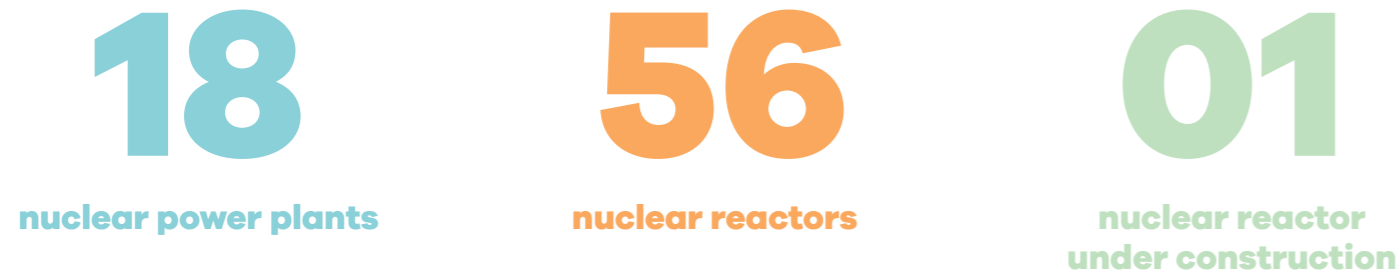


France

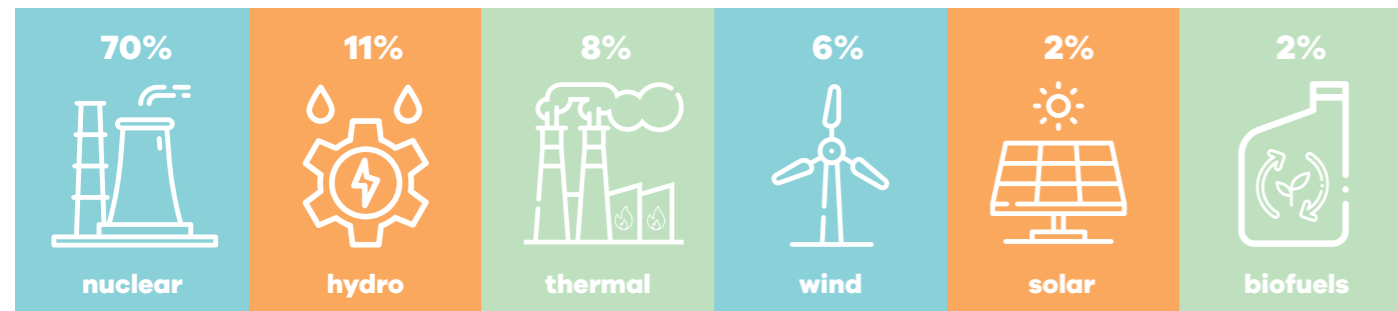
French nuclear industry



Overview



Generation mix



France nuclear facts

- 70%** of electricity in France comes from nuclear power
- 70%** Those in France pay 70% less for electricity than in Germany, a country whose electricity is not of nuclear origin
- 6.7%** With its 220,000 employees and 3,000 companies, French nuclear industry accounts for 6.7% of French industrial employment



Viewpoint

France, a worldwide leader in decarbonized electricity production

Five years on from the signing of the Paris Agreement, France is a worldwide leader in terms of decarbonized electricity production with about 50g CO2/KWh: more than 90% of the electricity produced in France is decarbonized, coming mainly from nuclear energy (70%) complemented by renewables such as hydropower, wind power and solar panels. France will rely on its low-carbon electricity to decarbonize other sectors of its economy which still rely heavily on fossil fuels, such as transport and habitat heating, to reach its goals of achieving net zero carbon emissions by 2050. According to SNBC (Stratégie Nationale Bas-Carbone), electricity consumption should increase by 30% by 2050. This increase should be even higher, as France just announced an ambitious national plan to develop the production of low-carbon hydrogen.

France has the second largest nuclear fleet in the world, with 56 reactors in operation under a unique operator, EDF. The large proportion of nuclear electricity in France leads EDF to operate its fleet on a load-follow mode, adjusting constantly nuclear output to follow electricity demand, demonstrating on a large scale that nuclear is very flexible and is the perfect complement for the development of Variable Renewable Energies (VRE). The French nuclear fleet can increase or decrease its production by 80% in less than 30 minutes.

The nuclear sector is the third largest industrial sector in France, behind the aerospace and automotive sectors, and accounts for 220,000 jobs, working in 3,000 companies, and 5,000 recruitments by the end of 2021, despite the Covid-19 crisis. It has launched in 2015 the "Grand Carénage", a 50 billion euros program designed to revamp the fleet for long-term operations.

"France Relance", the French roadmap for the economic, social and ecological rebuilding of the country released last September, provides a budget of 470 million euros over two years for nuclear power.

200 million euros will be devoted to skills development, 100 million euros to strengthen the equity capital of SMEs and mid-sized companies weakened by the COVID crisis and the remaining 170 million for research into Small Modular Reactors (to support the French SMR project, Nuward). Furthermore, President Macron's recent remarks on nuclear power last December during his visit to the Framatome plant in Le Creusot showed his support to the French atom and he reaffirmed that our energetic and ecological future would depend on nuclear for the decades to come.

According to the French government's request, EDF is working on the potential building of six new EPRs in France, with the purpose to start renewing the existing fleet after 2035, as most units will reach 60 years of operations. It is important to launch this new set of EPRs in order to meet the time requirements for the renewal of the fleet but also for industrial reasons: it is important to provide the French (and the European) supply chains with industrial programs that will enable them to invest in their industrial tools, technologies, and skills to build new reactors in series, in a very competitive way... This strategy was comforted by the generic positive opinion for the continuation of operation of the 900 MW fleet (32 reactors) beyond 40 years given very recently by the Nuclear Safety Authority.

The fight against global warming is an international one, and nuclear must be able to play its part, through a commitment to technology-neutral standards by the international institutions.



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