

Preparatory Committee for the 2026 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

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Nuclear energy: presentation of the offer of France

Working paper submitted by France

1. At a time when increasing numbers of countries wish to acquire nuclear power capacities, France is prepared to respond to their aspirations in accordance with its commitments under article IV of the Nuclear Non-Proliferation Treaty by offering its expertise to any country that fulfils all its international obligations, including those under the Treaty, and carries out peaceful activities in good faith.

2. Thanks to more than 70 years of experience, France has mastered the whole value chain in the production of nuclear power, making it an ideal partner to effectively support countries that wish to increase the share of nuclear in their energy mix in the long term.

3. With this in mind, France's expertise is built on an integrated nuclear sector supported by a coherent, ambitious energy policy. It encompasses sale of technologies, services and nuclear safety cooperation and offers tailored financial solutions designed in collaboration with partners.

1. France has capitalized on its world-class expertise to develop its leadership on light water technology and stimulate innovation to achieve more advanced technology

4. France has a diverse portfolio of reactors with different power outputs suited to different markets and capable of addressing its clients' and partners' needs. Its reactors are the pressurized water reactor (PWR) type, based on "Generation III +" technology. This French technology is fully compliant with the safety and security standards and safeguards established by the International Atomic Energy Agency (IAEA) and the WENRA (Western European Nuclear Regulators Association) safety reference levels.

5. The 1650 MWe European pressurized reactor (EPR) is the flagship and most powerful third-generation French reactor. It has been designed with the highest standards of safety as well as optimized technical, economic and environmental performance. This high-power reactor can deliver energy to highly populated territories with significant electricity demand.



6. Building on lessons learned from completed or ongoing EPR projects, the “EPR2” reactor is being developed to specifically address the French fleet renewal, with six units already confirmed by the French authorities and eight potential optional units.

7. The EPR1200 is a smaller, adapted version of the EPR2 technology. Based upon the EPR2 design, the EPR1200 benefits from the EPR2’s robustness at a power output of 1200 MWe. The same overall architecture, the same approach to safety and the same materials and equipment have been used for this 1200 MW version. The EPR1200’s design aims for a very high safety level and offers a solution for areas that require less electricity or where grid capacities are more limited.

2. France is also speeding up the development of its small modular reactor (SMR) programme, which is receiving strong financial support under the France Relance and France 2030 plans

8. The leading SMR project is NUWARD SMR, led by NUWARD, the EDF Group’s subsidiary dedicated to its SMR development, with major contributions from French and European partners. With an output of 340 MWe (two twin pressurized water reactors producing 170 MWe each), it offers a robust and credible solution for replacing coal-fired power plants in the future, energizing isolated regions with less interconnected electricity grids or addressing other usages such as heat and electricity cogeneration, hydrogen production, district heating or water desalination.

9. EDF aims to start construction of the first SMR in France in 2030. According to EDF, its SMR will meet the highest international safety standards (IAEA and WENRA). Since June 2022, the French Nuclear Safety Authority has been working closely with its Finnish (STUK) and Czech (SUJB) counterparts to review the preliminary safety features of NUWARD SMR through the joint early review initiative. Phase 1 of this initiative is ending, and the three regulators are currently considering the possibility of incorporating additional counterparts, which have expressed their interest in phase 2 of the initiative, expected to start in the forthcoming months.

10. Such an initiative supports the development of a more cooperative approach to safety evaluations of SMRs among several regulators. Such a cooperative approach should provide valuable operational technical inputs to help develop a standardized SMR design that is more easily licensable in several countries. The joint early review has proved its efficiency and can be used as a good example for other international initiatives, particularly in a European framework (initiative on the development of SMRs launched in 2021) or at the multilateral level at IAEA (the Nuclear Harmonization and Standardization Initiative).

11. In addition, numerous private companies are developing new concepts of reactors, including advanced modular reactors (AMRs). AMRs would be able to have better efficiency in the use of nuclear material, to improve radioactive waste management and to provide non-electricity generation applications. France 2030, the French medium-term public investment plan, is already supporting several concepts and may support others.