage industries to establish operations on their own soil.

Lastly, to address the issue of social acceptability, the European Union has put in place a just transition mechanism as a social pillar of the Green Deal. With a budget of €55 billion for the period 2021-2027, it aims to mitigate the socio-economic impact of the transition on the populations most affected.

### REFERENCE GAS SPOT PRICE IN EUROPE<sup>(6)</sup> IN 2022 (€ / MWh)



(3) Carbon Capture Utilization and Storage

(4) Source: CO<sub>2</sub> emissions in 2022 - IEA

(5) IEA APS Scenario

(6) TTF: Title Transfer Facility natural gas price index

# ENGIE'S RESPONSES

**ENGIE is actively involved in supporting consumers and the economy during the crisis and is continuing to roll out its strategic road map for the energy transition.**

## PLAYING A KEY ROLE IN SECURITY OF SUPPLY

ENGIE has successfully navigated the significant disruptions to gas flows from Russia, with no impact on physical supply for customers. For winter 2022-2023, it reduced its exposure to gas volumes previously purchased from Gazprom by combining flexibility measures for its long-term gas contracts, signing new contracts and using liquefied natural gas (LNG). Similarly, for winter 2023-2024, new sources of supply, as well as an expected fall in demand, will replace gas from Russia and enable the required storage levels to be achieved. The new LNG contracts are with US producers that are committed to emissions traceability and environmental monitoring of their activities, such as the current development of RSG (Responsibly Sourced Gas). ENGIE's network activities in France had a high utilization rate in 2022, with a record number of ships unloading at its LNG terminals and a doubling of GRTgaz's transmission volumes, notably with a reversal of the volumes transmitted from France to Germany. In Europe, Storengy's gas storage facilities were 100% full at the start of winter 2022-2023. This was due to efforts made by customers, including energy suppliers, who went beyond their minimum filling obligation. They were 82% full at December 31, 2022 (compared with 53% previously).

"ENGIE is helping to make energy accessible to all by contributing to public policy measures and implementing specific actions for its customers."

## ACTIVE PARTICIPATION IN MANAGING THE CRISIS

ENGIE is a stakeholder in European discussions on the regulation of energy markets and the various emergency regulatory measures that need to be taken to tackle the energy crisis. To secure supplies, ENGIE - as a member of the EU Energy Platform - has contributed to discussions on gas storage filling obligations by promoting the tried-and-tested French regulatory model. ENGIE also participated in talks on the gas demand reduction plan (July 2022) and supported the electricity demand reduction targets (September 2022) proposed by the European Commission.

## HELPING TO COMBAT HIGH PRICES AND SUPPORTING CUSTOMERS THROUGH THE CRISIS

In 2022, ENGIE contributed €1.1 billion to existing profit-sharing mechanisms for nuclear energy in Belgium and for hydropower in France. ENGIE also contributed €0.9 billion in 2022 as a result of inframarginal rent caps imposed by European countries. Furthermore, following the measures taken by the French government in relation to the price shield, the Group has undertaken to finance the difference between the price of its gas purchases on the markets and the frozen resale price. It will be reimbursed for the difference at a later date. The Group is also involved in measures to combat high energy prices by increasing its working capital. In addition, the price shield mechanism now includes SMEs and individual customers supplied by the market. In Belgium and Romania respectively, ENGIE supported the implementation of social tariffs and a price cap mechanism through payment facilities.

ENGIE has made various arrangements to help its customers:

- support measures totaling €90 million for its most vulnerable individual customers;
- the creation of a €60 million fund to help industrial and tertiary customers secure energy contracts;
- the launch of a platform for monitoring and managing energy consumption;

- the signing of the Energy Suppliers Charter in October 2022 to provide more information for professional customers, companies and local authorities, reduce their consumption and support the most vulnerable among them.

ENGIE is also taking steps to help its tertiary customers improve their energy efficiency, reduce their energy bills and achieve their decarbonization goals. For example, the Vertuoz Control system offered by ENGIE Solutions in France has already yielded annual energy savings of 25%. Similarly, the energy efficiency and performance plan implemented with property management company Foncia is expected to deliver savings of up to 35%.

## TAKING STEPS TO REDUCE ITS OWN ENERGY CONSUMPTION

ENGIE has also set ambitious targets for its own energy consumption:

- reduce the energy consumption of its buildings by 35% by 2030 (-15% for winter 2022),
- encourage 6% of employees not to drive to work,
- reduce the carbon footprint of the company car fleet by 5% by encouraging eco-driving.

## MAINTAINING ITS EMPLOYEE ENGAGEMENT

In this challenging environment, various measures have been taken, including:

- the payment of a special bonus of €1,500 to all employees worldwide,
- the launch of "Link 2022," a new global employee shareholding plan, in September 2022.

## ACCELERATE THE ENERGY TRANSITION

The current energy crisis in Europe calls for an acceleration of the energy transition, a subject at the heart of ENGIE's strategy. The Group is targeting a threefold reduction in the carbon intensity of the energy it produces and consumes between 2017 and 2030. It also aims to avoid the emission of 45 Mt of CO<sub>2</sub> by its customers and achieve carbon neutrality for Scopes 1, 2 and 3 by 2045. To illustrate this ambition, ENGIE should have four



**€90 m**

in customer support  
measures

**€1,500**

employee  
bonus

### TARGETS

**45 Mt**

of customer CO<sub>2</sub> emissions  
avoided per year by 2030

**+4 GW**

of hydrogen production  
capacity per year by 2030

**+10 TWh**

of biomethane production  
per year by 2030

Net Zero Carbon countries by 2030, including Brazil.

The Group will thus accelerate its growth in renewable energies for both electricity and gas and in decentralized networks to support its customers' decarbonization. At the same time, ENGIE's flexible networks and assets will make an essential contribution to security of supply and flexibility.

In renewable electricity, the stepped up pace of investments is reflected in a target of commissioning 4 GW on average per year by 2025 and 6 GW on average per year between 2026 and 2030.

The development of renewable gas will build on existing networks, thus contributing to security of supply.

The Group aims to achieve a target of around 10 TWh of biomethane production per year in Europe by 2030. ENGIE will also concentrate on ramping up the production of low-carbon hydrogen, and will invest approximately €4 billion in 2023-2030 with ambitious targets, including a renewable hydrogen production capacity of around 4 GW by 2030.

The Group also anticipates a sharp increase in battery storage to complement its portfolio of flexibility assets (gas-fired electricity production and pumped storage). It is targeting around 10 GW of installed battery capacity by 2030.

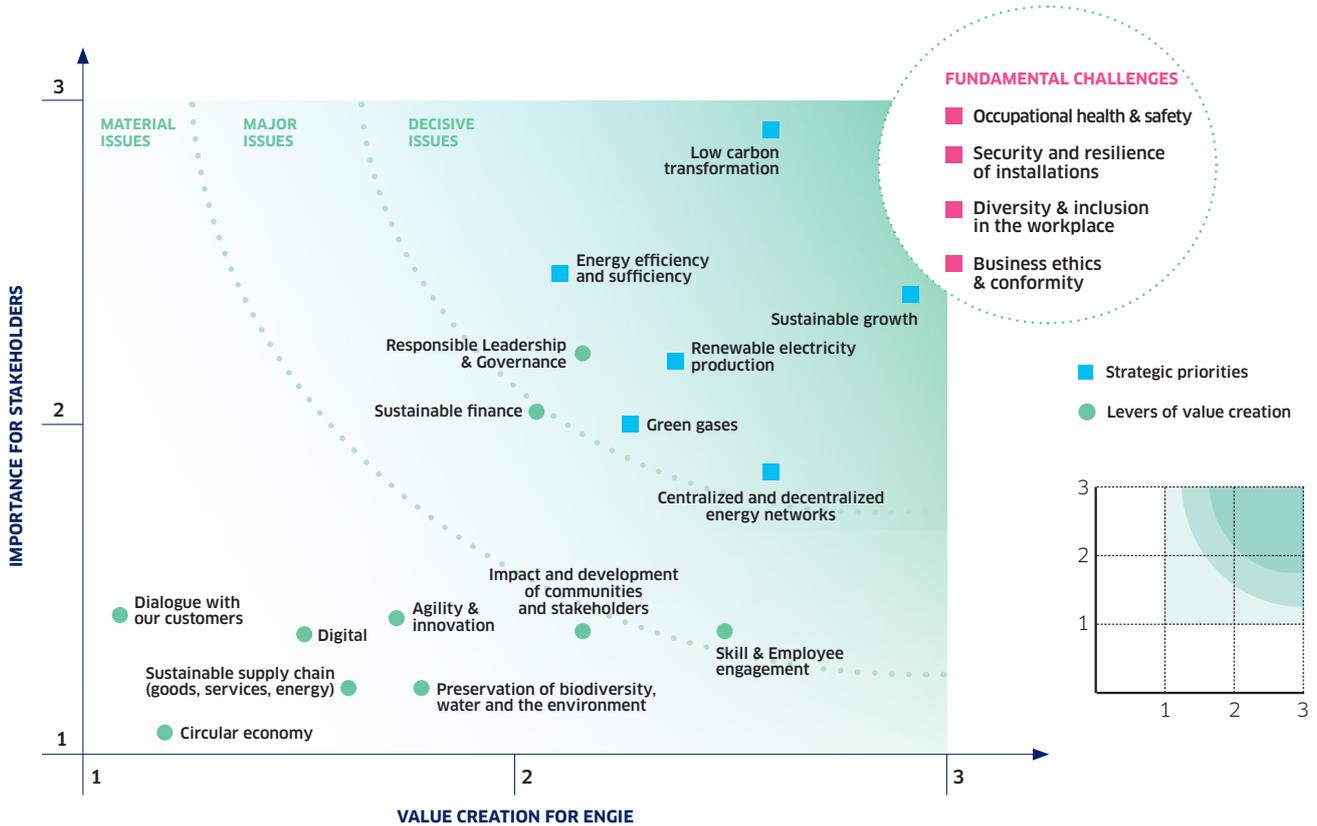
ENGIE also wants to play a major role in its customers' decarbonization using its decentralized networks with a goal

of adding 8 GW of decentralized energy networks by 2025 (compared to 2020).

Lastly, GEMS is at the heart of ENGIE's integrated model. Upstream, the role of GEMS is to make the most of the technological differences, complementarity, flexibility and optionality of the asset portfolio of ENGIE and its partners. Downstream, GEMS provides ENGIE's customers with risk management services and customized energy supply contracts.

# INTEGRATE STAKEHOLDER EXPECTATIONS

ENGIE has a materiality analysis that ranks the various challenges facing the Group. ENGIE maintains an active dialog with all its stakeholders to take their expectations into consideration and feed the Group's strategic directions. The dual materiality to which ENGIE plans to commit itself in the near future will provide a maturity to the global approach.



## IDENTIFY THE PRINCIPAL CHALLENGES

- Health and safety in the workplace, the safety and resiliency of the facilities, ethics and compliance, as well as diversity and inclusion in the workplace have been identified as fundamental challenges. This means that they should be permanent and structural in the Group's activities.
- The low-carbon transformation and the capacity to manage sustainable growth are decisive elements.
- The commitment of employees, leadership and responsible governance and the increased use of sustainable finance tools appear to be levers of value creation to accelerate the transition to a carbon-neutral economy.

the transition to a carbon-neutral economy.

More generally, the results of the materiality matrix underline the coherence between stakeholder expectations and ENGIE's strategic orientations.

## THE DUAL MATERIALITY APPROACH

Each material challenge brings risks and opportunities that can impact – negatively or positively – either the economic value of the Group (financial impact) or its natural or human environment (socio-environmental impact). For example, the challenge of low-carbon transformation impacts the Group's activities:

- ➔ **positively**, since it ensures its development in the buoyant market of renewable electricity production, but also
- ➔ **negatively**, with lower profitability in the short term and increased risks of additional costs for raw materials and extended development time for new projects; but these same activities impact ENGIE's natural or human environment:

- ➔ **positively**, since they contribute to the fight against climate change by substituting renewable capacities for capacities that consume fossil fuels,
- ➔ **negatively**, since they may affect natural habitats because of the implementation of renewable power plants or associated electrical or gas networks.

# MANAGE RISKS, SEIZE OPPORTUNITIES

Engie's business context exposes it to financial and non-financial risks, but also offers opportunities. This is why the Group continually analyzes their evolution in order to best adapt to changes in its environment.

ENGIE identifies the gross material risks to which it is exposed within its environment. These different risks, the resources to handle them and the monitoring indicators are presented in the Non-financial Statement (NFS, Chapter 3 of the 2022 Universal Registration Document).

At the end of its annual ERM exercise – *Enterprise Risk Management* – and after taking into account mitigation measures, the Group identifies its significant and specific net risks. (Risk factors, Chapter 2 of the 2022 Universal Registration Document).

Each year, the Board of Directors selects a limited number of priority risks from among these net risks.

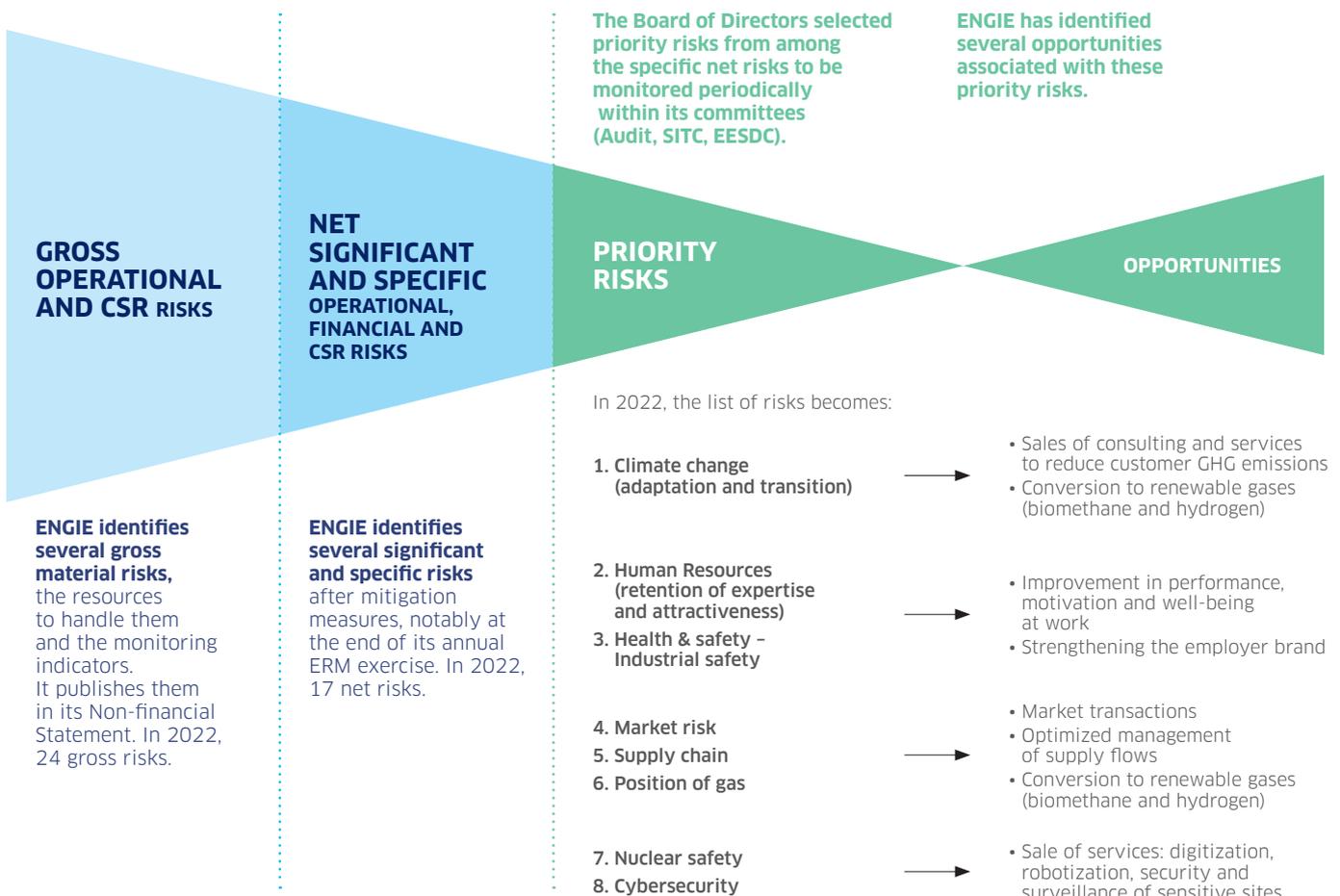
The eight risks that the Board has selected are monitored by the permanent Board committees: the Audit Committee, the Strategy, Investment and Technology Committee (SITC) and the Ethics, Environment and Sustainable Development Committee (EESDC).

Each of these priority risks also potentially presents strategic opportunities for the Group. They essentially concern the sale of services, industrial development or performance optimization.



**8**

priority risks monitored by the Board of Directors in 2022



# CONTRIBUTE TO SUSTAINABLE DEVELOPMENT GOALS

The actions deployed by ENGIE contributed to the sustainable development goals of the United Nations Agenda 2030. With six key contributions and eight significant contributions, the Group is fully making its CSR commitment a reality in response to the challenges expressed by its stakeholders in line with its strategy of sustainable growth aimed at accelerating the transition to a carbon-neutral world.

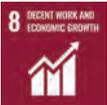


## A RIGOROUS METHODOLOGY



- Study of the contribution of the ENGIE materiality challenges to the SDGs and their related targets.
- The Group's contribution to an SDG is key when at least one fundamental, decisive, or major issue of the Group contributes to the SDG and its related targets and this contribution is monitored through a Group indicator and target.
- The Group's contribution to an SDG is significant when at least one material issue of the Group contributes to the SDG and this contribution is driven by a Group commitment.

## 6 SDGS FOR WHICH ENGIE'S CONTRIBUTION IS KEY

SDG	ENGIE contribution	Examples of actions in 2022
 5 GENDER EQUALITY	ENGIE is committed to equal opportunities for women and men and to women fully participating and accessing managerial positions without discrimination.	<ul style="list-style-type: none"> <li>• Be.U@ENGIE, a new “Diversity, Equity and Inclusion” policy</li> <li>• “Fifty-fifty”: 29.9% of women in management and 15 EDGE (Excellence in Designing for Greater Efficiency) certified entities</li> </ul>
 7 AFFORDABLE AND CLEAN ENERGY	ENGIE contributes to universal access to energy, the development of renewable energy and improved energy efficiency.	<ul style="list-style-type: none"> <li>• 38% renewable energy in the electricity production capacity mix – 38 GW</li> </ul>
 8 DECENT WORK AND ECONOMIC GROWTH	ENGIE contributes to the economic and social development of regions and prioritizes the health and safety of everyone everywhere in the world.	<ul style="list-style-type: none"> <li>• ENGIE “One Safety” transformation plan</li> <li>• Deployment of training in seven pilot entities to improve the health and safety leadership of operational managers</li> </ul>
 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	ENGIE mobilizes its R&I to modernize and green its networks, and works to share value with its stakeholders.	<ul style="list-style-type: none"> <li>• European H2 Backbone: MosaHYC project to convert gas pipelines to transmit hydrogen.</li> </ul>
 11 SUSTAINABLE CITIES AND COMMUNITIES	ENGIE contributes to the city of tomorrow through its urban planning tools and its clean energy and services offerings.	<ul style="list-style-type: none"> <li>• Two new highway NGV stations under the contract between ENGIE Solutions and Certas Energie France</li> <li>• Fraîcheur de Paris (ENGIE 85%, RATP 15%) becomes the operator of the Paris cooling network for 20 years</li> </ul>
 13 CLIMATE ACTION	Driven by its purpose and strategy, ENGIE promotes energy efficiency and renewable electricity production.	<ul style="list-style-type: none"> <li>• Renewables Academy: to increase the expertise of employees in the renewable energy business lines</li> </ul>

## 8 SDGS FOR WHICH ENGIE'S CONTRIBUTION IS SIGNIFICANT

SDG	ENGIE contribution	Examples of actions in 2022
 3 GOOD HEALTH AND WELL-BEING	By increasing its clean energy production, ENGIE improves living conditions. Its employees all benefit from social protection.	<ul style="list-style-type: none"> <li>• Global Agreement ensuring the Group-wide roll-out of ENGIE Care, the foundation for common social rights</li> </ul>
 6 CLEAN WATER AND SANITATION	Access to, and preservation and rationalized use of this shared asset are incorporated into the Group's water management strategy.	<ul style="list-style-type: none"> <li>• In Brazil, a program to preserve water sources in rural areas with local communities</li> </ul>
 10 REDUCED INEQUALITIES	ENGIE contributes to local economic development by participating in a just transition and providing access to jobs without discrimination.	<ul style="list-style-type: none"> <li>• Energy transition academy 140 work-study apprentices trained in the new energy business lines</li> </ul>
 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Optimized use of its resources and waste and the promotion of sustainable practices in its value chain are part of ENGIE's purpose.	<ul style="list-style-type: none"> <li>• 55% reduction in the production of hazardous waste in the Group vs 2019</li> </ul>
 14 LIFE BELOW WATER	Preserving the oceans and their flora and fauna is crucial for the balance of the ecosystems. ENGIE is a signatory of the <i>Sustainable Ocean Principles</i> .	<ul style="list-style-type: none"> <li>• Prevent the risks related to offshore wind: studies and monitoring of the sea floor, air surveillance</li> </ul>
 15 LIFE ON LAND	ENGIE is committed to mitigating its impact on life on land by working for the preservation of ecosystems (act4nature – biomass).	<ul style="list-style-type: none"> <li>• Implementation of a commitment to not use phytosanitary products and to manage green spaces in an environmentally friendly manner</li> </ul>
 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	ENGIE excludes any form of corruption and deploys forums for dialog to improve the transparency of its communication.	<ul style="list-style-type: none"> <li>• Renewal of the Group's ISO 37001 certification</li> </ul>
 17 PARTNERSHIPS FOR THE GOALS	ENGIE is forging solid relationships with a broad panel of partners and is now a recognized player in the regions.	<ul style="list-style-type: none"> <li>• Numerous exchanges</li> <li>• Creation of the TED (<i>Transition Énergétique Durable – Sustainable Energy Transition</i>) label to bring together the regions</li> </ul>

# STEERING THE CREATION OF VALUE BY 2030

The value created by ENGIE in the medium and long term depends on the Group's performance and is intended to benefit all its stakeholders. Thus, the Group has defined objectives and indicators for monitoring its performance in the categories "Planet", "People" and "Economic prosperity"

PLANET		2020	2021 <sup>(1)</sup>	2022 <sup>(1)</sup>	TARGET 2030
<b>Objectives monitored by the governance bodies (EESDC)</b>					
CO <sub>2</sub> Energy production	GHG emissions from energy production (scopes 1 and 3) in Mt CO <sub>2</sub> eq.	68	65	60	43
CO <sub>2</sub> Energy production and consumption	Carbon intensity of direct energy production (scope 1) and energy consumption (scope 2) in g CO <sub>2</sub> eq. per kWh	212	181	156	110 (SBTi "well-below" 2 °C obj.)
	GHG emissions from final gas sales (scope 3) in Mt CO <sub>2</sub> eq.	62	66	61	52
CO <sub>2</sub> Energy sales	Carbon intensity of energy sales produced (scopes 1 and 3) and purchased (scope 3) in g CO <sub>2</sub> eq. per kWh	270	252	221	153 (SBTi "well-below" 2 °C obj.)
Renewable capacities	Share of renewable capacities (@100% and excluding pumped storage) in electricity production (scopes 1 and 3)	31%	34%	38%	58%
Decarbonation of our customers	Emissions avoided at the customers' sites through Group's products and services in Mt CO <sub>2</sub> eq.	21	27	28	45
Decarbonization of our suppliers	Rate of top 250 SBT-certified or aligned preferred suppliers	15%	20%	23%	100%
Biodiversity	Rate of industrial sites with natural management of green spaces without the use of chemical plant protection products	0%	28%	34%	100%
Water	Fresh water consumption per energy produced in m <sup>3</sup> /MWh	0,278	0,342	0,301	0,1
<b>Operational objectives followed by the Group Executive Committee</b>					
Renewable capacities	Renewable capacities (@100% and excluding pumped storage) of electricity production in GW	31	34	38	80
CO <sub>2</sub> Energy production	Carbon intensity of energy production (scopes 1 and 3) in g CO <sub>2</sub> eq per kWh	266	240	216	158
Decarbonization of our work practices	GHG emissions linked to our working practices in Mt CO <sub>2</sub> eq.	0,5	0,3	0,3	0 (after offsetting-maximum of 0,2 Mt CO <sub>2</sub> eq.)
Environment	Rate of activities with an environmental plan established in consultation with stakeholders	21%	37%	53%	100%
	NOx emissions reduction rate vs 2017	-47%	-47%	-64%	-75%
	SOx emissions reduction rate vs 2017	-25%	-34%	-95%	-98%
Pollution	Total particulate emissions reduction rate vs 2017	-14%	-23%	-54%	-60%
	Non-hazardous waste generation reduction rate vs 2017	+3%	+3%	-47%	-80%
	Hazardous waste generation reduction rate vs 2017	-90%	-92%	-94%	-95%
Methane emissions	Direct methane emissions on gas networks in Mt CO <sub>2</sub> eq.	1,52	1,62	1,26	-30% vs 2017 or 1,45 Mt CO <sub>2</sub> eq.
Electricity storage	Electricity battery capacities (GW)		-	0,05	10 GW

(1) Les données 2021 et 2022 sont hors Equans.

## WELL-BELOW 2°C CERTIFICATION BY STBi



In February 2023, the Group was granted the well-below 2°C certification for its decarbonization trajectory by 2030.

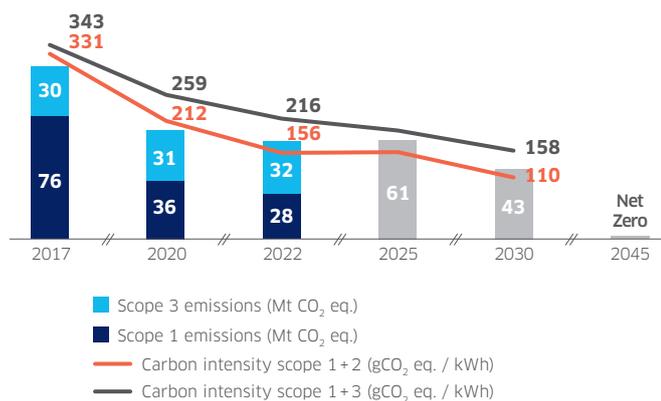
In order to achieve this, it has committed to two additional goals:

- the carbon intensity for energy production (Scope 1) and energy consumption (Scope 2) must be lower than 110 g CO<sub>2</sub> eq. per kWh,
- the carbon intensity of energy sales produced (Scopes 1 and 3) and purchased (Scope 3) must be lower than 153 g CO<sub>2</sub> eq. per kWh.

### GHG EMISSIONS FROM ENERGY PRODUCTION

(MT CO<sub>2</sub> EQ.)

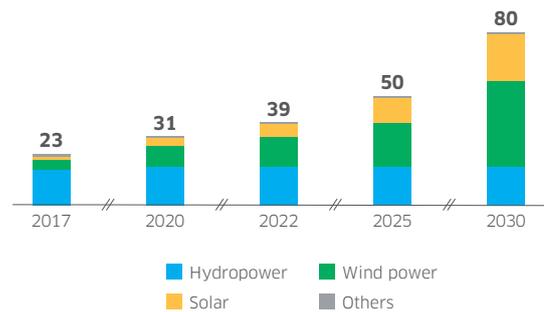
The decrease in GHG emissions from energy production from controlled (scope 1) and non-controlled (scope 3) assets is detailed below in absolute value and intensity.



### CHANGE IN RENEWABLE ELECTRICITY CAPACITIES

(GW@100%)

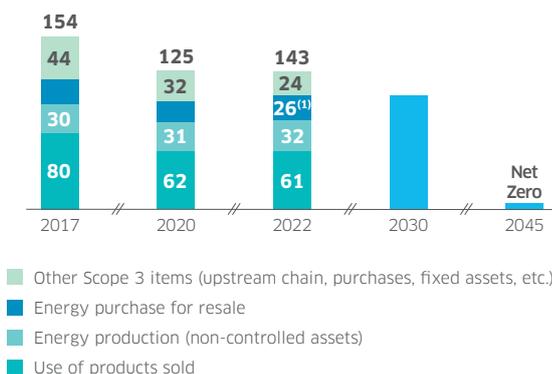
The increase in renewable electricity production capacity is illustrated in the graph below. It is in line with the target of 58% renewable capacity by 2030.



### SCOPE 3 INDIRECT GHG EMISSIONS

(MT CO<sub>2</sub> EQ.)

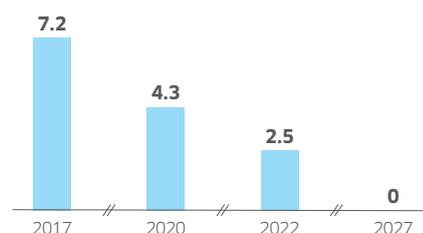
The decrease in indirect GHG emissions (scope 3) is illustrated below for the upstream and downstream segments of the Group's activities.



### CHANGE IN COAL-FIRED ELECTRICITY CAPACITIES

(GW@100%)

The planned phase-out of coal in 2025 for continental Europe and in 2027 for the rest of the world is illustrated below.



(1) Indicator audited for the first time in 2022

PEOPLE		2020	2021 <sup>(1)</sup>	2022 <sup>(1)</sup>	TARGET 2030
<b>Objectives monitored by the governance bodies (EESDC)</b>					
Health & Safety	Lost time injury frequency rate for employees and subcontractors on closed sites with controlled access	2,7	2,5	2,0	≤ 2,3
	Fatality rate	-	0,045	0,014	0 each year
Diversity	Share of women in Group management	24,1%	28,9%	29,9%	[40-60%]
Equity	Gender pay gap	-	-	1,73%	< 2%
Learning	Rate of apprentices in the workforce in France	6,7%	7,2%	7,7%	>10%
Training	Rate of employees trained each year	70%	82%	84%	100%
Responsible purchasing	Responsible purchasing index (excluding energy): CSR assessment and inclusive purchasing	25	40	38	100
Fraud and corruption prevention	Rate of training of staff most exposed to the risk of corruption	21%	49%	55%	> 95%
<b>Operational objectives followed by the Group Executive Committee</b>					
Stakeholder dialogue	Rate of activities with a societal plan for stakeholder consultation	10%	37%	46%	100%
Access to energy	Number of beneficiaries with access to sustainable energy in millions <sup>(2)</sup>	6 M	7 M	9,5 M	30 M
<b>ECONOMIC PROSPERITY</b>		<b>2020<sup>(1)</sup></b>	<b>2021<sup>(1)</sup></b>	<b>2022<sup>(1)</sup></b>	<b>FINANCIAL OUTLOOK FOR 2023-2025</b>
<b>Indicators (Published data)</b>					
Growth investments (€ bn)	3,9	4,3	5,5	€22-25 bn	
Asset rotation program (disposals) (€ bn)	4,2	2,0	9	-	
Performance program (€ m)	N/A	85	424	-	
EBIT (€ bn)	4,5 / 4,6 excl. nuclear	6,1 / 5,2 excl. nuclear	9,0 / 8,0 excl. nuclear	€6,6-7,6 bn (excluding nuclear) in 2023 €7,2-8,2 bn (excluding nuclear) in 2024 €7,5-8,5 bn (excluding nuclear) in 2025	
Economic net debt / EBITDA	4,2x	3,6x	2,8x	less than or equal to 4,0x	
Net recurring income, Group share (NRIGs) (€ bn)	1,7	2,9	5,2	€3,4-4,0 bn in 2023 €3,8-4,4 bn in 2024 €4,1-4,7 bn in 2025	
Dividend payout rate / Net recurring income, Group share	75%	66%	65%	65%-75% with floor dividend of €0,65 € per share	
Credit rating	strong investment grade	strong investment grade	strong investment grade	strong investment grade	

(1) 2021 and 2022 data are excluding Equans.

(2) This target will be replaced in 2024 by another target more in line with the Group's geographical refocusing and taking into account the positive impacts of the Energy Gathering Fund, and incorporating the positive impacts of the Energy Gathering Fund.

# INCREASING OUR COMMITMENTS TO MAKE PROGRESS

ENGIE is involved in different networks and coalitions that assist it in improving its practices and energizing its value creation for the benefit of its stakeholders. This collective approach allows it - in line with its purpose - to reconcile economic performance with a positive impact on people and the planet.

## ENVIRONMENTAL COMMITMENTS

### CLIMATE



### BIODIVERSITY



### WATER



## SOCIETAL COMMITMENTS

### DIVERSITY



### ANTI-DISCRIMINATION AND HARASSMENT



### YOUTH EMPLOYABILITY



### TAXATION



### CONSUMPTION



### SUPPLIERS

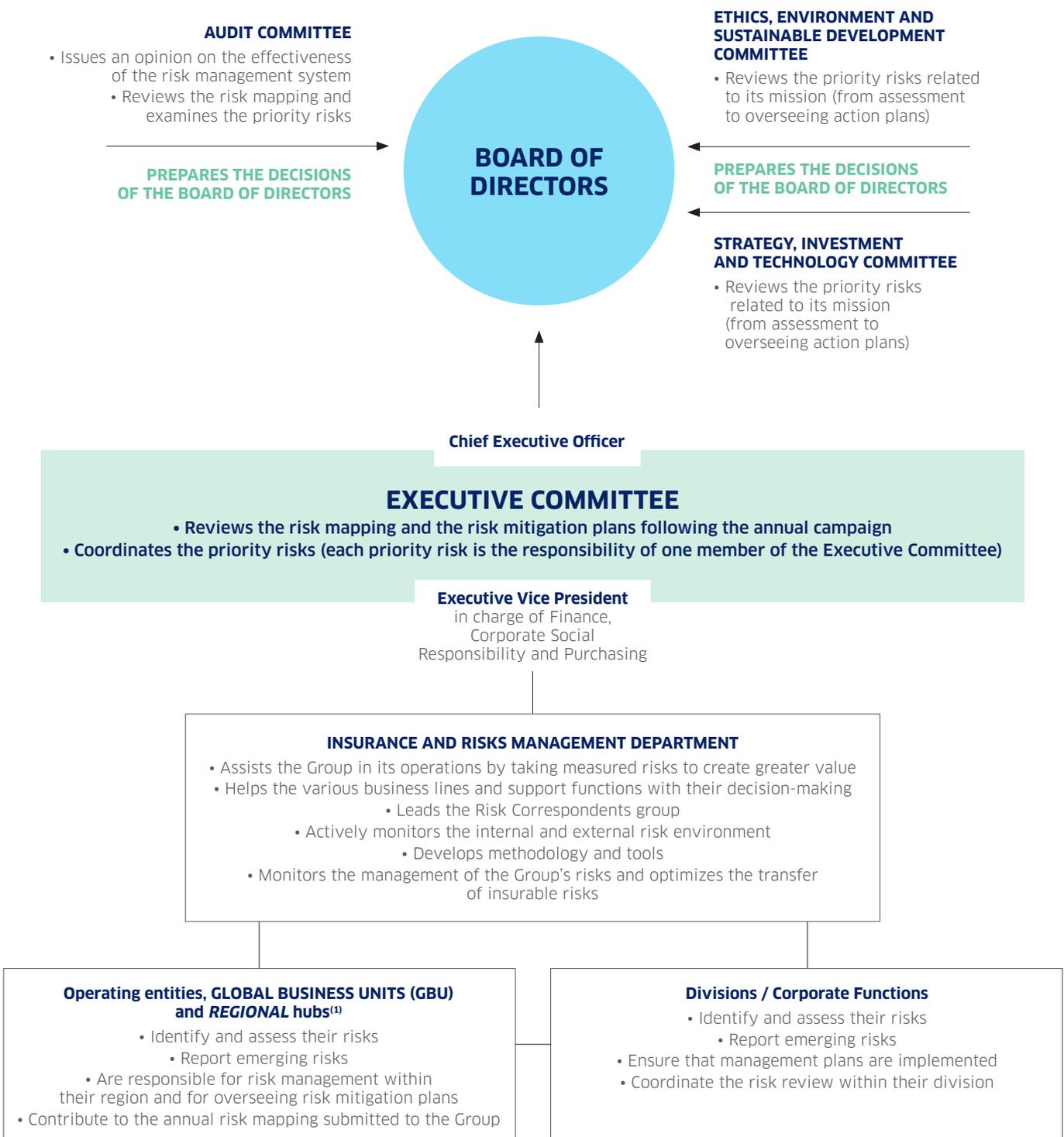


## GENERAL COMMITMENTS



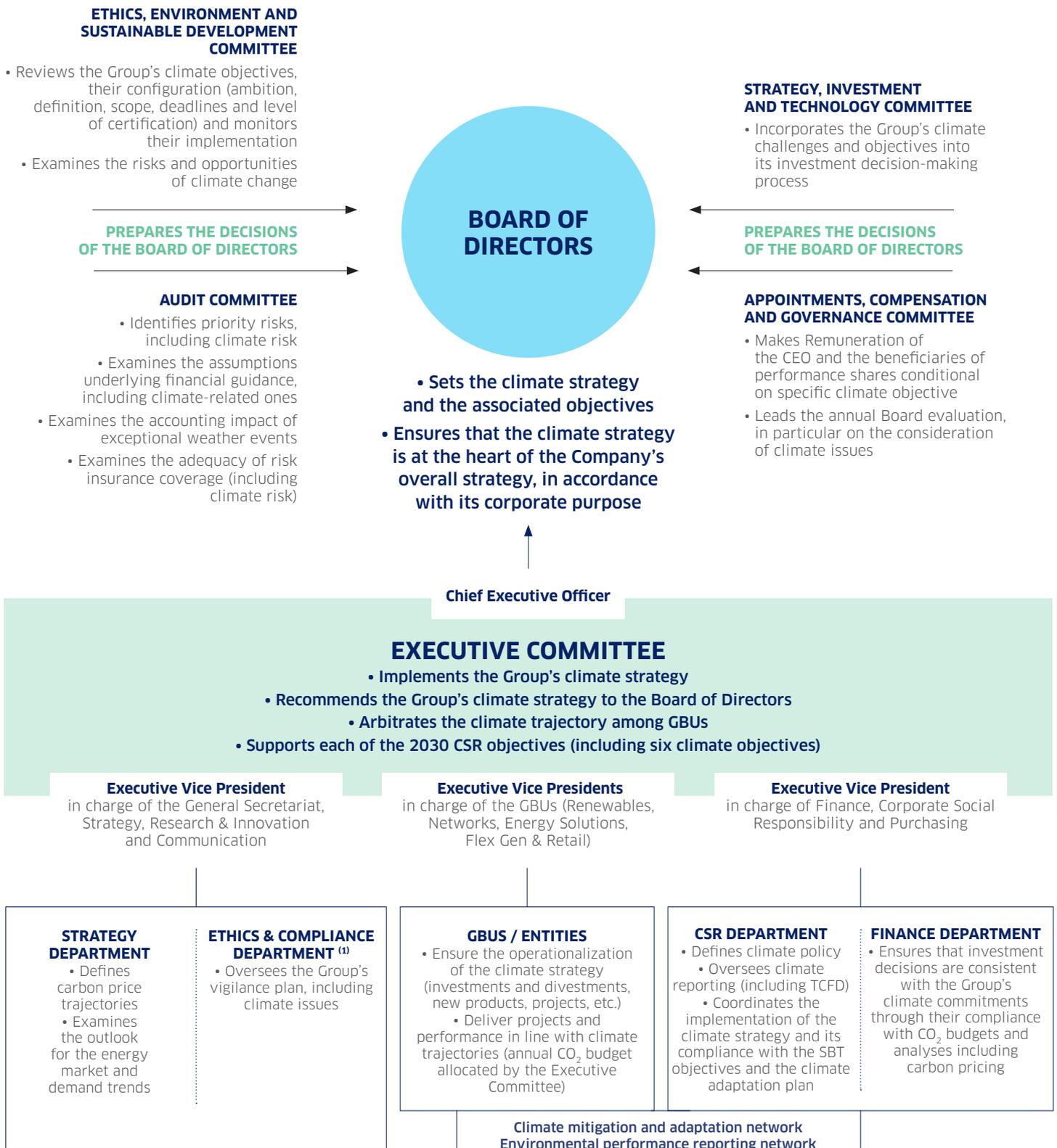
# MANAGE RISKS FOR GREATER CONTROL

ENGIE is exposed to various risks as a result of its activity and commitments. To protect against such risks and deal with them if they occur, the Group has established a risk governance structure, as well as specific governance structures for two of its key considerations - the climate and ethics - to enable the Group to take action at the highest level.



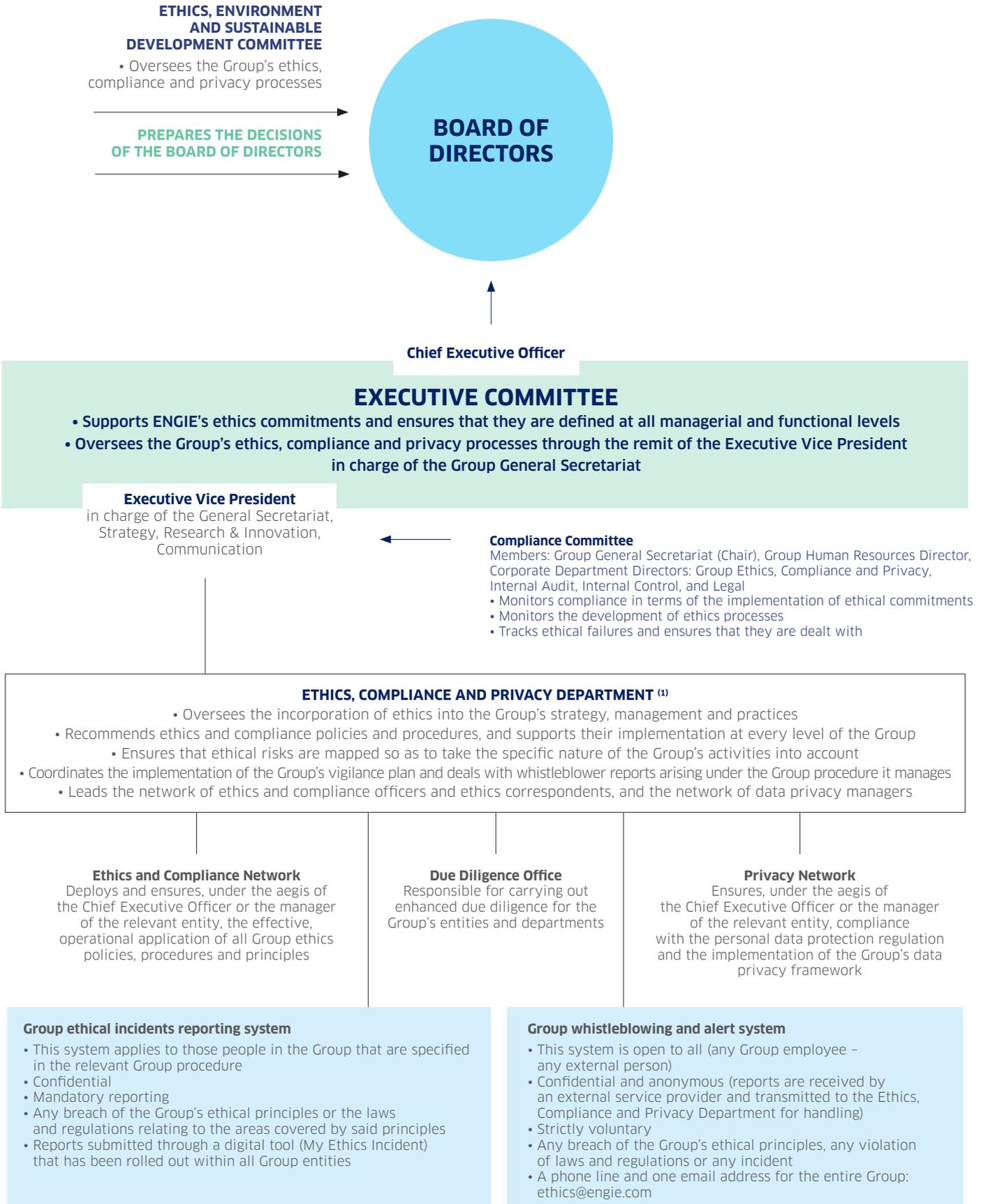
(1) The analysis and management of division-specific risks is carried out in collaboration with the relevant Group division (e.g.: HR risk, cyber risk, etc.).

# SET UP SPECIFIC GOVERNANCE FOR CLIMATE ISSUES



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

# PUT ETHICS AT THE HEART OF OUR GOVERNANCE



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

# STEER THE VIGILANCE PLAN VIA A DEDICATED GOVERNANCE STRUCTURE

Fully integrated into the ethics organization, ENGIE has a vigilance plan designed to identify and prevent human rights abuses, infringements of fundamental freedoms, dangers to human health and safety and environmental damage. It comprises the following elements:

	HUMAN RIGHTS	ENVIRONMENT AND SOCIETAL	HEALTH, SAFETY AND SECURITY	SUPPLIERS
RISKS	<ul style="list-style-type: none"> <li>Risks related to fundamental workers' rights</li> <li>Risks related to the rights of local communities</li> <li>Risks related to the safety of employees and sites</li> <li>Risks related to partner and supplier practices</li> </ul>	<ul style="list-style-type: none"> <li>Climate risk</li> <li>Risks related to the pollution of the air, water and soils</li> <li>Risks related to waste</li> <li>Risks related to the impact of activities on local communities and their social consequences</li> </ul>	<ul style="list-style-type: none"> <li>Risks of harm to the health, safety and security of people working for the Group (employees, temporary workers and subcontractors)</li> <li>Risks linked to the Group's industrial facilities or facilities that the Group maintains and/or operates on behalf of customers (to people who work for the Group or residents)</li> </ul>	<ul style="list-style-type: none"> <li>Risky purchasing categories</li> <li>Risks related to human rights</li> <li>Risks related to health, safety and security</li> <li>Environmental and societal risks</li> </ul>
RELATED POLICY	The Group's human rights policy specifies ENGIE's commitments and provides for regular processes to identify and manage risks. In this way, each entity can ensure compliance with it in the context of its activities and commercial relations. Commercial partners are also the subject of ethical due diligence, which explicitly includes human rights.	The Group's CSR policy guides the environmental and social vigilance processes, based on action plans at different levels, to avoid, reduce and, if necessary, offset the impacts of the Group's activities. It is defined at the level of each GBU, subsidiary and site, and is implemented through objectives and action plans that are reviewed every year. In addition, before any decision to launch a project is reached, an analysis of the environmental and societal risks is conducted using a set of CSR criteria.	The Group's health-and-safety-at-work policy and rules provide the basis for fulfilling the duty of vigilance. They apply to all Group employees and subcontractors. The risks related to the operation of industrial facilities are controlled by implementing safety management systems based on the principle of continuous improvement. ENGIE has developed control processes to ensure the implementation of actions that help to prevent risks and achieve the Group's objectives. In the area of security, the Group has a policy to protect individuals. Its measures are adapted to the criticality of such risks in the geographic area concerned.	For non-energy purchases, the Group Purchasing Charter defines a set of minimum requirements in terms of human rights, health and safety at work, ethics and the environment. The Charter's implementation relies on a selection process involving inspections and external evaluations (due diligence, audits, EcoVadis ratings, etc.)  For energy purchases, risks relating to the Group's energy supply have been identified as a specific vigilance issue for the Group. Action plans are defined for any risks identified.
DEPARTMENT IN CHARGE	ETHICS, COMPLIANCE & PRIVACY	CORPORATE SOCIAL RESPONSIBILITY	HEALTH, SAFETY AND SECURITY	PURCHASING
	Harmonized processes: vigilance monitoring committee • due diligence procedures • whistleblowing and collection of alerts mechanism • monitoring of the plan's deployment within the entities • management of controversies • training • ENGIE global framework agreement			
2022 MONITORING	<ul style="list-style-type: none"> <li>Monitoring of the policy via the ethics compliance report and internal control</li> <li>96.2% effective roll-out of the policies by the entities</li> <li>Face-to-face and e-learning training on human rights for the entire Group</li> <li>Due diligence (with regard to human rights risk) on partners in connection with the Group's investment committees: 100%</li> <li>Alerts received through the whistleblowing mechanism (78 of these alerts concerned issues related to the duty of vigilance)</li> </ul> <p><b>For more information:</b> <a href="https://www.engie.com/en/group/ethics-and-compliance/policies-and-procedures/human-rights-referential">https://www.engie.com/en/group/ethics-and-compliance/policies-and-procedures/human-rights-referential</a></p>	<ul style="list-style-type: none"> <li>Continued roll-out of the CSR objectives for 2030 (17 objectives)</li> <li>Training on CO<sub>2</sub>, biodiversity, stakeholder commitment, CSR matrix</li> <li>Monitoring of the actions taken for each CSR objective</li> <li>Assessment of the effectiveness of action plans during performance reviews</li> <li>Deployment of the new CSR matrix designed to integrate the environmental and societal dimensions into the Group's decision processes</li> </ul> <p><b>For more information:</b> <a href="https://www.engie.com/en/analysts/governance/duty-of-vigilance-environmental-societal-risks">https://www.engie.com/en/analysts/governance/duty-of-vigilance-environmental-societal-risks</a></p>	<ul style="list-style-type: none"> <li>Evaluation of the Group's organization and health-and-safety culture by a specialized service provider</li> <li>Definition of a Group health-and-safety transformation plan called "ENGIE One Safety" designed to permanently eradicate serious and fatal accidents</li> <li>Improvement of the Group health-and-safety rules</li> <li>Testing a training and coaching program for Group managers to increase the impact they have on the safety behavior of employees and subcontractors</li> <li>Roll-out of an awareness campaign that integrates the ENGIE Life-Saving Rules</li> <li>Update of the Group safety rules applicable to people working internationally</li> </ul>	<ul style="list-style-type: none"> <li>Risk matrix for each purchase category</li> <li>Revision of the supplier panels to cover around 50% of the total expense (excluding energy)</li> <li>Implementation of a new Inclusive Purchasing France Policy</li> <li>Supplier qualification criteria</li> <li>Measurement of performance and action plans and of the carbon emissions of suppliers</li> <li>In-depth vigilance action plan (risks of forced labor practices in the Group's supply chains in China)</li> </ul> <p><b>For more information:</b> <a href="https://www.engie.com/en/group/suppliers/sustainable-purchasing-policy">https://www.engie.com/en/group/suppliers/sustainable-purchasing-policy</a></p>

“Because each day counts, ENGIE intends to accelerate the energy transition and become the champion of zero-carbon energy. The collective project in which the Group participates, with and for its stakeholders, aims to achieve Net Zero Carbon by 2045. From its position as a *transition maker*, ENGIE intends to support its customers in their approach to decarbonization and thus diversify the energy mix within which renewable energy sources will take on greater importance.”





# OUR IMPACT

## WHAT IS OUR VALUE CREATION?

**26**

Accelerate the energy transition with a value-creating business model

**28**

Renewables

**29**

Energy Solutions

**30**

Networks

**31**

Flex Gen & Retail

**32**

Pursue an aggressive climate strategy

**34**

Protect biodiversity and nature

**36**

Act for a just transition

**38**

Dialog with local stakeholders

**40**

Share the value created

**41**

Responsible taxation aligned with the activity

**42**

Pursue an ambitious human resources policy

**43**

Ongoing reinforcement of the Group's health and safety culture

**44**

Support customers in their low-carbon strategy

**45**

Support suppliers in their decarbonization trajectory

**46**

Promote sustainable and responsible finance

**48**

Facilitate and support the regions' zero-carbon transition

# ACCELERATE THE ENERGY TRANSITION WITH A VALUE-CREATING BUSINESS MODEL

## RESOURCES<sup>(1)</sup>

### Financial capital

- **€39.3 billion** in shareholders' equity
- **€20.9 billion** in cash and cash equivalents
- **€24.1 billion** in financial net debt
- **2.8x** economic net debt / EBITDA
- **€6.6 billion** in financing of nuclear provisions

### Industrial capital

- **€5.5 billion** in growth Capex
- **€2.4 billion** in maintenance Capex
- **€22.5 million** in B2C contracts
- **255,400 km** gas distribution networks
- **102.7 GW** of installed power generation capacity, including 38 GW of renewable energy

### Intellectual capital

- **600** researchers
- **€135 million** allocated to R&D
- **€15 million** invested in start-ups in 2022
- **€200 million** invested in ENGIE New Ventures

### Human and societal capital

- **96,454** employees
- **16,975** hires
- **7.7%** apprentices in France.
- **€38.3 million** invested by Rassembleurs d'Energies
- **€7.8 million** annual endowment for the ENGIE Foundation

### Natural capital

- **278 TWh** of primary energy consumption (excluding own consumption)
- **80 million m<sup>3</sup>** of water consumed
- **€903 million** in environment expenditure (investments and recurring expenses related to environmental protection)
- **2.2 Mt** of biomass in France

## STRATEGY

**Simplify** and refocus the Group on its core activities to seize opportunities in a buoyant energy market

**Adapting** our organization with a consolidated industrial approach

**Strengthening** for the energy transition with an ambitious "Net Zero Carbon" target by 2045 in all areas

**Accelerating** our growth in Renewables and Local Energy Networks

### Our ways of working

- Focus on business
- Collaborate
- Commit to deliver
- Engage
- Prioritise

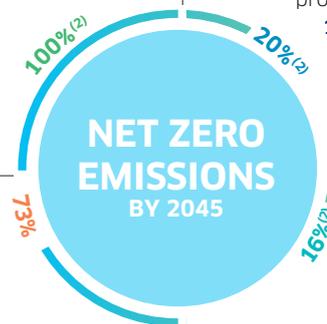
## 4 CORE BUSINESSES

### Renewables

**80 GW** of renewable electricity capacities  
**+4 GW** on average per year for 2022-2025  
**+6 GW** on average per year for 2026-2030

### Networks

**Production 10 TWh of biomethane per year** by 2030  
 Development of **4 GW** of renewable hydrogen production capacity by 2030  
**1 TWh** of hydrogen stored in salt caverns in 2030  
**700 km** of hydrogen transmission networks in 2030



Adding **8 GW** of decentralized energy network capacity by 2025 vs. 2020 in installed asset base

**Coal phase-out by 2027**  
 Development of **10 GW** of battery storage capacity by 2030  
 Development of **4 GW** of renewable hydrogen production capacity by 2030

### Energy Solutions

### Flex Gen & Retail

(1) Data excluding Equans

(2) of 2022 taxonomy-aligned capex

## VALUE CREATION<sup>(1)</sup>

### 2022 RESULTS

#### People

- **29.9%** women in Group management
- **1.73%**: gender pay gap
- **2.0**: frequency rate of occupational accidents for employees and subcontractors on sites with controlled access

#### Planet

- **60 Mt CO<sub>2</sub> eq.** of GHG emissions (scopes 1 and 3) for energy production
- **156 g CO<sub>2</sub> eq./kWh** of carbon intensity of direct energy production (scope 1) and energy consumption (scope 2)
- **61 Mt CO<sub>2</sub> eq.** of GHG emissions related to gas end sales
- **221 g CO<sub>2</sub> eq./kWh** of carbon intensity of energy sales produced (scopes 1 and 3) and purchased (scope 3)
- **38%** of renewable electricity production capacity

Customer decarbonization:

- **28 Mt CO<sub>2</sub> eq.** of emissions avoided by customers through ENGIE's products and services

Supplier decarbonization:

- **23%** of the top 250 suppliers (excluding energy) SBT certified or aligned

#### Economic performance

- **€5.2 billion** in Net recurring income / (loss), Group share (NRIGs)
- **€1.40** dividend per share to be paid out for fiscal year 2022 (65% of 2022 net recurring income, Group share)
- **€5.5 billion** in growth CAPEX
- **€9 billion** in asset rotation

- **2.8x**: Economic net debt/EBITDA ratio
- Credit rating: strong investment grade

### TARGETS

#### to 2030

- Percentage of women in Group management **[40%-60%]**
- Pay gap: **<2%**
- Frequency rate of occupational accidents for employees and subcontractors on sites with controlled access **≤ 2.3**

#### to 2030

- **43 Mt CO<sub>2</sub> eq.** of GHG emissions (scopes 1 and 3) for energy production
- **110 g CO<sub>2</sub> eq./kWh** of carbon intensity of direct energy production (scope 1) and energy consumption (scope 2)
- **52 Mt CO<sub>2</sub> eq.** of GHG emissions related to gas end sales
- **153 g CO<sub>2</sub> eq./kWh** of carbon intensity of energy sales produced (scopes 1 and 3) and purchased (scope 3)
- **58%** of renewable electricity production capacities

Customer decarbonization:

- **45 Mt CO<sub>2</sub>** of emissions avoided by our customers through ENGIE's products and services

Supplier decarbonization:

- **100%** of the top 250 suppliers (excluding energy) SBT certified or aligned

#### 2023-2025

- **€3.4-4.7 billion** in Net recurring income / (loss) Group share (NRIGs)
- **65 to 75%** of net recurring income, Group share with a floor dividend of **€0.65** per share
- **€22-25 billion** in growth investments

#### 2023-2025

- Economic net debt / EBITDA ratio **≤ 4x**
- Credit rating: strong investment grade

## CONTRIBUTION



# RENEWABLES

**With its GBU Renewables, ENGIE contributes to the construction of the energy system of tomorrow. The challenge Decarbonize and balance the energy mix, in particular by placing the emphasis on solar and wind.**

## EXPERTISE AND KEY GOALS

### Development and operation of renewable projects

Design, build, operate:

- Hydroelectricity
- Solar
- Onshore wind
- Offshore wind
- Battery storage associated with a renewable asset

### → RELATED GOALS

**Achieve a portfolio of 50 GW by 2025 and 80 GW by 2030**

## STRATEGY PURSUED

The Group is investing heavily in decarbonized energy production facilities and intends to increase its capacity by an average of 4 GW per year between now and 2025 and by 6 GW per year from 2026.

The majority of investments should be focused in the five priority markets of the GBU, namely US, France, Brazil, Chile and offshore wind.

## PROGRESS MADE

ENGIE added 3.9 GW of renewable capacity in 2022, bringing the total 100% renewable installed capacity to nearly 38 GW at end-2022. The Group's ambition is supported by a pipeline of 80 GW at end-December 2022. The offshore wind sector has accelerated sharply.

## OTHER ACTIVITIES

### Energy management and supply to B2B customers (GEMS)

- Corporate Power Purchase Agreements
- Market risk management
- Energy storage - batteries
- 3,200 employees

### Nuclear-powered electricity production

- 2,100 employees

**4,800**  
employees  
worldwide

**38 GW**  
in 100% installed  
capacities  
(end-2022)

**€1.6 billion**  
EBIT 2022

**No. 1**  
in wind  
and solar  
in France

## BUSINESS CASE



**Arturo Bugueño,**  
Project Manager PV Tamaya



**Rafael Munilla,**  
Chief Business Development  
Officer at Ocean Winds

### THE FULLY OPERATIONAL TAMAYA PHOTOVOLTAIC POWER PLANT

As part of ENGIE's Transformation plan in Chile, which aims to move away from coal as an energy source, the Tamaya photovoltaic plant, located in the north of the country near the Atacama Desert, received its commercial operating permit in January 2022. The plant, composed of nearly 300,000 photovoltaic panels, represents a renewable energy contribution of 114 MWac\*. "With 210,000 tons of CO<sub>2</sub> emissions avoided, the project is making a very concrete contribution to the transition to a carbon-neutral economy, which is at the heart of ENGIE's strategy," said Arturo Bugueño, Tamaya Project Manager.

Built during the Covid-19 pandemic, the plant was the result of a particularly rigorous health and safety program. The teams involved in the project were able to overcome public health difficulties and demonstrate agile management to avoid any critical delay in the process. In time, ENGIE plans to install an additional 2,000 MW of renewable energy in the country.

### OCEAN WINDS CONTINUES TO SOAR

A joint venture formed in 2020 by EDPR and ENGIE, Ocean Winds took off with lightning speed in 2022 with 8 GW of projects won over the year. In Scotland, it won a new zone in the Moray Firth for a future 2 GW farm, then was awarded two ocean floor leases near the Shetland Islands for floating offshore wind projects for 1.8 GW and 500 MW respectively. In California, it won a floating offshore wind farm project that will have a capacity of 2 GW and, in the New York Bay auction, it won an offshore zone where a wind farm with up to 1.7 GW of capacity will be installed. For Rafael Munilla, Director of Development of Ocean Winds, "These successes prove that the production of renewable electricity from offshore wind power has a bright future. They also point out that offshore wind farms that produce clean, carbon-free energy are essential to the energy transition, in which many states are committed."

Ocean Winds now has a portfolio of 15 projects in operation, construction or development in seven countries, representing a total capacity of 16.6 GW. This development is tied to the strong growth potential of offshore wind, which plays its part in diversifying the energy mix and as part of the decarbonized energy offering.

\* Peak power

# ENERGY SOLUTIONS

With its GBU Energy Solutions, ENGIE decarbonizes the energy networks of its city, local authority, industrial and tertiary customers. Its solutions help them to lower their consumption and to consume more virtuous energy.

## EXPERTISE AND KEY GOALS

### Local energy grids based on regional networks

- Heating and cooling networks
- Local distribution networks
- Sustainable mobility: electric, biogas, hydrogen
- Public lighting and low-carbon cities

### → RELATED GOALS

+5.5 GW in installed asset base in 2025 <sup>(1)</sup>

### On-site energy production through customer-specific networks

- PV on site and storage
- Utilities

### → RELATED GOALS

+2.5 GW in wholly owned installed asset base in 2025 <sup>(1)</sup>

### Energy performance and management

- Energy performance services
- Engineering and decarbonization consulting

## STRATEGY PURSUED

With a portfolio of diversified and complementary offerings, ENGIE offers integrated decarbonization solutions to its customers. Relying on long contracts, the Group's priority is the development of decentralized energy networks (urban heating and cooling networks, utilities production on the customer's site, decentralized solar and low-carbon mobility) and related services. It intends to increase the base of installed assets by 8 GW<sup>(1)</sup> for these networks.

## PROGRESS MADE

Major contracts were won in 2022 in urban heating and cooling networks and in green mobility, including 12,000 electric vehicle charging points, mainly in Belgium and Singapore. During 2022, approximately 1 GW of net installed capacity was added in distributed energy networks.

<b>42,600</b> employees worldwide	<b>24.9 GW</b> (end-2022) of decentralized installed energy capacities	<b>€0.4 billion</b> EBIT 2022	<b>No. 1</b> cooling network operator in the world	<b>3<sup>rd</sup></b> largest heating network operator in the world
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(1) compared with 2020

## BUSINESS CASE



**Dean Van Raemdoncke**  
Manager ENGIE Sun for Business



**François-Xavier de Froment**  
Managing Director  
Sustainable Mobility

### MAXIMIZE SELF-CONSUMPTION WITH THE FLEXISUN® SOLUTION

With the Flexisun® solution, which integrates solar panels, battery storage, and an energy management system (EMS), ENGIE responds to its customers' need to decarbonize their activity with local production of renewable energy. The Belgian company Luik Natie, which specializes in logistical services, has chosen ENGIE to assist it in its carbon-neutral approach at its Antwerp site. "We thus installed 5,000 solar panels that completed a wind farm already on site, which represents a total production capacity of local renewable energy of 4.7 MW, explains Dean Van Raemdoncke of ENGIE Sun for Business. We also rolled out a battery supplied by Tesla with a capacity of 1.25 MWh, which stores the surplus solar and wind power for later use when there is neither sun nor wind." For Stefaan Verhelst, CEO of Luik Natie, "carbon neutrality is an extremely important goal for Luik Natie. The installation of a battery supplied by Tesla and our valuable collaboration with ENGIE allow us to become the leading carbon-neutral service provider in the port of Antwerp."

### ENGIE, A MAJOR PLAYER IN SUSTAINABLE MOBILITY

As part of its strategy to accelerate the transition to a carbon-neutral world, ENGIE contributes through its solutions to the development of a more sustainable mobility. First, it has expertise in charging networks. "ENGIE is involved," said François-Xavier de Froment, "in different projects to install and operate charging stations for electric vehicles in cities and on highways in France via APRR and Sanef (107 and 84 stations respectively), in Belgium where it was selected by the Flemish Minister of Transport (2,800 stations), and in Singapore (4,509 charging stations)."

ENGIE also promotes sustainable mobility through its low-carbon fuel mix composed of renewable electricity for light vehicles, renewable hydrogen for intensive and heavy mobility and biogas for heavy duty and long-distance transport. In particular, as part of the Hymulsion project in the Auvergne-Rhône-Alpes region, the Group commissioned several H2 production and distribution stations with its partners (the region, Michelin, Crédit Agricole and the Banque des Territoires).

The Clermont Auvergne Metropolitan area also called on ENGIE to create a bioCNG (bio Compressed Natural Gas) station. Through a partnership with CERTAS (ESSO brand), ENGIE commissioned its first two LNG (Liquefied Natural Gas) stations on the highway in 2022. "These various projects prove that ENGIE is now well recognized for bringing sustainable mobility to life," said François-Xavier de Froment.

# NETWORKS

The GBU Networks is accelerating the development of renewable gases to meet climate and sovereignty challenges and the decarbonization needs of its customers.

## EXPERTISE AND KEY GOALS

### Energy transmission, distribution and storage

- Gas distribution and transmission
- Gas storage
- Regasification of LNG
- Electricity transmission
- Renewable gas production

### → RELATED GOALS

- 700 km of hydrogen transmission networks in 2030
- 10 TWh of biomethane production in Europe, including 5 TWh in France (i.e. 10% of market share)
- 50 TWh of biomethane produced in France by 2030
- -30% methane emissions by 2030 vs 2017
- 1 TWh of hydrogen stored in salt caverns

## STRATEGY PURSUED

Seeking to combine performance and the security of its supply and the development of a zero-carbon energy mix, ENGIE is pursuing four major strategic lines. The Group intends to maximize the value of the existing assets, internationalize its portfolio, increase its electricity transmission network and promote biomethane production in France and internationally, while focusing on converting some of its assets to hydrogen.

## PROGRESS MADE

ENGIE continues to make progress in renewable gases with 492 biomethane production units, representing an annual production capacity of up to 8.3 TWh. Five hydrogen projects (in Belgium, France, the Netherlands and Spain), supported by the European Commission and presented by ENGIE, were selected for 2022.

**21,800**  
employees  
worldwide

**€2.4 billion**  
EBIT 2022

**255,400 km**  
of gas distribution  
networks worldwide

**4,900 km**  
of electricity  
transmission  
networks

## BUSINESS CASE



**Eduardo Sattamini**, CEO  
and Investor Relations Officer  
of ENGIE Brasil Energia



**Eric Stab**, Managing Director  
Europe, AMEA, ENGIE Networks

### COMMISSIONING OF A MAJOR POWER TRANSMISSION LINE CONTRACT IN BRAZIL

ENGIE has completed the construction of the Galha Azul project, 1,000 kilometers of high voltage lines in the state of Parana, in southern Brazil. "Galha Azul project is the first high voltage line project which was built by Engie in Brazil. Its timely completion is a major success for our teams and demonstrates our capability to develop such large projects of infrastructures" says Eduardo Sattamini, CEO and Investor Relations Officer of ENGIE Brasil Energia. With a 30-year operation and maintenance contract period and expected revenues of BRL 8 billion, this project was built with a capex of BRL 2.1 billion and mobilized between 3,000 and 5,000 employees during its three years of construction. Power transmission facilities are a major component of our strategy in Brazil. They increase the Brazilian transmission network reliability. While connecting energy production sites, often located in uninhabited areas, to dense and more energy-consumptive areas, they also contribute to the development of renewable energies.

### DEVELOP THE ROBUSTNESS AND ADAPTABILITY OF THE NETWORKS IN AN UNPRECEDENTED ENERGY CONTEXT

"In a context of a sharp reduction in Russian gas deliveries to Europe and within the framework of European solidarity on energy security, the GBU Networks and its entities strongly mobilized in 2022 to deal with this unprecedented situation," said Eric Stab, Managing Director Europe, AMEA, ENGIE Networks. Elengy, with its three LNG terminals in France, broke its historical record for LNG unloading (233 TWh, i.e. +65%). Storengy has fully played its role as a crucial player in security of supply by enabling storage facilities to be filled to 100% at the start of the 2022-2023 winter. In 2022, GRTgaz achieved a first in its history by reversing the gas flows to enable gas transmission from France to Germany. GRDF in France and Distrigaz Sud Retele in Romania responded to questions from customers in the face of uncertainties and have prepared for risks to supplies.

# FLEX GEN & RETAIL

With its GBU Flex Gen & Retail, ENGIE supplies flexible and affordable electricity production that aims to support the development of renewable energy.

## EXPERTISE AND KEY GOALS

### Thermal generation and hydrogen production

- Gas-powered electricity production
- Electricity storage
- Large-scale renewable hydrogen production
- Seawater desalination

### → RELATED GOALS

- Availability rate of production assets > 90%
- Coal phase-out by 2025 in continental Europe and by 2027 worldwide
- Renewable hydrogen production capacity of 4 GW in 2030

### Energy supply to individuals

- Gas and electricity sales
- Energy services
- Energy access

### → RELATED GOALS

- Portfolio growth, primarily in electricity and services
- Reduction of CO<sub>2</sub> emissions by -34% between 2017 and 2030 (inc. BtoB)

## STRATEGY PURSUED

ENGIE deploys low-carbon activities and supports the transition of the current electrical systems, two strategies reinforced by the 2022 energy crisis. In this regard, the Group is continuing to invest in renewable energy and intends to develop its thermal capacities in a targeted manner. It also provides the flexibility that the electric system needs and supports its customers in moving toward decarbonization through its energy and services contracts. Continuing its withdrawal from coal, ENGIE continues to green its portfolio of assets, particularly by improving the efficiency of its assets and with the combustion of biomethane and hydrogen.

## PROGRESS MADE

With the current strong growth in renewable energy, ENGIE benefits from a large portfolio of flexible production and energy storage assets, including gas-fired power plants (50 GW) and pumped storage plants (4 GW). These are crucial to compensate for the intermittent nature of the renewable energy.

**16,150**  
employees  
worldwide

**€1.8 bn**  
EBIT 2022

**50 GW**  
in gas production  
capacity at 100%

**22.5 M**  
in BtoC contracts  
worldwide

## BUSINESS CASE



**Florence Fouquet**, Managing Director, Global BtoC



**Kevin Dibble**, Managing Director, First Hydro, and Country Manager UK

### "MY ENERGY BONUS": VOLUNTARILY REDUCE CONSUMPTION IN PEAK PERIODS

Due to the temporary reduction of its electricity production capacities, France introduced an energy sobriety plan that asked each company or household to reduce its electricity consumption. Building on its purpose, ENGIE set up a new system to reward its customers who, after enrolling in the challenge in their online customer account, manage to reduce their consumption in peak periods. The principle is to ensure that the customer who has enrolled in the challenge reaches the consumption reduction target that was set by ENGIE two days before the challenge. If they achieve the target, the Group will pay the customer a bonus into their online prize account. For Florence Fouquet, Managing Director, Global BtoC, "this approach meets an essential goal: to make everyone aware of how to optimize their electricity consumption and to involve them in stabilizing the French electricity system."

### FIRST HYDRO MODERNIZES ITS HYDROELECTRIC POWER PLANTS

The two hydroelectric facilities with pumped storage located in Dinorwig and Ffestiniog in North Wales are notable for their ability to respond quickly when the national electric grid is under stress or when renewable electricity production is insufficient. First Hydro decided to invest 50 million pounds sterling in the renovation of the Ffestiniog power plant, composed of four production units and representing a total electricity production capacity of 360 MW. "The goal of this modernization," said Kevin Dibble, Managing Director First Hydro, and Country Manager UK, "is two-fold. It is first to replace two 90 MW generators and install new control stations that will optimize monitoring of the power plant. More broadly, the goal is to improve the efficiency of this plant, which is now sixty years old."

# PURSUE AN AGGRESSIVE CLIMATE STRATEGY

**ENGIE has an ambitious climate plan as part of its strategy to accelerate the transition to Net Zero Carbon. It should result in the reduction of its greenhouse gas emissions across all scopes, by following a trajectory in line with the Paris Agreement and by developing renewable capacities.**

ENGIE has set itself the goal of achieving Zero Net Carbon Emissions by 2045 across its three scopes. For this, the Group will follow a decarbonization trajectory compatible with a warming limit well-below 2°C, certified by SBTi, between now and 2030, supported by various decarbonization targets. Several levers will be used to achieve these targets: a total coal phase-out, accelerated development of the renewable electricity fleet, battery storage and full conversion of networks to renewable gas.

## ACHIEVING NET ZERO EMISSIONS BY 2045

With its **Net Zero Emissions ambition**, the Group is focusing **between now and 2045 on reducing its greenhouse gas emissions and offsetting the residual emissions**, which should by then be as low as possible.

This is an **ambitious strategy** because:

- it covers **scopes 1, 2 and 3** defined by the GHG Protocol, i.e. the direct and indirect emissions produced by the company, its subsidiaries and its value chain: suppliers, customers and companies in which ENGIE has a minority interest;
- the target year of **2045 is an ambitious deadline** for a company with a strong gas DNA. While pure electricity companies are encouraged to set NZE targets from now to 2040, companies that still hold fossil assets rarely commit to targets before 2050. By targeting 2045, ENGIE is confirming its desire to act as quickly as possible for clean, safe and affordable energy.

Beyond this ambition, ENGIE is contributing to a reduction in its customers' emissions with a target of **45 Mt CO<sub>2</sub> eq. of avoided emissions targeted** each year from 2030, without reducing the Group's carbon footprint.

## COMMITTED TO A WELL-BELOW 2°C TRAJECTORY

Among the many objectives for implementing this trajectory, two objectives correspond to the Group's main GHG emissions items – energy production and gas sales:

- **Energy production:** not to exceed **43 Mt CO<sub>2</sub> eq. between now and 2030** (compared with 106 in 2017 and 60 in 2022) on its scopes 1 and 3, with the energy produced including electricity, heating and cooling from centralized units, at customer sites or on urban networks.
- **Gas sales to end customers:** not to exceed **52 Mt CO<sub>2</sub> eq. between now and 2030** (compared with 79 in 2017 and 61 in 2022).

To comply with the Paris Agreement, the Group asked the SBTi initiative to certify the compatibility of its trajectory, which is no longer only for warming limited to +2°C (*obtained in 2020*) but well below +2°C.

**This certification was obtained in February 2023.** This required the Group to set two additional targets to be met by 2030, namely:

- **the carbon intensity for energy production (Scope 1) and energy consumption (Scope 2)** must be lower than **110 g CO<sub>2</sub> eq. per kWh**,
- **the carbon intensity of energy sales produced (Scopes 1 and 3) and purchased (Scope 3)** must be lower than **153 g CO<sub>2</sub> eq. per kWh**.

At this stage, ENGIE has chosen not to follow a trajectory compatible with warming limited to +1.5°C. The target for the reduction in the carbon intensity of the Group's energy production is currently 66% for the period 2017-2030. This goes beyond the strict certification requirement of well-below 2°C (55%). It should be 78% to comply with 1.5°C. A reduction on

this scale could not be achieved without a significant sale of thermal assets, the closure of which would jeopardize the security of the electrical system to which they are connected. They will therefore continue to emit GHG.

ENGIE considers it more virtuous to retain these assets while committing to their decarbonization. Several technologies make this possible (biomethane, carbon capture and – depending on technological developments – hydrogen) and their regulatory framework is in the process of evolving (particularly in the European Union) to enable the associated investments to be triggered. However, it will take about 20 years to fully industrialize these technologies and achieve decarbonization by 2040-2045.

## SEVERAL DRIVERS FOR THE DECARBONIZATION PLAN

### Coal phase-out

Having abandoned all new coal projects in 2015, the Group is now targeting **a full exit from coal** in 2025 for continental Europe and 2027 for the rest of the world.

At end-2022, coal represented less than 3% of the Group's centralized electricity production capacity. To optimize the climate impact of this exit, the Group has chosen to first consider closure, then conversion and, as a last resort, disposal to other carefully selected players.

### Accelerating development of the renewable electricity production fleet

ENGIE is strongly committed to the development of renewable energy to produce electricity. The Group has set a target of holding **58% of renewable electricity capacity by 2030** (compared to 38% in 2022).

To achieve this, the Group has published milestones:

- 50 GW of renewable electricity capacity in 2025 and 80 GW in 2030 (compared to 27 in 2019 and 38 in 2022, which is in line with this road map).
- Increasing average annual targets for commissioning additional renewable capacity of approximately **4 GW/year for 2022-2025 and +6 GW/year for 2026-2030**.  
This development will mobilise between **€13 and €14 billion** of investment by 2025.

#### Stepping up battery storage

The Group plans to significantly step up battery storage to complement its gas-fired and pumped storage electricity production. It aims to reach around **10 GW of battery capacity by 2030**, mainly in Europe and the United States.

#### Industrial development of renewable gases

To ensure the resilience of the energy system and meet the growing global energy demand, ENGIE is convinced of **the key role of renewable gases** in the energy transition because of their ability to be stored and distributed on demand.

ENGIE has set itself the challenge of achieving **100% decarbonized gas by 2045 in all its networks** through the progressive greening of gas via the use of biomethane, renewable hydrogen and carbon capture, utilization and storage (CCUS) technologies for the residual fossil gas.

#### Biomethane development

Biomethane represents a future industrial solution for making farms profitable and recycling agricultural or food waste without aggravating global warming, while also promoting local development.

ENGIE's target is to **produce 10 TWh of biomethane per year by 2030 in Europe** (including 5 TWh in France) and **to inject 50 TWh of biomethane** into its networks in 2030 in France. The Group will invest €2.5 billion to achieve this target.

#### Industrialization of renewable hydrogen

Production of renewable hydrogen from the electrolysis of water using renewable electricity is a promising technology that is currently being industrialized. It does not emit GHGs and allows for the storage of surplus electricity in the form of hydrogen and possibly methane (after methanation), all of which can be injected into existing networks.



**Julia Maris,**  
Vice President CSR

"In line with the decarbonization road map, each person is taking action at their level to reduce the Group's greenhouse gas emissions. Establishing annual carbon budgets, implementing a CO<sub>2</sub> management culture in all our processes and integrating CSR performance into compensation are all examples that underscore the operational reality of decarbonization at all times."

The Group is targeting development by 2030 of:

- **4 GW of electrolysis capacity,**
- **700 km hydrogen transmission networks,**
- **100 hydrogen vehicle charging stations,**
- **1 TWh of hydrogen storage capacity.**

**To achieve this, ENGIE will invest approximately €4 billion over the period 2023-2030, €1 billion of which will be dedicated to hydrogen transmission and storage.**

Although these renewable gases mainly contribute to the achievement of the 2045 net-zero emissions commitment, their impact on the achievement of the 2030 targets will be limited.

#### Reduction of methane emissions

The Group aims to reduce methane emissions from its gas networks (transport, distribution, storage and LNG terminals) associated with venting (planned and unplanned), flaring and fugitive emissions. ENGIE has set **a target of a 30% reduction in these emissions compared to 2017**, a year restated for the E&P business being conducted at the time. Although this target was met in 2022, it remains fragile due to the reliability of these data as regards the Group's international share and to the entry into force of the EU regulation on methane emissions.

#### ACHIEVING THE DECARBONIZATION PLAN WITH THE SUPPORT OF ALL TEAMS

ENGIE is convinced that a transformation at this level for a global group of 100,000 people will only happen if each person understands their role in this decarbonization journey.

**BY 2030**

**80 GW**  
of total electricity  
production capacity

**10 TWh**  
of biomethane  
production per year

**4 GW**  
of total hydrogen  
production capacity

**10 GW**  
of battery capacity

Thus, ENGIE has rolled out tools to move from a CO<sub>2</sub> reporting mode to a management culture, namely:

- **A medium-term CO<sub>2</sub> business plan (CO<sub>2</sub> MTP)**  
In 2021 the Group implemented a methodology for CO<sub>2</sub> management in coherence with the financial MTP, with annual CO<sub>2</sub> budgets for each business line (GBU) through 2030.
- **Quarterly business reviews (QBR)**  
GHG emissions are monitored quarterly during business reviews in the same way as operational and financial performance.
- **CO<sub>2</sub> flexibility**  
ENGIE has set up a CO<sub>2</sub> flexibility system to continuously monitor the available CO<sub>2</sub> budget for any new investment or sales contract.
- **Carbon pricing**  
The strategic scenarios include region-specific carbon price lists made available to project developers.
- **Incentive compensation**  
The short- and medium-term variable compensation policy for the Executive Committee and senior managers includes annual decarbonization targets for energy production.

**To learn more, see the Climate Notebook attached to this report or the Say-on-Climite resolution approved at the Shareholders' Meeting of April 21, 2022.**

# PROTECT BIODIVERSITY AND NATURE

The global erosion of biodiversity and the depletion of natural resources are largely due to human activities and challenge all responsible economic players, including ENGIE. Since 2010, the Group has integrated the protection of biodiversity into the running of its activities, particularly its projects, from their design to the end of the facilities' life. Its biodiversity policy and the renewal of its commitments are proof of this.

## THE ENGIE ACTION PLAN

ENGIE has been committed to the French National Strategy for Biodiversity since 2011 and to the act4nature initiative from its launch in 2018. It has renewed and expanded this commitment with a new 2020-2030 roadmap based on the shared commitments, taking into account the pressures defined by the Intergovernmental Science and Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the challenges specific to the Group's activities.

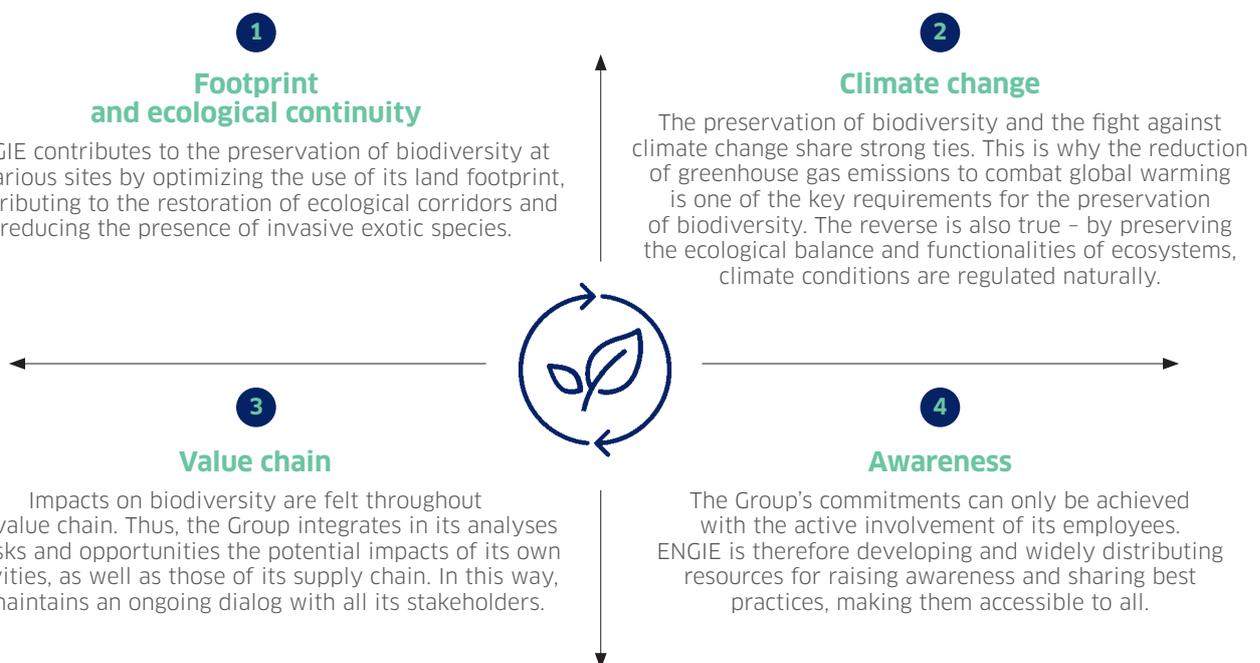
For more than 10 years, the Group's biodiversity approach has been supported by the French Committee of the IUCN and France Nature Environnement. The Group recently joined the pilot phase for the development of *Science Based Targets for Nature* (SBTN).

The Group's most recent commitments were made in 2021 within the framework of act4nature international (global scope) and Companies Committed to Nature (France scope).

act4nature  
international



## ENGIE'S PLAN TO PROTECT BIODIVERSITY AND NATURE IS ORGANIZED BETWEEN FOUR AREAS



The main results of this plan are presented in the appendix in the biodiversity notebook.



## ENGIE'S IMPACTS AND DEPENDENCIES ON NATURE

Like any human activity, the businesses of the ENGIE group constantly interact with biodiversity and nature.

This interaction takes two directions:

- the activities have an **impact on biodiversity**, mainly habitat disturbance caused by the land footprint of the Group's industrial sites, the soil sealing and the disruption of ecological continuity;
- the Group's activities are, in turn, partly **dependent on nature** through the services rendered by the ecosystems, such as biomass resources, water regulation and climate.

The main **potential impacts** identified are the following:

- The **change in land use** related to the land footprint of the industrial sites and the extraction of raw materials and also the change in use **of the air spaces** for birds and bats facing wind turbine blades or **marine spaces** for the fish disturbed by offshore wind projects;
- The **overexploitation of resources** limited to certain forms of biomass, i.e. the forest waste and agricultural waste used in the production of biogas;

- The **contribution to climate change** through the greenhouse gas emissions of the coal and gas power plants, primarily CH<sub>4</sub>, CO<sub>2</sub> and N<sub>2</sub>O;
- The **contribution to air pollution** from discharges of NO<sub>x</sub>, SO<sub>x</sub> and fine particles from the coal and gas-fired power plants, **the discharges of hot water** from the plants into aquatic environments, **the waste** and the light or sound pollution of certain facilities;
- The **spread of invasive species** tied to excavation work and the management of the project land for sites under construction.

The main areas in which ENGIE's activities **depends on nature** are the following:

- **Natural raw materials** such as uranium, natural gas, biomass, the rare materials used in the manufacture of solar panels and batteries are all services used in the production of energy and the sale of natural gas;
- **Water** enables hydro electricity production through its natural cycle (precipitation, evaporation, condensation), contributes to the correct operation of the thermal power plants through its qualities as a cooling fluid, and forms the basic elements for the production of steam for the heating networks;

- The **sun** and **wind** are the sources that enable production of renewable electricity;
- The **soil quality** contributed to the protection and stability of the gas, heating and cooling networks and, more generally, to all of the Group's buried networks.

Detailed knowledge of these impacts and dependencies can limit the risks involved, better apply the "avoid, reduce, offset" approach, continually improve dialog with stakeholders and provide the reliable information demanded by the market.

# ACT FOR A JUST TRANSITION

**The transition to a Net Zero Carbon economy requires support so that it is as just as possible. ENGIE works within this framework to limit the impacts for its various stakeholders through its just transition plan.**

How to move from one world to the other? How to support each person in the ecological and energy transition? How to meet the societal and human challenges of a decarbonized world? While the energy transition is a positive trend, it must be implemented with care. If not, it risks not only exacerbating existing societal challenges, but also weakening the most exposed employees, supply chains, communities and consumers, slowing the zero-carbon transition and aggravating environmental problems. ENGIE is convinced that the success of the energy transition is much more than a technological adventure. This idea is echoed in its purpose: *“To act to accelerate the transition to a carbon-neutral economy [...] and reconcile economic*

*performance with a positive impact on people and the planet.”* It is also based on the preamble of the Paris Agreement (December 2015) and on the reflections of the International Labour Organization on the just transition, defined as a strategy to mitigate the negative consequences of the transition to sustainable economic models, while maximizing its positive effects.

As such, ENGIE has joined the 35 companies that make up the *Collectif d'entreprises pour une économie plus inclusive* in France to jointly develop the unified mission carried out by these companies with local stakeholders.



**Catherine MacGregor,**  
Chief Executive Officer

“The success of the energy transition is not only a technological adventure, its societal and human dimensions are also crucial and we must be attentive to all our stakeholders: employees, local communities, customers, suppliers. This is the objective of our just transition plan.”



## A JUST AND AMBITIOUS TRANSITION PLAN

The just transition plan designed by ENGIE includes ambitious goals for each of the Group's stakeholders. It aims to:

- ensure that **customers**, and in particular low-income customers, have access to affordable and sustainable energy thanks to innovative offers;
- sustainably develop and preserve **the communities** through the projects with positive benefits that contribute to their resilience;
- protect and support **employees** on a social level;
- develop an inclusive purchasing policy that benefits **the most virtuous suppliers**.



## JUST TRANSITION PLAN

1

### Customers

**Provide affordable energy** for ENGIE's customers with financial aid in 2022 in view of the energy crisis, and offer them tools for energy efficiency with offerings such as *Mon Pilotage Elec* (My Electricity Management), *Mon pilotage Gaz* (My Gas Management), and *Mon programme pour agir* (My Program to Act).

**Fight energy poverty** with the contribution to the housing solidarity fund (*Fonds de Solidarité pour le Logement*, FSL), the energy checks and a special, short-term fund for industrial and tertiary customers.

**Promote the energy accessibility** of ENGIE's B2B customers with renewable long-term energy contracts (PPA) and energy performance contracts.

2

### Communities

**Promote ENGIE's positive socio-economic impacts** in the communities with direct and indirect employment, the contribution to GDP and taxes.

**Develop long-term projects** in the communities with the deployment of ENGIE's TED (Sustainable Energy Transition) label guaranteeing the preservation of nature, the involvement of the players and the contribution to the fight against climate change.

3

### Employees

**Ensure common social protection** for all ENGIE employees with collective social guarantees through a global agreement with the internal labor federations.

**Offer training and permanent ongoing professional training** to all ENGIE employees.

**Responsibly manage the restructuring operations** with regard to the employees.

4

### Suppliers

**Validate the work and human rights criteria** in all ENGIE's purchasing processes and the evaluations of major and preferential suppliers by the EcoVadis ratings agency.

**Develop ENGIE's inclusive purchasing policies.**



# DIALOG WITH LOCAL STAKEHOLDERS

ENGIE maintains relationships of trust with all its stakeholders. The conditions for dialog that have been put in place provide a lasting structure for discussions and enable the Group to enrich its strategic thinking in order to accelerate the transition to a carbon neutral economy.

## CUSTOMERS

Individual, professionals, companies and regional authorities

### DIALOG PROCEDURES:

- Marketing / satisfaction studies / Net promoter score
- Consumer panels
- Responses to calls for tender
- Co-construction
- Access space

## INDUSTRIAL PARTNERS

### DIALOG PROCEDURES:

- Calls for innovative projects
- Support via the New Ventures investment fund
- Vigilance plan
- Submission of tenders

## SUPPLIERS

### DIALOG PROCEDURES:

- Vigilance plan
- Submission of tenders
- CSR assessment by EcoVadis / audits
- Business reviews by purchasing category
- Supplier days

## CIVIL SOCIETY

NGOs, associations, residents, communities, professional organizations, academic institutions

### DIALOG PROCEDURES:

- Informal meetings
- Meetings and consultations
- Partnerships
- General public information meeting
- Dissemination of information on major projects
- Stakeholders' Committee

## REGULATORS

International, European and national authorities and bodies

### DIALOG PROCEDURES:

- Participation in think tanks
- Consultations
- Partnerships
- Corporate patronage

## INVESTORS

Banks, insurance companies, socially responsible investments, financial analysts, ratings agency

### DIALOG PROCEDURES:

- Roadshows
- Interviews
- Capital Market Day
- Responses to evaluation questionnaires

## EMPLOYEES AND THEIR REPRESENTATIVES

Employee representative bodies at the European, national and local levels

### DIALOG PROCEDURES:

- European Works Council (EWC)
- French Group Works Council
- Local representative bodies
- The World Forum
- "ENGIE & ME" commitment survey
- Biannual "Link" employee shareholding plan

## SHAREHOLDERS

### DIALOG PROCEDURES:

- Shareholders' Club
- Events (visits to Group sites)
- Meetings (face-to-face and online)
- Annual General Shareholders' Meeting
- Employee shareholding plan

## SUPPLIERS

### “ENGIE Supplier Day”



ENGIE has an ecosystem of suppliers that are crucial to the success of its strategy. Excluding energy, these suppliers represent annual expenditure of €16 billion.

On November 24, 2022, ENGIE met with approximately 400 of its most important suppliers as part of its first “Supplier Day” on the theme of “Resilience & Sustainability.” Aimed at mobilizing suppliers around its strategic roadmap, the event included discussions, speeches and workshops and highlighted the key issues of resilience of the supply chain, decarbonization, competitiveness, innovation and even growth vectors. It also stressed the importance of the suppliers to collectively meet the challenges related to the acceleration of the energy transition.

## CIVIL SOCIETY

### Stakeholders’ Committee

On October 21, 2022, ENGIE held a meeting of its Stakeholders’ Committee, composed of representatives from civil society, in order to discuss the just transition with them. This annual meeting with the inter-disciplinary, joint, volunteer advisory committee is chaired by Chief Executive Officer Catherine MacGregor and Chairman of the Board of Directors Jean-Pierre Clamadieu. It is intended to organize a dialog on ENGIE’s strategic directions and, more particularly, its corporate social responsibility commitments that are an integral part of its performance. The recommendations issued by the Committee during these discussions will be followed up.



“This event was a tremendous opportunity to understand your challenges and current needs regarding your suppliers, but also to reflect together on the opportunities and to address them together in order to accelerate the energy transition. In these critical times, be assured of our full commitment to ENGIE and its partners to build the energy landscape of tomorrow.”

**Bruno Melles**, Executive Vice President – Managing Director of the Transformers commercial unit, Hitachi Energy

## CUSTOMERS

### “E4: ENGIE4Decarbonization”



Convinced that the challenges of the energy transitions will only be met collectively, on June 14, 2022, ENGIE convened some 300 customers for the “ENGIE4Decarbonization” event attended by ENGIE CEO Catherine MacGregor. Organized around discussions, speeches and feedback from experience, this day, organized at Roland-Garros in Paris, was designed to create a decarbonization ecosystem so that each person could make a concrete commitment to the transformations necessary for a zero-carbon trajectory and set the priorities of their road map. On this occasion, customers also learned about the Group’s full offering of decarbonization solutions.

## EMPLOYEES AND THEIR REPRESENTATIVES

### World Forum

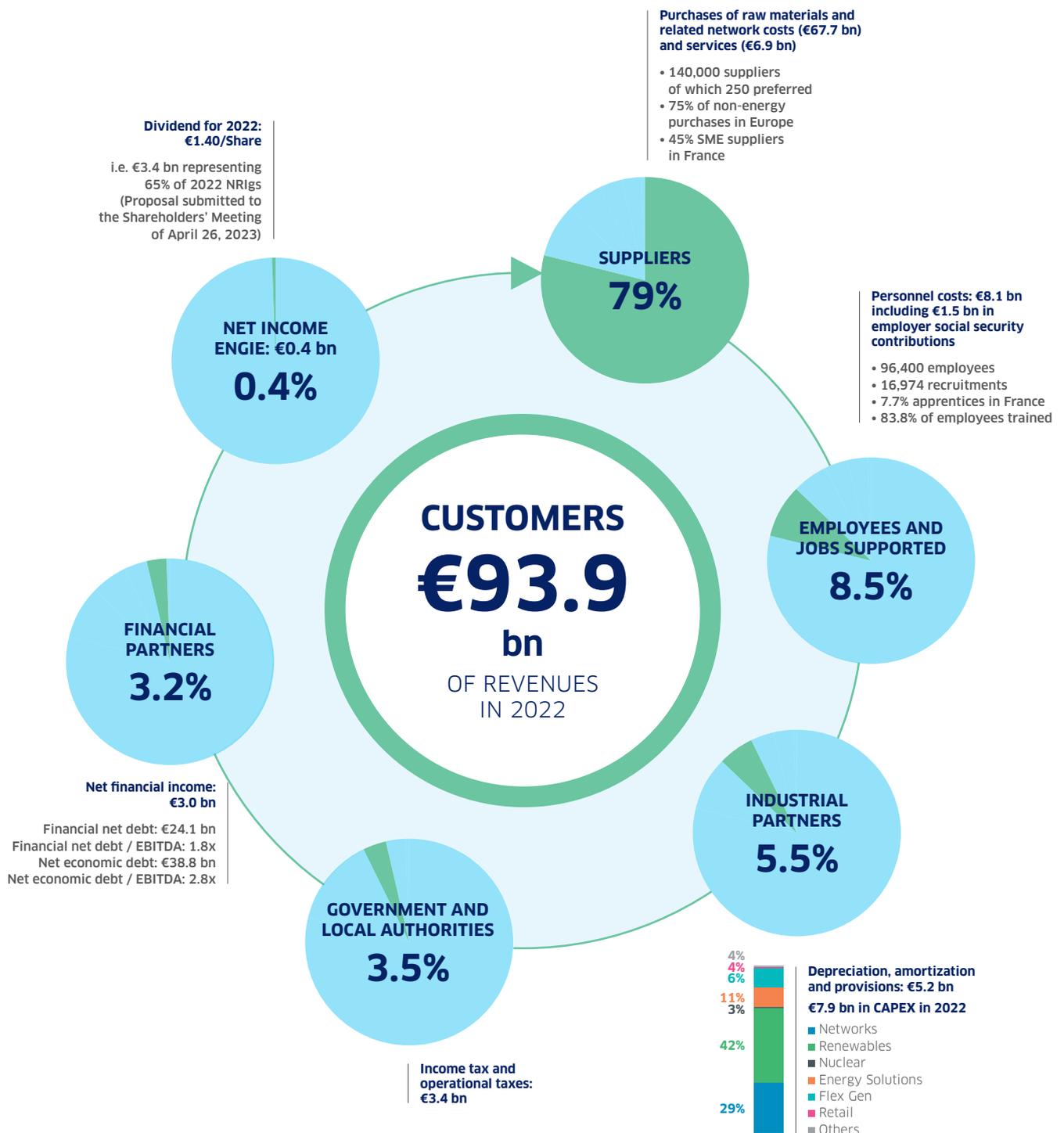
Following the global labor agreement on fundamental rights signed in January 2022 with three international union federations, a basis of common shared rights and social protection was established for all Group employees. An annual world forum was also established to report on its progress. It was within this framework that Chief Executive Officer Catherine MacGregor met the stakeholders of this labor agreement on September 8, 2022. It was an occasion to assess the progress made by the Group on its key labor commitments – the rate of employees trained, diversity and salary equity – and to report on the different programs or plans, such as “ENGIE Care”, “ENGIE One Safety”, the vigilance plan and ethics whistleblowing.



# SHARE

## THE VALUE CREATED

The value generated by ENGIE's various activities is redistributed for the benefit of its diverse stakeholders. This distribution of value is designed to be fair and also aims to accelerate the transition toward a carbon-neutral world.



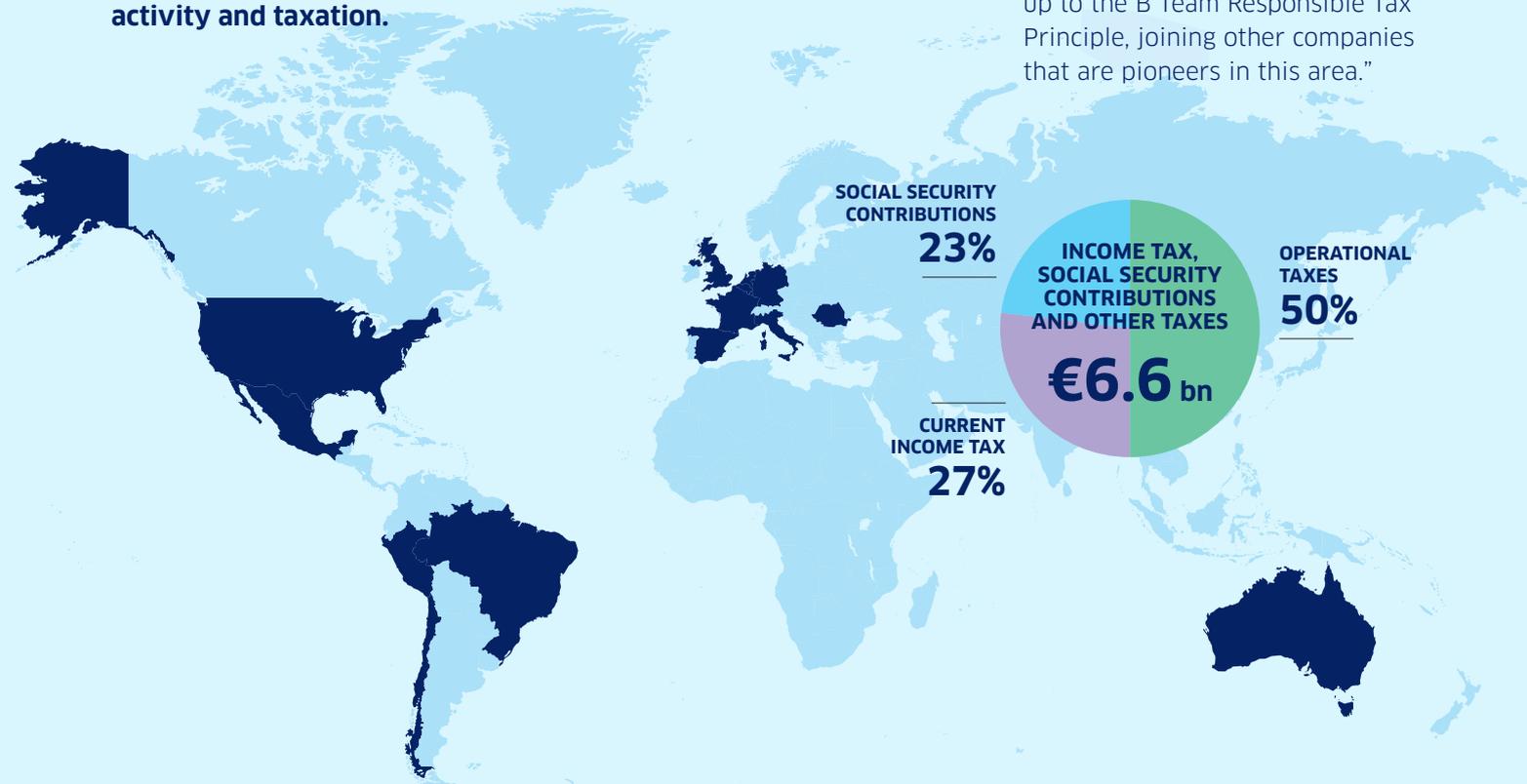
# RESPONSIBLE TAXATION ALIGNED WITH THE ACTIVITY



**Laurence Jaton,**  
Vice-Chairman Group Taxation

“ENGIE makes a substantial contribution to countries’ public finances through the taxes and charges generated by its economic activity. In 2020, ENGIE signed up to the B Team Responsible Tax Principle, joining other companies that are pioneers in this area.”

In 2022, ENGIE generated revenues of €93.9 billion and recorded income tax, social security contributions and other taxes (“ITCS”) of €6.6 billion, of which 27% was for current income tax, 50% for operational taxes (e.g. land, overproduction, environmental, and nuclear taxes), and 23% for employer social security contributions. The reconciliation of the revenue rate and ITCS rate in the following 14 main countries shows alignment between activity and taxation.



## AMERICAS

**United States**  
5% of revenues  
1.5% of ITCS

**Mexico**  
1.3% of revenues  
1.1% of ITCS

**Peru**  
0.6% of revenues  
0.5% of ITCS

**Brazil**  
2.5% of revenues  
2.6% of ITCS

**Chile**  
1.8% of revenues  
0.5% of ITCS

## EUROPE

**France**  
41% of revenues  
32.4% of ITCS

**United Kingdom**  
4.1% of revenues  
5.5% of ITCS

**Belgium**  
12.2% of revenues  
35.7% of ITCS<sup>(1)</sup>

**Spain**  
5.2% of revenues  
0.8% of ITCS

**Netherlands**  
4.3% of revenues  
0.7% of ITCS

**Germany**  
2.8% of revenues  
1.3% of ITCS

**Romania**  
3.4% of revenues  
1.0% of ITCS

**Italy**  
7.0% of revenues  
12.8% of ITCS<sup>(1)</sup>

## OCEANIA

**Australia**  
1.5% of revenues  
0.1% of ITCS

(1) Differences related to sector-based taxes (infra-marginal, nuclear, etc.)

# CONDUCT AN AMBITIOUS HUMAN RESOURCES POLICY

**Historically committed to labor rights, ENGIE intends to support its teams in the energy transition by conducting an inclusive transformation.**

## ENSURE HIGH QUALITY MANAGEMENT-EMPLOYEE DIALOG

In line with its purpose, ENGIE intends to reach a level of social excellence commensurate with its environmental requirements. Moreover, to conduct its transformation over time, high quality management-employee dialog is vital. Thus, in the disposal of EQUANS, ENGIE's management established a clear framework and proposed that the candidates for the takeover present their offers to the Group's European Works Council, which was a first. Then, once the buyer had been identified, under ENGIE's aegis, an agreement stipulating employment guarantees was signed between the Bouygues management and ENGIE's European Works Council.

In the same way, in January 2022, the Group signed a new agreement with three world union federations that established a basis of rights and social protection common to all Group employees based on the French mandatory minimum. It will be implemented through the "ENGIE Care" program and will be followed up as part of an annual Global Forum (see pages 38-39).

## TRAIN EMPLOYEES IN A DECARBONIZED WORLD

In coordination with its local stakeholders, ENGIE pays particular attention to the problems of the industrial and professional transition of its sites affected by its decarbonization trajectory. ENGIE is more broadly implementing a strategy of adaptation and better skills to prepare for the future, encourage the development and retention of its employees and ensure their continued employability. In order to plan its medium-term needs, the Group relies on an in-depth inventory of its available skills and on the projection of changes in its business lines (Medium Term Business Plan process). This forward-looking approach gives it better management of technical skills and the resources necessary to

its strategy, particularly for the key business lines of hydrogen, batteries, biogas and electric mobility. To do this, ENGIE relies on the ENGIE University training programs.

The Group also has its world internal program, the Sustainability Academy, which aims to make the 4,000 or so ambassadors involved in the program key players in the transition to a carbon neutral economy.

At the same time, ENGIE invests in apprenticeships as a path to excellence. In 2020, it formed its Energy Transition Academy to train 400 young work-study apprentices in the new energy business lines by 2024. Today, there are close to 140. Other initiatives exist in Brazil, the Middle East and Romania, where the Group financed two classes that allowed 50 young people to enroll in the "Energy For My Job" program.

### 2030 objectives

- 100% of employees trained annually.
- 10% of apprentices in France.

## ACT TO PROMOTE DIVERSITY

Diversity, equity and inclusion are also priorities for the Group, which in 2022 launched its new "Diversity, Equity and Inclusion" policy called "Be.U@ENGIE" for "Be Yourself," "Be United," "Be Unique."

## AN AMBITIOUS WORLD AGREEMENT



To support this new culture, ENGIE deployed a new leadership model named "ENGIE Ways Of Leading" (EWOL). The objectives of this program that is structured around five leadership priorities - Safety & Integrity, ONE ENGIE, Accountability, Trust and Care - are to guide the individual behavior of leaders and to put shared values into practice on a daily basis.

As part of its inclusion policy, the Group supports apprenticeships for young people, promotes equality between men and women, fights against discrimination because of sexual orientation and is committed to a proactive disability policy. In 2022, the Group, which has held the Diversity label since 2012, continued its progress with the roll-out of the "Fifty-fifty" program throughout the Group designed to create the conditions necessary to reach professional gender equality. There is also the launch of the "Friends by ENGIE" network to promote the inclusions of LGBT+ people within the Group.

### 2030 objectives

- [40-60%] female managers.
- Salary equality between men and women (with a difference of less than 2%, in accordance with Egapro index 1)

# ONGOING REINFORCEMENT OF THE GROUP'S HEALTH AND SAFETY CULTURE

**In order to protect the lives of all those who work for the Group, ENGIE has constructed a health and safety transformation plan driving requirements and stronger ambitions. Within this framework, different prevention and awareness actions have been launched, aimed at Group employees and subcontractors.**

After 2021 was marked by several fatal accidents among employees and subcontractors, the Group hired a specialized consultant to assess its organization and its health and safety culture. This consultant issued recommendations that have been added to the Group's internal analysis of the serious and fatal accident prevention system.

## REACHING A MILESTONE WITH THE "ENGIE ONE SAFETY" PLAN

At the end of this process, ENGIE defined an extensive health and safety transformation plan to adapt the Group's prevention policy. Dubbed "ENGIE One Safety," the plan aims to sustainably eradicate serious and fatal accidents affecting individuals who work for the Group – employees, subcontractors and temporary workers.

The plan covers seven areas:

- strengthening the health and safety culture of all people working for the Group;
- adapting health and safety governance and organization;
- reviewing the Group's health and safety rules;
- reorganizing internal onsite health and safety audits and support to entities;
- strengthening the Group's health and safety function with better support from human resources;
- improving the health and safety management of subcontractors as well as in construction and decommissioning projects; and
- a communication and a change management plan.

## MEASURE THE PROGRESS MADE

The main measures applied in 2022 with regard to the transformation plan were as follows:

- Adaptation of health and safety governance, integrating Executive Committee monitoring of the "ENGIE One Safety" transformation plan.
- Launch in test form at seven pilot sites of a brand new training program designed for operational managers that will be rolled out in 2023 to improve the efficacy of managerial safety practices, such as safety inspections.
- Strengthening of health and safety rules, including those for subcontractors.
- Revision of the health and safety internal audit process, now focused on the prevention of serious and fatal accidents.
- Roll-out of a new communication campaign "Never Compromise on Safety."

## INSPIRE THE HEALTH AND SAFETY DYNAMIC EVERYWHERE

ENGIE has also strengthened the safety rules applicable in all its activities. As an illustration, the activities of installing and operating rooftop solar panels have been the subject of a new standard that defines the mandatory minimum requirements to be met in order to control the major associated risks: falls from heights, falling objects, electrical risks. The challenge is to mobilize all teams around safety – business developers, sales agents, contract managers, project heads, managers and supervisors – who are responsible for managing the activity.



**Sandra Roche-Vu Quang,**  
ENGIE Vice President,  
Health and Safety

"The Group's health and safety ambition is to ensure both the protection of our employees and our subcontractors, the quality of our projects, the performance of the installations that we operate, the satisfaction of our stakeholders and the reputation of our brand. This is an essential investment that is always profitable."

## BUSINESS CASE

### SHARE THE HEALTH AND SAFETY AMBITIONS WITH THE SUBCONTRACTORS

In order to improve the safety of its subcontractors, Engie Solutions France launched the PEPS meetings ("Partenaires Engagés Pour la Sécurité" – Partners Committed to Safety). The objective To build a safety culture together that is based on rules and practices shared and understood by everyone. Thirty PEPS events were thus organized in 2022 in mainland France and the Overseas Territories, in each operational scope, every time it was possible on an industrial site. They were an opportunity to share the same strong ambition with entities' employees and subcontractors. In 2022, 1,500 partners participated in these PEPS events during which the safety requirements and practices were shared. This sharing took the form of participatory and immersive workshops designed to offer a better understanding of the joint safety challenges.

# SUPPORT CUSTOMERS IN THEIR LOW-CARBON STRATEGY

**ENGIE has set targets to achieve Net Zero Carbon by 2045 and to prevent the emission of 45 Mt of CO<sub>2</sub> every year by its customers by 2030. The Group's solutions will make this ambition a reality.**

## A COMPLETE DECARBONIZATION OFFERING

Last year, on June 14 in Paris, ENGIE organized the event "E4: ENGIE4Decarbonization," where 300 customers and partners could discover the decarbonization offering designed by the Group under the name E360°. The nine solutions it contains are intended to support the industrial and tertiary sectors in concrete decarbonization actions, taking their economic imperatives into consideration.

## SOLUTIONS ADAPTED TO ALL TYPES OF CUSTOMERS

Manufacturers, cities, universities... the Group is developing decarbonization pathways adapted to each specific case.

- Industrials - Relying on solar power to move toward net zero emissions**  
 Heineken selected ENGIE for the construction and commissioning of a solar thermal power plant with 100% renewable concentration, that will be installed near its production plant based in Seville (Spain). This new solar power plant will reduce the plant's natural gas consumption by 60% during the next 20 years and will reduce its carbon footprint by 7,000 tCO<sub>2</sub> / year.
- Universities - Make the energy transition a reality**  
 The University of Udine (Italy) signed a ten-year partnership with ENGIE for retrofitting and maintenance of the energy and technological systems of its buildings. It provides for the installation of 20,000 LED lamps, the replacement of all heating systems with latest-generation solutions, the renovation of the cooling units, the installation of three photovoltaic panels and the installation of a cogeneration system. A gain of 20% in electricity consumption and a reduction of 900 tons / year of CO<sub>2</sub> are expected as a result.



The solutions proposed are based on three pillars: "see far ahead" thanks to a co-constructed road map; "reduce costs" with the implementation of energy efficiency solutions; "transform" via a complete panel of solutions to support them in their decarbonization.

- Cities - Opt for sustainable cooling solutions**  
 Sunway Property has selected ENGIE Services Malaysia, in partnership with Sunway Construction Group, to reduce CO<sub>2</sub> emissions and install an urban cooling network in the new mixed-use quarter Sunway South Quay CP2 in Kuala Lumpur. This sustainable cooling solution has a cooling capacity of more than 7,000 tons and is expected to provide a 20% reduction in energy and CO<sub>2</sub>.

## THE GREEN CORPORATE PPA - THE OTHER WAY TO DECARBONIZE CONSUMPTION

Power Purchase Agreements or PPAs are medium and long-term (from five to 20 years) renewable energy contracts that allow companies and local authorities to decarbonize their electricity consumption and access green, reliable and certified energy at a stable set price. PPAs are termed "on-site" when the renewable energy production equipment,

financed by ENGIE, is installed at the user customer's site, and the customer itself can then use the energy produced. They are said to be "off-site" when the energy production equipment is not installed at the customer's site.

## GOOGLE OPTS FOR A PPA BASED ON OFFSHORE WIND

ENGIE and Google signed a contract to purchase renewable electricity (Corporate PPA) of 100 MW for 12 years. The energy will be supplied by the Moray West offshore wind farm located off the Scottish coast with a production capacity of 882 MW. Scheduled for commissioning in 2025, it is one of the projects in development by Ocean Winds, a 50/50 joint venture by EDP Renewables and ENGIE. The Group will supply Google with a total of more than 5 TWh of green energy. This PPA supports Google's goal to offer zero-carbon energy 24/7 by 2030.

# SUPPORT SUPPLIERS IN THEIR DECARBONIZATION TRAJECTORY

**ENGIE has set up, with its suppliers, a proactive policy aimed at assisting them in reducing their carbon footprint. This partnership approach is in line with the Group's ambition to become a Net Zero Carbon company by 2045.**

## DECARBONIZE THE VALUE CHAIN

To achieve the Group's decarbonization goals by 2030, the Procurement department is mobilizing its suppliers, who are essential stakeholders in the Group's value chain. ENGIE has set a goal to have 100% of its 250 Top Preferential Suppliers (excluding energy suppliers) certified or aligned with Science-Based Targets by 2030.

For this reason, the Group expanded its approach to assist in the decarbonization of all its preferential suppliers (618) and major suppliers (945), who represent 38% of the non-energy purchasing volume. In 2022, ENGIE prepared an inventory of the "carbon maturity" of its 400 largest suppliers.

On November 24, 2022, during its first Supplier Day, ENGIE brought 400 suppliers together with the Group's Chief Executive Officer Catherine MacGregor. There were many questions about sustainability in general, and decarbonization in particular, as elements in the purchasing road map, but also about securing supply chains and the need for its relocation, innovation, digitization and health and safety.

## REDUCE RISKS THROUGH A PLAN TO SECURE SUPPLIERS

ENGIE also decided to modify its portfolio of suppliers to reduce its sourcing risk. One of the solutions to reduce risks, secure purchases and control supply chain challenges includes the relocation of the value chains.

In the same spirit, ENGIE decided to support two major sector initiatives: the European Solar Initiative aimed at developing the industrial solar power ecosystem in Europe by 2025, as well as the Wind Europe association that promotes the development of wind power on the European continent.

## STRENGTHEN VIGILANCE

The Procurement segment contributes to a reduction of the risks within the supply chain through rigorous management of its suppliers. These suppliers must, therefore, apply ENGIE's ethics and CSR requirements, i.e. respect the right to work and human rights, offer equitable and decent compensation, and provide a safe working environment.

The Group decided to reinforce its Due Diligence policy on its solar supply chain in order to identify suppliers that may be involved in human rights violations. In China, an action plan was deployed in the Group's supply chains with new contract clauses aimed at fighting the forced labor of the Uyghurs. A search was also launched to find alternatives in all areas where ENGIE is exposed. In addition, the traceability of supplies, already implemented in the United States to comply with the requirements of the Uyghur Forced Labor Prevention Act (UFLPA), will soon be applied to at-risk purchasing categories worldwide in order to select responsible suppliers.

## DEVELOP INCLUSIVE PURCHASING AND WORK FOR THE JUST TRANSITION

Purchasing also participates in the Just Transition. In this regard, particular attention is paid to inclusive or solidarity purchases.

In line with the commitments made by the GT3 working group of the *Collectif d'entreprises pour une économie plus inclusive*, Purchasing has set up mechanisms to facilitate "inclusive" purchases, which are monitored by one of the Group's non-financial indicators. In 2022, the Group defined an Inclusive Purchasing Policy in France directed at suppliers who hire and provide lasting income to people with disabilities or long-term unemployed workers. This policy will be adapted in other countries in 2023 in accordance with local regulations and culture.

**To learn more, see the Just Transition Notebook.**



**Didier Genois,**  
Vice President and Managing  
Director, CARRIER HVAC,  
Europe Carrier

"At Carrier, we are committed to supporting Engie in its strategy to decarbonize and provide innovative HVAC - Heating, Ventilation, Air Conditioning - and control solutions to make a difference in the market and for the planet."

# PROMOTING SUSTAINABLE AND RESPONSIBLE FINANCE

**In line with its purpose, ENGIE relies on green finance to finance its activities in a sustainable and responsible manner while maximizing value creation for its shareholders.**

## A VERY STRONG FINANCIAL PERFORMANCE IN 2022

ENGIE posted an excellent financial performance in 2022 with an NRIGs of €5.2 billion, in line with guidance. EBIT of €9.0 billion was up 43% organically across most activities. The GEMS and Flex Gen activities made a significant contribution in unprecedented market conditions and renewables gained new capacity.

In 2022, ENGIE played a key role in security of supply, especially in Europe, as an owner and operator of gas networks and as a gas supplier. The utilization rate of the LNG terminals reached record levels, gas volumes transmitted by GRTgaz doubled, with exports from France to Germany for the first time and very high inventory levels. The year 2022 was also marked by the impact of windfall taxes of €0.9 billion, mainly in Belgium and in Italy, and by the impact of government profit-sharing mechanisms in Belgium and France of €1.1 billion. The Group continued its development and investment program. Thus out of €7.9 billion in investments in 2022, growth investments represented €5.5 billion, with more than 90% of this amount for activities related to the energy transition, and the balance of €2.4 billion going to maintenance CAPEX. The Group expects €22-25 billion of growth for 2023-2025, an increase of 50% compared with 2021-2023.

## SHARING PERFORMANCE WITH SHAREHOLDERS

The Group's dividend policy has been reaffirmed with a proposed dividend of €1.40 per share, aimed at distributing 65% of the Group's net income.

ENGIE maintains a dialog with its shareholders through its Shareholders' Club, which organizes meetings around business and cultural events, and its Shareholders' Consultative Committee, whose role is to relay the expectations and questions of individual shareholders. The Chairman of the Board of Directors met with individual shareholders a number of times.

The Group encourages employee shareholding and established an ambitious policy in 2022 by committing to offer a "Link" employee shareholding plan every two years. The "Link 2022" plan has been a great success with employees, with nearly 26,000 employees in 21 countries subscribing. The total amount invested is more than €172 million for 16.4 million shares. This operation brings employee shareholding to nearly 4%.

## EUROPEAN GREEN TAXONOMY

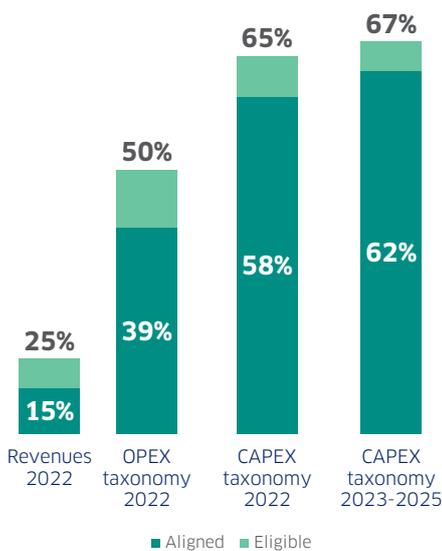
With the European Green Taxonomy, the European Union (EU) aims to make it easier for companies to finance sustainable activities by requiring them to publish the share of their activities that contribute to one of the EU's six environmental objectives without harming the other five. This share of sustainable activities is presented through two ratios:

- the share of taxonomy-eligible activities, i.e. from a list of about 100 potentially sustainable activities for the EU,
- the share of taxonomy-aligned activities, i.e. the portion recognized as sustainable because it satisfies the previous eligibility and technical criteria of contributing to and not harming the environmental objectives<sup>(1)</sup>.



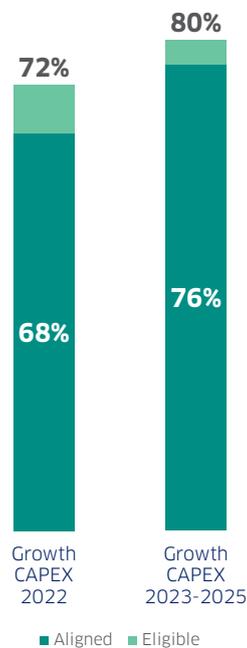
(1) At this point only the criteria for the two climate objectives for mitigation and adaptation to climate change have been published by the EU.

These eligible and aligned portions are expressed on three levels: revenue, capital expenditure (CAPEX taxonomy) and operational expenditure (OPEX taxonomy). The results are below for the year 2022 and for the CAPEX taxonomy of the period 2023-2025.



Of these three levels, the sustainable portion of OPEX limited to maintenance is insignificant, while the sustainable share of revenues reflects past investment choices and that of CAPEX represents future choices. In its definition of CAPEX, the EU has chosen to include

maintenance CAPEX that is required of the company, to exclude (i) sustainable acquisition CAPEX, which is one of the means for a company to green its activities, and (ii) sustainable CAPEX in minority interests that contribute to market sustainability. Thus, to the previous calculations, ENGIE adds a calculation for growth CAPEX (development and financial), which gives results that are more relevant with its 2022 strategy and for the period 2023-2025, as illustrated below.



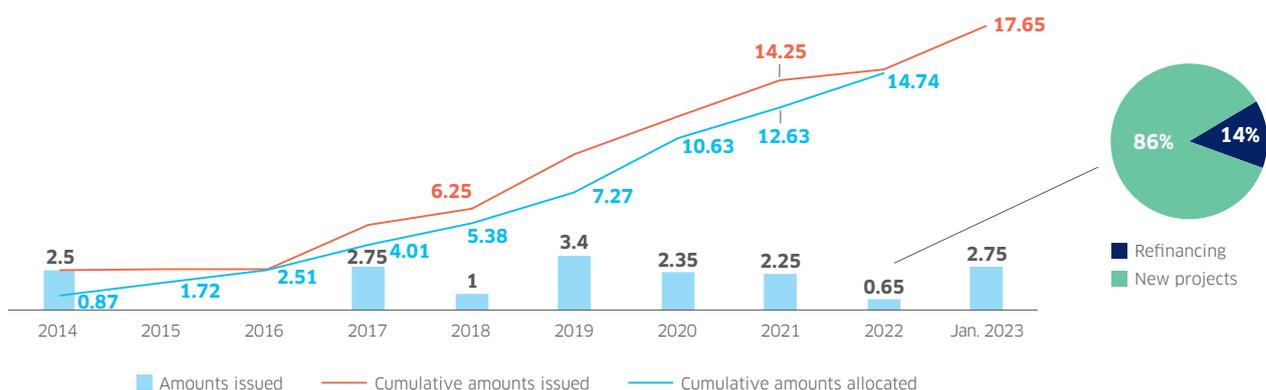
### GREEN FINANCE AT THE SERVICE OF ECONOMIC PERFORMANCE

Green bonds are essential tools for the energy transition. With its €2.75 billion green bond issue of January 7, 2023, Engie has issued a total of €17.65 billion in green bonds since 2014. This makes it the leader among corporate issuers.

These bonds are issued in accordance with the “Green Bond Framework,” according to which the Group commits to using the funds only to finance sustainable, socially responsible projects that have a positive impact on the environment. Since 2014, more than 70% of the bonds issued by the Group have been green bonds.

In 2022, ENGIE issued a single green bond of €0.65 billion. This and previous issues allowed €2.11 billion to be allocated to finance some 60 projects in 2022. These projects are part of ENGIE’s transformation to decarbonized assets and energy efficiency and should help avoid the emission of at least 3.8 Mt of CO<sub>2</sub> eq. per year. The Group publishes an impact report for each allocation, which provides a calculation of the CO<sub>2</sub> emissions avoided or reduced.

### CHANGE IN GREEN BONDS ISSUED AND THEIR ALLOCATIONS (IN BILLIONS OF EUROS)



# FACILITATE AND SUPPORT THE REGIONS' ZERO-CARBON TRANSITION

**The regions are particularly active in decarbonization. They are working to recycle their local energy resources in a circular economy approach. This strategy allows them to develop networks, create jobs and expand local companies.**

## CONTRIBUTE TO THE DEVELOPMENT OF THE REGIONS

In order to meet its Net Zero Carbon goal by 2045, ENGIE has placed the development of renewable energy at the heart of its strategic vision. As the leading producer of wind and solar electricity in France, ENGIE is also betting on the strong growth potential of biomethane - related to the local production of biomass - and green hydrogen, both of which can be produced and stored near the location where they are consumed. These new energies require dedicated networks that play a significant role in the local economy bringing a high volume of local job creation, growth investments and contributing to the development of VSE-SMEs. As a result, they encourage the dynamic growth of the communities which host these networks.

According to the France Énergie Éolienne (Wind Power) association, the number of direct and indirect jobs tied to wind power sites grew by 26.8% between 2016 and 2019. Biomethane ensures the long-term viability of the agricultural operators thanks to the transformation of their waste products while creating jobs locally. Thus, each methanization unit is accompanied, on average, by the creation of three to four direct jobs associated with its operation and maintenance, which cannot be relocated.

Green hydrogen is also an accelerator of local economic development. For each project, ENGIE seeks to set up genuine industrial ecosystems by establishing partnerships with local players so that the production platforms serve the industrial sites in the region.

## ACCELERATE THE ENERGY TRANSITION OF THE REGIONS AND THEIR STAKEHOLDERS

To meet the needs for decarbonized energy of the regions and their stakeholders, ENGIE offers a particularly attractive solution with geothermal energy.

This technique produces energy for different usages: heating, air conditioning, production of Energy Consulting Services (ECS), in order to supply heating and cooling networks, eco-quarters or buildings. Available 24/7, regardless of the weather and seasonal conditions, and with no heat discharge into the atmosphere, geothermal energy is a local, decarbonized and inexhaustible local energy. ENGIE relies on its expertise center to successfully complete its geothermal energy projects in partnership with local public authorities.

### • At Meudon:

In October 2022, ENGIE Solutions and the city of Meudon launched GéoMeudon, the company that will provide heat to the city network using deep geothermal energy. The city will benefit from 83% renewable heating and prevent the emission of 17,700 tCO<sub>2</sub> / year.

### • At Chesnay-Rocquencourt:

ENGIE Solutions, the Parly 2 shopping center, the city of Le Chesnay-Rocquencourt and the Yvelines department are accelerating decarbonization of the region with the Géomy geothermal project. The new plant will provide hot water and heat, 75% of which will be produced from renewable energy, to the equivalent of 9,000 homes and will be in operation for the 2025 heating season.

### • At Plaine Commune:

In June 2022, ENGIE Solutions announced with SOLIDEO (*Société de Livraison des Ouvrages Olympiques* - Olympic Works Delivery Company) the construction of the surface geothermal plants in the Pleyel district fed by three production sinks. Beginning in 2024, they will provide heating and cooling through the Plaine Commune Énergie network to 600,000 m<sup>2</sup> of strategic buildings, including the Village des Athlètes, the Tour Pleyel

and the ZAC Pleyel. The project will produce 68% renewable energy with 24.4 MW heating and 14.2 MW cooling power subscribed.

### • At La Garenne-Colombes, on the ENGIE Campus:

In December 2021, ENGIE Solutions obtained the construction and operation of the heating / cooling network on the future ENGIE campus in La Garenne-Colombes. A particularly ambitious project in terms of sustainable development which will concentrate a number of technological innovations within a 100% renewable energy hub: surface ATES geothermal energy systems, boilers supplied with green gas, cooling and thermo-cooling-pump generators supplied with electricity produced by photovoltaic panels, smart electricity storage and network.

### • At Vélizy-Villacoublay:

In December 2021, the Île-de-France region and ENGIE Solutions officially commissioned the 16 MW deep geothermal energy plant at Vélizy-Villacoublay, which supplies 12,000 homes with heating and hot water, most of which is sourced from renewable energy. The project benefits from the multi-drain drilling technology known as Solar Impulse. The network receives decarbonized energy at +60% renewable energy and prevents the emission of 22,801 tCO<sub>2</sub> / year.

“The commitments made in connection with the TED label will in time become the benchmark for the development and operation of ENGIE's renewable facilities around the world.”



### DEVELOP A RELATIONSHIP OF TRUST WITH THE PLAYERS IN THE REGION

The development of projects based on long-term local involvement is another aspect of supporting the regions in their energy transition. The Bretelle and Échalot wind farms are an iconic project of 23 wind turbines with a total power of 46 MW. They are located over three administrative communes in the Côte-d'Or department and reflect the effective cooperation and dialog of trust established between ENGIE Green and the players in the Bourgogne-Franche-Comté region over 10 years. Well integrated in the local area, they have become an important component of the region, contributing to the development of local projects and the preservation of biodiversity. The Group is a full participant in the energy transition goal of the region, which plans to reach 41% of its energy consumption from renewables by 2030 and 100% in 2050.

### TED, OR HOW TO LABEL RENEWABLE ENERGY DEVELOPMENT PROJECTS



To affirm the seriousness of its approach to the development of renewable energy, ENGIE established in May 2022 an innovative label, co-designed with Bureau Veritas, and named TED, for "*Transition Énergétique Durable*" (Sustainable Energy Transition). It is intended to bring stakeholders together around wind and/or solar sites in their region and highlight the method to develop renewable projects deployed by ENGIE.

The renewable energy activities are audited against a set of nine commitments based on three key themes that go beyond regulatory requirements and that ENGIE is systematically deploying.

- **Regions**
  - Deploy a customized system in collaboration with stakeholders.
  - Provide the administrative commune where the site is located with an annual assessment of the positive effects of its project and report on its contribution for the region.
  - Increase employee awareness of the challenges in the appropriation and integration of the projects in the regions.

- **Nature**
  - Complete a prior impact study for each project, validated by an independent third party.
  - Share the knowledge acquired on our wind farms and participate in the effort to understand biodiversity in France.
  - Increase awareness of the challenges of biodiversity with employees and the communities where the projects are located.
- **Climate**
  - Assess the carbon footprint of each project and report on the marginal CO<sub>2</sub> emissions avoided for each site.
  - Guarantee recycling or the reuse of all turbines and solar panels.
  - Increase awareness of the climate challenges with employees and the local authorities where the projects are located.

ENGIE Green was the first Group entity to earn the TED label in the summer of 2022. The label will be expanded to the solar and wind operations of five other Group countries in 2023.

“The Board of Directors approved the plan presented by Catherine MacGregor and her team. The climate emergency, the energy crisis and the geopolitical situation leave no choice but to accelerate the transition to a low-carbon economy, which confirms the relevance of the strategy to which ENGIE has been committed since 2020.”

Jean-Pierre Clamadieu,  
Chairman of the Board of Directors





# OUR GOVERNANCE

## HOW DO WE DRIVE THE TRANSFORMATION OF THE GROUP?

52

A Board of Directors that upholds the Group's strategic orientations

54

Committees of the Board of Directors

56

General Management that implements the Group's strategy

57

An organizational structure focused on a successful energy transition

58

A compensation policy that promotes sustainable performance

60

indicators and annexes

# A BOARD OF DIRECTORS TO UPHOLD THE GROUP'S STRATEGIC DIRECTIONS

**ENGIE is governed by a team of 15 directors with a variety of expertise. In line with ENGIE's purpose and in connection with the expectations of its stakeholders, their mission is to define the strategic directions of the Group and ensure their implementation.**

## CAREFUL MONITORING OF THE GROUP'S CHALLENGES

The Group offers all new directors personalized training and regularly organizes specific training or information sessions. In 2022, the Directors received training in the scenarios of the energy transition, CSR and non-financial reporting as well as in the critical impacts of climate on the supply chain. Every year, the members of the Board meet during a strategic planning seminar. The 2022 seminar provided an opportunity to discuss and review progress on the implementation of the strategy described in the 2021 road map, on the consequences of the current energy context and on various subjects of strategic importance for the Group.

ENGIE is also in regular dialog with its shareholders, main institutional investors and proxy advisors as part of governance roadshows and at other times. During this period of dialog, the Chairman of the Board explains to them the strategic directions pursued by the Group and asks them about their expectations so that these can continue to be better taken into consideration.

## STRENGTHENING OF THE EXPERTISE HELD

The Board's objective is to have members that correspond to ENGIE's activities, strategic directions and challenges. This is what allows the Board to make decisions consistent with the need to accelerate the transition to a carbon-neutral, eco-friendly economy.

ENGIE also ensures that the individual competencies of its directors are wide-ranging and complementary. The diagram opposite compiled in February 2023 (with the exception of length of service calculated on April 25, 2023) presents the three key skills of each director among the 12 types of expertise selected.

## A PARTIAL RENEWAL OF THE BOARD

The terms of office of Ms. Malrieu, Ms. Nadeau, Ms. Jégo-Laveissière, and Mr. Durand will expire at the end of the 2023 Shareholders' Meeting. The shareholders will be asked to renew the terms of office of Ms. Nadeau and Mr. Durand, but not that of Ms. Malrieu. Ms. Jégo-Laveissière will be replaced by a new member proposed by the State.

Ms. Stéphanie Besnier will be also replaced as Director representing the French State. As at the date of this report, the identity of her successor is not known.

At the end of the Shareholders' Meeting of April 26, 2023, and subject to approval of the proposed resolutions, the Board of Directors will consist of 14 members.



**55%**

women on the Board of Directors in 2022



**11**

meetings in 2022

**100%**

attendance rate at Board of Directors' meetings in 2022



**64%**

Independent directors in 2022

## MAJOR WORK CARRIED OUT IN 2022

In 2022, members of the Board of Directors held discussions on the following topics:

- **Strategic Directions of the Group** (continued repositioning of ENGIE continued geographic refocusing, operational implementation of the new strategic directions, the gas supply strategy; discussions on nuclear in Belgium, etc.);
- **Investments and sales of assets** Review of a series of planned investments and divestments.
- **Finance and audit, 2022 risk review, including the prioritized cybersecurity risk.**
- **Governance** (takeaways from the dialog between the Chairman and shareholders, investors and proxy advisors, assessment of the functioning of the Board, compensation for corporate officers, etc.).
- **CSR** (2030 CSR targets, climate strategy and net zero emission commitment by 2045, matching of planned investments with the Group's CSR criteria, professional and salary equity policy, etc.).

Directors elected by the Shareholders' Meeting (● independent)

 <p><b>● Jean-Pierre Clamadieu</b> Chairman of the Board of Directors</p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 4 years and 11 months</li> <li>Two terms<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>● Catherine MacGregor</b> Chief Executive Officer and Director</p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 1 year and 11 months</li> <li>No offices held<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>● Fabrice Brégier</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 6 years and 11 months</li> <li>One term<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>● Marie-Claire Daveu</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 1 year</li> <li>One term<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>● Françoise Malrieu</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 11 years and 11 months</li> <li>No offices held<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 
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Directors elected by the Shareholders' Meeting on the recommendation of the French State

 <p><b>● Ross McInnes</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 4 years and 11 months</li> <li>Two terms<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>● Marie-Josée Nadeau</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 7 years and 11 months</li> <li>No offices held<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>● Lord Peter Ricketts of Shortlands</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 6 years and 11 months</li> <li>One term<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>Patrice Durand</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 6 years and 4 months</li> <li>No offices held<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>Mari-Noëlle Jégo-Laveissière</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 7 years and 11 months</li> <li>One term<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 
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Director representing the French State appointed by decree

Director elected by the employees representing the employees

Director elected by the Shareholders' Meeting representing employee shareholders

 <p><b>Stéphanie Besnier</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 1 year and 11 months</li> <li>Three offices<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>Christophe Agogué</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 4 years and 11 months</li> <li>No offices held<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>Yoan Kosnar</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 1 year</li> <li>No offices held<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>Magali Viot</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 1 year</li> <li>No offices held<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 	 <p><b>Jacinthe Delage</b></p> <ul style="list-style-type: none"> <li>Length of service<sup>(1)</sup>: 1 year and 11 months</li> <li>No offices held<sup>(2)</sup></li> <li>Attendance rate at Board meetings in 2022: 100%</li> </ul> 
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LIST OF THE 12 COMPETENCIES SELECTED

General Management	Energy sector	Finance	Digital, innovation, new technologies
Administration of large companies	Services sector	CSR, climate, dialog with stakeholders	Geostrategic challenges
Industrial sector	Public sector	Social dialog, HR	Regulatory environment

(1) Length of service on the Board of Directors at April 25, 2023  
 (2) Offices in other listed companies (excl. ENGIE)

# COMMITTEES OF THE BOARD OF DIRECTORS

Each chaired by an Independent Director, the four permanent Committees of the Board of Directors assist the Board in its work and give the Board their recommendations on specific issues in preparation for certain deliberations.

## THE AUDIT COMMITTEE

### Missions

Reviews the financial statements and financial position, and reviews internal and external controls and mapping of significant risks for the Group.

### Main work in 2022

- Review of the Group's consolidated financial statements, financial trajectory and 2022 guidance
- Annual risk review and risk analysis in the context of the Ukrainian crisis
- Review of the cybersecurity priority risk and review of market risks
- Monitoring of the Link 2022 employee shareholding plan
- Monitoring of the effectiveness of the Group's internal control systems and procedures and internal audit.



**3 women**

Marie-José Nadeau  
(Chairwoman)  
Stéphanie Besnier  
Françoise Malrieu



**2 men**

Christophe Agogué  
Ross McInnes



**5 meetings**

+  
three joint meetings  
with the SITC

**96%**

Participation rate

**75%**

Independence rate

### MOST REPRESENTED COMPETENCIES



Finance



Administration of large companies

## THE STRATEGY, INVESTMENT AND TECHNOLOGY COMMITTEE

### Missions

Gives its opinion on major strategic directions, in particular for the strategic plan. Examines projects for external or internal growth or disposal, strategic agreements, alliances or partnerships. Also examines strategic choices with regard to technological developments, modernization of industrial equipment or procurement policy and significant real estate projects.

### Main work in 2022

- the medium-term business plan in terms of strategy;
- the monitoring of industry trends and sector highlights.
- The Gas supply strategy
- An update on the nuclear situation in Belgium



**2 women**

Stéphanie Besnier  
Marie-José Nadeau



**4 men**

Jean-Pierre Clamadieu  
(Chairman)  
Patrice Durand  
Ross McInnes  
Yoan Kosnar



**6 meetings**

+  
three joint meetings  
with the Audit Committee

**100%**

Participation rate

**60%**

Independence rate

### MOST REPRESENTED COMPETENCIES



Administration of large companies



Finance



Industrial sector

## THE APPOINTMENTS, COMPENSATION AND GOVERNANCE COMMITTEE

### Missions

Reviews and makes recommendations regarding the composition and operations of the Board, the selection of the Chief Executive Officer, the succession plans and the compensation of the corporate officers.

### Main work in 2022

- Membership, diversity policy and assessment of the functioning of the Board and its Committees: independence and expertise of directors
- Monitoring of the increase in the number of women in management bodies
- Succession plans
- Compensation for corporate officers
- Equity ratios
- Link 2022 employee shareholding plan



**4 women**

Françoise Malrieu  
(Chairwoman)  
Marie-José Nadeau  
Stéphanie Besnier  
Jacinthe Delage



**2 men**

Fabrice Brégier  
Lord Ricketts  
of Shortlands



**7 meetings**

**100%**

Participation rate

**80%**

Independence rate

### MOST REPRESENTED COMPETENCIES



Administration of large companies



Finance



Public sector

## THE ETHICS, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT COMMITTEE

### Missions

Ensures the Group has the right level of commitment with regard to ethics, compliance, and corporate, social and environmental responsibility. Reviews human resources policies and ensures that a corruption prevention and detection system is in place. Ensures that the Group takes into account CSR issues and long-term perspectives.

### Main work in 2022

- New CSR objectives for 2030 and their deployment, and changes in certain indicators
- CO<sub>2</sub> Medium-Term Plan (MTP)
- Monitoring of the “climate change” priority risks and “HR risks related to the challenges of transformation”
- Updating of the CSR policies, draft integrated report and NFPS
- Review of each fatal accident
- Annual reports on health and safety, professional and salary equality, and Ethics and compliance activities



**4 women**

Marie-Claire Daveu  
Mari-Noëlle Jégo-Laveissière  
Françoise Malrieu  
Magali Viot



**1 man**

Ross McInnes  
(Chairman and CSR  
specialist on the  
Board of Directors)



**4 meetings**

**100%**

Participation rate

**75%**

Independence rate

### MOST REPRESENTED COMPETENCIES



CSR, climate, dialog  
with stakeholders



Administration of large companies



Finance



Energy sector

# GENERAL MANAGEMENT THAT IMPLEMENTS THE GROUP'S STRATEGY

As ENGIE's steering body, the Executive Committee makes strategic decisions in line with the guidelines set by the Board of Directors. These decisions are implemented and monitored operationally by the Operational Management Committee (OP'COM).

## EXECUTIVE COMMITTEE

- **MEMBERS:**
- Chief Executive Officer
  - Executive Vice Presidents
- 10 members**   **4 women (40%)**   **4 nationalities**
- **TARGET:**
- at least 40% women and at least 40% men by 2025
- **MISSIONS:**
- Makes strategic decisions in line with the guidelines set by the Board of Directors
  - Develops the long-term vision
  - Ensures that short-term objectives are met



**Catherine MacGregor**  
Chief Executive Officer



**Paulo Almirante**,  
Executive Vice President  
in charge of Renewables  
activities, Energy  
Management and  
Nuclear activities



**Sébastien Arbola**,  
Executive Vice President  
in charge of Flex Gen  
& Retail activities,  
responsible for Hydrogen  
activities



**Jean-Sébastien Blanc**,  
Executive Vice President  
in charge of Human  
Resources and Corporate



**Frank Demaille**,  
Executive Vice President  
in charge of Transformation  
and Geographies,  
responsible for Global  
Business Support



**Biljana Kaitović**,  
Executive Vice President  
in charge of Digital and  
Information Systems



**Frank Lacroix**,  
Executive Vice President  
in charge of Energy  
Solutions



**Cécile Prévieu**,  
Executive Vice President  
in charge of Networks



**Pierre-François Riolacci**,  
Executive Vice President  
in charge of Finance,  
Corporate Social  
Responsibility  
and Purchasing



**Claire Waysand**,  
Executive Vice President  
in charge of the General  
Secretariat, Strategy,  
Research & Innovation,  
Communication

## OPERATIONAL MANAGEMENT COMMITTEE (OP'COM)

- **MEMBERS:**
- Chief Executive Officer
  - Executive Vice Presidents
  - Entity CEOs
  - Directors of GBU, regions and main countries
  - Heads of main functional departments
- 54 members**   **19 women (35.2%)**   **14 nationalities**
- **MISSIONS:**
- Implements ENGIE's strategic decisions
  - Carries the Group's transformation as close as possible to the regions

# AN ORGANIZATIONAL STRUCTURE FOCUSED ON A SUCCESSFUL ENERGY TRANSITION

The new Group organization, established in 2021, resulted in a refocusing of the activity and a tighter geographic footprint of 31 countries at the end of 2022. The new structure is geared to the success of the energy transition and aims to improve simplicity, operational performance and efficiency.

## A STRONG PRESENCE IN FRANCE AND IN FOUR REGIONAL HUBS

EUROPE, NORTHAM, SOUTHAM, AMEA



### FRANCE



GRDF, GRTgaz, Elengy, Storengy

### EUROPE



Belgium, German, Italy, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, United Kingdom

### NORTHAM



**North America:**  
Canada, United States

### SOUTHAM



**Central and South America:**  
Brazil, Chile, Colombia, Mexico, Peru

### AMEA



**Asia, Middle East, Africa, Australia**  
India, Malaysia, Pakistan, Philippines, Singapore, Bahrain, Kingdom of Saudi Arabia, Kuwait, Oman, Qatar, United Arab Emirates, Algeria, Egypt, South Africa, Morocco, Australia

Green dot: Renewables

Blue dot: Networks

Orange dot: Energy Solutions

Teal dot: Flex Gen & Retail

Black dot: Nuclear

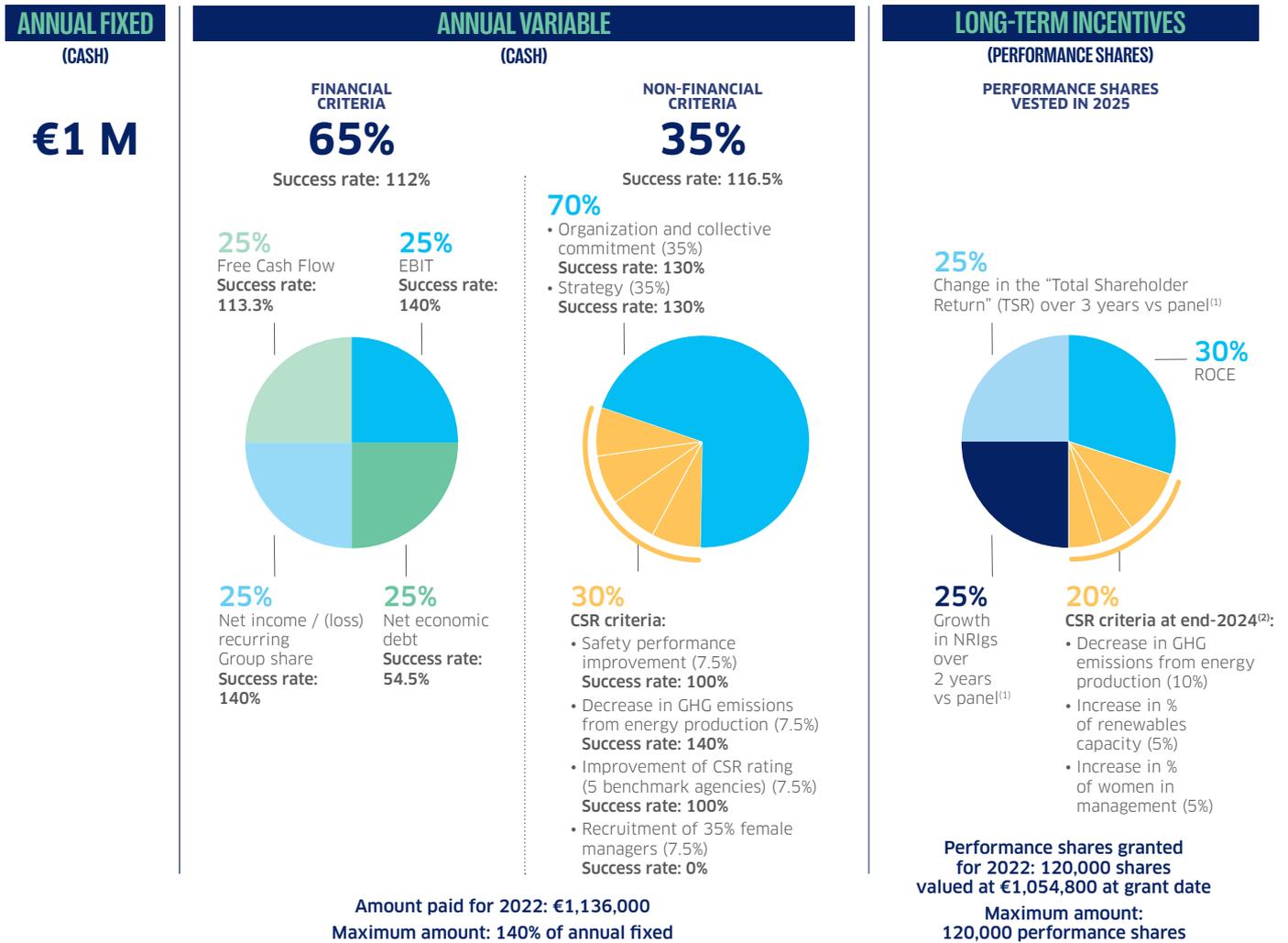
Grey dot: GEMS

# A COMPENSATION POLICY THAT PROMOTES SUSTAINABLE PERFORMANCE

The Group has a compensation policy that is personalized, fair and competitive for all and which reflects the performance and level of responsibility of each person.

Each year, the compensation policy of the executive corporate officers is reviewed by the Board of Directors, based on the recommendation of the Appointments, Compensation and Governance Committee. It is subject to the approval of the Shareholders' Meeting. In 2022, the Chairman's compensation amounted to a fixed sum of €0.45 million. The ratio of the compensation for each corporate officer to the average compensation of ENGIE's employees in France was 7.9x for the Chairman and 55.6x for the Chief Executive Officer.

## Compensation of Chief Executive Officer for 2022



In 2022, all senior managers, including members of the Executive Committee, were eligible to receive annual variable compensation which included financial criteria for 65%, non-financial criteria for 15% and individual objectives specific to their area of responsibility for 20%. The financial criteria for Executive Committee members are the same as

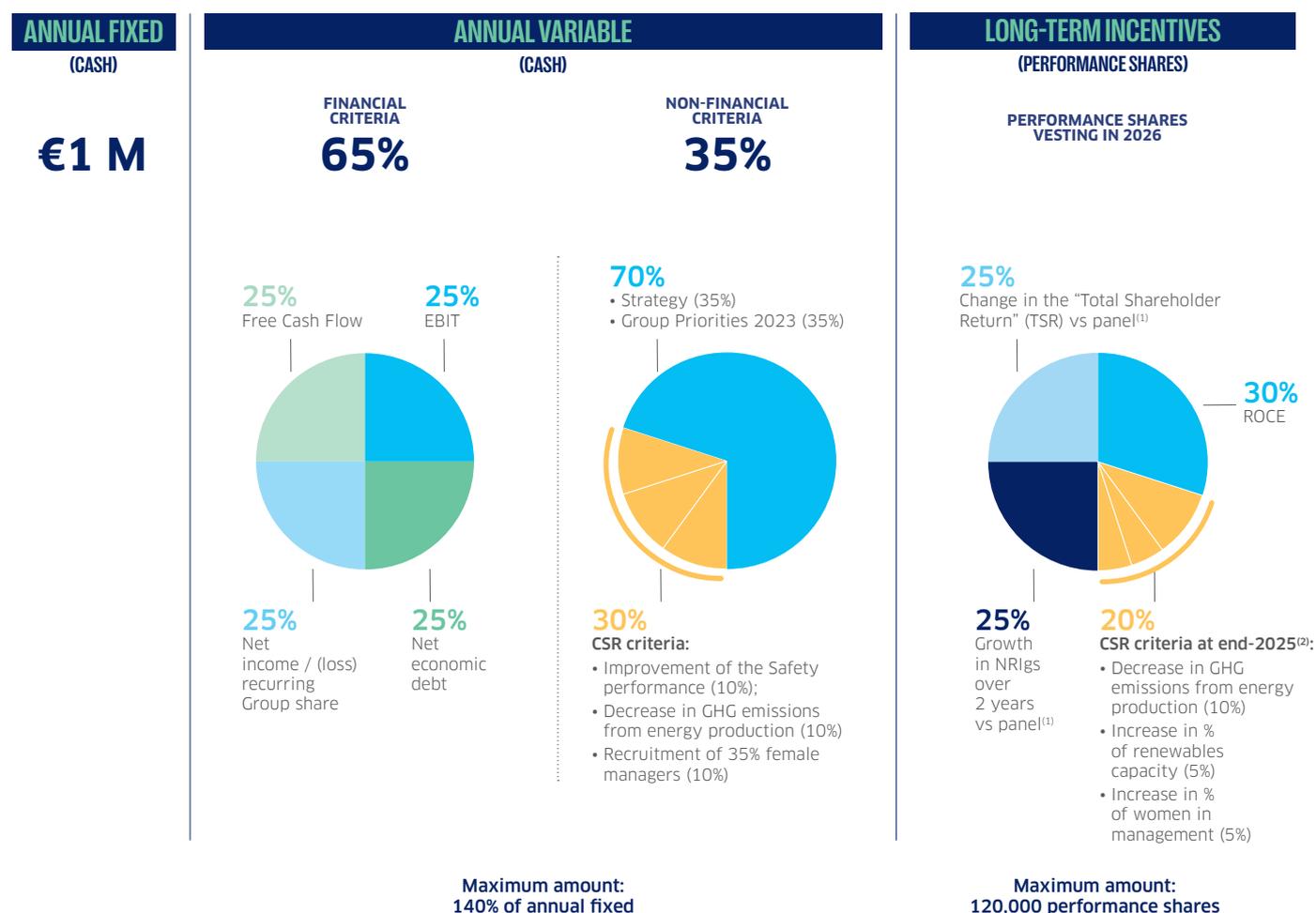
those for the Chief Executive Officer; the financial criteria for the other senior managers include their direct areas of responsibility (scopes N and N+1) on EBIT, Free Cash Flow and G&A (General & Administration) criteria. The non-financial criteria cover health and safety (prevention rate within the scope of responsibility),

climate (Group GHG emissions), and diversity (rate of recruitment of women among managers within the scope of responsibility) at 5% each.

All senior managers are beneficiaries of the performance share plan according to the same criteria as the Chief Executive Officer.

(1) Panel: EDP, ENEL, Iberdrola, Naturgy, Snam and RWE - (2) in line with the trajectory established to reach the 2030 target

## Compensation of the Chief Executive Officer for 2023



In 2023, the annual variable compensation structure for senior managers, including Executive Committee members, will change.

It will be composed of 65% financial criteria, 10% non-financial criteria and 25% individual objectives, which is consistent with the structure of the annual variable compensation of the Chief Executive Officer.

The financial criteria used are similar to those for 2022. The non-financial

criteria used for members of the Executive Committee are the same three as used for the Chief Executive Officer, while the two non-financial criteria, used for corporate officers, at 5% each, are health and safety (frequency rate of accidents within the scope of responsibility), and diversity (the rate of women recruited among managers within the scope of responsibility).

Senior managers whose role has a significant impact on the GHG emissions trajectory must include a climate target in their individual targets of at least 5%. All senior managers are eligible for the performance share plan according to the same criteria as the Chief Executive Officer.

In addition to the Group's 420 senior managers, 5,000 other employees are beneficiaries of the Group's performance share plan.

(1) Panel: EDP, ENEL, Iberdrola, Naturgy, Snam and RWE - (2) in line with the trajectory established to reach the 2030 target

YEAR ENDED 31 DECEMBER 2022

## STATUTORY AUDITORS' REPORT ON A SELECTION OF SOCIAL AND ENVIRONMENTAL INFORMATION PUBLISHED IN THE 2023 ENGIE INTEGRATED REPORT

To the General Management,

In accordance with your request and in our capacity as statutory auditors of ENGIE (hereinafter the "Entity"), we hereby report to you with a conclusion in the form of a limited assurance on social and environmental information identified by the symbol ■<sup>(1)</sup> (hereinafter the "Information"), prepared in accordance with the procedures used by the Entity (hereinafter the "Reporting Criteria"), in the integrated report prepared by the Entity in respect of the financial year ended December 31, 2022 (hereinafter the "Report").

It is also our responsibility to express, at the Entity's request, an opinion in the form of reasonable assurance as to whether the Information selected by the Entity and identified by the symbol ■<sup>(2)</sup> in the Report (hereinafter the "Selected Information", has been prepared, in all material respects, in accordance with the Reporting Criteria.

### Conclusion in the form of a limited assurance on the Information

Based on the procedures performed as described in the "Nature and scope of our work on the Information" section and on the elements we have collected, nothing has come to our attention that causes us to believe that the Information has not been prepared, in all material respects, in accordance with the Reporting Criteria.

### Opinion in the form of a reasonable assurance on the Selected Information

In our opinion, the Selected Information has been prepared, in all material respects, in accordance with the Reporting Criteria.

### Preparation of the Information and Selected Information

The absence of a generally accepted and commonly used reference framework or established practices on which to base the assessment and measurement of the Information and Selected Information enables the use of different, but acceptable, measurement techniques that may impact comparability between entities and over time.

Accordingly, the Information and Selected Information must be read and interpreted with reference to the Reporting Criteria, available upon request at the Entity's headquarters to the Group Social and Environmental Responsibility Department, the Group Health and Safety Department and the Group Human Resources Department.

### Limits inherent to the preparation of the Information and Selected Information

The Information and Selected Information may be subject to uncertainty inherent to the state of scientific or economic knowledge and the quality of the external data used. Some information is sensitive to the choices of methodologies, assumptions and/or estimates used for its preparation and presented in the Report.

Responsibility of the Entity

As part of this voluntary process, it is the responsibility of the Entity to:

- Select or set up appropriate criteria to prepare the Information and Selected Information;
- Prepare the Information and Selected Information in accordance with the Reporting Criteria, whose sum up is available in the management report; and
- Implement the internal control that it deems necessary to ensure that the Information and the Selected Information is free from material misstatements, whether due to fraud or error.

### Responsibility of the Statutory Auditors

Based on our work, in accordance with your request, our responsibility is to:

- Express a conclusion in the form of a limited assurance on the fact that the Information was prepared, in all material respects, in accordance with the Reporting Criteria;
- Express an opinion in the form of a reasonable assurance on the fact that the Selected Information was prepared, in all material respects, in accordance with the Reporting Criteria.

However, it is not our responsibility to express an opinion on the Report as a whole, and in particular on the Entity's compliance with applicable legal and regulatory requirements.

As it is our responsibility to issue an independent conclusion on the Information and the Selected Information prepared by Management, we are not authorized to participate in the preparation of such information as this could compromise our independence.

### Applicable regulatory provisions and professional guidance

Our work described below was performed in accordance with the professional guidance issued by the French Institute of Statutory Auditors (*Compagnie Nationale des Commissaires aux Comptes*) relating to this engagement and with international standard ISAE 3000 (revised)<sup>(3)</sup>.

### Independence and quality control

Our independence is defined by regulatory texts, the French Code of Ethics for Statutory Auditors (*Code de déontologie de la profession de commissaire aux comptes*) and the requirements of Article L. 822-11-3 of the French Commercial Code (*Code de commerce*). In addition, we implemented a quality control system (International Standard on Quality Control 1) which includes documented policies and procedures aimed at ensuring compliance with ethical requirements, French professional guidance, and applicable legal and regulatory requirements.

### Nature and scope of procedures on the Information

We planned and performed our work considering the risks of material misstatement of the Information.

We believe that the procedures we performed in the exercise of our professional judgment enable us to provide a limited assurance conclusion:

- We assessed the appropriateness of the Reporting Criteria with respect to its relevance, completeness, reliability, neutrality and clarity, by taking into consideration, where relevant, the sector's best practices;
- We verified the set-up of a process to collect, compile, process and check completeness and consistency of the Information;
- We interviewed the relevant persons from the Group Environmental and Social Responsibility Department, the Group Health and Safety Department and the Group Human Resources Department in order to analyze the deployment and application of the Reporting Criteria;
- We set up analytical procedures on the information and verified, using sampling techniques, the calculations as well as the consolidation of the Information;
- We tested the Information for a representative sample of entities that we selected<sup>(4)</sup> based on their activity, their contribution to the consolidated Information, their location and for a risk analysis. We conducted interviews to verify the proper application of the procedures and conducted substantive tests, using sampling techniques, to verify the calculations performed and reconcile data with supporting evidence.

The selected sample represents 40% of the workforce and between 8% and 69% of the environmental Information tested.

The procedures performed for a limited assurance engagement are less extensive than those required for a reasonable assurance engagement performed in accordance with professional standards; a higher level of assurance would have required more extensive verification work.

### Nature and scope of procedures on the Selected Information

With regard to the Selected information, we carried out work of the same nature as those described in the "Nature and scope of procedures on the Information" section, but in greater depth, in particular with regard to the scope of the tests.

The sample selected represents 40% of the workforce and between 16% and 65% of the environmental Information tested.

We believe that this work allows us to express reasonable assurance on the Selected Information.

Paris-La Défense, March 13, 2023

The Statutory Auditors

French original signed by

**DELOITTE & ASSOCIES**

Nadia Laadouli, Associée • Patrick E. Suissa, Associé

**ERNST & YOUNG et Autres**

Charles-Emmanuel Chosson, Associé • Guillaume Rouger, Associé

(1) **Social, health and safety information:** Number of hours of training, Number of permanent and fixed-term hires, Number of fatal accidents (employees), Accident severity rate, Rate of apprentices in France, Employee commitment (%).

**Environmental information:** Total consumption of fresh and non-fresh water, Non-hazardous waste recovery rate, Total NOx emissions, Total SO2 emissions, Total particulate matters emissions.

(2) **Social, health and safety information:** Number of employees, Internal lost time injury frequency rate, Women in the workforce (%), Women in Management (%), Trained staff (%), Managers in the workforce, Permanent staff, Lost time injury frequency rate for employees and subcontractors on controlled access sites.

**Environmental information:** Total primary energy consumption (auto-consumption excluded), Total GHG direct emissions - Scope 1, Total GHG emissions - Scope 2, CO<sub>2</sub> emission ratio - energy production - Scope 1, CO<sub>2</sub> emission ratio - energy production - Scope 3, CO<sub>2</sub> emission ratio - energy production - Scopes 1&3, Recovery rate of hazardous waste.

(3) **ISAE 3000 (revised)** - Assurance engagements other than audits or reviews of historical financial information

(4) **Social information:**

**Audits performed at entity level:** GRDF, Engie ES SA - Cofely Services Etablissement, GRTgaz, DISTRIGAZ SUD RETELE, CNR, Cofely Espana, ENGIE Solutions Company.

**Audits performed at GBU/Regional Hub level:** Romania, Germany and Italy (Europe), South America.

**Health and safety information:**

**Audits performed at entity level:** Bâtiments et Infrastructures Locales (BIL), ENGIE Solutions GCC, ENGIE Deutschland, Grandes Infrastructures et Mobilités (GIM), DISTRIGAZ SUD RETELE.

**Audits performed at GBU/Regional Hub level:** Infrastructure, Supply.

**Environmental Information: procedures performed at EO level:** France B2B

**Procedures performed at entity level:** South America excluding Brazil (CT Chilca Uno, Central Termica Red Dragon, Mejillones CCGT, Mejillones Conventional, Central Termoelectrica Andina SA), Brazil (Salto Osório, Umbaranas, Ferrari, Campo Largo), AMEA (UCH Power (Private) Limited (full conso), UCH-II Power (Private) Limited), Thermique Europe (Leini, Amercoeur, Knippegroen, Cycfos, Coe, Eems), Europe - excluding Thermal & Supply (Engie Servizi Consolidation), France Renouvelables (CNR, SHER), EO France BIL (OUEST-Sud - Installations ENGIE Cofely - BIL, OUEST-Sud - Installations ENGIE Cofely - GIM), France GIM (Fraicheur de Paris, ENDRIS), GRDF (GRDF), Storengy (sites at Chémery, Germigny-sous-Coulombs, Gournay-sur-Arandon, Nuclear (Doel, Tihange)

OPERATIONAL INDICATORS	2020	2021 <sup>(*)</sup>	2022 <sup>(*)</sup>
Installed electricity generation capacity (GW) <sup>(1)</sup>	101	100.3	102.7
Capacity under construction (GW) <sup>(1)</sup>	4.2	3.6	5
Installed renewables capacity (%) <sup>(1)</sup>	31.2	34	38
Installed renewables capacity (GW) <sup>(1)</sup>	31.1	34.4	38.1
- of which hydro (excl. pumped storage)	17.9	17.9	17.9
- of which wind	10.1	11.8	14.5
- of which solar	3.1	4.1	5.3
- of which biomass/biogas	0.4	0.3	0.3
Net Promoter Score of BtoC customers:			
• France (8.3 million market offer contracts in 2022)	+4	+19	+32
• Belgium (3.8 million contracts in 2022)	-1	+2	+1
• Italy (0.9 million contracts in 2022)	+19	+29	+37
• Romania (2.1 million contracts in 2022)	+50	+49	+38
• Netherlands (0.7 million contracts in 2022)	na	+12	+37
• Australia (0.7 million contracts in 2021)	na	+5	-2
R&D expenditure (€ m)	190	138	135
Gas sales to end customers used to calculate Scope 3 (TWh) <sup>(2)</sup>	338	362	338
Total electricity sales (TWh) <sup>(2)</sup>	322	213	234
Electricity purchases for resale (TWh) <sup>(2)</sup> (used for Scope 3)	84	95	113
Electricity production at 100% (TWh) <sup>(1)</sup>	389	420.2	421.5
Energy production (Scopes 1&3) (TWh) <sup>(1)</sup>	261	278	276
Load factor of gas stock (%)	56	55	56
Load factor of coal stock (%)	49	55	60
Availability of nuclear power plants (%)	63	92	84
RAB distribution France (€ bn) <sup>(3)</sup>	14.9	15.3	16.2
RAB transmission France (€ bn) <sup>(3)</sup>	8.8	8.6	8.8
RAB storage France (€ bn)	3.7	3.8	4
RAB LNG terminals France (€ bn)	0.9	0.9	0.9
Quantity of energy distributed by GRDF (TWh)	256.2	276.8	256.9
Storage capacity sold (TWh)	120	118.6	123.3
Length of distribution networks (km)	254,294	267,594	255,394
Length of GRDF network (km)	202,759	204,233	201,000
Length of transmission networks (km)	39,352	39,360	39,504
Length of GRTgaz network (km)	32,519	32,727	32,000
Engineering - Order book (€ m)	941	784	669

FINANCIAL INDICATORS	2020	2021 <sup>(*)</sup>	2022 <sup>(*)</sup>
data as published			
Revenues (€ bn)	55.8	57.9	93.9
EBITDA (€ bn)	9.3	10.6	13.7
EBIT (€ bn) <sup>(4)</sup>	4.6	6.1	9
Net recurring income/(loss), Group share (€ bn) <sup>(5)</sup>	1.7	2.9	5.2
Gross investment (€ bn)	7.7	8	7.9
of which growth investments (€ bn)	4.0	4.3	5.5
of which maintenance investments (€ bn)	3.7	3.7	2.4
Cash flow from operations (CFFO)	7.1	6.5	8
Net economic debt (€ bn)	37.4	38.3	38.8
Net economic debt / EBITDA	4.0x	3.6x	2.8x
Ordinary dividend for year N paid in year N+1 (€/share)	0.53	0.85	1.40

(\*) Data excluding EQUANS

(1) Counted at 100% regardless of the ownership interest

(2) Sales figures are consolidated in accordance with accounting standards

(3) Regulated Asset Base as of January 1

(4) Current operating income after share in net income of equities accounted for using the equity method

(5) Cash Flow from Operations: Free Cash Flow before maintenance CAPEX

ENVIRONMENTAL INDICATORS	2020	2021 <sup>(*)</sup>	2022 <sup>(*)</sup>
Total GHG Emissions – Scope 1 (Mt CO <sub>2</sub> eq) ■■	38.6	35.8	29.8
of which emissions from energy production (controlled assets)	36.4	33.7	27.9
of which CH <sub>4</sub> emissions	1.5	1.6	1.3
Total GHG Emissions – Scope 2 (Mt CO <sub>2</sub> eq) ■■	0.6	0.5	0.7
Total GHG emissions – Scope 3 (Mt CO <sub>2</sub> eq)	124.2	122.4	143.7
of which use of products sold	61.4	65.6	61.3
of which emissions from energy production (equity-accounted assets)	31.1	31.4	31.6
CO <sub>2</sub> emission ratio – Energy production – Scope 1 (kg CO <sub>2</sub> eq/MWh eq) ■■	212.5	178	151.8
CO <sub>2</sub> emission ratio – Energy production – Scope 3 (kg CO <sub>2</sub> eq/MWh eq) ■■	377.2	368.7	342.9
CO <sub>2</sub> emission ratio – Energy production – Scopes 1&3 (kg CO <sub>2</sub> eq / MWh eq) ■■	262.3	237.8	215.7
NOx emissions (kt) ■	49.0	48.8	33.5
SO <sub>2</sub> emissions (kt) ■	119.6	105.9	7.4
Fine particle emissions (kt) ■	6.3	5.7	3.4
Mercury emissions (kg)	305	194	49
Total primary energy consumption (excluding own consumption) (TWh) ■■	285	314	278
Total freshwater and non-freshwater consumption (Mm <sup>3</sup> ) ■	77	97	79
Total fresh water use (Mm <sup>3</sup> )	49	66	55
Rate of fresh water consumption per energy produced (Scope 1)(%)	0.278	0.342	0.300
Environmental risk prevention plan (% of relevant revenues)	81.9	93.8	96
Environmental expenditure (€ m)	553	529	903
Environment-related complaints (no.)	6	13	20
Environment-related convictions (no.)	2	2	1
Amount of compensation (€ k)	14	697	9
Non-hazardous waste recovery rate (%) ■	86	85	80
Hazardous waste recovery rate (%) ■■	30	16	21
Certified environmental management system (% of relevant revenues)	74.9	73.2	75.6

SOCIAL INDICATORS	2020	2021 <sup>(*)</sup>	2022 <sup>(*)</sup>
Number of employees ■■	172,703	101,504	96,454
Managerial staff in the workforce (%) ■■	26.2	30.2	30.4
Employees on permanent contracts (%) ■■	90.4	91.5	91.5
No. of permanent contract and fixed-term hires ■	29,481	15522	16974
Voluntary turnover (%)	5.4	5.2	6.5
Internal lost-time occupational accident frequency rate for employees ■■	3.0	2.8	2.3
Lost time injury frequency rate for employees and subcontractors on sites with controlled access ■■	2.7	2.5	2.0
Accident seriousness rate (employees) ■	0.11	0.1	0.06
Number of fatal accidents (employees) ■	3	2	0
Number of fatal accidents (subcontractors)	3	11	4
Women in the workforce (%) ■■	21.5	25.1	26.1
Women in management positions (%) ■■	24.1	28.9	29.9
Gender pay gap (%)	-	-	1.73
Trained workforce (%) ■■	70.1	82	83.8
Hours of training (no.) ■	2,963,242	2,254,023	2,126,584
Percentage of apprentices in France (%) ■	6.7	7.2	7.7
Overall employment rate of employees with disabilities in France (%)	3.7	3.4	3.4
Employee engagement (%) ■	83	83	86
Employee shareholding (% of share capital held)	3.2	3.2	3.9

<b>SOCIETAL INDICATORS</b>	<b>2020</b>	<b>2021<sup>(*)</sup></b>	<b>2022<sup>(*)</sup></b>
Percentage of activities with a societal plan for stakeholder consultation (%)	10	37	46
Percentage of activities with an environmental plan drawn up in consultation with stakeholders (%)	21	37	53
Responsible purchasing index (excluding energy): CSR assessment and inclusive purchasing	25	40	38
Number of Elec Vert + customers in France (2024 target: 300,000)	15,000	53,000	222,000
Number of customers in France who joined "Mon programme pour agir" (target: 1 million by end-2023)	168,000	85,000	500,000
Number of beneficiaries with access to sustainable energy (in millions)	6	7	9.5

<b>GOVERNANCE INDICATORS</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Number of directors (post-Shareholders' Meeting in year N+1)	14	14	
Number of nationalities represented on the Board of Directors (post-Shareholders' Meeting in year N+1)	4	4	
Attendance rate on the Board of Directors (%)	98	100	100
Independence rate of the Board of Directors (%) (post-Shareholders' Meeting in year N+1)	60	60	
Gender diversity rate of the Board of Directors (%) (post-Shareholders' Meeting in year N+1)	50	50	
Senior managers trained in combating corruption (%)	86	96	100
Training of staff most exposed to the risk of corruption (%)	21	49	55



# CLIMATE NOTEBOOK / TCFD REPORT

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**66**

The climate strategy pursued

**68**

Climate objectives  
and associated action plan

**72**

A look at the risks  
and opportunities

**74**

Climate governance

**78**

Our decarbonization in figures

# THE CLIMATE STRATEGY PURSUED

**ENGIE has set a goal of reaching Net Zero Carbon <sup>(1)</sup> throughout its entire value chain (scope 1, 2 and 3) by 2045, following a well-below 2°C trajectory certified by the Science Based Target initiative (SBTi) in February 2023. In this way, the Group is reducing its direct and indirect greenhouse gases (GHG) emissions by at least 90% compared with 2017 <sup>(2)</sup>. At the same time, it plans to work on the development of carbon sinks in order to neutralize its residual emissions over the long term and thus contribute at the right level to planetary carbon neutrality. The Group is also committed to supporting its customers in the reduction of their GHG emissions in order to accelerate the decarbonization of its own value chain.**

ENGIE’s strategy to decarbonize its value chain is based on three pillars (Reduce, Avoid and Remove) in line with the methodological framework of the Net Zero Initiative: <sup>(3)</sup>

<p><b>Reduce ENGIE’s GHG emissions</b></p> <p>First, reduce the direct and indirect GHG emissions resulting from ENGIE’s activities by at least 90% compared compared to 2017</p>	<p><b>Remove carbon from the atmosphere</b></p> <p>Then, increase carbon sinks to neutralize the last residual emissions that are the most difficult to abate.</p>	<p><b>Avoid customers’ GHG emissions through ENGIE’s solutions</b></p> <p>Support customers’ decarbonization so that they can reduce their GHG emissions.</p>
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### ENGIE’s 2045 Net Zero Carbon target

(1) Definition of the SBTi’s Net Zero standard (2) Baseline year for ENGIE’s climate targets defined with the SBTi (3) Carbone 4 initiative supported by ADEME

### ENGIE’S VISION FOR THE ENERGY TRANSITION IN EUROPE

Given the prevailing uncertainty regarding the evolution of the energy mix, public policies and the development of the sectors, ENGIE is building different scenarios for Europe’s energy future. Each scenario quantifies the volumes and prices of the main commodities (electricity, gas, coal, hydrogen, oil and CO<sub>2</sub>) of the 19 main European energy markets between 2023 and 2050.

The reference decarbonization trajectory chosen by ENGIE focuses on a balanced mix, in which renewable gases along with electrification of usages all have their benefits, in order to guarantee the best levels of efficiency and resilience of the energy system. In addition,

energy sufficiency and efficiency are an integral part of the efforts to reduce GHG emissions.

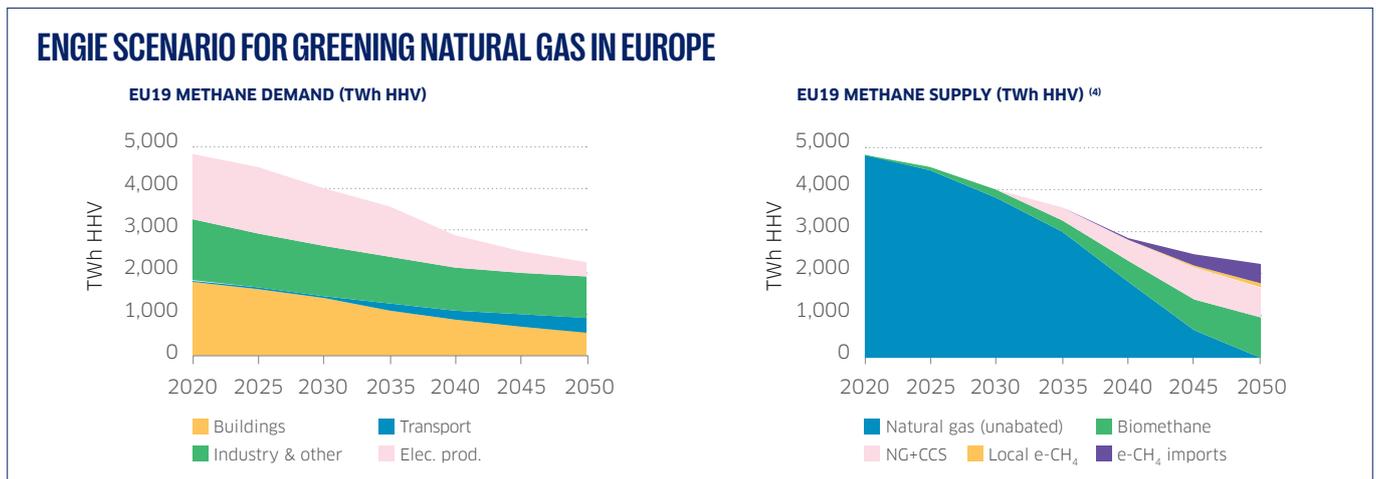
Studies carried out by the Group for the European scope have shown that large-scale electrification would generate additional costs of more than 15% by 2050 and would result in increased vulnerability of the electricity system. The Group also believes that the use of a wider range of decarbonization options puts energy system players in a better position to benefit from technological progress and meet the needs of flexibility inherent to the energy market. It would also reduce the economic and political pressure on electricity infrastructures (new lines to be built, acceptability of decarbonized

production assets, whether it is wind, solar or nuclear).

Different gases will contribute to the energy system of tomorrow. Biomethane, the first contributor, is part of a circular economy, decentralized solutions and creates local jobs. It can be injected into all existing networks without adaptation.

Renewable hydrogen produced by electrolysis from renewable energy sources will be key to decarbonizing high-temperature industrial processes and heavy transport.

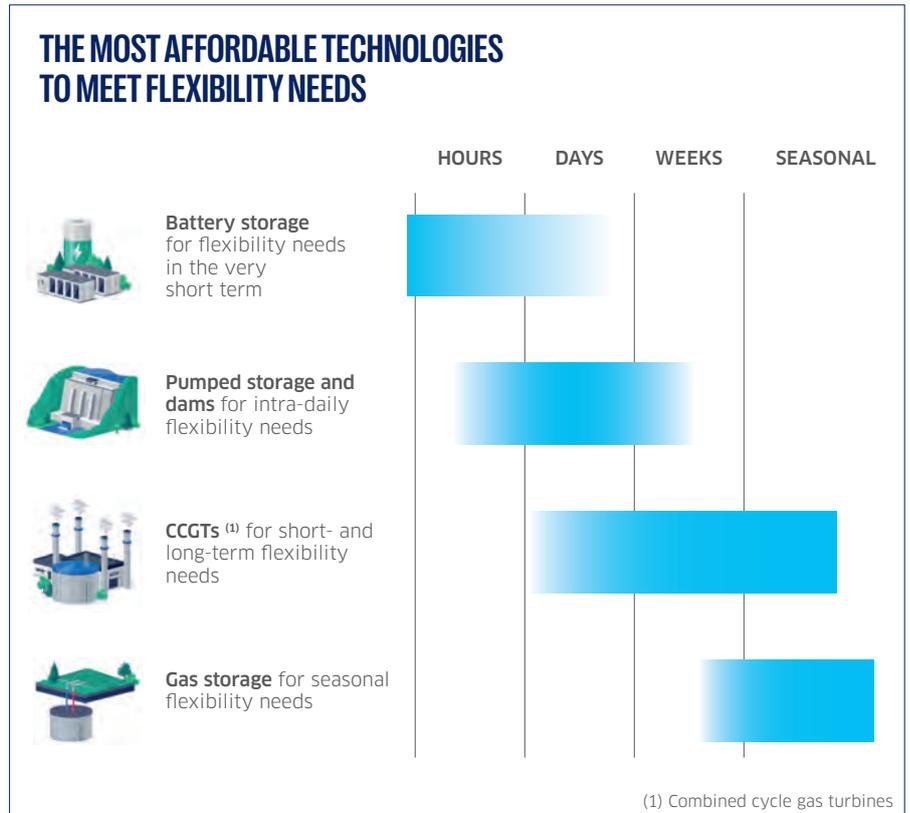
Finally, synthetic methane will complete the possible solutions. More details on the role of renewable gases can be found in the “renewable gases” notebook.



(4) This chart tracks methane demand only. It should be noted that ENGIE’s reference decarbonization scenario integrates hydrogen for approximately 1,000 TWh HHV in 2050 (excluding e-CH<sub>4</sub>).

## THE ROLE OF GAS IN THE DECARBONIZATION OF THE ENERGY SECTOR

- 1 A need for supply security:**  
The Group's gas-fired energy production assets (combined cycle gas turbines, or CCGTs) are essential today to the security and balance of the energy systems of which they are part. In 2022, for example, gas assets played a central role in the balance of the French electrical power system when there was strong pressure on supply.
- 2 Needs for balance and flexibility:**  
In an electricity mix dominated by intermittent renewable energy, the need for flexibility solutions to ensure the balance of the energy system will increase significantly (fourfold increase in 2035 according to the IEA in its Net Zero Emissions scenario). In the medium-term, only thermal assets can provide this flexibility on an intra-weekly and inter-seasonal basis.
- 3 Decarbonization of gas assets in the long term:**  
Over the long-term, the fleet of thermal assets will progressively decline (end of life of power plants, partially replaced by renewable production), but the remaining assets will stay to help balance the system (peak assets). In addition, biomethane and renewable hydrogen will contribute to the decarbonization of gas-fired thermal plants by 2040-2045.



## THE TRAJECTORY SELECTED

Already certified for a 2°C trajectory by the SBTi since 2020, ENGIE earned its new well-below 2°C certification early in 2023 with new targets for 2030 (see p. 79). ENGIE committed to reduce the carbon intensity related to energy generation and consumption (scope 1 and 2) that goes beyond the SBTi requirements with a commitment of -66% over the period from 2017-2030 instead of the -55% required by the SBTi.

Projections for use of gas-fired thermal power plants do not currently allow ENGIE to commit to a trajectory of 1.5°C, which would require a 78% reduction in carbon intensity over the same period. Such a reduction could not be achieved without the disposal of assets. These assets could not be closed. Indeed, these thermal assets could not be closed, otherwise the security of the electrical system to which they are connected would be jeopardized. They would thus continue to emit GHG emissions. ENGIE is therefore playing its role as an industrial company engaged in the energy transition, remaining at this stage a key player in thermal generation, resolutely committed to decarbonizing these assets with different technologies (biomethane, carbon capture and, depending on technological developments, renewable hydrogen). To fully industrialize these technologies, despite promising changes in the regulatory framework (particularly in the EU), we believe that the credible horizon is 2040-2045.

# CLIMATE OBJECTIVES AND ASSOCIATED ACTION PLAN

## The levers of ENGIE's decarbonization based on medium and long term science-based targets

2030

Reduce the main sources of GHG emissions following a well-below 2°C trajectory



43 Mt CO<sub>2</sub> eq. linked to energy generation



52 Mt CO<sub>2</sub> eq. linked to the use of products sold gas sales

Remove carbon up to the residual emissions from ENGIE's activities in four countries (including Brazil) and the group's ways of working

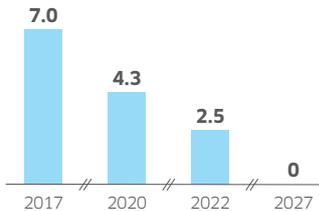
2045

ENGIE is committed to being Net Zero Carbon for all its scopes (1, 2 and 3). Reduce ENGIE's direct and indirect GHG emission by at least 90% compared to 2017. Then increase carbon sinks to neutralize the Group's residual emissions to ENGIE full value chain.

## Tracking the main decarbonization levers between 2017 and 2030

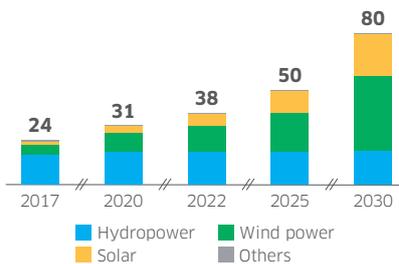
### COAL

CHANGE IN COAL-FIRED ELECTRICITY CAPACITIES (GW@100%)



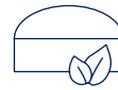
### RENEWABLE ELECTRICITY

CHANGE IN RENEWABLE ELECTRICITY CAPACITIES (GW@100%)



### RENEWABLE GASES

#### BIOMETHANE



10 TWh of biomethane produced in Europe by 2030

€2.5 bn invested in the network for biomethane connections by 2030

€3 bn invested in renewable gases (including e-CH<sub>4</sub>) by 2030

~30 TWh / year of biomethane sold by ENGIE in B2B and B2C services in 2030

50 TWh / year biomethane connected production capacity in France in 2030

#### HYDROGEN



4 GW of renewable hydrogen production capacity through electrolysis by 2030

700 km of dedicated hydrogen networks by 2030

1 TWh of hydrogen storage capacity by 2030

30 TWh of hydrogen in the managed energy portfolio by 2030

More than 100 charging stations for hydrogen vehicles by 2030

€4bn invested in hydrogen by 2030

Key changes

CAPEX 2023-25

Targets

Targets progress report between 2017 and 2030

No new investment

Between €13 bn and €14 bn

Over the entire Group, around 75% of 2023-2025 growth CAPEX will be aligned with the European taxonomy.

Coal phase-out in 2025 in continental Europe and in 2027 worldwide

50 GW of renewable capacity in 2025 and 80 GW in 2030

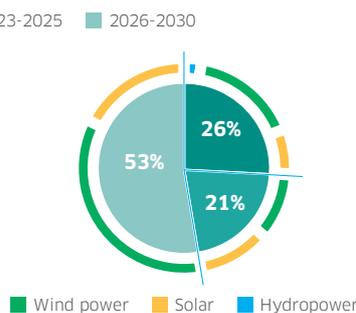
COAL PHASE-OUT  
In number of electrical and heating assets



Conversion Closure Sale

ENGIE is establishing a strategy to move away from coal in the following merit order: closure, conversion, then, if not possible, sale, ensuring a continuous dialog with stakeholders (ENGIE Just Transition policy)

DEVELOPMENT OF RENEWABLES  
In capacities(GW@100%)



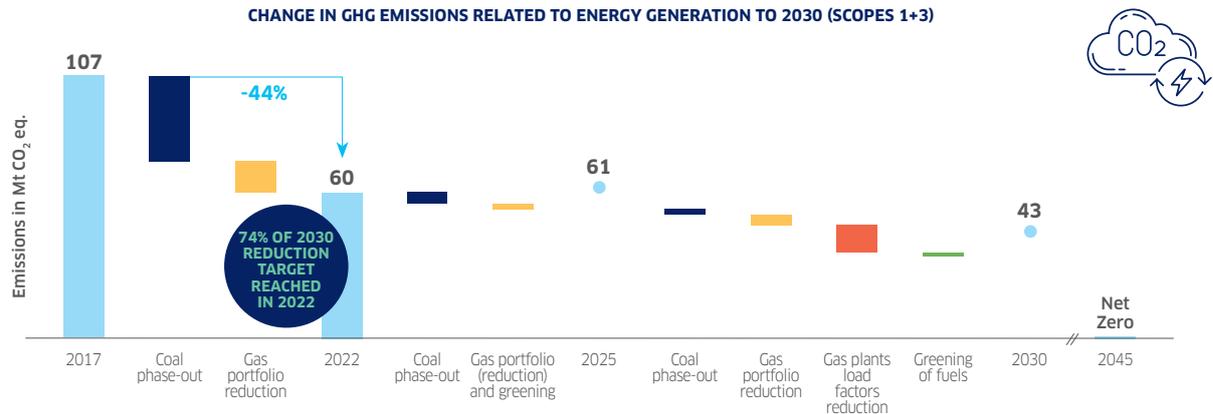
Wind power Solar Hydropower

ENGIE targets to reach 58% of renewables capacity in its energy production by 2030, with a target for commissioning solar and wind power capacity at 4 GW per year on average in 2022-2025 and 6 GW per year in 2026-2030.

### DECARBONIZE ENERGY PRODUCTION (SCOPES 1 AND 3)

The GHG emissions related to ENGIE's energy production (electricity, heating and cooling) have decreased by 44% since 2017 over all of scope 1 (direct emissions associated with fully and proportionately consolidated assets) and scope 3 (indirect emissions associated with ENGIE equity associates). This represents 74% of the reduction target to reach 43 Mt CO<sub>2</sub> eq. in 2030 versus 2017.

CHANGE IN GHG EMISSIONS RELATED TO ENERGY GENERATION TO 2030 (SCOPES 1+3)



Four primary levers are used: the phase-out from coal, the reduction of the gas-fired power plants (closure of several plants at the end of life), the reduction in the utilization time of gas assets (reduction of the load factors) and the decarbonization of the heating networks.

Between 2017 and 2022, thermal generation (coal and gas) fell by 22% (-35 TWh). In 2030, gas-fired power plants in Europe will act primarily as flexible capacity to support the development of renewable energy.

The Group currently estimates that the Ukrainian crisis accelerated the decreases in the use of fossil gas and the utilization rate of our power plants over the 2025-2030 period; the uncertainties related to the evolution of the energy system make any increase in the 2030 targets difficult at this stage.

The strong growth in the centralized renewable fleet, as a replacement for thermal assets, plays an essential role in the Group's decarbonization and enabled a reduction from 343 gCO<sub>2</sub> eq. / kWh to

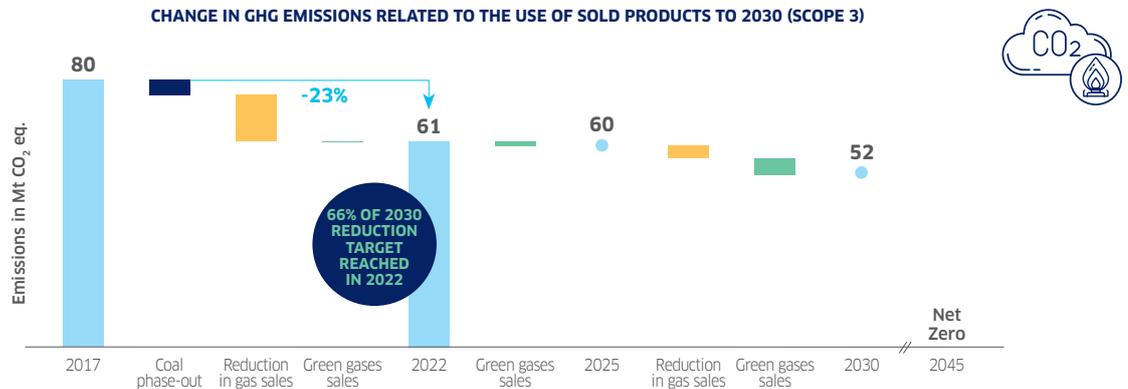
216 gCO<sub>2</sub> eq. / kWh in the carbon intensity of the energy production (scopes 1+3) between 2017 and 2022. This is ENGIE's first decarbonization lever and will count for around half of the decrease in carbon intensity over the 2017-2030 period.

Moreover, in 2022, renewable energy and recovery energy represented more than 50% of the energy mix of ENGIE's large heating networks and industrial services in France.

### DECARBONIZE THE USE OF THE SOLD PRODUCTS (GAS SALES)

GHG emissions linked to the use of the sold products (sales of fuels, primarily natural gas) have fallen by 23% since 2017. This represents 66% of the reduction target to reach 52 Mt CO<sub>2</sub> eq. in 2030 versus 2017.

CHANGE IN GHG EMISSIONS RELATED TO THE USE OF SOLD PRODUCTS TO 2030 (SCOPE 3)



Three main levers are used: the end of coal sales since 2017, the reduction in gas sales (related to energy sufficiency, energy efficiency and the transfer to other energy vectors) as well as the greening of

sales (biomethane and hydrogen). This last lever will become more important between 2022 and 2030, before becoming the first decarbonization lever between 2030 and 2045. All the reductions in sales

volumes between 2017 and 2022 have been replaced by the development of renewable electricity sales.

### DECARBONIZE IN THE LONG TERM (2030-2045)

Over the longer term, the Group will continue to use all the levers presented and is targeting a reduction of at least 90% in its absolute emissions compared to 2017 across all scopes. Massive use of renewable gases (biomethane, renewable hydrogen, etc.)

will progressively become the Group's primary decarbonization lever with renewable electricity capacity, ahead of the overall reduction of fossil gas. To a lesser extent, carbon capture (CCS) technologies will help the Group to achieve its 2045 targets. To become competitive, renewable gases will have to benefit from public

support, the creation of partnerships and market mechanisms in order to scale up these new energy vectors. This will also imply an adaptation of existing gas networks in order to achieve the goal (in the case of France) of 100% renewable gases in the transport and distribution networks in 2050.

## DECARBONIZE ENGIE'S OTHER ACTIVITIES

### GHG emissions related to suppliers (5% of the carbon footprint)

ENGIE is committed to supporting its top 250 preferred suppliers (excluding energy purchase) so that they are all certified or aligned with the Science Based Target initiative by 2030.

This would cover 20% of the Group's purchases in terms of expenses. At the end of 2022, 23% of the top 250 preferred suppliers were already certified or aligned.

As a founding member of the First Movers coalition – which aims to accelerate the creation of a competitive and carbon neutral supply chain – ENGIE is committed to ensuring that 10% of its wind turbines will be made of low-carbon steel by 2030.

In the second half of 2022, ENGIE launched a dialog, primarily via the suppliers day, with its 400 largest suppliers in terms of GHG footprint (28% of the purchasing carbon footprint) in order to understand their maturity with respect to decarbonization (effective measure over their 3 scopes, calculated figures and restrictions, etc.) This will allow the launch, in the near future, of the first industrial projects to decarbonize the Group's procurement.

### Methane emissions from the gas networks (1% of the carbon footprint)

The methane emissions related to gas networks controlled or operated by the Group are primarily due to venting safety procedures.

ENGIE has been committed for many years to reducing these methane emissions which accounted for 1.3 Mt CO<sub>2</sub> eq in 2022.

In 2020, the Group's French subsidiaries (GrDF, GRTgaz, Elengy and Storengy) joined the Oil & Gas Methane Partnership 2.0 (OGMP), an initiative managed by the United Nations Environment Program, which intends to share an internationally recognized reporting framework and minimize the associated methane emissions. In this respect, these operators were classified in 2022 at the highest level of commitment – the "gold standard."

Today, ENGIE is moving ahead and has set a target of a worldwide reduction of 30% in its methane emissions related to its consolidated gas networks (transport, distribution, LNG terminals and storage) between 2017 and 2030.

It should be noted that the management of energy networks (electricity and gas) involves GHG emissions whether it is the losses of the electrical grids or the methane emissions in the gas networks. Thus, in France for example, these networks result in fewer emissions per MWh, despite the global warming potential of the methane and the low carbon intensity of the electricity.

### Emissions related to ways of working (0.15% of the carbon footprint)

ENGIE has set a Net Zero 2030 target related to its ways of working.

The goal is to reduce the Group's carbon footprint related to the buildings, digital tools and practices, travel, home-work commutes and vehicle fleets.

Employees are involved in such processes so as to identify and share best practices. This approach is complemented by an ongoing training program and a review of the associated Group policies (purchasing, real estate and IT policies in particular).

Reaching net zero by 2030 will be made possible thanks to two main levers:

-35% of the electricity consumption of the buildings between 2019 and 2030 and 100% of vehicle replacements with low-emission vehicles by 2030.

With the current energy crisis, ENGIE also set up a sufficiency plan in 2022 designed to reduce the consumption of buildings by 15% (winter period in Europe), through measures related to heating and air conditioning notably.

## NEW TARGET FOR METHANE EMISSIONS



# 30%

reduction in methane emissions between 2017 and 2030 worldwide

### OGMP COMMITMENTS

Oil & Gas Methane Partnership (OGMP) 2.0 aimed at reducing the methane emissions of the networks



CH<sub>4</sub><sup>(1)</sup> intensity of 0.125% by 2025



-80% CH<sub>4</sub> emissions in 2025 compared with 2016



-25% CH<sub>4</sub> emissions in France; -45% in the United Kingdom; -35% in Germany in 2025 compared with 2016



-30% CH<sub>4</sub> emissions in 2025 compared with 2015

(1) CH<sub>4</sub> emissions / volume of gas distributed

**DECARBONIZE OUR CUSTOMERS THROUGH OUR PRODUCTS AND SERVICES**

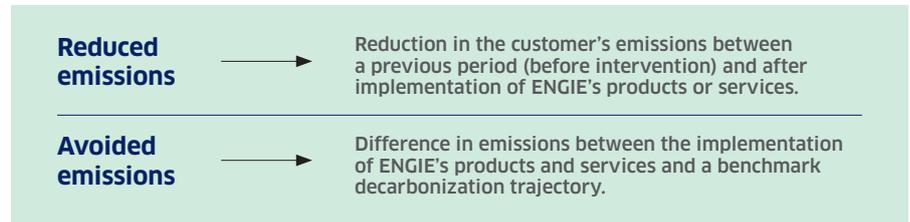
ENGIE's purpose is to act to accelerate the transition to a carbon-neutral economy, through lower-energy solutions that are more respectful of the environment. Within this framework, the Group's goal is to offer its customers products and services that can reduce their carbon footprint.

In 2020, ENGIE developed a methodology to quantify avoided emissions and set a goal of contributing to decarbonizing its customers by 2030.

In 2022, the Group's contribution to customer decarbonization was 28 Mt CO<sub>2</sub> eq.

The Group is involved in international working groups such as the World

Business Council for Sustainable Development (WBCSD) and the Net Zero Initiative in an effort to accelerate development of a comparable indicator that can be used by all.



**THE MÖLNLYCKE PLANT IN MALAYSIA**

Mölnlycke is a world leader in the supply of medical products and solutions. By using ENGIE's Utilities-as-a-Service solutions (integrated management of the production, operations and maintenance processes by ENGIE), the plants will be able to improve the energy efficiency of their processes and be more energy independent through renewable production on site. In this way, Mölnlycke will be able to reduce the carbon footprint of all its sites in Malaysia by up to 40% by 2030 (a target of 29,000 tons of CO<sub>2</sub> emissions avoided per year).

**Thermal oil heating system**  
The heating systems, fuel tanks and flue gas chimneys facilitate the supply of thermal oil to support the manufacturing processes.

**Cold water and iced water systems**  
The coolers supply cold water and iced water for the plant's operational needs.

**Compressed air system**  
Air compressors and an air tank supply compressed air for manufacturing processes.

**Cooling towers**  
The cooling towers support the cold water and iced water systems.

**Rooftop solar panels**  
1 MWp of solar panels to supply renewable energy to the plant will be installed, thus reducing dependence on the electricity network.

**SUPPORTING ENERGY SOBRIETY**

Together with its 22 million B2C customers, ENGIE contributes to societal behavioral change. For example, with *Mon Programme pour Agir (My Program to Act)*, the Group rewards customers who consume less and better and gives them the power to act for the ecological transition.

Today, there are 500,000 active customers, 89 environmental and societal projects and startups supported, and 145,000 participants to the electricity reduction challenges for total savings of 21 GWh (annual consumption of approximately 2,000 average French households of four people). In addition, *Mon Pilotage Elec (My Electricity Management)*

allows customers to manage their electric convectors remotely and thus to achieve energy savings up to 15% on their heating. In three years, the program is expected to reach an electricity network shedding capacity of nearly 100 MW.

# A LOOK AT THE RISKS AND OPPORTUNITIES

## TRANSITION RISKS REVIEW – CLIMATE MITIGATION

### ENGIE gas networks: a necessary transformation toward total decarbonization

The reduction of the volume of gas in certain networks (transport, storage or distribution) or in certain sectors (buildings, electricity production) and the imposition of stricter carbon criteria for methane currently represent the most significant risks for ENGIE's activities and for its gas networks in particular.

- ➔ The acceleration of Europe's climate ambitions cannot be accomplished without the use of these assets, which guarantee European energy security and decarbonization through their transformation.
- Continuity of the methane supply and the coupling of different energy vectors are essential for a decarbonized energy system since they can support the electricity network during demand peaks. This is especially true with the development of hybrid heat pumps.
  - French networks guarantee the gas supply in Europe in a complex geopolitical environment and will, in the future, enable the distribution of biomethane synthetic gas and even hydrogen. They provide assurance to the French and European system in the event of incidents on the other energy vectors (unavailability or delay in the nuclear fleet, for example).
  - Finally, a good portion of the transport or storage network can be converted to hydrogen.

### Low carbon gas: promising technologies to be industrialized

Accelerating decarbonization is also based on a massive roll-out of low carbon gases (biomethane, hydrogen and synthetic methane), which requires substantial investment in capital and human resources. These technologies remain exposed to regulatory constraints and growing conflicts of use (e.g. wood energy or agricultural waste). Sufficient production quantities will be necessary, particularly to guarantee the continuity of the gas-fired power plants, which are responsible for ensuring the balance of the electricity networks. The need to transform or build adapted networks could also delay the hydrogen economy.

- ➔ The Group is committed to a proactive role in low carbon gases to minimize the hazards to its business and push back these technological boundaries. ENGIE thus plays a significant role in developing the new technologies around 2G biomethane and synthetic molecules (ENGIE Lab), as well as CCS (Carbon Capture and Storage), which will support decarbonization efforts.



### Renewable electricity: a supply chain that is mature but under pressure and a growing demand for exemplary behavior

The supply of renewable electricity is a key element in ENGIE's decarbonization. At a time of accelerated development of new installed capacities, the manufacturing ability of the wind and solar components and batteries industry will determine the extent to which operators are able to meet their climate ambitions.

- ➔ Thus, the value chain is a key element in the strategy implemented by ENGIE, which has set up an action plan designed to best integrate these risks in investment decisions, reduce its exposure to them by promoting the re-use and eco-design of turbine components (the Zebra project) or solar panels and diversify its supply chain.

### An ambition facing major social and societal challenges

The energy transition that ENGIE is undertaking includes major social transformations, particularly with employees, the regions, customers and suppliers. These transformations carry a reputational and development risk for the Group, such as the exclusion from certain markets on the basis of the requirements in bid tenders and their criteria for sustainability, or the lack of competitiveness to attract talent.

- ➔ In addition to its climate ambitions, the Group is also committed to a Just Transition (see the dedicated notebook) to assist its most disadvantaged customers, the regions in which the Group operates and the employees when fossil activities are closed down especially in the case of the coal phase-out the coal phase-out. Development of renewable energy, both mature and in development, requires an increase in training that is both quantitative (number of persons trained) and qualitative (level of expertise). In this regard, ENGIE has set up training courses to enhance the skills of its employees (*Renewables Academy*).

The Group also launched a study on the transition risk related to a European alignment with a 1.5°C trajectory; the results will be communicated in accordance with the CSRD Directive.<sup>(1)</sup>

(1) Corporate Standard Reporting Directive

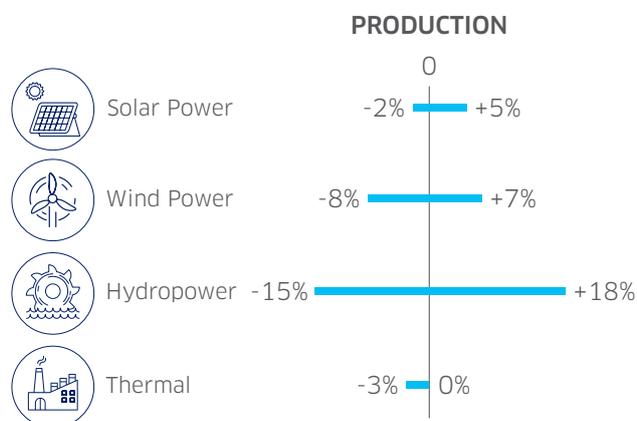
## PHYSICAL RISKS REVIEW – CLIMATE ADAPTATION

Workstream have been carried out at Engie for four years to anticipate the chronic impact of climate change on production for the different technologies as well as the impact of the evolution of extreme events on the Group's assets. They were made possible thanks to the collaboration with the Institut Pierre Simon Laplace on one side and the mobilization of the Group's operational experts on the other side.

**Evolution of production.** While renewable energy (solar, wind and hydro) is essential in building a Net Zero Carbon system, it remains the most affected by the physical impacts of climate change. In the regions where ENGIE operates, hydroelectric generation is the most exposed technology with the strong variations in annual and infra-annual generation expected between now and 2050. Conversely, thermal assets are expected to be particularly resilient in terms of production variation.

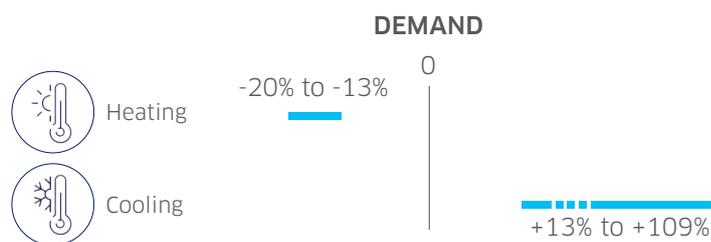
### Examples of existing impacts due to climate change

- **Cold wave in Texas:** -€30 to €40 million on net income loss
- **Drought in France and Portugal in 2022:** buybacks of 1.3 TWh for 127 M€ EBIT



Minimum and maximum evolutions of ENGIE's existing sites between 2020 and 2050 according to a high warming scenario (RCP8.5).

**Change in demand.** The impact of climate change on the change in demand results in a change in heating and cooling needs. Heating needs should decline sharply, while cooling needs are expected to increase massively over the coming decades.



Evolution between 2020 and 2050 according to a significant warming scenario (RCP8.5) on median demand in the countries where ENGIE operates heating and cooling activities.

**Integrity of the facilities.** Asset integrity may be affected by the increase in the number of extreme events. For the last three years, the Group has organized itself to boost its resilience against four major risks: heatwaves, drought, floods and extreme winds. In 2023, mud slides, forest fires and extreme rainfall (for hydraulic activities) and the temperature of rivers (for thermal activities) will also be studied.

### Examples of existing impacts due to climate change

- **Summer 2021:** Inability of firefighters to come to a site adjacent to Elengy because of too many local fires
- **Summer 2022:** Damage to the foundations of a solar facility in Italy due to drought

**Health of employees and subcontractors.** In addition to the risks discussed above, particular attention is paid to the impact of extreme heat and thermal stress (combination of temperature and humidity) on employees and subcontractors.

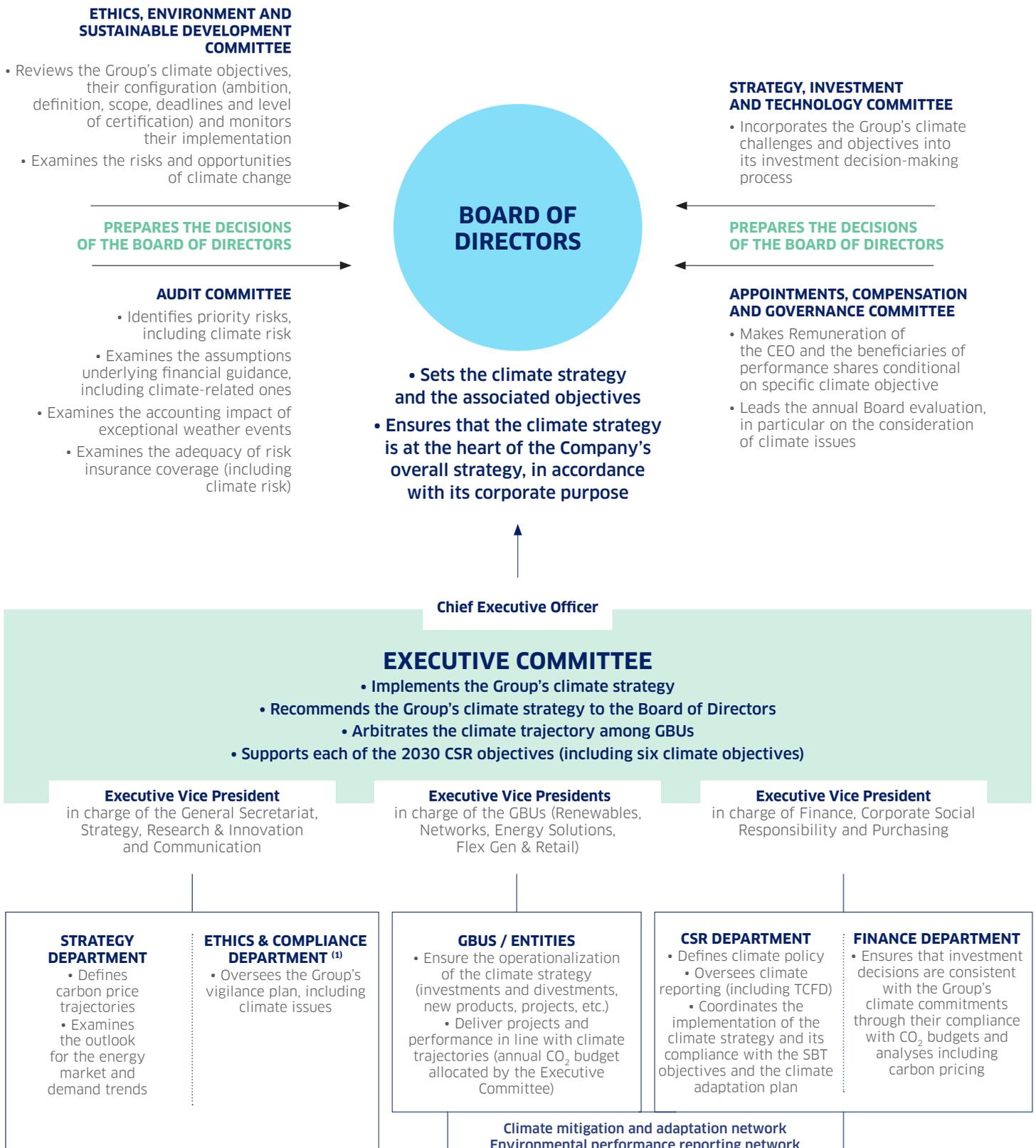
### Examples of existing impacts due to climate change

- **Summer 2021:** Inability of ENGIE employees in the Middle East to come to work because of extreme heat (+50°C)
- **Summer 2022:** Support of the housing relocation of ENGIE employees in Pakistan in order to ensure continuity of service following floods

All this work allows for the development of adaptation plans for the Group's assets and activities (currently being rolled out after a pilot phase in 2022) as well as the integration of the impact of climate change in the Group's investment decision-making process (see page 76).

# CLIMATE GOVERNANCE

Implementing the Net Zero Carbon trajectory across all ENGIE’s activities required the adaptation of various governance processes. Whether at the level of corporate governing functions, investment processes or Research and Innovation, climate challenges permeate all the Group’s decision-making channels.

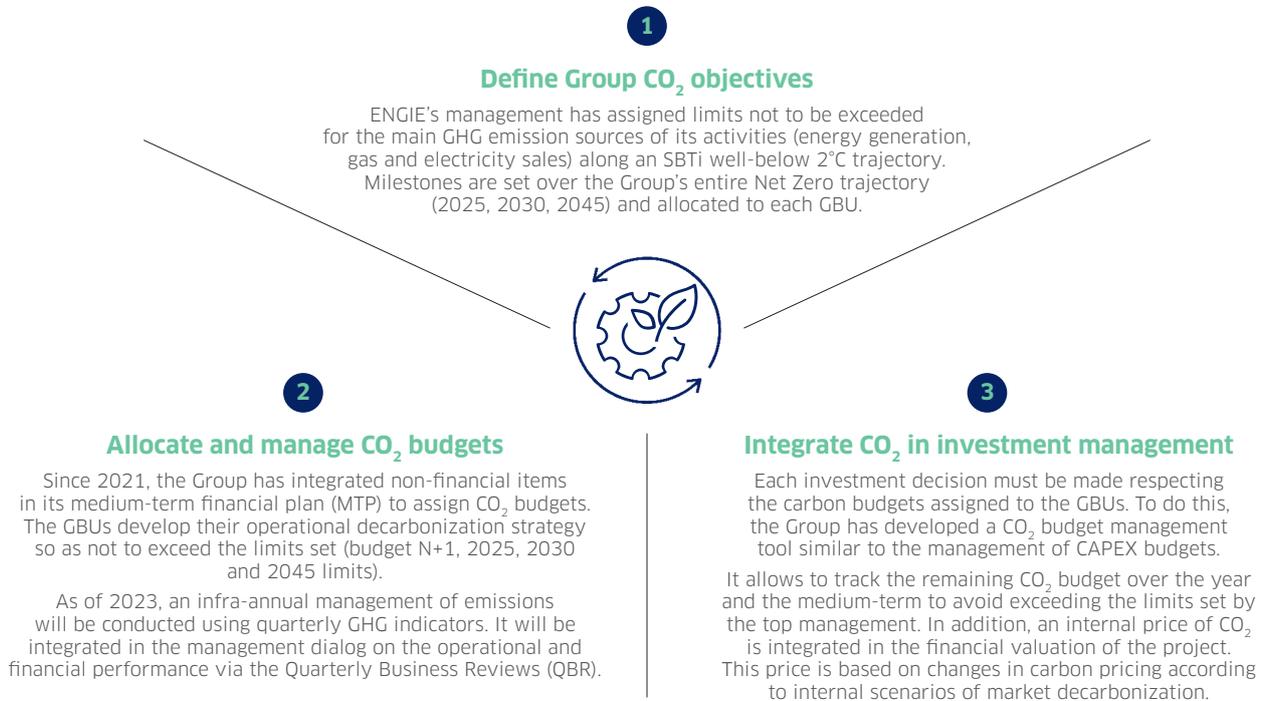


(1) Reporting to the Legal, Ethics and Compliance Department

## MITIGATION

### REDUCE OUR EMISSIONS USING HIGH-PERFORMANCE MANAGEMENT TOOLS

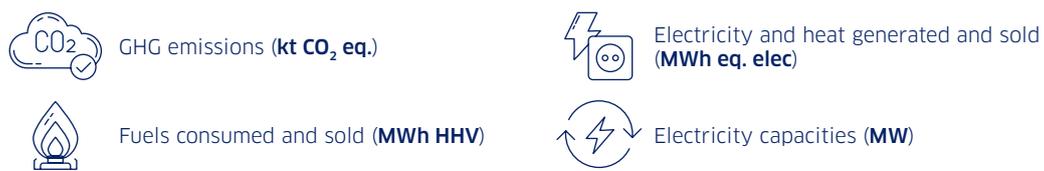
To achieve its reduction targets for CO<sub>2</sub> emissions, the Group has developed dual capital financial and carbon accounting, using management tools for both long-term strategic projections and investment decisions, as well as for infra-annual operational management.



## THE CO<sub>2</sub> MEDIUM-TERM PLAN (CO<sub>2</sub> MTP)

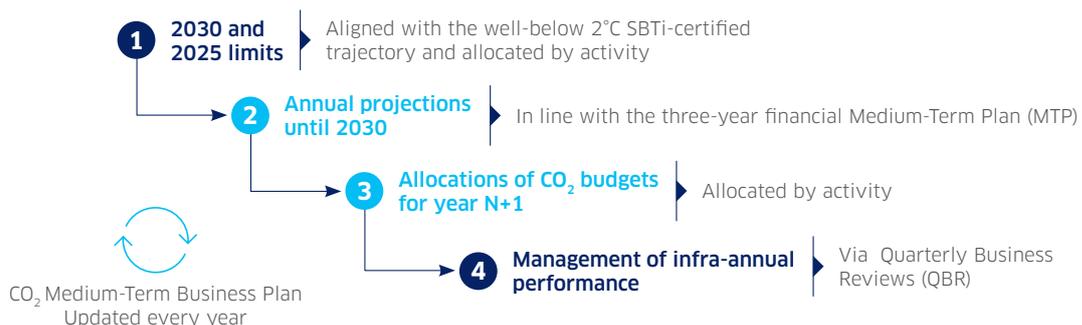
**A granular projection model, based on in-depth knowledge of the Group's operational performance.**

2030 projection of the Group's generation activities and energy sales via the consolidation of the following indicators:



- ➔ based on operational assumptions common to the entire Group, combined with internal scenarios on market decarbonization;
- ➔ at the level of each sales entity and each generation asset (as a function of their technology, load factors, country, consolidation methods, etc.).

A reliable management process that secures the execution of the Group's climate strategy:



The trajectories are consolidated in a CO<sub>2</sub> performance cockpit shared with top management.

## ADAPTATION

### PREPARE RESILIENCE BY MOBILIZING ALL EXISTING PROCESSES

1

#### Mobilize research and innovation

To reach a better understanding of climate change and its impacts on ENGIE, a partnership with the Institut Pierre Simon Laplace has been signed.

The goal is to model, as precisely as possible, future trends in energy production as a function of climate change scenarios (RCP 4.4 and RCP 8.5) as well as the impact of extreme events on all the Group's technologies in the different regions of the world.

2

#### Revise strategic processes

The impact of climate change on the Group's strategy is also studied as part of a country-by-country approach or through an analysis of the major climate regions that are of interest to ENGIE. The Group examines this impact according to four main factors: country risk, the value of existing assets, the strategic objectives for 2030 and strategic challenges specific to the countries studied in the context of the three IPCC climate scenarios (RCP 2.6, RCP 4.5 and RCP 8.5).



3

#### Integrate adaptation within the risk management process

The principal focus for increasing asset resilience is the integration of the physical risks of climate change into the Group's ERM (Enterprise Risk Management) process. Various risks are studied:

- changes in production / energy demand.
- the integrity of assets in relation with the evolution of extreme events. The reduction in insurance coverage, the increase in premiums and the risks incurred via the supply chains are also taken into account.
- the health and well-being of employees, particularly because of changes in thermal stresses.

4

#### Integrate the impact of climate change in the management of investments

Adaptation to the physical risks of climate change is embedded in the Group's investment process. Before any new investment, an analysis of sensitivity to the change in production or energy demand and the evolution of extreme events is computed.

The Group's climate road map is built on interactions with nature-related issues as well as societal-related issues, more particularly, the imperative for a just transition.

### NATURE

Responses to climate challenges are intrinsically linked to those of nature: on one hand, climate disruption is one of the five causes of the biodiversity collapse, while on the other, Nature-based Solutions are a credible response to the need for resilience. The Group is committed to limiting its impact on the other planetary boundaries with targets for biodiversity, water, forests, pollution, waste, etc. (see biodiversity notebook)

### JUST TRANSITION

The Group must meet the important challenge of a just transition that includes the human impacts of such a transformation (see Just Transition notebook).

- In several cases, the social dimension was the first reason for the sale of assets, at the request of local authorities for example.
- In the same way, the participation of the regions is a necessary condition for the successful development of renewable energy.

### RESOURCES

Questions of resource availability arise both when it comes to the end of fossil fuels and to the development of renewable energy. The Group notably conducts studies on the following issues:

- Criticalities of certain resources required for the successful development of renewable energy.
- Conflicts of usages on certain renewable resources such as wood biomass.

## DEVELOP SUSTAINABLE FINANCE

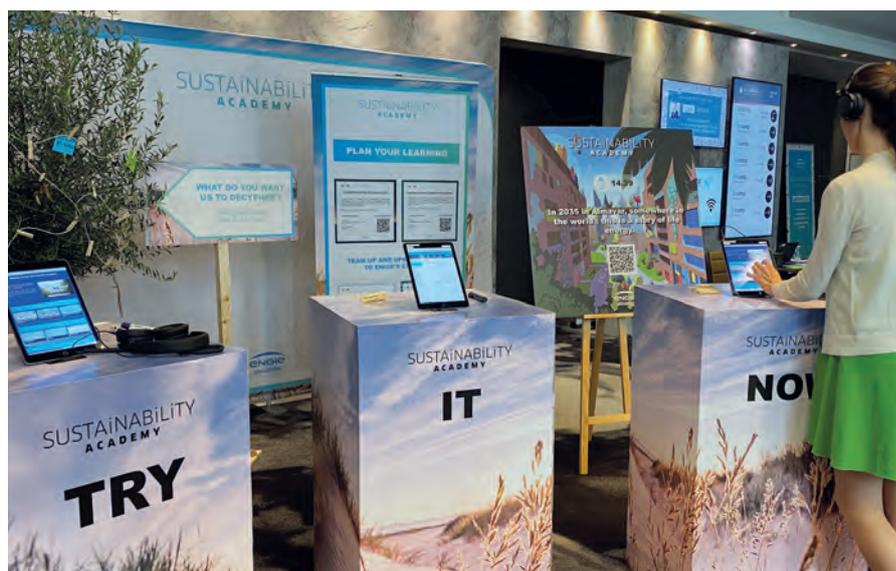
The Group is one of the leading corporate issuers of green bonds with nearly €18 billion of green bonds issued since 2014. In addition, the Group has incorporated, in its syndicated credit lines, margin adjustment mechanisms linked to compliance with annual CO<sub>2</sub> performance indicators.

## CORRELATE COMPENSATION WITH THE ACHIEVEMENT OF CLIMATE OBJECTIVES

The compensation policies for senior executives and the Chief Executive Officer incorporate criteria related to the Group's climate objectives. The Chief Executive Officer's variable compensation is therefore partly dependent on meeting the objective of reducing CO<sub>2</sub> emissions related to energy production. In 2023, this objective represents 10% of the non-financial criteria of the annual variable portion. In addition, the Group's performance shares (long-term incentives) granted to the Chief Executive Officer, all senior executives and 5,000 employees include climate criteria, with 10% of those on CO<sub>2</sub> emissions related to energy production and 5% related to the percentage of renewables in the Group's electricity mix capacities.

## TRAIN THE TEAMS IN CLIMATE CHALLENGES

The Group believes that acculturation, skills development and the commitment of its employees are a powerful lever to support the transformation of its business. Thus, ENGIE decided to create the Sustainability Academy in 2021. Through in-house courses, the academy aims to explain the Group's strategy in terms of environmental, social and governance issues, to give it meaning and to explore its implementation. E-modules, podcasts, climate and biodiversity fresks, workshops, challenges around sustainability, or learning expeditions -, a number of modules have been rolled out. In addition, the Group offers all its employees different training programs (Sustainable Business for All, Energy Revolution Toward Decarbonization), some of which dedicated to certain activities (Sustainability with my Clients in the business development and sales division).



Moreover, after the first Graduate Program "100% Renewable Energy" launched in 2020, the Renewables Academy was created in 2022 with the aim of training and increasing the skills of the Group's employees in the renewable energy businesses.

The expertise of ENGIE's Board of Directors is also a strong lever for the success of ENGIE's decarbonization strategy and achievement of its climate objectives. Over 2022, four information meetings were delivered in relation with CSR and non-financial reporting, the energy transitions scenarios, the critical impacts on its supply chain and the global energy landscape.

## ALIGN LOBBYING ACTIVITIES WITH THE PARIS AGREEMENT

In accordance with its commitment to fight climate change and accelerate the transition to a carbon-neutral economy, ENGIE is committed to ensuring that its lobbying activities and sector associations are aligned with the objectives of the Paris Agreement and the company's climate strategy.

In 2021, ENGIE carried out a review of its membership of professional and industrial associations and conducted a detailed evaluation of the alignment of these associations with the objectives of the Paris Agreement. The evaluation document is available on the Group's website. The evaluation will be updated in the first half of 2023.

## MOBILIZE RESEARCH ON DECARBONIZATION

Comprising more than 500 employees, ENGIE's Research and Innovation division contributes through its actions and initiatives to the operational performance, the integration of technologies, new solutions in strategic areas and disruptive technology.

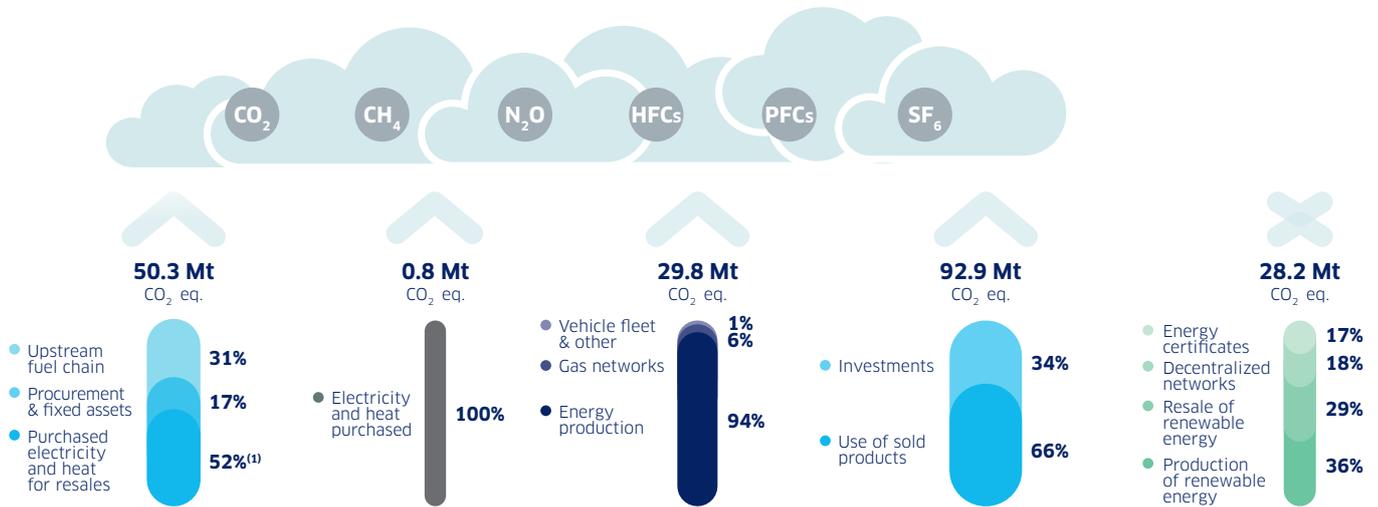
Its work is focused as a priority on the zero-carbon transition with solar and wind power and storage, the decarbonization of urban heating and cooling networks, the large-scale underground storage of hydrogen and the liquefaction of hydrogen.

The ENGIE Research and Innovation entity also finances environmental startups and develops a number of academic partnerships. The Group has notably focused on major partnerships with the Alternative Energies and Atomic Energy Commission (CEA) in France (electrolysis, photo catalysis, bio-themes and production of renewable molecules), with the National Renewable Energy Laboratory (NREL) in the United States (wind power, geothermal energy and hydrogen) and finally with EnergyVille in Belgium (solar, electro-reduction in molecules, transmission and storage of electricity).

# OUR DECARBONIZATION IN FIGURES

## ENGIE'S 2022 CARBON FOOTPRINT

33% reduction since 2017

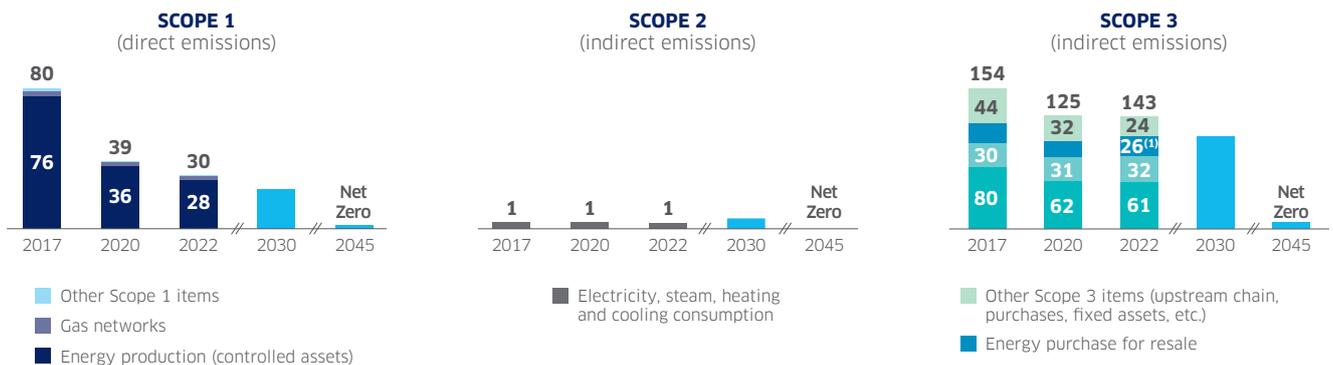


+5.3 Mt CO<sub>2</sub> eq. of biogenic emissions, related to the combustion of biomass or other organic material.

UPSTREAM INDIRECT EMISSIONS	DIRECT EMISSIONS	DOWNSTREAM INDIRECT EMISSIONS	AVOIDED EMISSIONS <sup>(2)</sup>
<b>SCOPE 3 upstream</b> <ul style="list-style-type: none"> <li>Purchased electricity and heat for resales</li> <li>Manufacture of goods, services and fixed equipment, purchased or leased by ENGIE (including their end of life)</li> <li>Upstream fuel chain (extraction and transport of raw materials)</li> </ul>	<b>SCOPE 2</b> <ul style="list-style-type: none"> <li>Production of electricity, heat or cold purchased and consumed by ENGIE for its own use</li> </ul>	<b>SCOPE 1</b> <ul style="list-style-type: none"> <li>Electricity production by combustion of fossil fuels in power plants owned or controlled by ENGIE</li> <li>Methane emissions on networks controlled by ENGIE</li> <li>ENGIE vehicle fleets</li> </ul>	<b>Scope 3 downstream</b> <ul style="list-style-type: none"> <li>End consumption of gas volumes sold by ENGIE</li> <li>Electricity production in power plants not controlled (equities) by ENGIE</li> </ul>
			<b>Decarbonization of Customers</b> <ul style="list-style-type: none"> <li>Production of energy and renewable gases</li> <li>Purchase and resale of energy and renewable gases</li> <li>Decentralized energy networks and associated services</li> <li>Marketing of energy certificates</li> </ul>

(1) The external databases used to calculate emissions related to purchased electricity and heat for resale are still under reliability improvement process. The figures could change in the coming years.  
 (2) Emissions avoided excluding the ENGIE carbon footprint

## GHG EMISSIONS SINCE 2017 (MT CO<sub>2</sub> eq.)



(1) Indicator audited for the first time in 2022

## 2030 CLIMATE OBJECTIVES

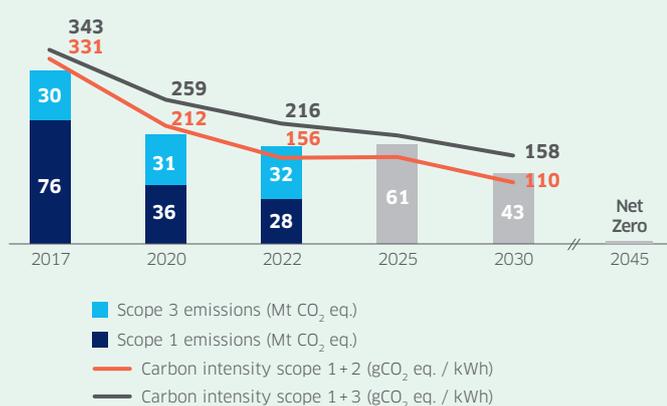
With the desire to leverage on opportunities associated with climate change challenges and to capitalize on its expertise in terms of decarbonization, ENGIE has set itself long-term as well as short- and medium-term objectives.

OUR DECARBONIZATION TARGETS	Results 2017	Results 2020	Results 2022	Objectives 2030
Carbon footprint of energy production (Mt CO <sub>2</sub> eq.) (Scopes 1 and 3.15)	107	68	60	43 Mt CO <sub>2</sub> eq.
Carbon footprint of use of sold products (Mt CO <sub>2</sub> eq.) (Scope 3.11)	80	62	61	52 Mt CO <sub>2</sub> eq.
Carbon intensity related to energy generation and consumption (gCO <sub>2</sub> eq. / kWh) (Scopes 1 and 2)	331	212	156	-66% vs 2017 110 gCO <sub>2</sub> eq. / kWh
Carbon intensity related to purchases and production of energy for resale (Scopes 1 and 3.3 and 3.15)	348	270	221	-56% vs 2017 153 gCO <sub>2</sub> eq. / kWh
Methane emissions from gas networks (Mt CO <sub>2</sub> eq.) (Scope 1)	2.0	1.5	1.3	-30% vs 2017
Decarbonization of customers: emissions avoided through ENGIE products and services (Mt CO <sub>2</sub> eq.)	N/A	21	28	45
Decarbonization of the top 250 preferred suppliers (excluding energy): portion of suppliers SBT certified or aligned	N/A	15%	23%	100% of the top 250 suppliers
Decarbonization of our ways of working: GHG emissions (Mt CO <sub>2</sub> eq.) (Scopes 1, 2 and 3)	N/A	0.49	0.26	Net Zero

## Evolution of the two main indicators of the Group's decarbonization (including carbon intensity)

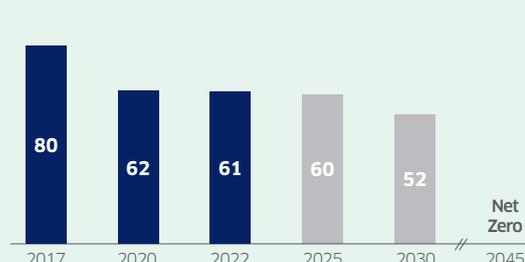
### GHG EMISSIONS FROM ENERGY PRODUCTION

(MT CO<sub>2</sub> eq.)



### GHG EMISSIONS RELATED TO THE USE OF SOLDE PRODUCTS

(MT CO<sub>2</sub> eq.)





# BIODIVERSITY NOTEBOOK

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**82**

Biodiversity at the heart  
of the company's challenges

**83**

Identifying its footprint  
to limit its impact

**84**

Commitment strategy

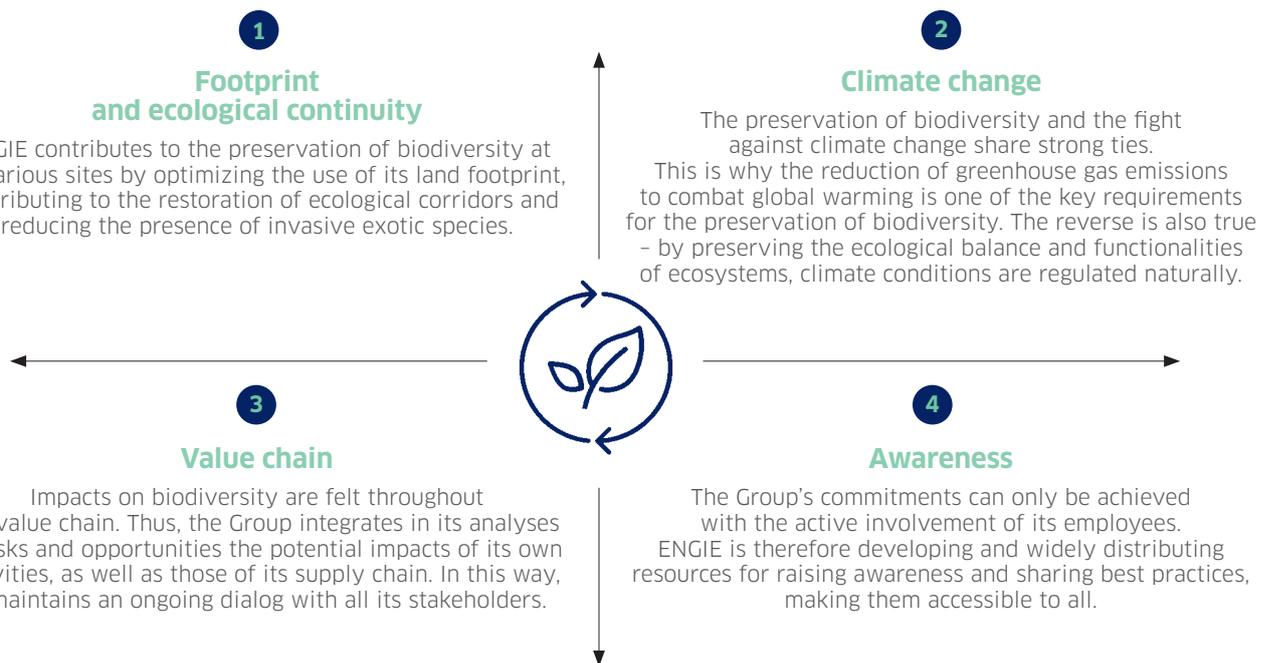
**87**

Mobilized governance

# 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.

# 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

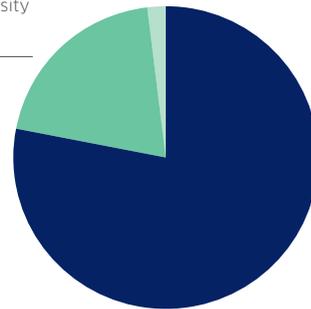
- At least 2 modules per year by 2025, offered in 3 languages
- 2022-2023: 3,000 employees trained / year
- 2024-2025: 5,000 employees trained / year

### → 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.



# RENEWABLE GASES NOTEBOOK

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**90**

Diversify and decarbonize  
the energy mix with  
renewable gases

**92**

Renewable gas,  
an industry of the future

**94**

Hydrogen, a sector in  
the industrialization phase

# DIVERSIFY AND DECARBONIZE THE ENERGY MIX WITH RENEWABLE GASES

**Renewable gases will play an increasingly important role in tomorrow's energy mix and represent one of the solutions for accelerating the transition to a carbon neutral world. With its proactive strategy, ENGIE will strengthen their production and make them efficient energies of the future.**

The current need to reconcile the transition to a carbon-neutral economy with the increase in global energy demand makes development of the technological sectors for renewable gas production (methanization, methanation, gasification, electrolysis) essential. They contribute to the diversification of the energy mix and to a carbon-neutral economy. Their development will also reduce Europe's dependence on fossil fuel imports while contributing to its energy security.

Finally, renewable gases have a positive impact on the communities: they encourage the creation of jobs that cannot be relocated and contribute to the development of the circular economy through the treatment of waste (agricultural, urban, etc.) and the recovery of residual organic matter in the form of energy, biogenic CO<sub>2</sub> and biofertilizers.

## **RENEWABLE GASES: ENGIE, A KEY PLAYER IN THIS HIGH-GROWTH MARKET**

Driven by the demands of the energy transition and by industrial and

commercial decarbonization needs, the market for renewable gases is poised for strong growth in the coming decade. The war in Ukraine has served as a powerful catalyst in strengthening the Group's commitments.

ENGIE intends to become a major player in this market for renewable gases, both as supplier, continuing its historical activity of selling natural gas, and as producer. The Group's ambition of becoming a major producer of renewable gases in Europe is in line with its strategic objective of being a leader in the energy transition, in particular through the development of a renewable energy production fleet, which would not only be electric but also gas-based.

ENGIE has clear competitive advantages, both in industrial and commercial terms, for achieving this ambition and this is true for all the renewable gases currently being considered, biomethane and synthetic biomethane, e-fuels and renewable hydrogen.

## **RENEWABLE HYDROGEN, A PARTICULARLY PROMISING GAS**

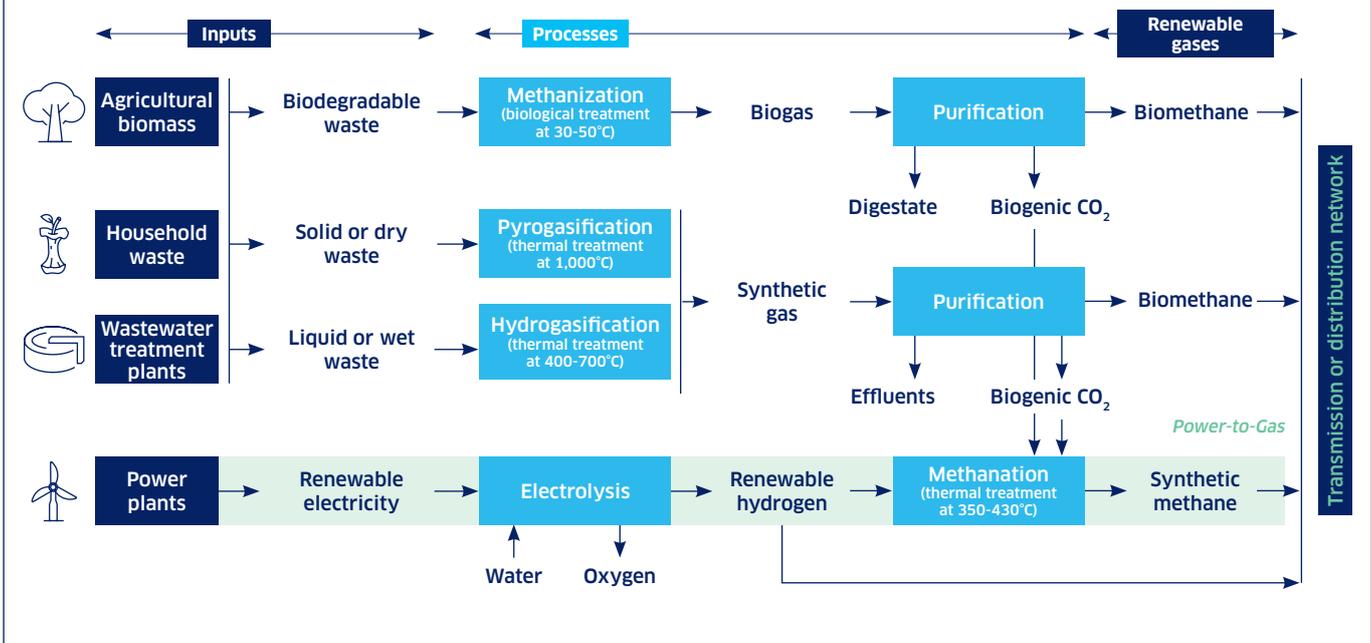
Another vital ingredient to accelerate the transition to carbon neutrality is renewable hydrogen. Produced by water electrolysis from renewable electricity, this gas is now at the heart of decarbonization objectives: it enables renewable electricity to be stored in the form of hydrogen (or methane after a methanation process) and decarbonization for current massive uses of hydrogen (fertilizers, refineries, chemicals, etc.) and for other industrial sectors that are difficult to decarbonize in other ways (steel industry). Finally, renewable hydrogen is expected to progressively contribute to the decarbonization of mobility, whether in heavy mobility with the development of synthetic fuels (maritime, aviation) or in road mobility with the development of "zero emission" vehicles equipped with a fuel cell.

This explains why the European Commission presented a hydrogen strategy for Europe's climate neutrality in 2020 as part of the Green Pact for Europe. Similarly, France adopted a National Strategy for the development of decarbonized hydrogen costing €9 billion for the period to 2030.

Present over the entire hydrogen value chain, from the production of renewable energy to the end usages, ENGIE is positioned as a major player in renewable hydrogen, which could well become a key energy of the future. With 5,800 jobs in 2022, including around 200 at ENGIE, compared with 3,500 in 2021, the French hydrogen segment is rapidly expanding. After being a pioneer for a long period, the Group reached the stage of industrialization of several hydrogen projects in 2022.



## SIMPLIFIED VIEW OF THE PROCESSES TO PRODUCE RENEWABLE GASES



## IN ADDITIONAL TO METHANIZATION, THREE RENEWABLE GAS PRODUCTION STREAMS WILL PLAY A KEY ROLE

The solutions to produce biomethane by pyrogasification open the way to the production of biomethane from dry biomass: in particular, wood and Solid Recovered Fuels (SRF). Dry biomass represents significant additional volumes to methanization. The first industrial projects will arrive by 2030 to complete the production potential of the methanization sector. For example, ENGIE and its partners are engaged in this development through the GAYA project, a research and development project aimed at validating innovative technological choices and preparing for industrialization of the sector.

**Solutions to produce biomethane by hydrogasification.** Hydrothermal gasification is a technology for conversion of wet biomass that allows the treatment of residue and organic waste (treatment plant sludge, digestates from methanization that cannot be spread). It uses the water contained in the biomass in its supercritical state as a reaction medium to produce a methane-rich synthetic gas.

The French sector for synthetic methane from methanation of renewable or low-carbon hydrogen is under development with a number of R&D and demonstration projects (TRL 7-9). For example, with the Jupiter 1000[4] project, GRTgaz and its partners aim to implement a synthetic methane production facility at pre-industrial scale.

This sector enables recycling of biogenic CO<sub>2</sub>, a co-product of the three sectors discussed above; this recycling improves the sectors' yield and their environmental performance. This synthetic methane will then be injected into the gas transmission network.



**€25 billion**

of investments in Europe by 2030 for hydrogen development  
Source: Market update



**380 TWh**

of biomethane in Europe in 2030 with REPowerEU



**5,800**

hydrogen sector jobs in France in 2022, including approximately 200 at ENGIE



**9,800**

jobs in 2022 in the gas production sector in France

# RENEWABLE GAS, AN INDUSTRY OF THE FUTURE

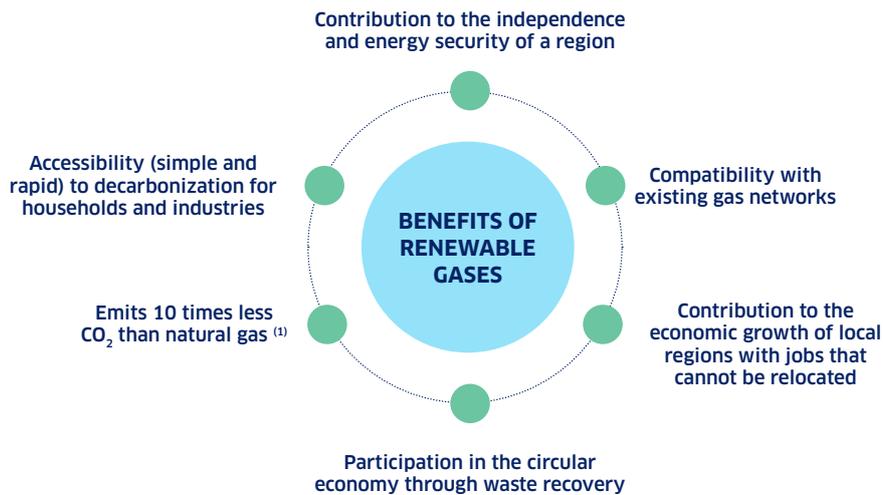
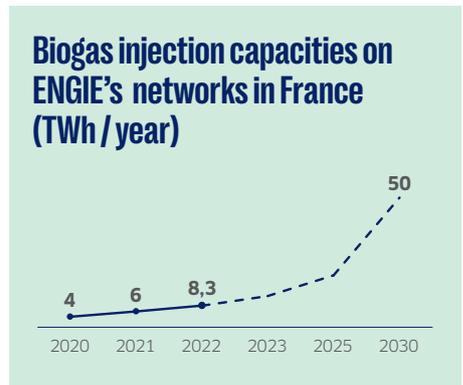
**ENGIE is convinced that renewable gases will play an essential role in the European energy mix. Since the first facilities in 2011, the renewable gas production sector in France is today the most dynamic in Europe.**

## NO DECARBONIZATION WITHOUT RENEWABLE GAS

Renewable gas is a source of sustainable energy, emitting 10 times less CO<sub>2</sub><sup>(1)</sup> than natural gas. Thus, it makes a decisive contribution to the European decarbonization goals at a time when the European Union has announced the doubling of its target for renewable gas production by 2030 (35 billion cubic meters (BCM) / 380 TWh), as part of the REPowerEU plan. Like natural gas, renewable gas is transportable, storable and transformable.

Thus, it is a response to the need for decarbonization of the chemical and energy intensive and transport industries. Its features – reliability, flexibility and lack of intermittency – mean that it can meet energy needs in peak periods, particularly during cold snaps.

France and Europe already produce 6.9 TWh and 30 TWh of renewable gas respectively.

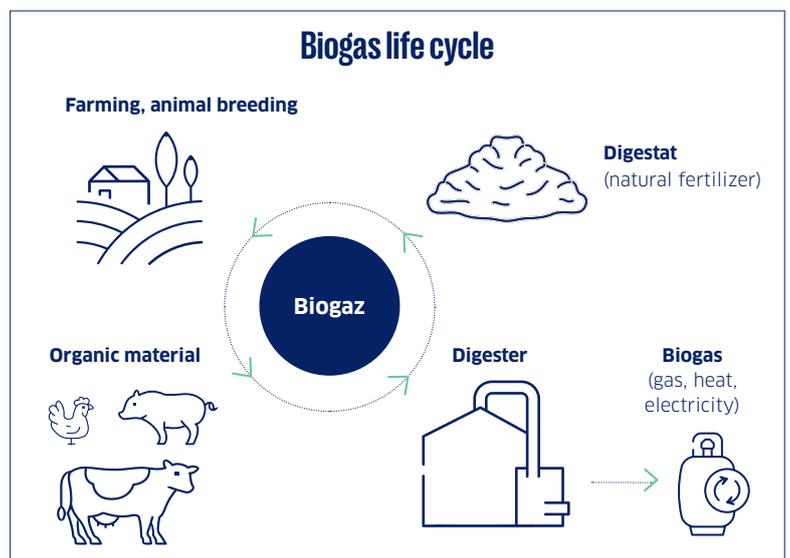


(1) In life-cycle analysis



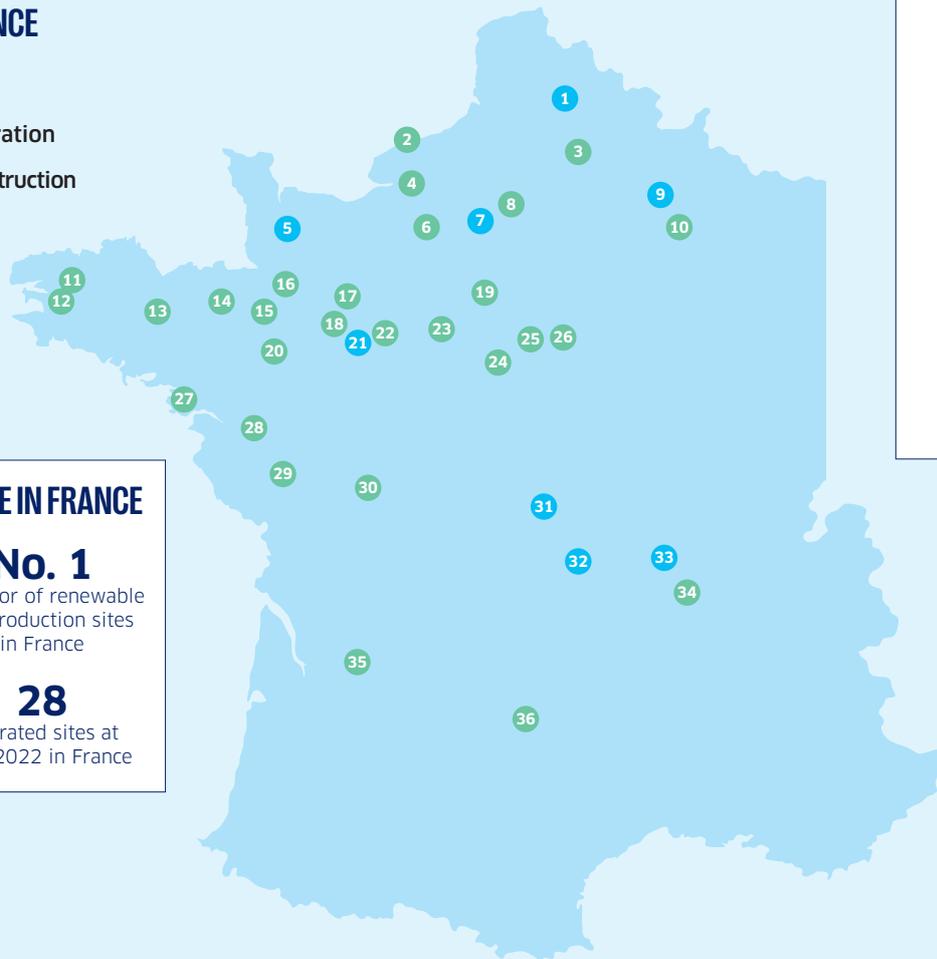
**Camille Bonenfant-Jeanneney,**  
Biomethane Europe Project Director

“Renewable gas, a real driver in the transition to renewable and low-carbon energy, will play an indispensable role in supporting our customers on the path to decarbonization. This is why we are setting up a dedicated organization at the European level, which pools our know-how, to sharply accelerate the development of renewable gases.”



## ENGIE BIOZ PRODUCTION SITES IN FRANCE

- Operation
- Construction



### ENGIE IN FRANCE

**No. 1**

operator of renewable gas production sites in France

**28**

operated sites at end-2022 in France

### ENGIE'S BIOMETHANE TARGETS FOR 2030

**10 TWh / year**

of biomethane production capacity in Europe, including 5 TWh in France

**50 TWh / year**

of biomethane injection capacity in France on ENGIE networks

**30 TWh / year**

of biomethane marketing by GEMS B2B & Retail B2C

- |  |  |   |   |
|--|--|---|---|
| <b>1</b> Eurametha                             | <b>10</b> Chalonnais Biogas Plant            | <b>19</b> Beauce Alnéloise Biogas Plant   | <b>28</b> Les Terres de Montaigu Biogas Plant |
| <b>2</b> Hautes Falaises Biogas Plant          | <b>11</b> Kastellin Biogas Plant             | <b>20</b> CS Congrier Biogaz              | <b>29</b> Chantonay Biogas Plant              |
| <b>3</b> Vermandois Biogas Plant               | <b>12</b> Quimper Biogas Plant               | <b>21</b> Methagril Loué                  | <b>30</b> Migné Biomethane                    |
| <b>4</b> Caux Vallée de Seine Biomethane Plant | <b>13</b> Pays de Pontivy Biogas Plant       | <b>22</b> Le Mans - Le Monné Biogas Plant | <b>31</b> Val de Cher Biomethane Plant        |
| <b>5</b> Sainte Cécile Biomethane Plant        | <b>14</b> Montauban-de-Bretagne Biogas Plant | <b>23</b> Le Dunois Biogas Plant          | <b>32</b> Parc de l'Aize Biogas Plant         |
| <b>6</b> Neuboug Biogas Plant                  | <b>15</b> Enerfées                           | <b>24</b> Lugère Biogas Plant             | <b>33</b> Roanne Bio Energie                  |
| <b>7</b> Métha Grands Chênes                   | <b>16</b> Aumallerie Biogas Plant            | <b>25</b> Beauce Gâtinais Biogaz          | <b>34</b> Méthamolys                          |
| <b>8</b> Biometa                               | <b>17</b> Les Coëvrons Biogas Plant          | <b>26</b> Chaumont Biogas Plant           | <b>35</b> CVBD                                |
| <b>9</b> Méthabaz                              | <b>18</b> MethaMaine                         | <b>27</b> L'Estuaire Biogas Plant         | <b>36</b> Prometer                            |

### ENGIE, ALREADY A KEY PLAYER IN THIS MARKET

A leader in the renewable gas value chain, ENGIE is convinced that renewable gases will play an essential role in the European energy mix. With its GBU Networks, ENGIE is currently positioned as a key player in renewable gas production in France and in Europe. This renewable energy will be added to the other renewable energies deployed by the Group.

With over 250,000 km of existing gas networks, ENGIE provides a decarbonization solution that is

immediately effective at a lower cost, a renewable energy that complements the other renewable energies deployed by the Group. Its subsidiary ENGIE Bioz is a key player in the French market with 28 production units in operation and an annual production capacity of 600 GWh, based on the recovery of waste primarily from the agri-food industry and agriculture. ENGIE is also developing biomethane production projects outside France, notably in the Netherlands, Belgium, Poland, Germany, the United Kingdom and Italy.

### ENGIE BOOSTS ITS MARKETING ACTIVITIES

ENGIE also relies on its energy marketing structure to promote renewable gas; it signed a contract to supply 3 TWh of biomethane over a 10-year period with the Arkema company. It sold 3.3 TWh of renewable gas to its customers in Europe in 2022.

# HYDROGEN, A SECTOR IN THE INDUSTRIALIZATION PHASE

**Investment decisions, construction startups, commissionings, openings and more...**

**2022 represented a milestone for the development of renewable hydrogen. While the Group pursued its policy of innovation and research and initiated new projects, it also moved further toward industrialization. A critical prerequisite to make the energy transition a reality.**

## GOVERNANCE DEDICATED TO HYDROGEN PROJECTS

A trailblazer in renewable energy, the Group today is engaged in around 100 hydrogen projects of different sizes and at different stages of maturity in industry, mobility and networks.

To ensure the best possible sharing of the strategic vision and the roll-out of projects, ENGIE set up an internal **"hydrogen coordination cockpit"**.

This governance body is intended to facilitate interactions among the different Group entities involved in the hydrogen projects and provide better visibility on the actions taken. More broadly, the Group is a founding member of the **Hydrogen Council**, which is pursuing the goal of accelerating the use of hydrogen as an energy transition vector at the global level. It is also a member of **France Hydrogène**, which brings together industry players to structure and accelerate the development of hydrogen solutions in France.



**Valérie Ruiz-Domingo**, ENGIE Group Hydrogen Vice-President

"Our ambition is to be a leader in renewable hydrogen, even if we will also need low-carbon hydrogen to develop the division and the market. ENGIE is positioned over the entire hydrogen value chain: from production to distribution, including transmission via pipelines and storage in salt caverns."

The challenges posed by the industrialization of the hydrogen sector require the creation of partnerships, particularly to pool the financial risks. Thus, on November 3, 2022, ENGIE inaugurated the **H2 Factory**, a test platform intended to accelerate the development of the renewable hydrogen sector by establishing a connection between R&D and industrial applications with the contribution of many partners, including startups, in the context of European R&D projects within international consortia.

## BECOME A WORLD PLAYER IN RENEWABLE HYDROGEN

The Group combines the expertise of all its international and French teams around three axes of development: industrial usages, mobility and hydrogen as an energy vector. This involves the teams from ENGIE Lab CRIGEN, ENGIE Impact, Tractebel, Storengy, ENGIE Solutions, ENGIE Green, GNVERT, GEMS and its GBU Renewables and GBU Flex Gen & Retail.

As such, the Group is positioning itself over the entire hydrogen value chain, from the production of renewable energy to operations, maintenance and distribution, and acts for its customers as integrator, operator and developer of a broad range of industrial-scale solutions, built on partnerships and innovative technologies.

## INDUSTRIALIZING THE SOLUTIONS

Numerous projects to produce renewable hydrogen through electrolysis are being rolled out in France and internationally to decarbonize the industry and to develop new industrial divisions and more sustainable mobility (see map opposite).

## ADAPTING THE NETWORKS

The production of hydrogen on an industrial scale requires the development and planning of transport and storage networks.

ENGIE is committed to the European H2 Backbone initiative and is supporting the deployment of a network of nearly 40,000 km of hydrogen networks in 21 countries, two-thirds of which would be made up of existing networks that have been repurposed.

## ACTING WITH THE COMMUNITIES

ENGIE's local roots are a real asset in uniting the various economic players and institutions in the development of renewable hydrogen in the local communities. To create these new production, operation and distribution circuits, ENGIE relies on trusted partners, its detailed knowledge of the regions in which it is present, and its ability to act over the entire value chain.

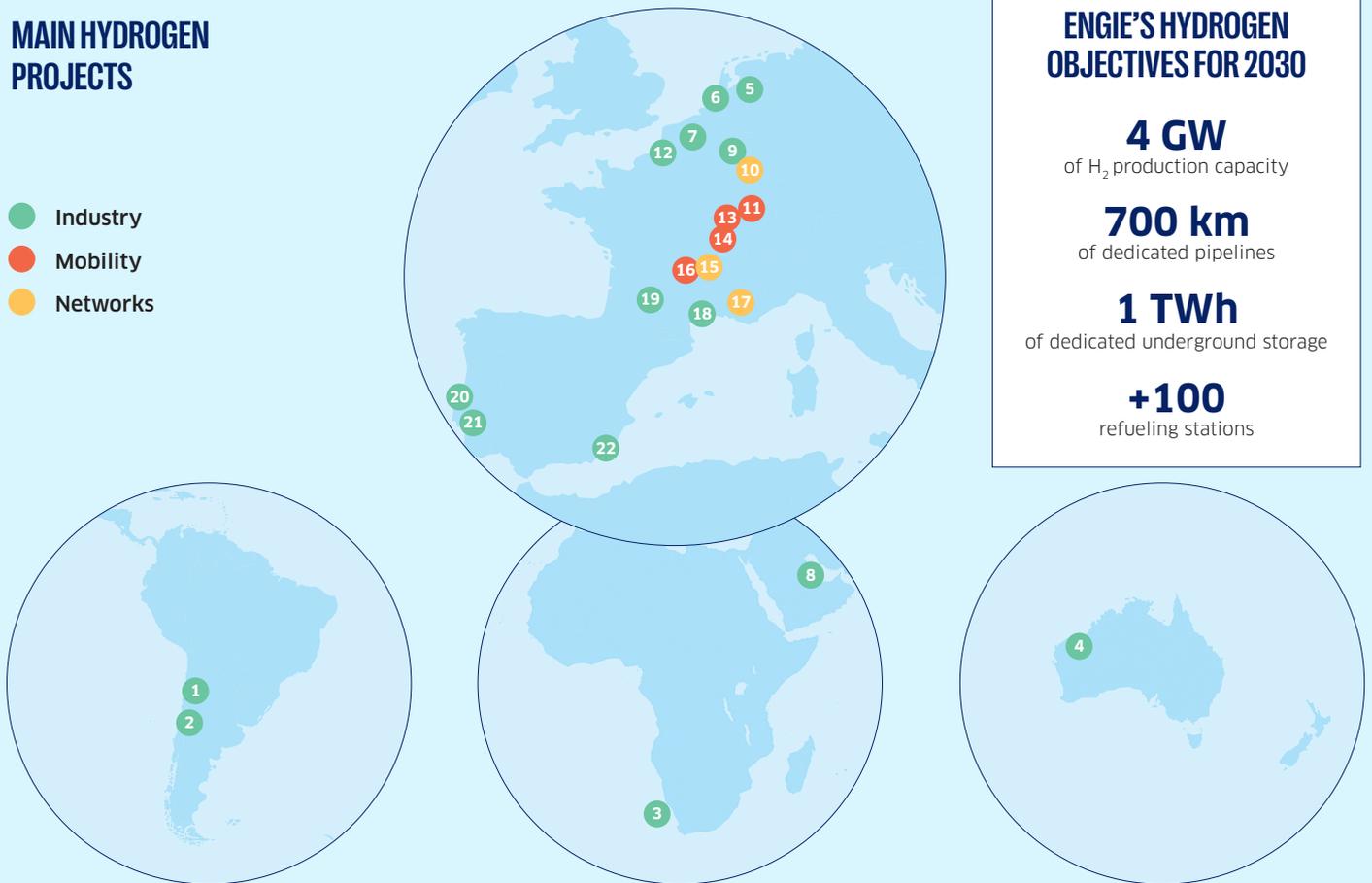
In France, ENGIE is actively responding to calls to bid on regional projects launched by the French environmental agency ADEME with solutions intended to accelerate the development of hydrogen uses. Hydrogen holds the promise of a new technological, energy and industrial sector, both locally and globally, with the additional benefit of new jobs. A vital division for contributing to the decarbonization of the energy mix.

## COMMITTING TO NATURAL HYDROGEN PRODUCTION

Along with projects to produce hydrogen by electrolysis, the Group is committed to the development of the natural hydrogen production market in order to promote a low-carbon and competitive supply through Storengy. This gas is continuously generated deep within the surface of the Earth and, in particular, can be mined via boreholes. In 2022, Storengy launched a campaign to measure emissions of natural hydrogen to identify areas with high potential for the development of this market.

## MAIN HYDROGEN PROJECTS

- Industry
- Mobility
- Networks



## ENGIE'S HYDROGEN OBJECTIVES FOR 2030

### 4 GW

of H<sub>2</sub> production capacity

### 700 km

of dedicated pipelines

### 1 TWh

of dedicated underground storage

### +100

refueling stations

- 1 HyEx:** Production of renewable hydrogen for a future renewable ammonia plant intended for the mining sector - ENAEX - Chile
- 2 Hydra:** design and testing of a modular engine prototype composed of fuel cells and batteries to replace the conventional diesel engine used in mining trucks - Mining 3 - Chile
- 3 Rhyno:** integrated hydrogen solution (production, compression, storage and refueling) to power the world's first mining truck with such a load size - Anglo-American - South Africa
- 4 Yuri:** construction of a hydrogen facility to produce renewable ammonia - Yara - Australia
- 5 HyNetherlands:** production from 2025 of e-methanol by combining renewable hydrogen and biogenic CO<sub>2</sub> - EEW & OCI - Netherlands
- 6 MultiPLHY:** installation, integration and operation in the Neste biorefinery of the world's first high-temperature electrolyzer (HTE-SOEC tech) on a scale of several megawatts - Neste Sunfire - Paul Wurth - Netherlands
- 7 North-C Hydrogen:** development of a renewable hydrogen facility at the ENGIE power plant in the port of Ghent for the needs of local industries - Consortium of public and industrial partners - Belgium
- 8 Crystal:** development, construction et operation of a hydrogen facility to produce renewable ammonia - Masdar - Fertiglobe - United Arab Emirates
- 9 Columbus:** carbon capture and use (CCU) aimed at concentrating the CO<sub>2</sub> from the lime production process and combining it with renewable hydrogen to produce e-methane intended for the transport and industrial sectors - Carmeuse & John Cockerill - Belgium
- 10 MosaHyc :** 1<sup>er</sup> projet de canalisation hydrogène transfrontalier d'Europe - GRTgaz - Creos - Encevo - France, Allemagne, GD de Luxembourg
- 11 H2 Freight Trains:** innovative solution allowing the first renewable hydrogen-powered freight train to be put into circulation - Alstom Neslé Waters - France
- 12 Reuze:** production of synthetic fuel in Dunkirk for air and sea transport - Infinium - Arcelor Mittal - France
- 13 HyGo :**Power for the Michelin site and refueling stations for public vehicles - Michelin, France 17 DMSE - Dijon Métropole Smart EnergHy - France
- 14 Dijon Métropole Smart EnergHy (DMSE):** development of a complete zero emission hydrogen ecosystem for the city of Dijon, consisting of two refueling stations with on-site electrolyzers - Dijon Métropole Rougeot Énergie - ENGIE Solutions - France
- 15 Hyspter:** First demonstrator for storage of renewable hydrogen intended for industry and mobility in salt caverns - France
- 16 Zero Emission Valley (ZEV):** development and installation of a network of 20 renewable hydrogen stations for road transport in the Auvergne-Rhône-Alpes region and an initial fleet of 1,200 hydrogen vehicles - Auvergne-Rhône-Alpes region, Michelin and Crédit Agricole - France
- 17 Hygreen Provence:** production of renewable hydrogen from solar power and storage in underground salt caverns - DLVA - France
- 18 Masshylia:** one of the largest renewable hydrogen production sites in France (50 metric tons / day) at the center of the La Mède biorefinery - TotalEnergies - France
- 19 Hyport:** Renewable hydrogen fueling station to fuel five Toulouse airport buses - Occitania Region and Toulouse Blagnac Airport - France
- 20 H2SINES.RDAM:** first liquid H2 supply chain between Portugal and the Netherlands - Shell Vopak - Anthony Veder - Portugal
- 21 GreenH2 Atlantic:** transformation of a former coal-fired power plant into an innovative renewable hydrogen center - Consortium of 13 companies - Portugal
- 22 Cartagena:** construction of the first renewable hydrogen plant in the Escombreras region: 100 MW - Enagas - Repsol - Spain



# JUST TRANSITION NOTEBOOK

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**98**

There will be no transition  
without a just transition

**99**

Offer affordable energy  
to as many people as possible

**100**

Developing and sustainably  
supporting the communities

**102**

Consider the social impacts of the  
energy transition

**103**

Ensure the positive impact  
of suppliers on  
people and the planet

# THERE WILL BE NO TRANSITION WITHOUT A JUST TRANSITION

**While today it is understood, accepted and even, in some ways, anticipated, the transition to a Net Zero Carbon economy implies meeting a number of major challenges for its perfect implementation, including the challenge of ensuring that such transition is just.**

## A TRANSITION THAT ASKS QUESTIONS

**How to move from one world to the other? How to support each person in the ecological and energy transition? How to meet the societal and human challenges of a decarbonized world?**

Even if the energy transition brings positive results, it must, however, be implemented with care. If not, it risks not only exacerbating existing societal challenges, but also weakening the most exposed employees, supply chains, communities and consumers, slowing the zero-carbon transition and exacerbating environmental problems.

ENGIE is convinced that the success of the energy transition is much more than a technological adventure. This idea is recalled in its purpose: *“To act to accelerate the transition to a carbon-neutral economy [...] and reconcile economic performance with a positive impact on people and the planet.”* It is also based on the preamble of the Paris Agreement (December 2015) and on the reflections of the International Labour Organization on the just transition, defined as a strategy to mitigate the negative consequences of the transition to sustainable economic models, while maximizing its positive effects.

## A JUST AND AMBITIOUS TRANSITION PLAN

The plan to transition toward Net Zero Carbon by 2045 presented by ENGIE in 2021 is based on a well-below 2°C certified trajectory. In line with the Paris Agreement and the guidance of the International Labour Organization, it was designed in its societal dimension for its customers and for the Group to lay the foundations for long-term sustainable growth. The Group’s objectives for an affordable, reliable and sustainable energy transition resonate with the challenges facing society, climatic challenges, energy market challenges and those of its stakeholders.

The current energy price volatility and the war in the European continent, underpinned by the climate emergency, proves the relevance of ENGIE’s strategy to offer a balanced, resilient and affordable energy mix. This plan aims, in particular, to:

- **ensure** that customers, and in particular low-income customers, have access to affordable and sustainable energy thanks to innovative offers;
- **commit** to territorial projects with the involvement of local communities;
- **guarantee** quality social dialog at all levels, offer social protection to all employees worldwide, guarantee their employability through training and retraining and through providing support during restructuring;
- **establish** stringent standards in terms of labor law, human rights and sustainability throughout the supply chain, promote inclusive procurement and engage with suppliers in their own transition.

To achieve this, ENGIE relies on its approach of transparency and co-construction with civil society. This plan was presented at the end of 2022 to encourage discussions with a Stakeholders’ Committee composed of associations, responsible investors, economists, institutions and activists. The Group has given itself one year to develop and present indicators that are in line with its ambitions to the Committee.

“The strategy implemented aims to mitigate the negative consequences of the transition to sustainable economic models while maximizing its positive effects.”



# OFFER AFFORDABLE ENERGY TO AS MANY PEOPLE AS POSSIBLE

**For customers, the just transition becomes a reality through the roll-out of affordable energy initiatives to preserve household purchasing power and contribute to maintaining the competitiveness of companies.**

## GIVE CONSUMERS CONTROL

For ENGIE, it is essential to offer its consumers, located primarily in France and Belgium, clear and transparent information on the energy transition, the energy savings and on the issue of energy efficiency.

The challenge is to ensure that consumers have all the tools they need to control their consumption and the amount of their bill.

With this in mind, the Group launched **“Mon programme pour agir” (My Program to Act)**, a solution that encourages French customers by rewarding their energy savings actions. The points earned when they complete eco-responsible challenges are then reinvested, if they wish, in environmental or social initiatives.

At the same time, the Group marketed in France three connected and smart services designed for individuals to help them mitigate the escalation in energy costs and raw materials. These solutions allow them to receive personalized advice, manage a target budget, and monitor and control their consumption and comfort remotely.

These solutions are:

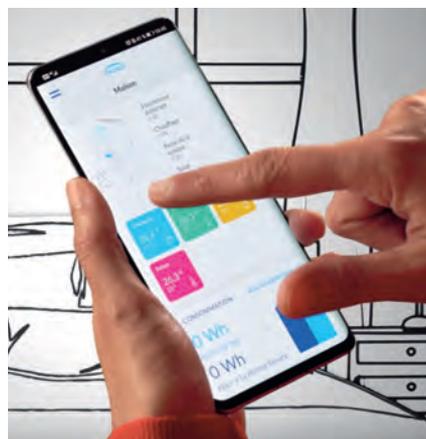
- **“Mon Pilotage Elec” (My Elec Management)**: a connected solution to program and manage electric radiators.
- **“Ma Conso+” (My Consumption+)**: a solution to measure the consumption of electrical devices in real time designed in partnership with Netatmo (a company specializing in connected objects). Since October 2022, it has included an offering dedicated to customers in financial difficulties.
- **“Mon Pilotage Gaz” (My Gas Management)** for gas heating: a solution providing control so that individuals can find the right balance between budget and comfort, designed in partnership with Netatmo.

ENGIE Belgium also works with its customers to help them reduce their energy consumption. In fact, the Group allows customers who live in the Flanders to monitor the change in their daily consumption using the website and a mobile app.

ENGIE has also strengthened its call centers with an additional 200 employees to ensure better accessibility to the information and handle the soaring number of calls, which has tripled to 120,000 per week.

## FIGHT FUEL POVERTY

The Group's social commitment has been the heart of its concerns for many years. Every year since 2010, ENGIE has contributed €6 million to the **Fonds de Solidarité Logement (French solidarity housing fund)**. In 2022, this donation was doubled for that year. The Group also decided to grant **additional assistance** of €100 on average per household to its 880,000 financially insecure individual customers, who are beneficiaries of the energy check granted by the government and hold an energy contract, assistance totaling €90 million.



In addition, ENGIE Belgium offers its customers **payment facilities** without cost and collaborates with several social assistance centers to manage the debt of customers in serious financial difficulties.

ENGIE doesn't forget its industrial and tertiary customers thanks to a **fund of €60 million** that will be used to exempt them from the guaranties required to contract their energy supply in 2022.

In this way, the Group strengthens its role of facilitating access to controlled and optimized energy consumption.

## PROVIDING SUSTAINABLE ENERGY TO UNCONNECTED CUSTOMERS

Because more than a billion people around the world still lack access to electricity, ENGIE has invested in companies providing access to clean, affordable and reliable energy to populations far from any grid.

Thus, in 2011, ENGIE created the "ENGIE Rassembleurs d'Énergies" social impact fund, which invests minority shares in social enterprises that offer innovative and sustainable energy solutions to these populations.

By the end of 2022, RDE had committed more than €38 million to 22 companies. These companies have provided access to clean and affordable energy to 7.8 million beneficiaries worldwide and generated over 32,000 jobs.

## 880,000

financially fragile individual customers have benefited from additional financial assistance

## 3

connected services rolled out to manage gas and electricity consumption

# DEVELOPING AND SUSTAINABLY SUPPORTING THE COMMUNITIES

**A just transition is based on the creation of local and sustainable value and the development of new industrial divisions without forgetting local stakeholders.**

By controlling the local context and challenges, ENGIE intends to develop projects best adapted to each community and thus obtain positive benefits that contribute to their resiliency. The development of projects such as biomethane, renewable hydrogen or offshore wind farms impact the economy, industrial excellence and local dynamism. These projects can succeed only with perfect cooperation with the public authorities, municipalities, local economic players and civil society.

Between 2021 and 2023, the Group has made considerable investments to support territorial development within regions, with €15 billion-€16 billion in growth capex, 90% of which was for transition-related activities. Activities that benefit from the roll-out of ENGIE's **TED label** (*Transition Énergétique Durable - Sustainable Energy Transition*), dedicated to renewable energy, that guarantees the preservation of nature, the involvement of operators and the contribution to the fight against climate change.

## HAZELWOOD, A REHABILITATION PROJECT LED BY THE STAKEHOLDERS

As a responsible operator, ENGIE has set out a **transformation plan** which focuses only on low-carbon projects for electricity production, in renewables and natural gas. The 2017 closing of the Hazelwood coal-fired power plant and its adjoining mine in the Australian state of Victoria is in line with this strategy of a gradual exit from the coal assets in its portfolio.

This decision followed the terrible natural fires in 2014 that lasted 45 days. These fires, which were not the Group's responsibility, affected the Hazelwood plant, which was commissioned in 1964 and had reached its operational life span.

As ENGIE had decided to abandon coal-based electricity production and given that compliance had become impossible under the current standards, the Group made the decision to close the plant and the mine in March 2017.

ENGIE's commitment to the energy transition in the communities includes the construction of a **150 MW battery storage project (HBESS)** on the former Hazelwood site, which should be operational early in 2023. It has the capacity to store the equivalent of one hour of energy production from the rooftop solar systems of 30,000 Victoria homes, thus playing an essential role in the increase of the state's energy capacity and the stability of the grid.

At the same time, the Group launched a large project to dismantle and rehabilitate the site in cooperation with the stakeholders. It plans to transform the site into a mining lake. This will create a safe, stable and sustainable landform and fill the existing mining hole with water to manage land movements and fires. ENGIE is currently preparing an Environmental Effects Statement (EES) on this proposal. The technical studies and impact management plans will be made available to the public to collect comments from stakeholders and the community, which will be reviewed by an independent committee and by the Minister of Planning for the state of Victoria.



“Most of the investments made by the Group in the communities focus on activities that support the acceleration of the energy transition.”



**ENGIE BRAZIL'S SOCIAL INITIATIVES**

Another relevant contribution to sustainable projects in the communities is ENGIE Brazil's social initiatives, which promote the well-being of local populations living close to its sites. The purpose of the arts and sustainability centers, created in 2011, is to promote local customs and traditions, social and digital inclusion, etc. They are managed by the communities themselves near ENGIE's production sites and facilitate the social, cultural and environmental development of small local authorities in several regions in Brazil. **Six centers** are currently in operation and three are under construction.

The launch of the wind farm complex in Trairi (State of Ceara in northeastern Brazil) with a capacity of 213 MW was

also the occasion for ENGIE Brazil to work with the local community and contribute to the improvement of the health and access to education of its population. The different initiatives developed include the contribution to the *Criança Saudável, Futuro Saudável* (Healthy Children, Healthy Future) program run by the NGO Instituto Melhores Dias, which has benefited 5,000 children in local public schools and which promises health and environmental education and medical care, and the *Femme dans Notre Quartier* (Woman in our Neighborhood) program that assists women in socially vulnerable situations.

For the Group, these provide a positive contribution to territorial development, while respecting local communities.



# CONSIDER THE SOCIAL IMPACTS OF THE ENERGY TRANSITION

In line with its purpose, ENGIE is developing the principles of a just transition to anticipate the social consequences inevitably caused by the transition to a decarbonized economy.

## INCLUDE EMPLOYEES IN THE TRANSITION PROCESS

At ENGIE, employee dialog includes **consultation practices** to allow employee representatives to influence decisions at each stage of the Group's reorganization. This innovative process is implemented over the entire territory with the unions and regional public authorities.

In accordance with its commitments, **in 2022 ENGIE signed an agreement** with three world union federations and four of the Group's union organizations. In this way, it reaffirmed its commitment to respect international standards on labor and human rights.

## THERMAL BUSINESS LINE

The Flex Gen & Retail GBU has defined an ambitious roadmap to a greener portfolio. A process is under way, thanks to the "ExpAND"<sup>(1)</sup> program, to identify experts in the thermal sector internally in order to train them in the challenges of energy storage using hydrogen or batteries.

## ENSURE A COMMON SOCIAL PROTECTION BASE

In 2020, the Group rolled out the world social protection program "**ENGIE Care.**" Designed with the international union federations, it protects employees against the hazards of life. "ENGIE Care" will be expanded in 2023 (14-week maternity leave, minimum four-week paternity leave, payment of a minimum benefit of 12 months of salary in the event of total disability).

## DEFINE A TRAINING AND DEVELOPMENT PLAN FOR ALL

The Group's reorganization involves abandoning certain sectors as well as the appearance of new industries; this implies a **profound change in its business lines** and the appearance of personnel shortages in some activities. This is why ENGIE is pursuing **a strategy to transfer expertise** along three vectors: early management of skills; stronger internal mobility; and professional training goals for all employees. Different training programs are developed by ENGIE University to meet this need.

## "ENGIE CARE" – FOUR COMPONENTS

Hospitalization	Life cover
Disability (permanent and total)	Maternity and paternity leave and co-parenting

## RESPONSIBLY MANAGE RESTRUCTURING

ENGIE has set a goal of withdrawing from coal in 2025 in continental Europe and in 2027 worldwide. Committed to a just transition, the Group prioritizes the closing and reconversion of the power plants with assistance in the transition from all stakeholders. If this is impossible, ENGIE then plans their sale and potential relocation of the employees.

(1) ExpAND: Group community of experts program

## CHILE

In Chile, ENGIE has implemented a plan to transform its operations in consultation with the Chilean government, unions and local organizations. It provides for the development of 2 GW of renewable energy capacities and the end of the coal-based electrical production units by 2025. The closing of the six coal-fired plants is scheduled for 2025 with the conversion of the three newest sites to gas or biomass. The first two units were converted without any complication.



# ENSURE THE POSITIVE IMPACT OF SUPPLIERS ON PEOPLE AND THE PLANET

Guided by its purpose, ENGIE ensures respect for human rights in its supply chains, supports its suppliers in their decarbonization trajectory and takes into account solidarity in its purchasing strategy.

## RIGOROUS SUPPLIER SELECTION

To succeed in ENGIE's just transition project, Purchasing contributes to risk reduction in the supply chain through rigorous supplier management as part of the Group's vigilance plan.

They must **apply ENGIE's ethics and CSR requirements**: respect the right to work and human rights, offer equitable and decent compensation, and provide a safe working environment. They must also participate in sector initiatives (for example: SolarPower Europe), and undertake training to understand ethics and CSR imperatives.

**Evaluations** are conducted to monitor priority suppliers via the EcoVadis platform. Suppliers that receive less than 45 points must set up a corrective action plan monitored by EcoVadis.

## INDISPENSABLE DECARBONIZATION

The **greenhouse gas emissions reduction criterion** is clearly identified and quantified in the **selection** of suppliers. This is why ENGIE engages them and supports them in their path

to decarbonization, particularly the smallest businesses. Thus, ENGIE Peru offers its suppliers an annual training plan consisting of five sessions on sustainable development.

## SOLIDARITY PURCHASES IN THE PURCHASING STRATEGY

Strongly tied to national regulations and culture, the **notion of inclusive or responsible purchasing** is specific to each country. In France, it is directed toward suppliers who allow access to employment and sustainable income for **disabled persons**, the **long-time unemployed**, or to **persons without training**, as well as for businesses located in **disadvantaged areas** and to independent SMEs. Inclusive purchasing meets the French government's high expectations for businesses in terms of hiring people in financial difficulty, the expectations of customers in the public and private sectors, the willingness to diversify purchasing sources, and the willingness of ENGIE to act as a responsible operator.

## THE SEVEN PRINCIPLES FOR RELATIONS WITH SUPPLIERS:

- 1 **Respect the laws, regulations, external standards, Group commitments and internal procedures;**
- 2 **Act towards suppliers with equity, transparency and impartiality;**
- 3 **Respect and ensure compliance with mutual commitments;**
- 4 **Protect personal data and the confidentiality of all information exchanged;**
- 5 **Communicate and respect the Group's commitments in ethics and personal data protection, sustainable development and social responsibility;**
- 6 **Prohibit any conflict of interest that could alter objectivity and independent judgment;**
- 7 **Raise an alert in the event of situations against these rules.**

## PARTNERSHIP WITH THE PROTECTED AND ADAPTED WORK SECTOR

On October 3, 2022, Catherine MacGregor, ENGIE Chief Executive Officer, signed a national agreement with the GESAT Network (the national network of companies in the sector for employment protection and adaptation for people with disabilities), which is composed in France of 2,250 ESAT and adapted companies.

This agreement means all our entities in France, their buyers and suppliers are now able to access the services of the GESAT Network and thus promote access to employment for persons with disabilities.



The Corporate Social Responsibility Department (CSR), which led the production of this report, would like to thank all its stakeholders, customers, investors and NGOs for their contributions.

The CSR would particularly like to thank the teams from the Presidency, General Management, Finance, Group Human Resources, Health & Safety, Group Strategy, Communication and Brand, Risk Management, General Secretariat, Research & Innovation, Group Purchasing, Ethics, Compliance and Privacy, the GBUs and the people interviewed.

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