# *2024*
# Facts & Figures

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# Table of contents



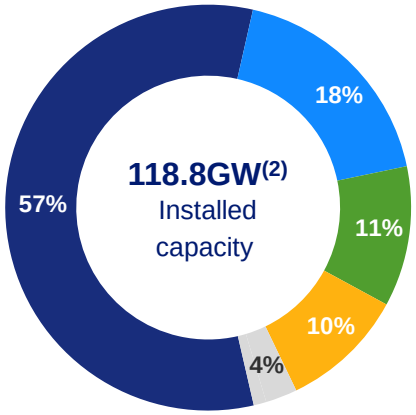
# EDF Group strategy



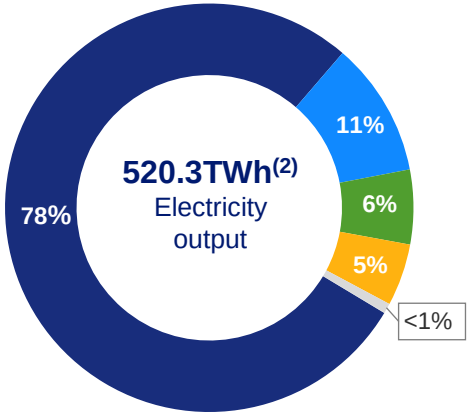
# Leader in low-carbon electricity generation

**First producer worldwide** of zero direct $CO_2$ emission electricity(1) with a **carbon intensity** of **30g$CO_2$/kWh**

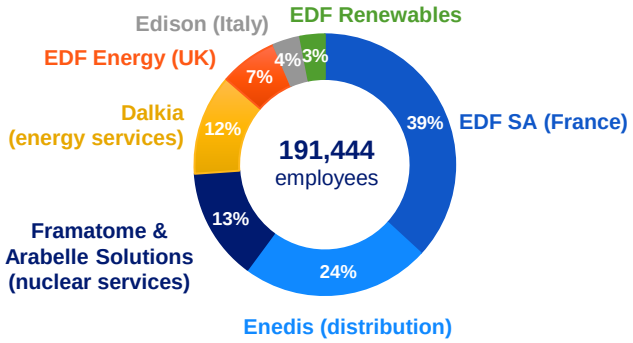
## Operational figures as of end 2024




Nuclear
Hydropower
Other renewables
Gas
Others (fuel oil, coal)




**A leader in nuclear and renewables with 94% of decarbonised generation**




**41.5 million** customers(3)

## 2024 Financials

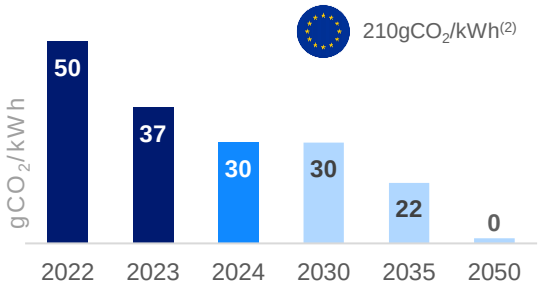
- Sales: **€118.7bn**
- **EBITDA**: **€36.5bn**
- Net income excluding non-recurring items: **€15.2bn**
- **Net investments**(4): **€22.4bn**
  o/w **94% aligned with net zero emissions target**
- **Net financial debt**: **€54.3bn**
  o/w green financing outstanding: **€19.8bn total**
- **Sustainable financing**: **€32.7bn** (incl. KPI linked credit facilities)
- **Ratings**(5): BBB positive (S&P) / Baa1 stable (Moody's) / BBB+ negative (Fitch)

(1) Source: Enerdata Power Plant Tracker 2023.
(2) Consolidated capacities and output.
(3) The customer portfolio consists of electricity, gas and recurring services contracts.
(4) Total net investments excluding disposal plan.
(5) As of March 2025.

# A commitment to low-carbon growth

## Objective: net zero $CO_2$ emissions by 2050

Carbon intensity

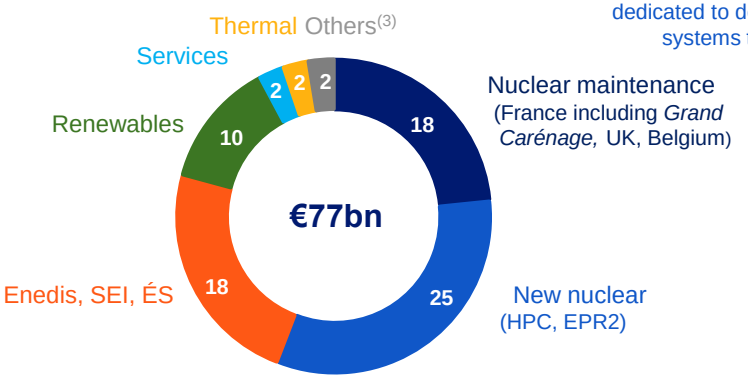



**4gCO$_2$eq/kWh(1)**
carbon footprint of nuclear life-cycle

→ **EDF's trajectory validated by Moody's** as in line with a 1.5°C global warming scenario

## Net investments over 2025 - 2027

In billions of euros




**99% of R&D's operating budget**
dedicated to decarbonization & energy systems transition in France

## Nuclear pipeline of projects

**6 EPR2**

- Penly (3.2GW)
- Gravelines (3.2GW)
- Bugey (3.2GW)

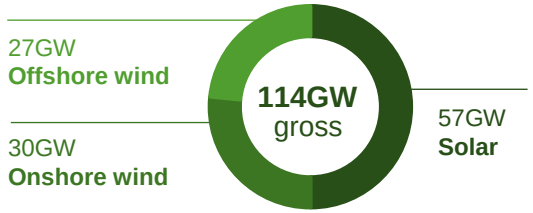
**4 EPR**

- Hinkley Point C (3.3GW under construction)
- Sizewell C (3.3GW)

**Small Modular Reactor NUWARD**

**International EPR projects**

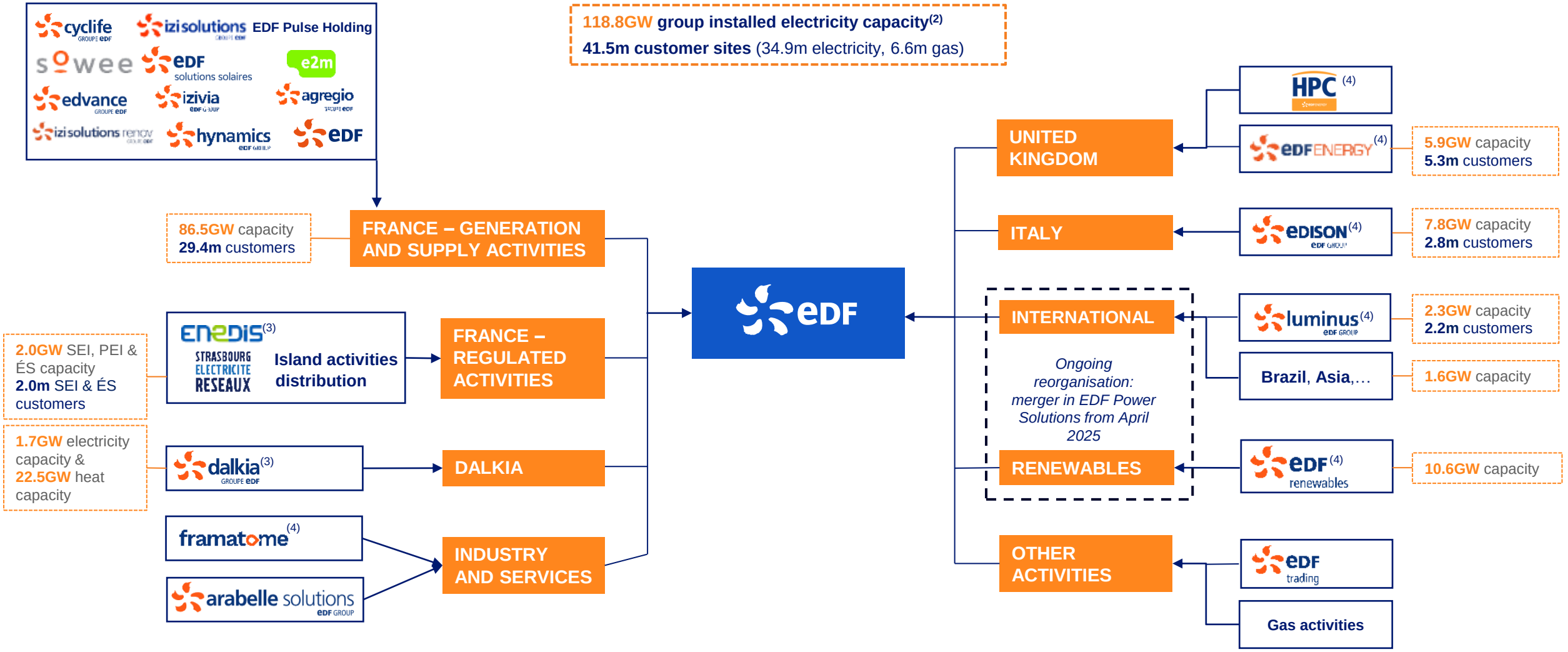
## Renewable pipeline of projects




→ **Target of 8GW gross commissioned/year**
on average over 2024-2035

(1) Direct carbon emissions related to generation, excluding life cycle assessment of generation means & fuels.
(2) Value in 2023, European Environment Agency.
(3) Mainly thermal maintenance, gas, property, central functions.

# EDF group: organisational chart by segment(1)



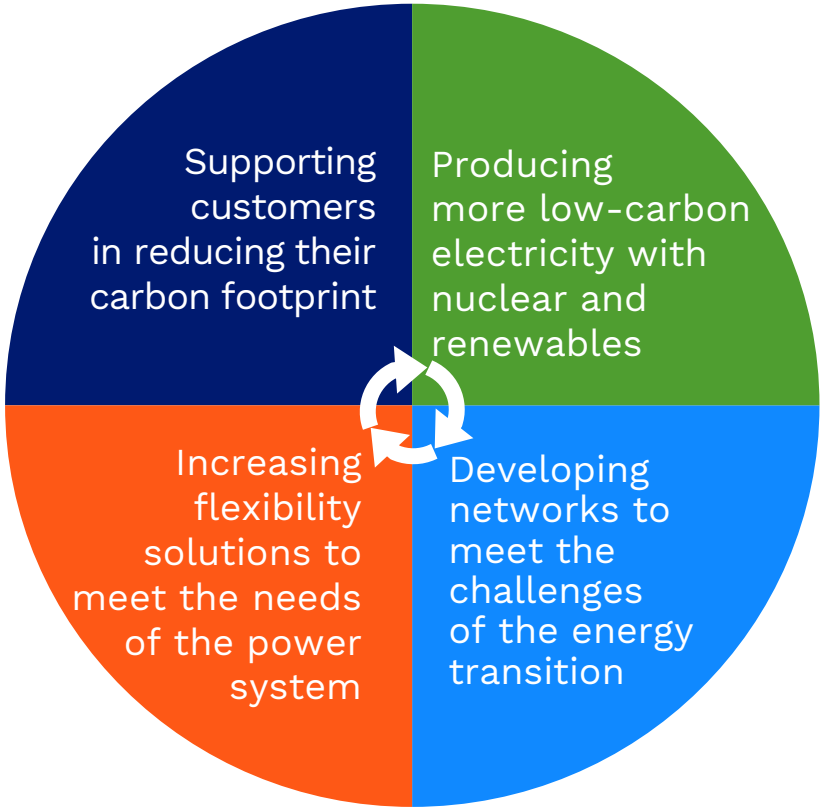

(1) Simplified organisational chart at 31/12/2024.
(2) Consolidated capacities of EDF group.
(3) French customers of these entities, grouped in the retail entity in the "France – Generation and supply activities'" segment.
(4) Shareholdings with minority interests.

# Building the electricity system of tomorrow with Ambitions 2035

PROJET D'ENTREPRISE AMBITIONS 2035

**Customers**:

- Be a leader in integrated decarbonisation solutions(1), notably by accelerating the electrification of customer uses as a substitute for fossil uses




**Low carbon generation**:

- Maximise the availability of the existing nuclear fleet and industrialise the construction programme for new reactors
- Accelerate the development of renewable energies (including hydropower)
- Develop projects through business models maximising the Group's impact

**Flexibility**:

- Decarbonisation of flexible generation assets, storage facilities (hydropower and batteries), smart charging of electric vehicles, customer load shedding

**Networks**:

- Modernisation and digitalisation of distribution networks(2) and increase in connections for new system users (renewable energy, charging stations)

(1) Offers and services in the building, industry and transport sectors.
(2) In France, the public distribution network is managed independently by Enedis.

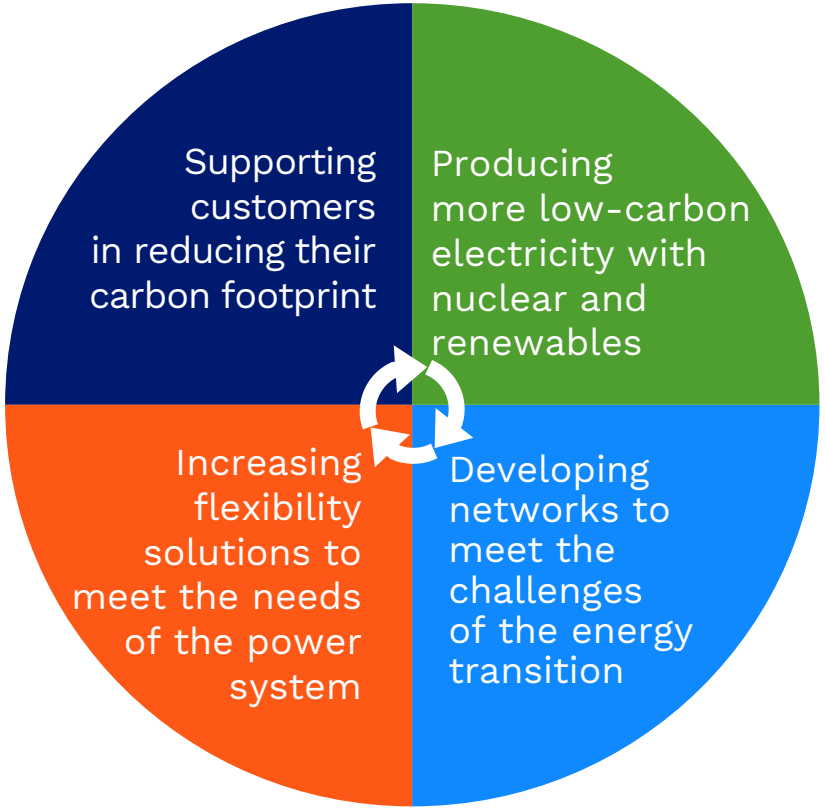
# Building the electricity system of tomorrow

PROJET D'ENTREPRISE
AMBITIONS 2035

**Ambitions 2035**: main KPIs to measure the deployment of the strategy and the development of new electricity uses and demand

## Customers:

- Contributing directly to **150TWh of additional demand of electricity** in France, to replace fossil energies
- 8-9 million customers with a decarbonization offer in the G4 countries(1)
- **> 45Mt$CO_2$ avoided/year** in the G4 countries
- 1.5 contract/individual customer in the G4 countries




## Low-carbon generation:

- **75% of dispatchable assets** in the energy mix(2)
- Ability to deliver up to 2 nuclear reactors/year
- **8GW gross of renewable** commissioned/year by the Group on average over 2024-2035
- Ensure maximum available electricity supply, safely and on time
- **22g$CO_2$** emitted on average/kWh produced

## Flexibility:

- Leader in flexibility solutions for its core markets
- **+27GW of flexibilities** (flexible decarbonized generation and storage assets, customer flexibility)

## Networks(3):

- Continuing the development of **network intelligence**
- **Meeting customers' connection needs** while ensuring optimised network management
- Restoration of power to 90% of customers within less than 48 hours in the event of a climate hazard (excluding exceptional circumstances)
- Network resilience in non-interconnected zones, with 100% renewable electricity

(1) G4 countries are France, Italy, UK, Belgium.
(2) Calculated in net TWh.
(3) In France, the public distribution network is managed independently by Enedis.

# Business model

## ASSETS AND RESOURCES

### Customer proximity
- **34.9** million electricity customers
- **6.6** million gas customers
- **Leading brands**: EDF, Edison, Luminus, Dalkia
- **210.3** million annual visits on digital consumption monitoring platforms

### A human ambition
- **191,444** employees
- Nearly **7.9** million hours of training provided, an average of **51.5** hours per employee

### An ambitious innovative ecosystem
- **2,124** R&D employees (EDF SA)
- **€752m** in consolidated expenses R&D 2024 (Group)
- **783** patented innovations at end-2024 by the R&D (EDF SA & Enedis)

### Major industrial assets
- **118.8GW** of electricity generation capacity
- An integrated nuclear industry
- EPR technology
- A portfolio of wind and solar projects of c.**114GW** gross
- **1.4** million km of distribution network
- **44.2** million smart meters installed
- **330** heating and cooling networks operated by Dalkia

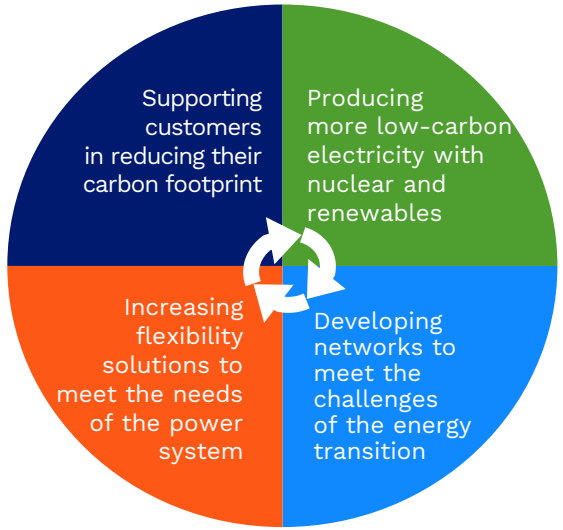
### A strong CSR commitment
- **A** rating CDP Climate Change & Water security
- Impact score: **73/100**
- EDF among **41** leaders in corporate climate policy commitment for 2024
- **€32.7bn** of Green & Sustainable funding

## BUSINESS MODEL

The *Raison d'être* of EDF: To build a net zero energy future with electricity and innovative solutions and services, to help save the planet and drive wellbeing and economic development.

### Ambitions 2035

EDF is building the electricity system of tomorrow with "Ambitions 2035"




## VALUE CREATION - 2024

### For the climate and the environment
- An ambition to contribute to **net zero emission** by 2050
- Electricity output of **520TWh,** at **94%** decarbonised with emissions of **30g$CO_2$/kWh**
- Ecosystem restoration: **6 sites** renaturated by 2025
- **90%** of the Group's conventional waste directed to reprocessing facilities

### For customers
- N°1 in customer relations in the 'Entreprises de Services' sector
- 13.4Mt of $CO_2$ emissions avoided through the sale of innovative products and services

### For partners and territories
- **95.4%** of EDF purchases are ordered on the national territory
- **1** direct job at EDF SA generates **4.8** jobs on the national territory
- **100%** of projects are subject to consultation

### For employees
- An employee engagement index of **75%**
- Women represent **26.7%** in Management Committees
- Health and safety: LTIR of **1.6**

Sales: **€118.7bn**

EBITDA: **€36.5bn**

Net income excl. non-recurring items: **€15.2bn**

**Sharing added value with our stakeholders**

**Suppliers**
Purchases
**€10.8bn**
EDF group Global CSR agreement

**States and territories**
Taxes
**€4.1bn**

**Employees**
Remuneration
**€16.9bn**

*For more details see p.9 of the 2024 Universal Registered Document*

# EDF Group strategy



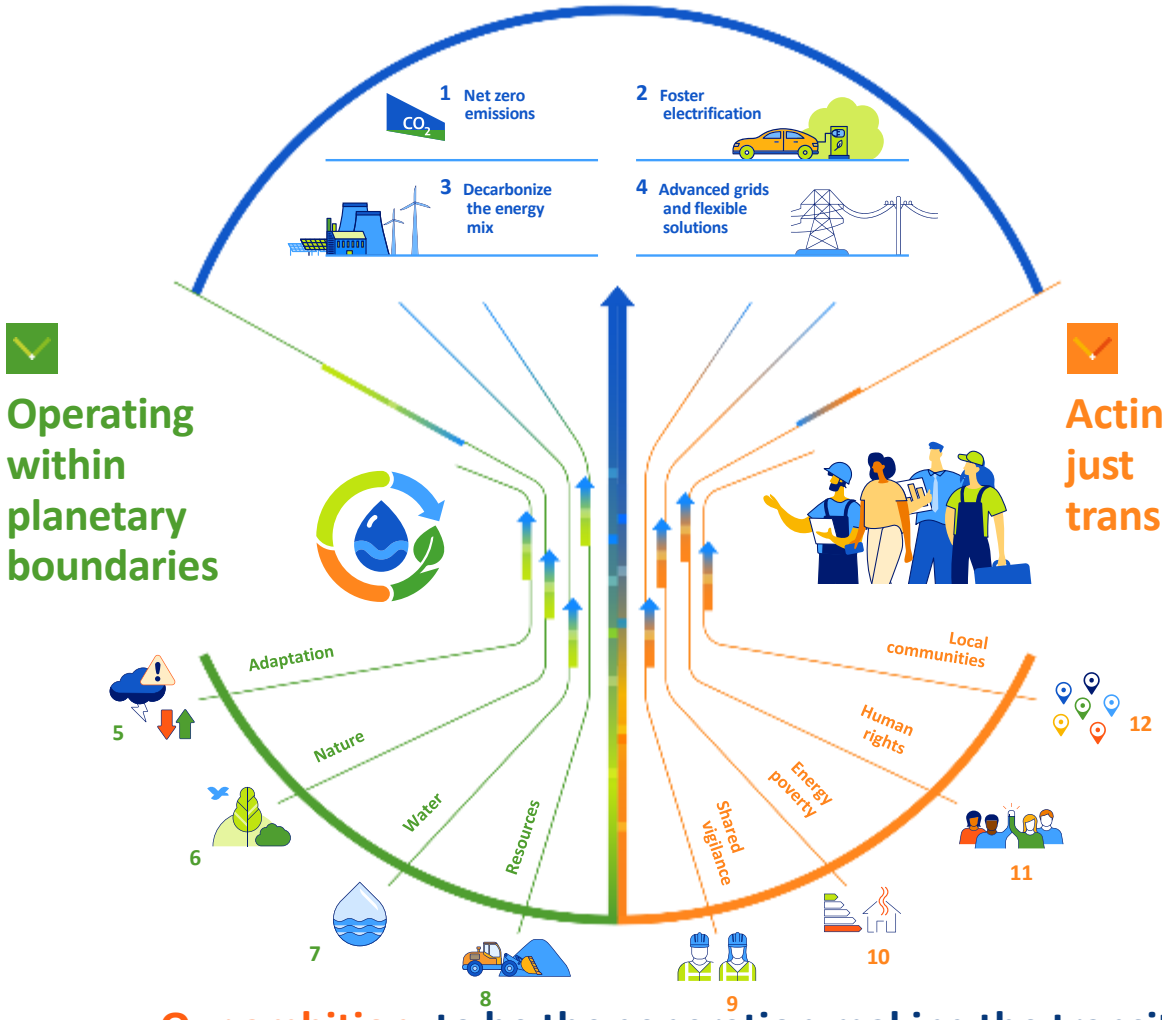
# OUR CSR COMMITMENTS

## Our *Raison d'être:*

**To build a net zero energy future with electricity and innovative solutions and services, to help save the planet and drive wellbeing and economic development.**

As part of our "Ambitions 2035" strategic plan, **EDF has set out 3 main objectives and 12 CSR commitments.**

## Building the electricity system of tomorrow




**Our ambition: to be the generation making the transition**

### Building the electricity system of tomorrow

1. **Achieve net zero emissions** across all our activities by 2050.
2. **Foster electrification:** support our customers in adopting innovative, low-carbon solutions.
3. **Decarbonize the energy mix:** accelerate the displacement of fossil fuels with low-carbon electricity and heat, through our existing and future nuclear and renewable power plants.
4. **Develop advanced grids and flexible solutions** to meet the needs of the electricity system and drive the energy transition.

### Operating within planetary boundaries

5. **Adaptation:** reinforce the capacity of our local operations to adapt to climate disruptions.
6. **Nature:** contribute to the regeneration of ecosystems and mitigate our negative impacts.
7. **Water:** contribute to preserving water resources to increase the resilience of ecosystems and to satisfy water demand in a concerted and sustainable manner.
8. **Resources:** commit to a circular model which requires fewer raw materials, as well as to the responsible management of our nuclear and conventional waste.

### Acting for a just transition

9. **Shared vigilance:** safeguard the health and safety of all employees, partners and suppliers.
10. **Combat energy poverty.**
11. **Champion human rights** to promote greater inclusion, diversity and positive impact in our value chain.
12. **Promote thriving local communities:** maximise our positive impact on the territories where we operate through consultation with stakeholders and respect for their fundamental rights.

# 12 KPIs for measuring the 12 CSR commitments

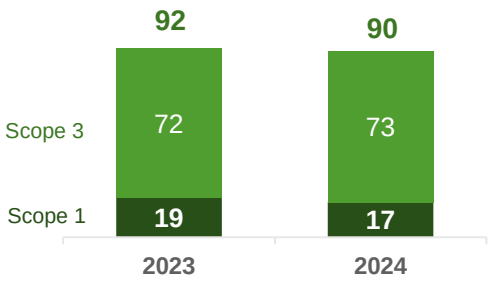
| CSR Commitments | Key performance indicators | Targets | 2022 | 2023 | 2024 | Deadline | Scope |
|---|---|---|---|---|---|---|---|
| **Building the electricity system of tomorrow** | | | | | | | |
| Achieve net zero emissions | Direct greenhouse gas emissions (scope 1) | **-80% vs 2017** | | -63% | **-66%** | 2035 | Group |
| | Indirect greenhouse gas emissions (scope 3) | **-45% vs 2019** | | -39% | **-38%** | | |
| Fostering electrification | Avoided $CO_2$ emissions thanks to sales of innovative goods and services | **45Mt$CO_2$** | 11.4 | 12.4 | **13.4** | 2035 | Group |
| Decarbonising the energy mix | Carbon intensity: specific $CO_2$ emissions from electricity and heat generation | **22g$CO_2$/kWh** | 50 | 37 | **30** | 2035 | Group |
| | Development of renewables | **8 average gross GW commissioned / year** | | 2.9 | **3.2** | | |
| Develop advance grids and flexible solutions | Network development: average annual outage duration experienced by customers | **62 min** | 59.5 | 72.9 | **71.6** | 2025 | Enedis |
| **Working within the planetary boundaries** | | | | | | | |
| Adaptation | Percentage of adaptation plans updated in the last 2 years | **100%** | | | **54%** | 2025 | Group |
| Nature | Ecosystem restoration: preservation/restoration of natural areas | **12 sites** | | | **6** | 2025 | EDF SA |
| Water | Water intensity: water consumed/electricity generated by fleet | **<0.9l/kWh** | 0.75 | 0.82 | **0.86** | 2027 | Group |
| Resources | Annual rate of conventional waste directed towards a waster recovery industry | **>90%** | 88.4 | 85.3 | **90** | 2027 | Group |
| **Acting for a just transition** | | | | | | | |
| Shared vigilance | Global LTIR | **<1 per million** | 1.9 | 1.7 | **1.6** | 2030 | Group |
| Combat energy poverty | Energy poverty: number of avoided power limitations compared to the number of implemented power limitation | | | | **398,612 avoided 426,938 achieved** | | Group |
| Champion human rights | Gender balance mix: women among executives of the group | **40%** | | 24.0% | **26.7%** | 2030 | Group |
| | Payment deadlines | **60 days** | | | **<60** | 2035 | G4 |
| Regional vitality | Annual local procurement rate | | | 94.5% | **95.4%** | | EDF SA |
| | Annual rate of projects for which a dialogue and consultation procedure is engaged | **100%** | 100% | 100% | **100%** | 2025 | Group |

# A “Net Zero Emissions” target supported by an ambitious carbon trajectory and concrete actions

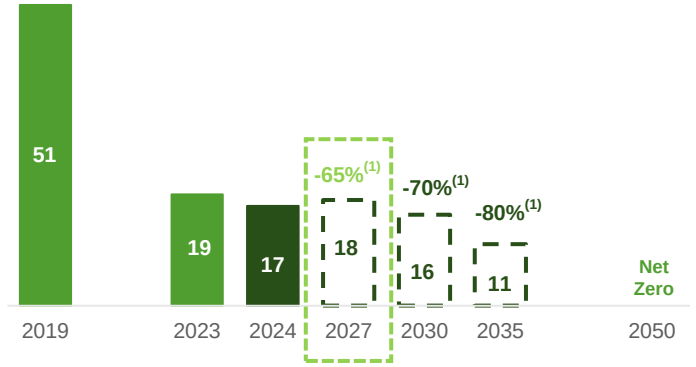
## Continuous decrease of EDF’s carbon footprint

In $MtCO_2eq$

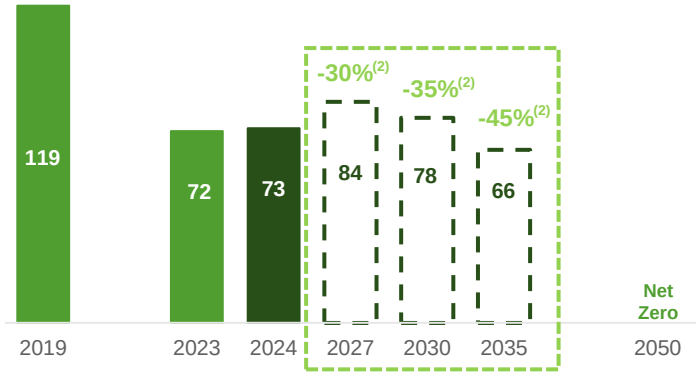
### Carbon footprint




### Scope 1 emissions




### Scope 3 emissions

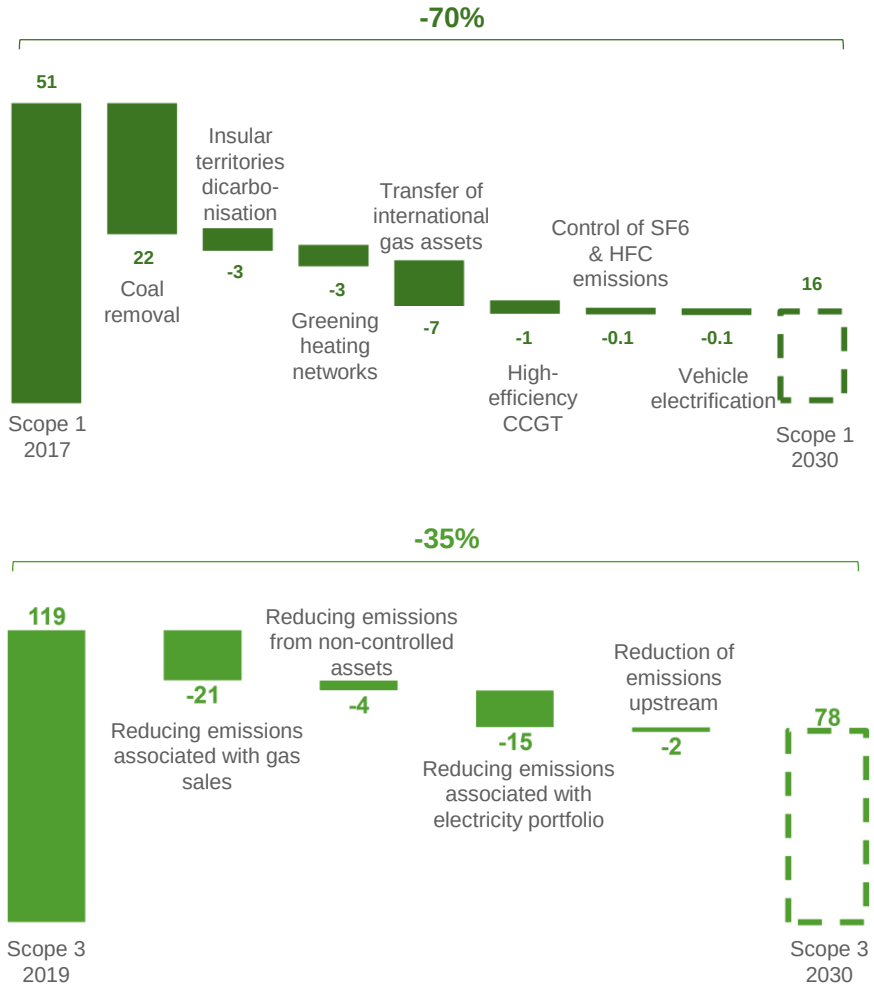



New targets

(1) Vs 2017.

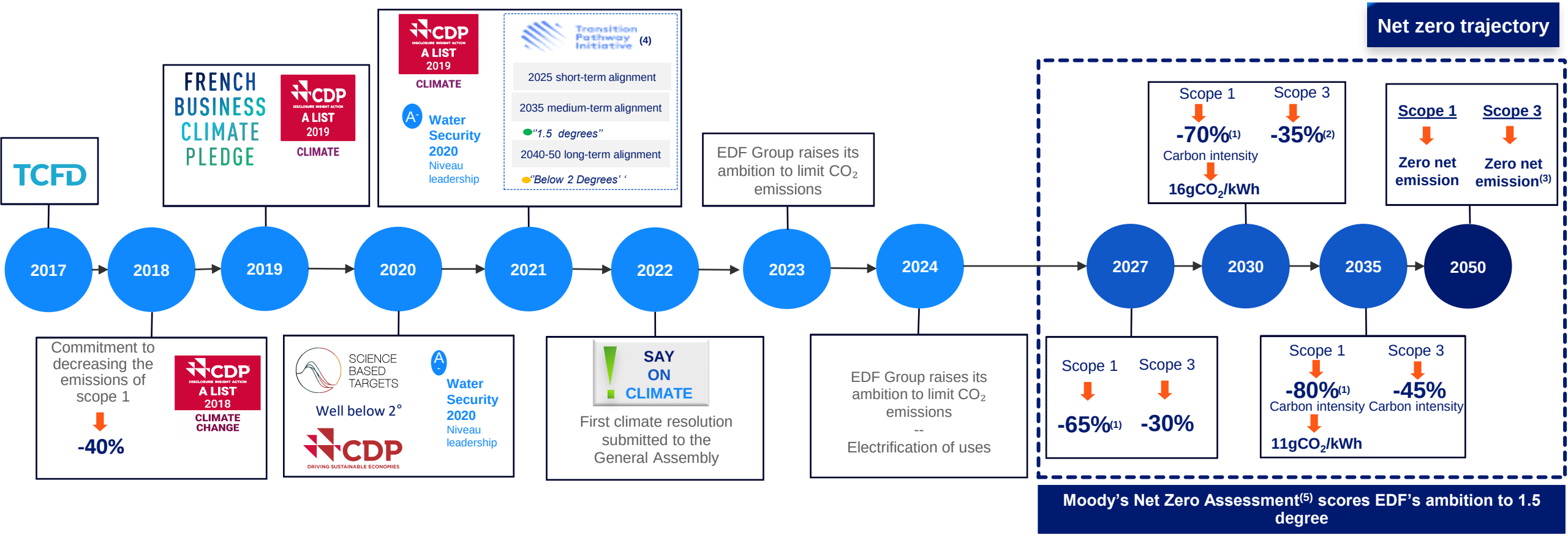
(2) Vs 2019. Previous 2030 target of -28%.

## Actions



# EDF, a company committed to protecting the climate

Since the Paris Agreement, EDF developed its actions and commitments dedicated to climate: committing to its direct and indirect emissions, developing its governance and keeping its leader position in CDP Climate.




(1) Vs 2017 ; (2) Vs 2019.
(3) Expressed by: almost zero direct emissions (Scope 1), decrease in the indirect emissions as important as possible (Scope 3), contribution of the residual emissions through negative emission projects (3 scopes).
(4) Transition pathway initiative.
(5) Net Zero Assessment report.

# Non-financial ratings

**2024 RESULTS**

EDF

Worldwide average rating
*: Sector average rating


**The Moody's ESG score obtained in 2024 is valid for 2 years.

## MAIN INTERNATIONAL COALITIONS of EDF

EV 100 by THE CLIMATE GROUP

act4nature international

WE MEAN BUSINESS

United Nations Global Compact

# Green financing framework

**Respects the Green Bond Principles**

Since 2013, EDF's Framework has followed the requirements and key recommendations of **the ICMA Green Bond Principles including robust transparent annual impact reporting.** This framework is subject to an annual verification report

**Aligned to the EU Taxonomy**

The Framework includes only eligible project categories with investments that **are fully aligned with the EU Taxonomy**, including the technical screening criteria "Do No Significant Harm" (DNSH) and minimum social safeguards

**Best in class**

The Framework has been subject to an independent second party review, **CICERO Shades of Green** which has awarded it a certified "Medium Green" rating and "Likely aligned" with the EU Taxonomy(1)

(1) CICERO Shades of Green uses the terminology "likely aligned/partially aligned/not aligned". The term "likely" is not to indicate an uncertainty in CICERO's assessment but is meant to reflect the current lack of official authority as a verifier of the EU Taxonomy.

# Green Financing Framework following best market practices and aligned with the EU Taxonomy

**Framework aligned with best market practices and with the European Taxonomy; it includes Green Bonds, Green Commercial Paper, Green Loans, Green Repo.**

| 1 - **Use of funds** | 2 - **Project selection process** | 3 - **Fund management** | 4 - **Reporting** | 5 - **External review** |
|---|---|---|---|---|
| Use of Proceeds limited to projects in the below eligible categories:<br>• Renewable power projects<br>• Hydropower generation<br>• Energy efficiency projects<br>• Distribution of electricity<br>• Nuclear power generation<br><br>Eligible investments aligned with the EU Taxonomy, including "Do No Significant Harm" criteria and minimum social safeguards<br><br>Look-back period limited to 3 calendar years from the issuance year | Ad-hoc working group responsible for helping EDF entities identify eligible projects and verifying their eligibility<br><br>Verification and reports Taxonomy eligible CAPEX in the Universal Registration Document<br><br>Investments may include tangible or intangible assets, investments and operating expenditures (R&D, maintenance of assets) | Funds managed and monitored separately until their allocation to eligible projects. Funds invested in Socially Responsible Investments funds until their allocation<br><br>Net proceeds of green bond issuances dedicated to nuclear power generation managed in a portfolio separate from other issuances to ensure full traceability<br><br>Best efforts to allocate the proceeds within 24 months after issuance | At half-yearly intervals: allocation of funds<br><br>Annually: allocation of funds, list of projects financed, environmental impacts for each green financing in URD and website | External ex-ante opinion: "Medium Green" rating and "Likely aligned" with the EU Taxonomy by Cicero on the Framework<br><br>Ex-post certification: annual report issued by an external auditor on the allocation of funds and the compliance of Green Financings with the Framework, the Green Bond Principles, the compliance of the $CO_2$ emissions calculation terms |

**In April 2025, EDF updated it Green Financing Framework and notably added nuclear power generation within the United Kingdom authorized by the competent UK authorities (the Office for Nuclear Regulation).**

# Green financing: allocation of the proceeds

| Issue date | Instrument | Maturity | Nominal amount | New renewable capacities | Investments in hydro facilities | Biodiversity projects | Distribution of electricity projects[1] | Existing French nuclear reactors[2] |
|---|---|---|---|---|---|---|---|---|
| **Nov. 2013** | Bond | 7.5Y | **1,400M€** | **1,400** | - | - | - | - |
| **Oct. 2015** | Bond | 10Y | **1,250M$** | **1,250** | - | - | - | - |
| **Oct. 2016** | Bond | 10Y | **1,750M€** | **1,248** | **502** | - | - | - |
| **Jan. 2017** | Bond | 12Y–15Y | **26,000M¥** | **14,021** | **11,979** | - | - | - |
| **Sept. 2020** | Bond | 4Y | **2,400M€** | **2,421** | **110** | **28** | - | - |
| **Nov. 2021** | Bond | 12Y | **1,850M€** | **1,594** | **189** | **23** | - | - |
| **Oct. 2022** | Bond | 12 | **1,250M€** | - | - | - | **1,250** | - |
| **Jul-2023** | REPO | Evergreen | **565M€** | - | - | - | **565** | - |
| **Aug-2023** | Bond | 4Y–8Y | **325MCHF** | - | - | - | **325** | - |
| **Nov. 2023** | Bond | 3.5Y | **1,000M€** | - | - | - | - | **1,000** |
| **May-July 2024** | Bank loans | 3Y-5Y | **6,185M€** | - | - | - | - | **6,185** |
| **2024** | NeuCP[3] | 5,5M | **412M€** | **36** | **371** | **5** | - | - |
| **Jun. 2024** | Bond | 7Y - 12Y - 20Y | **3,000M€** | **750** | - | - | **97[4]** | **1,000** |
| **Sept. 2024** | Bond | 5Y-8Y | **310MCHF** | **310** | - | - | - | - |
| **Sept. 2024** | Hybrid bond | NC5-NC8 | **1,150M€** | - | - | - | - | **1,150** |
| **Sept. 2024** | Hybrid bond | NC11 | **500M£** | - | - | - | - | **500** |

(1) Connection of renewable capacity & of smart meters, new grid lines built.
(2) In relation to their lifetime extension.
(3) Allocation of the maximum amount issued during 2024.
(4) 97M€ have financed 2023 Enedis capex, the 1,153M€ remaining are invested in SRI funds at end-2024.

# Green financing: impact reporting

| Technology | Total amount (in MEUR eq.) | Total net(1) capacity of financed projects (in MW) | Expected net(1) avoided $CO_2$ emissions (in Mt/year) |
|---|---|---|---|
| **Onshore wind projects** | **4,751** | **3,587** | **4.31** |
| **Offshore wind projects** | **1,227** | **399** | **0.58** |
| **Solar projects** | **2,953** | **2,602** | **1.75** |
| **Hydro facilities** | **1,245** | **1,599** | **0.0** |
| *Incl. biodiversity projects* | *56* | *N/A* | - |
| **Nuclear:** Existing French nuclear reactors in relation to their lifetime extension | **9,927** | **N/A** | **6.05** |

| Technology | Total amount (in MEUR) | Renewable capacity connected (in MW) | VE charging station connected | New grid lines built (in km) |
|---|---|---|---|---|
| **Distribution of electricity projects(2)** | **2,210** | **12,419** | **32,126** | **5,907** |

The detailed list of EDF Renewables projects and hydraulic investment operations by category are published in EDF 2024 URD.

(1) Sum of the impacts of each project weighted by the share of total investment funded by the corresponding Green Bond.

(2) Impact reporting based on KPIs of Enedis on 2021 to 2023.

# EDF Group strategy



# Innovation for net zero

The **innovation division of EDF Group** identifies and develops new **activities and innovative solutions** required to **reach net zero in 2050**

## Strategic areas for innovation

examples of start-ups supported(1)

Helping customers reduce their carbon footprint

- urbanomy
- PERSEFONI
- oklima
- BeZero

Producing low-carbon electricity

- SPOTR
- ekoscan INTEGRITY
- metroscope
- sweetch energy

Adapting to a constantly changing world

- NATURE METRICS
- CHEMDOC
- yxir

**23**
start-ups in the 2024 portfolio

**540M€+**
invested since 2017 in start-ups & VC funds

**2**
new investment in start-ups in 2024

**12,000+**
start-ups identified by the open innovation team

(1) See all the start-ups supported by EDF Pulse Ventures.

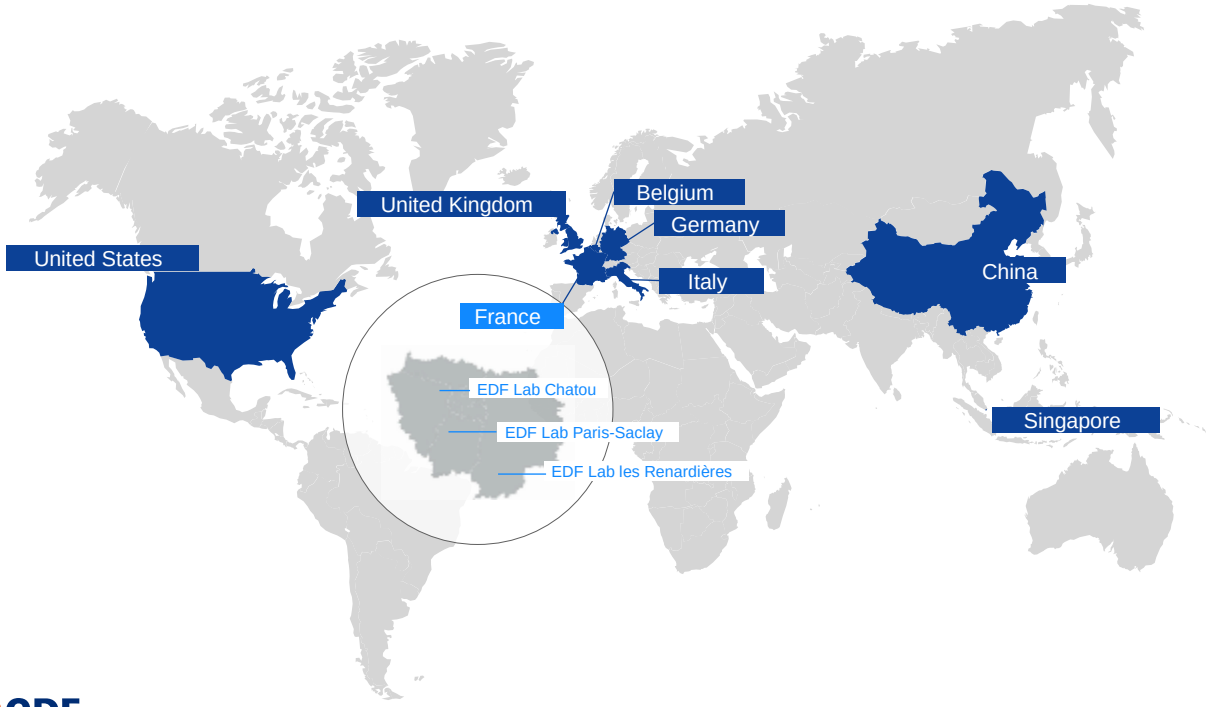
# R&D: innovate today and venture into tomorrow

Through the expertise of its researchers in all the business areas and activities in energy, its testing resources and digital capacity, the R&D is preparing the future and opening new opportunities for the energy system.

In line with EDF group's *Raison d'être* and strategy, its research focuses on four main priorities:

| Decarbonising the uses thanks to electricity | Strengthening the performance of generation assets | Inventing tomorrow's energy system | Accelerating digital transformation |
|---|---|---|---|

- R&D mobilises its energy experts for the benefit of the EDF group's entities and subsidiaries, as well as external customers
  It relies on more than 70 platforms for testing, measurement and simulation, among the most modern and effective in the world, in all areas of the energy sector
- R&D also provides its customers with expertise in large-scale digital simulation software and supercomputers
  EDF's R&D has a computing capacity of 11 petaFLOPS, making it one of the major players in this field




## EDF SA's R&D in 2024

> 1,842 employees worldwide

> 140 PhD students in France

> 9 research centres:

- 3 in France
- 6 internationally (Germany, United Kingdom, China, United States, Singapore and Italy)

> 20 joint laboratories with partners

> +300 academic and industrial partnerships around the world

> 783 patented innovations protected by 2,172 property titles in France and abroad

> €752 million expenses in 2024 (EDF SA, Framatome, Enedis, EDF Energy, Arabelle Solutions)

> 100% of R&D operating budgets in France dedicated to decarbonization and energy system transition

### R&D present in all key technologies for the energy transition

Based in regions home to a wealth of innovative technologies and business models, EDF's international research centres manage or support key Group projects **on microgrids, hydrogen, offshore wind, mobility**

# Table of contents

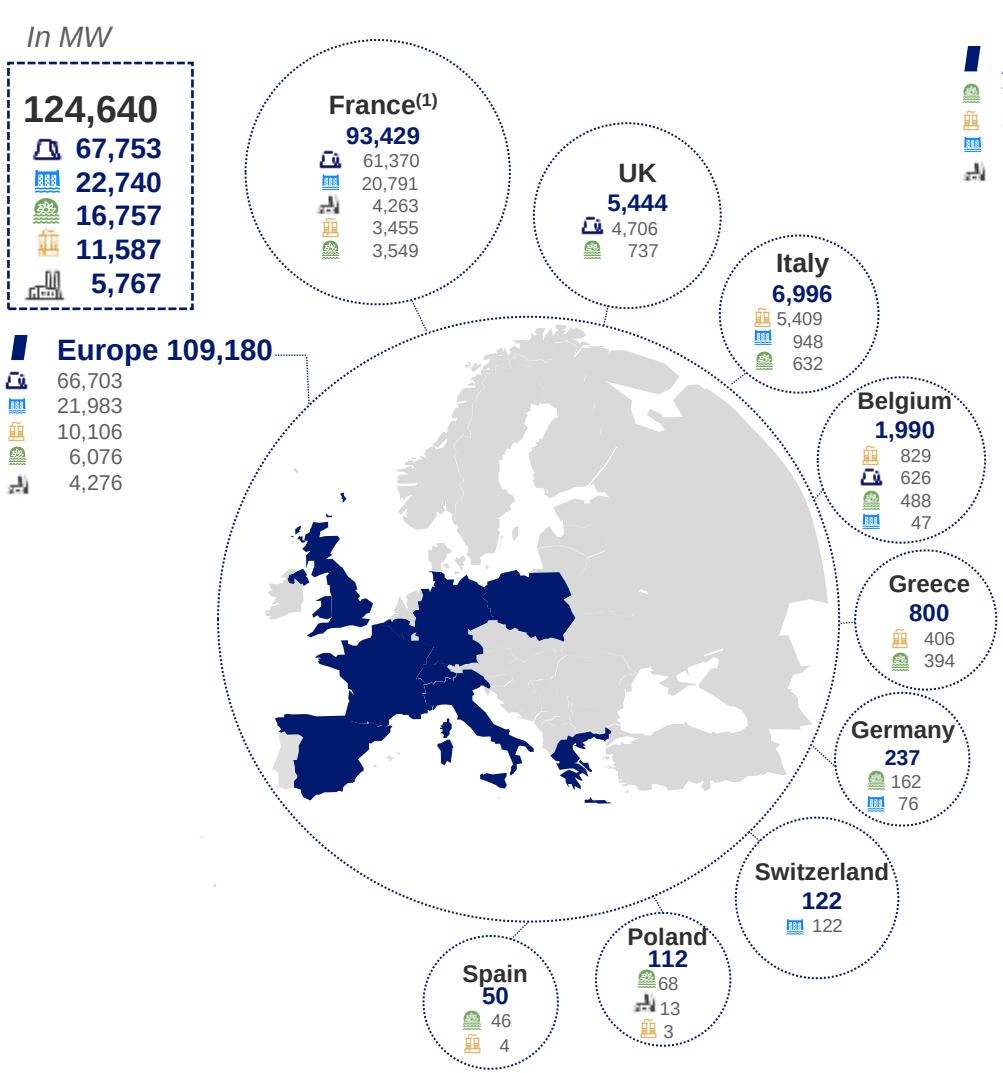


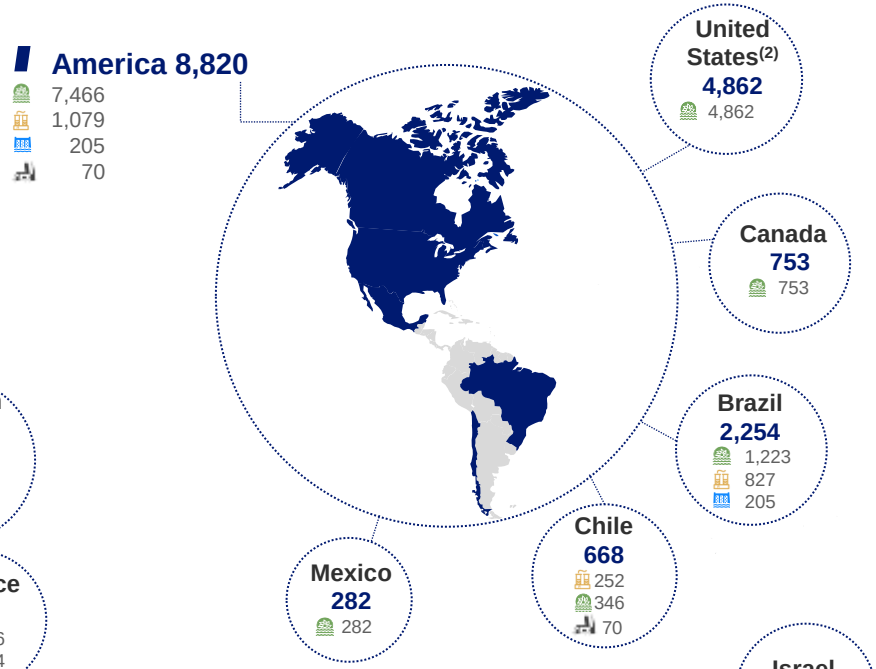
# EDF group's net installed capacity by country at end-2024

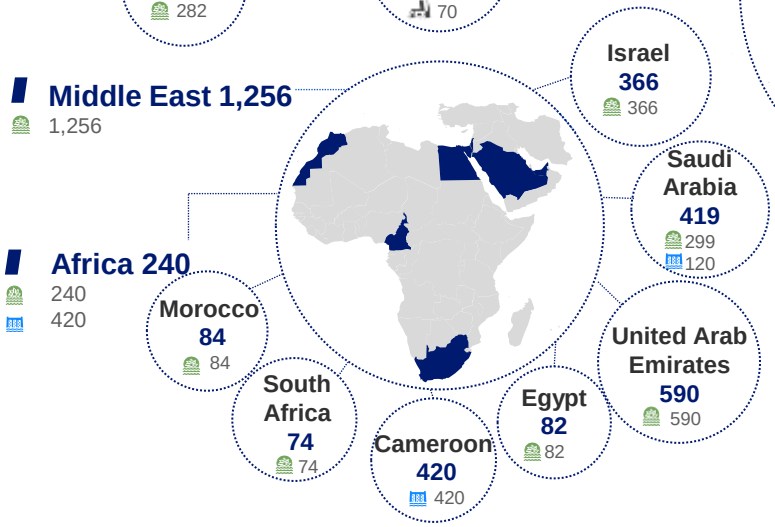
Net capacity according to EDF's percentage ownership in Group companies, including associates and joint ventures.

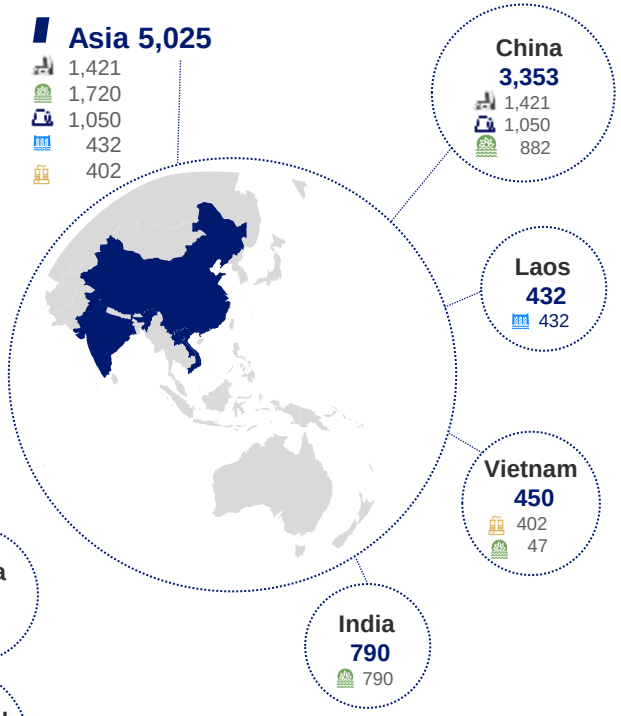
*In MW*

**124,640**
67,753
22,740
16,757
11,587
5,767




Nuclear
Hydropower
Renewables (excl. hydro)
Gas (including cogeneration)
Fossil-fired (coal and fuel oil)

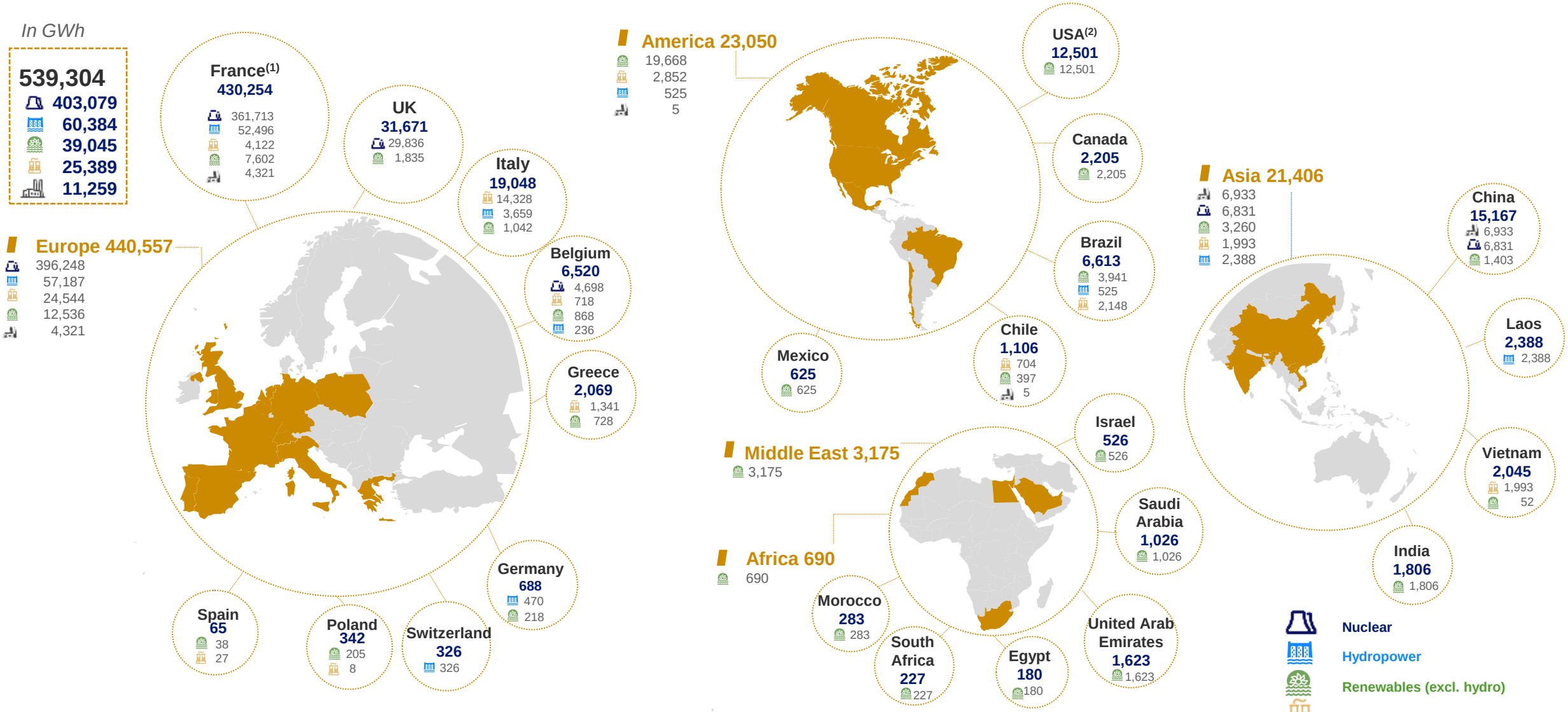
(1) Including small hydropower plants in mainland France and assets in overseas France.
(2) Excluding energy storage capacity and EDF Renewables biogas production capacity.

# EDF group's net output by country in 2024

Net output according to EDF's percentage ownership in Group companies, including associates and joint ventures.

*In GWh*

**539,304**
403,079
60,384
39,045
25,389
11,259




(1) Including small hydropower plants in mainland France and assets in overseas France.

(2) Excluding energy storage capacity and EDF Renewables biogas production capacity.

# France: generation and supply activities of EDF

**Key points**

- Active across the whole electricity value chain, from generation to sales and optimisation/trading
- Operating the largest nuclear fleet worldwide (57 reactors, including the EPR Flamanville 3)
- Hydropower, the leading source of renewable electricity with 424 hydropower plants
- Decarbonization of the thermal fleet: studies on replacement of fuel by biofuel and plan to shut down the last two coal-fired units at Cordemais by 2027

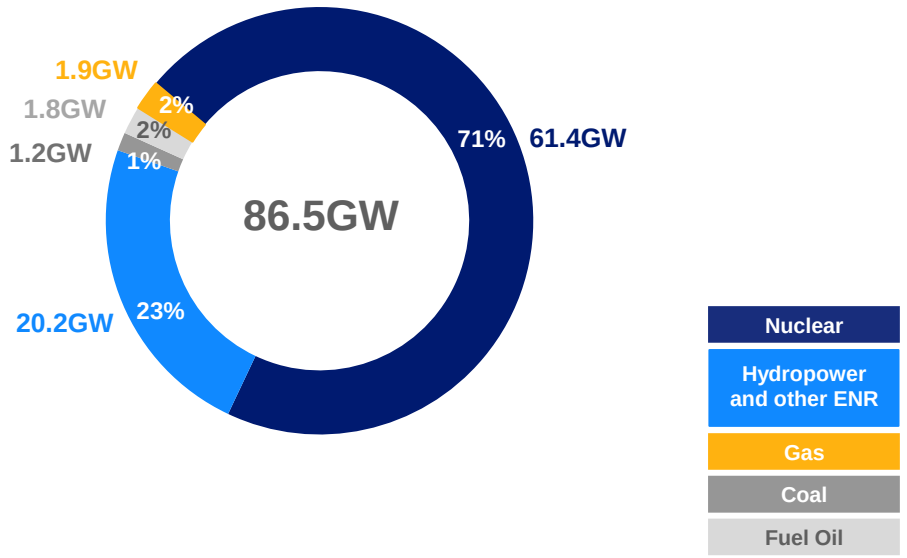
*Other activities in France*

- EDF Renewables *(p.56)* and EDF International, gas activities *(p.95)*
- Dalkia *(p.94)*
- Framatome *(p.46)* and Arabelle Solutions *(p.47)*
- Enedis (*p.73*)

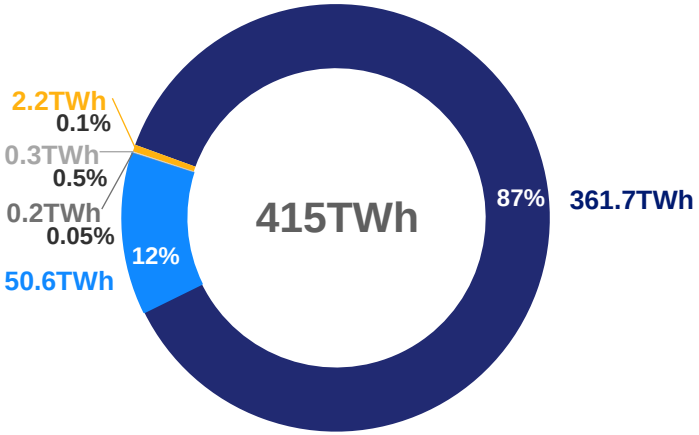
**Key figures**

- €21.0bn: EBITDA
- 29.4m: customer sites (26.8m: electricity and 2.6m: gas)
- ~65,000: workforce EDF SA
- >99%: $CO_2$-free generation(1)

## Installed capacity




## Electricity generation




(1) Direct emissions, excluding life cycle analysis of generation means and fuels.

# France: regulated activities (Enedis, Électricité de Strasbourg & Island Activities)

## Enedis

- The largest distribution grid in Europe and the main distribution grid in France connecting 95% of the metropolitan population with the monopoly on 356 concession contracts
- A regulated business model: Enedis' revenues has defined by the TURPE tariff
- €96bn net investments planned over the period 2023-2040 to support the energy transition dedicated to the resilience of the network and its development to new renewable capacity and EV charging capacity

*(see p.73)*

**Key figures**:

- €4.5bn: EBITDA
- 38.8m customers (o/w 28.9m EDF)
- Net investments (€5.3bn in 2024)
- Headcount (~41k)
- 1.4m km electric network

## Island Activities

Integrated business model including generation, electricity purchases, distribution (via concessions) and supply at the regulated tariff

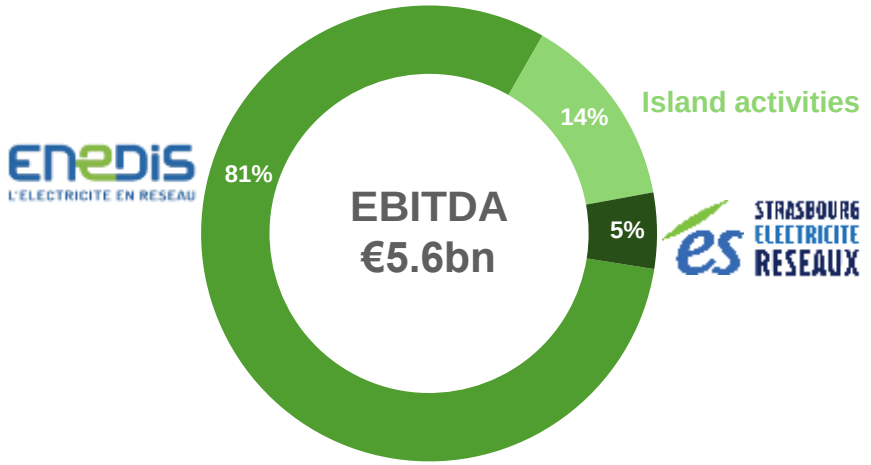
- Capacity 2.0GW(1) (fuel 78%, hydropower and other renewables 22%)
- Electricity generation 6.0TWh(1): fuel 82%, renewables (incl. hydropower) 18%
- 1.3m of customers (electricity)
- Decarbonization of the fleet: start of work on the Ricanto liquid biomass power plant (130MW - France), replacing the Vazzio thermal power plant

*(see p.78)*

## Électricité de Strasbourg

- Electricity distribution (16,000km electric network)
- Energy supply to 0.58m customers (electricity) & 0.11m customers (gas and biogas), energy services, renewable energy generation

*(see p.78)*




(1) Fully consolidated data as of 31/12/2024.

# United-Kingdom: EDF Energy

**Key points**

- Largest producer of low carbon electricity in the UK
- 9 reactors in 5 nuclear power stations
- Nuclear New Built: Hinkley Point C 3.26GW EPR under construction *(p.37)*
- Project under development Sizewell C 3.26GW EPR *(p.37)*
- Electric vehicles charge point operator through Pod Point (EDF's stake: 54.05%)

**Key figures**

- €3.0bn: EBITDA
- 5.3m of customer accounts (3.1m: electricity and 2.2m: gas)
- ~12,700: workforce
- 100% $CO_2$ free generation(1)

**Market share 9.7%(2)**

Electricity supply: 45TWh

Domestic gas supply: 27TWh

**And for this country**

- Renewable energy generation from wind farms by EDF Renewables *(p.56)*
- Optimisation and risk management services for the EDF group as well as for third parties, via EDF Trading *(p.81)* and EDF Energy

**Nuclear installed capacity(3)**

**5.9GW**

**Nuclear electricity generation(3)**

**37.3TWh**

(1) Direct emissions, excluding life cycle analysis of generation means and fuels.
(2) UK Gas and Electricity market share as per Cornwall data at 31/10/2024.
(3) The figures shown represent 100% of nuclear capacity and generation, split 80%/20% between EDF Energy and Centrica.

# Italy: Edison

**A major actor in energy transition in Italy[1]**

**Key strategic priorities for 2030:**

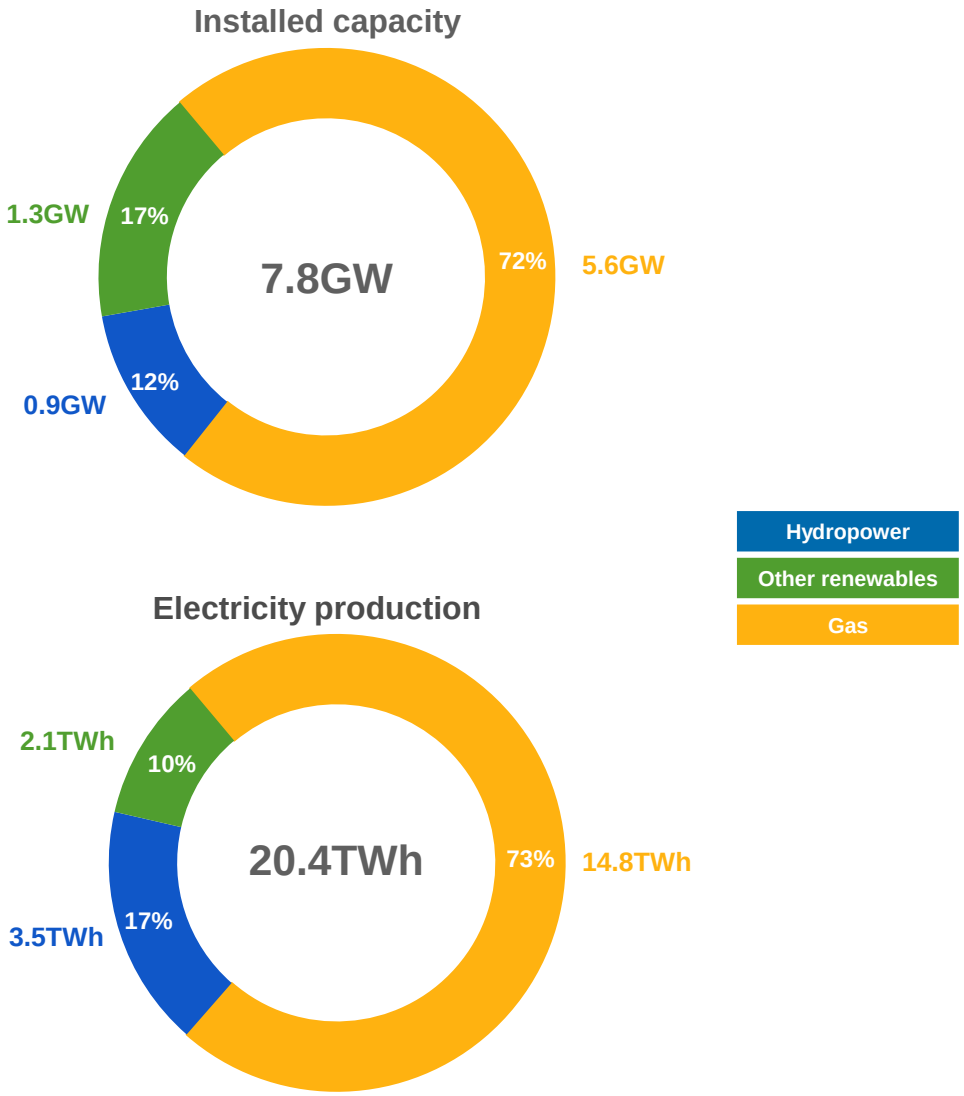
- Lead growth in renewables and flexibility to the grid:
  - increasing renewable installed capacity from 2 to 5GW by 2030
  - energy mix 40% decarbonized by 2030
  - 70% of EBITDA stemming from renewables, flexibility and downstream activities
  - 85% of all investments aligned with the United Nations' SDGs
- Adapt long term gas portfolio to the decreasing Italian market, maintaining a 20% market share in Italian gas sales and develop green gases (biomethane and $H_2$)
- Growth of customer portfolio (target: 4m contracts by 2030) and development of a leading platform of value-added services and energy services for B2C, B2B and B2G

**Key figures:**

- Edison output representing 8% of Italian generation
- 14bcm of natural gas imports, representing > 20% market share in Italy
- €1.8bn: EBITDA
- 3m industrial, residential, SME and Value-Added Services contracts[2] (+38% vs.2023)
- 6,000: workforce
- 27%: carbon-free generation[3]
- 1.3m public lighting points

**Carbon footprint:**

- Carbon intensity: 240g$CO_2$/kWh
- 2 CCGT with cutting-edge technology with a turbine ready to run on hydrogen: Marghera Levante (780MW) - Presenzano (770MW)




(1) According to the 2023 ARERA report.

(2) The number of customers corresponds to the number of electricity and gas delivery sites.

(3) Direct emissions, excluding life cycle analysis of generation means and fuels.

# Belgium (Luminus - EDF Belgium) and other countries in Europe

## Belgium

### Luminus

- 2nd largest player in the Belgian energy market
- 7 hydropower plants
- Leader in wind power with 100 onshore wind farms
- 870MW CCGT under construction at Seraing
- Share of 10.2% (212MW) in Tihange 3 & Doel 4 nuclear power plants
  100MW of drawing rights on the French Chooz B nuclear power plant
- Owned at 68.6% by EDF Group

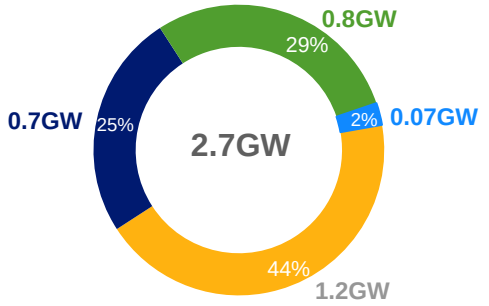
### EDF Belgium

- Share of 50% (481MW) in Tihange 1 nuclear plant(1)

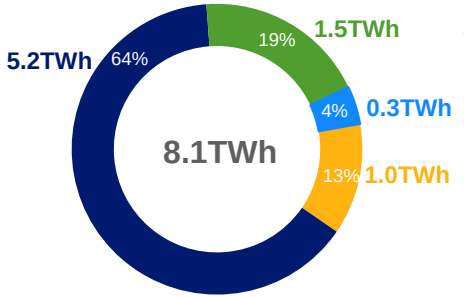
### Key figures

- EBITDA €626m: €535M Luminus SA - €91M EDF Belgium
- 23% electricity market share in Belgium by Luminus
- 2.1m of customers (1.4m: electricity and 0.8m: gas)
- ~2,800: workforce
- 87%: $CO_2$ - free generation(2)

### Installed capacity




### Electricity generation



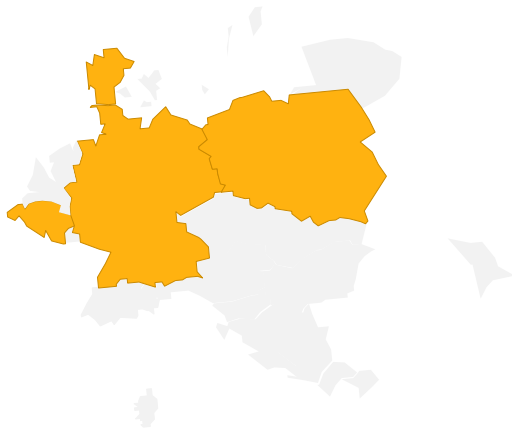

Nuclear
Hydropower
Other renewables
Gas

## Other countries in Europe

Hydrogen: in **Germany**, EDF holds 25% of Hypion, hydrogen project developer

Clients & Services:

- in **Denmark**, public lighting and e-mobility
- in **Poland,** heating district networks and industry decarbonization by Dalkia



(1) 50% participation in the Tihange 1 power plant with Electrabel.
(2) Direct emissions, excluding life cycle analysis of generation means and fuels.

# America

## North America

- **Renewables**: 5.6GW net installed capacity. EDF Renewables, a market leader of O&M services on 16GW capacity
- **Nuclear**: maintenance & modernisation of nuclear plants and fuel supply for these plants by Framatome
- **Services**: local energy services management, efficiency and public lighting by Dalkia

## South America

- **Renewables:**

- **Brazil**: 1.1GW gross of wind in operation or construction - 399MWp gross of solar. Serra do Seridó, the largest wind complex in South America (480MW)
- **Chile:** 175MW gross (87,5MW net) of wind – 595MW gross (297,5MW net) of solar. 480MW CEME 1 solar plant commissioned in 2024
- **Peru:** 5 operating solar-battery plants - 6 off-grid cities projects approved in Amazon region. The country added 2 new hybrid plants to our operating portfolio: Requena and Tamshiyacu

- **Hydroelectric:**

- **Brazil**: Sinop hydropower plant (51% of 402MW)
- **Peru**: Huanchor hydropower plant (20MW)

- **Gas/biomass:**

- **Brazil:** EDF Norte Fluminense CCGT (827MW)
- **Chile:** flexible gas and peak generation capacity (50% of 750MW)
- **Colombia:** construction of a 28MW biomass powerplant

# Africa & Middle east

## Africa

- **Renewables:** in **South Africa,** 140MW gross of wind in operations - 520MW in partnership with Envusa JV and 420MW gross under construction - COD end 2025 for the Umoyilanga project as a 75 MW Virtual Power Plant: PV, wind power and battery
- **Hydroelectric:** in **Cameroon**, end of construction of Nachtigal dam (420MW) and development of Kikot dam (500MW). Development of hydropower plants in **Malawi** (Mpatamanga - 350MW) & **Mozambique** (Mphanda Nkuwa - 1.5GW)
- **Biomass:** construction of a plant in **Ivory Coast** (46MW); 25 MW project awarded in **Eswatini**
- **Off-Grid kits** (distributed energy): >2.5 million people supplied with electricity in **Sub-Saharan Africa**
- **Storage:** 3 battery storage projects under construction (257MW/1024MWh), preferred bidder for the Oasis 2 (Ararat 77MW x 4h battery storage) in South Africa

## Middle East

- **Renewables:** in the **United Arab Emirates**: solar plants in operation: Dewa III (800MW), Al Dhafra PV2 (2GW); project in development: Ajban PV3 (1.5GW solar)
  In **Saudi Arabia**: capacity in operation: Dumat Al Jandal (400MW wind), South Jeddah (300MW solar); under construction: Al Henakiyah (1.1GW solar)
  In **Oman**: Manah-I (500MW solar) under construction, Hydrom green H2 in development
  In **Israel**, wind & solar installed capacity: 616MW gross
- **Hydroelectric: in United Arab Emirates,** management assistance contract for the construction of Hatta pumping station dam (250MW & 1,500MWh)
- **Others:** in **United Arab Emirates**, construction of high voltage subsea cables transmission system for ADNOC**.**
  In **Saudi Arabia**, 2 CCGT projects awarded (Taiba 2 & Qassim 2: 3.6GW in total)
- **Clients & Services:** +100MWc solar PV for C&I customers in operation/construction; cooling network and building decarbonisation, O&M of chilling system by Dalkia

EDF's presence

# Asia & Oceania

## China

- **Nuclear:** 2 EPR nuclear reactors in **Taishan** (30% of 3.5GW)
- **Renewables:** capacity of 476MW net in wind - 310MW net in solar (incl. 180MW PV rooftop)
  In offshore wind energy, **Dongtai IV** (302MW) and **Dongtai V** (200MW) wind farms
- **Thermal-coal:** minority stake in **Fuzhou** ultra-supercritical plant (49% - 2GW), technology reducing fuel consumption and $CO_2$ emissions, **Shandong** plants (19.6% - 3GW), agreement signed in September 2024 to transfer EDF's share to the partner, and **Sanmenxia** supercritical plant (35% - 1.3GW)

## Oceania, Pacific & Central Asia

- **Nuclear:** in **India**, industrial agreement & offer submitted for the construction of **6 EPRs** on the Jaitapur site (~10GW)
- **Renewables:** in **India**, 0.7GW net in operation - commissioning of SECI V wind farm (302MW)
  In **South Korea**: acquisition of the Seahorse offshore wind project (max 1.5GW)
  In **Taiwan**: Wei Lan Hai Changhua offshore wind project in development (440MW)
- **Hydroelectric:** in **Laos**, Nam Theun 2 hydropower plant in operation (1.1GW) - development of a pumped storage plant (500-1,000MW)
  In **Australia**, project of a hydro pumped storage plant (300MW)
- **Gas:** in **Vietnam**, Phu My 2.2 CCGT in operation (0.7GW) and development of Son My 1 CCGT (2.3GW).
  In **Uzbekistan,** construction of 2 CCGT (600 MW in Syrdarya – 1.6GW in Surkhandarya).
- **Smart meters:** in **India,** installation of smart meters (>1.7m installed) & tender won in 2024 for 7 millions additional

# Table of contents



# EDF Group main businesses



# EDF: unique & global expertise and know-how in the nuclear industry

## EDF, a world leader in nuclear energy

**57**
Reactors in operation:
63GW

France

**6**
EPR2 in project:
9.9GW

**9**
Reactors in operation:
5.9GW

UK

**4** EPR
Hinkley Point C
Sizewell C
6.6GW

nuward

**Small Modular Reactor**

**2**
EPR reactors at Taishan
operated by TNPJVC
(30% owned by EDF)
3.5GW

China

## EDF manages the entire lifecycle of nuclear generation facilities: design, operation and decommissioning

**EDF** and its subsidiaries **Framatome**, **Edvance**, **Arabelle Solutions** have engineering teams to develop projects in France and abroad and to operate the fleet:

**Construction of new reactors:**

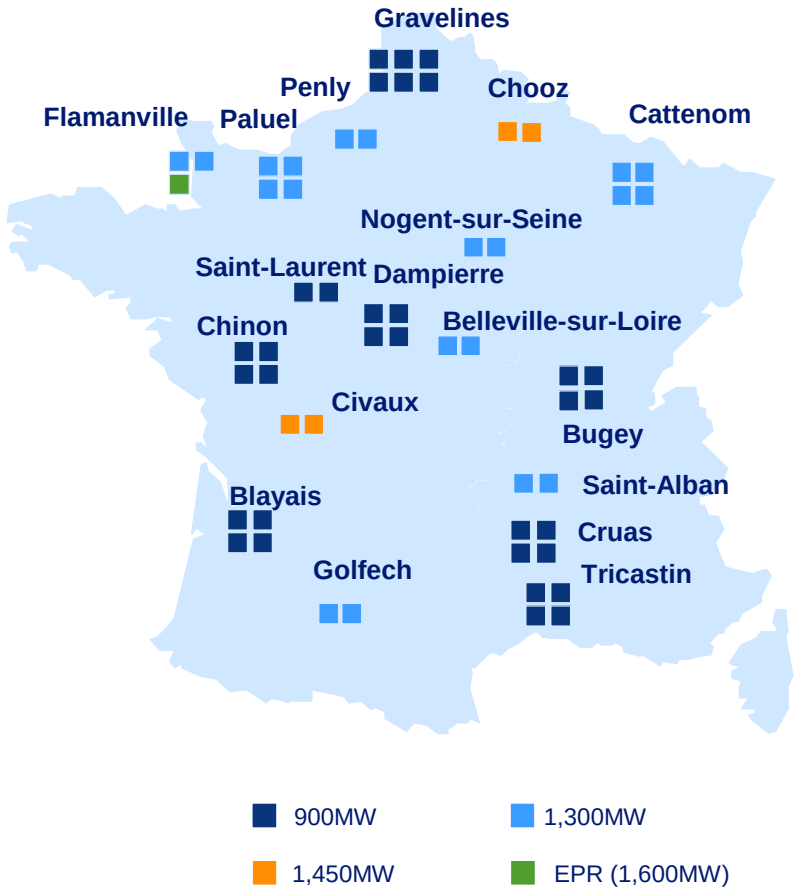
- **In France: EPR** Flamanville 3 connected in 2024, project **of 6 EPR2** *(p44)* and studies for additional 8 EPR2
- **In the UK: c**onstruction of **2 EPR** reactors at Hinkley Point C with a Contract for Difference, development of **2 EPR** reactors at Sizewell C with a Regulated Asset Base funding
- **Development** of **NUWARD SMR** *(p.45)*
- Offers for the development or construction of projects: engineering and procurement for 6 EPR (10GW) to be built by NPCIL at Jaitapur in India

**Extension of the life of the reactors in France beyond 40 years** with constant focus on the safety standard through the **"*Grand Carénage*"** programme *(p.41)*

**Decomissioning of nuclear power plants with the subsidiary Cyclife** *(p.52)* and **radioactive waste treatment** *(p.50)*

# EDF nuclear fleet in France & in the United Kingdom

## In France

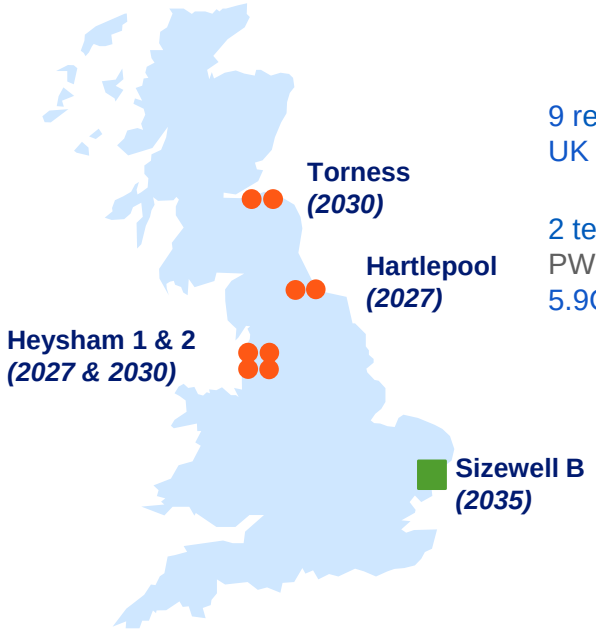



57 reactors generating 67.4%(1) of French power generation in 2024

A unique technology: Pressurised Water Reactors with a capacity of 63GW in 4 series:

- 32 reactors of 900MW (42Y average age)
- 20 reactors of 1,300MW (36Y average age)
- 4 reactors of 1,450MW (23Y average age)
- 1 EPR reactor of 1,600MW

## In the United Kingdom




9 reactors generating 14% of UK output in 2024(2)

2 technologies (AGR and PWR), with total capacity of 5.9GW(3)

Advanced Gas-cooled Reactor (AGR)

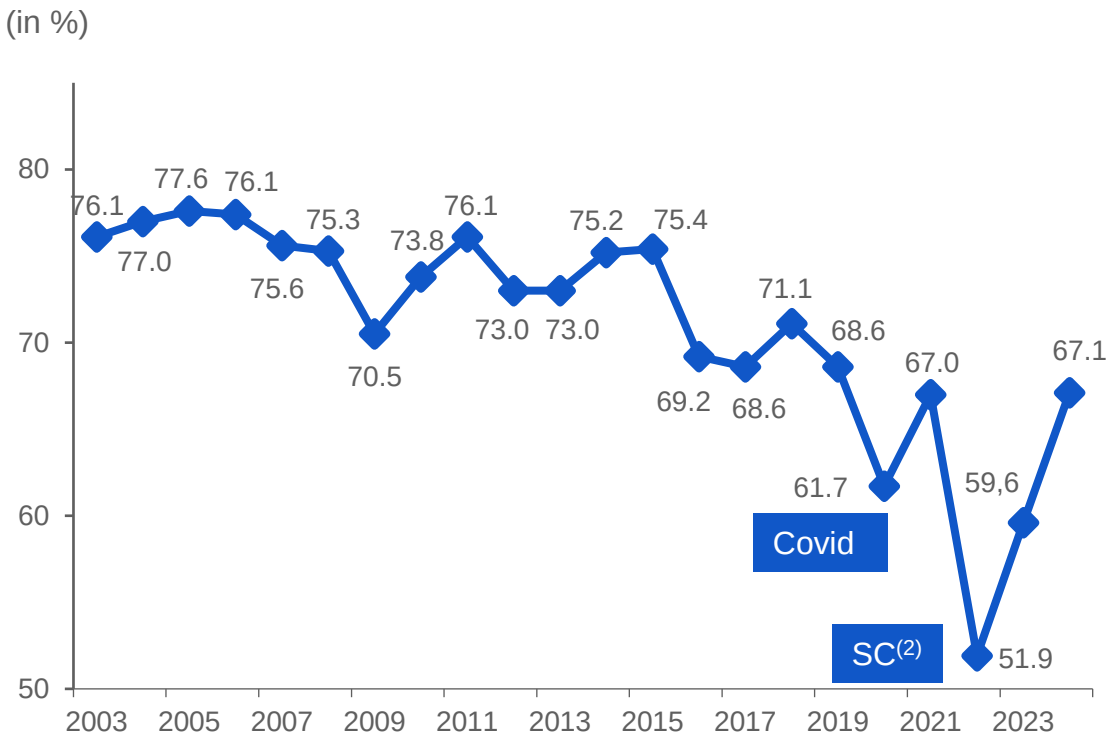
Pressurised Water Reactor (PWR)

*(20XX)* in brackets mentions the planned closure dates

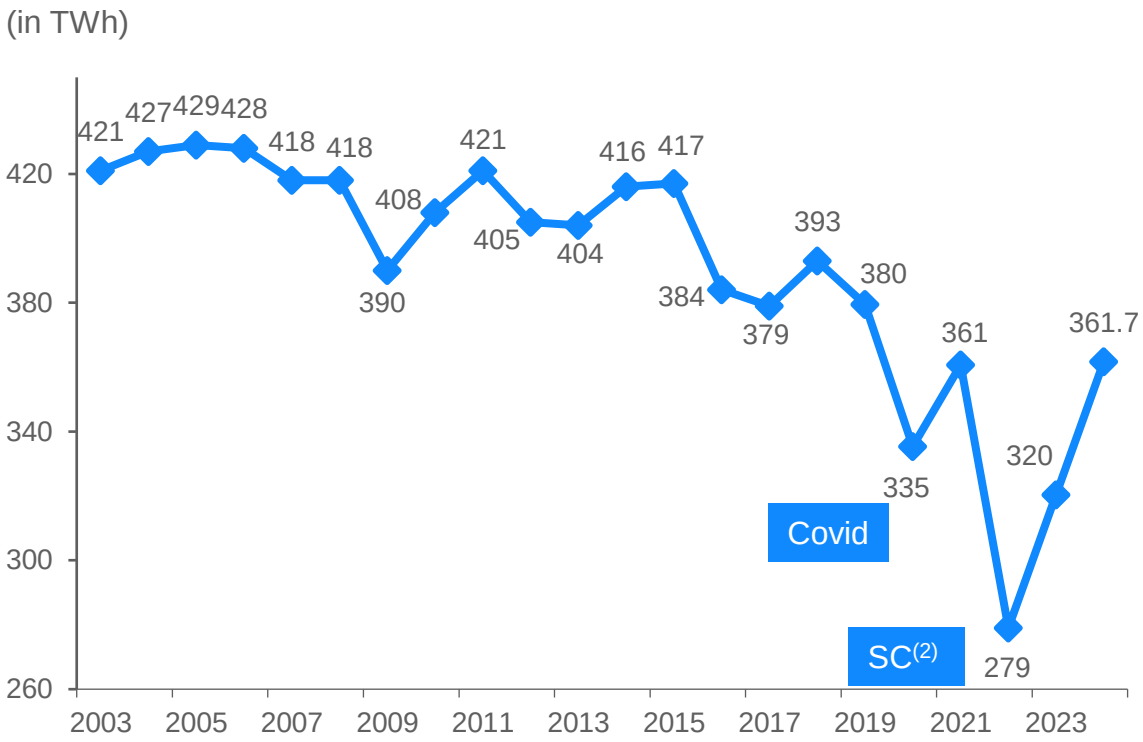
(1) The total French electricity output reached 536.5TWh in 2024 incl. Corsica and not adjusted from weather effect (*Bilan électrique* 2024 of RTE).
(2) 100% EDF Energy Nuclear Generation output out of total UK Generation as per EDF Energy estimate.
(3) 5.9GW capacity owned at 80%/20% by EDF Energy and Centrica.

# Strong recovery in load factor and nuclear output

## Annual load factor(1) of nuclear fleet in France




## Annual nuclear output in France




- Load factor and nuclear output impacted by **modulation** and **extension of the life of the reactors** through the "*Grand Carénage*" programme and important **maintenance** programme.

(1) Load factor rate: ratio of energy generated to the maximum theoretical energy (the energy generated if the installed capacity were operated year-round).
(2) Impact of stress corrosion in 2022: decrease of output linked to a lower availability of the nuclear fleet because of the controls and repairs.

# Nuclear life cycle in France

**4 $gCO_2eq/kWh$(1)**

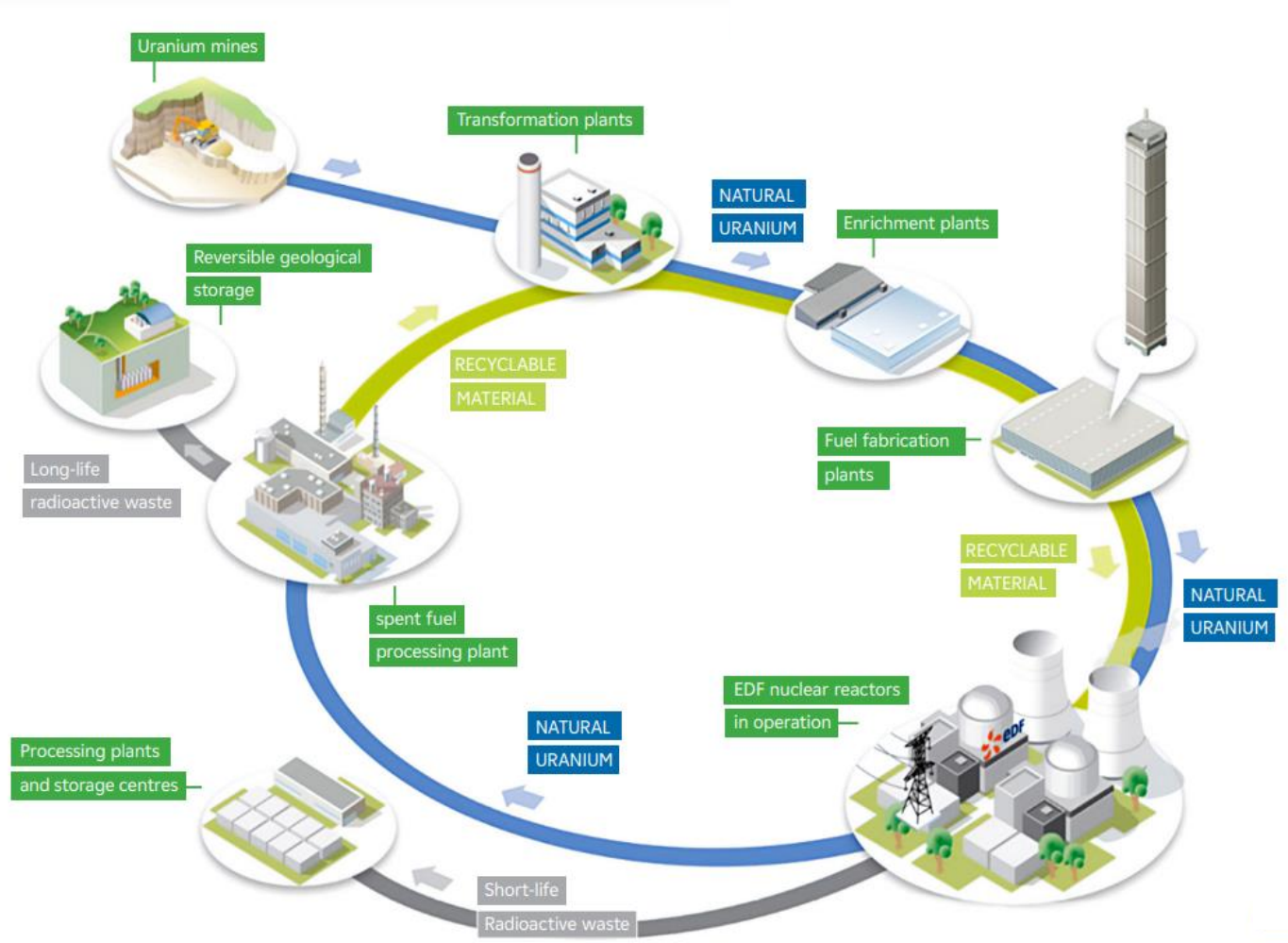
## EDF carbon footprint of nuclear life-cycle(2) :

- **Construction**
- **Operation (incl. fuel cycle)**
- **Decommissioning**

*IPCC 2021 data* ***worldwide***
(in $gCO_2eq/kWh$)

| | | |
|---|---|---|
| - | Coal: | **820** |
| - | Fuel: | **720** |
| - | Gas: | **490** |
| - | Solar PV: | **48** |
| - | Hydro: | **24** |
| - | **Nuclear:** | **12** |
| - | Wind: | **11** |

## Fuel cycle




(1) Direct carbon emissions related to generation, excluding life cycle assessment of generation means & fuels.

(2) For more information, see the 2022 Life Cycle Analysis Report.

# Extension of the life of the nuclear fleet - *Grand Carénage* programme

## *Grand Carénage* Programme: Industrial Strategy

Industrial strategy to operate the nuclear plants beyond 40 years:

- Technical capacity of the plants to **operate beyond 40 years** supported by international benchmarks for similar technologies
- Extension from 40 to 50 years of the depreciation period of the **900MW nuclear fleet** from 1 January 2016. At end-2024, 21 on 32 reactors have successfully finalised their 4th ten-year inspection and thus passed the 40-year milestone
- Extension from 40 to 50 years of the depreciation period for the **1,300MW nuclear fleet** from 1 January 2021 and first 4th ten-year inspection expected in 2026
- Launch of a study on operation beyond 60 years in 2023 by EDF. Position of the ASNR at end-2026 after a phase of assessment in 2025 and investigation in 2026

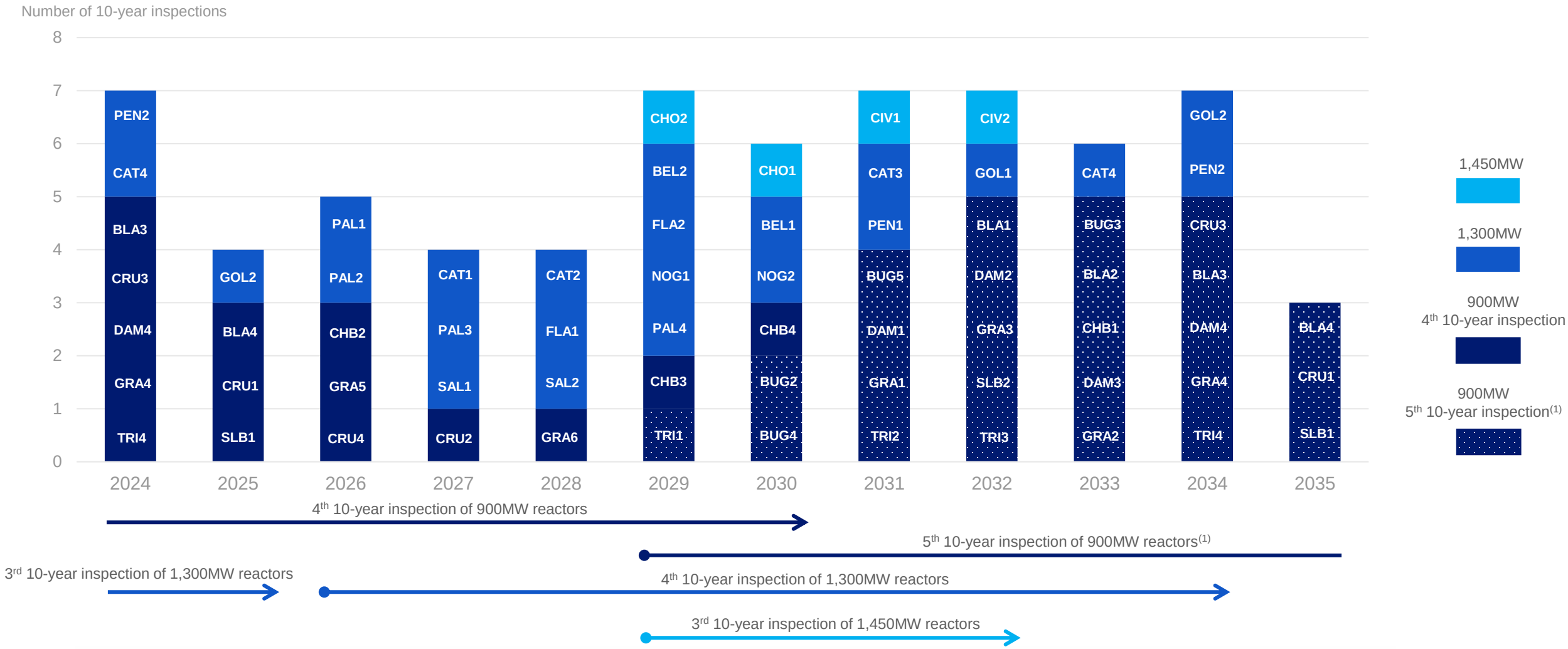
## "*Grand Carénage phase 2*" Programme

The **second phase** of the programme (**2022-2028**) includes:

- Continuation of the 4th ten-year inspection programmes for the 900MW reactors
- Studies and beginning of implementation for first 4th ten-year inspection for the 1,300MW reactors
- Prior studies for the continued operation of 900MW reactors beyond 50 years and of N4 reactors beyond 40 years

Total expenses for the 2022-2028 period estimated at **€36.1bn** including stress corrosion repairs, €5.2bn in 2024.
Estimated capital expenditure of works on stress corrosion are €1.3bn for the period 2022-2025 (€1.1bn spent at end-2024).

# 10-year inspections of the nuclear fleet in France




In 2029, Tricastin 1 would be the first 900MW series reactor to realise its 5th 10-year inspection.

NB: forecast data at end-2024.

(1) Subject to decisions taken and authorisations issued.

# Nuclear water management in France in the contexte of climate change

The energy sector is the third largest consumer of water (12%) after agriculture (58%) and drinking water (26%).
EDF withdraws significant amounts of **water with 97% restored to the natural environment**. EDF is committed to limiting its environmental footprint throughout the life cycle of its facilities and activities by **optimizing the use of natural resources**.

**90% of EDF's generation of electricity in France is dependent on water resources**

**Directly for hydroelectricity**

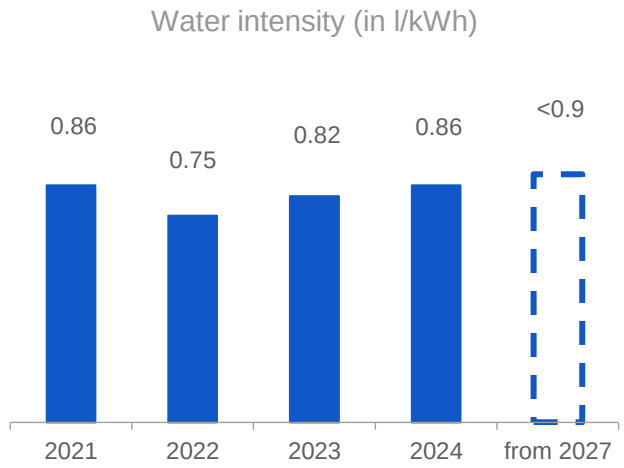
EDF foresees a **decrease of 1TWh per decade** (c. 2.5%) in hydro power generation related to climate change with strong regional and seasonal variations

**Indirectly for the cooling systems of the nuclear and thermal power plants**

French nuclear annual production **losses** related to water resources : **<1%** (except in 2003 – exceptional heatwaves). EDF anticipates losses limited to **1.5% by 2050** (at constant production capacity)

**The ambitions of the water plan as part of the Adapt programme:**

- Reducing the use of industrial water by 10% by 2030, excluding the water needs for nuclear safety and for cooling systems
- Improving water quality
- Guarantying the resilience of the nuclear fleet during periods of extreme heat and low water levels
- Helping to keep water for biodiversity and other uses




➢ **Using R&D to develop innovative processes for water resources:** the MIT start-up **Infinite Cooling** has developed a system for recovering a part of the water contained in the plumes of cooling towers.

# EPR2 programme in France

## Main aspects

- European Pressurised Reactor EPR2 of 1.6GW/reactor
- A programme of 3 pairs of reactors to benefit from series effects in technological terms: equipment purchasing, construction-phase services, operation and maintenance
- Feasibility studies for 8 additional reactors
- Integrating feedback from other EPR built worldwide and from the fleet in operation
- EPR2 is an upgraded EPR with the same safety level (one of the highest in the world), same power and environmental performance and with standardised and optimised construction process
- A reactor first licensed for French market

## Progress

- Deep review of engineering studies finalized and development of the detailed design for the nuclear island of the EPR2
- Launch of a task force dedicated to reducing the construction time of a reactor to 70 months
- Start of preparatory works at Penly
- Implementation of the "Grand Chantier" at Penly with the French State administration and local authorities to anticipate the arrival of thousands of workers: transport, housing, services…
- Start production of the main components of the EPR2: reactor pressure vessel, steam generators by Framatome
- Public debates held for the construction of reactors at Penly and Gravelines and ongoing for Bugey

## Final Investment Decision (FID)

- The power plant's construction remains subject to FID
- EDF and the French State in discussion on the financial support scheme
- The ambition is still to take a FID by the end of 2026

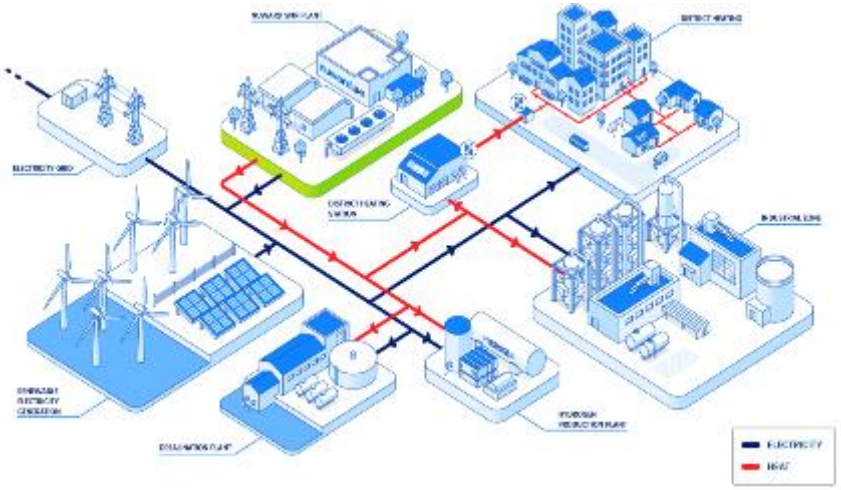
# New nuclear: nuward SMR (small modular reactor) project

## Project

- Development of the NUWARD SMR power plant by NUWARD (EDF subsidiary)
- Pressurised water reactors designed to produce low-carbon electricity and heat for the grid, data centers, industry applications, hydrogen production, desalinisation and carbon capture

## Progress

- Decision to shift the product strategy towards the development of a design based on proven technology only
- Integration of a new design approach of simplicity, modularity and prefabrication
- On 26 April 2024, the European Commission authorised French State aid to support NUWARD in the research and development of small modular nuclear reactors, of which €75 million was received in the first half of 2024

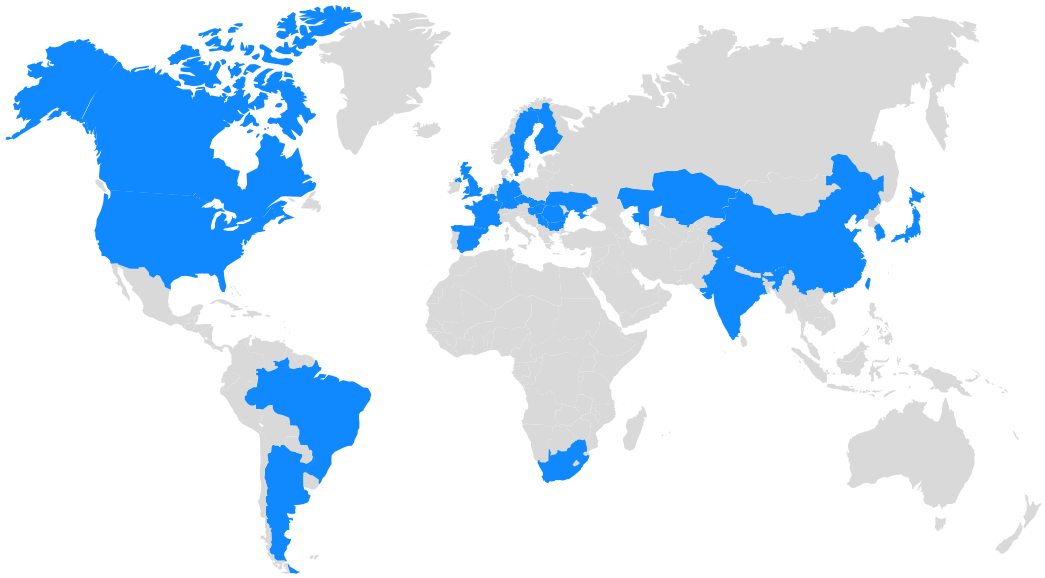


# Framatome, a major international player in the nuclear industry

- **€242m:** contribution to EDF Group EBITDA & **€629m** stand-alone EBITDA
- **€21.2bn:** order intake in 2024 (of which 60% outside EDF Group)

- Intervention on more than 385 of the ~400 reactors in the world
- Presence in defense, healthcare and space sectors

## An international presence



€4.7bn
sales

€29.2bn
backlog

More than
70
sites in
20
countries

More than
21,000
employees

## Major supplier in the nuclear industry

Designer and supplier of nuclear steam supply systems and nuclear equipment, services, fuel, instrumentation and control systems:

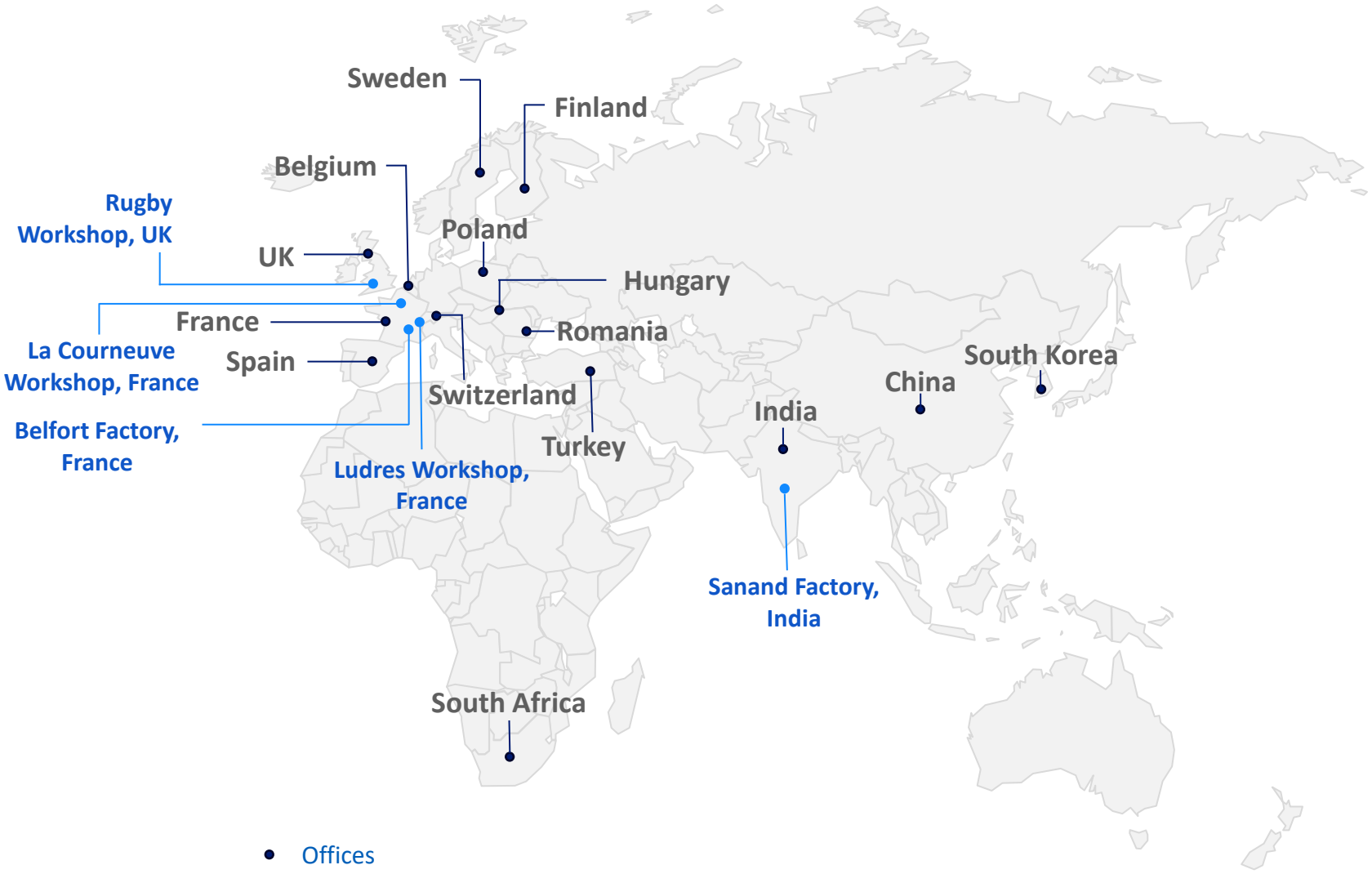
- Engineering & design authority: nuclear steam supply systems & associated services, including worldwide technical centres
- Projects and components manufacturing heavy and mobile components for nuclear islands (vessel, steam generators,…) > 100 power plants equipped by Framatome in 11 countries. Contribution to the construction and start-up of EPR reactor projects – (Flamanville 3 and the future EPR2 projects in France, Hinkley Point C and Sizewell C in the UK)
- Instrumentation & Control: automation and instrumentation technologies for the operation of nuclear power plants
- Fuel: fuel assemblies and core components for all types of light water reactors as well as for research reactors. 260,000 loaded assemblies in more than 200 operating reactors worldwide. Development of zirconium alloy components
- Installed Base: Products and services to maintain, modernise and extend the service life of operating facilities; commission new facilities and support to decommissioning & dismantling activities

# Arabelle solutions: a strong international footprint

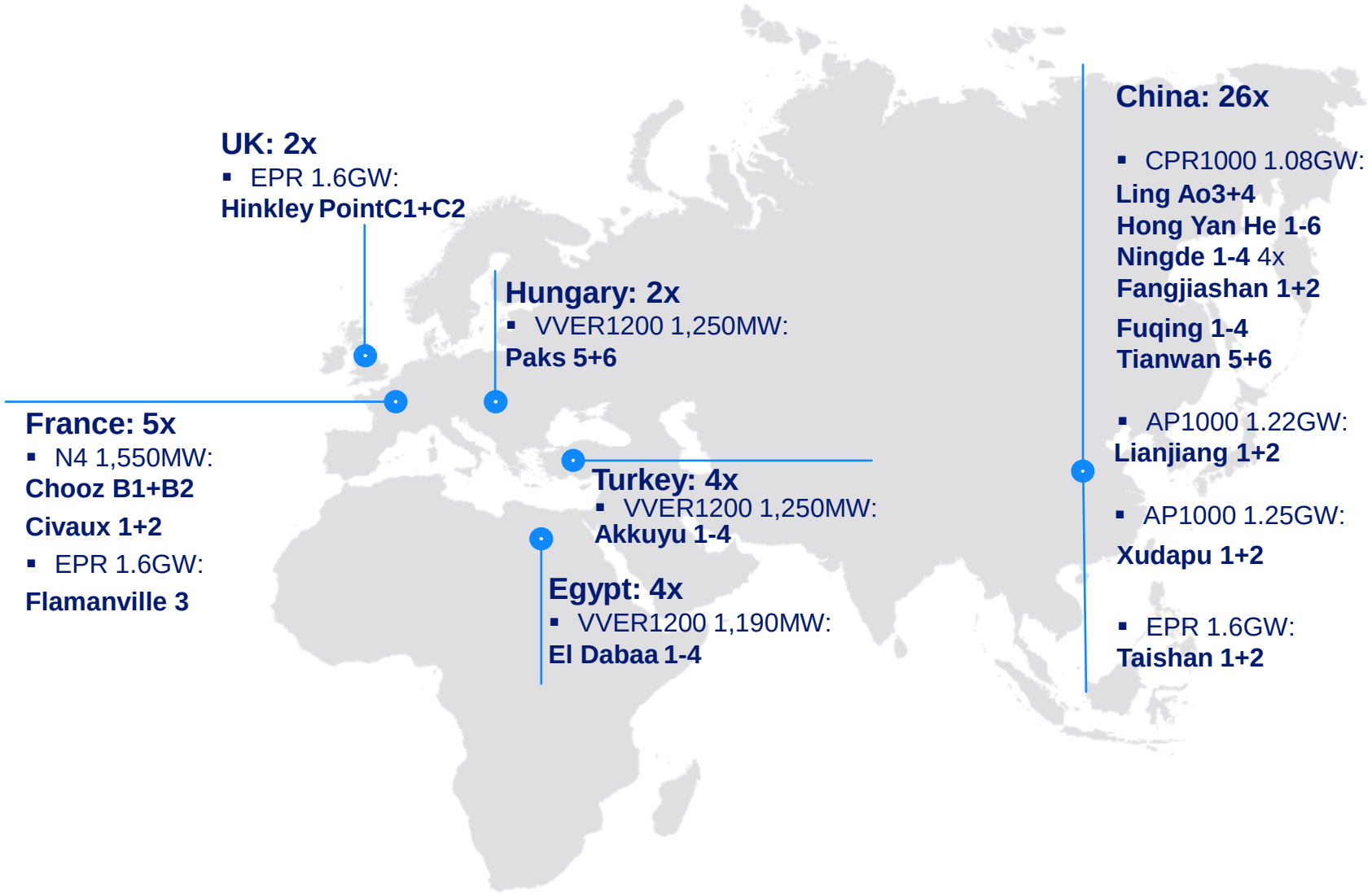
- **Solutions for conventional islands:** steam turbines, generators, heat exchangers, pumps, Automatic & control, cyber nuclear security
- **Core services:** Replacement parts Inspection and test Repairs Technical services Outages
- **Upgrade & Retrofits:** rewind, replacement

**Key figures**

- **3,300** employees
- **~1/3** global nuclear installed base
- **50-1.9GW** turbine output range
- **100+** plants serviced annually
- **150GW** produced by its turbines and generators



# Arabelle steam turbines : the world's most powerful steam turbine



**UK: 2x**
- EPR 1.6GW:

**Hinkley PointC1+C2**

**Hungary: 2x**
- VVER1200 1,250MW:

**Paks 5+6**

**France: 5x**
- N4 1,550MW:

**Chooz B1+B2**

**Civaux 1+2**
- EPR 1.6GW:

**Flamanville 3**

**Turkey: 4x**
- VVER1200 1,250MW:

**Akkuyu 1-4**

**Egypt: 4x**
- VVER1200 1,190MW:

**El Dabaa 1-4**

**China: 26x**
- CPR1000 1.08GW:

**Ling Ao3+4**
**Hong Yan He 1-6**
**Ningde 1-4** 4x
**Fangjiashan 1+2**
**Fuqing 1-4**
**Tianwan 5+6**
- AP1000 1.22GW:

**Lianjiang 1+2**
- AP1000 1.25GW:

**Xudapu 1+2**
- EPR 1.6GW:

**Taishan 1+2**

**+2%**
output vs. traditional configuration

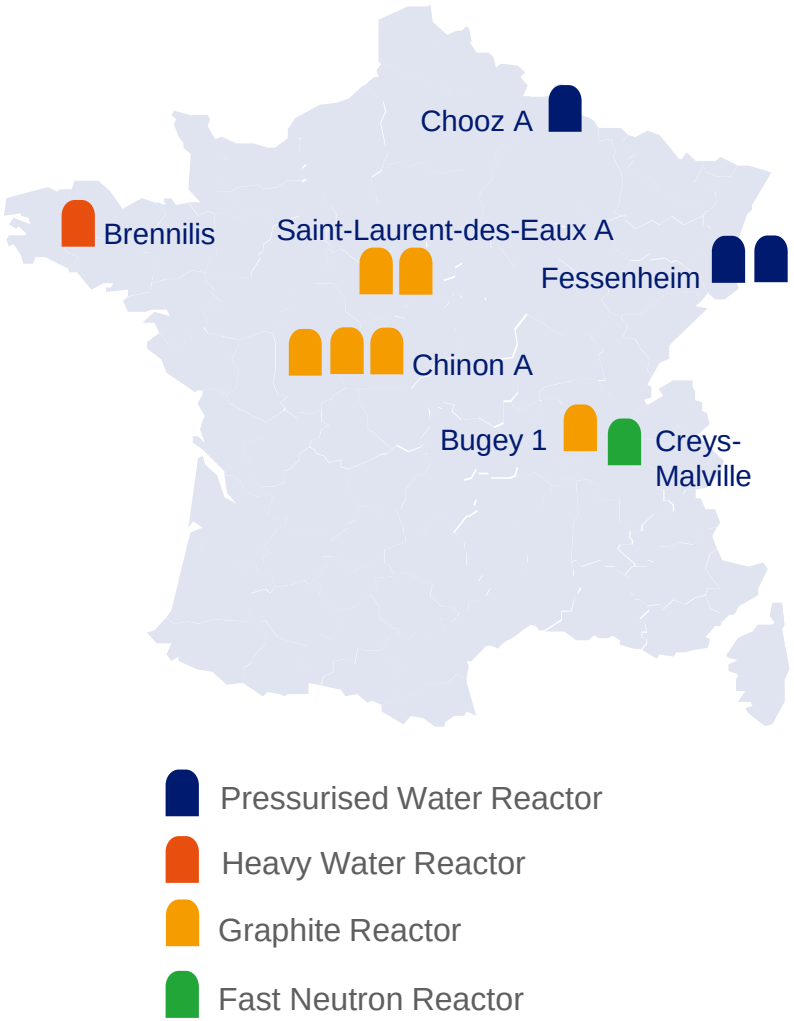
**99.96%**
Reliability rate(1)

**40+**
units around the world

**75 inch**
Largest last-stage blade

(1) Arabelle turbine 10 year forced outage rate: 0.04%.

# Dismantling: the final step in the life of a plant




3 periods in the life of a plant: construction > operation > **dismantling**

As the operator of the nuclear plants, EDF is in charge of their dismantling with 9 plants shutdown in the 1990s and preparation of the 2 reactors of Fessenheim

**9**
Reactors under dismantling in France

**4**
Different technologies

**7**
Industrial sites

The duration of the operations may vary according to the complexity of works that have to be completed and depending on the technology of the reactor.

**3 key steps**:

1- Unloading the fuel and draining all systems
➢ **After this step, 99.9% of the on-site radioactivity has been eliminated**
2- Dismantling excluding the reactor building
3- Dismantling the reactor building

The 9 reactors in decommissioning will produce around 1.5m tons of primary waste:

- 80% is non-radioactive, none of it is high-level waste
- 20% is very low- to intermediate-level waste (8% is long-lived waste)

# Radioactive waste management

| | Type of waste | Example | Position/Disposal |
|---|---|---|---|
| **Short-lived waste**<br><br>90% of waste<br>0.1% of radioactivity<br><br>Their radioactivity is halved over a period of 31 years or below | **Very-low-level waste** | Waste resulting from the **maintenance** work and **decommissioning** of nuclear installations (concrete, scrap, piping, work clothes, ...) | On the surface at the **Morvilliers** disposal centre managed by ANDRA(1) |
| | **Short-lived Intermediate and Low-level waste** | Waste from the processing of **liquid and gaseous effluents** of operating plants; some decommissioning waste | On the surface at the **Soulaines** disposal centre, managed by ANDRA(1) |
| **Long-lived waste**<br><br>10% of waste<br>99.9% of radioactivity | **Long-lived, low-level waste** | They essentially are **graphite waste** from the dismantling of first-generation plants | Warehousing **at the production site** pending the construction of a disposal centre |
| | **Long-lived intermediate-level waste** | **Metallic structures** of the fuel assemblies, other operating or **dismantling waste near the core** of the reactor | Metallic structures enclosing the fuel warehoused at the plant in **La Hague**, once the fuel is removed. Operational and dismantling waste close to the core sent to ICEDA, pending the geological disposal industrial centre (**Cigéo**, *p51*) |
| | **High-level waste** | Waste from the processing of **spent fuel** | Warehousing at the Orano site in **La Hague** pending the geological disposal industrial centre (**Cigéo**) |

(1) National Agency for Radioactive Waste Management (*Agence Nationale pour la Gestion des Déchets Radioactifs*).

# Cigéo, a deep geological disposal facility

## A project led by ANDRA(1) for radioactive waste produced by French nuclear facilities

- French deep-disposal project for long-lived intermediate-level and high-level radioactive waste, generated mainly by the existing French nuclear facilities (nuclear power industry, research, defense, etc.).
  Such waste represents 3% of the total volume of radioactive waste and is alone responsible for 99% of waste radioactivity
- The French law of 28 June 2006 tasked the ANDRA with designing, constructing and operating Cigéo
- The waste producers (mainly EDF, CEA and ORANO) will finance its construction and the operating costs. The share borne by EDF is provisioned and covered by dedicated assets
- The authorisation request of the Cigéo creation has been officially submitted in January 2023. The site should be in eastern France
- The first waste is expected to be delivered between 2035 and 2040

Cigéo facilities on the surface

## The principle of reversible disposal in deep geological layers

- After 15 years of research, assessments and a public debate, principle adopted by the French Law of 28 June 2006 as the safe solution for the long-term management of this type of waste, without shifting the burden onto future generations.
- The principle of reversibility for the entire duration of the operation (at least 100 years) to adapt Cigéo to possible changes

## Secure and robust facilities that are adaptable on two levels

- On the surface: facilities to receive and prepare waste shipments, and to undertake excavation work and progressive construction of underground structures
- Below ground: galleries located about 500 meters deep in a stable and impermeable layer of argillaceous rock, chosen for its containment properties over very long periods (several hundreds of thousands of years)
- Scalable architecture of the underground facilities during operation, depending on feedback and available technologies

Cigéo underground galleries modelisation

(1) National Agency for Radioactive Waste Management (*Agence Nationale pour la Gestion des Déchets Radioactifs*).

# Cyclife: actor in decommissioning and radioactive waste treatment offerings

**Operating in nuclear decommissioning and waste treatment for the French and international markets**

Offering melting and incineration solutions to **reduce the volume** of short-lived radioactive waste and, depending on local regulations, to **recycle** very low-level metal waste

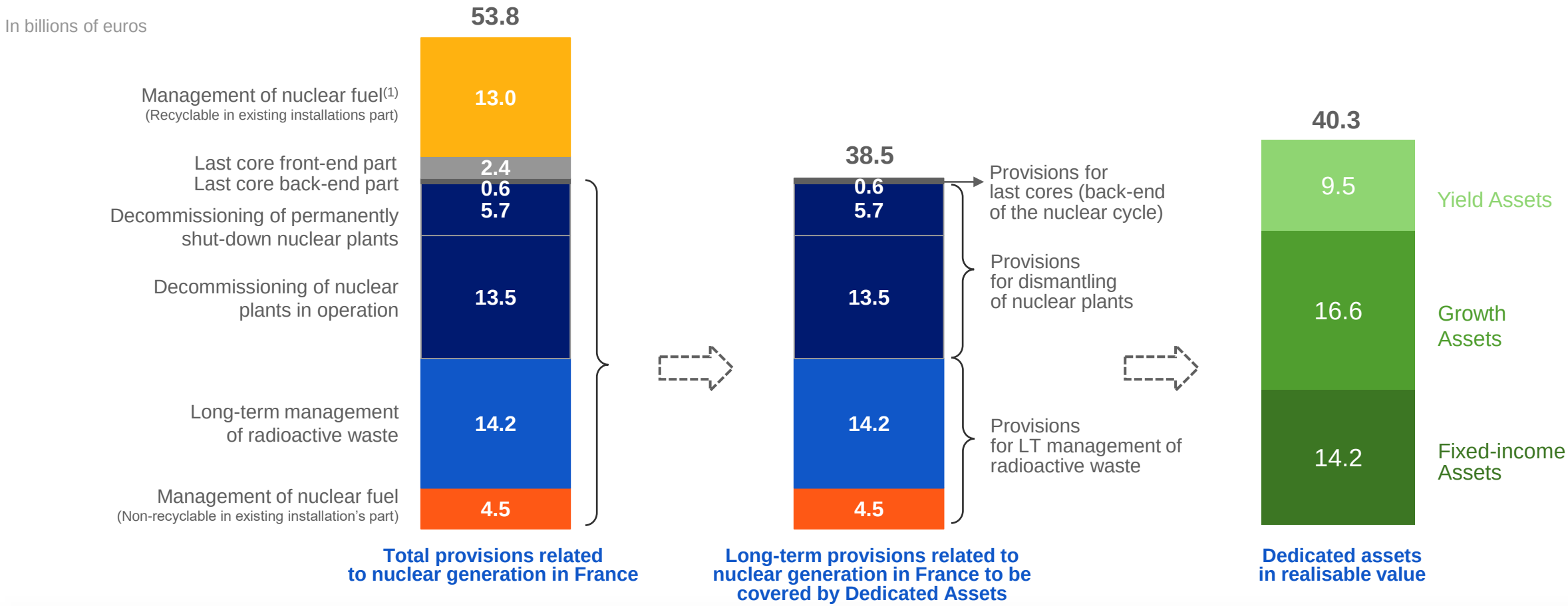
3 radioactive waste treatment facilities in France, Sweden and the United Kingdom, and mobile machines that work directly on operating nuclear power plants

Developing innovative waste treatment technologies alongside industrial partners

Developing dismantling operations at customers sites in France and Germany.


(1) Maximum authorised capacities.

# Provisions related to nuclear generation in France and part to be covered by dedicated assets




(1) Related to the operating cycle.

- At 31 December 2024, the regulatory coverage is 104.7% (vs 108.5% at 31 December 2023)
- No allocation to dedicated assets to be made in 2025 in respect of 2024 owing to a coverage rate of over 100% at end of year, in accordance with the regulation

# Dedicated assets: performance and allocation

## Global 2024 performance: +10.8%

**Yield assets: +4.6%**

- In 2024, annual performance increased compared to 2023, with a notable improvement in the real estate sector during the second half of the year
- This performance was bolstered by robust cash inflows from this asset class

**Growth assets: +21.0%**

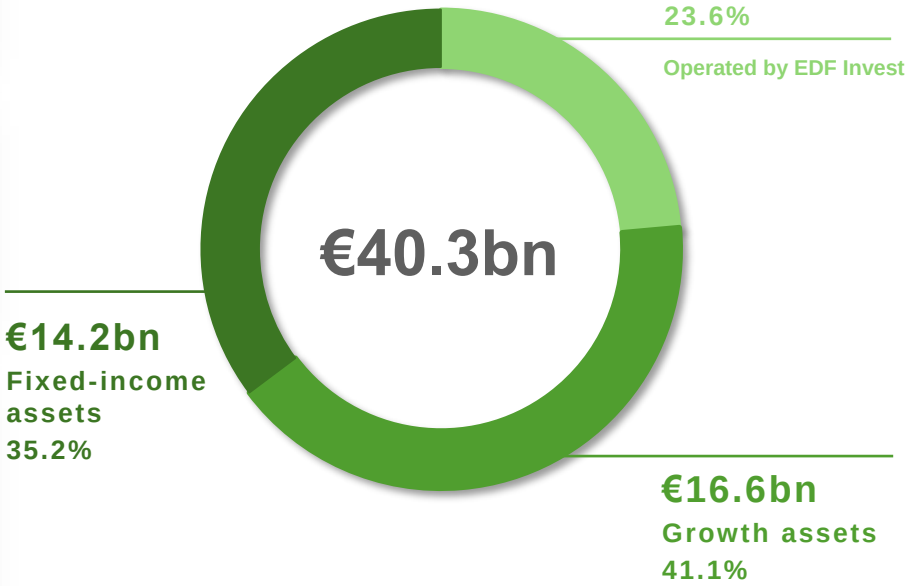
- Strong performance in 2024, with a very significant contribution from US equities, particularly of the biggest and most influential tech companies (“Magnificent Seven”)
- Low volatility, in line with the market

**Fixed-income assets: +4.5%**

- Robust performance thanks to a flexible approach to interest rate sensitivity in a context of erratic evolution of long-term rates, and to a general spread compression in credit
- Interest rate volatility remains relatively high in a context of monetary policy uncertainty (notably in the US)

**Performance +6.1% on an annualised basis since early 2004**

2024 allocation




A strategic allocation was defined in 2018 and adjusted in 2024 to improve the adequacy of the profile of dedicated assets to the long-term nature of the disbursements to be covered (Growth assets: 41%, Fixed-income assets: 30%, Yield assets: 29%). The targets of the allocation will be met progressively, as investments are made, entailing a gradual rebalancing from fixed-income assets to yield assets.

# EDF Invest, the investment platform for non-listed assets

## DIVERSIFYING DEDICATED ASSETS WITH UNLISTED ASSETS

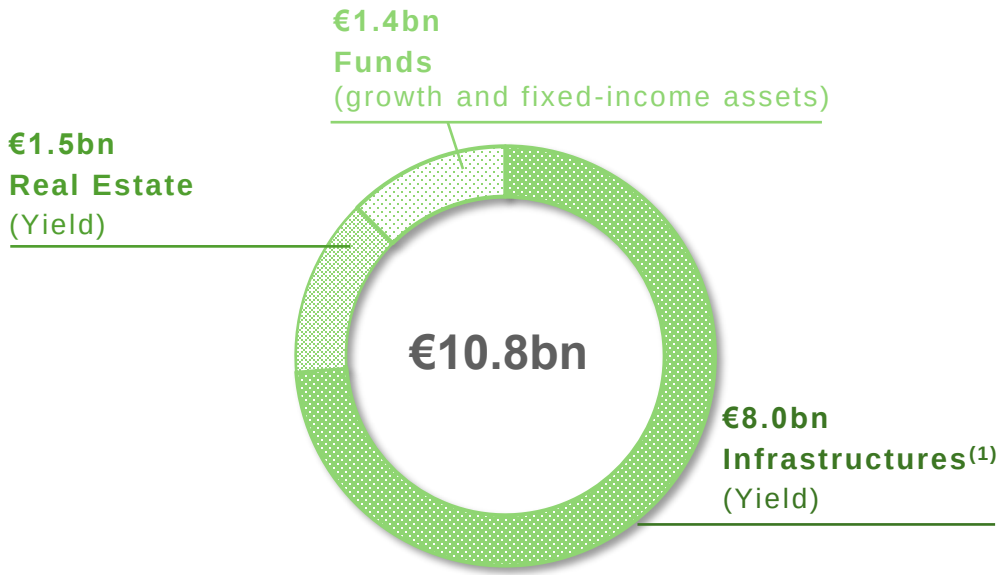
- EDF Invest manages **the unlisted investment portfolio of EDF's dedicated assets,** mitigating the portfolio volatility
  - Through **minority stakes in real assets with partners** (direct investment)
  - Acting as a **limited partner** in private funds (indirect investment)

- Unlisted dedicated assets are invested in **diversified geographical zones** (mainly OECD) **and sectors**, under 3 assets classes:
  - **Infrastructure** (telecoms, transportation, renewables, energy transition, etc.)
  - **Real estate** (offices, logistic, health, hotels)
  - **Private equity and private debt** funds

In 2024, EDF Invest closed key acquisitions, mainly:

- 50% in **Nordic Logistics**, a logistic facility in Sweden
- 40% in **Fjord1**, the leading operator of electrified ferries in Norway
- 50% in **Parcolog Invest,** a portfolio of logistic warehouses located in France
- 49% in **Encore+ Bergère**, a real estate company owner of an office building in Paris (9th district)
- 40% in a major **TowerCo in Austria**, rebranded as **Optimus Tower**

## PORTFOLIO BREAKDOWN AT END-2024




(1) Of which CTE.

# EDF Group main businesses



# EDF: a European leading player in renewable energies

## Installed capacity: 39.5GW net(1)

**A diversified mix with 39.5GW in operation**

- **22.7GW of hydropower**
- **16.3GW of wind and solar**
- **0.5GW others** (biomass and geothermal)

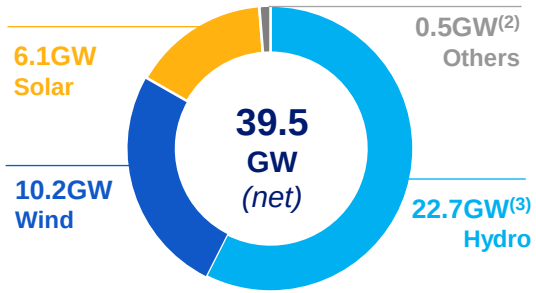
**Hydropower**

- **Leading European producer** of hydropower
- More than **400 production sites** worldwide

**A global leader in wind and solar energy**

- **3.2GW gross** commissioned in 2024
- **8.6GW gross** under construction (1.9GW in onshore wind, 0.7GW in offshore wind, 6.0GW in solar)

**Capacity by sector:**



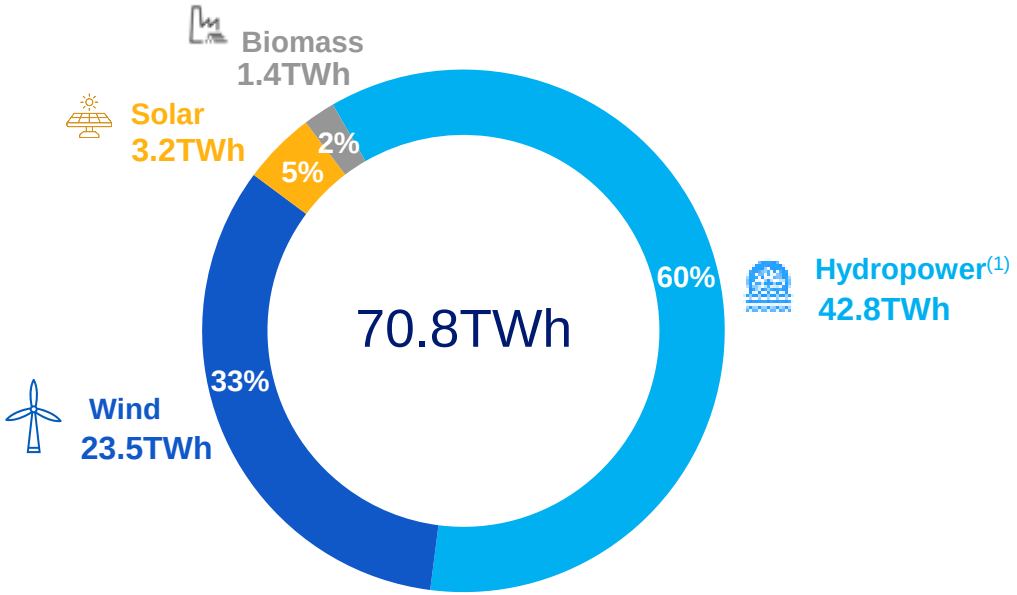

**Capacity by geography:**


NB: data at end-2024.
(1) Installed capacity shown as net, corresponding to the consolidated data based on EDF's participation in Group companies, including investments in affiliates and joint ventures.
(2) Biomass and geothermal.
(3) Including sea energy: 0.24GW.

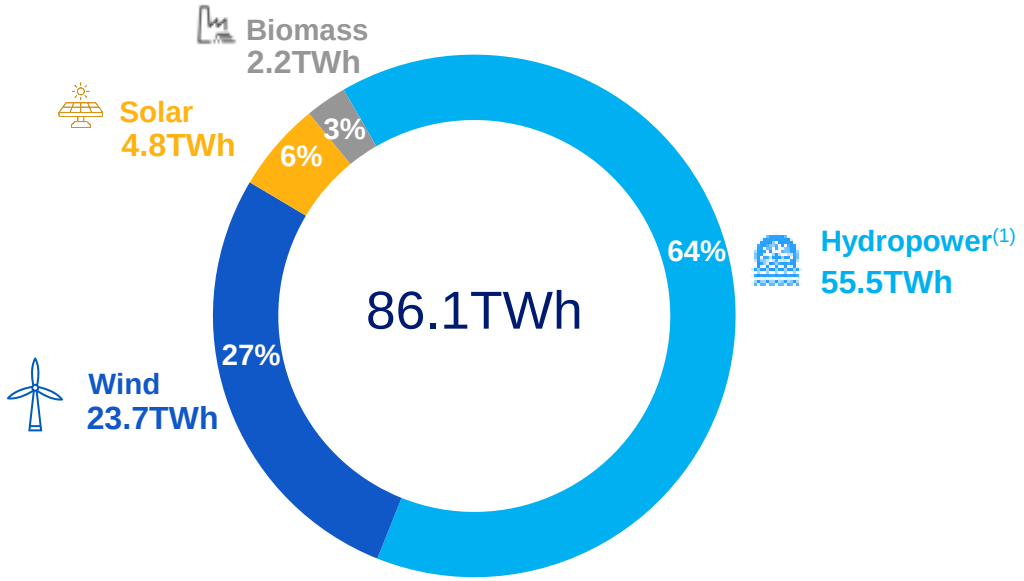
# Renewable output

*Output from fully consolidated entities*

## 2023




## 2024

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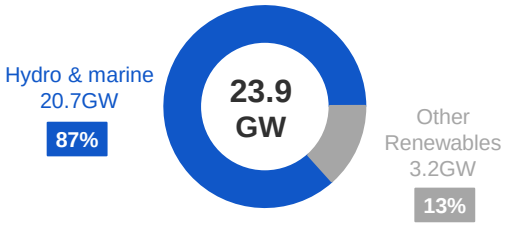
(1) Hydro output includes tidal energy for 519GWh in 2024 vs 504GWh in 2023. Hydro output after deduction of pumped volumes is 47.8TWh in 2024 vs 37.0TWh in 2023.

# French hydropower : a diversified & flexible fleet

## Main source of renewable power in France

Net Renewable installed capacity(1) of the Group in France




- EDF operates ~80% of mainland France's hydropower capacity and between 65% and 70% of hydroelectricity energy output.
- 424 plants in France (mainland), average age of 78 years
- Covering the different kinds of hydropower facilities:
  - Run-of-river / Pondage water / Reservoirs (lake-supplied) / Pumped storage / Tidal power

## Unique storage value, critical for the electric system

- Hydropower France provides ~14GW of storage
  - Reservoirs: 8.2GW
  - Pumped storage: 5.0GW

  Including the 1.8GW *Grand'Maison* facility, the largest European storage asset with 12 turbines

- Only sizeable & cost competitive electricity storage technology

- Adaptation: In 25 years, the *Mer de Glace* glacier has retreated by 800 meters and lost 100 meters in thickness.

To adapt, EDF installed a water collection station under the glacier to recover the natural seasonal meltwater from the glacier in spring and summer.

## Flexible and reactive generation technology

Response time to reach full capacity of plants

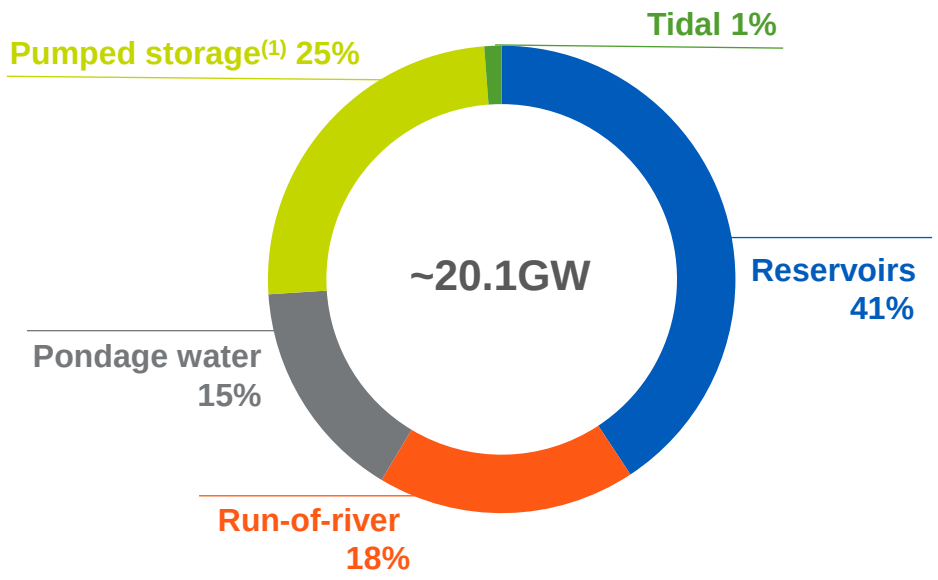

- Allows quick adjustments to within-day fluctuations in the supply-demand balance
  - Consumption peaks
  - Non forecasted loss of generation capacity
- Hydropower is the most significant contributor to ancillary services

(1) Power generation capacity, in proportion of the share the EDF group held in each asset, including SEI and ÉS.

# French hydropower – capacity & generation

## TURBINE CAPACITY

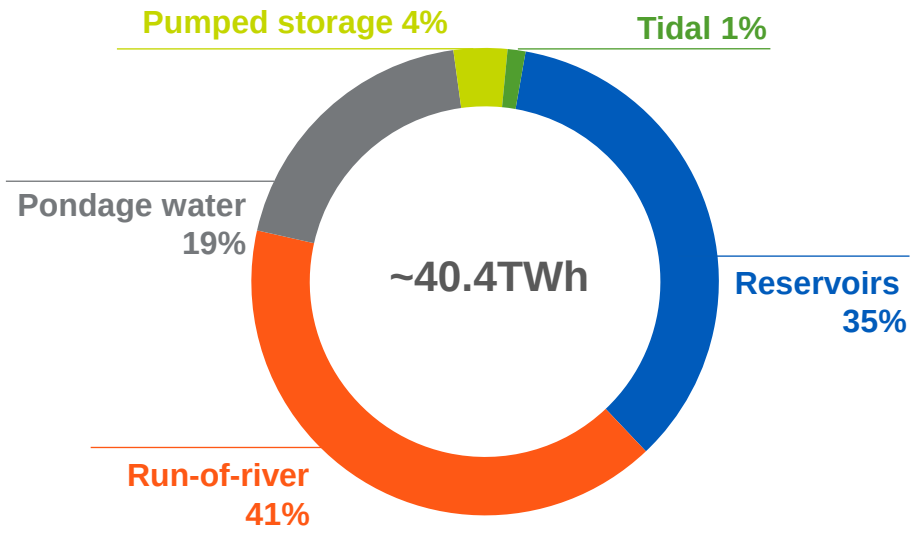
in GW




c. 23% of EDF's installed capacity in **mainland France**

## AVERAGE PRODUCTIBLE

over 60 years(2)




c. 11.5% of the average EDF output in **mainland France**

(1) Only gravity capacity is counted in the Pumped storage; pumped energy is not taken into account.
(2) The average production over 60 years has been re-evaluated on the basis of observed climate change.

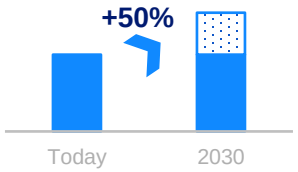
# Hydropower development

EDF develops hydropower capacities to increase their power and availability thanks to an expertise recognised internationally.

## FRANCE

- Improving the performance of the existing generation fleet and reducing the environmental impact, notably on biodiversity

**Estimated weekly flexibility needs**(1)




- Developing storage through Pumped Storage Hydropower Plants: EDF is reviewing several projects based on existing plants
- Promoting complementarity with intermittent renewable energies. Example: at the Lazer hydropower plant, EDF achieved a first in France by using the surface of a hydropower dam reservoir for a floating photovoltaic project

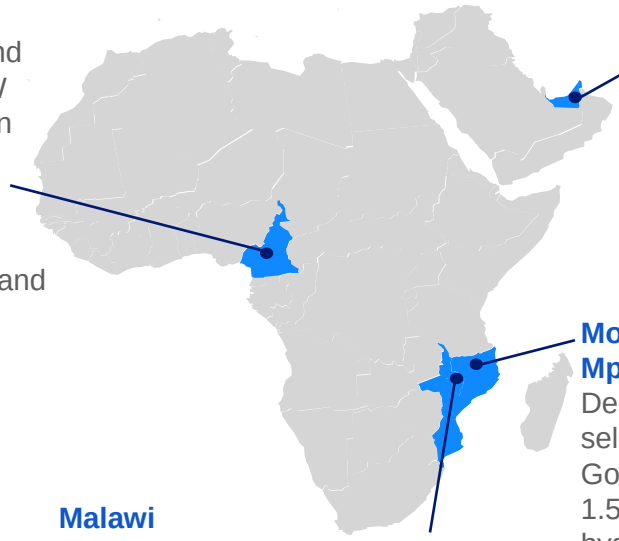
## INTERNATIONAL DEVELOPMENT

Developing engineering and operation and maintenance service offers

**Cameroon**

**Nachtigal**: design, construction and operation for 35 years of a 420MW dam. Start of commercial operation scheduled in 2025

**Kikot**: creation of a company in September 2023, responsible for the development, construction and operation of the 500MW dam (co-owned with the government of Cameroon). Commissioning scheduled for 2030



**UAE**

**Hatta**: assistance contract of a pumped storage project (250MW), commissioning scheduled in 2025

**Mozambique**

**Mphanda Nkuwa**: In December 2023, EDF selected in consortium by the Government to develop the 1.5GW run-of-river hydropower project

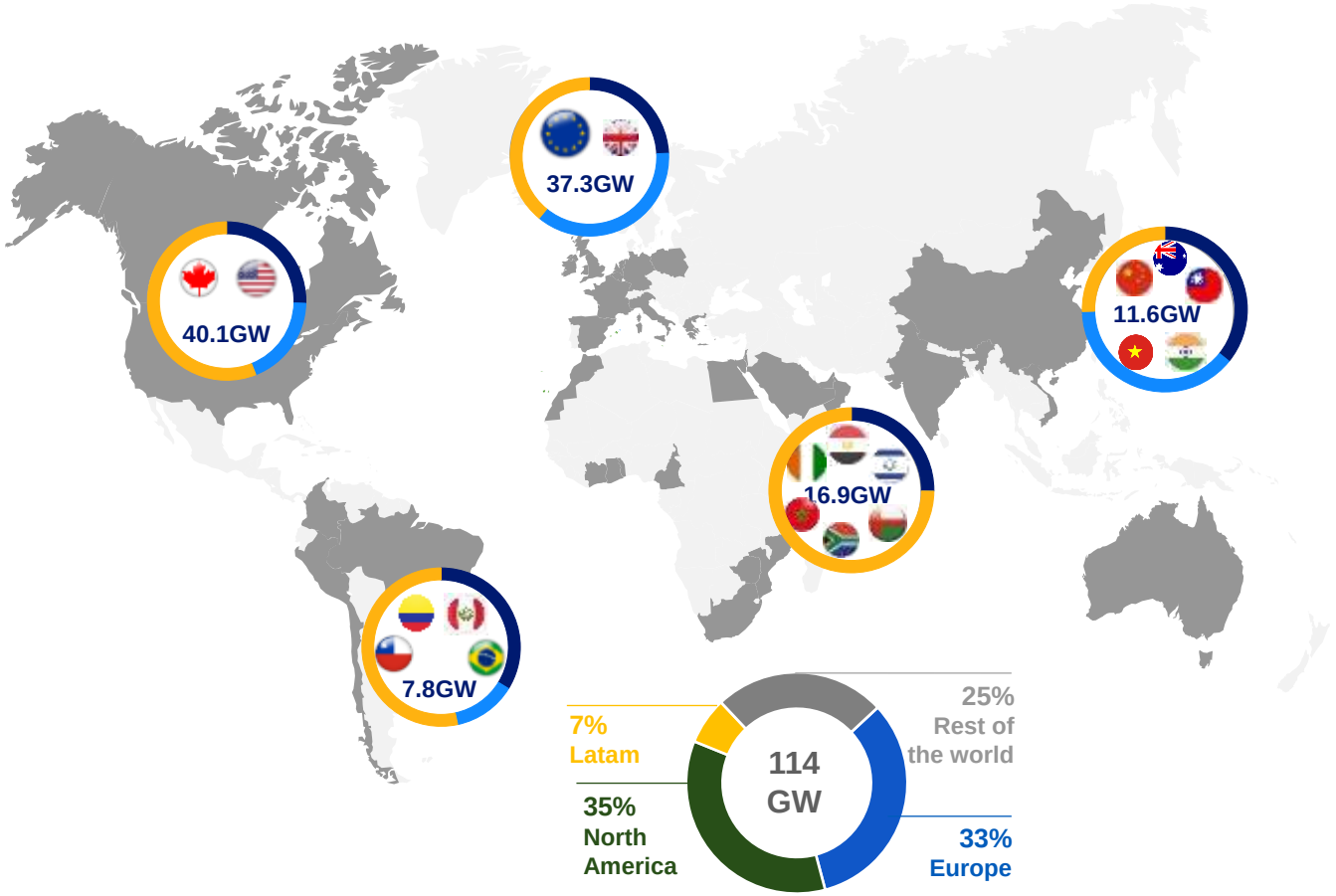
**Malawi**

**Mpatamanga**: share of 55% of the 350MW hydropower plant project, leader of the development, construction, operation phases. Commissioning scheduled for 2029

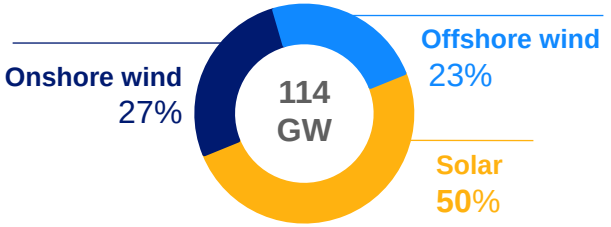
(1) Source: RTE.

# A portfolio of wind and solar projects of 114GW gross(1)

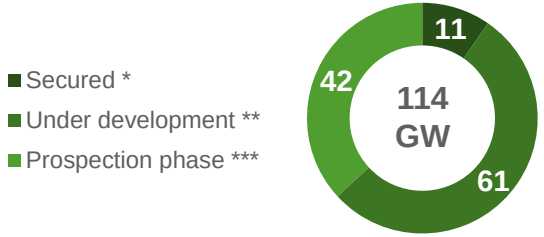
## A geographically diversified portfolio



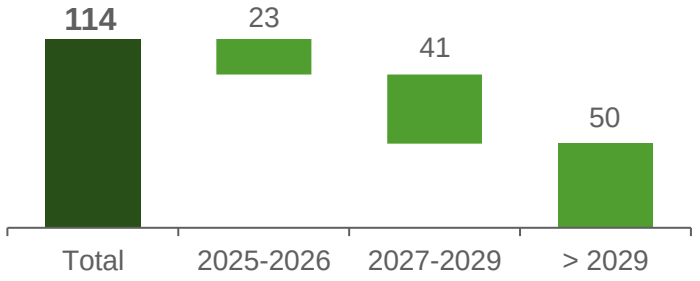

## Balanced between wind and solar




## Breakdown by development phase(2)




## Breakdown by date of start of construction (in GW)(3)




NB: data at end-2024.

(1) Excluding capacities under construction. Gross data corresponding to 100% of the capacity of the project.

(2) Projects in prospection phase are included in the pipeline.

(3) Not probability-based.

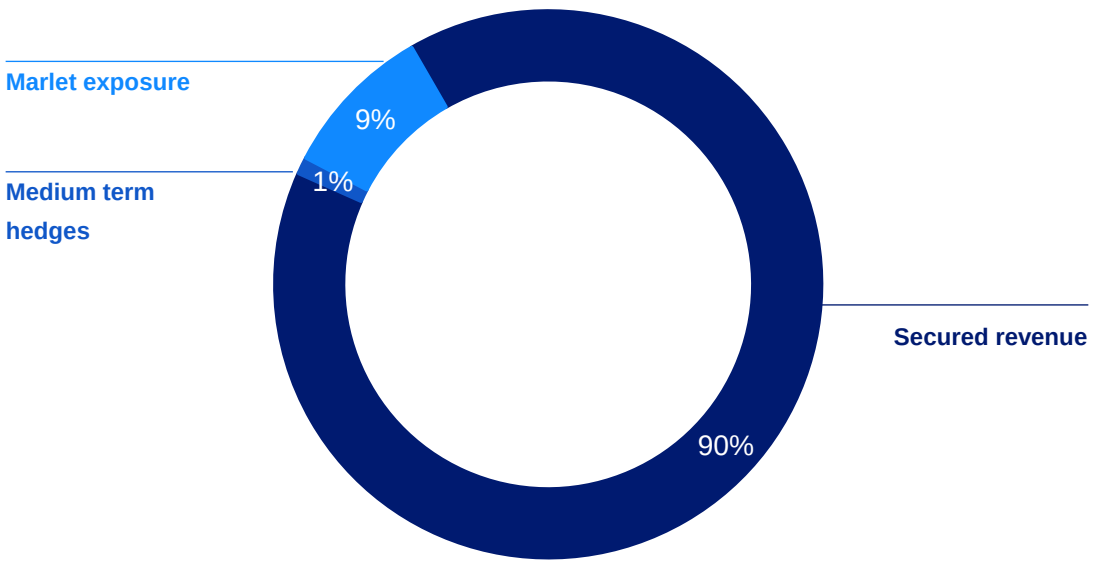
* Securing a power purchase agreement (following call for tenders, auction, OTC negotiation).

** Sufficient land securisation and start of technical studies.

*** Start of land identification and preliminary studies.

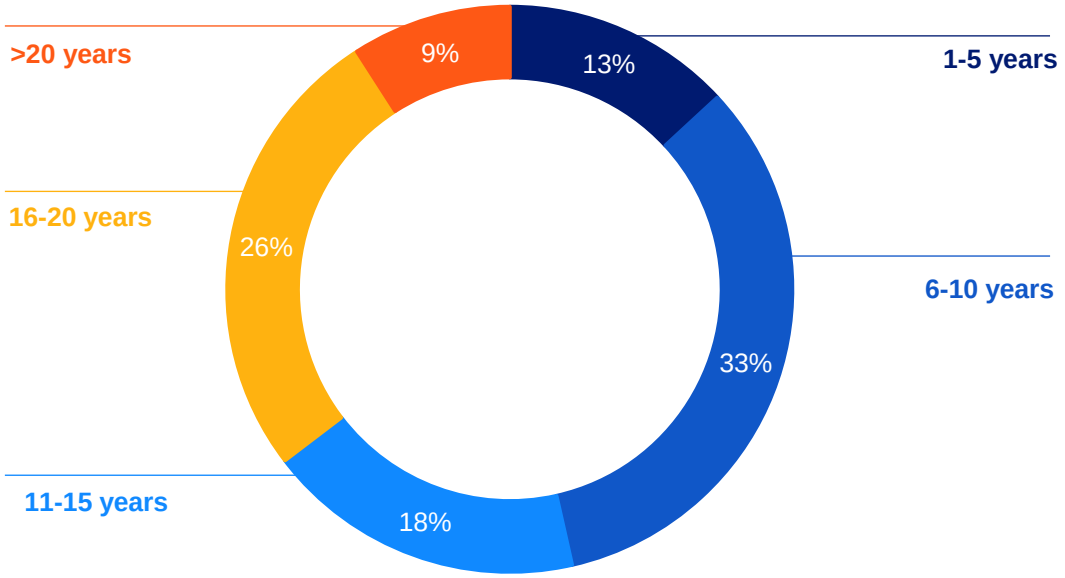
# Revenue secured by long-term contracts

## Contractualisation of 2025 consolidated revenue from renewable generation(1)




**91% of 2025 revenue secured**
vs 89% in 2024

## Average residual duration of long-term contracts(2)




**The average remaining term of the contracts is ~14 years**

(1) Based on the estimate of 2025 revenues from fully consolidated assets.
(2) Weighting according to estimated 2025 revenues of fully consolidated assets.

# Offshore wind in France: 7 projects incl. 2 in operation for a total capacity of >3GW

Offshore fixed wind project/farm

## In Operation

- Saint-Nazaire (commissioned in November 2022, ~€2bn total investments, partnership with EIH SARL)
- Fécamp (commissioned in May 2024, ~€2bn total investments, partnership with EIH SARL)

## Ongoing Constructions

- Calvados (Courseulles-sur-Mer) (started in February 2021, ~€2bn total investment, partnership with EIH SARL and Skyborn)

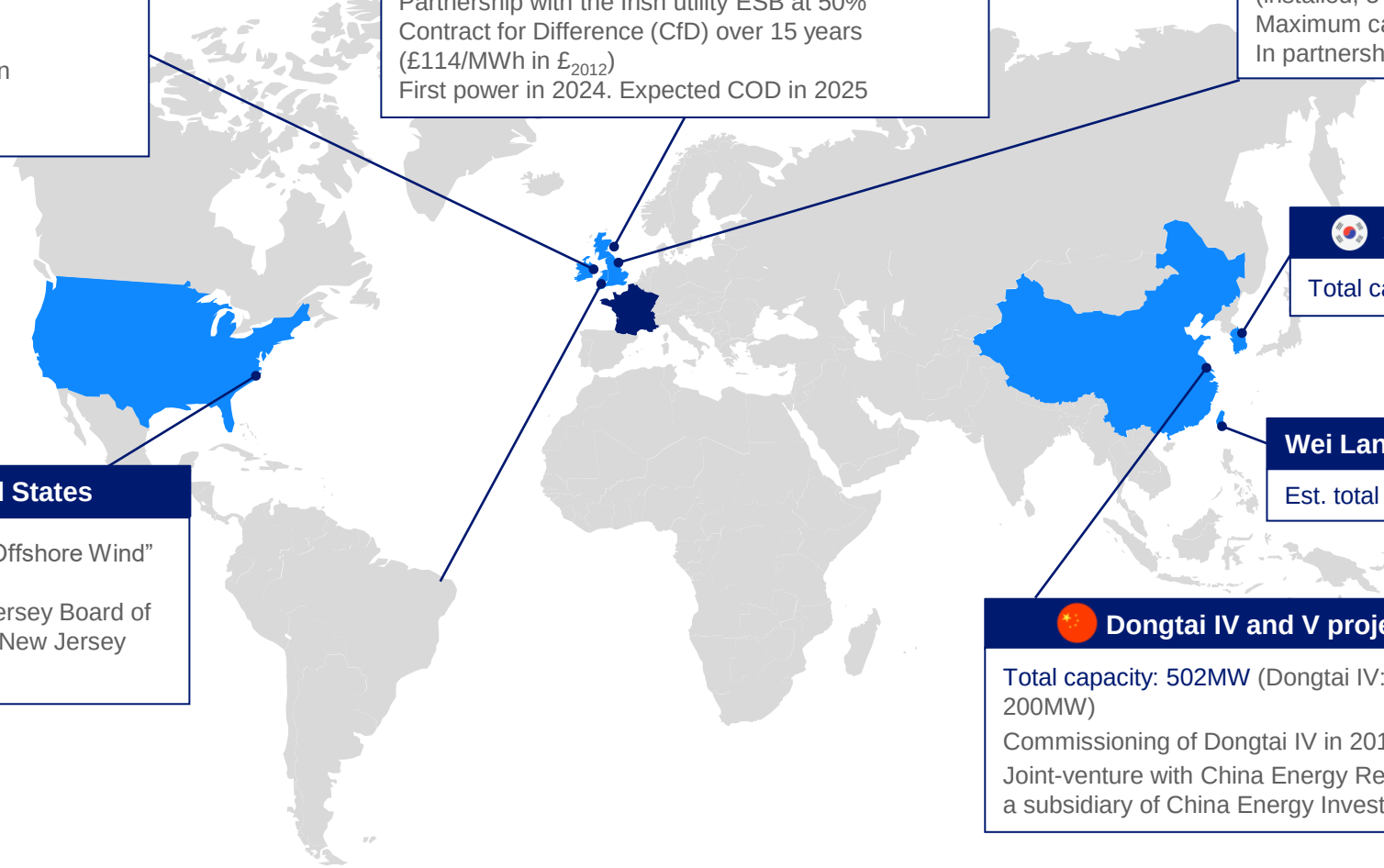
## Further Developments

- Development of Dunkirk (expected commissioning in 2028, ~€1bn total investment, partnership with Enbridge)
- Development in Normandy of the Manche Normandie in partnership with Maple Power

Floating offshore wind project

- Provence Grand Large, a floating wind pilot project: installation of three 8MW turbines on floating foundations finalised. Commissioning expected in 2025
- Méditerranée Grand Large (250MW, floating wind) awarded in December 2024, in partnership with Maple Power.
- Awarded tenders in South Atlantic and Centre Manche 2 with Maple Power

# International offshore wind developments



### Codling project in Ireland

Total capacity: 1.3GW
Project awarded off the coast of Wicklow
Irish CfD (“RESS”)
Equity investment of 50% with Fred Olsen Renewables
Construction expected to start in 2026

### Neart na Gaoithe project in Scotland

Start of construction in 2019
Total capacity: 450MW (54 turbines)
Partnership with the Irish utility ESB at 50%
Contract for Difference (CfD) over 15 years (£114/MWh in $£_{2012}$)
First power in 2024. Expected COD in 2025

### Blyth 2 project in England

Floating demonstrator near the Blyth 1 park (installed, 5 turbines for 42MW)
Maximum capacity of 58MW
In partnership with Tenaga

### Seahorse project in South Korea

Total capacity: max 1,5GW. In development.

### Wei Lan Hai Changhua project in Taiwan

Est. total capacity: 440MW. In development

### Atlantic Shores in the United States

Joint-venture company “Atlantic Shores Offshore Wind” with Shell
Contract awarded in July 2021 by New Jersey Board of Public Utilities to develop 1.5 GW off the New Jersey coastline

### Dongtai IV and V projects in China

Total capacity: 502MW (Dongtai IV: 302MW, Dongtai V: 200MW)
Commissioning of Dongtai IV in 2019 & Dongtai V in 2021
Joint-venture with China Energy Renewables, a subsidiary of China Energy Investment Corporation

# A sustainable business model based on key competitive advantages

## Development

~2,100 employees(1)

- **Key competitive advantages for the development of a strong project portfolio**
  - A large and diverse **international presence** with seasoned development teams in Europe and North America and dedicated development hubs in Asia Pacific, Latin America, Middle East and North Africa
  - **Expertise** in site security, engineering, procurement, structured financial arrangements and participation in tenders
  - Key local **partnerships** in order to share investments, country risk and maximize competitive advantage
  - Strong **portfolio**, in renewal and with a good transformation rate
- **Synergies** within EDF group for **customer-tailored solution** (PPAs for commercial and industrial customers, off-grid or decentralised offers)

## Engineering & construction

- **Strong engineering expertise**
- **Significant expertise in the construction of industrial-scale projects and operational excellence in delivering** on budget and on time
- **Continued technical innovation** to seize opportunities in new markets (floating PV, floating offshore wind, etc.)
- **Leverage our engineering skills** for repowering to increase our production

## O&M and Asset Management

- **Integrated skills in O&M** supporting **operational excellence, optimised production, technological expertise**

## Decommissioning

- Expertise on **decommissioning of end-of-life assets**
- Proactive approach on **blades recycling** (partnership with Siemens Gamesa for the deployment of offshore recyclable blades): 10 wind turbines with recyclable blades for the Fécamp offshore wind park

**Value creation:**

**+100-300 bps**

**Difference between the Expected Return Rate and WACC(2)**

(1) EDF Renewables Development, Engineering and Construction internal teams. Excluding contractors and partners capabilities.

(2) Difference above WACC. Historical average performance estimated as part of a profitability analysis of EDF Renewables projects (scope: 9.5GW net, 145 farms, 15 countries). The IRR calculation takes into consideration the various assumptions (including market prices evolutions).

# Technological innovation: a key competitive advantage to reduce CO2 emissions

| | |
|---|---|
| **Offshore Wind** | Floating wind power**:** promising opportunities by installing wind farms at depths greater than 50-60m, moving them further offshore and capturing favourable wind regimes |
| **Solar PV** | Unlocking new potential for PV solar in constrained areas:<br>• Coexistence of agricultural activities and PV solar production through agrivoltaics<br>• Floating photovoltaic solar systems<br>Developing solutions tailored to customer needs:<br>• Roof installations with self-consumption<br>• Development of microgrids, especially for poorly or non-interconnected customers |
| **Road to Market…** | Development of corporate Power Purchase Agreements (PPAs), long-term electricity delivery contracts that link a producer with a private client (consumer, supplier, or trader) |
| **Storage** | Providing flexibility to the electrical system and addressing the variability of renewables:<br>• Li-ion batteries coupled or not with production assets to adapt to market volatility/high prices<br>• Batteries and charging systems for electric vehicles |
| **Hydrogen** | Accelerating the decarbonization of the energy mix through low-carbon energy vectors: Development of hydrogen production methods through electrolysis of water using renewable electricity, for use in industry and mobility |

# ~20.5GW of O&M(1) : strong expertise, differentiating factor

**20.5GW of O&M contracts**

Remote control and optimisation in real time via a control centre

**10 countries**

**4 technologies**
(onshore wind, offshore wind, solar PV, battery)

**Optimised asset performance**

- Digitalisation and real time supervision. Ongoing data lake creation for asset performance optimisation
- Predictive maintenance via algorithms dedicated to anticipate defaults, wear, damage

**Enhanced technical expertise**

- Continuous feedback on technical issues via O&M monitoring strengthening knowledge and understanding of industrial technologies
- A strong credibility vis-à-vis turbine manufacturers and third-party investors

**Reinforced competitiveness during the development phases**

- More competitive price positioning on tenders
- Contract optimisation thanks to the competition between turbine suppliers for initial or renewal O&M contracts
- Early-stage project optimisation (development, construction, etc.)

(1) GW of renewable energy power plants operated and maintained by EDF(plant supervision, monitoring of production, preventive and corrective maintenance, etc.) on its own behalf or for a third party.

# EDF Group main businesses



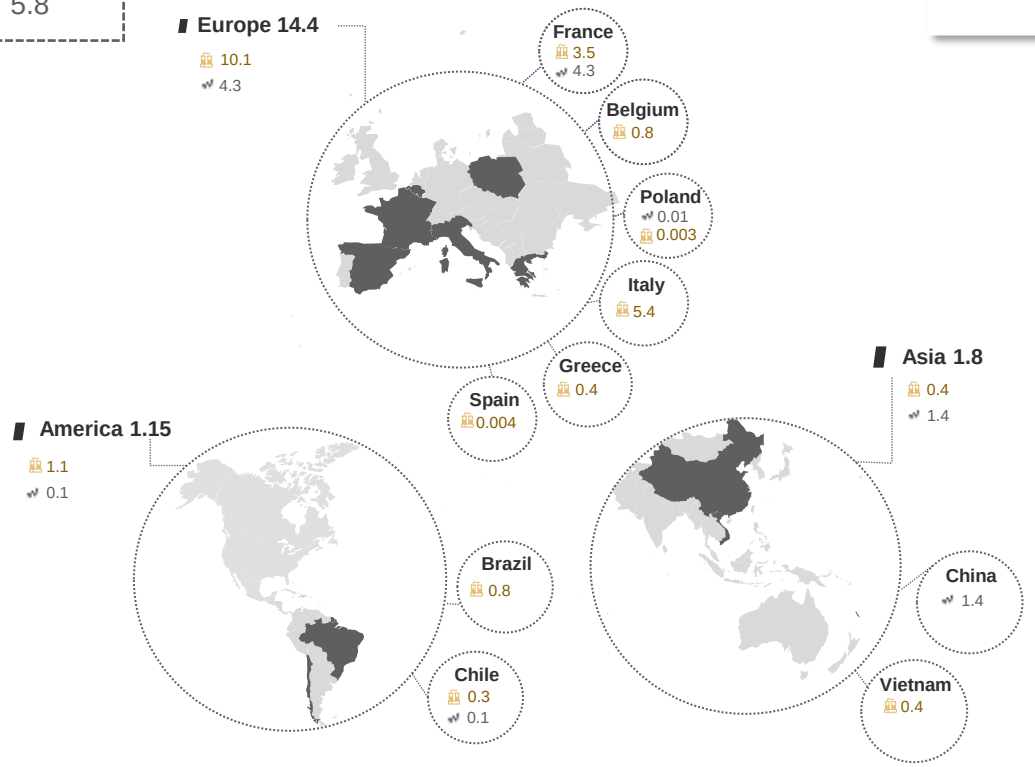
# Thermal fleet of EDF group

## Net installed thermal capacity

*In GW*

**17.4**
11.6
5.8

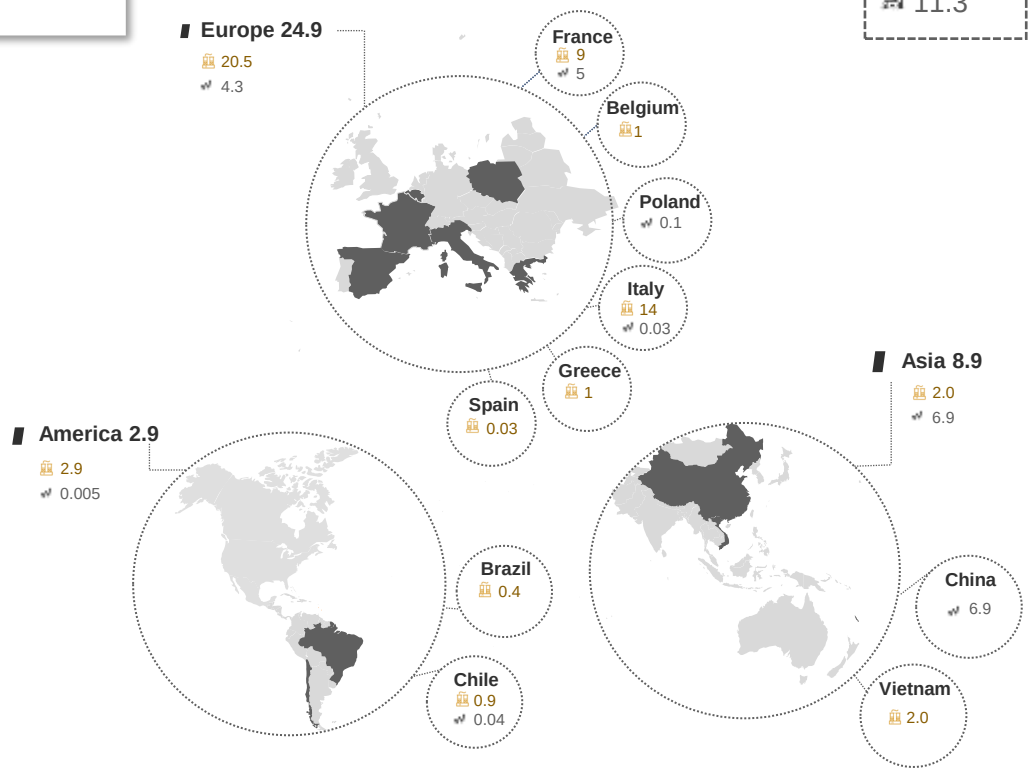
Gas (including cogeneration)
Fossil-fired (coal and fuel oil)




## Net electricity output from thermal power

*In GWh*

**36.7**
25.4
11.3



# Transition of thermal power to EDF's low carbon strategy

**Strategy to end coal-fired power generation** : transition to a decarbonised mix in the non-interconnected zones & Reduction of CCGT's emissions

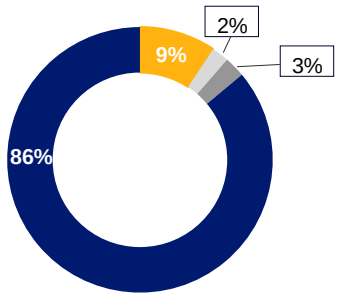
**Global phase-out of coal-fired power generation by 2030**
- France**:** last coal-fired power plant Cordemais due to stop its operation by 2027
- China**:** withdrawing from coal-fired electricity production, in progress by the Group for its non-controlled assets

**By 2035**
- Toward 2GW of decarbonised thermal capacity
- Operating of at least one CCGT equipped with $CO_2$ capture and storage (CCS) technology

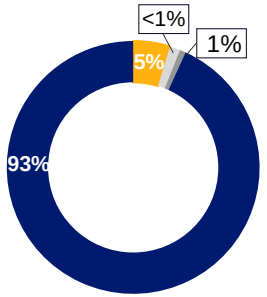
**Modernise the fleet to improve its technical and environmental performance:** In Italy, commissioning of Marghera and Presenzano CCGT plants (with $CO_2$ emissions 40% lower than the national average and 70% fewer NOx emissions)

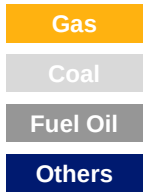
**Achieve low-carbon electrical production in non-interconnected zones**:
- Replacement of fuel oil with biomass (achieved in 2023 in La Réunion island)
- Shutdown of the oldest combustion turbines (TAC) and generators
- Energy management system on fossil fuel-fired sites
- Development of 100% renewable energy projects for isolated microgrids

Installed capacity(1)




Electricity generation(1)




(1) Consolidated data.

# EDF Group main businesses



# Enedis : distribution network leader in Europe

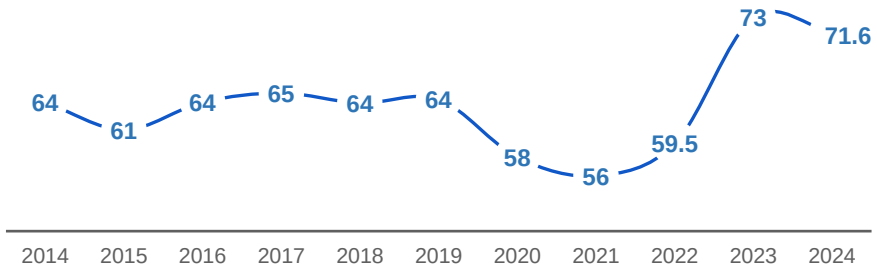
*Enedis ranked "world's smartest grid" in the Smart Grid Index for the 3rd consecutive year in 2024.*

**First electricity distribution network in Europe**

- **~1.4M** km of lines
- **~38.8m** customers(1)
- **321TWh** distributed
- **1,089k** of connected ENR generation installations cumulated at end-2024
- **€5.3bn** net investments in 2024
- **~41,000** employees

## Top-tier operational performance

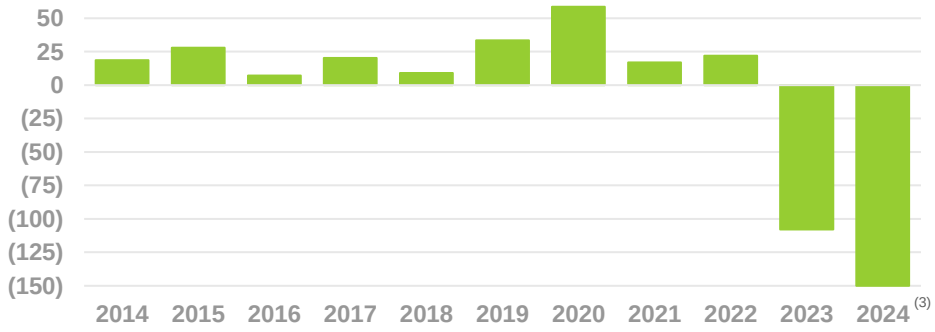
**Outage time(2)**




Impacted by climatic events in 2023 & 2024

## Regulatory incentive bonus/malus since 2014

**Regulatory incentive (in €m)**




For TURPE 6, bonus/malus between -€269M and +€201M: this modifies the remuneration potential in relation with performance level

TURPE 4 ⟵ ⟶ TURPE 5 ⟵ ⟶ TURPE 6 ⟵ ⟶

NB: Enedis is an independent EDF subsidiary as defined in the French Energy Code

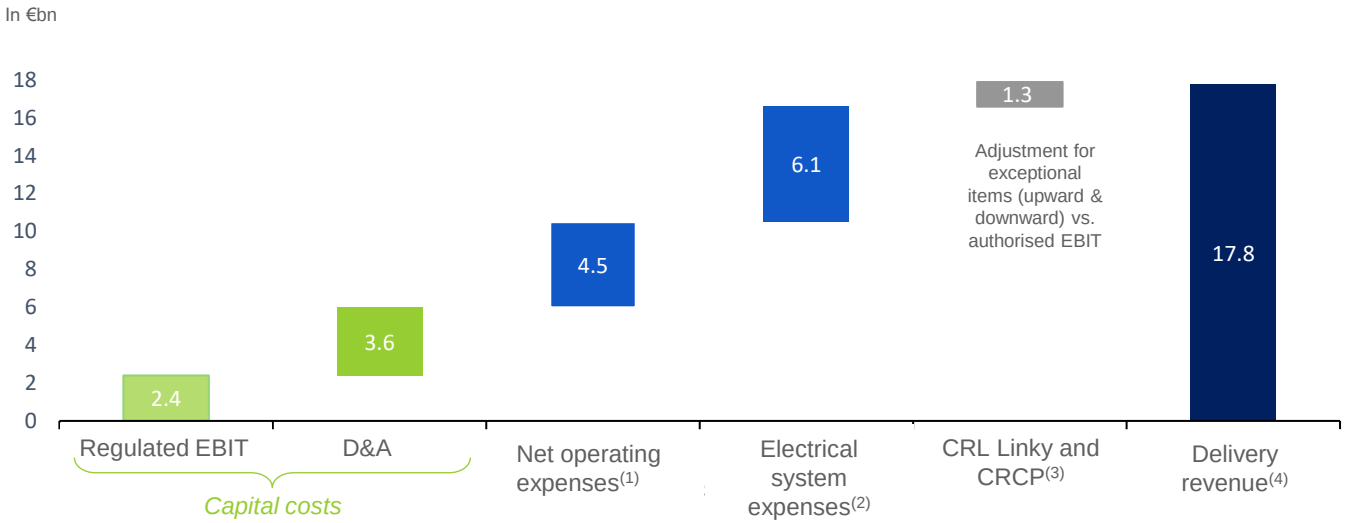
(1) Corresponds to the number of delivery points.

(2) Excluding exceptional events and transport grid incidents.

(3) Provisional data. The 2024 malus is mainly due to the impact of climatic events and the planned interruptions due to investment programs and connection of renewable energies on the quality of supply.

# ENEDIS : TURPE 7, a mature regulatory framework

**A cost + remuneration approach for the period 2025-2028**
(average forecasted data from the CRE deliberation of March 2025)




- **No exposure to variations in distributed volumes** (number of customers, TWh distributed including weather impact) vs trajectory defined by the regulator
- **Incentive regulation**: productivity gains, quality of service and continuity of supply, R&D and smart grids

## Tariff indexation principle

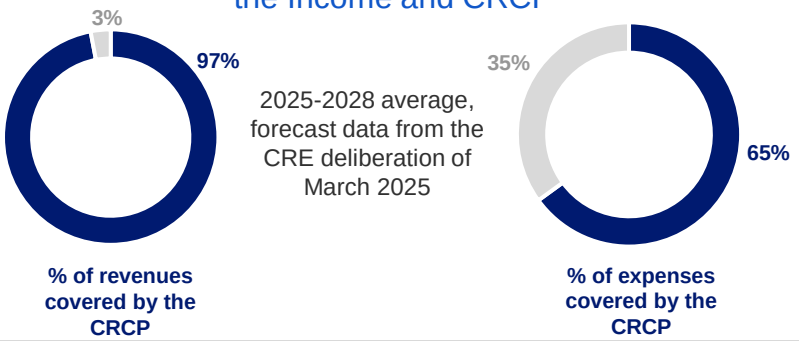
*Change in the consumer price index (criteria: inflation)*

*Inflation rate for the year - 0.35%*

*CRCP balance(3): for non-controllable expenditure, difference between forecast and actual + incentive regulation*

*Calculating the k factor(5) capped at +/-3%*

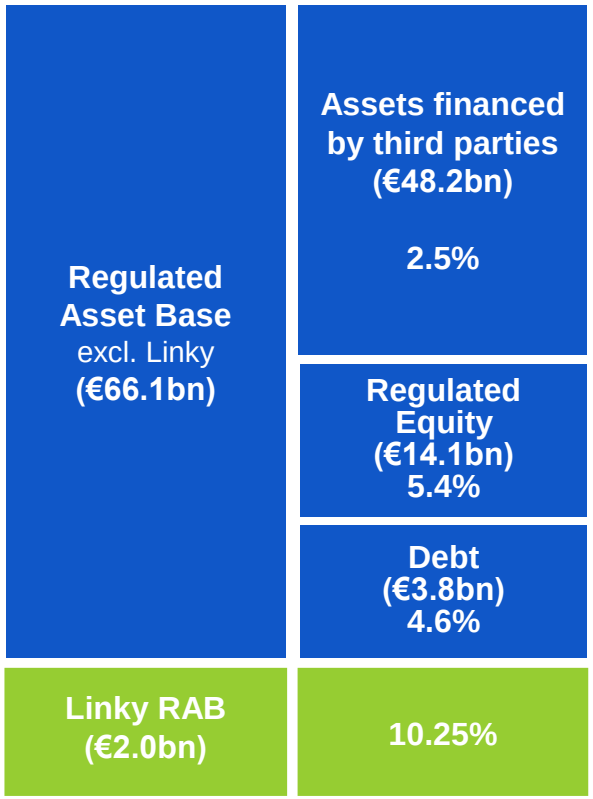
## Income and expenses(6) largely secured by the mechanism of the Income and CRCP




(1) Excluding electrical system expenses.
(2) Transport purchase from RTE + purchase of network losses.
(3) CRCP : expense and income adjustment account; CRL Linky : Linky regulated levelling account (*Compte Régulé de Lissage*).
(4) French standard data. The difference with IFRS mainly corresponds to Enedis' contribution to the Electricity Equalization Fund.
(5) k factor : percentage change in the fee table resulting from the clearance of the CRCP balance.
(6) Capital charges + operating charges + electric system charges.

# TURPE 7 remuneration structure: a favourable risk profile

## A remuneration mechanism based on a guaranteed return for the period 2025-2028




**ENEDIS RAB excl. Linky**
**2.5%**(1) nominal return before tax on **€66.1bn** of RAB

+

**ENEDIS regulated equity excl. Linky**
**2.9%**(2) nominal return before tax on **€14.1bn** of Regulated Equity

+

**ENEDIS debt excl. Linky**
**2.1%** nominal return before tax on **€3.8bn** on debt excluding Linky debt

+

**Linky RAB**(3)
**7.25%** of base nominal return before tax
+ **3.0%** additional premium on **€2.0bn** of RAB

=

**Regulated EBIT**

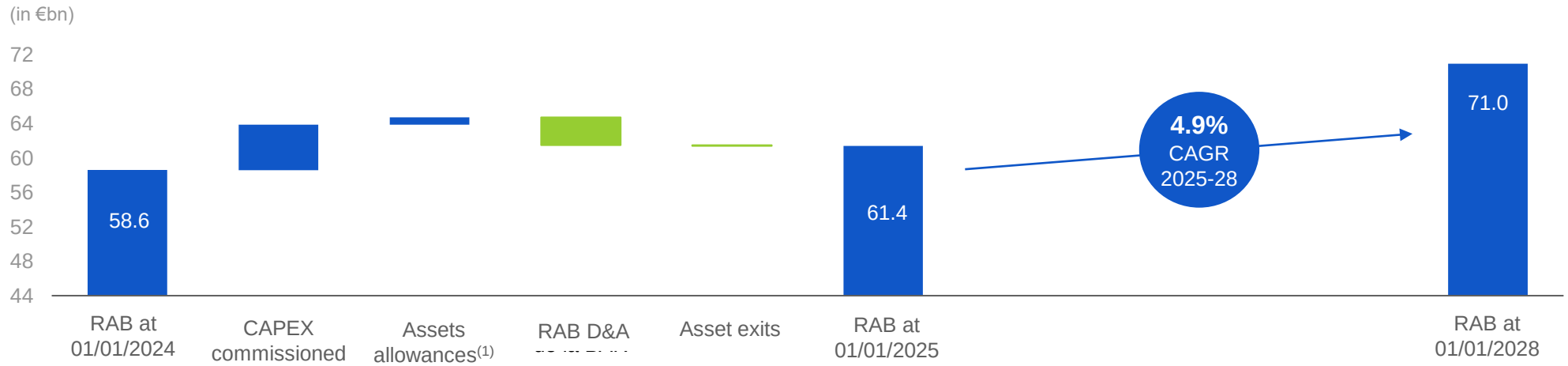
- **Stable return on capital :** slightly depends on interest rate trends at 2.5% since TURPE 4
- Return on **Regulated Equity:** increase from **2.3%** (Turpe 6) **to 2.9%** to reflect the rise of French risk-free rate and corporate tax rate
- **CRCP: mechanism globally unchanged compared to TURPE 6.** The entry CRCP of TURPE 7 (closing of TURPE 6) represents a receivable of €3.5bn(5) to be spread over the 4 years of TURPE 7
- **Incentive regulation: targets raised**, notably quality of service
- **Annual tariff indexation**

*2025-2028 average, forecast data from the CRE deliberation of Mars 2025*

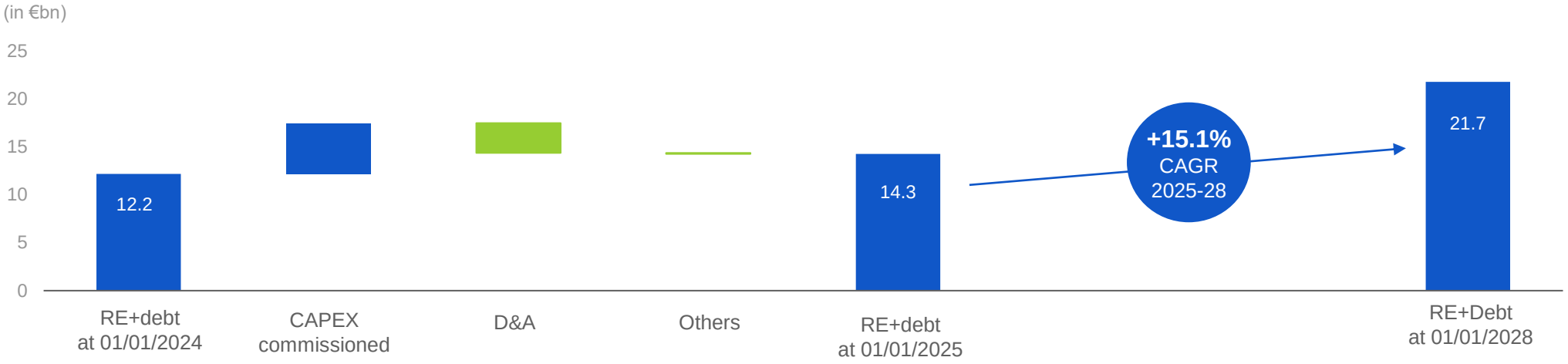
(1) Asset margin = Asset beta x Market risk premium / (1 - tax rate) = 0.36 x 5.2% / (1 - 25.83%) = 2.5%.
(2) Additional rate of remuneration applied to RE = Risk-free rate/ (1 - Tax rate) = 2.1% / (1 – 25.83%) = 2.9%.
(3) Remuneration rate for Linky assets = Base rate + **3.0%**(3) additional premium = 7.25% + 3% = 10.25%.
(4) Applicable from 1 August 2025.
(5) CRE deliberation.

# Steady growth in RAB and Regulated Equity

## Annual change in RAB (excl. Linky)




## Annual change in RE + debt (excl. Linky)




(1) Work by concession-granting authorities and transferred to Enedis.
(2) Estimated figures from the CRE deliberation Forecast data.

# Enedis' adaptation to climate change: achieving a successful ecological transition

**Contributing to energy sobriety**

**Open data and services: Enedis data at the service of the ecological transition**

Data enabling local authorities **accelerate the development of renewable energies** and the introduction of territorial climate-air-energy plans

**The main challenges in developing electric mobility**

**18 million** electric or rechargeable hybrid **vehicles** to be connected by 2035

**Digital responsibility: Enedis commits to a sustainable transformation**

**Supporting the development of renewable energies**

**Training for new electrical professions with the network schools for the energy transition**

120 partner establishments welcome around **8,500 students** to meet the recruitment and specific **skills needs** of the electrical networks sector

**Reducing the footprint of events**

Enedis managed to avoid using 4 power generators during the Quiksilver Festival, **saving 4.7t$CO_2$**

**Encouraging more economical electricity consumption with Linky**

**Climate Adaptation Plan**

updated in 2021:

**Enhance the reliability of 20,000km of overhead medium-voltage networks between 2019 and 2032**

Notably, laying 98% of new medium-voltage lines underground, replacing a large proportion of the “bare wire low-voltage” lines and installing waterproof equipment in floodable areas.

# French island activities & Électricité de Strasbourg

## French island activities[1]

- **Integrated business model** including generation by the subsidiary **EDF PEI** (*Production Électrique Insulaire)*, distribution and supply by **EDF SEI**
- Generation activities:
  - Capacity 2.0GW[2]: fuel 78%, renewables (incl. hydropower) 22%
  - Based Assets Remuneration: 11% for assets commissioned before 06/04/2020, 6.25% to 9.75% for assets commissioned after 06/04/2020
  - Production 6.0TWh[2]: fuel 82%, renewables (incl. hydropower) 18%
  - **Decarbonisation of the thermal power generation**:
    - in 2023, conversion of the Port Est oil-fired plant (212MW) to liquid biomass, enabling EDF's power output to turn 100% renewable in La Réunion island.
    - In 2024, start of the works at the Ricanto liquid biomass plant (130MW – Corsica), to replace the Vazzio thermal plant
- Network activities (via concessions): regulated remuneration and €283m investments in 2024
- Commercialisation: 1.3m of electricity customers at the regulated tariff
- Island Energy Systems Department, responsible for the daily supply and demand balance and the management of the networks

## Électricité de Strasbourg

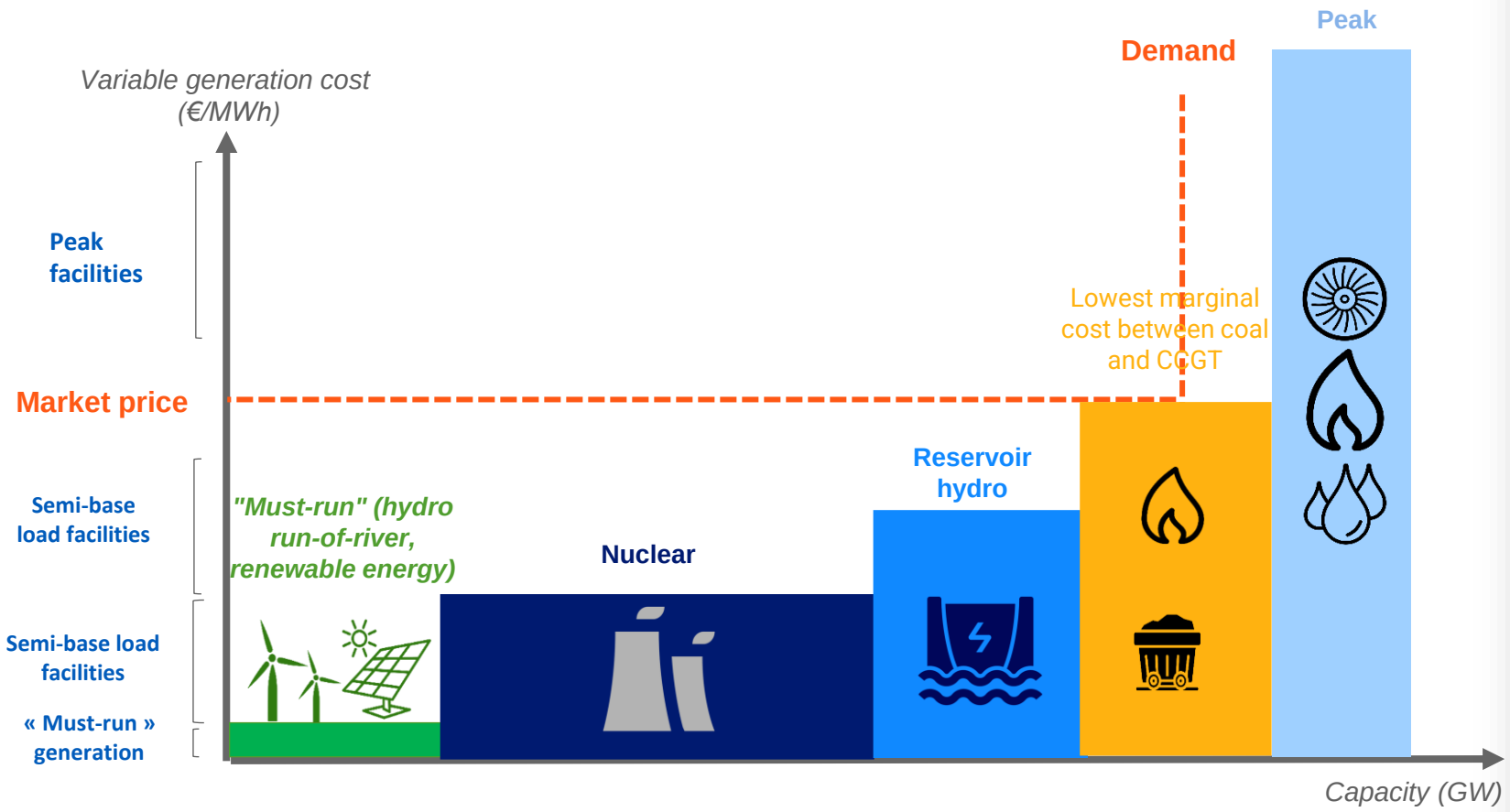
- The ÉS group is a French energy utility operating in the Alsatian region in 4 business lines:
  - Electricity distribution (16,000km electric network)
  - Energy supply to c. 581,000 electricity customers & 110,000 gas or biogas customers
  - Energy services (control and optimisation solutions for electrical engineering, industrial and public lighting, …)
  - Renewable energy generation
    - **Deep geothermal**: 160GWh fossil-fired & 5GWh electric
    - **Biomass**: 110GWh fossil-fired & 60GWh cogeneration
    - **Hydropower**: 2GWh
- 72% of EBITDA from regulated distribution activities
- 1,300 employees
- 2021 - 2026: roll out of Linky™
- 2023: signature of a partnership with Eramet for geothermal Lithium, FID expected in 2027

(1) French island electrical activities include Corsica, Martinique, Guadeloupe, French Guiana, Reunion, Saint Pierre and Miquelon, Saint Barthélémy, Saint Martin and Ponant islands.
(2) Fully consolidated data as of 31/12/2024.

# EDF Group main businesses



# Daily optimisation: the merit order




- **At each moment**, the optimiser schedules the operation for the available means of generation, mobilising them according to the **merit order** of variable costs(1) until the estimated demand is met.
- Before purchasing volumes on the spot market, the producer determines the **resources required to meet the demand**:
  - It classifies them from the least expensive to the most expensive
  - It then calculates the **marginal cost**: variable cost of the most expensive means of generation called to meet the supply/demand balance of its portfolio.
  - And it determines the **sales and purchases volumes** on the spot market
- **Spot market price** (day ahead) is based on the marginal cost at the intersection of the supply of all producers with the overall demand to meet
- The relative positioning of gas and coal plants depends on fossil fuel prices and $CO_2$ quotas

(1) Variable costs: operating costs proportional to the generated energy, fuel costs, $CO_2$, costs of injection into the grid.

# EDF Trading, the platform to access wholesale energy markets

| | |
|---|---|
| **Market access** | **Providing access to commodities**: electricity, natural gas, Liquid Petroleum Gas, Oil, LNG(1) and environmental markets in Europe, North America and Asia |
| **Specialist in the wholesale energy market** | **Providing a full range of services and products on the wholesale market**: energy supply, management of generation, transport, regasification and storage assets, forward purchases/sales of energy, PPAs, green energy, environmental products (EUAs, guarantees of origin, carbon credits, biofuels, etc.) |
| **Value creation for EDF** | **Providing exclusive market interface to EDF Group entities**: risk management, asset optimisation and hedging services |
| **Value creation for customers** | **Providing services to wholesale commercial and industrial customers**, producers and suppliers of energy |

| 2024 EBITDA |
|---|
| **€1.6bn** |

| 2024 Employees |
|---|
| **800** |

| | |
|---|---|
| **Well positioned with a broad geographical presence** | One of the largest wholesale traders of natural gas and electricity in North America |
| | A leading player in the European natural gas and electricity markets |
| | Growing global LNG trading in the Atlantic and Pacific Basins through its partnership with JERA of Japan |

**Trading operations across 5 cities**


(1) Financial trades.

# Purchase obligation and sale on wholesale market

Public service mission: EDF(1) must buy electricity generated by technologies (or pay the facilities a “Contract for Difference“ (CfD)) whose development is promoted by the French State, at prices set by the government

EDF is compensated for the additional costs resulting from the Power Purchase Agreement (PPA) on the basis of a reference to prices from wholesale electricity markets, known as “avoided cost” (compensation)

## EDF-Power Purchase Agreement

According to the CRE ruling of 16 December 2014, the energy of purchase obligations is resold on the markets:

- the near certain component (i.e. predictable over the medium term) directly by tenders under transparent and non-discriminatory conditions
- the variable component (i.e. predictable for the day ahead) on EPEX Spot via EDF Trading (in a dedicated book)

Since the capacity mechanism has been set up, EDF is in charge of the certification of the facilities under the purchase contract and resells these capacities at the auctions (around 4GW)

## EDF-Contract for Difference

In 2024, market prices were under the “PPA” contract price reference. Thus, EDF paid producers the difference between these two prices and the French state refunded EDF for this difference.

**714,000**

Managed contracts.
Annual growth in 2024:
+163,000 contracts

**~€74m**

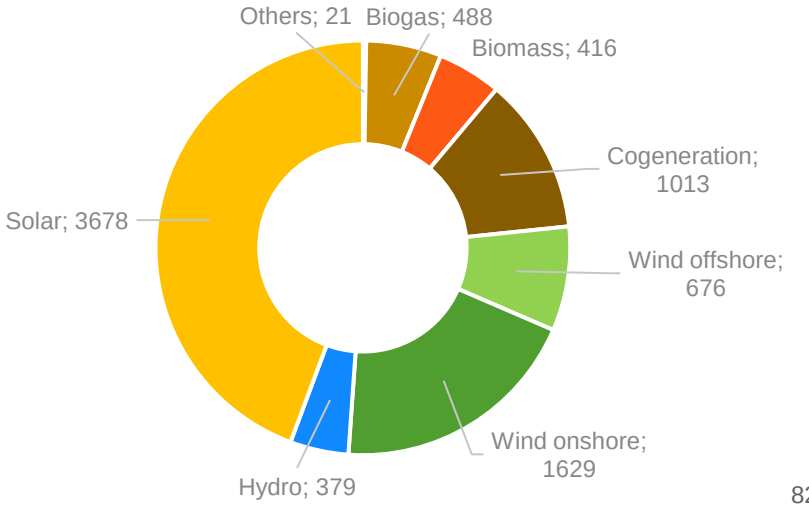
of management fees paid by the French State to EDF for 2023
*(latest data)*

**2024 Key figures(2)**

**PPA**
**47.5TWh**
**of purchased electricity**
**for €8.3bn**
**of purchases**

**CfD**
**15.8TWh**
**of sustained electricity**
**€458m**
**of payment by producers**

**Purchasing breakdown by sector in 2024** *(in €m)*




(1) And the local distribution companies.
(2) Excluding Corsica and French overseas departments.

# Capacity mechanism in France: principles

Objective: ensure the security of the power supply in France by remunerating the contribution of each generation means to support decisions to invest in or shutdown these means of production

**Producers** have their **capacities certified** by **RTE** committed to a forecasted level of availability for the **winter peak**

**Suppliers** have an **obligation** to hold **capacity certificates** for the estimated consumption of their customers on **peak days** as determined by RTE

**Certification Perimeter Managers**

***Certify and sell capacities***

EDF, agregio, **Other energy producers**

**Obligated Actors**

***Purchase capacity to cover their obligation***

EDF, **Other energy producers**

The capacity mechanism was set up in 2016 in France to ensure secure power supply during peak periods

**Auctions organised by EPEX allow supply and demand to be matched and a price to emerge**

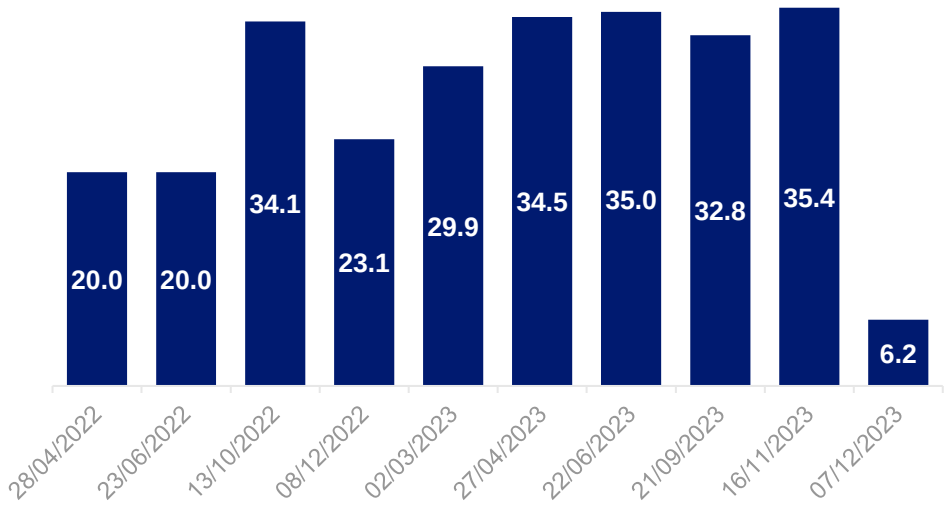
The price depends on the tightness of the supply-demand balance each winter and the expected return on the assets to be available

- **In the UK**, a capacity mechanism was introduced in 2014 to ensure security of electricity supply system. It is based of auctions for operators, organised by the electricity system operator “National Grid ESO” to procure capacity 4 years ahead of delivery. EDF Energy is concerned as an operator of electricity plants and a supplier.
- **In Italy,** a capacity mechanism was set up in 2019 based on auction process organized by TERNA, the transmission grid operator. Edison, is concerned as an operator of capacities.

# Capacity market in France: data

## FOR DELIVERY IN 2024

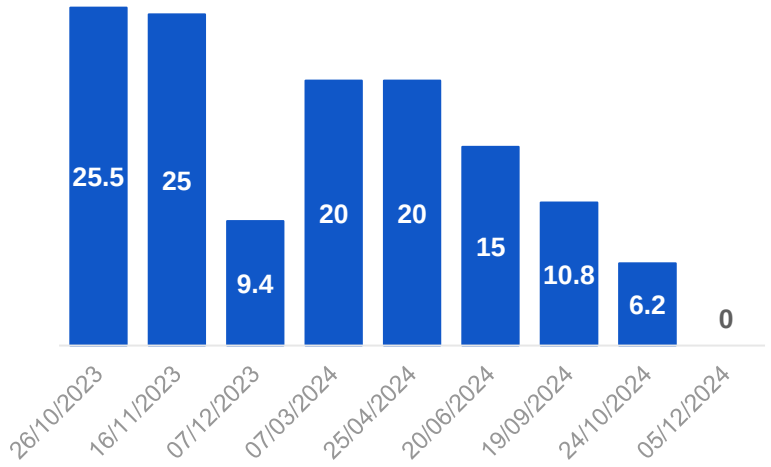
*(in €/kW)*




- Volume of certified EDF capacities: 63.4GW in March 2024
- Average price: €27.1/kW

## FOR DELIVERY IN 2025

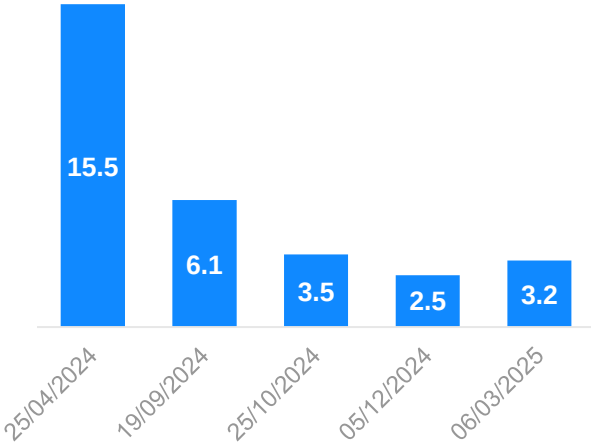
*(in €/kW)*




- Volume of certified EDF capacities: 65.6GW in November 2024
- Average price : €14.7/kW

## FOR DELIVERY IN 2026

*(in €/kW)*




- Volume of certified EDF capacities: 66.9GW in November 2024
- Average price(1) : €6.2/kW

(1) Does not take into account rebalance sessions.

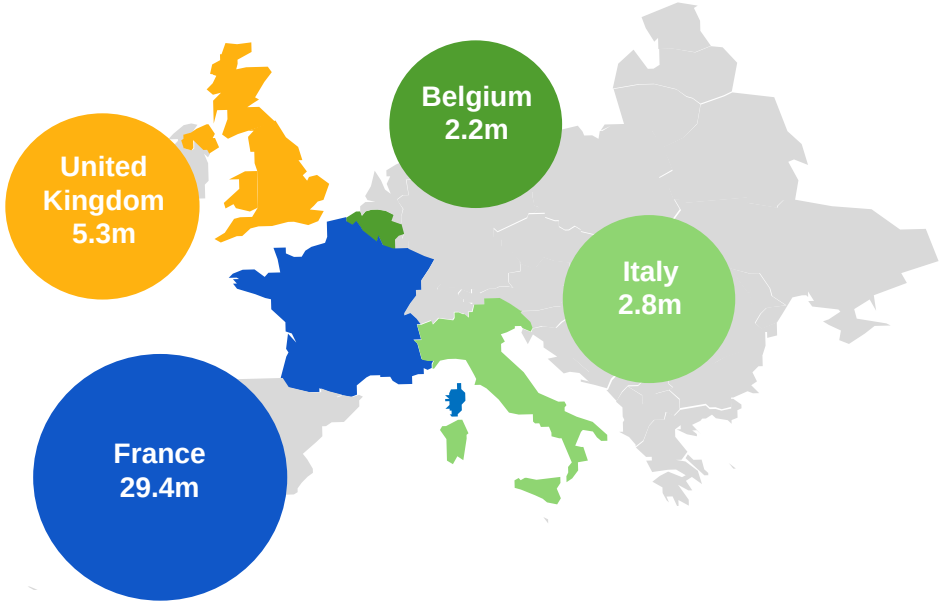
# EDF Group main businesses



# Supply of electricity, gas and heat to 41.5m customers at end-2024

**Electricity**
**34.9m customers**

**Gas**
**6.6m customers**




**United Kingdom: EDF Energy**

**3.1m** electricity customers
**2.2m** gas customers

**45.0TWh** sales of electricity sold
**27.1TWh** sales of gas

**5.8m** residential customers accounts

**Highly competitive market with ~18 suppliers**
**9.5%** market share on all its accounts

**France: EDF (incl. ÉS)**

Nearly **26.8m** electricity customers
More than **2.6m** gas customers

**217.1TWh** electricity sold to customers
**51.5TWh** gas sold to customer

**France: SEI (in non-interconnected zones)**

**1.3m** electricity customers
**9.9TWh** electricity sold to customers

**France: Dalkia (excluding speciality subsidiaries)**

**22.2TWh sold**
19.5TWh for the heating and cooling segment
2.7TWh for the electricity segment

**21.5k** customers

**Belgium: Luminus**

**The second largest player in the Belgian energy market. ~25% market share**

**1.4m** electricity customers
**0.8m** gas customers

**13.2TWh** electricity sold
**13.5TWh** gas sold

12.5TWh B2C – 14.3TWh B2B

**Italy: Edison**

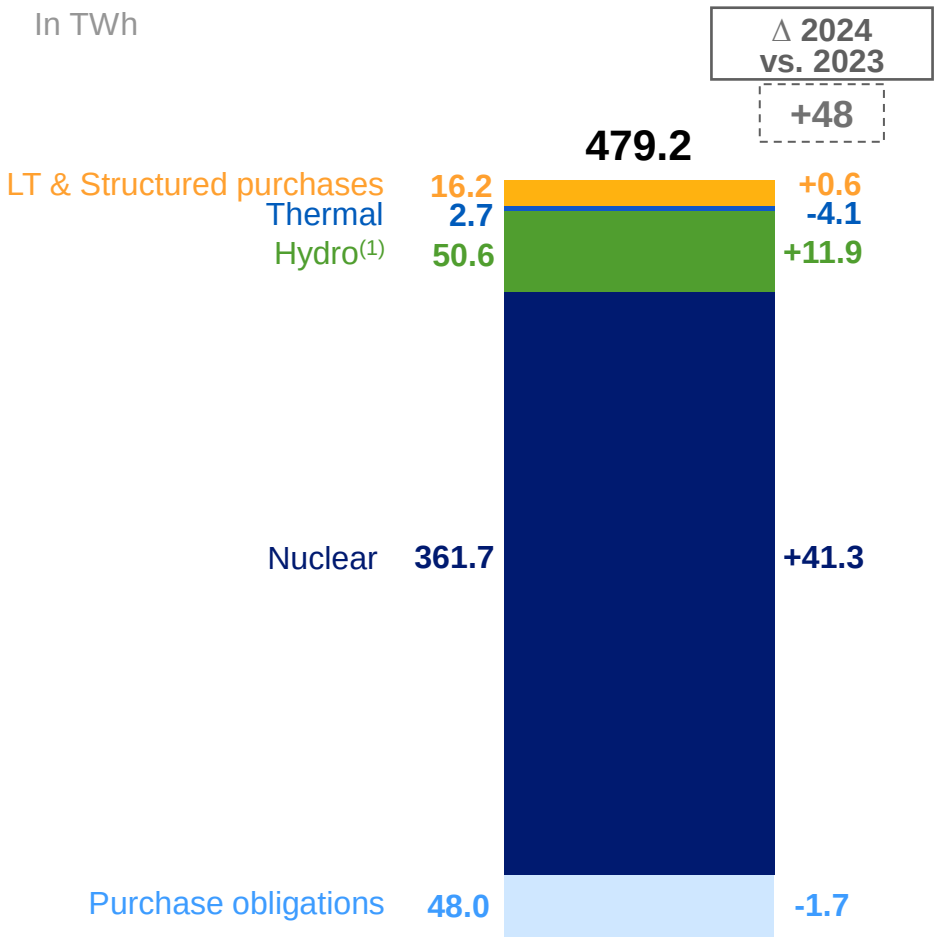
**2.8m** industrial, residential and SME commodity customers (2.97m commodity and Value-Added Services contracts (+37.9% vs.2023)

**15.4TWh** electricity sold (end customers) +12%
**5.8bcm** gas sold (residential and industrial uses) +12%

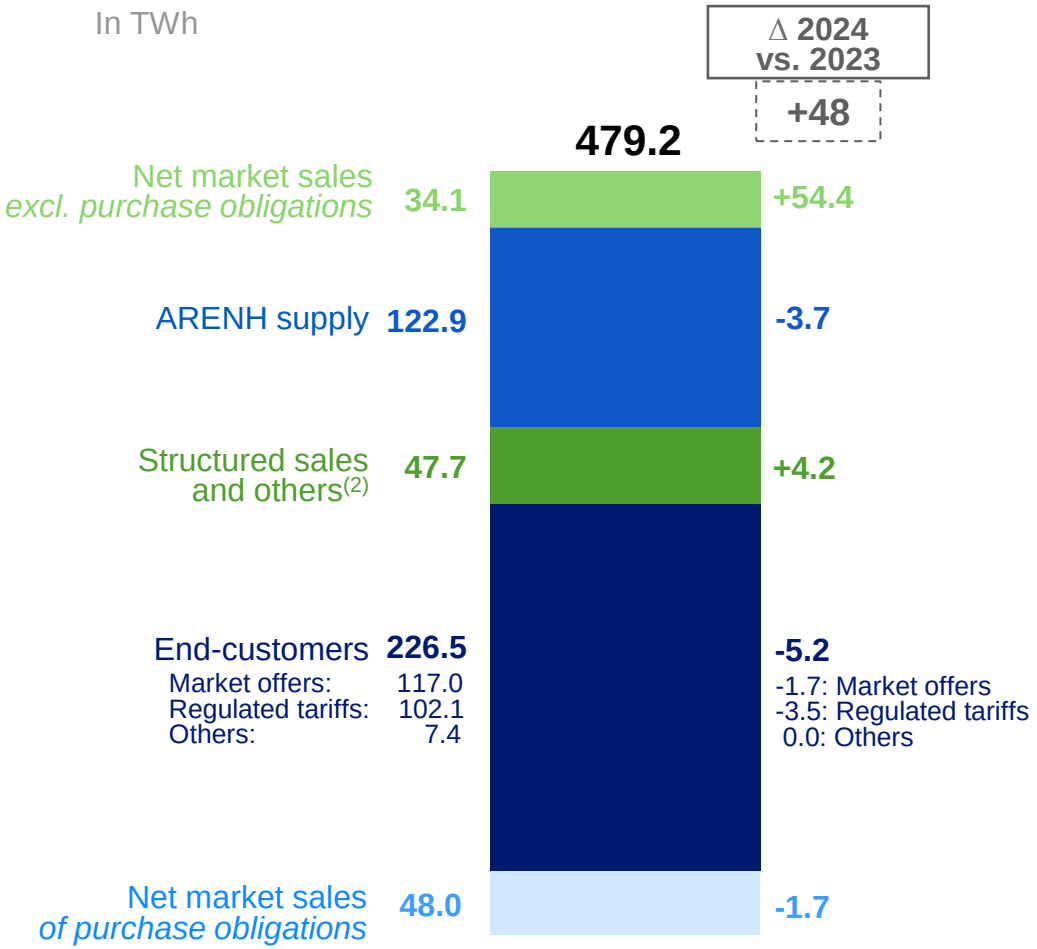
N.B. The customer portfolio consists of electricity, gas and recurring service contracts. A customer may have two delivery points.

# France: upstream / downstream electricity balance

## OUTPUT / PURCHASE




## CONSUMPTION / SALES

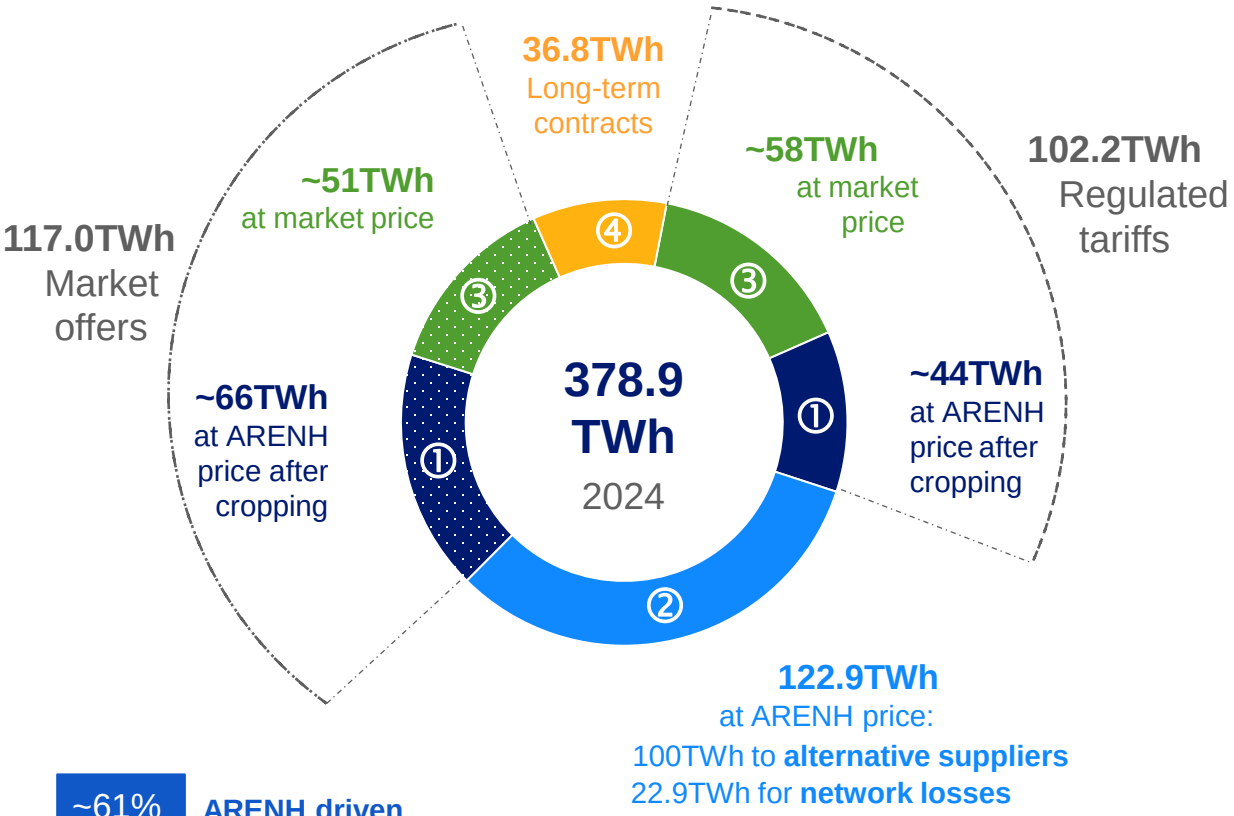



NB: EDF excluding French islands electrical activities.

(1) Hydro output after deduction of pumped volumes represents 42.9TWh in 2024 / 33.0TWh in 2023.

(2) Including hydro pumped volumes of 7.7TWh in 2024 / 5.7TWh in 2023.

# France: distribution of electricity sales(1) according to their market price exposure




~61% **ARENH driven**

~29% **Market prices driven**

~10% **Long term contracts**

❶ Volumes sold at **ARENH price** following the cost-stacking formula in the **regulated sales tariffs** (essentially blue residential and non-residential tariffs) and to EDF final customers under **market-based contracts**(2)

❷ Volumes sold at **ARENH price**(3), which include:

- the ARENH volumes of 100TWh that can be requested by alternative suppliers
- The purchase of losses by network operators for 22.9TWh

… **or at market price** if such price is lower than the ARENH arbitration threshold (ARENH price - capacity price) – not applicable in 2024

❸ Volumes sold at **market price**, whatever the price, which include:

- Part of the volumes sold to EDF final customers: "market complement supply" in the regulated tariffs(4), balance of the volumes sold to clients under market-based contracts
- Volumes sold on wholesale power markets

❹ Contracts at **negotiated prices** that do not follow a market-indexed structure of 36.8TWh

(1) See "France: upstream / downstream electricity balance" p.12. Estimated distribution based on the situation in 2024, in particular in terms of EDF downstream market shares.

(2) Related to the replication of the sourcing cost structure of alternative suppliers: shares of the volumes corresponding to the "ARENH rights" including replication of additional volumes to the alternative suppliers.

(3) EDF is subject to the arbitrage between the two prices and its date of exercise is variable depending on the volumes (it takes place at the latest at the time of the ARENH end of year subscription window for a delivery the following year).

(4) Related to the replication of the sourcing cost structure of alternative suppliers: the balancing volumes sourced on the market which exceed the "ARENH rights".

# ARENH: volumes allocated to alternative suppliers

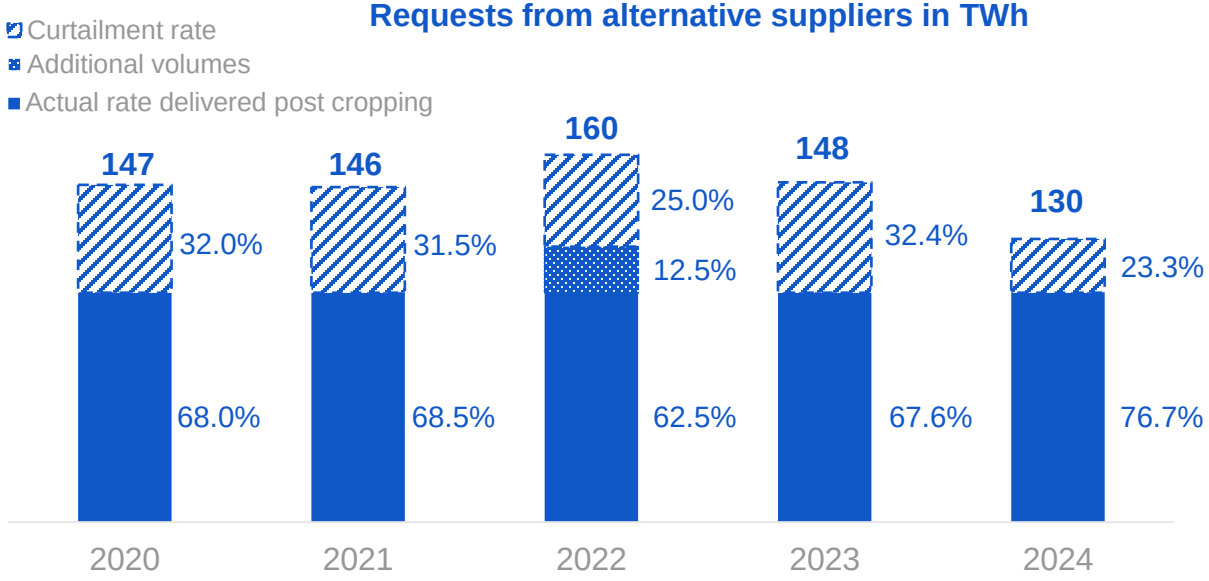
- Historical situation: maximum annual sales volume of **100TWh** to alternative suppliers for final consumption
- Volume sold in 2024: 100TWh for final consumption + 22,9TWh for network losses coverage
- ARENH rights of alternative suppliers for both final consumption and network losses reduced in 2024 due to the update of one parameter of the ARENH mechanism, the latter reflecting the reduction of the nuclear production in the French electricity consumption mix

**An agreement was found in 2023 between EDF and the French government and implemented in the 2025 Annual Budget Law to replace ARENH mechanism :**

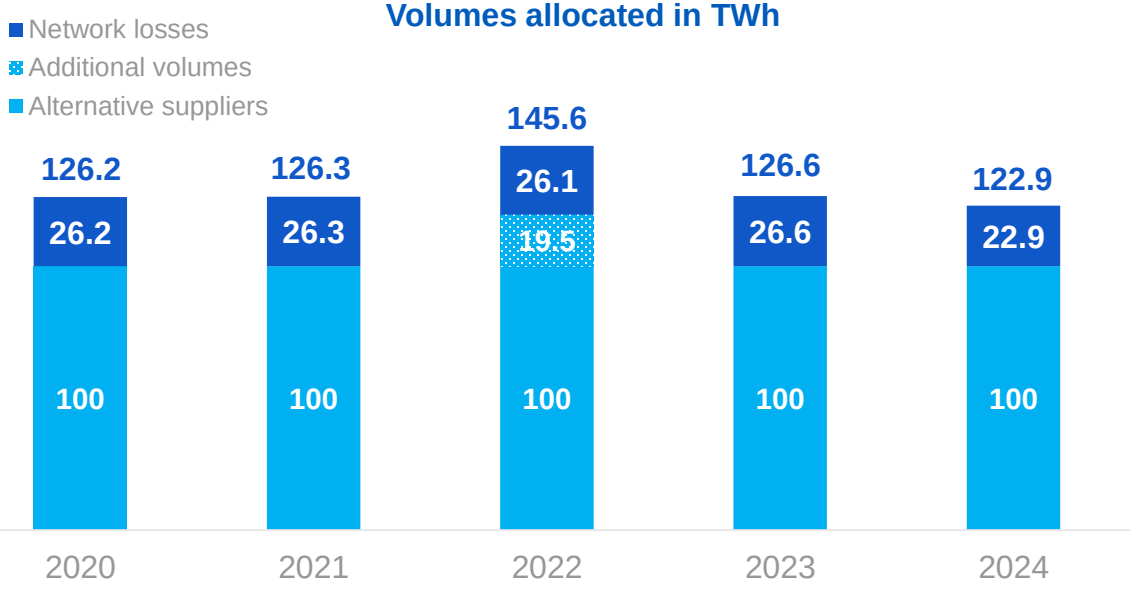
- a **commercial strategy**, based on the development of medium- and long-term contracts (commercial offers and industrial partnerships)
- a **tax levy** calculated on nuclear energy (with different thresholds in €/MWh) which will then be redistributed to end-consumers

Source: CRE.

**Requests from alternative suppliers in TWh**



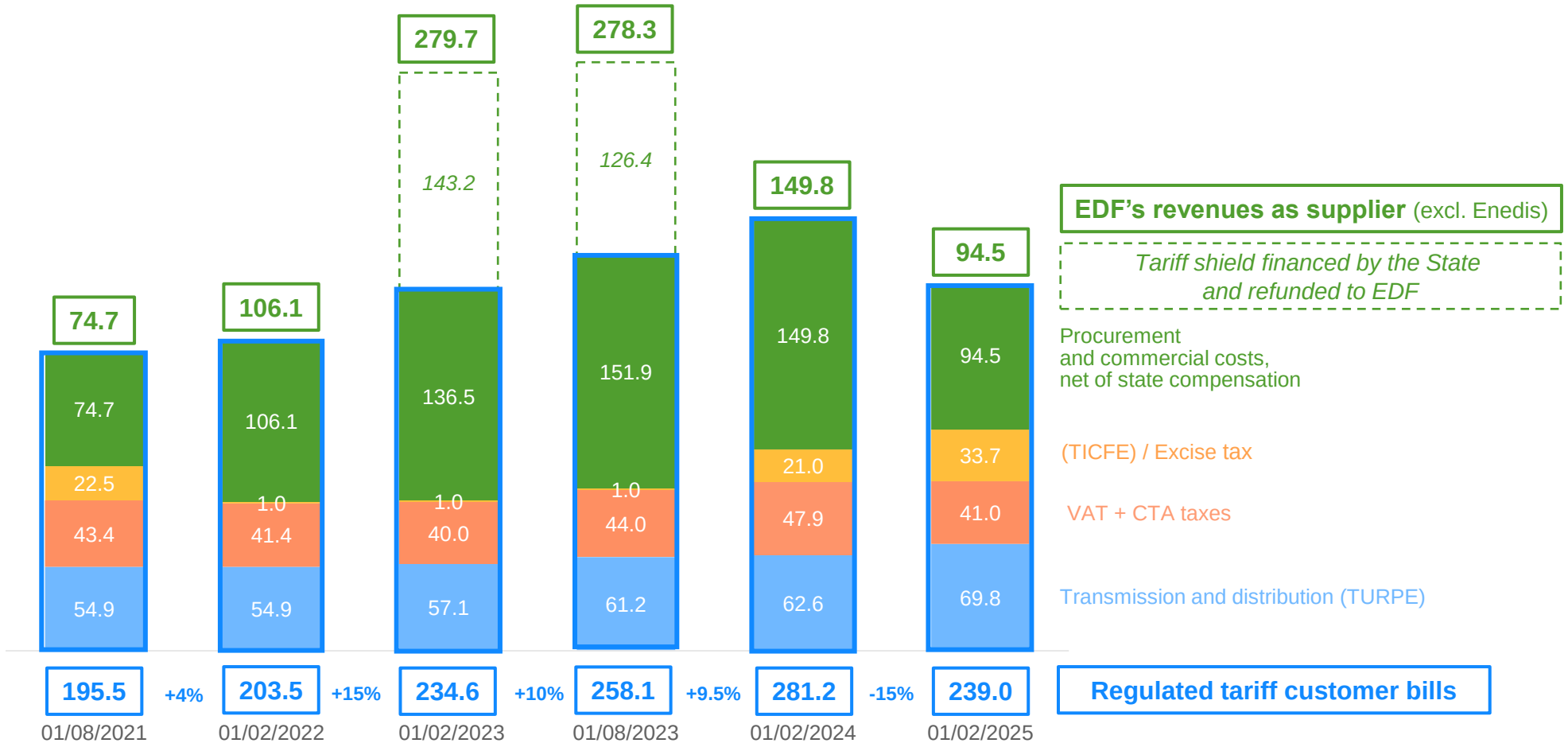

**Volumes allocated in TWh**



# Energy part of the regulated tariffs for EDF including tariff shield financed by the state

***Composition of the average bill including VAT*** [1]

*(in €/MWh)*




(1) Due to rounding, the total is not strictly equal to the sum of the components.

# EDF Group main businesses



# Energy services for residential & B2B customers

## RESIDENTIAL CUSTOMERS

**Growing range of offers:**

**Monitoring** of heating, air quality, charging station of electric vehicle,  etc. by voice and by touch

**Installation, maintenance and repair** of heating and hot water equipment (heat pumps)

**Services** for sustainable housing and electric mobility: energy renovation and comfort works, installation of charging stations and heating equipment (together with IZI Confort)

**Electric mobility** when traveling with the Izivia Pass

**Solar photovoltaic solutions** *« Mon Soleil & moi »* for self-consumption

## B2B CUSTOMERS

- Services in heat networks, intelligent lighting, low-carbon decentralised generation, energy management, sustainable mobility or eco-neighbourhoods

  - **Smart building**: Energy efficiency, energy management, self-consumption, heat recovery, ...

  - **Smart factory**: Data, artificial intelligence, predictive maintenance, energy efficiency, flexibility management, circular economy, economic performance, ...

  - **Smart city**: Local production, heat networks, renewable and recovery energy, thermal and electrical smart grids, collective self-consumption, urban services, ...

# Service subsidiaries: expertise on the entire B2B energy chain


**Energy and Climate Council**

urbanomy EDF GROUP

oklima GROUPE EDF

**Financing**

perfesco GROUPE EDF

**Heating and cooling networks**

dalkia EDF GROUP

dalkia froid solutions GROUPE EDF

**Hydrogen production & distribution**

hynamics GROUPE EDF

**Decentralised low carbon production**

dalkia EDF GROUP

EDF ENR

**Urban services**

dalkia froid solutions GROUPE EDF

dalkia electrotechnics GROUPE EDF

izivia GROUPE EDF

proxity

**Flexibility, energy efficiency & management system**

EDF

dalkia EDF GROUP

agregio solutions

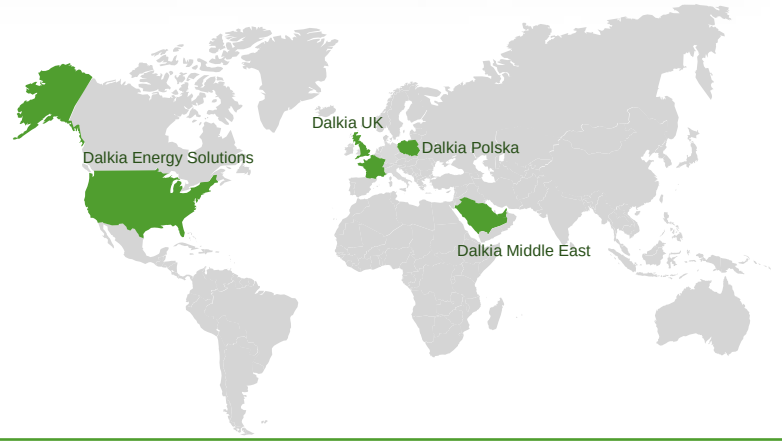
datanumia GROUPE EDF

# Dalkia: a major player in the energy transition at the service of its customers

Leader in energy services in France, Dalkia helps its customers to accelerate their sustainable energy performance through its main activities:

- Investment in infrastructure (development of heating and cooling networks and industrial projects)
- Energy supply (mainly heating and cooling networks but also renewables)
- Works: design & construction (of production facilities and energy renovation works)
- Operation & maintenance (optimisation of networks, generation facilities and buildings)

Dalkia also operates in the world through its main subsidiaries:




More than **330** networks & **3,400km**

**+3,800** Industrial sites for energy services

**90,000** energy installations managed worldwide

**~22,000** employees

**€425m** EBITDA vs 407m in 2023

Dalkia enables its customers to reduce their greenhouse gas emissions while

- developing renewable and recovery energies locally,
- working on energy efficiency and the reduction of consumption

65.5% of renewable energies & recovery of heat networks in 2023(1)

**2026 ambition >65% of renewable energies**

4.5 million tonnes $CO_2$ avoided(2) in 2024

**2026 ambition 6mt $CO_2$ avoided**

(1) Networks in France (SNCU scope - latest publication).
(2) avoided thanks to combined heat and power, renewables energies and energy efficiency performance.

# EDF Group main businesses



# Gas assets: relevant presence from midstream to downstream

## Retail

- Presence on the European gas market with ~6.6m customers and ~144TWh sold(1)
- Dual offers (electricity and gas) and value-added services to clients

## Trading

- Supply of EDF gas CCGT
- Leading gas trader in Europe and in the US, seeking arbitrages and optimising supply strategies
- JERA Global Markets, joint venture between EDF Trading and JERA on LNG trading and optimisation business

## Storage

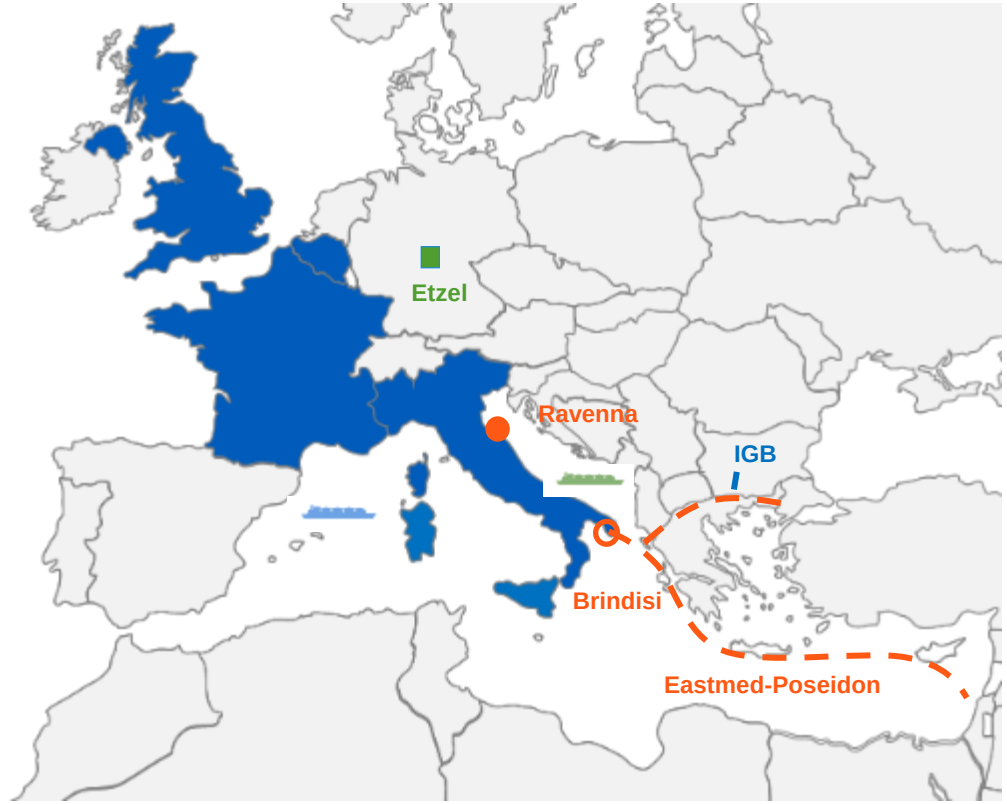
- Manage flexibility and regulated activity in Germany with Etzel storage in JV with EnBW

## Supply

- A portfolio well diversified in geography and flexibility: 6 gas import LT contracts from 5 countries (4 by pipe and 2 LNG)

## Infrastructures

- Small scale LNG to reduce emissions in heavy road & maritime transport
- LT LNG regassification capacity available in France (61% of Dunkerque), Italy (80% of Rovigo) & Belgium (Zeebrugge)
- Development of import infrastructures pipelines: IGB in operation & EastMed under development
- Development of green gases in direct production or through PPA (biomethane & hydrogen)




(1) See p.86 for details.
(2) On 3 March 2025, Edison completed the sale of Edison Stocaggio to Snam.

# Gas supply sources as of today

## Gas supply portfolio based mainly on a series of long-term contracts

- The total volume of EDF's long-term gas contracts is 13.9bcm/year(1), of which 12.4bcm imported by Edison

**Supplying country: USA**

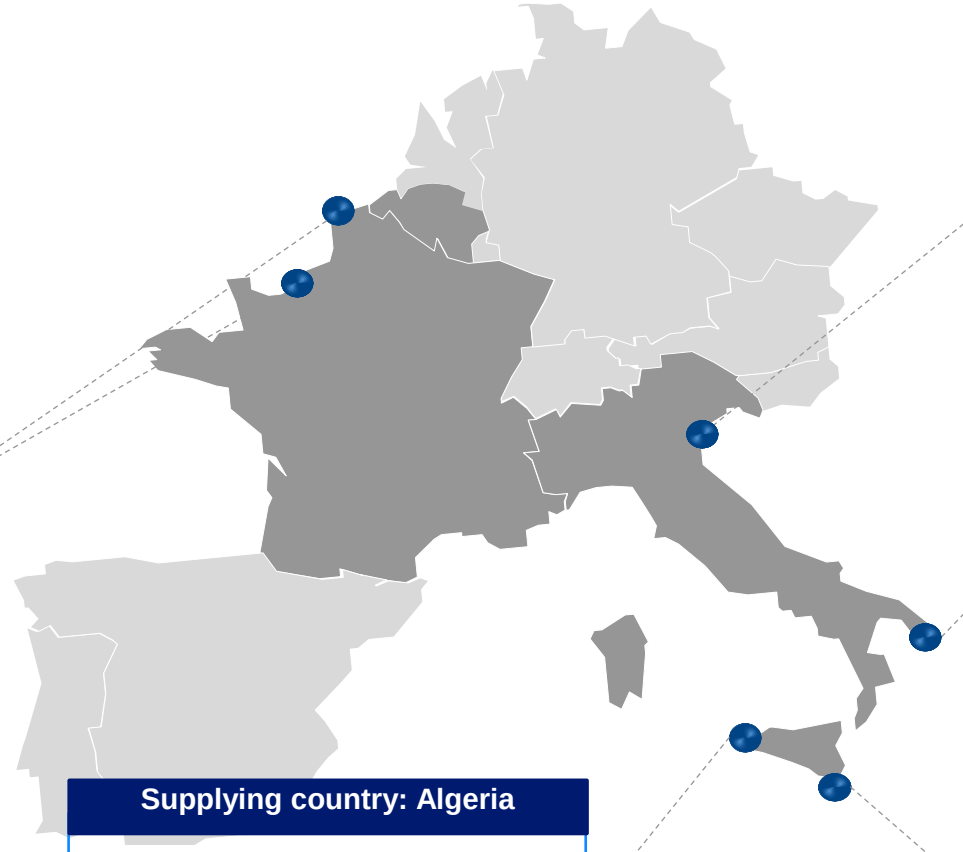
- Counterpart: **Cheniere (Corpus Christi – Texas)**
- Delivery: **LNG**
- Quantity(1): **1bcm/y**
- Expiration: **2040**

**Supplying country: Norway**

- Counterpart: **Equinor ASA**
- Delivery: **Pipe**
- Quantity(1): **0.5bcm/y**
- Expiration: **2025**

**Supplying country: USA**

- Counterpart: **Venture Global**
- Delivery: **LNG**
- Quantity(1): **1.4bcm/y**
- Start: **Under arbitration(2)**
- Duration: **40 years**



**Supplying country: Algeria**

- Counterpart: **Sonatrach**
- Delivery: **Pipe**
- Quantity(1): **1bcm/y**
- Expiration: **2027**

**Supplying country: Qatar**

- Counterpart: **RasGas II**
- Delivery: **LNG**
- Quantity(1): **6.4bcm/y**
- Expiration: **2034**

**Supplying country: Azerbaijan**

- Counterpart: **AGSC**
- Delivery: **Pipe**
- Quantity(1): **1bcm/y**
- Expiration: **2044**

**Supplying country: Libya**

- Counterpart: **Eni NA**
- Delivery: **Pipe**
- Quantity(1): **4bcm/y**
- Expiration: **2028**

(1) Annual contracted quantities.

(2) Arbitration ongoing since 2023. First delivery expected not before April 2025.

# *2024*
# Facts & Figures