2023 FACTS & FIGURES

DISCLAIMER

This presentation is for information purposes only and does not constitute an offer or solicitation to sell or buy instruments, part of the company or the assets described here, in the US or any other country.

This presentation contains forward-looking statements or information. While EDF believes that the expectations reflected in these forward-looking statements are based on reasonable assumptions at the time they were made, these assumptions are fundamentally uncertain and imply a certain amount of risk and uncertainty which is beyond the control of EDF. As a result, EDF cannot guarantee that these assumptions will materialise. Future events and actual financial and other outcomes may differ materially from the assumptions used in these forward-looking statements, including, and not limited to, potential timing differences and the completion of transactions described therein.

Risks and uncertainties (notably linked to the economic, financial, competition, regulatory and climate backdrop) may include changes in economic and business trends, regulations, as well as those described or identified in the publicly-available documents filed by EDF with the French financial markets authority (AMF), including those presented in Section 2.2 “Risks to which the Group is exposed” of the EDF Universal Registration Document (URD) filed with the AMF on 4 April 2024 (under number D.24-0238), which may be consulted on the AMF website at www.amf-france.org or on the EDF website at www.edf.fr and the annual financial report at 31 December 2023, available online on the EDF website.

EDF and its affiliates do not undertake nor do have any obligation to update forward-looking information contained in this presentation to reflect any unexpected events or circumstances arising after the date of this presentation.

BEFORE STARTING…

THE MAIN FOCUS OF THESE FACTS & FIGURES

- **On the road to carbon neutrality:**
  - **EDF, world leader in low-carbon electricity generation**
  - **Strategy, CSR successes & carbon footprint**
  - **Nuclear :** projects under construction, **Small Modular Reactors (SMR)** and **EPR2** reactors
  - **An overview of regulated activities** (Enedis, Linky, etc.)
  - **Updates on renewable energies** (pipeline breakdown, etc.) **and growth prospects**

Did you know?

Reading suggestions

- You will also find **« Did you know? »** takeaway boxes throughout the document that shed light on specific content
- Much more information is available in our **URD**, which you can download via: ***Regulated Information | EDF FR***
- For more information, the IR team is available to you at this address: **EDF-IRTeam@edf.fr**

Browsing suggestions

- **Hypertext links** have been included to help you browse this document in tables of contents
- **Clicking on the EDF logo** (in the footer) will bring you back to the **main table of contents** (page 4)
- The name of the chapter can be found at the bottom of each page. **Clicking on the title of the chapter** (in the footer) will bring you back to the beginning of this **chapter**

main table of contents (page 4)

Beginning of this chapter

TABLE OF CONTENTS

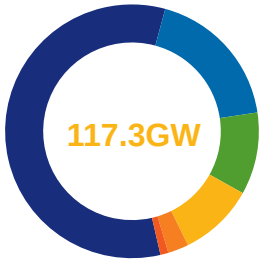
The EDF's *raison d'être (p.10)* is in line with the values of progress and sharing that have inspired EDF's actions since its creation, as well as with today's major challenges of addressing climate change and preserving the planet. The key issues surrounding its *raison d'être* have been formalised in 16 CSR commitments adopted by all the Group's business lines and subsidiaries

GROUP STRATEGY

EDF GROUP 2023 KEY FIGURES

Operational figures as of end 2023

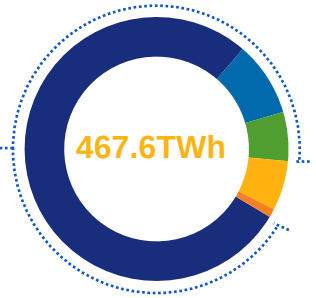
- **40.9 million customer** sites
- **117.3GW** installed **capacity**(1)



58%	Nuclear
18%	Hydropower
10%	Other renewables
10%	Gas
3%	Fuel Oil
1%	Coal

- **467.6TWh** electricity **output**(2)

93% decarbonised generation(3)



78%	Nuclear
9%	Hydropower(4)
6%	Other renewables
6%	Gas
1%	Fuel Oil
0.05%	Coal

- **179,550 employees**
  o/w. ~66,000 at EDF SA, ~ 40,000 at Enedis, ~18,000 at Framatome, ~ 21,000 at Dalkia, ~ 11,600 at EDF Energy, ~6,000 at Edison & ~5,000 at EDF Renewables

2023 Financials

- Sales: **€139.7bn**
- **EBITDA**: **€39.9bn**
- Net income excluding non-recurring items(5): **€18.5bn**
- **Net investments**(6): **€19.1bn**
- **Net financial debt** : **€54.4bn**
  o/w green bonds outstanding: **~€7.2bn**
- **Ratings**(7): BBB stable (S&P) / Baa1 stable (Moody's) / BBB+ stable (Fitch)

EDF, the world leader in low-carbon electricity generation

- **Carbon intensity**: **37gCO_2/kWh**
- **First producer worldwide** of zero direct CO_2 emission electricity(8).
- **EDF's trajectory validated by Moody's** as in line with a 1.5°C global warming scenario(9)
- **4gCO_2eq/kWh**: carbon footprint of nuclear life-cycle(10)

(1) Consolidated capacities of EDF Group.
(2) Output from fully consolidated entities.
(3) Direct carbon emissions related to generation, excluding life cycle assessment of generation means and fuels.
(4) Hydro output including pumping and sea energy.
(5) Net income excluding non-recurring items is not defined by IFRS standards, also see note 19.1 of the consolidated financial statements.
(6) Total net investments excluding disposal plan.
(7) Sources: rating agencies as of 05/04/2024.
(8) Source: Enerdata Power Plant Tracker in 2022 (latest publication).
(9) Net Zero Assessment report.
(10) 2022 Life Cycle Analysis Report (latest publication).

A COMMITMENT TO LOW-CARBON GROWTH

First producer worldwide of zero direct CO_2 emission electricity[1] (434TWh)

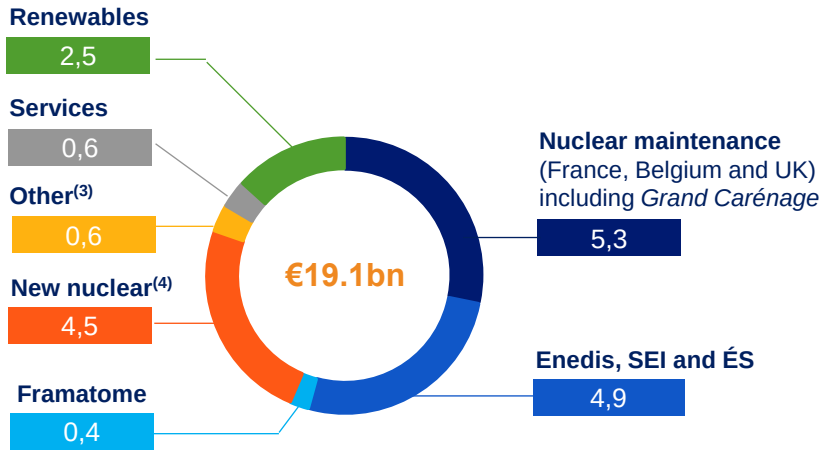
93% decarbonised generation[2] thanks to nuclear (78%) & renewables (15%)

A renewable energy leader

Installed renewable capacity of 47GW gross worldwide at end-2023 with a target of **100GW gross in 2030**

First energy company investor : 95% of the net investments are made in accordance with its carbon neutrality target

In 2023 (in €bn)



99% of EDF R&D's operating budget in France is dedicated to decarbonation and energy systems transition

Nuclear & renewable pipeline of projects

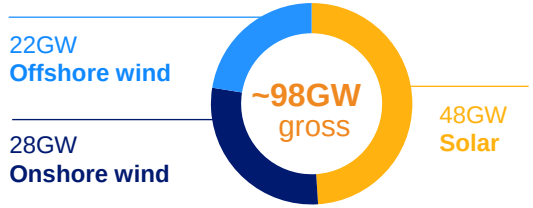
- **Nuclear projects :** ◘ **5 EPR** projects in France and the UK:

1 France: **Flamanville** ~1.6GW to be connected to the grid in summer 2024

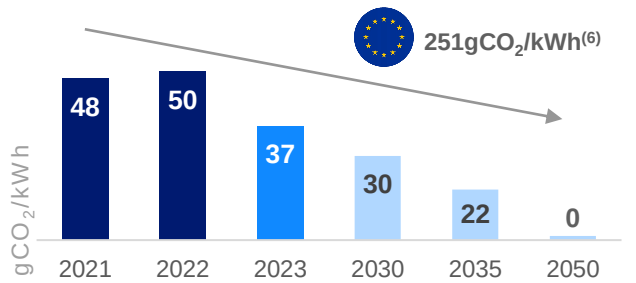
4 UK: **Hinkley Point C** (~3.3GW under construction) **Sizewell C** (~3.26GW under development)

◘ **6 EPR2** to be developed in France, ◘ **SMR** & ◘ **international EPR** projects

- **A large portfolio of renewable projects** (at end-2023)



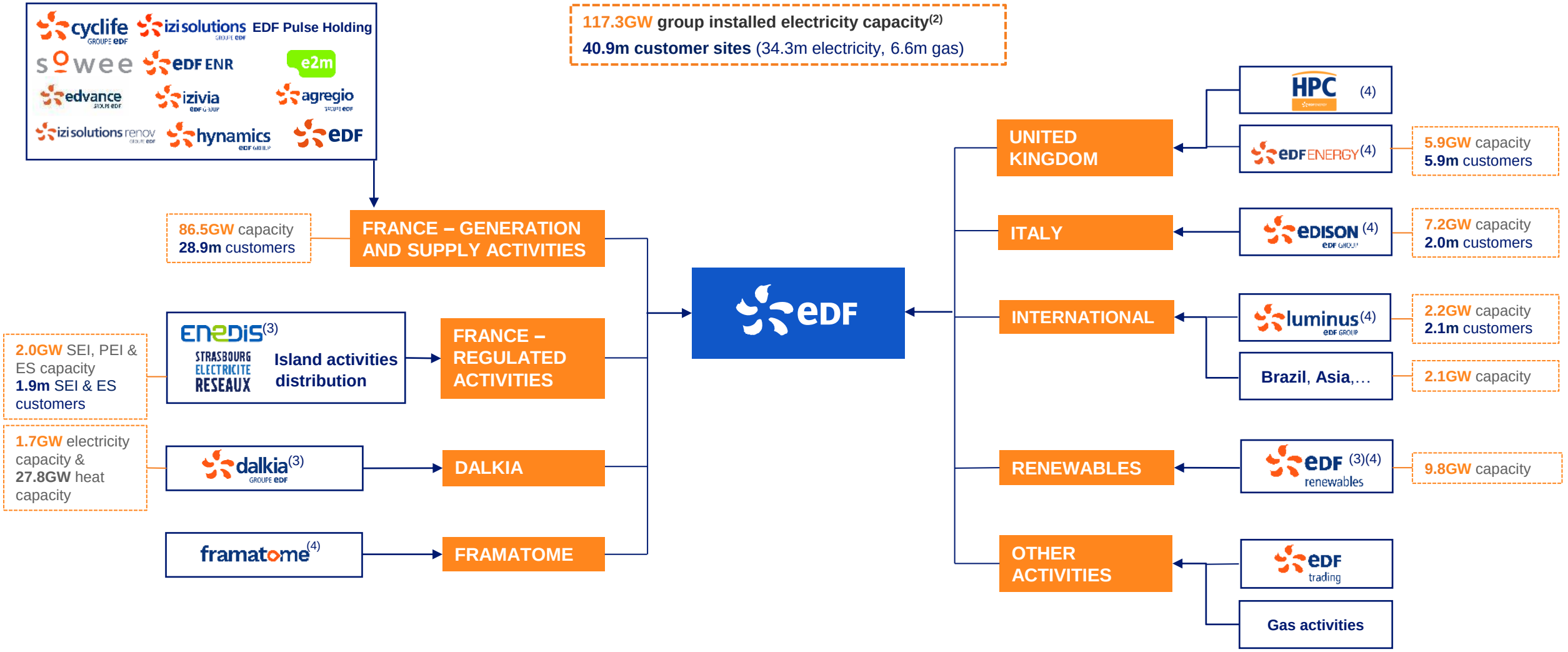
Target: net zero CO_2 emissions by 2050[5]



Carbon intensity more than 6x lower than European average

(1) Source: Enerdata Power Plant Tracker in 2022 (latest publication).
(2) Direct carbon emissions related to generation, excluding life cycle assessment of generation means & fuels.
(3) Mainly thermal maintenance, gas, property, central functions.
(4) Including HPC, Flamanville 3 and EPR2.
(5) For the 3 scopes.
(6) EU 27 value in 2022, European Environment Agency.

EDF GROUP: ORGANISATIONAL CHART BY SEGMENT(1)



(1) Simplified organisational chart at 16/02/2023.
(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.

INDUSTRIAL AND HUMAN CHALLENGES FOR ALL THE GROUP'S BUSINESSES LINES IN FRANCE AND INTERNATIONALLY FOR 2035

Promoting decarbonisation through energy efficiency and electrification, from industrial processes to mobility(1), in addition to tertiary and residential buildings

Supporting our **customers** to reduce their carbon footprint

Generating more low-carbon electricity, with nuclear and renewables

Decarbonisation through performance of nuclear fleet and construction of new infrastructure

Mobilising a range of solutions: using its generation hydro assets, storage capacities, customer portfolio and innovative flexibility solutions

Developing **flexibility** solutions to meet the needs of the electricity system

Developing **networks**(2) to meet the challenges of the energy transition

Strengthening & transforming the distribution networks to guarantee their long-term resilience and performance

(1) Mobility: charging stations for electric vehicles & hydrogen for heavy mobility.
(2) In France, the public distribution network is independently managed by Enedis.

BUSINESS MODEL

ASSETS AND RESOURCES

Customer proximity

- **34,3** million customers in electricity
- **6.6** million customers in gas
- **Leading brands**: EDF, Edison, Luminus, Dalkia
- **198.2** million visits per year on digital consumption monitoring platforms

A human ambition

- **179,550** employees
- **80.6%** of employees took part in a skills development initiative during the year

An ambitious innovative ecosystem

- **2,098** R&D employees (EDF SA)
- R&D 2023 consolidated expenses of **€706m** (Group)
- **747** patented innovations at end-2023 by the R&D (EDF & Enedis)

Major industrial assets

- **117.3GW** of electricity generation capacity
- An integrated nuclear industry
- EPR technology
- A portfolio of wind and solar projects of c.**98GW** gross
- **1.4** million km of distribution network
- **42.6** million smart meters installed
- **330** heating and cooling networks operated by Dalkia

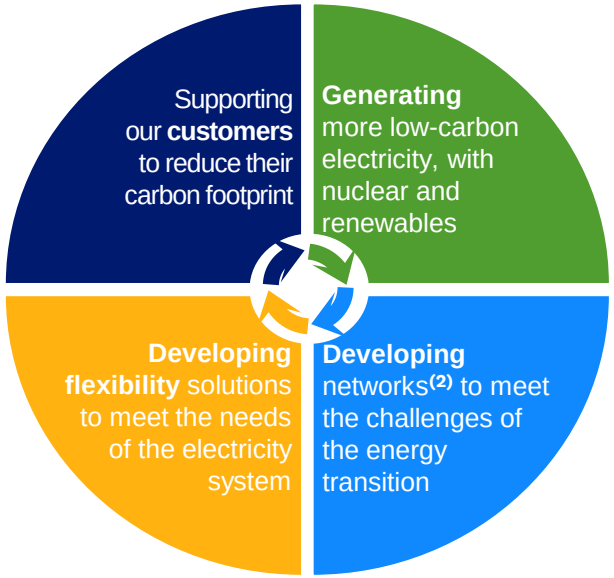
A strong CSR commitment

- **A-** rating CDP Climate Change & Water security
- **No. 4** at WBA Climate and Energy Benchmark
- **€25.3bn** 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

Industrial and human challenges for all the Group's businesses in France and internationally for 2035



LEPLANSOLAIRE · LE PLAN stockage électrique · THE ELECTRIC MOBILITY PLAN · LE PLAN excell Excellence nucléaire · LE PLAN HYDROGÈNE

VALUE CREATION - 2023

For the climate and the environment

- An ambition to contribute to **net zero emission** by 2050
- Electricity output of **467,6TWh,** at **93%** decarbonised with emissions of **37gCO_2/kWh**
- EDF, a water sharing player: water intensity of **0.83l/kWh**
- New commitments to **biodiversity** (2023-2025) in the **Act4nature** international scheme and deployment of the new **TNFD** framework by 2025

For customers

- High customer satisfaction level
- c. **390,000** energy advice actions for customers

For partners and territories

- SMEs account for **22.7%** of EDF and Enedis procurements
- **1** direct job at EDF SA generates **4.3** jobs on the national territory
- **100%** of projects are subject to consultation

For employees

- An employee engagement index of **74%**
- Women represent **31.7%** in Management Committees
- An average salary equity ratio of **5.8**

Sales: **€139.7bn**

EBITDA: **€39.9bn**

Net income excl. Non-recurring items: **€18.5bn**

Sharing added value with our stakeholders

Suppliers
Purchases
€10.5bn
EDF group Global CSR agreement

States and territories
Taxes
€4.1bn

Employees
Remuneration
€15.5bn

For more details see p.8 of the 2023 Universal Registered Document of EDF.

EDF ELECTRIC MOBILITY PLAN(1)

2023 RESULTS

OVER 30% MARKET SHARE IN THE ELECTRICITY SUPPLY FOR ELECTRIC VEHICLE OWNERS IN 2023
In the Group's four main markets (G4): France, the UK, Italy and Belgium

≈ 340,000
Charging stations rolled out at end-2023

> 20,000
Smart charging stations operated at end-2023

(1) The EDF Electric Mobility Plan supplements specific investments made in this field by Enedis, an independent subsidiary of EDF according to the French Energy Code.

ACHIEVEMENTS AND MAIN PROJECTS

Hand in hand with the e-mobility ecosystem:

- Following last year partnership with IVECO, IZIVIA is selected by MAN, another Top 5 company of the Heavy-Duty Mobility segment
- After Nissan, Izi has signed partnerships with Free2Move eSolutions (Stellantis Group), Kia, Ford and Toyota to support their customers in their home charger installation journey.

One step closer to become a major player in Ultrafast Charging:

- IZIVIA has launched IZIVIA Fast, the largest Ultrafast Public Charging Network with over 2,000 Ultrafast Charging Points on 700+ French McDonalds' car parks by 2025

A comprehensive offer for B2C customers:

- Pod Point and EDF Energy have joined forces to launch Pod Point Exclusive EV tariff, one of the best overall UK EV tariff
- Izi by EDF now offers two solutions for multi-dwelling houses, ready for the market shift to residential collective parking lots

Ready to provide flexibility to customers and markets

- DREEV supplies RATP with a smart charging solution to optimise their e-buses charges costs and CO2 emissions
- Izi Smart Charge, Izi first V1G offer, provides a similar offer to B2C customer

"EV100" project in line with the objective

- 29,3% of the EDF group vehicle fleet electrified at end-2023, vs a target of 100% in 2030

THE FRENCH SOLAR PLAN

LEPLANSOLAIRE

TARGET

TO BE A LEADER IN PHOTOVOLTAIC SOLAR IN FRANCE

30% MARKET SHARE(1) BY 2035

ACHIEVEMENTS AND PROJECTS

5.7GW
of ground-mounted projects in development at end-2023

600MWp
of secured projects at end-2023

229MW
under construction at end-2023

255MWp of ground-mounted solar capacity **awarded** through CRE tenders in 2023

400MWp of corporate Power Purchase Agreements (cPPAs) signed(2)

EDF ENR, the leader of decentralised solar power solutions, with a market share of more than 15% and over 80,000 installations in private homes and since 2022, 4,000 installations for professionals and local authorities

Target 10GWp of projects developed in 2035

(1) Market share expressed as new installed gross capacities.
(2) including Luxel.

EDF HYDROGEN PLAN

LE PLAN HYDROGÈNE

TARGETS(1)

A European leader with 100% low-carbon hydrogen generation in 2030(2)

Main markets addressed: Industry and transport (in territorial mobility and e-fuels for maritime and air transport)

ACHIEVEMENTS AND PROJECTS

A dedicated subsidiary and expertise within the Group

Hynamics, hydrogen dedicated subsidiary with 2 years of asset operation experience in mobility with the AuxHYGen project. In 2023, completion of work for its 2nd station in Belfort and laying of the first foundation stone of new assets in Dunkerque and in the Paris region.

Long-standing expertise provided by Eifer(3) and R&D, including an electrolyser test platform at the EDF Lab *Les Renardières* site

A stake in **McPhy**, a French electrolyser manufacturer, since 2018 (14.1% to date)

Major projects under development

E-fuels projects

- *Take kair* (France) in partnership with the cement manufacturer Holcim to produce e-kerosene (200MW)
- *Hynovi* (France) in partnership with the cement manufacturer Vicat, and *Hyscale* (Germany) in partnership with the cement manufacturer Holcim to produce e-methanol

Decarbonation of industry

- *ABC Ottmarsheim* (France) with LAT Nitrogen to decarbonise ammonia production (50MW)
- *HyDom* (France) with Domo Chemicals to decarbonise heavy chemistry (85MW)

A portfolio of c. 60 projects representing 1GW of electrolysis worldwide

Several projects in Italy, in the United Kingdom and in Belgium

Ambitious projects combining hydrogen and renewables in the Middle East (i.e. Egypt and Oman), North America and Latin America

(1) Subject to the implementation of appropriate support policies and a favourable regulatory framework for the development of electrolytic hydrogen.

(2) In line with the maximum emissions threshold defined in the European taxonomy, as part of its Hydrogen Plan, EDF is committed to ensuring that all its hydrogen production projects are below this threshold of $3kgCO_2eq/kgH_2$

(3) Eifer, joint research centre of EDF and the *Karlsruher Institut für Technologie* (KIT) in Germany.

THE ELECTRICITY STORAGE PLAN(1)

LE PLAN stockage électrique

TARGET

DEVELOP +10GW(2) GROSS OF NEW ELECTRICITY STORAGE ASSETS WORLDWIDE BY 2035

Pivot Power

ACHIEVEMENTS AND PROJECTS

PROJECTS IN OPERATION OR SECURED OF 1.7GW AT END-2023

In 2023, EDF has doubled its portfolio of storage projects:

Significant progress achieved with 0.8GW of new projects entered in the portfolio:

- **new Hydro pumped storage project** launched in France for 84MW (Vouglans Saut-Mortier)
- **new battery projects** in the **UK** by Pivot Power for 173MW, in the **US** for 87MW, in **South Africa** for 257MW, in **Saudi Arabia** for 130MW completed by C&I and Residential storage in **Europe**

225MW of new capacities commissioned over the world (US, UK, Europe) to reach a total of 625MW in operation

Market perspectives show constant increase:

The market of storage is booming and in constant increase year after year all over the world (cumulated installed capacity multiplied by 5 between 2020 and 2023)

EDF has identified **a pipeline of more than 100 projects**

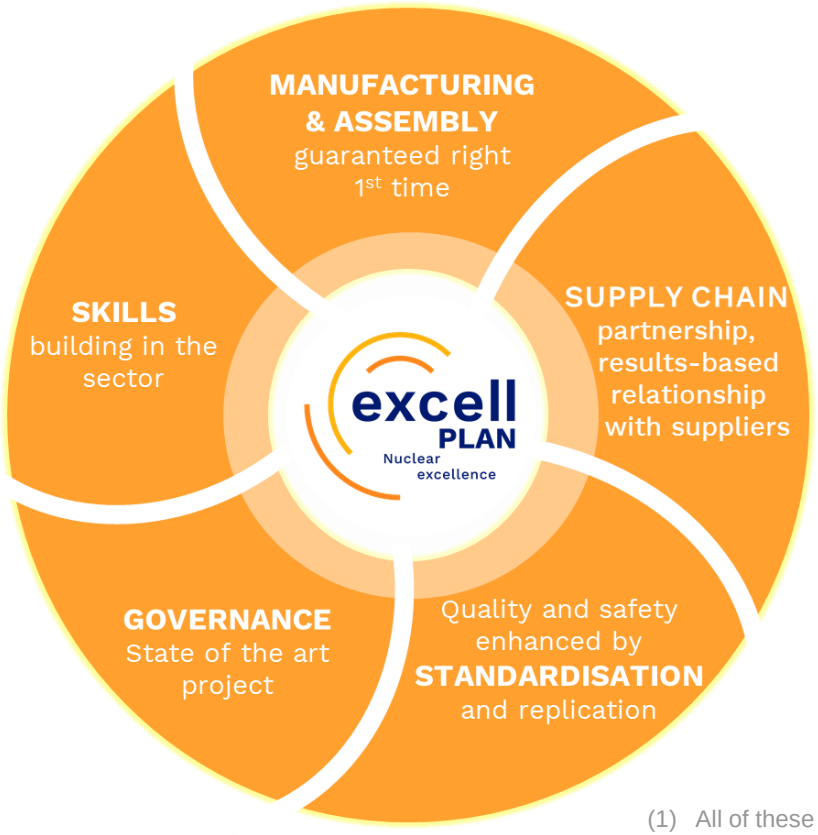
(1) The EDF group's business development model is based on partnerships. Not all of these projects will be fully consolidated.
(2) Vs 2018. Hydro pumped storage energy transfer stations and batteries.
(3) Principally PSHP (Pumped-Storage Hydropower Plants).

THE EXCELL PLAN

Aiming for excellence in the French nuclear industry

Launched in May 2020, the excell plan aims to enable the French nuclear industry to regain the highest level of rigour, quality and excellence in order to meet the needs of existing and future major nuclear projects

EDF Group and the industry implemented 30 commitments, structured in 5 focus area



ACHIEVEMENTS AT END-2023

At end-2023, the 30 commitments(1) of the excell plan have been finalised and anchored in operational practices, thanks to the commitment of EDF and all the companies in the French nuclear industry

- **Governance**: keeping to schedule and decrease of rework rate on both Flamanville 3 and Hinkley Point C projects. 95% of replication between Hinkley Point C and Sizewell C
- **Skills**: half of the industry workforce in 2030 to be hired. Gifen(2) uses the MATCH programme to identify discipline by discipline the skills requirements over the next 10 years, and the Nuclear Industry University will beef up the regional training actions to ensure sustainably that the right resources are at the right place at the right time. Commitment by EDF to hire employees outside the nuclear sector to maintain skills of our partners. In 2023, EDF realised c.3,200 recruitments (3,000 to 3,500 needed per year by 2030)
- **Manufacturing and Supply chain**: EDF's selection of partners focused on quality produced and industrial potential, and shared risks and schedules and not only on cost reduction target. Ramp-up of supplier development. 120 suppliers certified ISO 19443
- **Standardisation:** the nuclear equipment standardisation and replication objectives were reinforced. This paves the way for future mass production with improved quality control. Streamlining of requirements to reduce costs (e.g. -80% for painting)

(1) All of these commitments are available at the following address: https://www.edf.fr/plan-excell.

(2) *Groupement des Industriels Français de l'Energie Nucléaire*. Nuclear Energy French Industry Group.

GROUP STRATEGY

1 *RAISON D'ÊTRE*(1), 4 PILLARS, 16 CSR COMMITMENTS

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

CARBON NEUTRALITY & CLIMATE

- Ambitious carbon trajectory
- Carbon contribution solutions
- Adapting to climate change
- Developing electricity use and energy services

WELLBEING & SOLIDARITY

- Safety, health and security for all
- Ethics, compliance and human rights
- Equity, diversity and inclusion
- Energy poverty and social innovation

PRESERVATION OF THE PLANET'S RESOURCES

- Biodiversity
- Responsible land management
- Integrated and sustainable water management
- Radioactive and conventional waste, and circular economy

RESPONSIBLE DEVELOPMENT

- Dialogue and consultation with stakeholders
- Responsible regional development
- Development of industrial sectors
- Data responsible company

(1) EDF's *Raison d'être*, approved by the Shareholders' Meeting of 07/05/2020.
(2) Priority SDGs as defined in WBCSD public report: "An SDD Roadmap for Electric Utilities".

16 KPIs FOR MEASURING THE 16 CSR COMMITMENTS

	CSR COMMITMENTS	KEY PERFORMANCE INDICATORS	TARGETS	2021	2022	2023	DEAD-LINE	SCOPE
Carbon neutrality & climate	Ambitious carbon trajectory	Carbon intensity: specific CO_2 emissions from electrical generation and heat √	30gCO_2/kWh	48	50	37.1	2030	Group
	Carbon contribution solutions	Deployment rate of the framework guidelines on carbon contribution solutions within concerned entities	100%	50	50	100	2023	Group
	Adapting to climate change	Deployment rate of new climate change adaptation plans within concerned entities	100%	47	100	100(1)	2022	Group
	Developing electricity use and energy services	Avoided CO_2 emissions thanks to sales of innovative goods and services	>30Mt	4.4(2)	11.4	12.4	2030	Group(2)
Planet resources preservation	Biodiversity	Achievement rate of new Group commitments (2023-2025) under the "Act4nature international" scheme	100%	67(3)	89(3)	43	2025	Group
	Responsible land management	Implementation rate of innovative solutions encouraging multifunctional land use	100%	20	40	60	2026	Group
	Integrated and sustainable water management	Water intensity: water consumed/electricity generated by fleet √	<0.95l/kWh	0.86(4)	0.83(4)	0.83(4)	Annual	Group
	Radioactive and conventional waste, and circular economy	Annual rate of conventional waste directed towards a waste recovery industry	>90%	92.7	88.4	85.3	Annual	Group
Wellbeing & solidarity	Safety, health and security for all	Global LTIR	<1.8	2.1	1.9	1.7	2023	Group
	Ethics, compliance and human rights	Annual rate of feedback to whistleblowers within the one-month time limit, informing them of the admissibility of their report and the next steps of the procedure	100%	-	100	100	Annual	Group
	Equity, diversity and inclusion	Gender mix: percentage of women in the Management Committee of the Group's entities	33%	29.8	30.8	31.7	2026	Group
	Energy poverty and social innovation	Advisory actions carried out with customers within the framework of the Energy Support Service	600,000 – 1,000,000	642,482	476,638	390,376	Annual	EDF
Responsible development	Dialogue and consultation with stakeholders	Annual rate of projects for which a dialogue and consultation procedure is engaged	100%	100	100	100	Annual	Group
	Responsible regional development	Annual rate of procurement from SMEs in France	22% to 26%	24.9	23.2	22.7	Annual	EDF & Enedis
	Development of industrial sectors	Achievement rate of supporting actions backed by EDF, encouraging relocation and maintaining nuclear industry skills ("France Relance" Programme)	100%	28.6	71.4	100	2023	EDF
	Data responsible company	Achievement rate of EDF commitment to the French Responsible Digitalisation Institute (INR)	100%	18.8	52.5	93	2024	EDF

√: Audited with reasonable assurance by PwC.

(1) Change of scope: addition of a new entity in 2023
(2) Data calculated in 2021 for EDF and Dalkia, on a smaller scope of services.
(3) Data calculated on the basis of nature commitments for 2020-2023.
(4) Indicator calculated on the basis of an average over the last five years.

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.

NET ZERO TRAJECTORY

2017

TCFD

2018

Commitment to decreasing the emissions of scope 1

-40%

CDP A LIST 2018 CLIMATE CHANGE

2019

FRENCH BUSINESS CLIMATE PLEDGE

CDP A LIST 2019 CLIMATE

2020

SCIENCE BASED TARGETS

Well below 2°

CDP

A- Water Security 2020 Niveau leadership

2021

CDP A LIST 2019 CLIMATE

A- Water Security 2020 Niveau leadership

Transition Pathway Initiative (4)

- 2025 short-term alignment
- 2035 medium-term alignment
  - *"1.5 degrees"*
- 2040-50 long-term alignment
  - *"Below 2 Degrees' "*

2022

SAY ON CLIMATE

First climate resolution submitted to the General Assembly

2023

Carbon intensity: **37gCO$_2$/kWh**

EDF Group raises its ambition to limit CO$_2$ emissions

2025

Scope 1 **-60%**(1)

Carbon intensity **30gCO$_2$/kWh**

Scope 3 **-28%**(2)

2030

Scope 1 **-70%**(1)

2035

Scope 1 **-80%**(1)

Carbon intensity **22gCO$_2$/kWh**

2050

In scope 1: Zero net emission

In 3 scopes **-90%**(3)

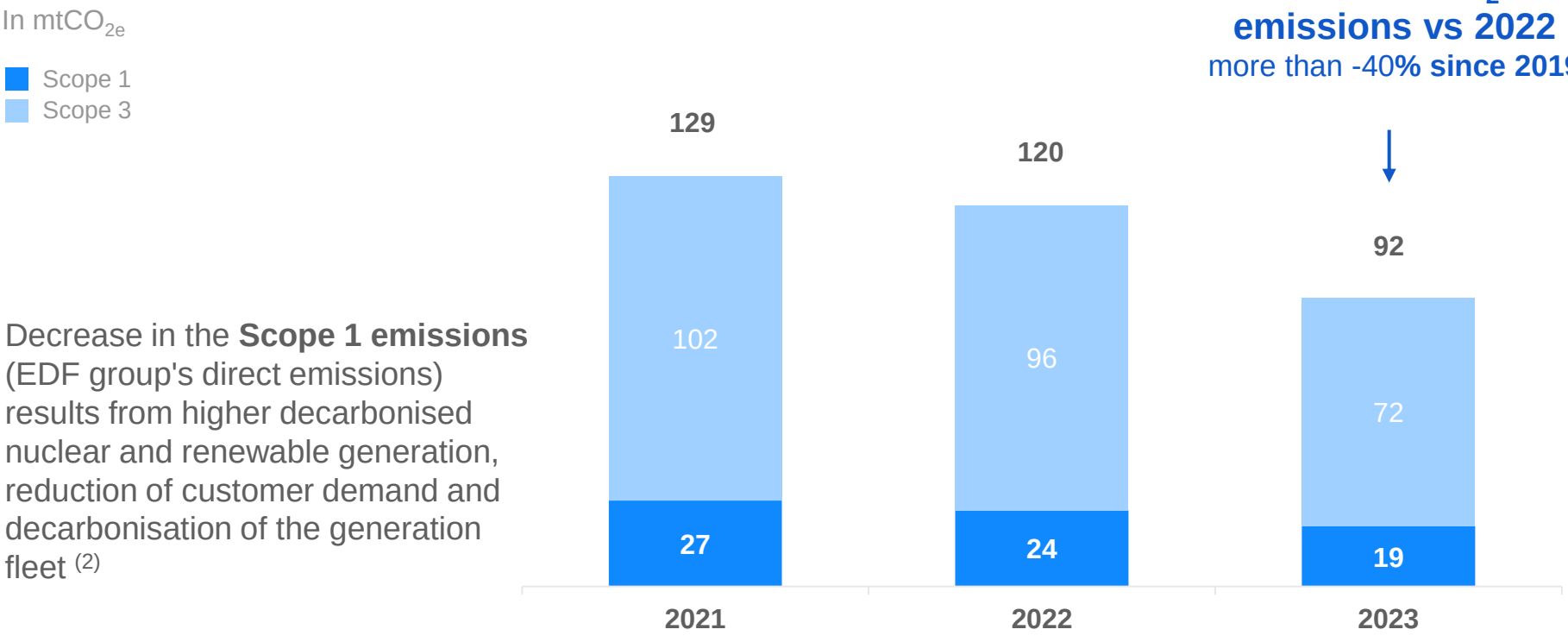
Moody's Net Zero Assessment(5) scores EDF's ambition to 1.5 degree

(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 path way initiative.
(5) Net Zero Assessment report.

CARBON FOOTPRINT(1)

Continuous decrease of EDF's carbon footprint

-24% of CO_2 emissions vs 2022
more than -40**% since 2019**



Total Carbon Footprint Scope 1 + 3 (3)

Decrease in the **Scope 1 emissions** (EDF group's direct emissions) results from higher decarbonised nuclear and renewable generation, reduction of customer demand and decarbonisation of the generation fleet (2)

Decrease in **Scope 3 emissions** (indirect emissions) results from reduction of customer demand and EDF's portfolio management (disposal of power and gas retail activities in North America in Q4 2022 and of non controlled Sloe CCG in Q1 2023)

(1) The Greenhouse Gas Protocol Initiative, more commonly known as the GHG Protocol, is the most internationally recognized GHG accounting method. Introduced in 1998 by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), it was developed in partnership with companies, NGOs, and governments. https://ghgprotocol.org/.

(2) Definitive shutdown of coal-fired units in the UK, conversion of fuel oil to biomass at La Réunion, and shutdown of some gas-fired cogeneration power plants at Dalkia.

(3) Scope 1 covers the direct emissions generated by EDF's assets. Scope 3 covers other indirect emissions generated by EDF suppliers, and by EDF customers or at its facilities. For information, scope 2 (non material) covers indirect emissions linked to losses in the electricity networks of EDF's electricity distribution companies and those linked to the purchase of energy for EDF's own needs.

CLIMATE REPORTING IN ACCORDANCE WITH TCFD GUIDELINES

The EDF Group was **one of the first companies** in the world to commit to supporting the **TCFD**(1) initiative in 2017 and **to report publicly, from 2018,** on the impact of climate change on its organisation according to the 4 fundamentals of TCFD and identified in its Statement on Non-Financial Performance since 2018

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

THE FOUR FUNDAMENTALS OF THE TCFD RECOMMENDATIONS

2023 REPORTING

1 STRENGTHENING OF CLIMATE GOVERNANCE

The « climate » criterion, based on carbon intensity, represents 30% of the Group's share of executive bonuses. In 2023, the target objective was 50gCO_2/kWh with a result of 37, the achievement rate is 120%

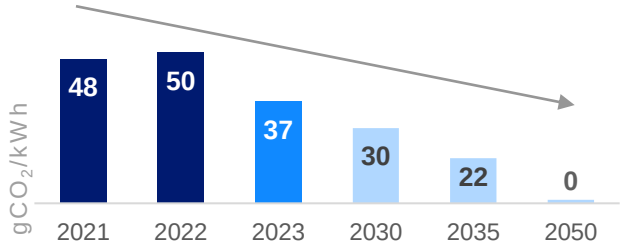
2 CARBON PRICES FOR GUIDING INVESTMENTS

In line with the 2023 CDP, the carbon price range currently used by EDF for its scenarios is 40 to 180€/tCO_2 by 2040, with a median price of 150€/tCO_2

3 RISK MANAGEMENT AND SCENARIO ANALYSIS

Validation by the Executive Committee and operational deployment of new adaptation plans to the physical risks of climate change, in all concerned entities

4 AN AMBITIOUS CARBON INTENSITY TRAJECTORY



(1) The Task Force on Climate Related Financial Disclosures (TCFD), set up by the Financial Stability Board (FSB), made specific recommendations between 2015 and 2017 on the climate reporting elements expected in companies' universal registration documents.

CSR SUCCESSES

EDF'S TRAJECTORY 1.5°C VALIDATED BY MOODY'S

Moody's Net Zero Assessment evaluates **EDF's emission reduction targets** to be consistent with the most ambitious Paris Agreement goals and **scores its ambition to 1.5 degree**

EDF COMMITTED TO VULNERABLE CUSTOMERS

EDF does not cut off electricity of residential customers in France in case of unpaid bill but applies a power limit since April 2022

Positive impacts for customers of this voluntary commitment **recognised by Fondation Abbé Pierre**

EDF, SUSTAINABLE COMPANY RECOGNISED WORLDWIDE

EDF RANKED:

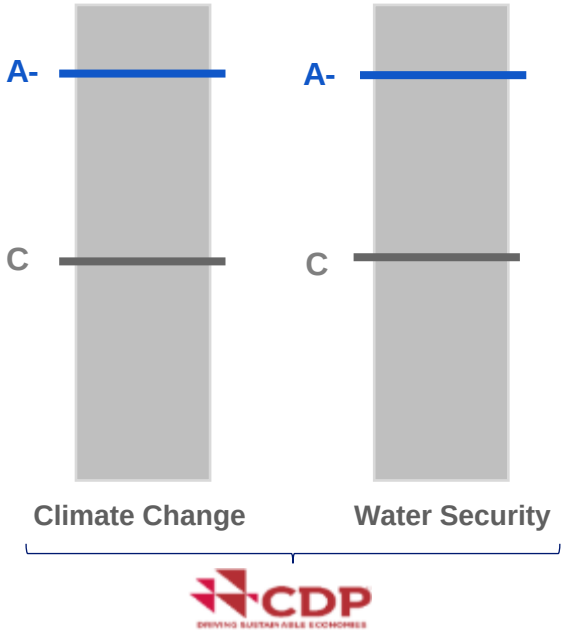
- **4th** by **WBA Electric Utilities Benchmark** assessing climate and social performances (over 68 electric utilities)
- **8th** at **World's Best Companies** of 2023 by **Time** newspaper. This benchmark identifies the best companies changing the world (over 750 compagnies)
- **4th overall** and **1st energy company** in the **Universum survey** monitoring companies perceived as the most committed to sustainability by French students

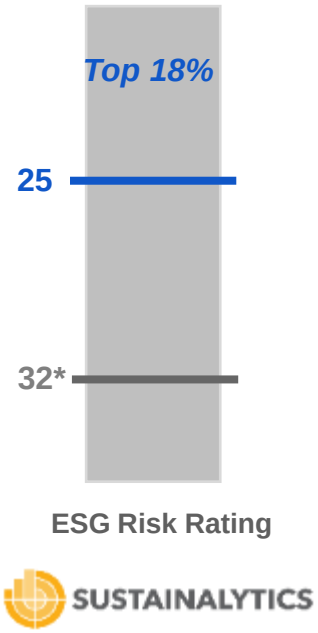
NON-FINANCIAL RATINGS

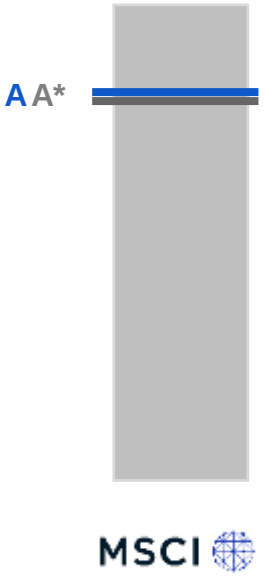
EDF's rating

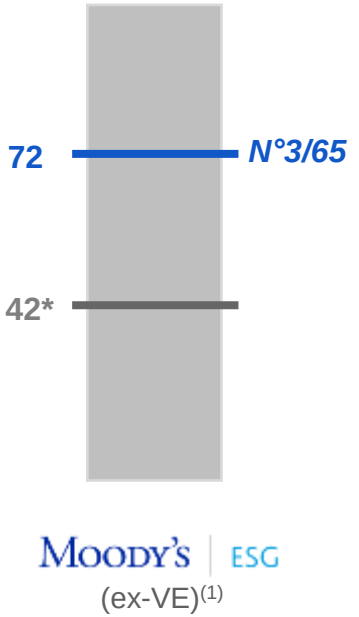
Worldwide average rating

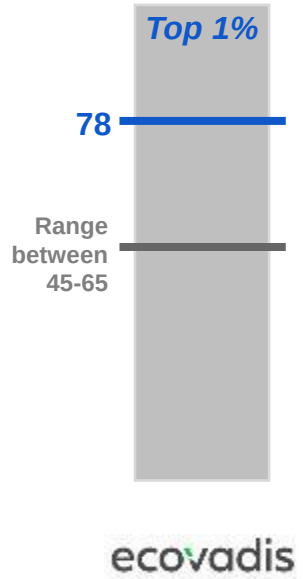
* Sector average rating











MAIN INTERNATIONAL COALITIONS OF EDF

wbcsd

BUSINESS AMBITION FOR 1.5°C OUR ONLY FUTURE

EV 100 by THE CLIMATE GROUP

WE MEAN BUSINESS economic opportunity through bold climate action

act4nature international

(1) The Moody's ESG score obtained in 2022 is valid for 2 years.

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 to 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 »(1) with the EU Taxonomy

(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 FOLLOWS BEST MARKET PRACTICES AND IS ALIGNED WITH THE EU TAXONOMY

First company to issue a Green Bond **in 2013. Active member of the Green Bond Principles governance and co-founder of the Corporate Forum on Sustainable Finance**.

3 updates of the Framework in order to contribute to better market practices, to be aligned with the European Taxonomy and include **Green Bonds, Green Commercial Paper and Green Repo.**
On 28 November 2023, EDF has successfully launched its first senior green bond issue dedicated to the financing of the existing nuclear fleet, for a nominal amount of €1bn.

1 - USE OF FUNDS

- Use of Proceeds shall be limited to projects in the below eligible categories
  - **Renewable power projects,**
  - **Hydropower generation,**
  - **Energy efficiency projects,**
  - **Distribution of electricity,**
  - **Nuclear power generation**
- Eligible investments shall **align with the EU Taxonomy**, including "**Do No Significant Harm**" criteria and minimum **social safeguards**
- Look-back period limited to three calendar years from the issuance year

2 - PROJECT SELECTION PROCESS

- An **ad-hoc working group** is responsible for helping EDF entities identify green bond eligible projects and verifying their eligibility
- EDF currently verifies and reports **Taxonomy eligible CAPEX** and according to the Taxonomy regulation and Taxonomy complementary delegated acts. As of 2021 EDF reports these amounts in its Universal Registration Document.
- EDF shall **exclude projects already financed by its social bond program.**
- Investments may include **tangible or intangible assets, Investments and some operating expenditures** (such as R&D and investments in the maintenance of green assets)

3 - FUND MANAGEMENT

- Funds are **managed and monitored separately** until they are allocated to eligible projects. They are invested in **Socially Responsible Investments funds**(1) until their allocation
- Net proceeds of green bond issuances identifying **nuclear power generation** as an eligible project shall be **managed in a portfolio separate** from other issuances to ensure full traceability
- EDF shall use best efforts to allocate all eligible proceeds within 24 months after issuance

4 – REPORTING

- **At half-yearly intervals**: allocation of funds
- **Annually**: allocation of funds + list of projects financed and environmental impacts (at the level of each green issue) in URD

5 – EXTERNAL REVIEW

- **External ex-ante opinion**: "Medium Green" rating and "Likely aligned" with the EU Taxonomy by **Cicero** on EDF's Green Financing Framework
- **Ex-post certification**: annual report issued by an **external auditor** on the allocation of funds and the compliance of Green Bond issues with the Green Financing Framework, the Green Bond Principles, the compliance of the CO_2 emissions calculation terms

(1) Socially Responsible Investments funds, as certified by the French Ministry of Finance's Label ISR.

GREEN FINANCING: PROCEEDS ALLOCATION AND IMPACT REPORTING

Issue date	Maturity	Nominal amount	New renewable capacities	Investments in hydro facilities	Biodiversity projects	Total net (1) capacity of financed projects (in MW)	Expected net (1) avoided CO_2 emissions (in Mt/yr)
Nov. 2013	7.5Y	1,400M€	1,400	-	-	976	1.55
Oct. 2015	10Y	1,250M$	1,250	-	-	815	1.83
Oct. 2016	10Y	1,750M€	1,248	502	-	1,865	1.62
Jan. 2017	12Y–15Y	26,000M¥	14,021	11,979	-	1,219	0.13
Sept. 2020	4Y	2,400M€	2,246	110	28	1,535	1.35
Nov. 2021	12Y	1,850M€	1,594	189	23	1,487	1.11
						7,897	7.59

Issue date	Maturity	Nominal amount	Distribution of electricity projects	Renewable capacity connected (in MW)	Number of smart meters	New grid lines built (in km)
Oct. 2022	12Y	1,250M€	1,250	5,181	5,488,000	2,950
Jul-2023	Evergreen REPO	565M€	565	2,061	614,000	1,015
Aug-2023	4Y–8Y	325MCHF	325	1,976	592,000	1,976

Issue date	Maturity	Nominal amount	Existing French nuclear reactors in relation to their lifetime extension	Expected net (1) avoided CO_2 emissions (in Mt/yr)
Nov. 2023	3.5Y	1,000M€	1,000	1.82

The detailed list of EDF Renewables projects and hydraulic investment operations by category will be published in EDF 2023 URD.

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

GROUP STRATEGY

INNOVATION FOR NET ZERO

The **Innovation Division of the EDF group** identifies and develops new **activities and innovative solutions** required to **reach net zero in 2050**

Strategic areas for innovation

with examples of start-ups supported(1)

Supporting our customers to reduce their carbon footprint

urbanomy EDF GROUP

PERSEFONI

oklima GROUPE EDF

BeZero

Generating more low-carbon electricity

yxir GROUPE EDF

elkoscan INTEGRITY

hynamics EDF GROUP

sweetch energy

Adapting to a constantly changing world

exaion EDF GROUP

~500M€
invested since 2017 in start-ups & VC funds

25
start-ups in the 2023 portfolio

10,000+
start-ups identified by the open innovation team

4
new investments in start-ups in 2023

(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, its testing resources and digital capacity, EDF R&D is preparing the future and opening up new possibilities in the world of energy.
EDF's R&D covers all the business areas and activities in the energy sector.
In line with EDF group's *raison d'être* and strategy, its research focuses on four main priorities:

- **Decarbonising its client's uses thanks to electricity**
- **Strengthening the performance of generation assets**
- **Inventing tomorrow's energy systems**
- **Accelerating digital transformation**

- R&D mobilises its energy experts for the benefit of the EDF group 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 2023

- **2,098 employees** worldwide (EDF SA)
- **129 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
- **747 patented innovations** protected by 2,178 property titles in France and abroad
- **€512 million expenses** in 2023 (EDF SA)
- **99%** of R&D operating budgets in France dedicated to decarbonation 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, and mobility**

Three research centres in France and six internationally, as well as an office in Brussels

TABLE OF CONTENTS

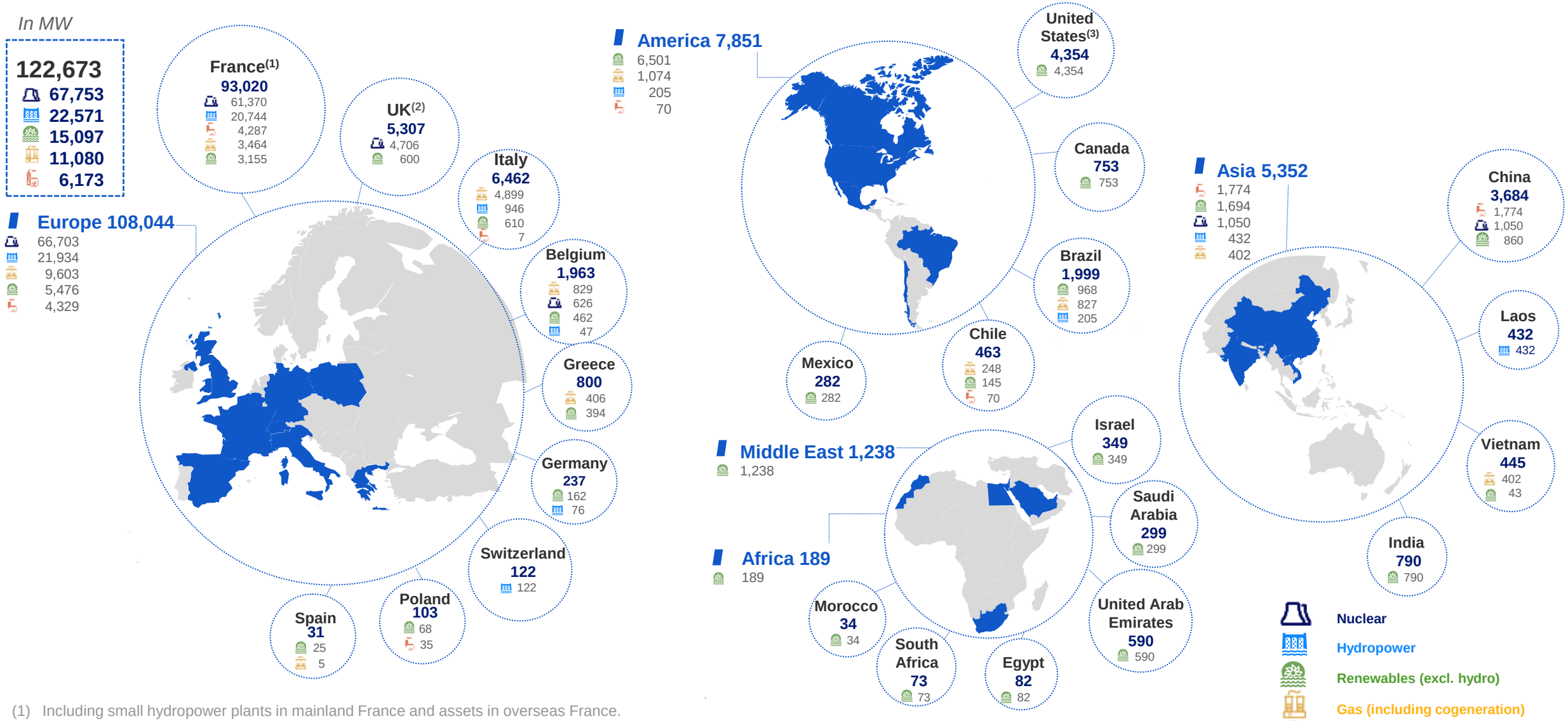
EDF group has 40.9 million customer sites worldwide: residential customers, businesses, and local municipalities. It is a major energy provider on key European markets: France, the UK, Italy and Belgium. The Group is seeking to move into new geographical areas, developing low-carbon solutions in growing countries and strengthening its positions in Europe

EDF GROUP'S NET INSTALLED CAPACITY BY COUNTRY AT END-2023

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

In MW

122,673
- 67,753
- 22,571
- 15,097
- 11,080
- 6,173



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

(2) End of generation of West Burton A on 31/03/2023, last coal plant in the UK for EDF.

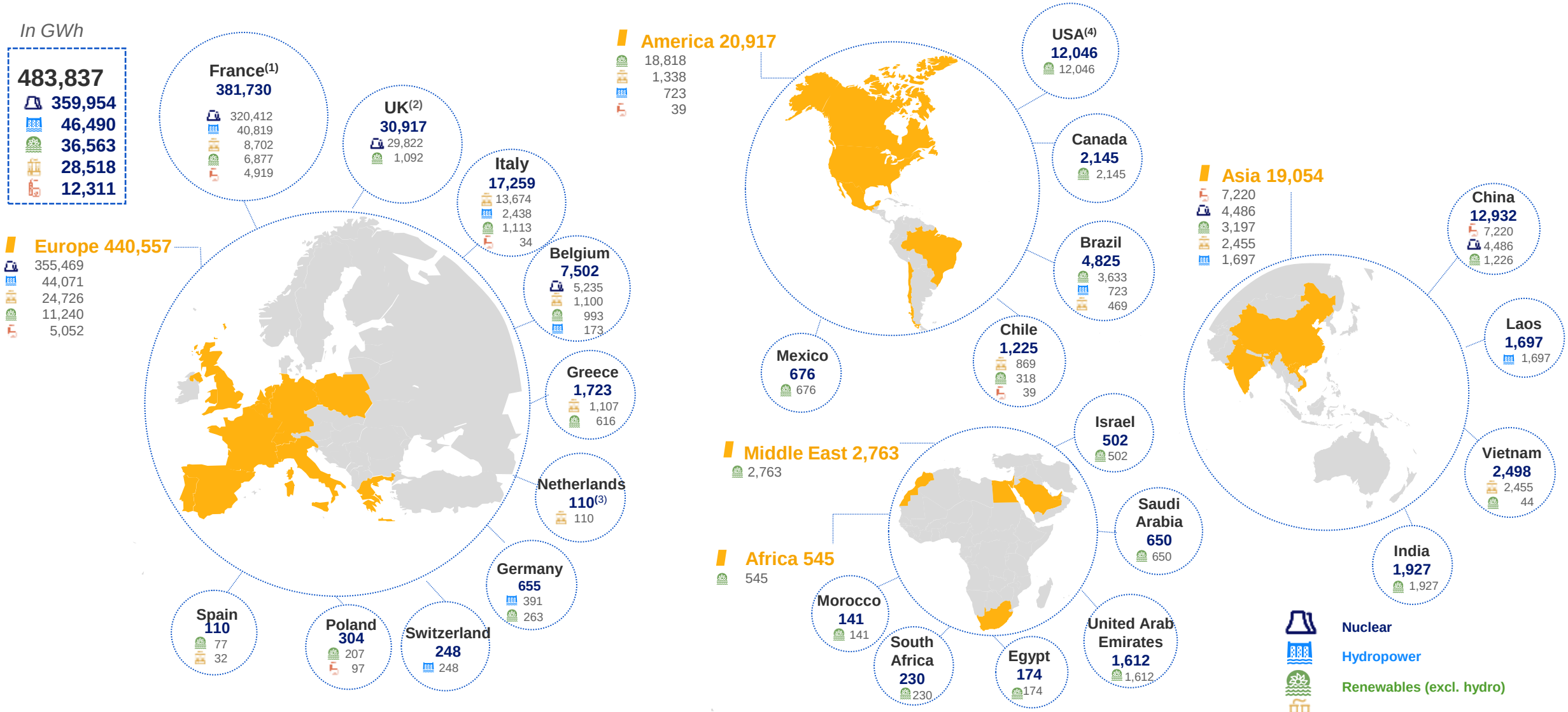
(3) Excluding energy storage capacity and EDF Renewables biogas production capacity.

EDF GROUP'S NET OUTPUT BY COUNTRY IN 2023

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

In GWh

483,837
- 359,954
- 46,490
- 36,563
- 28,518
- 12,311



(1) Including small hydropower plants in mainland France and assets in overseas France.
(2) End of generation of West Burton A on 31/03/2023, last coal plant in the UK for EDF
(3) Sloe CCGT has been sold in January 2023.
(4) 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**
- Owning the largest nuclear fleet worldwide (o/w **56** operating reactors in France and Flamanville 3 EPR to be connected to the grid in summer 2024)

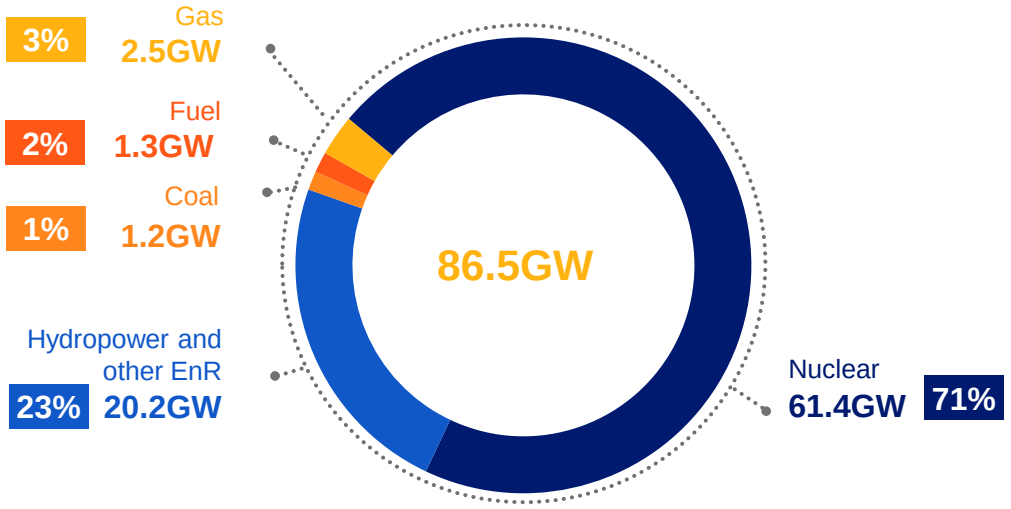
➢ **2023 key figures:**

- **€24.7bn**: EBITDA
- **28.9m** of customer sites (**26.4m**: electricity and **2.5m**: gas)
- **~66,000**: workforce EDF SA
- **98%**: CO_2-free generation(1)

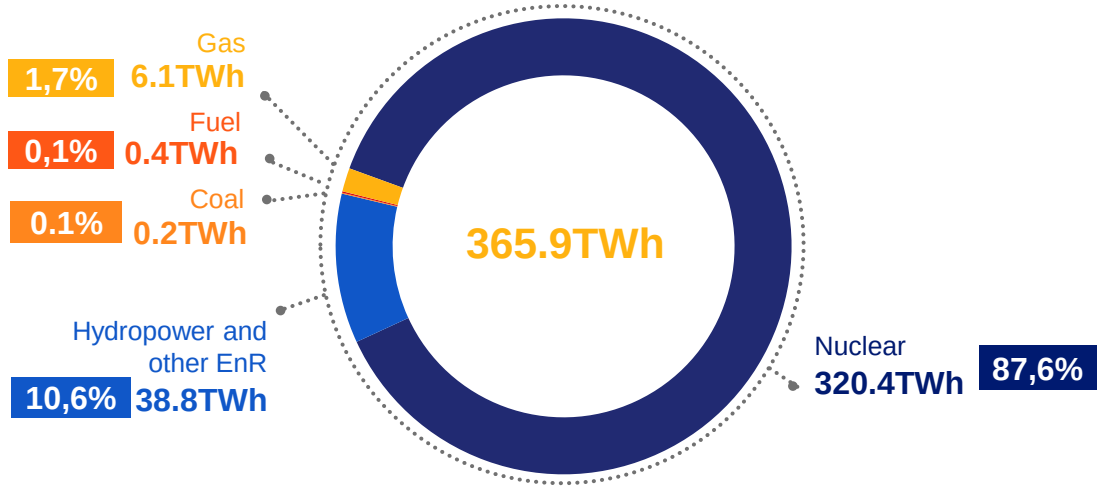
And for this country:

- Holding 100% of **EDF Renewables** *(see p.60 ff.),* EDF ENR**,** EDF International, including gas activities *(see p.102)*
- Shareholding in various subsidiaries o/w **Dalkia** (energy services provider and Dalkia Electrotechnics/Citelum) *(see p.101)*
  Framatome *(see p.53)* (supplier in the nuclear industry)

Installed capacity(2)



Electricity generation(2)



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

(2) Fully consolidated data as of 31/12/2023. The values correspond to the expression to the first decimal place or to the nearest integer of the sum of the precise values, taking into account rounding.

FRANCE: REGULATED ACTIVITIES (ENEDIS, ÉS[1] & ISLAND ACTIVITIES)

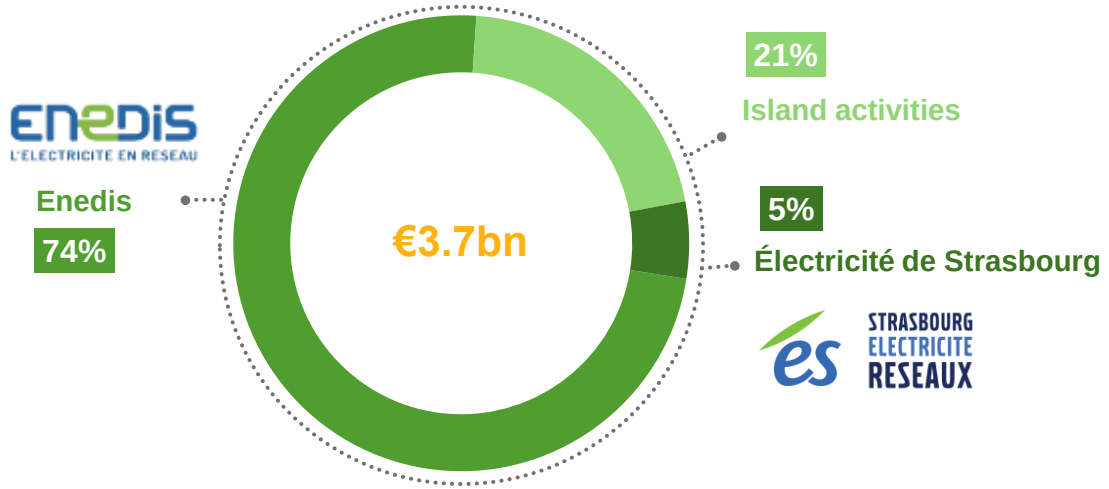
➢ **Enedis** *(see p.77)*

- **The largest distribution grid in Europe** and the main distribution grid in France: **connected to 95% of the metropolitan population**
- A **regulated business model**: Enedis has the national monopoly on 376 concession contracts
- Represents usually a share of about **a quarter** in the metrics of the EDF Group**: EBITDA, net investments** (€4.6bn in 2023) and **headcount** (~40k)
- **€96bn net investments** planned over the period 2023-2040

➢ **2023 key figures**:

- **€2.7bn:** EBITDA
  Exceptional year related to the cost of the buy-back of network losses at a very high price
- **38.5m** customers (o/w 28.9m EDF)
- **1.4m** km electric network

Breakdown of EBITDA



➢ **Island activities** *(see p.82)*

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

- **Capacity 2.0GW**[2] (fuel 78%, hydropower and other EnR 22%)
- **Electricity generation 6.1TWh**[2] (fuel 77%, hydropower and other EnR 23%)
- **1.3m** of customers (electricity)

➢ **Électricité de Strasbourg** *(see p.82)*

- **Electricity distribution** (15,000km electric network)**, energy supply** to c. **0.58m** customers (electricity) & 0.11m customers (gas et biogas), energy **services**, **renewable energy generation**

(1) Électricité de Strasbourg.
(2) Fully consolidated data as of 31/12/2023.

UNITED-KINGDOM: EDF ENERGY

- **Key points:**
  - **Largest producer of low carbon electricity**
  - **9 reactors** in 5 nuclear power stations
  - Nuclear New Built: **Hinkley Point C 3.26W under construction** *(see p.54)*
  - Project under development **Sizewell C** *(see p.54)*
  - Batteries and high-volume power connections to enable rapid **electric vehicle** charging through **Pivot Power**
  - Electric vehicles charge point operator through **Pod Point** (EDF's stake: 54.05%)

- **2023 key figures:**
  - **€4.0bn**: EBITDA
  - **5.9m** of customer accounts (3.7m: electricity and 2.2m: gas)
  - **~11,600**: workforce
  - **100%**: CO_2 –free generation(1)

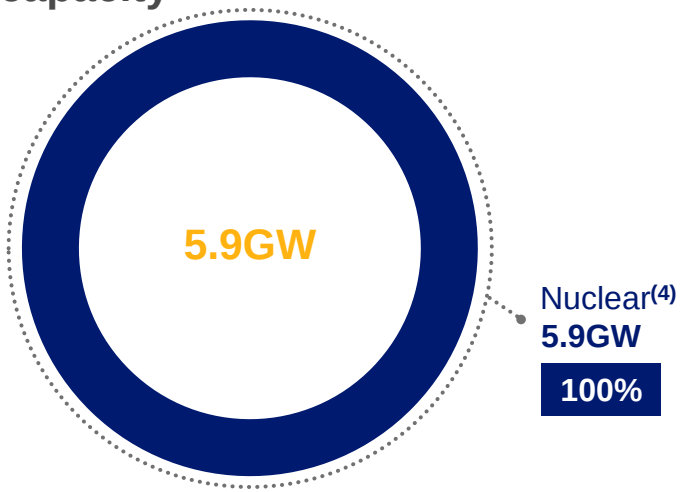
2023 supply market share

Electricity supply: ~44.8TWh	**~10.9%(2)**
Domestic Gas supply: ~27.6TWh	**~9.1%(2)**

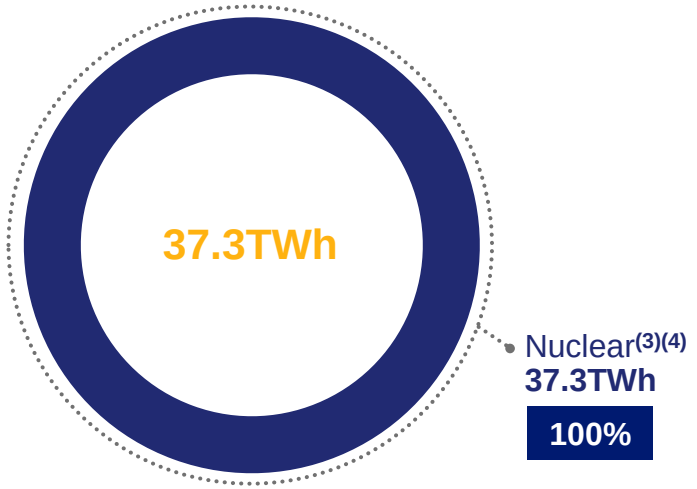
And for this country:

- **Renewable** energy generation from wind farms by EDF Renewables *(see p.62)*
- Optimisation and risk management services for the EDF group as well as for third parties, via **EDF Trading** *(see p.85)* and EDF Energy

Installed capacity



Electricity generation



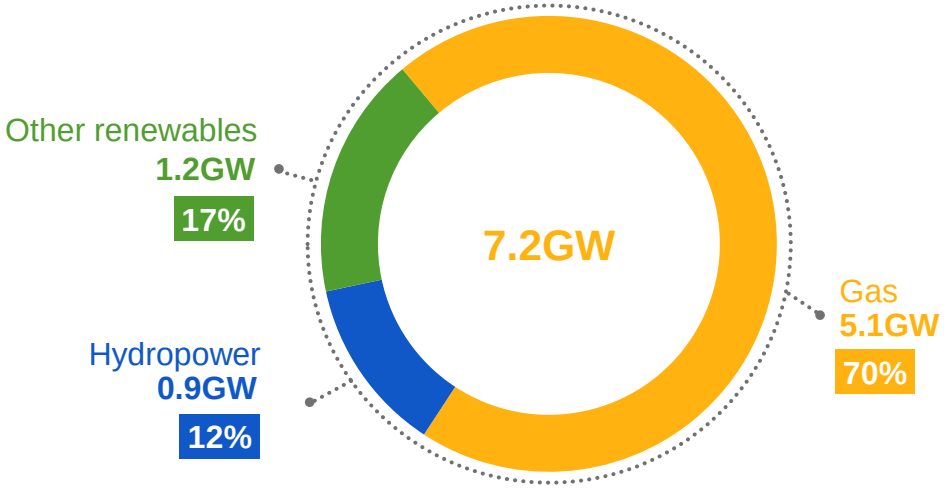
(1) Direct emissions, excluding life cycle analysis of generation means and fuels.
(2) UK Gas and Electricity market share as per Cornwall data at 31/10/2023.
(3) End of generation of the 2 last coal units of West Burton A in March 2023.
(4) The figures shown represent 100% of nuclear capacity and generation, split 80%/20% between EDF Energy and Centrica.

ITALY: EDISON

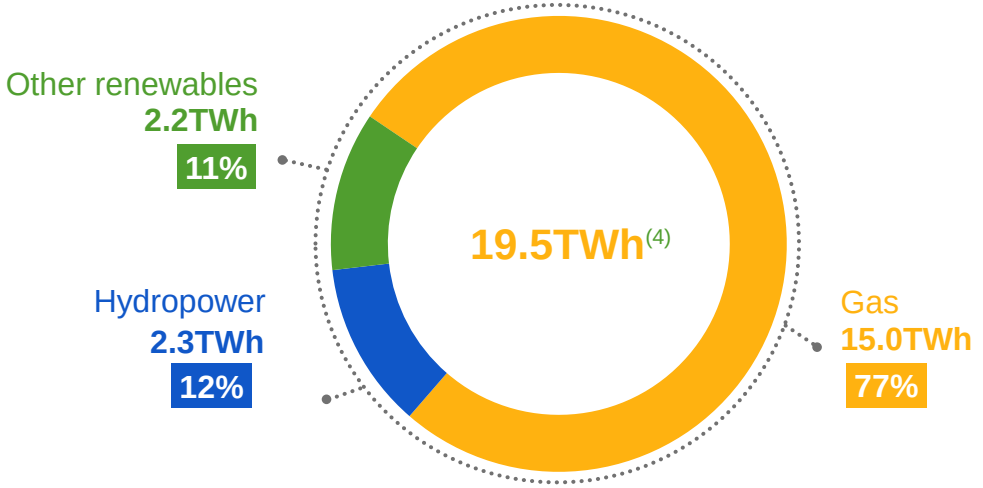
- **A major player in Italy, leader of sustainable energy transition[1]:**
  - 7.2GW of installed capacity including over 2GW of renewables
  - 21% market share in Gas midstream activities, second biggest gas importer in Italy with a diversified portfolio of LT contracts independent from Russia
- **Key strategic priorities for 2030:**
  - €10bn of investments between 2023 and 2030, 85% UN SDG's alignment
  - Renewable energy and flexibility: target of 5GW gross capacity by 2030
  - 40% decarbonised energy by 2030 and over 90% by 2040 thanks to renewables and new technologies (such as CO_2 capture and new nuclear power)

- **2023 key figures:**
  - Generation fleet in Italy: 0.9GW hydropower (**123** plants)**,** 5.1GW gas **(13** thermal power plants), 1GW wind and 0.2GW solar
  - 19.5TWh power produced, i.e. 7.5% of Italian generation
  - Biggest B2B wholesaler in Italy (37.1TWh of electricity and 14.9bcm of gas sold per year)
  - **13bcm of natural gas imports,** i.e. 21% of Italy's natural gas imports
  - **€1.9bn**: EBITDA
  - 2m of B2C/SME gas, power and energy services contracts[2]
  - **~6,000**: workforce
  - **25%**: CO_2 –free generation[3]

Installed capacity



Electricity production



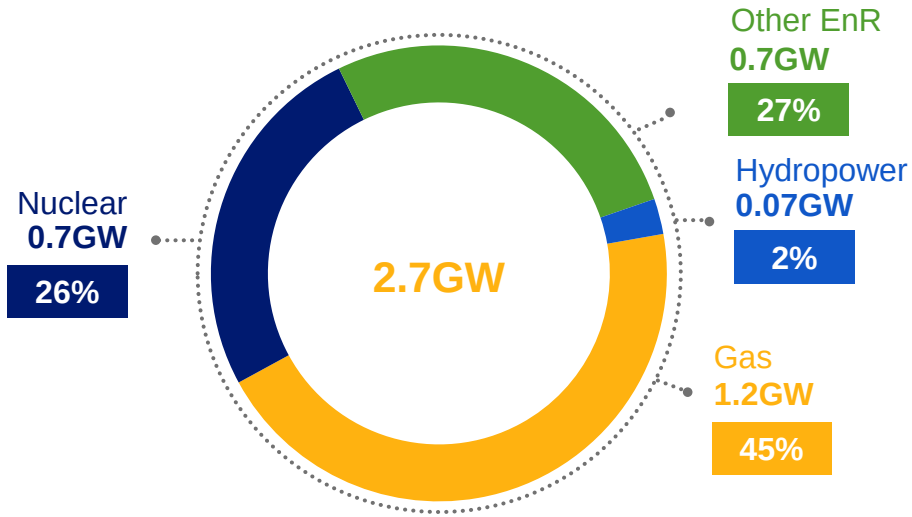
(1) According to the 2022 ARERA report.
(2) The number of customers corresponds to the number of electricity and gas delivery sites.
(3) Direct emissions, excluding life cycle analysis of generation means and fuels.
(4) Including Energy & Environmental Services Market: 0.8TWh.

BELGIUM: LUMINUS AND EDF BELGIUM

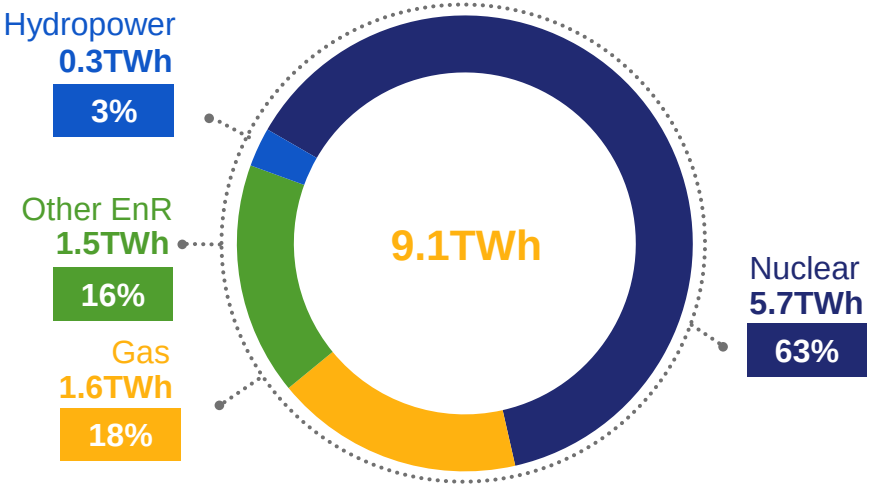
- **Luminus:**
  - **2nd largest player in the Belgian energy market**
  - 7 hydropower plants
  - Leader in wind power with 90 onshore wind farms
  - 1,208MW gas generation capacity and a 870MW CCGT under construction
  - Owning 10.2% (212MW) of the nuclear power plants of Tihange 3, and Doel 4 (end of generation of Doel 3 in 2022 and Tihange 2 in 2023). Luminus also has 100MW of drawing rights on the French Chooz B nuclear power plant
- **EDF Belgium:**
  - Wholly-owned by EDF, it holds 50% of the Tihange 1 nuclear plant(1), or 481MW, representing 2% of Belgian generation capacity

- **2023 key figures:**
  - **Luminus**: 2,213MW of installed capacity
    23% electricity market share in Belgium(2)
    Total electricity output of 5.0TWh in 2023
    ~2,2m of delivery points
  - **EDF Belgium**: 481MW nuclear installed capacity, 4.1TWh output in 2023
  - **€673m**: EBITDA Belgium(3)
    2.2m of customers (1.4m: electricity and 0.8m: gas)
  - **~2,800**: workforce(4)
  - **82%**: CO_2–free generation(5)

Installed capacity



Electricity generation



(1) 50% participation in the Tihange 1 power plant with Electrabel.
(2) As of 31/12/2023
(3) Luminus SA = 546M€ and EDF Belgium = 127M€.
(4) Headcounts.
(5) Direct emissions, excluding life cycle analysis of generation means and fuels.

AMERICA PROFILE - AREAS PROFILE

North America

- **Renewables**: EDF Renewables net installed capacity of 5GW, mainly in the **USA**, and close to 14.6GW managed for own account or third parties. Commissioning of the first phase of the Fox Squirrel solar plant, EDF largest PV plant in the USA (749MWc). In **Canada**, Commissioning of Cypress 1 and 2 wind farms, each delivering 247MW
- **Nuclear**: Framatome: maintenance & modernisation of nuclear plants and fuel supply for these plants
- **Services**: Dalkia: local energy services management and efficiency

South America

- **Renewables:** In **Brazil**, EDF Renewables net capacity of 768MW in wind power and 199MW in solar power. Commissioning of the first phase of Serra do Seridó, the largest wind farm of South America (242MW/480MW). Start of the construction works of the Serra das Almas (261MW) wind farm
  In **Chile**, finalisation of the construction of CEME 1, Chile's largest solar plant (480MW)
  In **Peru**, hybrid solutions : Construction of 10 hybrid powerplants (solar + batteries) for off-grid cities in Amazon region
- **Hydroelectric:** in **Brazil**, Sinop hydropower plant (51% of 402MW)
- **Gas/biomass:** in **Brazil**, EDF Norte Fluminense CCG (827MW).
  In **Chile**, Flexible gas and peak generation capacity (50% of 750MW). Conversion from diesel to gas, of Los Vientos (132MW) completed in 2023.
  In **Colombia**, construction of a 28MW biomass powerplant

REST OF EUROPE & AFRICA & MIDDLE EAST - AREAS PROFILE

Rest of Europe

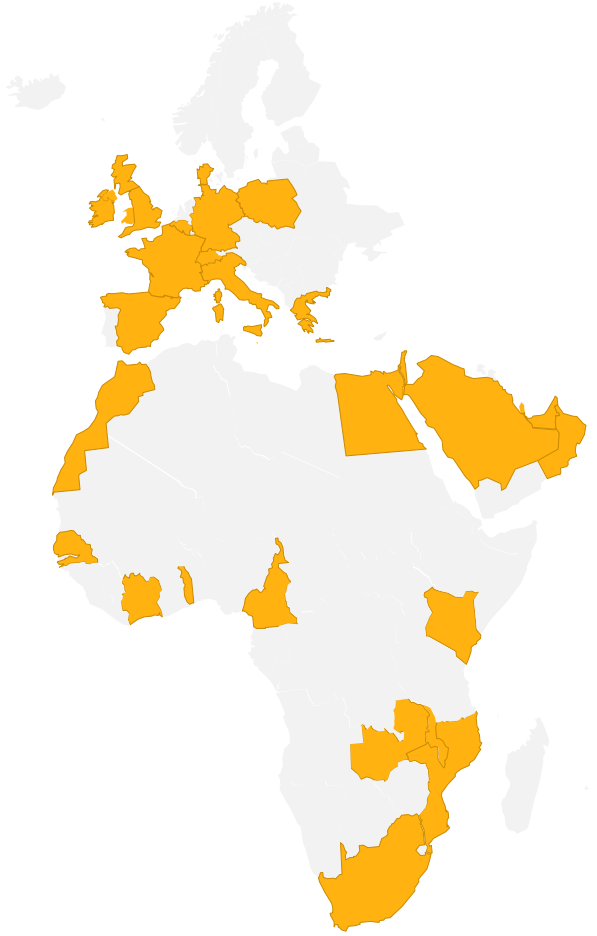
- **Hydrogen:** in **Germany**, EDF holds 25% of Hypion, hydrogen project developer
- **Clients & Services**: in **Denmark**, public lighting and e-mobility

Africa

- **Renewables**: in **South Africa,** 145MW gross of wind**.** Partnership with Anglo American (Envusa JV) with 500MW of projects under development. Launch of the Umoyilanga project as a Virtual Power Plant: PV, wind power and battery
- **Hydroelectric:** in **Cameroon**, construction of Nachtigal dam (40% of 420MW) and development of a second dam in Kikot (500MW). Development of a hydropower plant in **Malawi** (350MW) and **Mozambique** (1.5GW)
- **Biomass:** construction of a plant in **Ivory Coast** (46MW)
- **Off-Grid kits** (distributed energy) : in **South Africa**, **Ivory Coast**, **Senegal**, **Kenya**, **Zambia** and **Togo** – More than 2 million people supplied with electricity
- **Storage:** 3 battery storage projects (257MW-1024MWh) awarded in **South Africa**

Middle East

- **Renewables:** in **United Arab Emirates**, commissioning of Al Dhafra PV2 (20% of 2.1GW solar), gain by EDF in consortium of Ajban 3 (1.5GW solar). A 500MW portfolio of distributed solar solutions & energy services through Emerge JV
  In Saudi Arabia, Al Henakiyah (1.1GW solar) awarded to EDF in consortium. Amaala project, an off-grid system awarded (250MW solar - 770MWh batteries). And in capacity installed: Dumat Al Jandal (426MW wind) and South Jeddah (420MW solar). **In Oman**, Manah-I (650MWc solar, project under construction). **In Israel**, gross wind & solar installed capacity: 589MW
- **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



EDF's presence

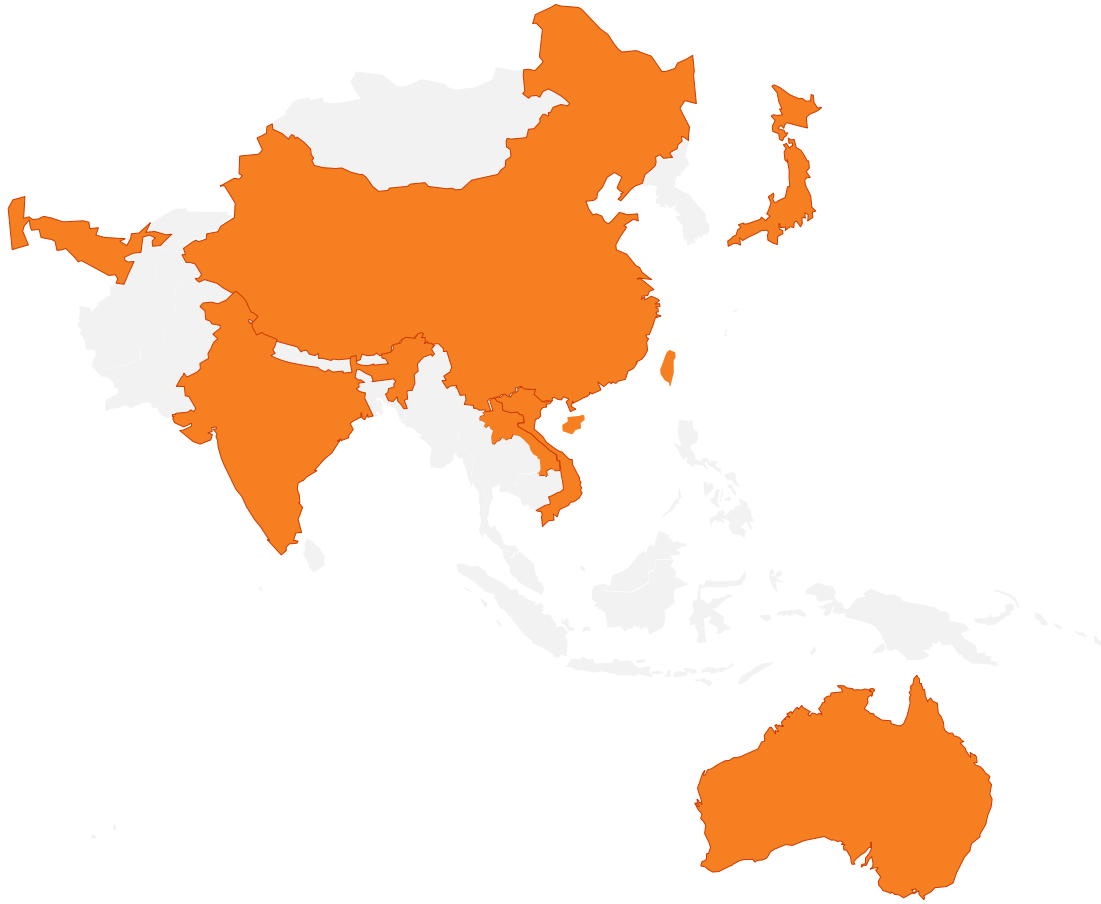
ASIA & OCEANIA - AREAS PROFILE

China

- **Nuclear:** two EPR nuclear reactors in **Taishan** (30% of 3.5GW)
- **Renewables:** net installed capacity of 476MW in wind and 299MW in solar power
  In offshore wind energy, **Dongtai IV** (302MW) and **Dongtai V** (200MW) wind farms
- **Thermal-coal:** minority stake in **Fuzhou** ultra-supercritical plant (USC) (49% of 2GW), **Shandong** plants (19.6% of 3GW) and **Sanmenxia** supercritical plant (35% of 1.2GW)

Oceania, Pacific & Central Asia

- **Nuclear:** in **India**, industrial agreement and offer submitted for the construction of **6 EPRs** on the Jaitapur site (~10GW)
- **Smart meters:** in **India,** a roll-out smart meters project (over 1.5m installed)
- **Renewables:** in **Laos**, Nam Theun 2 hydropower plant (1.1GW installed).
  In **Australia**, project of a hydro pumped storage plant (300MW)
  In **India**, Group's installed renewables power capacity (excl. Hydro): 0.7GW net. Commissioning of SECI V wind farm (302MW)
- **Gas:** in **Vietnam**, Phu My 2.2 CCGT in operation (0.7GW) and development of Son My 1 CCGT (2.3GW). In **Uzbekistan** 1.6GW CCGT plant under construction



EDF's presence

TABLE OF CONTENTS

As a major player in energy transition, the EDF group is an integrated energy company active in all areas of the industry: power generation using nuclear, renewable and thermal energies; design and construction of nuclear power plants; electricity transmission and distribution; sales; energy services; energy trading

EDF GROUP MAIN BUSINESSES

EDF: UNIQUE & GLOBAL EXPERTISE AND KNOW-HOW IN THE NUCLEAR INDUSTRY

EDF, THE WORLD'S LEADING NUCLEAR OPERATOR(1)

56
Reactors in operation
& Flamanville 3: to be connected to the grid in summer 2024

France / 61.4GW

9
Reactors in operation

UK / 5.9GW

China / Taishan (1.7GW)

2
EPR reactors operated
by TNPJVC
(30% owned by EDF)

EDF MANAGES THE ENTIRE LIFECYCLE OF NUCLEAR GENERATION FACILITIES: DESIGN, OPERATION AND DECOMMISSIONING

- Pooling of EDF and Framatome engineering teams in a joint subsidiary Edvance for new projects **in France and abroad**
- **Aim to continue the operation, safely,** of its reactors **beyond 40 years** in France and to build the success of the first 12 reactors to pass their fourth ten-year inspection to extend their operating life.
  EDF plans to invest €33bn over the period 2022-2028, as part of the **"*Grand Carénage*"** programme *(see p.45)*
- **Construction of EPR-type reactors** (France, the UK) *(o/w Small Modular reactors (SMR) and EPR2, see p.55 and p.56)*
- Presence of EDF in the French and international markets for the **decommissioning** of nuclear power plants *(see p.48)* and **radioactive waste treatment** facilities *(see p.50).*
  In the UK, EDF Energy responsible for the AGR power plants' defueling, and Nuclear Decommissioning Authority responsible for subsequent decommissioning activities
- On 4 November 2022, signature of an exclusive agreement to acquire part of **GE Steam Power's nuclear activities** (incl. the Arabelle steam turbine), which will take place once all the necessary conditions, including issuance of the required regulatory authorisations, have been fulfilled

(1) IAEA (*International Atomic Energy Agency*), Nuclear power reactors in the world, 2023 edition.

EDF NUCLEAR FLEET IN FRANCE & IN THE UNITED KINGDOM

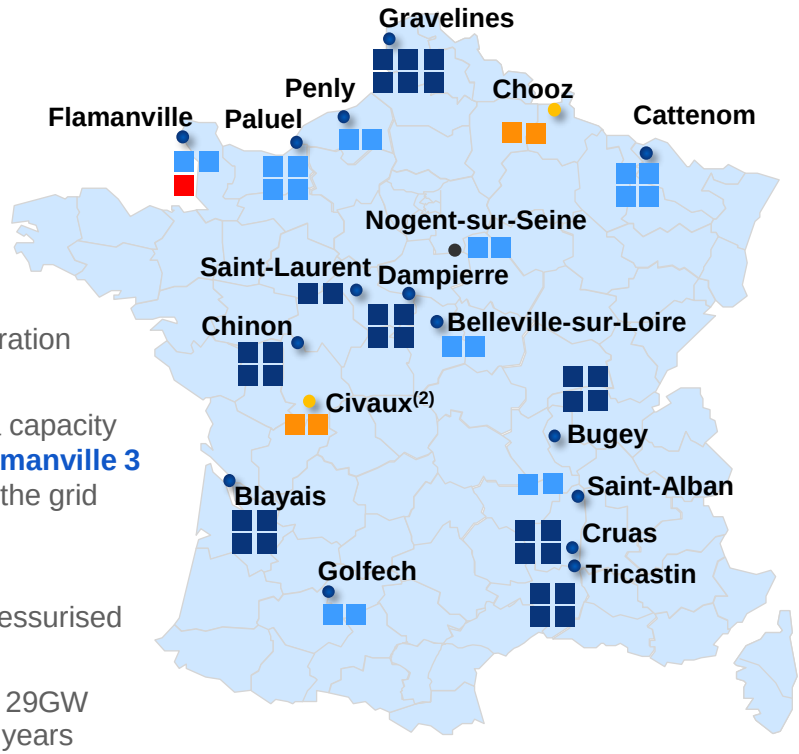
In France

~ 65%[1] of French power generation in 2023

56 reactors in operation with a capacity of **61,370MW in 18 sites & Flamanville 3** (1,600MW) to be connected to the grid in summer 2024

A unique technology, PWR (Pressurised Water Reactors), 3 series:

- 900MW **32 reactors** 29GW with an average age of 41 years
- 1,300MW **20 reactors** 26GW with an average age of 35 years
- 1,450MW **4 reactors** 6GW with an average age of 23 years



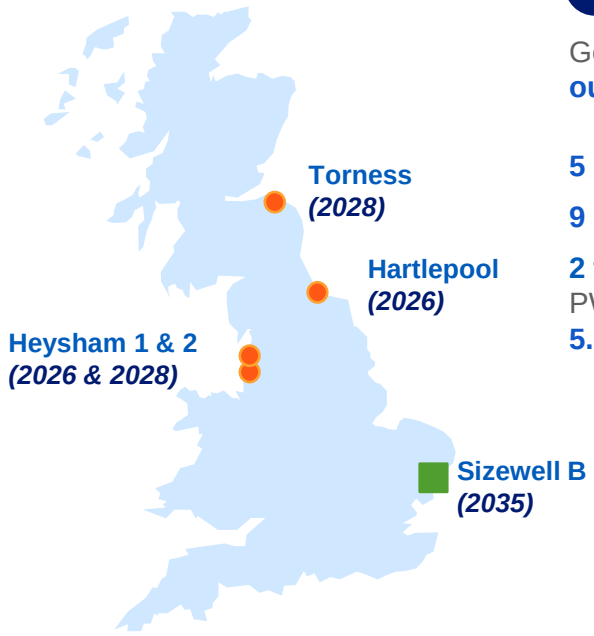
In the United Kingdom

Generated **~11.5% of UK output** in 2023[2]

5 nuclear power stations

9 reactors in operation

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. Possible extensions shall be announced in 2024**

(1) The total French electricity output reached 494.3TWh in 2023 incl. Corsica and not adjusted from weather effect (*Bilan électrique* 2023 of RTE).
(2) 100% EDF Energy Nuclear Generation output out of total UK Generation as per EDF Energy estimate.
(3) 5.9GW capacity split 80%/20% between EDF Energy and Centrica.

EXISTING NUCLEAR FLEET & *GRAND CARÉNAGE* PROGRAMME

GRAND CARÉNAGE PROGRAMME: INDUSTRIAL STRATEGY

Industrial strategy to continue the operation of 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. During 2023, 2 reactors successfully completed their 4th ten-year inspection and thus passed the 40-year milestone (Blayais 1, Saint-Laurent 2) and 5 ten-year inspections are ongoing (Bugey 3, Gravelines 2, Dampierre 3, Blayais 2, Chinon B1). At 31 December 2023, 12 reactors have successfully finalised their 4th ten-year inspection
- Extension from 40 to 50 years of the depreciation period for the **1,300MW nuclear fleet** from 1 January 2021, following in particular, the ASN's decision of 23 February 2021(1) and the success of the first 4th ten-year inspection on Tricastin 1
- Strategy consistent with the French Law removing the 50% cap of nuclear power from the energy mix in 2035

"*GRAND CARÉNAGE PHASE 2*" PROGRAMME

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

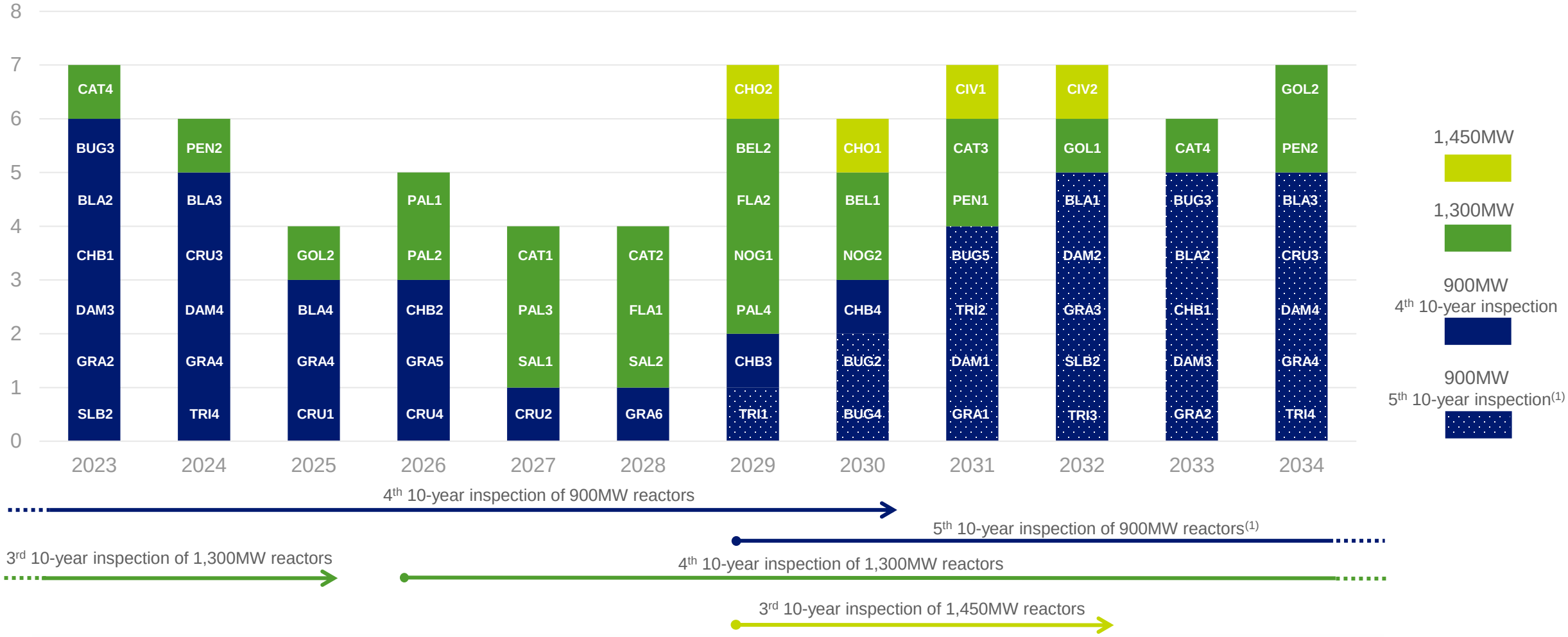
- Continuation of the 4th ten-year inspection programmes for the 900MW reactors
- Studies and beginning of implementation for first 4th ten-year inspection for the 1,300MW reactors
- Prior studies for the continued operation of 900MW reactors beyond 50 years

Total expenses for the 2022-2028 period estimated at €33bn (estimate at 31 March 2022) excluding Stress Corrosion (SC) phenomenon. In 2023, total expenses amounted to €4.4bn excluding SC phenomenon.
In addition, the work on SC leads to an estimated capital expenditure of **€1.2bn** over the period 2022-2025, of which €0.9bn had been spent at end-2023

(1) Decision on the conditions for continued operation of the 900MW reactors for the ten years following their fourth 10-year inspection.

10-YEAR INSPECTIONS OF THE NUCLEAR FLEET

Number of 10-year inspections



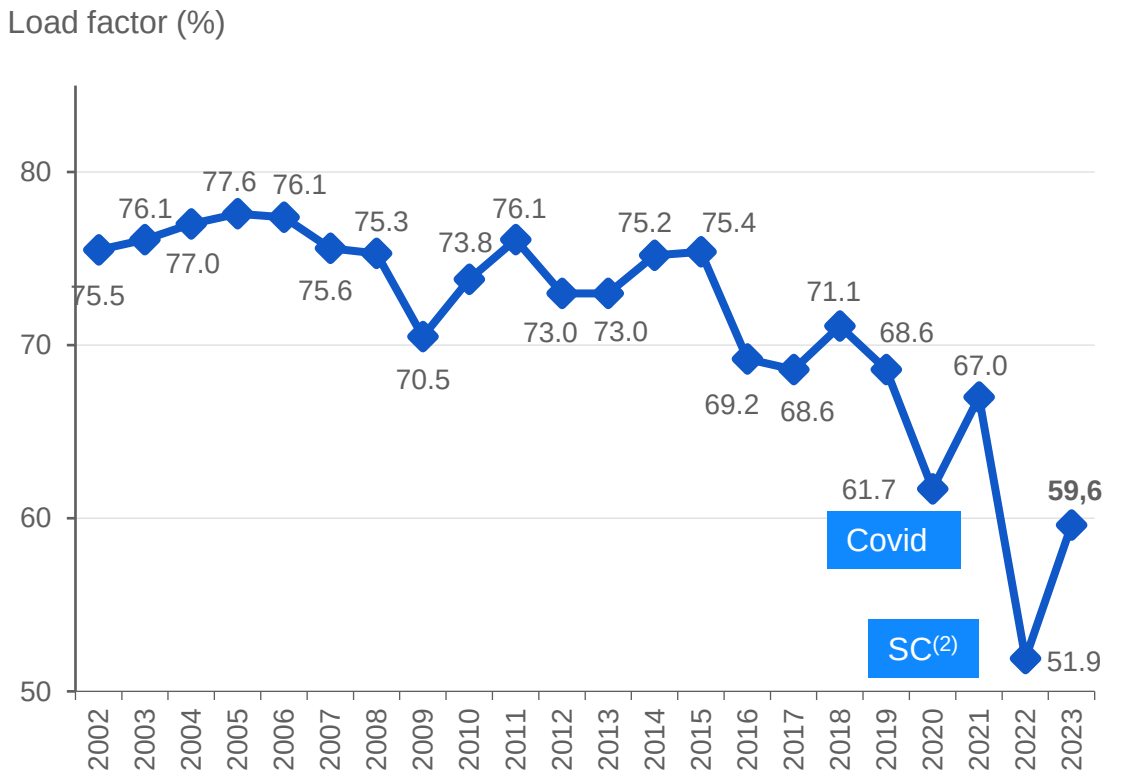
In 2029, Tricastin 1 would be the first 900MW series reactor to realise its 5th 10-year inspection

NB: forecast data on 31 December 2023.

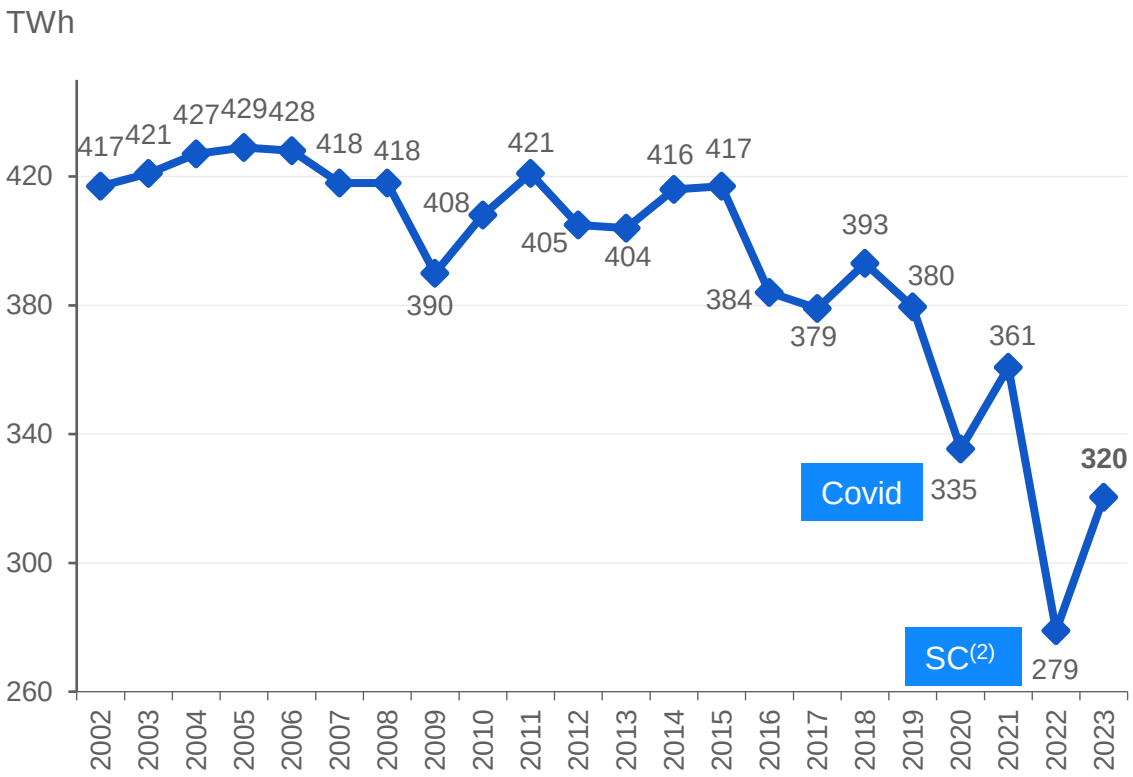
(1) Subject to decisions taken and authorisations issued.

RECOVERY IN LOAD FACTOR(1) AND NUCLEAR OUTPUT

Annual load factor of nuclear fleet in France



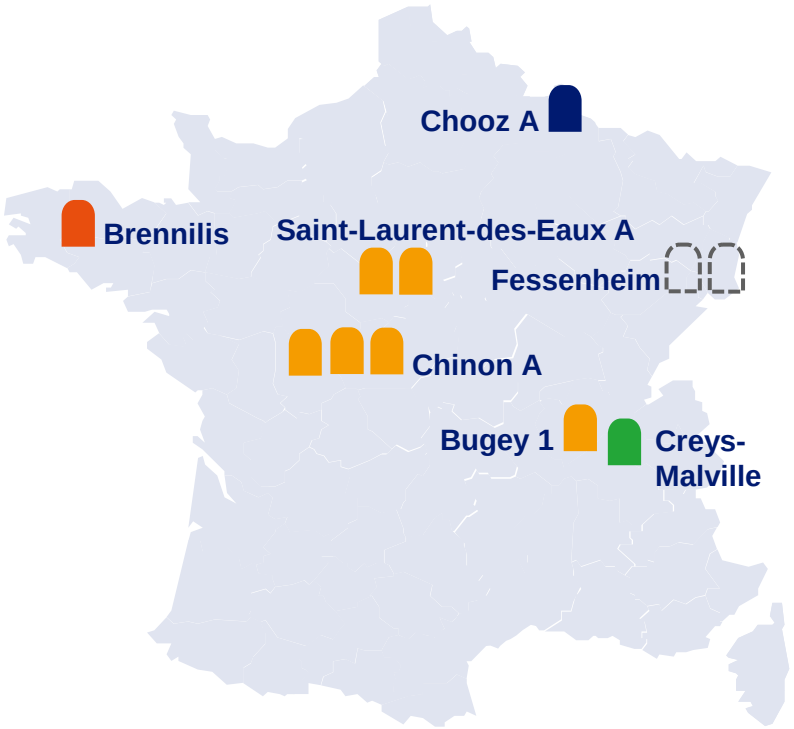
Net output of nuclear fleet in France



(1) Load factor rate is the ratio of energy generated to the maximum theoretical energy (the energy generated if the installed capacity were operated year-round).

(2) Stress Corrosion in 2022: decrease linked to a lower availability of the nuclear fleet, mainly due to the control and repair programme on the pipes affected by the stress corrosion phenomenon.

DISMANTLING: THE FINAL STEP IN THE LIFE OF A PLANT



Pressurised Water Reactor (PWR)

Heavy Water Reactor

Graphite Reactor

Fast Neutron Reactor

Pressurised water reactor in pre-dismantling phase

3 periods in the life of a plant

Construction - Operation - Dismantling

As the operator of the nuclear plants, EDF is in charge of these three steps and is currently dismantling first generation nuclear plants (shut down up to the 1990s) and prepares the dismantling of the two reactors of Fessenheim

11	4	7
REACTORS UNDER DISMANTLING IN FRANCE	DIFFERENT TECHNOLOGIES	INDUSTRIAL SITES

The nuclear plants currently in operation are all "PWR"

The **duration** of a Pressurised Water Reactor dismantling is **15 years** starting from the dismantling decree

3 key steps:

1- Unloading the fuel and draining all systems (**after which 99.9% of the on-site radioactivity has been eliminated**)
2- Dismantling excluding the reactor building
3- Dismantling the reactor building

The duration of the operations may vary for other technologies (NUGG, LWR, FNR) according to the complexity of works that have to be completed

NUCLEAR LIFE CYCLE IN FRANCE

4 gCO_2eq/kWh

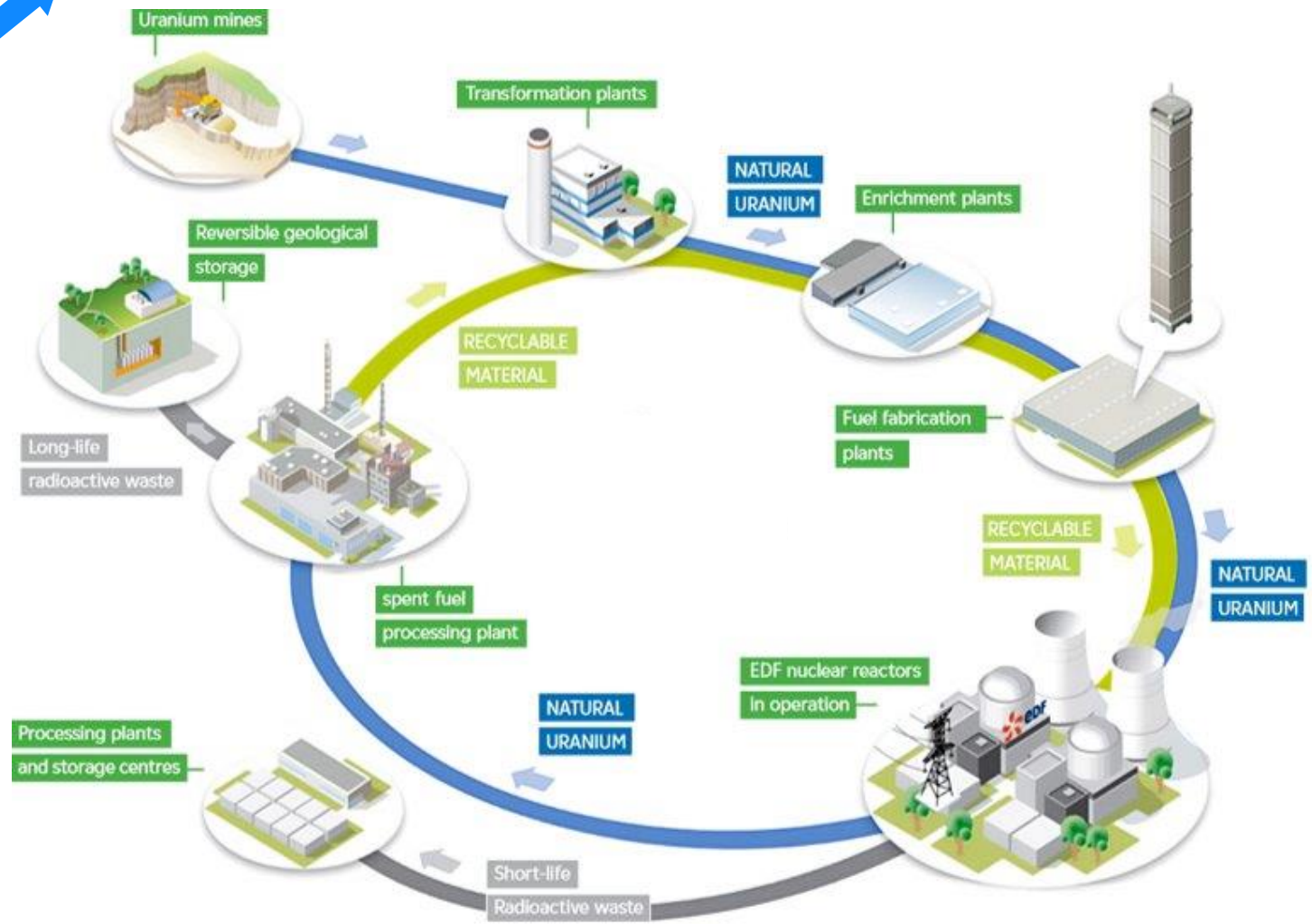
EDF carbon footprint of nuclear life-cycle(1) :

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

IPCC 2015 data ***worldwide***
(in gCO_2eq/kWh)

-	Coal:	**1,040**
-	Fuel:	**840**
-	Gas:	**490**
-	Solar PV:	**48**
-	Hydro:	**24**
-	**Nuclear:**	**12**
-	Wind:	**11**

Fuel cycle



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

RADIOACTIVE WASTE MANAGEMENT

	TYPE OF WASTE	EXAMPLE	POSITION/DISPOSAL
SHORT-LIVED WASTE 90% of waste 0.1% of radioactivity 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 10% of waste 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. Disposal project under review.
	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**)(2)
	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**)(2)

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

(2) For more information about Cigéo, please see p.51.

CIGÉO – A DEEP GEOLOGICAL DISPOSAL FACILITY

A project led by the ANDRA(1) for radioactive waste produced by all 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, defence, 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 the construction and the operating costs of Cigéo. 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. It plans the site to be located in eastern France, on the border between the Meuse and Haute-Marne
- 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) in order 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 the 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: A GROUP DEDICATED TO DECOMMISSIONING AND RADIOACTIVE WASTE TREATMENT OFFERINGS

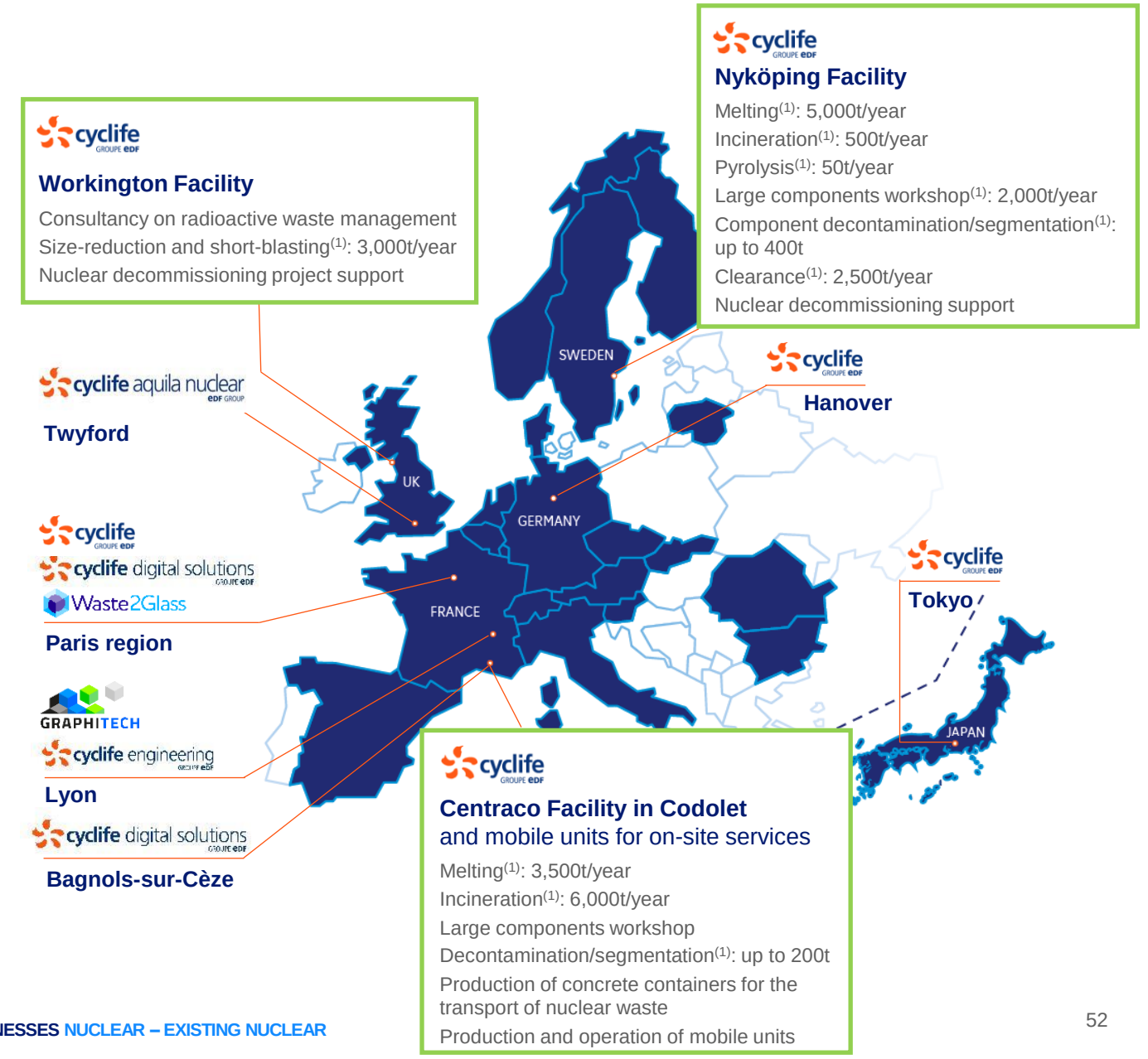
- **The Group "Cyclife" is in charge of nuclear decommissioning and waste treatment for the French and international markets**

Cyclife offers 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

Cyclife has **three plants in France, Sweden and the United Kingdom**, and mobile machines that work directly on operating nuclear power plants

Cyclife is also working on developing innovative waste treatment technologies alongside industrial partners

EDF radioactive waste treatment: 3 facilities(1)



(1) Maximum authorised capacities

FRAMATOME, A MAJOR INTERNATIONAL PLAYER IN THE NUCLEAR INDUSTRY

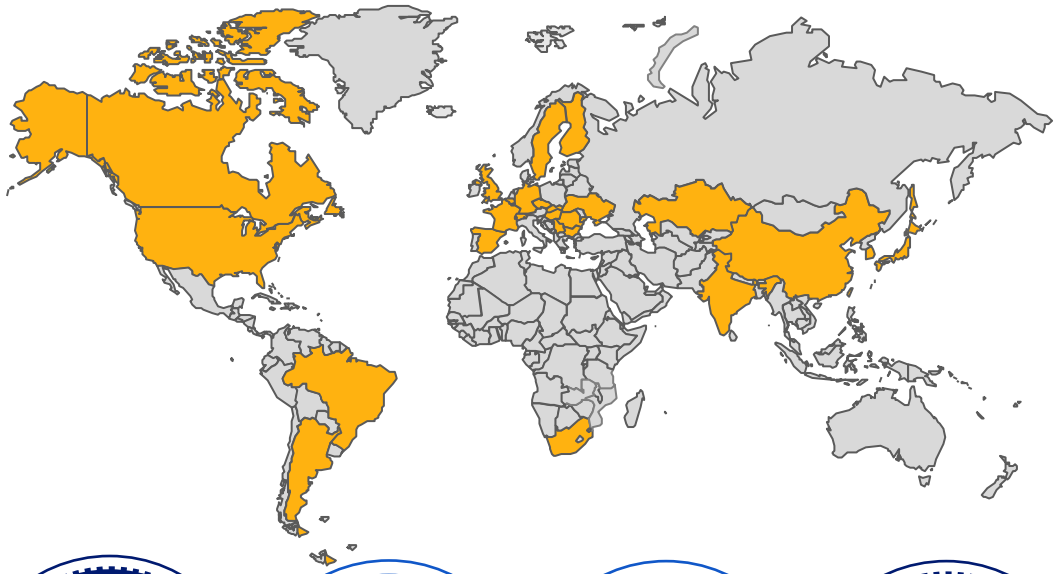
€255m: EBITDA(1) contribution at EDF Group consolidation level.
Framatome stand-alone EBITDA: €598m

€4.8bn: order intake in 2023 (of which 60% outside the Group)

Intervention on more than **385** of the ~**450** reactors in the world

Presence in the defense, healthcare and space sectors

An international presence



€4.1bn sales

€12.3bn backlog

More than 70 sites in 20 countries(1)

More than 18,000 employees(1)

Major supplier in the nuclear industry

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

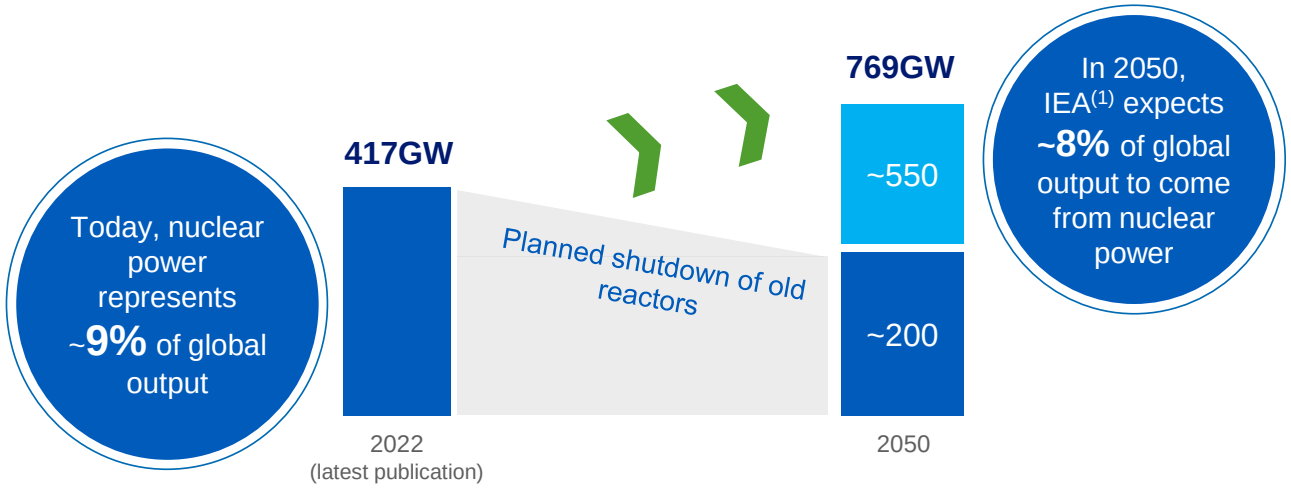
Activities

- **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 facilities in operations; commission new facilities and support to decommissioning & dismantling activities

(1) Data at end-2023,

UNIQUE POSITIONING IN NUCLEAR NEW-BUILD

WORLD NUCLEAR CAPACITY EXPECTED TO EXPAND OVER THE NEXT 20 YEARS



- Until 2030, the electric share in energy consumption will sharply raise and is planned to reach **41% in 2050**, compared to 20% in 2022. It represents a +37,000TWh$_e$ growth over the period
- **Up to 916GW of installed nuclear capacity** will be required to **reach carbon neutrality by 2050 worldwide** according to the IEA, more than a doubling compared to the level at end 2022
- **Nuclear energy recognised for the 1st time, at COP28, as a means of achieving "Net Zero".**

(1) International Energy Agency's Announced Pledges, scenario based on 2023 data.
(2) Contract for Difference.
(3) Final Investment Decision.
(4) Technology partnership.

EDF UNIQUE POSITIONING ON GLOBAL NEW NUCLEAR BUILD GROWTH

New Nuclear Development

Flamanville 3
6 EPR2

- **Flamanville 3** EPR, with capacity of c. 1.6GW, grid connection in summer 2024
- **Development** of an optimised version of the EPR (**EPR2**) *(see p.56)*, launch of a programme to build **6 EPR2** reactors (first commissioned in 2035-2037) and begin of studies for an additional **8 EPR2** reactors by 2050

Hinkley Point C
Sizewell C

- Construction of the two **Hinkley Point C** reactors, with capacity of c. 3.26GW (with a CfD(2))
- Development of an additional nuclear construction project: **Sizewell C** (3.26GW) with a Regulated Asset Base funding, subject to the project approving a FID(3)

nuward

- **Development** of a type of **SMR, Nuward ™** *(see p.55)*, with the CEA, TechnicAtome, NavalGroup, Framatome and Tractebel(4)

Other international

- Offers for the development or construction of **international projects: Jaitapur** in India (engineering and procurement) for six EPRs (~10GW) to be built by NPCIL
- **Czech Republic** (EDF pre-selected in a binding offer for the construction of one to four EPR1,200 with a decision in June 2024)

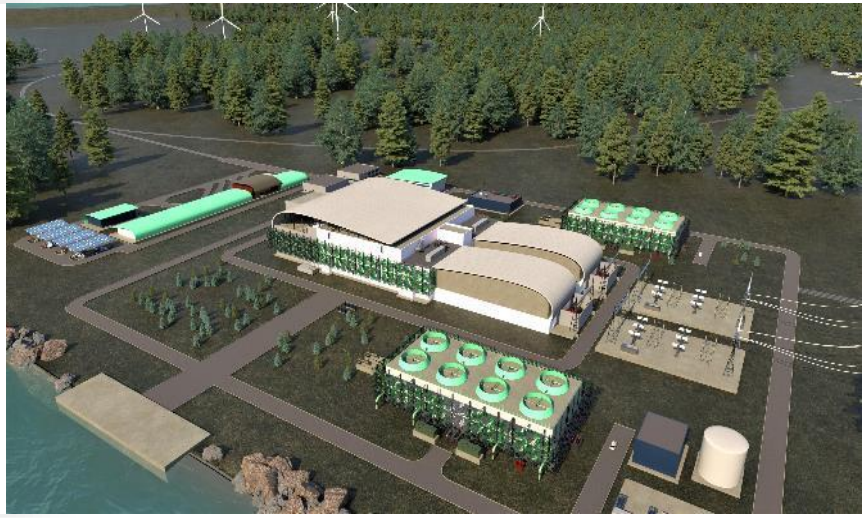
NEW NUCLEAR: THE nuward SMR (SMALL MODULAR REACTOR) PROJECT

PROJECT

- Development of the European “NUWARD SMR” power plant by NUWARD (EDF subsidiary) and its strategic partners: EDF, Edvance, CEA, TechnicAtome, Naval Group, Framatome and Tractebel
- 2 Pressurised Water Reactors (PWR), housed in a single nuclear building, of 170MWe each and designed to produce electricity and heat (2 x 540MWth)
- Review of the design conducted by the ASN (French safety authority), in collaboration with the Czech, Finnish, Swedish, Polish and Dutch safety authorities to accelerate the international licensing

NEWS AND PROGRESS

- Currently in the « Basic Design » phase
- The French government allocates €500m(1) to the NUWARD SMR project (*France 2030* program)
- In 2022 and 2023, letters of intent and Cooperation Agreements were signed with Fortum (Finland and Sweden), Respect Energy (Poland), Ansaldo Nucleare (Italy)
- The design of the NUWARD SMR power plant was shortlisted by the UK government in the first stage of the Great British Nuclear (GBN) SMR technology selection process



(1) Of which €300m allocated for the basic design phase, subject to approval by the European Commission.

EUROPEAN PRESSURISED REACTOR 2 (EPR2) IN FRANCE

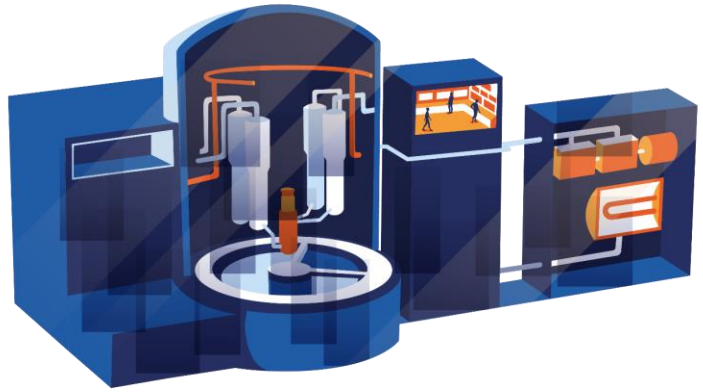
MAIN ASPECTS OF THE PROJECT

- Electrical power of an **EPR2 nuclear power station: ~1.6GW**
- **A programme of three pairs of reactors (six EPR2)** to benefit from volume effects in technological terms, notably in equipment purchasing and construction-phase services, as well as later in operation and maintenance.
- Feasibility studies for **8 additional reactors**
- **Integrating feedback** from all EPR sites worldwide and from the fleet in operation
- **An upgrade in nuclear reactor as in the EPR:** in particular the same security level (one of the highest in the world), the same power and environmental performance

PROVISIONAL SCHEDULE

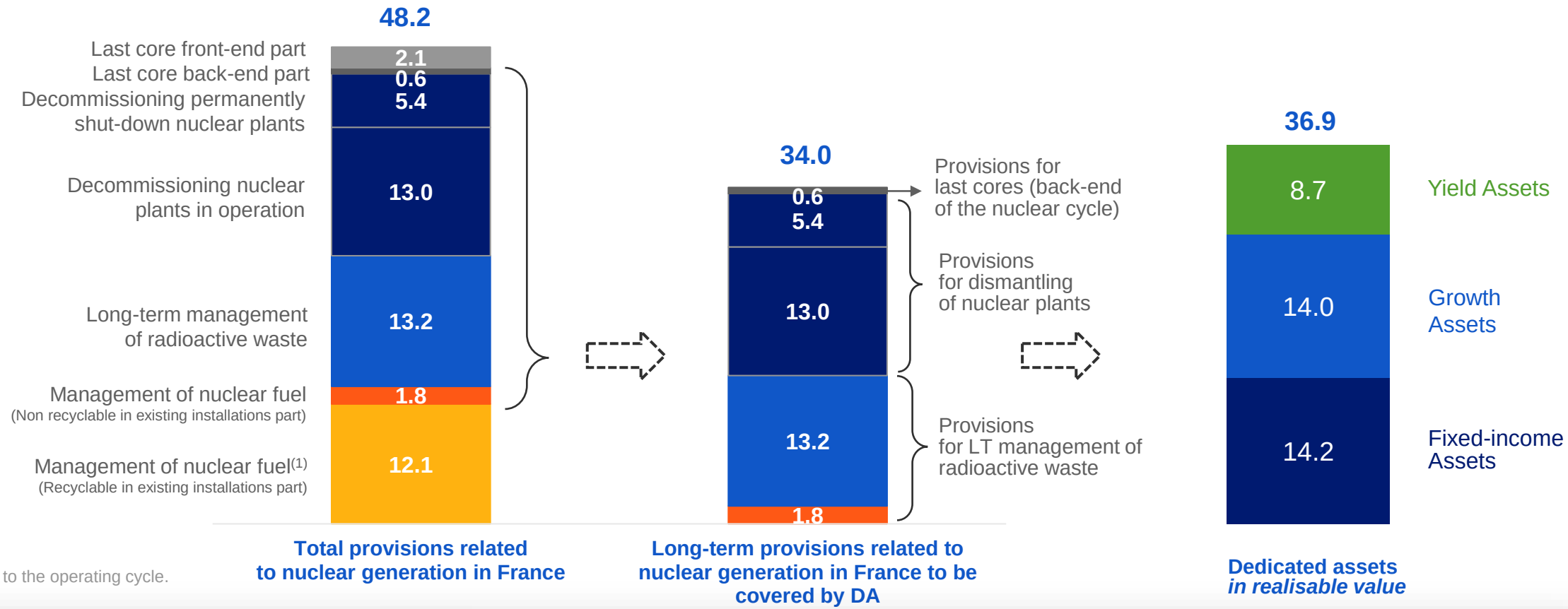
- Proposal by EDF and nuclear sector for an execution programme presented to the French government in May 2021 (and its actualisation target during Summer 2023) for the sites of Penly, Gravelines and Bugey
- First EPR2 pair of reactors on Penly site scheduled to be commissioned between 2035 and 2037
- The construction schedule proposed by EDF and the nuclear sector is based on one pair of EPR2s every 4 years, with 18 months between each production unit of the same pair
- Target 2024: optimising the design, costing and financing before FID

EPR2 design



PROVISIONS RELATED TO NUCLEAR GENERATION IN FRANCE AND PART TO BE COVERED BY DEDICATED ASSETS AT END-2023

In billions of euros



(1) Related to the operating cycle.

- At 31 December 2023, the regulatory coverage is **108.5%** (vs 107.1% at 31 December 2022)
- No allocation to Dedicated Assets to be made in 2023 and 2024 in respect of 2022 and 2023 owing to a coverage rate of over 100% at end of year, in accordance with the regulation applicable since 1 July 2020

DEDICATED ASSETS: PERFORMANCE AND ALLOCATION

Global 2023 performance: +10.2%

YIELD ASSETS: +2.9%

- In 2023, the geographical and sectorial diversification of the portfolio facilitated a resilient performance (+2.9%), despite the downward trend in the real estate market
- Over the past two years, yield assets delivered an annualised performance of +7.0%

GROWTH ASSETS: +17.5%

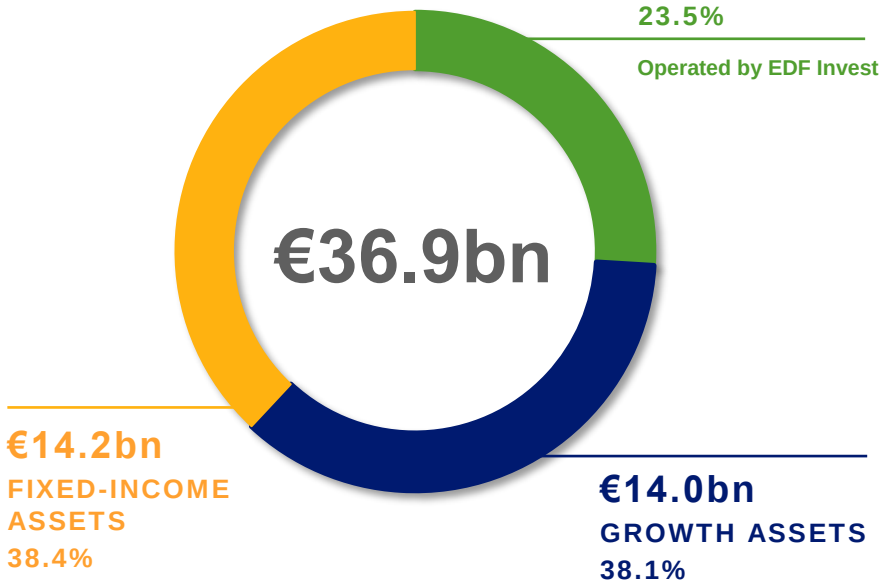
- Strong market rebound in 2023 supported by the resilience of the US and global economy and strong corporate earnings, particularly in technology
- Lower volatility, in line with the market

FIXED-INCOME ASSETS: +7.9%

- Robust performance thanks to lower long term interest rates and tighter credit spreads
- Interest rate volatility remains relatively high in a context of changing monetary stance

Performance +5.9% on an annualised basis since early 2004

2023 allocation



A strategic allocation was defined in 2018 to improve the adequacy of the profile of dedicated assets to the long-term nature of the disbursements to be covered (Growth assets: 40%, Fixed-income assets: 30%, Yield assets: 30%).
The targets of the new 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

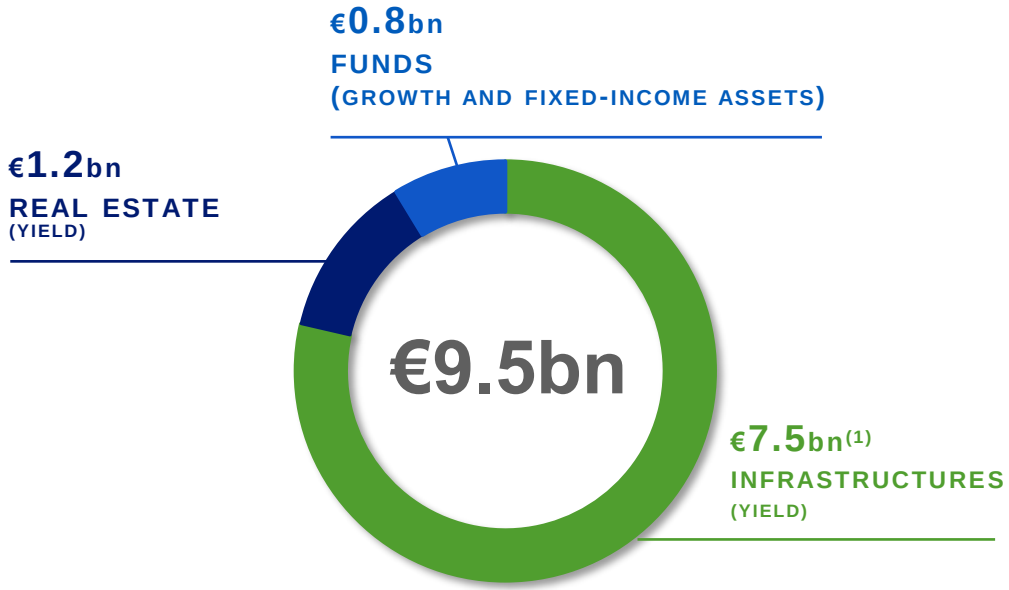
- EDF Invest manages **the unlisted investment portfolio of EDF's Dedicated Assets,** mitigating the volatility of the portfolio, targeting to invest one third of the total Dedicated Assets

- Unlisted Dedicated Assets are invested in **diversified geographical zones (mainly OECD) and sectors, under 3 assets classes:**
  - **Infrastructure** (data centres & telecoms, transportation, renewable energies, energy transition, energy networks)
  - **Real Estate** (offices, logistic, health, hotels)
  - **Private equity and Private debt** funds

- EDF Invest acquires **minority stakes** in real assets with partners (direct investment) and acts also as a **Limited Partner** in funds (indirect investment)

In 2023, EDF Invest signed the acquisition of minority stakes
- in **Fjord1** (40%), the leading operator of electrified ferries in Norway
- in **Nordic Logistic** (50%), a logistic facility in Sweden
- in **Memphis** (50%), an office building in Paris

PORTFOLIO BREAKDOWN AT 31 DECEMBER 2023



Figures may not add up due to rounding

(1) Of which CTE

EDF GROUP MAIN BUSINESSES

EDF: A EUROPEAN LEADING PLAYER IN RENEWABLE ENERGIES

INSTALLED CAPACITY: 37.7GW NET(1)

A DIVERSIFIED MIX WITH 37.7GW IN OPERATION

- **22.6GW of hydropower**
- **14.7GW of wind and solar power**
- **0.4GW others** (biomass, geothermal, …)

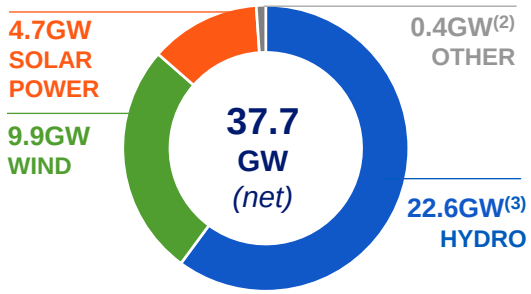
HYDROPOWER

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

A GLOBAL LEADER IN WIND AND SOLAR ENERGY

- **2.9GW gross** commissioned in 2023
- **6.4GW gross** currently under construction (1.5GW in onshore wind, 1.2GW in offshore wind, 3.7GW in solar)

CAPACITY BY SECTOR:



CAPACITY BY GEOGRAPHY:

NB: situation at 31/12/2023.

(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.

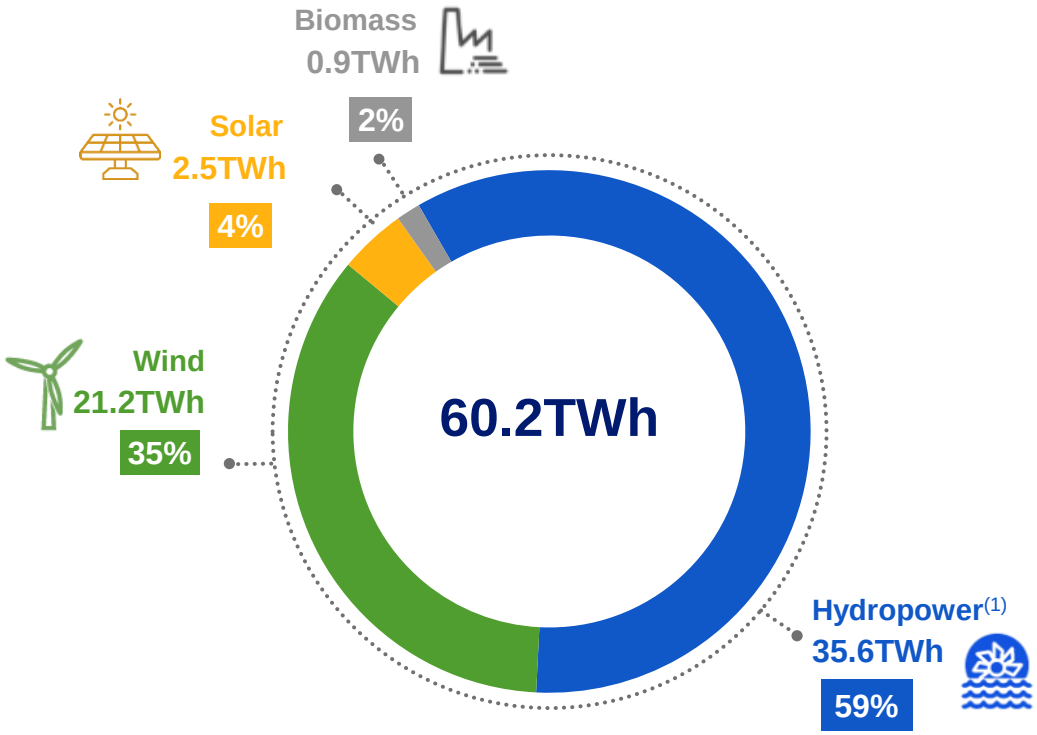
(2) Biomass and geothermal.

(3) Including sea energy: 0.24GW.

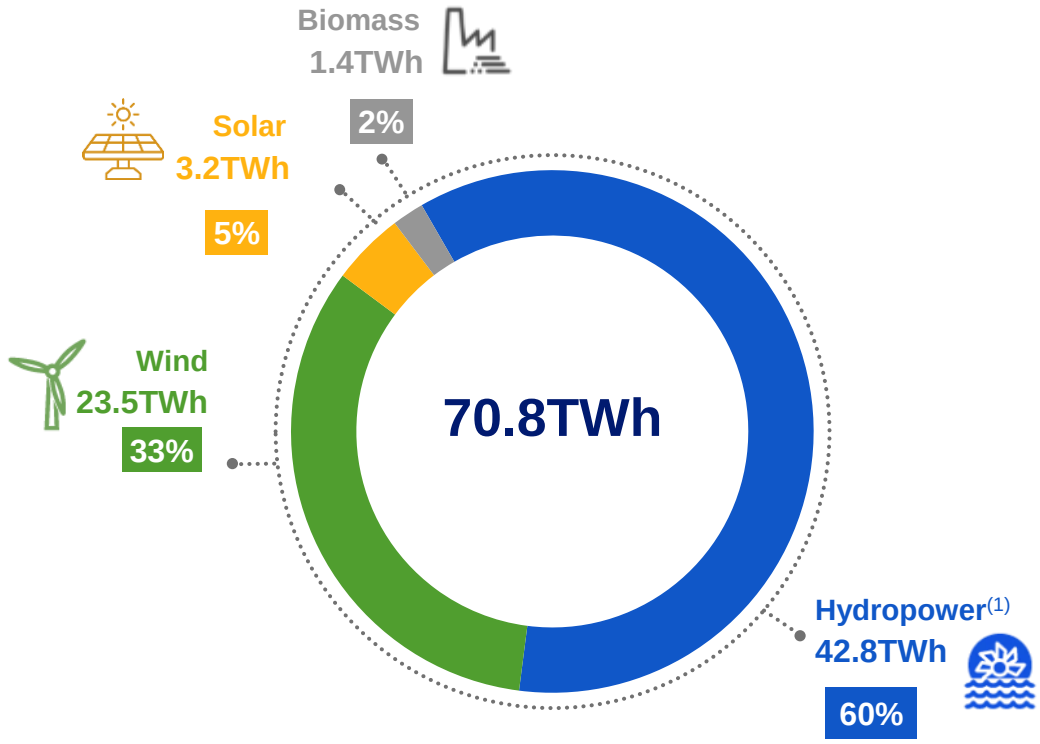
RENEWABLE OUTPUT

Output from fully consolidated entities

2022



2023



.

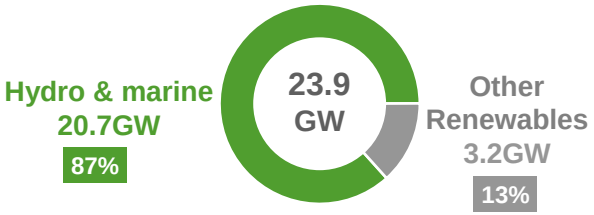
NB: The values correspond to the expression to the first decimal or integer closest to the sum of the precise values, taking into account rounding.

(1) Hydro output includes tidal energy for 549GWh in 2022 and 504GWh in 2023. Hydro output after deduction of pumped volumes is 28.2TWh in 2022 and 37.0TWh in 2023.

FRENCH HYDROPOWER – A DIVERSIFIED & FLEXIBLE FLEET

THE 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.**
- **425 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 ELECTRICITY SYSTEM

Response time to reach full capacity of plants

- **Hydropower France provides ~14GW of storage**
  - Reservoirs: 8.2GW
  - Pumped storage: 5.0GW
    - Including the 1.7GW *Grand'Maison* facility, the largest European storage asset
- **Only sizeable & cost competitive** electricity storage technology

AMONG THE MOST FLEXIBLE AND REACTIVE GENERATION TECHNOLOGIES

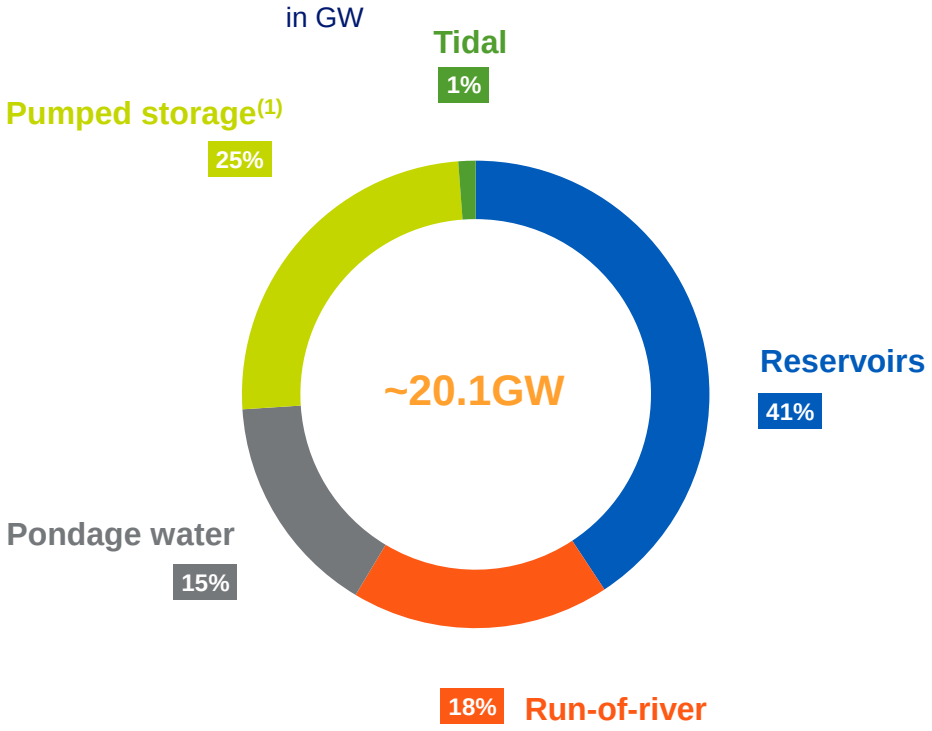
- **Allows quick adjustments to within-day fluctuations in the supply-demand balance**
  - Consumption peaks
  - Non forecasted loss of generation capacity
- Hydropower is the **most significant contributor to ancillary services**

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

FRENCH HYDROPOWER – CAPACITY & GENERATION

TURBINE CAPACITY

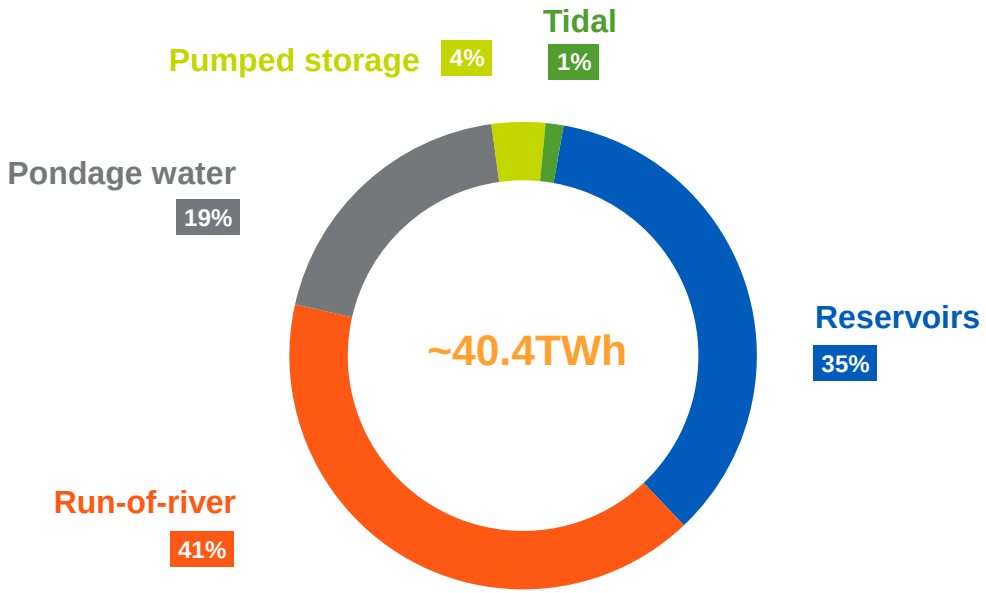
in GW



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.

EDF'S HYDROPOWER FLEET DEVELOPMENT

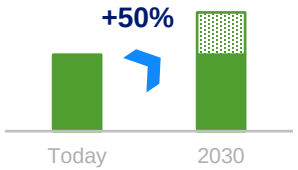
EDF develops its hydropower activities in order to increase their power and availability.

EDF's expertise is also 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 with 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

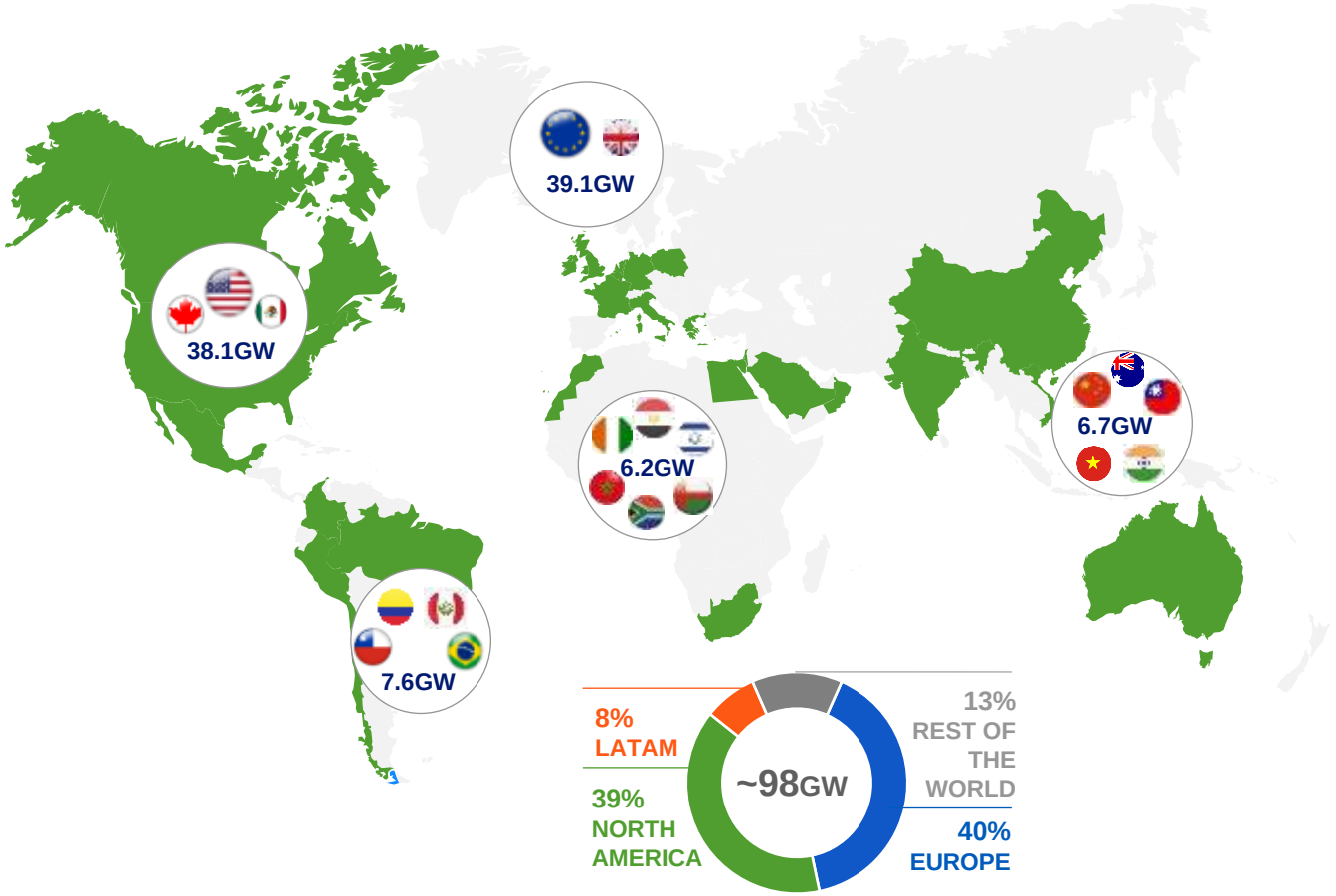
INTERNATIONAL DEVELOPMENT

- **Developing engineering and operation and maintenance service offers** internationally
- **Hatta (UAE)**: continuation of the assistance contract of a pumped storage project (250MW). 83% achieved on December 2023 and end of construction scheduled in January 2025
- **Nachtigal**(2) **(Cameroon)**: design, construction and operation for a period of 35 years of a 420MW dam. At the end of 2023, project progress rate over 90%. Start of commercial operation scheduled in December 2024
- **Kikot (Cameroon)**: creation of a company in September 2023, responsible for the development, construction and operation of the 500MW dam (co-detention with the government of Cameroon). Construction expected to begin in 2025 with commissioning scheduled for 2030
- **Mpatamanga (Malawi)**: since August 2022, EDF – in a consortium – holds 55% of the capital of the 350MW hydropower plant project, and will lead the development, construction, and operation phases. Commissioning is scheduled in 2029
- **Mphanda Nkuwa (Mozambique)**: December 2023**,** EDF selected in consortium as strategic partner by the Government of Mozambique to develop the 1,500MW run-of-river hydropower project

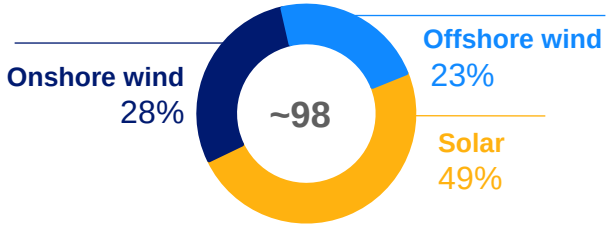
(1) Source: RTE *(Bilan prévisionnel).*
(2) Project 40% owned by the Group.

A PORTFOLIO OF WIND AND SOLAR PROJECTS OF ~98GW(1)

A PROJECT PORTFOLIO THAT IS **DIVERSIFIED GEOGRAPHICALLY…**

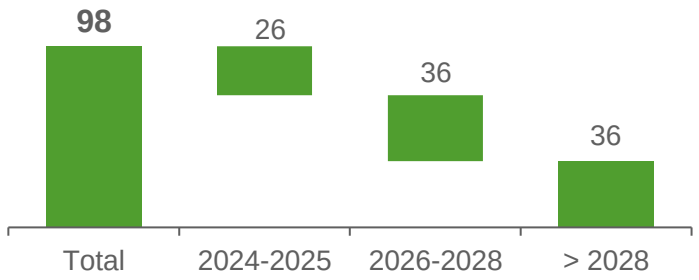


… AND **BALANCED BETWEEN WIND AND SOLAR (in GW)**



BREAKDOWN **BY DEVELOPMENT PHASE**(2) (in GW)

BREAKDOWN **BY DATE OF START OF CONSTRUCTION** (in GW)(3)



NB: situation at 31/12/2023.

(1) Pipeline excluding capacities under construction. Gross data corresponding to 100% of the capacity of the projects concerned.

(2) All the projects in prospection phase included in the pipeline, starting 2020.

(3) Start of construction portfolio, not probability-based.

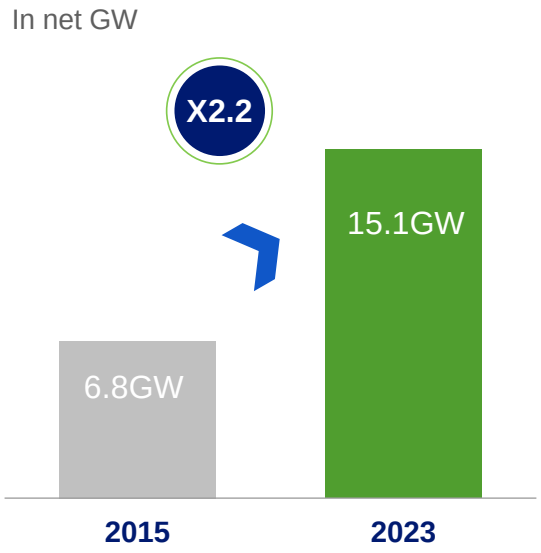
* Securing a power purchase agreement (following a call for tenders, auction, OTC negotiation)

** Sufficient land securisation and start of technical studies

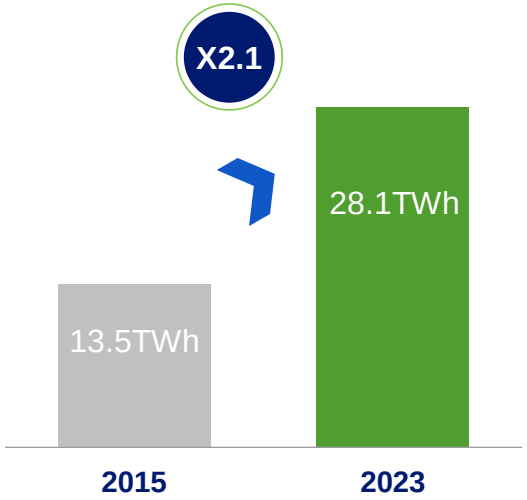
*** Start of land identification and preliminary studies

STRONG GROWTH BASED ON A LARGE PROJECT PORTFOLIO

Net installed capacity(1) x2.2 since 2015

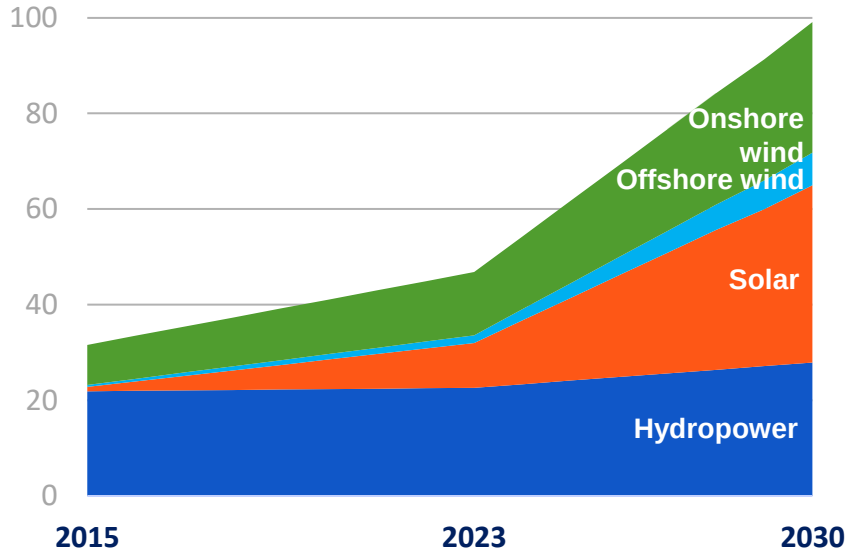


Significant increase in total output(1)



2030 Ambitions (including hydro)

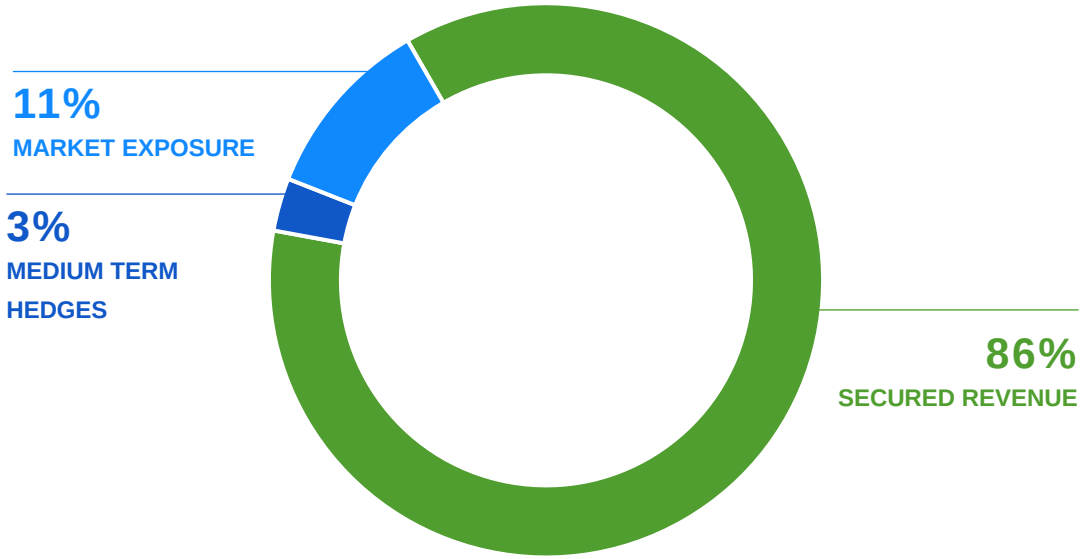
Renewables capacity >X3 vs 2015 **100GW gross**



(1) Solar and wind.

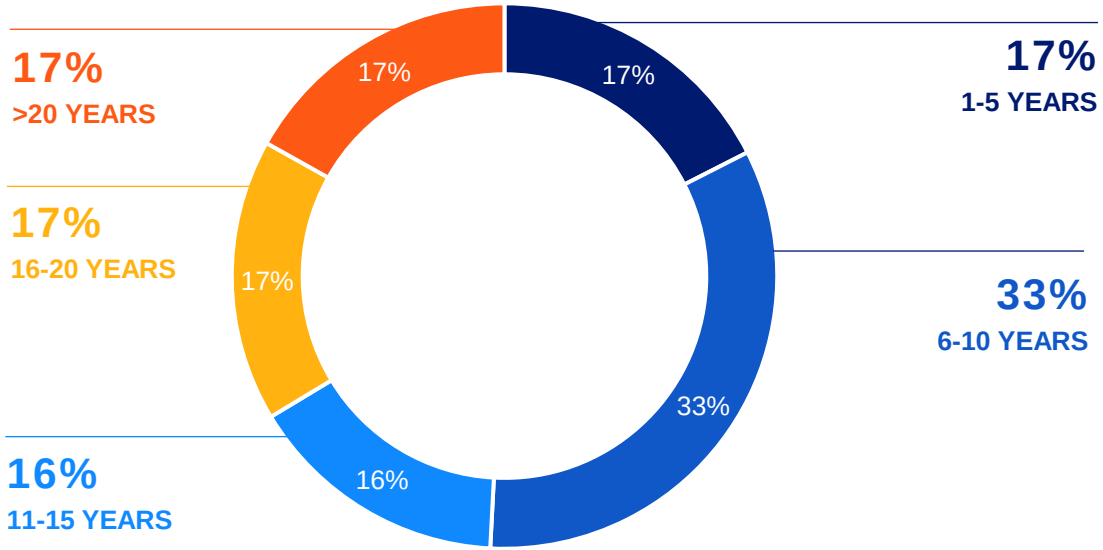
REVENUE SECURED BY LONG-TERM CONTRACTS

CONTRACTUALISATION OF 2024 CONSOLIDATED REVENUE FROM RENEWABLE GENERATION(1)



89% OF 2024 REVENUE SECURED
vs 93% in 2023

AVERAGE RESIDUAL DURATION OF LONG TERM CONTRACTS(2)



THE AVERAGE REMAINING TERM OF THE CONTRACTS IS ~15 YEARS

(1) Based on the estimate of 2024 revenues from fully consolidated assets.
(2) Weighting according to estimated 2024 revenues of fully consolidated assets.

OFFSHORE WIND IN FRANCE: 5 PROJECTS & 1 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)

ONGOING CONSTRUCTIONS

- **Fécamp** (started in 2020, expected commissioning in spring 2024, ~€2bn total investments, partnership with EIH SARL)
- **Calvados** (Courseulles-sur-Mer) (started in February 2021, expected commissioning in 2025, ~€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 Mapple 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 spring 2024
- **Awarded tenders** in South Brittany and Mediterranean coast, South Atlantic and Centre Manche 2 with MAPLE

INTERNATIONAL OFFSHORE WIND DEVELOPMENTS: NEARLY 4GW IN DEVELOPMENT & FARMS IN OPERATION

Codling project in Ireland

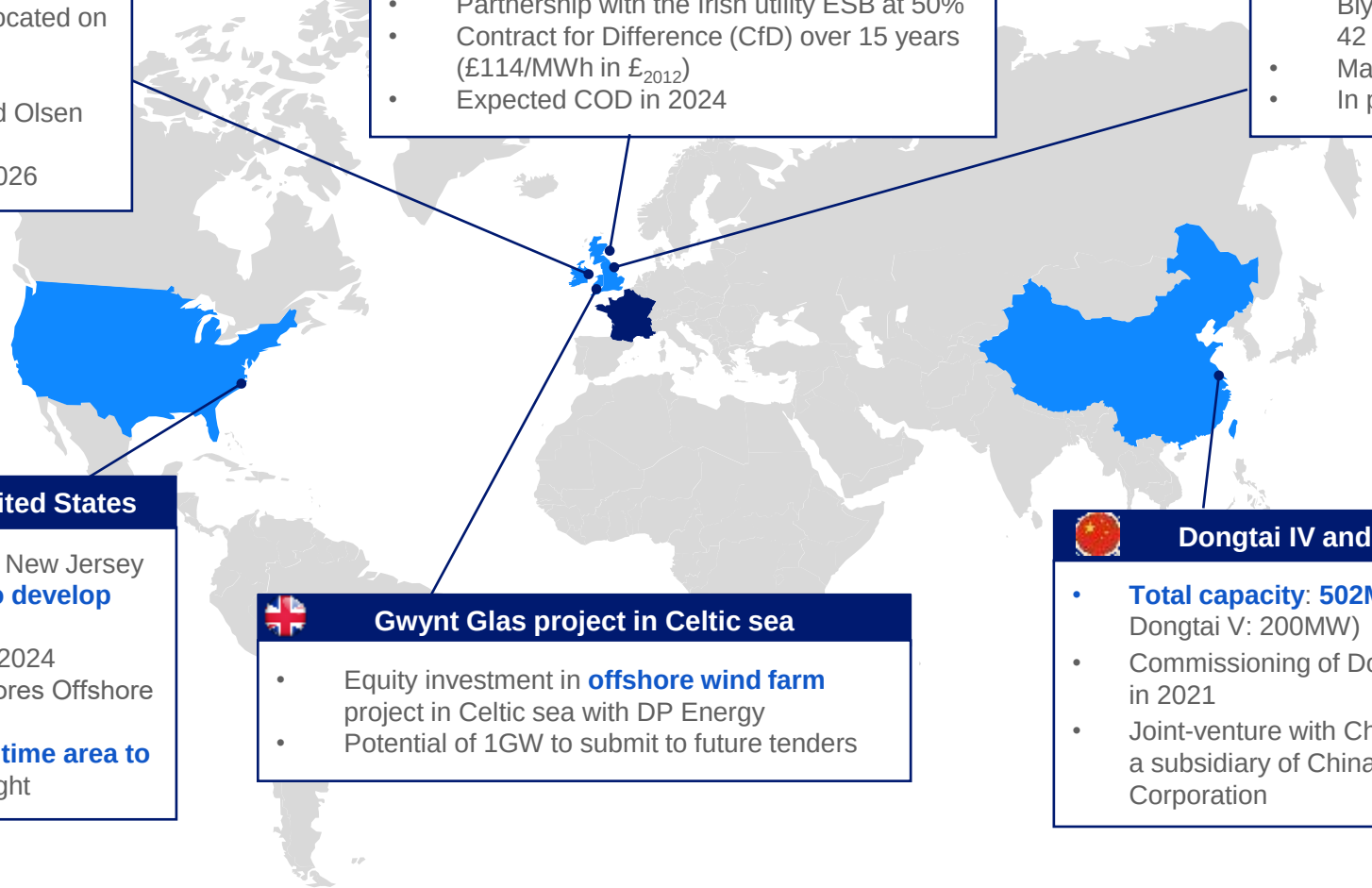
- **Total capacity: ~1GW**
- Project awarded in South Dublin, located on 2 adjacent sites
- Irish CfD (“RESS”)
- Equity investment of 50% with Fred Olsen Renewables
- Construction expected to start in 2026

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 $£_{2012}$)
- Expected COD in 2024

Blyth 2 project in England

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



Atlantic Shores project in the United States

- **Contract awarded in July 2021** by New Jersey Board of Public Utilities to ASOW **to develop 1.5GW** off New Jersey coasts
- Construction scheduled to begin in 2024
- Joint-venture company “Atlantic Shores Offshore Wind” with Shell
- **In March 2022, gain of a new maritime area to develop 1.5GW** in the New York bight

Gwynt Glas project in Celtic sea

- Equity investment in **offshore wind farm** project in Celtic sea with DP Energy
- Potential of 1GW to submit to future tenders

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:

+150-200 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 the parks further offshore and capturing favourable wind regimes**

SOLAR PV

- **Unlocking new potential for PV solar in constrained areas:**
  - Coexistence of **agricultural** activities and PV solar production through **agrivoltaics**
  - **Floating** photovoltaic solar systems
- **Developing solutions tailored to customer needs:**
  - **Roof** installations with self-consumption
  - 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:**
  - **Li-ion batteries** coupled or not with production assets to adapt to market volatility/high prices
  - 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**

~18.8GW OF O&M(1) : STRONG EXPERTISE, DIFFERENTIATING FACTOR

18.8GW of O&M contracts

Remote control and optimisation in real time via a control centre

10 countries

3 technologies
(onshore wind, offshore wind, solar PV)

OPTIMISED ASSET PERFORMANCE

- **Digitalisation and supervision in real time.** 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 that EDF operates and maintains (plant supervision, monitoring of production, preventive and corrective maintenance, etc.) on its own behalf or for a third party

EDF GROUP MAIN BUSINESSES

TRANSITION OF THERMAL POWER TO EDF'S LOW CARBON STRATEGY

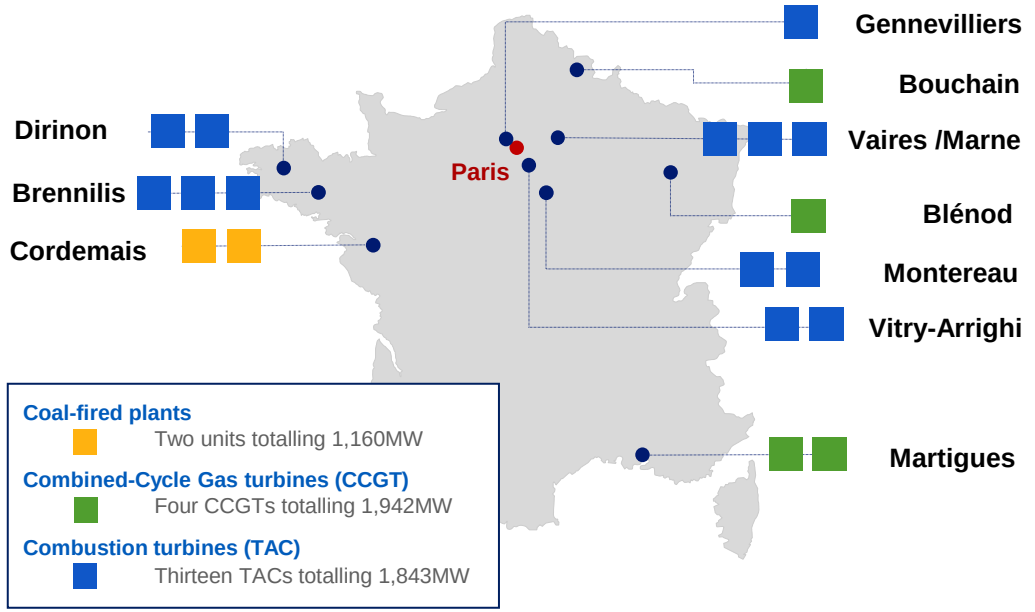
Strategy: end of coal-fired power generation, transition to a decarbonised mix in the NIZ(1) and reduction of CCGT's emissions

- **By 2035, the Group aims to reach 2GW in decarbonised thermal capacity in its regions, and to operate at least one CCGT equipped with CO_2 capture and storage (CCS) technology**
- **Phase out of coal-fired power generation by 2030, worldwide:**
  - **In France:** last coal plant, **Cordemais**, as requested by RTE, operated by the Group until 2027, so as to maintain balance between demand and supply
  - **In the United Kingdom: end of generation of West Burton A** on 31 March 2023
  - **in China:** withdrawing from coal-fired electricity production, in progress by the Group for its non-controlled assets
  - **Achieve low-carbon electrical production in the NIZ(1)**: 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
- **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)

Share of thermal in the energy mix of the Group:

- **Installed capacity**(2) as of 31/12/2023: **Gas 10%, Coal 1% Fuel Oil 3%**
- **Electricity generation**(2) in 2023: **Gas 6%, Coal 0.05% Fuel Oil 1%**
- It varies from one country to another: in 2023 it reached ~2% of electricity generation in France and ~77% in Italy

In mainland France 10 generation sites ~5GW



In the world ~12GW net(3) o/w main generation sites as of today

- **Belgium**: Ringvaart (257MW)
- **Brazil**: Norte Fluminense (827MW)
- **Chile**: Nueva Renca (185MW)
- **China**: Fuzhou (980MW), Sanmenxia (441MW), Shandong (353MW)
- **Greece**: Tessaloniki 1 (207MW), Thisvi (199MW)
- **Italy**: 4,2 GW o/w Torviscosa (807MW), Simeri Crichi (805MW), Altomonte (753MW), Marghera (572MW)
- **Overseas France**: 1.4GW o/w Pointe de Jarry (211MW), Bellefontaine (211MW)
- **Vietnam**: Phu My 2-2 (402MW)

(1) Non-Interconnected Zones.
(2) Consolidated data.
(3) Data based on EDF's participation in Group companies, incl. investments in affiliates and joint ventures excl. end of generation of West Burton A Units 1 & 2 (1GW) on 31 March 2023 and of Sloe (870MW) in January 2023.

EDF GROUP MAIN BUSINESSES

ENEDIS[1]: DISTRIBUTION NETWORK LEADER IN EUROPE

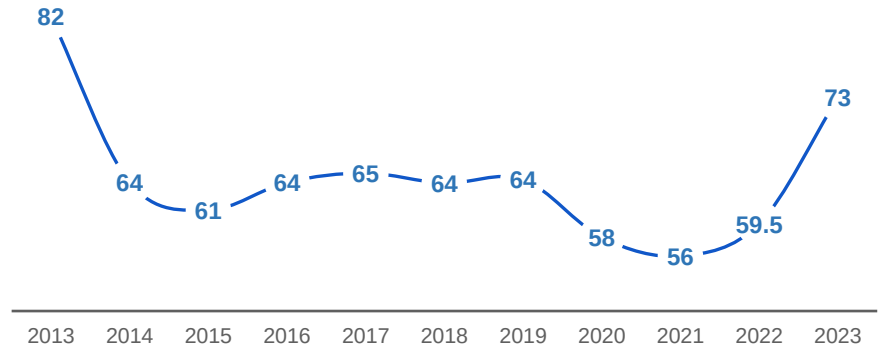
MAJOR DISTRIBUTION NETWORK PLAYER IN EUROPE

- ~1.4M km of lines
- ~38.5M customers[2]
- 322 TWh distributed
- #1 electricity distribution network in Europe
- €4.6bn net investments in 2023
- 841k of connected ENR generation installations cumulated at end-2023
- ~40,000 employees

TOP-TIER OPERATIONAL PERFORMANCE

Top-tier operational performance

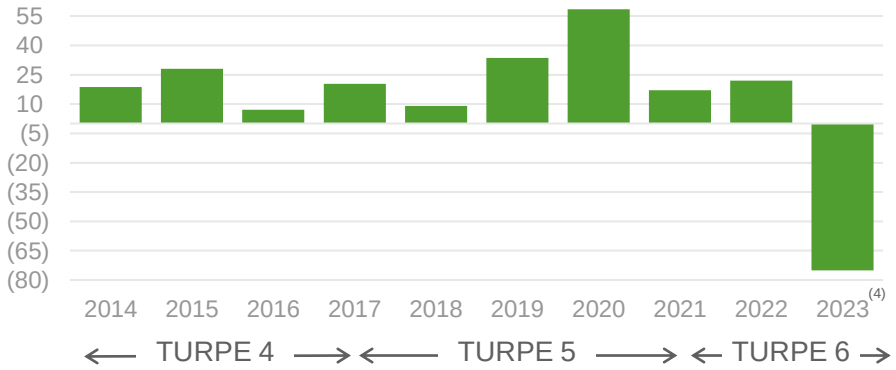
Outage time[3]



Less than 60 minutes for 3 years

Regulatory incentive bonus/malus since 2014

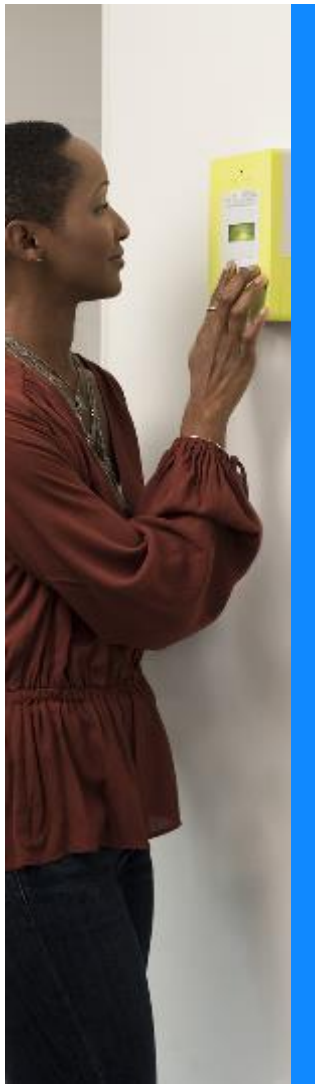
Regulatory incentive (in €m)



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

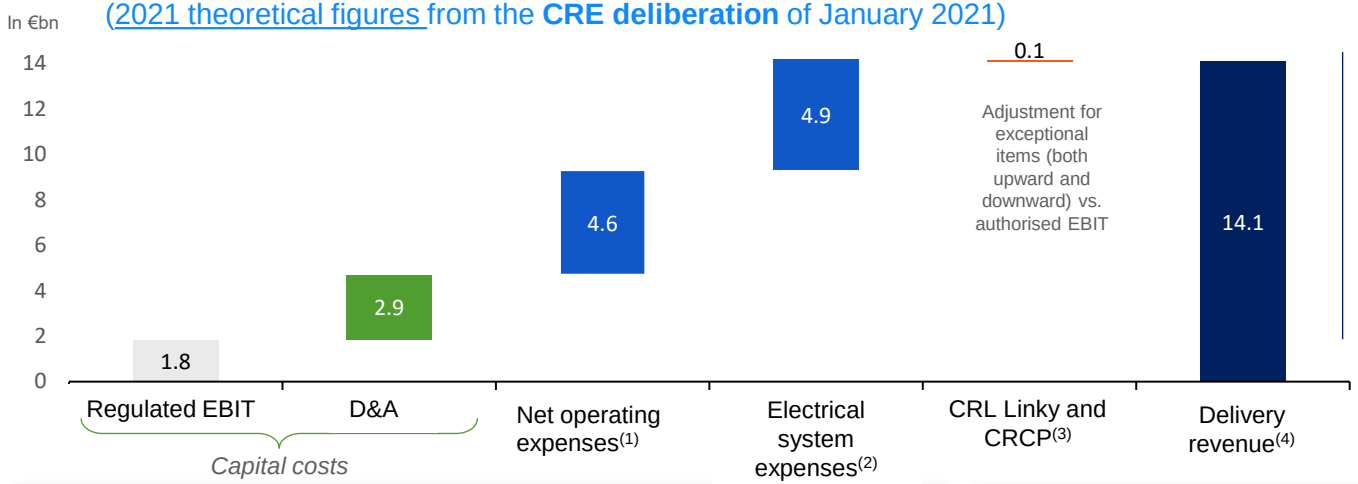
(1) Enedis is an independent EDF subsidiary as defined in the French Energy Code
(2) Corresponds to the number of delivery points.
(3) Excluding exceptional events and transport grid incidents.
(4) Provisional data. The 2023 malus is mainly due to the impact of the storms at the end of the year on the quality of supply.

ENEDIS: TURPE 6, A MATURE REGULATORY FRAMEWORK



Key elements of the remuneration: a cost + remuneration approach

(2021 theoretical figures from the **CRE deliberation** of January 2021)



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 (TURPE 6)

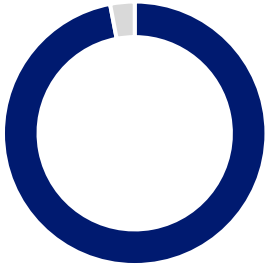
Change in the consumer price index (criteria: inflation)

→ *Inflation rate for the year + 0.31%*

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

→ *Calculating the k factor(5) capped at +/-2%*

Income and expense(6) largely secured by the mechanism of the Income and Expense Adjustment Account (CRCP):



% of revenues covered by the CRCP

% of expenses covered by the CRCP

(1) Net revenue excluding transport

(2) Power system charges = 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* [CRL])

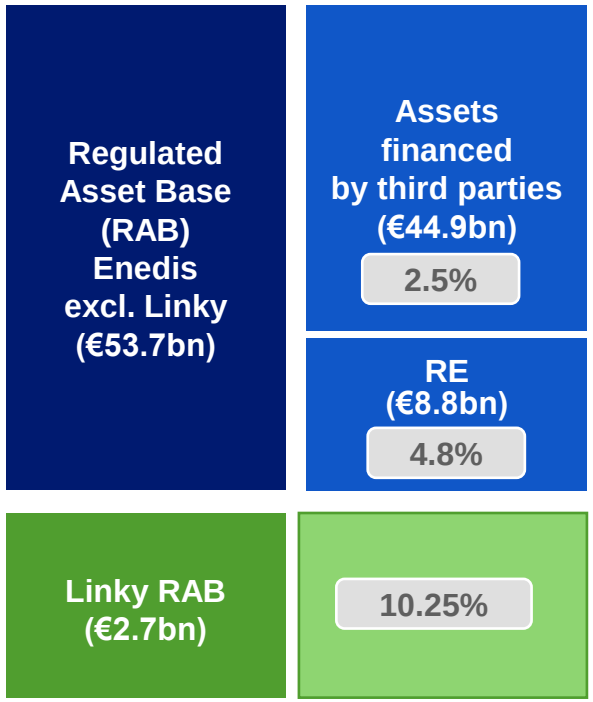
(4) French standard data. The difference with IFRS mainly corresponds to Enedis' contribution to the Electricity Equalization Fund

(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 6 REMUNERATION STRUCTURE: A FAVOURABLE RISK PROFILE

A remuneration mechanism based on a guaranteed return



01/01/2021 figures

ENEDIS remuneration structure in 2021 according to the TURPE 6[4]

ENEDIS RAB EXCL. LINKY
2.5%[1] nominal return before tax on **€53.7bn** of RAB

ENEDIS REGULATED EQUITY EXCL. LINKY
2.3%[2] nominal return before tax on **€8.8bn** of Regulated Equity

LINKY RAB
7.25%[3] of base nominal return before tax
+ **3.0%**[3] additional premium on **€2.7bn** of RAB

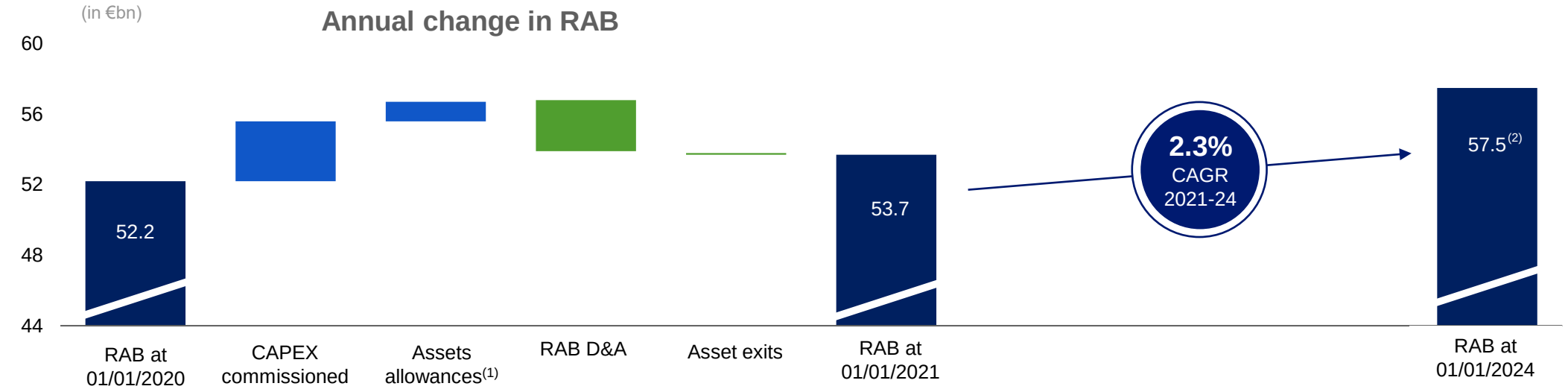
2021 REGULATED EBIT

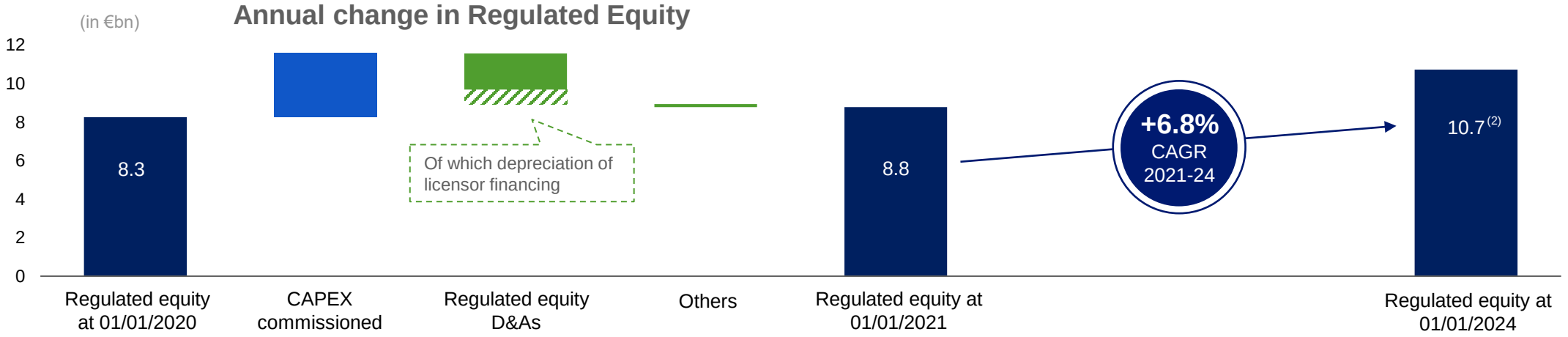
TURPE 6 (in force since 1 August 2021) **in continuity with the previous TURPE**

- **Return on capital depends little on interest rate trends: stable at 2.5%** since TURPE 4
- Return on **Regulated Equity:** decrease from **4 to 2.3%** to take into account the reduction of the risk-free rate and the corporate tax rate in France
- **CRCP: mechanism globally validated.** The entry CRCP of TURPE 6 (regarding TURPE 5) represents a receivable of €588m[5] to be spread over the 4 years of TURPE 6
- **Incentive regulation: targets raised**, notably quality of service
- Main new features: **annual tariff indexation** includes **0.31%** remuneration above inflation.

(1) Asset margin = Asset beta x Market risk premium / (1 - tax rate) = 0.36 x 5% / (1 – 26.47%) = 2.5%.
(2) Additional rate of remuneration applied to RE = Risk-free rate/ (1 - Tax rate) = 1.7% / (1 - 26.47%) = 2.3%.
(3) Remuneration rate for Linky assets = Base rate + **3.0%**[3] additional premium = 7.25% + 3% = 10.25%.
(4) Applicable from 1 August 2021.
(5) CRE deliberation.

STEADY GROWTH IN RAB AND REGULATED EQUITY





(1) Work by concession-granting authorities and transferred to Enedis + c.€0.4bn for the integration of growing columns excluding concession in 2020 (ELAN law).

(2) Estimated figures from the CRE deliberation Provisional data.

LINKY(1): AN INCENTIVISING TARIFF FRAMEWORK

LINKY: THE ROLLOUT PROGRAM FOR NEW SMART METERS

34m(2) smart meters installed at end-2021

Significant contribution to cash-flow from 2022

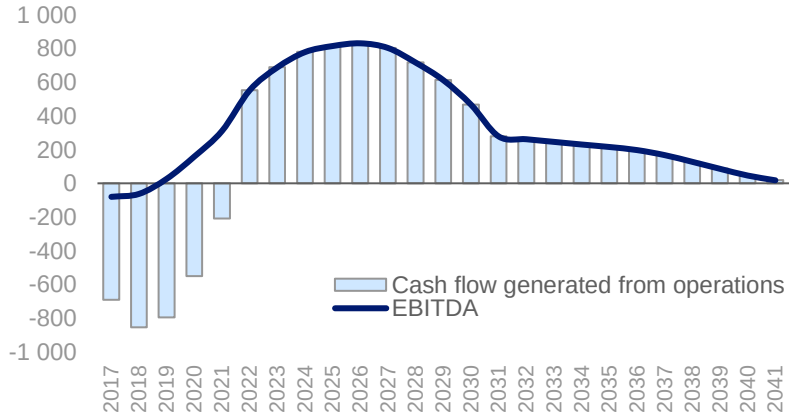
Linky

~€3.9bn(2) investments over 2014-2021

Specific regulation over 20 years (Linky-dedicated RAB)

AN ATTRACTIVE REMUNERATION STAGGERED OVER TIME

EBITDA(3) and cash flow generated from Linky operations (€m)



Linky – Remuneration

7.25%
Nominal rate of return on assets before tax

+

3%
Additional premium(4)

→ Secured

(1) Linky is a project led by Enedis, an independent EDF subsidiary as defined in the French Energy Code.
(2) Program costs are lower than the initial budget, planned at €4.7bn. Program finalised in 2021.
(3) At current accounting standards.
(4) Additional premium of 3% / Penalties of -2 %, depending on the respect of costs, deadlines and performance of the system during the deployment phase.

FRENCH ISLAND ACTIVITIES & ELECTRICITÉ DE STRASBOURG

French island activities[1]

- **Integrated business model** including **generation**, **electricity purchases**, **distribution** (via concessions) and **supply** at the regulated tariff
- **Network activities**: **regulated remuneration** and **€259m investments in 2023**
- **Generation activities**:
  - **Capacity 2.0GW**[2] (fuel 78%, hydropower and other renewables 22%)
  - Electricity **generation 6.1TWh**[2] **(fuel 77%, hydropower and other renewables 23%)**
  - **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 Réunion Island
  - For assets commissioned before 06/04/2020, Based assets remuneration (BAR) of 11%. For assets commissioned after 06/04/2020, between 6.25% and 9.75%
- **Commercialisation:**
  - **1.3m** of customers (electricity)
- **the Island Energy Systems** Department, responsible for the supply and demand balance on a daily basis. It manages all the networks
- **the subsidiary EDF *Production Électrique Insulaire* (EDF PEI),** responsible for building and operating generation assets.

Électricité de Strasbourg

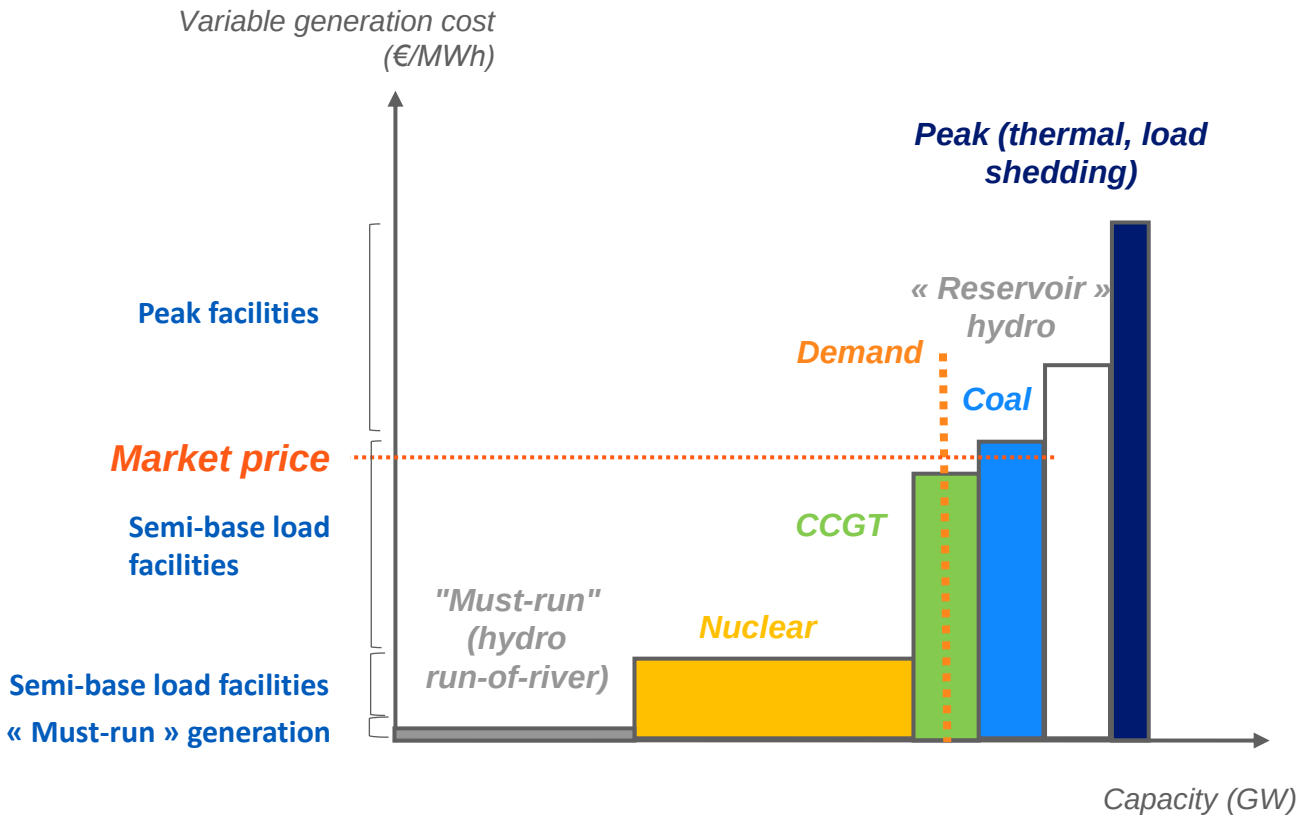
- **The ÉS group** is a French Alsatian region energy utility, committed to the long-term energy and economic performance of the area through its **four business lines:**
  - **Electricity distribution** (15,000km electric network)
  - **Energy supply** to c. 575,000 customers (electricity) & 111,000 customers (gas or biogas)
  - **Energy services**
  - **Renewable energy generation**
    - Deep **geothermal** : 160GWh fossil-fired & 5GWh electric
    - **Biomass** : 110GWh fossil-fired & 60GWh cogeneration
    - **Hydropower** : 2GWh
- Around 70% 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

(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 31/12/2023.

EDF GROUP MAIN BUSINESSES

DAILY OPTIMISATION: THE MERIT ORDER



- **For each moment**, the optimiser schedules the operation of available means of generation, mobilising them according to the merit order of variable costs(1) until the estimated **demand** is met
- Before buying volumes on the spot market, each producer determines the resources required to meet the demand. It classifies them from the least expensive to the most expensive
- It then determines the marginal cost, which is the variable cost of the most expensive means of generation called to meet the supply/demand balance of its portfolio
- Given this marginal cost, it determines the sales and purchases volumes on the spot market
- **Spot market price** (day ahead) is based on the marginal cost that forms 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, CO2, costs of injection into the grid.

EDF TRADING, THE PLATFORM TO ACCESS WHOLESALE ENERGY MARKETS

MARKET ACCESS

- Providing access to electricity, natural gas, LPG(1), Oil(2), LNG(2) 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 markets: 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 CREATOR FOR EDF...

- Providing exclusive market interface to EDF Group entities providing risk management, asset optimisation and hedging services

... AS WELL AS FOR THIRD-PARTY CUSTOMERS

- Providing services to wholesale commercial and industrial customers, as well as to producers and suppliers of energy

EDF Trading 2023 EBITDA

€3.2bn

Excellent performance in 2023, in a context of market and counterparty risks decline

Did you know?

EDF Trading has trading operations in London, Paris, Houston, Singapore and Tokyo

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

(1) Liquid Petroleum Gas.

(2) Financial trades.

PURCHASE OBLIGATION AND SALE ON WHOLESALE MARKET

Public service mission: EDF(1) must buy electricity generated by technologies (or pay the facilities an "additional remuneration“ (AR)) whose development is promoted by the French State, at prices set by the government

EDF is compensated for the additional costs resulting from the purchase obligations (PO) on the basis of a reference to prices from wholesale electricity markets, known as “avoided cost” (compensation) (pursuant to Article L. 121-7 of the French Energy Code)

EDF-Purchase obligations:

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 (nearly 4GW)

EDF-Additional Remuneration:

In 2023, market prices were above the “AR” contract price reference. Thus, producers paid EDF the difference between these two prices and EDF refunded the French state for this difference

551,000
Managed contracts.
Annual growth in 2023:
+63,000 contracts

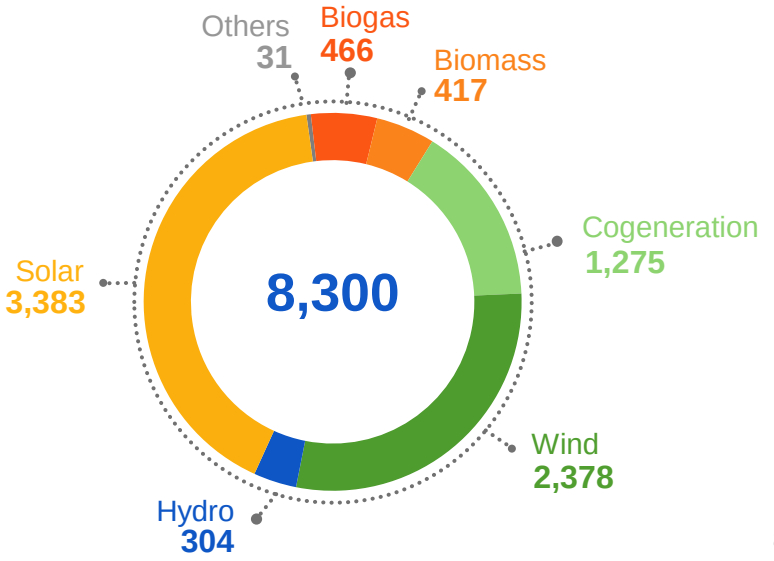
~€58m
of management fees paid by the French State to EDF for 2022
(latest data)

2023 Key figures(2)

PO
59.1TWh
of purchased electricity
for €8.3bn
of purchases

AR
15.8TWh
of sustained electricity
€142m
of payment by producers

Purchasing breakdown by sector in 2023 *(in €m)*



(1) And the LDCs (Local distribution company).
(2) Excluding Corsica and French overseas departments.

CAPACITY MECHANISM IN FRANCE: PRINCIPLES

TARGET: ENSURE THE SECURITY OF THE POWER SUPPLY IN FRANCE BY REMUNERATING THE CONTRIBUTION OF EACH GENERATION MEANS TO THIS GOAL IN ORDER TO SUPPORT DECISIONS TO INVEST OR SHUTDOWN OF THESE MEANS OF PRODUCTION

1 Producers must have their **capacities certified** by **RTE**, committing themselves to a forecast availability level for the **winter peak**

Certification Perimeter Managers

Certify and sell capacities

EDF, agregio, **Other energy producers**

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

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

Its framework is under review for 2026

Different capacity mechanisms in the United Kingdom and Italy

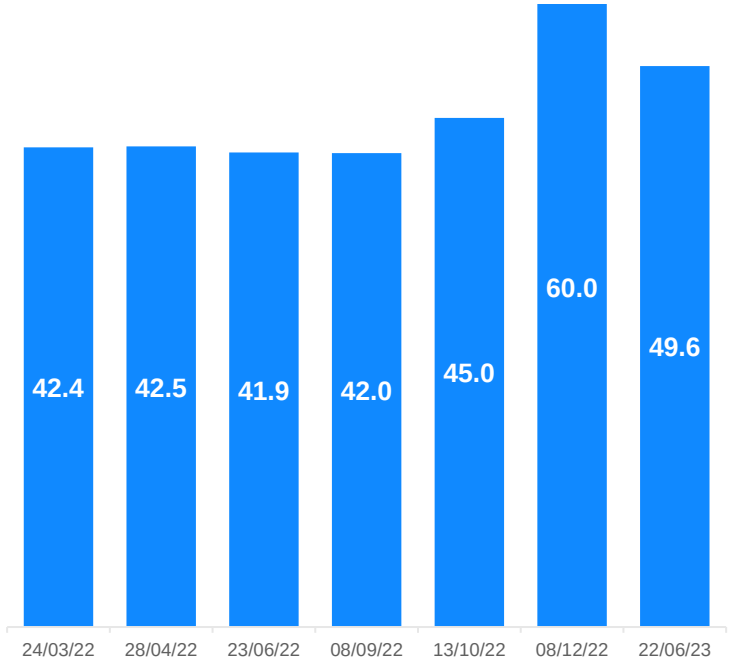
Auctions organised by EPEX allow supply and demand to be matched and a price to emerge

The price depends on the tightness of the supply-demand balance each winter and the expected return on the assets to be available (the so-called "missing money")

CAPACITY MARKET IN FRANCE

FOR DELIVERY IN 2023

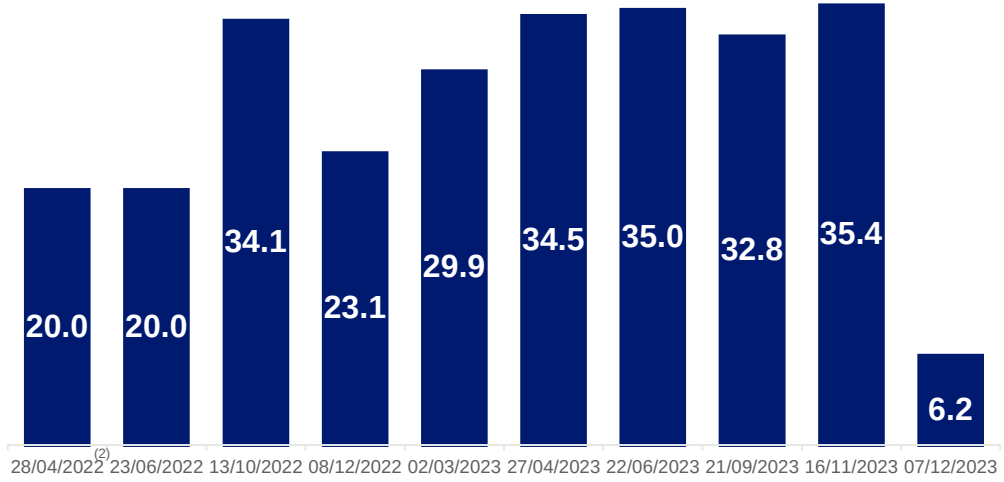
(in €/kW)



- Volume of certified EDF capacities: 59.8GW in March 2024
- Average price[2] : €45.6/kW

FOR DELIVERY IN 2024

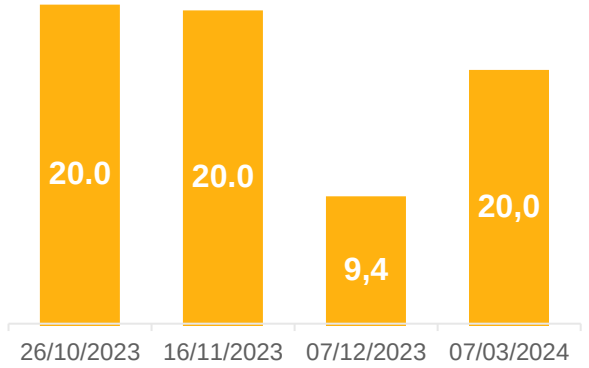
(in €/kW)



- Volume of certified EDF capacities: 63.4GW in March 2024
- Average price: €27.10/kW

FOR DELIVERY IN 2025

(in €/kW)



- Volume of certified EDF capacities: 64.1GW in March 2024
- Average price : €20.0/kW

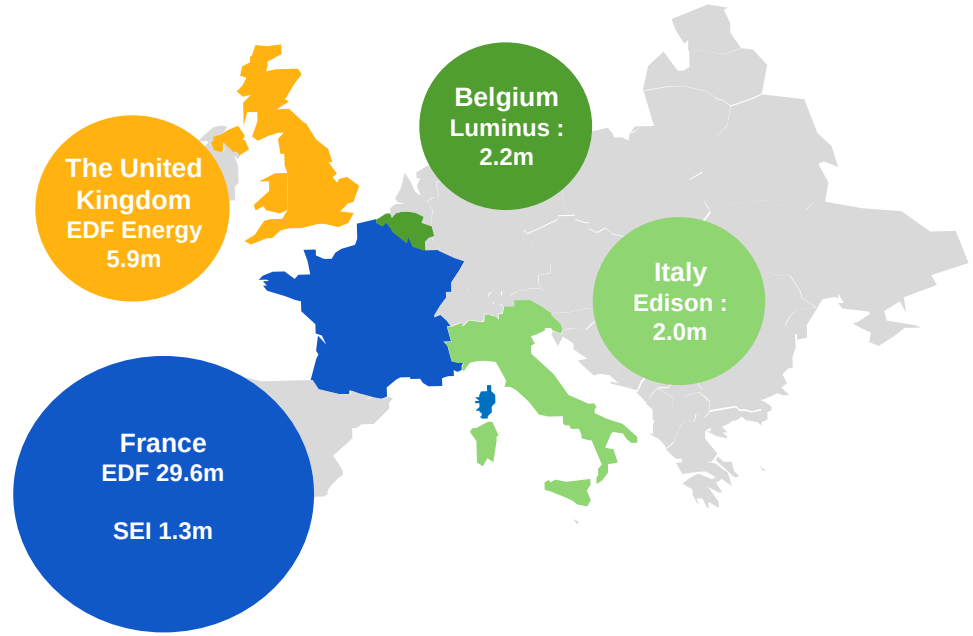
(1) Data rounded to nearest tenth.
(2) Does not take into account rebalance sessions.

EDF GROUP MAIN BUSINESSES

SUPPLY OF ELECTRICITY, GAS AND HEAT TO 40.9M CUSTOMERS AT END-2023

Electricity
34.3m customers

Gas
6.6m customers



United Kingdom: EDF Energy

3.7m electricity customers
2.2m gas customers

5.4m residential customers accounts

Highly competitive market with ~23 suppliers(1)
10.1% market share on all its accounts

44.8TWh electricity sold to customers
27.6TWh gas sold to end customers

France: EDF (incl. Électricité de Strasbourg)

Nearly **27.0m** electricity customers
More than **2.6m** gas customers

223.9TWh electricity sold to customers
46.3TWh gas sold to customer

France: SEI

1.3m electricity customers
9.9TWh electricity sold to customers

France: Dalkia group (excluding speciality subsidiaries)

26.2TWh sold
22.7TWh for the heating and cooling segment
3.5TWh for the electricity segment

Belgium: Luminus

1.4m electricity customers
0.8m gas customers

The second largest player in the Belgian energy market. ~23% market share
13.5TWh electricity sold
13.2TWh gas sold

Italy: Edison(2)

1.03m electricity customers
0.98m gas customers

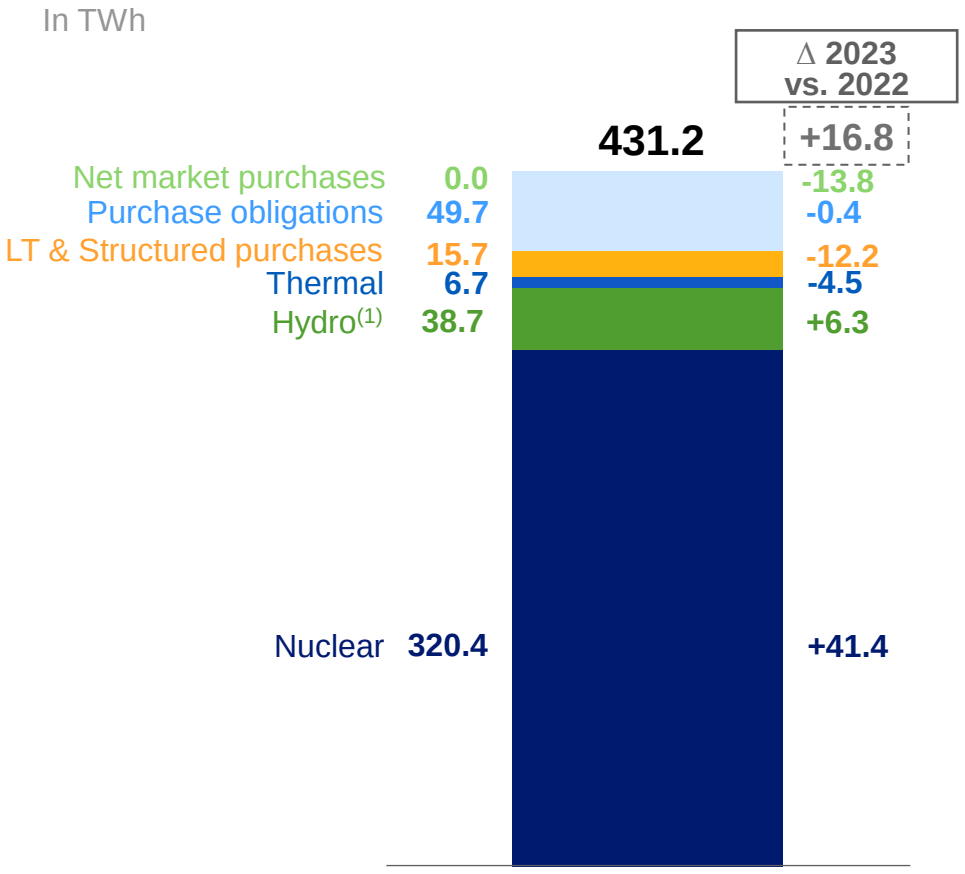
13.7TWh electricity sold (end customers)
56.0TWh gas sold
5.2bcm gas sold (residential and industrial uses)

N.B. The values correspond to the first decimal or integer closest to the sum of the precise values, taking into account rounding. Customers counted by point of delivery. A customer may have two delivery points.

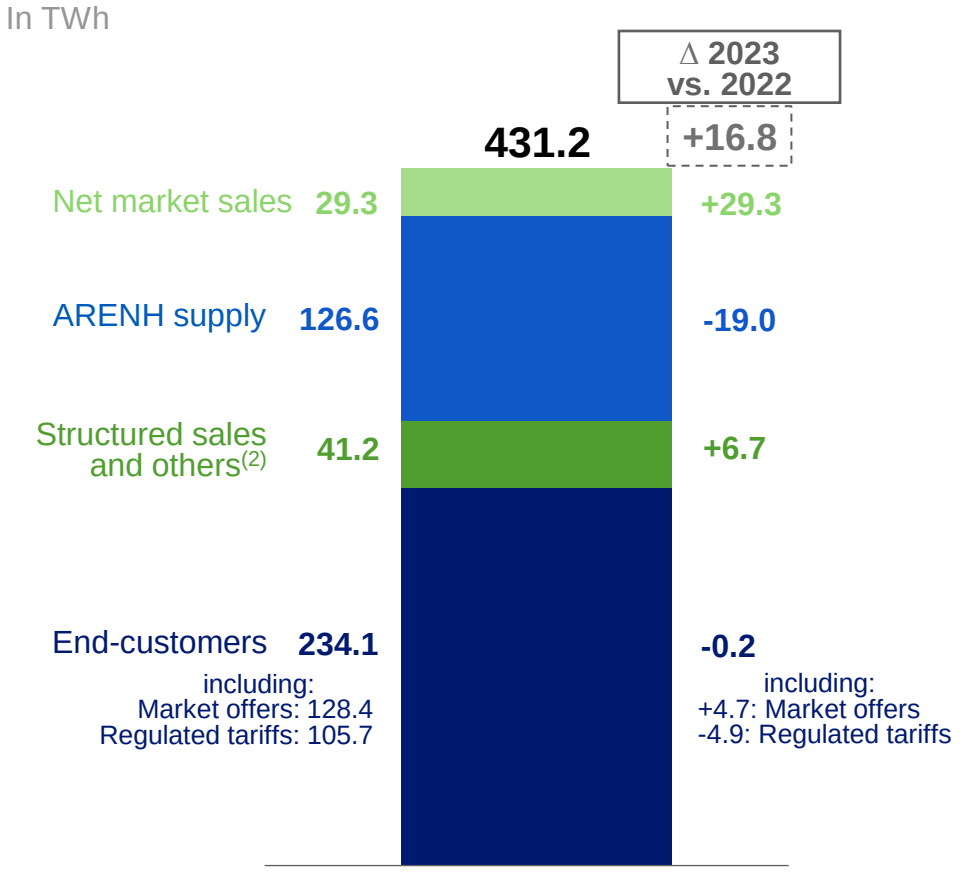
(1) Cornwall Insight data at 31/10/2023.
(2) Includes customers of service activities.

FRANCE: UPSTREAM / DOWNSTREAM ELECTRICITY BALANCE

OUTPUT / PURCHASE



CONSUMPTION / SALES



NB: EDF excluding French islands electrical activities.

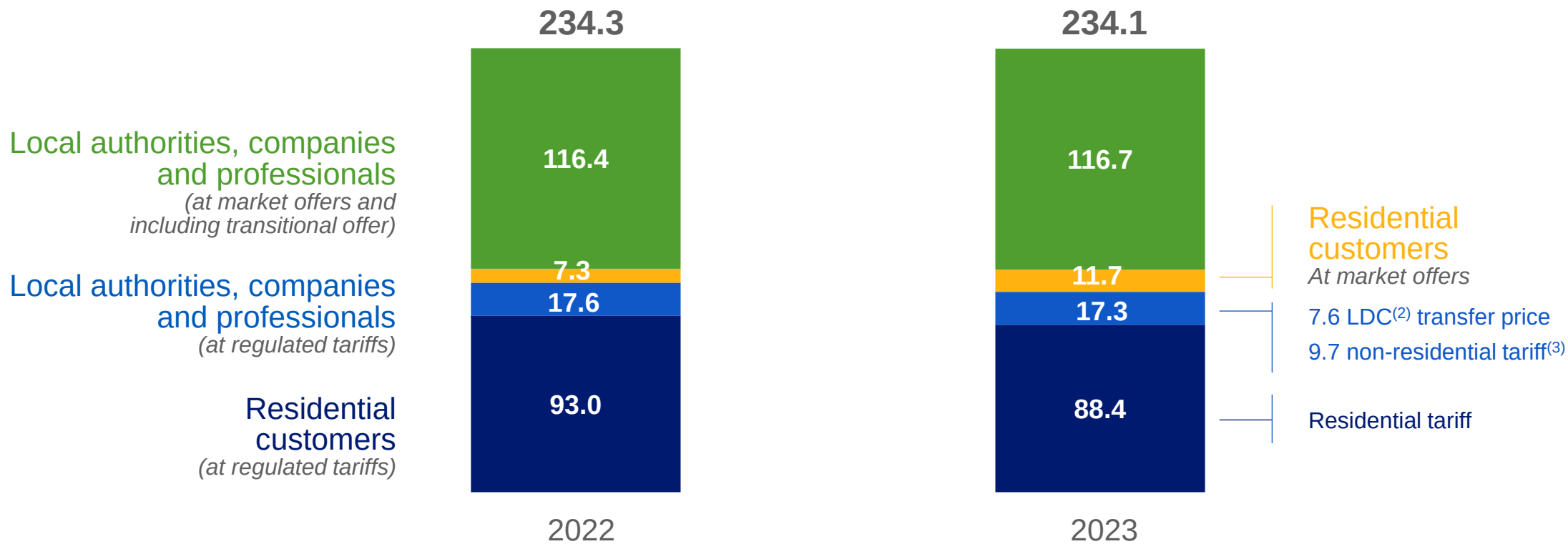
(1) Hydro output after deduction of pumped volumes: 33TWh in 2023 / 25TWh in 2022.

(2) Including hydro pumped volumes of 5.7TWh in 2023 / 7.4TWh in 2022.

ELECTRICITY SUPPLY IN FRANCE

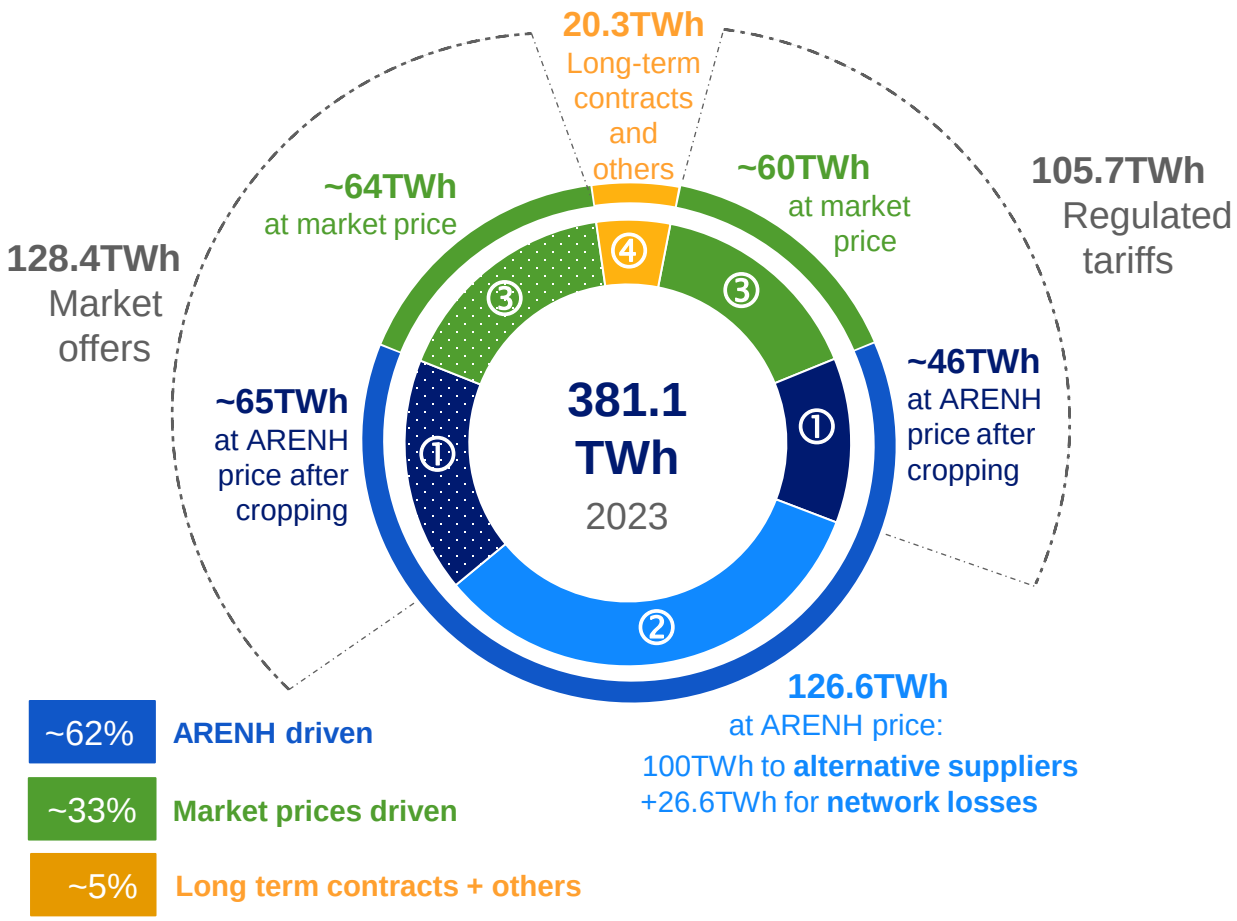
SALES TO END CUSTOMERS(1)

(in TWh)



(1) Rounded to the nearest tenth. Including EDF's own consumption.
(2) *Local Distribution Companies* (LDC).
(3) Tariffs lower than 36kVA.

FRANCE: DISTRIBUTION OF ELECTRICITY SALES(1) ACCORDING TO THEIR MARKET PRICE EXPOSURE



❶ Volumes sold at **ARENH price** following the cost-stacking formula in the **regulated sales tariffs** (essentially 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 26.6TWh

… **or at market price** if such price is lower than the ARENH arbitration threshold (ARENH price - capacity price) – not applicable in 2023

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, and hydro pumped volumes of 5.7TWh

(1) Cf. "France: upstream / downstream electricity balance" p.91. Estimated distribution based on the situation in 2023, 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".

(3) EDF is subjected 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".

ILLUSTRATION OF THE ENERGY PART CALCULATION IN THE REGULATED TARIFFS FOR 2023

The energy part calculation in the regulated tariffs replicates the sourcing cost of the alternative suppliers

(in TWh)

105.7 EDF sales at **regulated tariffs**

35 — **~33% =** Proportion from **means of production other than nuclear** (see composition of the French electrical mix)

71 — **~67% =** Proportion from **nuclear** excluding long-term contracts and eligible for **ARENH** within the limit of 100TWh (see composition of the French electricity mix)

35 — **~33%** = Volumes valued at the **average of 2023 forward prices of the previous 24 months** (01/01/21 to 31/12/22) = **€218/MWh**

23 — **~22%** = Volumes not obtained at ARENH: out of 148.3TWh requested, only 100TWh were available in 2023 (i.e. a **capping** of 48.3TWh or 33% not available), valued at the **average of the 2023 forwards of Nov and Dec 2022**(1) = **€410/MWh**

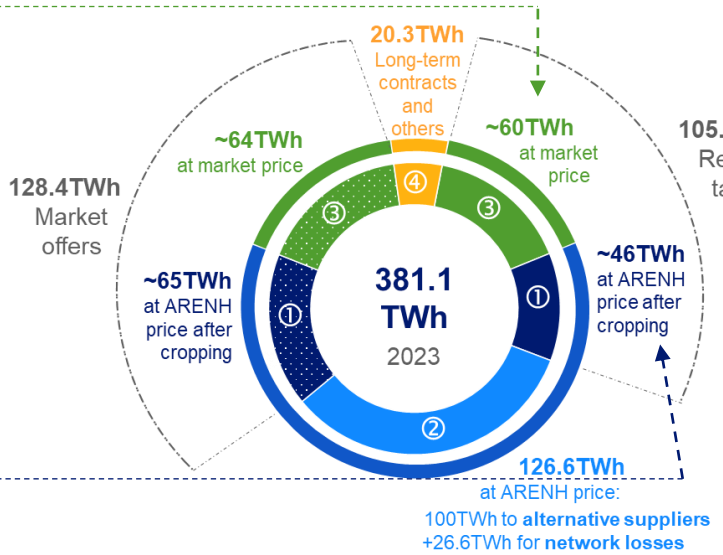
48 — **~45%** = Volumes obtained at **ARENH conditions post capping** (proportion of 100TWh available out of 148.3TWh requested, i.e. 67%) = **€42/MWh**(2)

58

48

2023

Distribution of electricity sales according to their market price exposure



NB: Volumes sold at market offer follow the same kind of pattern. The share of electricity coming from nuclear is more important as industrial customers have a more baseload consumption profile. Also, the valuation of the volumes can be different as some customers may have long term supply contracts at fixed prices.

(1) Consideration of future market prices from 01/11/22 to 23/12/22, post announcement of the results of the November ARENH window (148.3TWh requested for 100 TWh available, leading to sourcing on the market of 48.3TWh "clipped").
(2) Post results of the November 2022 ARENH counter (100TWh delivered at the ARENH price for a demand of 148.3TWh).

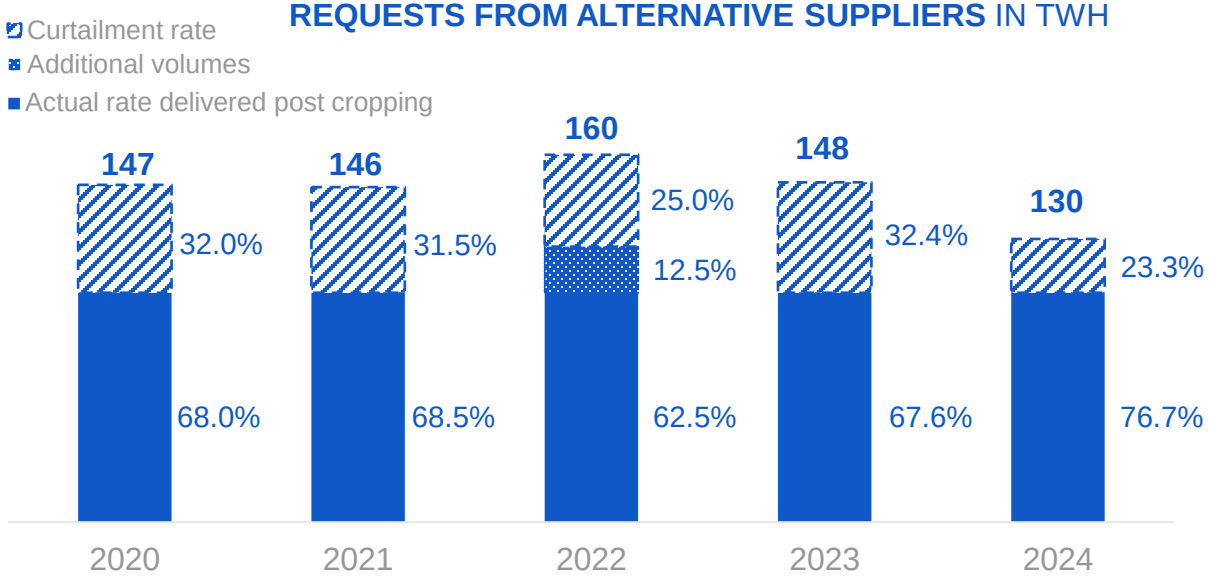
ARENH: VOLUMES ALLOCATED TO ALTERNATIVE SUPPLIERS

- Historical situation: maximum annual sales volume of **100TWh** to alternative suppliers for final consumption
- Volume sold in 2023: 100TWh for final consumption + 26.6TWh 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

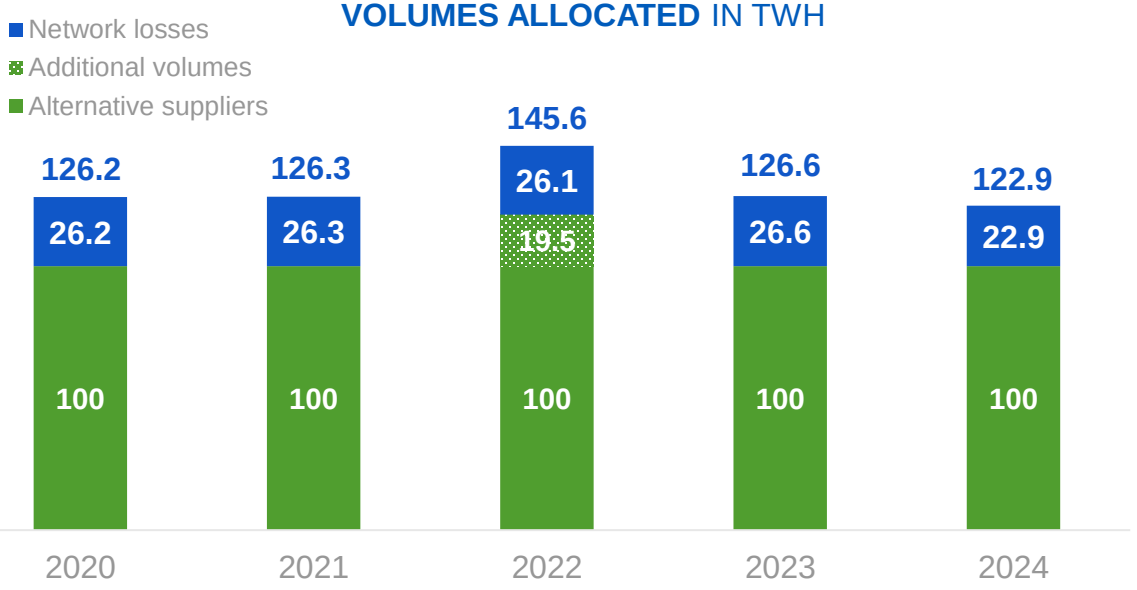
An agreement was found in 2023 between EDF and the French government including :

- a **commercial strategy**, based on the development of medium- and long-term contracts (commercial offers and industrial partnerships), to be deployed by EDF from now to prepare the end of the ARENH mechanism at the end of 2025
- a **system**, which could be translated into legislative provisions, to levy a fraction of high-priced revenues from nuclear energy which could then potentially be redistributed to consumers

REQUESTS FROM ALTERNATIVE SUPPLIERS IN TWH



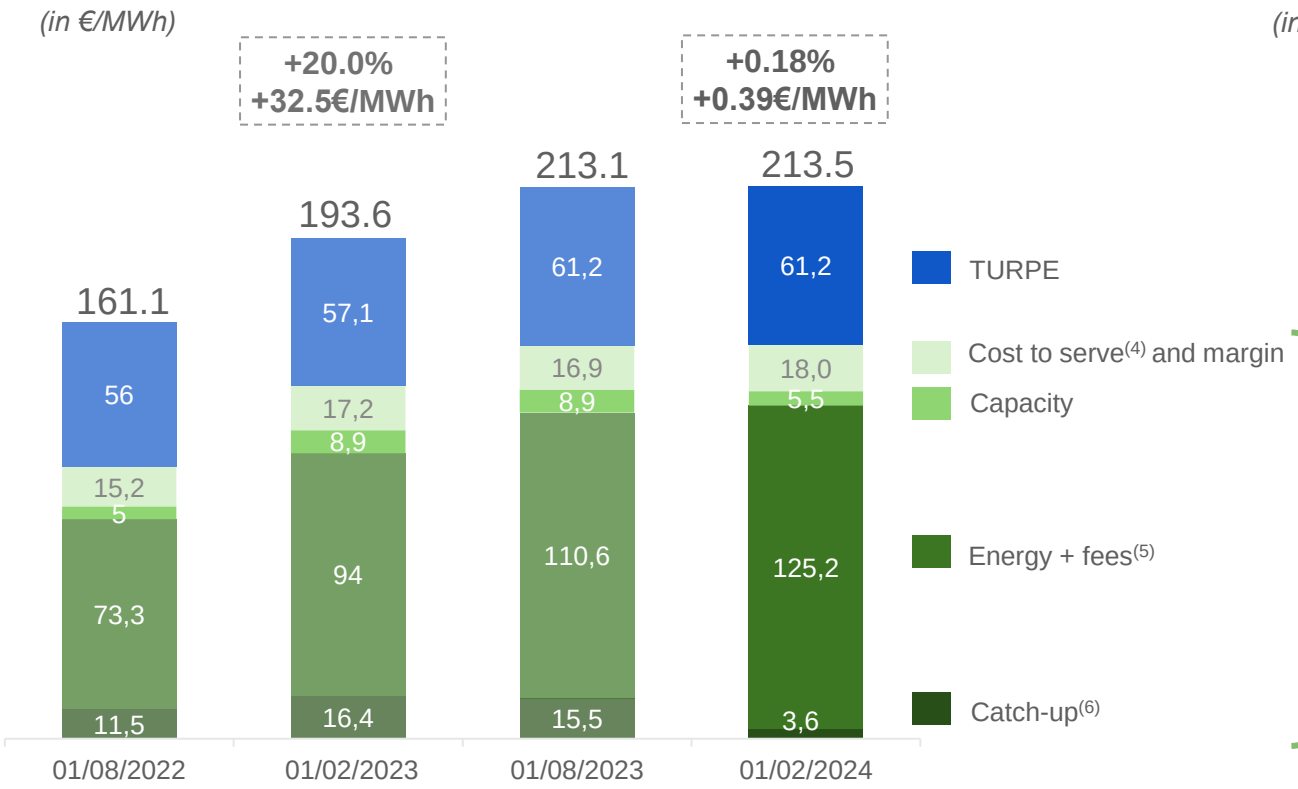
VOLUMES ALLOCATED IN TWH



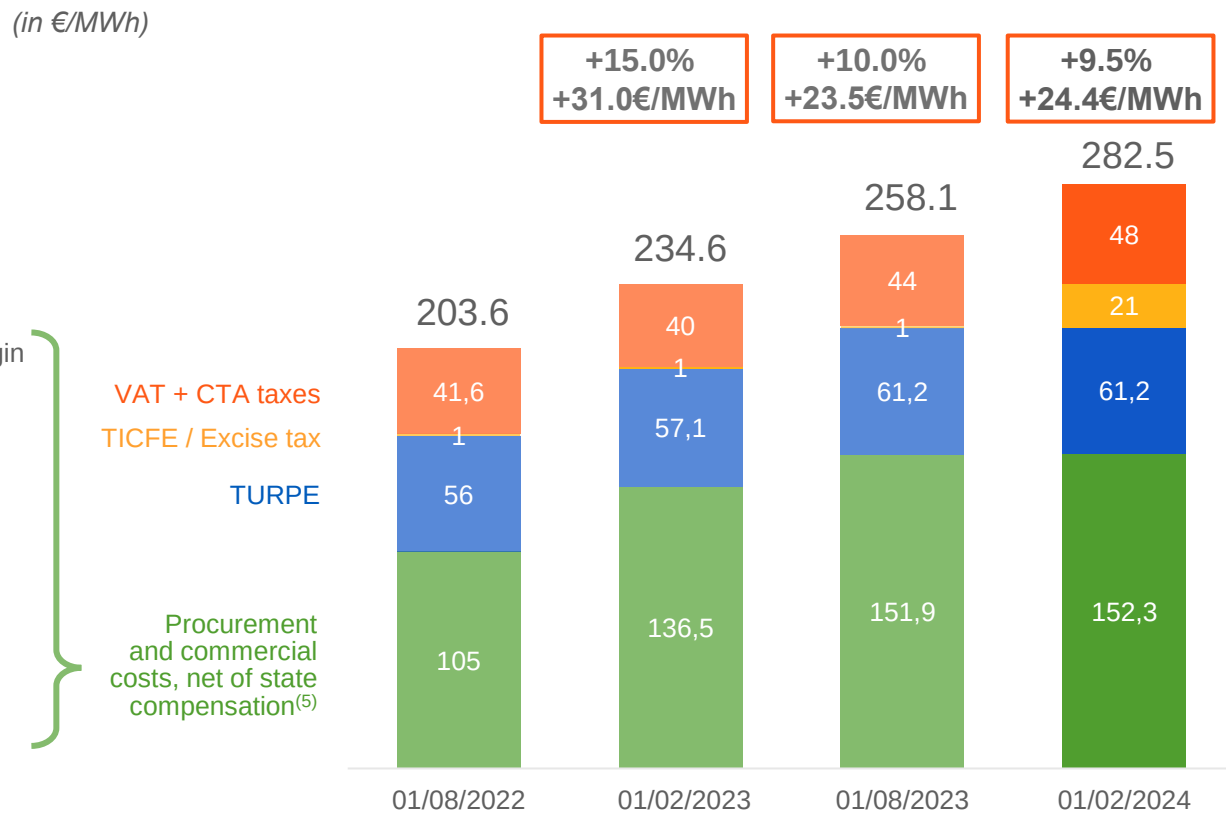
Source: CRE.

REGULATED SALES TARIFFS IN FRANCE : EVOLUTION OVER 2022-2024

RESIDENTIAL EXCLUDING TAXES(1)(2)(3)



AVERAGE BILL BREAKDOWN VAT INCLUDED(3)(7)
(BLUE RESIDENTIAL CUSTOMER)

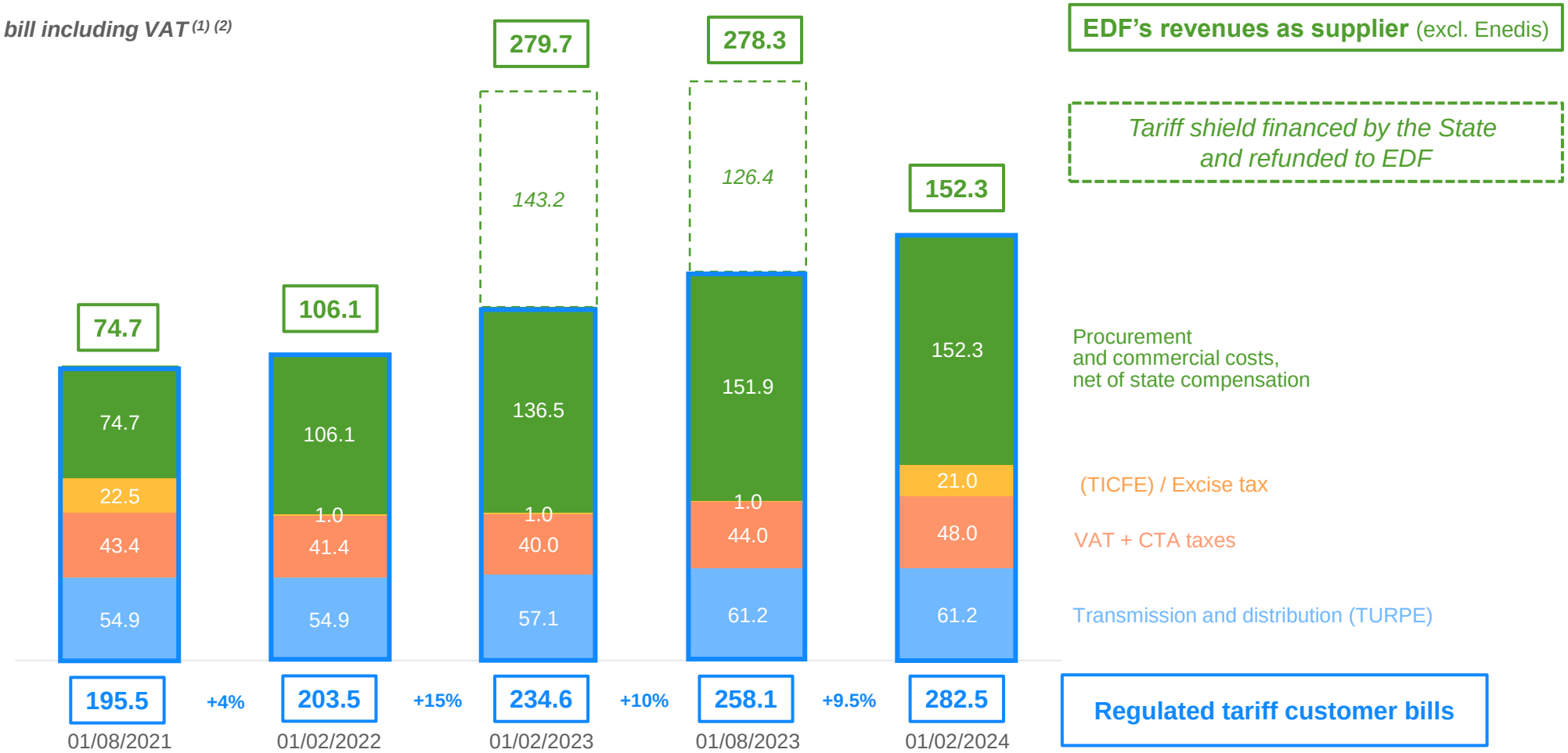


(1) Source: *Journal Officiel*
(2) The figures are based on an average calculation on customers portfolio at the Regulated Sales Tariffs at end-2021 for 2022, and at end-2022 for 2023-2024 (latest available database to date).
(3) Due to rounding, the total is not strictly equal to the sum of the components.
(4) Including cost of Energy Efficiency Certificates.
(5) For 2022 and 2023, this part takes into account the tariff shield. **In 2023, in particular, this part includes the catch-up under the 2022 cap and a discount of 143.2€/MWh from February to July 2023 and of 126.4€/MWh from August 2023 to January 2024.** This discount is compensated by the CSPE under the finance law for 2023 and will therefore not be subject to a catch-up in 2024.
(6) Remaining tariff increase decided in Year-1 but invoiced in Year+1.
(7) Excise duty on electricity at €21/MWh excl. VAT on 1 February 2024 (cf. decree of 25/01/2024 published in the *Journal Officiel* of 31/01/2024)

ENERGY PART OF THE REGULATED TARIFFS FOR EDF INCLUDING TARIFF SHIELD FINANCED BY THE STATE

Composition of the average bill including VAT [(1) (2)]

(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

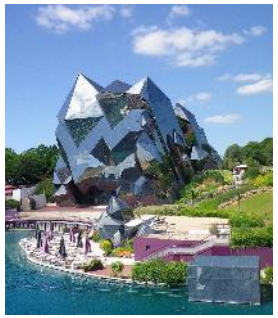
Urban services

dalkia froid solutions GROUPE EDF

dalkia electrotechnics GROUPE EDF

izivia GROUPE EDF

proxity



Flexibility, energy efficiency & management system

EDF

dalkia EDF GROUP

agregio solutions GROUPE EDF

datanumia GROUPE EDF

DALKIA: A MAJOR PLAYER IN THE ENERGY TRANSITION AT THE SERVICE OF ITS CUSTOMERS

ENVIRONMENTAL PERFORMANCE

Dalkia enables its customers to reduce their greenhouse gas emissions while

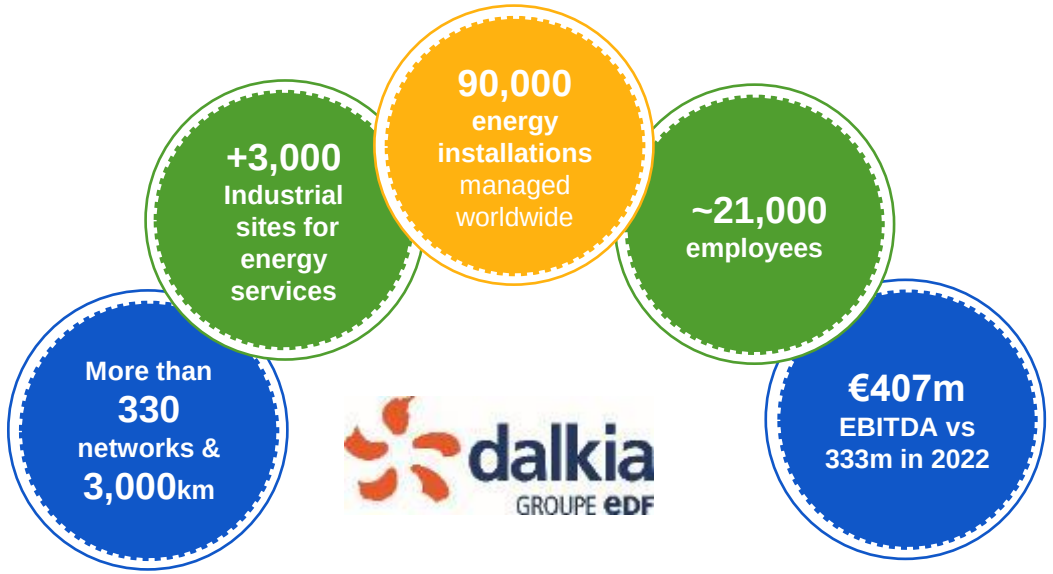
- developing renewable and recovery energies locally,
- and working on energy efficiency and the reduction of consumption

64.5% of renewable energies & recovery of heat networks in 2022 (1)

2026 ambition 65% of renewable energies

4.3 million tonnes CO_2 avoided(2) in 2023

2026 ambition 6mt CO_2 avoided



Leader in energy services in France, Dalkia has been helping its customers to accelerate their sustainable energy performance for 80 years through its main activities:

- **Investor in infrastructure** (development of heating and cooling networks and industrial projects)
- **Energy supplier** (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 such as Dalkia Polska, Dalkia UK, Dalkia Energy Solutions (USA) and Dalkia Middle East

(1) Networks in France (SNCU scope - Latest publication).
(2) 4m tonnes of CO_2 avoided thanks to gas cogeneration and Combined Heat and Power.

EDF GROUP MAIN BUSINESSES

EDF IS WELL POSITIONED ON THE GAS VALUE CHAIN

Retail

- Presence on the European gas market for over 10 years, with ~6.6m customers and ~144TWh sold(1)
- Dual-fuel offers (electricity and gas) and value-added services to clients

Trading

- Supply of EDF gas fired power plants
- Seeking arbitrages and optimising supply strategies
- Trading joint venture between EDF Trading and JERA in Japan for global LNG

Storage

- Manage flexibility and regulated activity in Italy
- Examples: Cellino, Collalto and San Potito & Cotignola (Italy), Etzel storage (Germany)

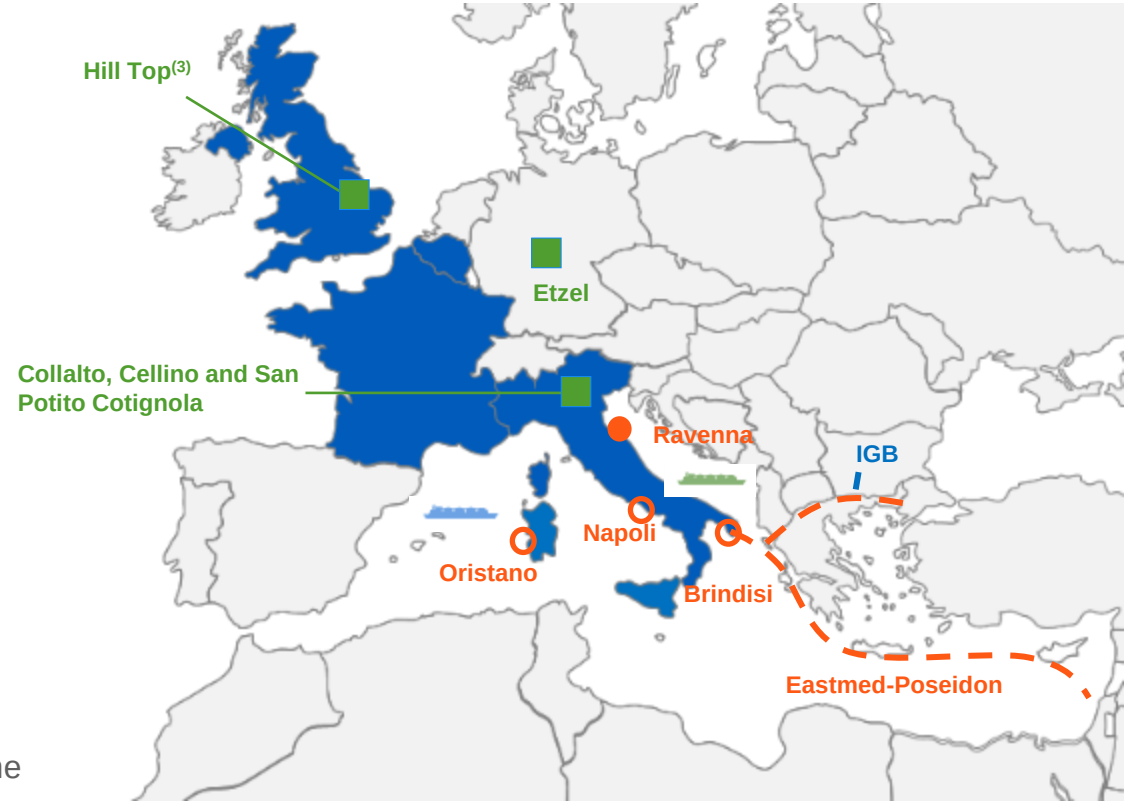
Supply

- 6 gas import LT contracts (4 by pipe, and 2 LNG): a gas portfolio well diversified
- 1 LT LNG contract (USA) under arbitration(2)

Infrastructures

- Small scale LNG to reduce emissions in heavy & maritime transport
- LT LNG regassification capacity available in France (61% of Dunkerque), Italy (80% of Rovigo) & Belgium (Zeebrugge)
- Development of import infrastructures pipelines: IGB started commercial operation in 2022 & EastMed under development
- Development of new gas uses & green gas (hydrogen & biomethane)

Completion of Algerian Exploration & Production (E&P) asset divestment in October 2023

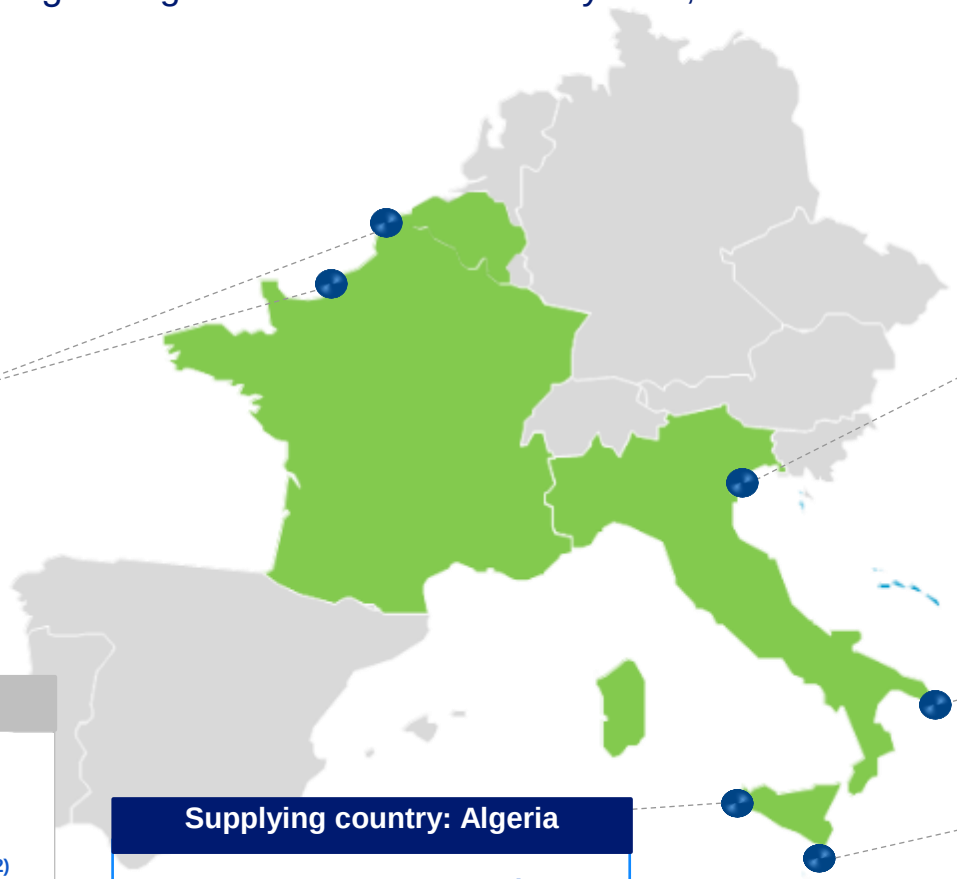


(1) See p.90 for details of the number of gas end-customers and sales in TWh per country.
(2) In May 2023, Edison initiated an arbitration proceeding against Venture Global at the LCIA in London for delayed start of contractual deliveries.
(3) In 2023, Hill Top has been classified as an asset held for sale.

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) In May 2023, Edison initiated an arbitration proceeding against Venture Global at the LCIA in London for delayed start of contractual deliveries.

2023 FACTS & FIGURES

Photographic credits: © EDF – Photothèque

April 2024