ContainerPower Energy Solutions

What type of reactor is used in EU power plants

Overview

A European Pressurised Reactor (EPR) is a type of nuclear reactor that belongs to the third generation of pressurized water reactors (PWRs). EPR reactors build on the strengths of earlier models while incorporating advanced safety features and greater efficiency.

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This is a list of all the commercial nuclear reactors in the European Union and in Europe, with operational status. The list only includes civilian nuclear power reactors used to generate electricity for a power grid. All commercial nuclear reactors use nuclear fission. As of May 2021, there are.

The EU depends on nuclear power for about one-quarter of its electricity, and a higher proportion of base-load power. Nuclear provides about half the low-carbon electricity. Very different energy policies pertain across the continent and even within the EU, but attention is now being given to an EU.

As of October 2025, there is a total of 165 nuclear power reactors with an installed electric net capacity of 147,997 MWe in operation in Europe (six thereof in the Asian part of the Russian Federation), and 9 units with an electric net capacity of 9,969 MWe were under construction in four.

Currently, 12 out of 27 EU Member States (Belgium, Bulgaria, Czechia, Finland, France, Hungary, Netherlands, Romania, Slovakia, Slovenia, Spain and Sweden) host nuclear power plants on their territory. Austria, Croatia, Cyprus, Denmark, Estonia, Ireland, Greece, Italy, Latvia, Lithuania.

Six types of reactor (Magnox, AGR, PWR, BWR, CANDU and RBMK) have emerged as the designs used to produce commercial electricity around the world. A further reactor type, the so-called fast reactor, has been developed to full-scale demonstration stage. These various reactor types will now be.

Nuclear reactors are part of nuclear power plants. The purpose of a reactor is to obtain energy from nuclear energy. The most common use of this type of reactor is the production of electrical energy. In nuclear reactors fission chain reactions (splitting of uranium atoms) are generated to produce. How many nuclear power reactors are in the EU?

The 100 nuclear power reactors (98 GWe) operating in 12 of the 27 EU member states account for about one-quarter of the electricity generated in the whole of the EU. Over half of the EU’s nuclear electricity is produced in only one country – France.

What is a nuclear reactor used for?

The most common use of this type of reactor is the production of electrical energy. In nuclear reactors fission chain reactions (splitting of uranium atoms) are generated to produce thermal energy. The rest of the nuclear power plant will be responsible for using this energy to convert it into electricity.

What are the different types of nuclear facilities in Europe?

Want to know more about nuclear facilities across Europe?

Then check out our interactive map! The extensive range of facilities covered include nuclear power plants (under construction, in operation and being decommissioned), research reactors, waste management sites and fuel manufacturing facilities (enrichment, assembly and reprocessing).

Does the EU rely on nuclear power?

Analysis on behalf of Agora Energiewende The EU depends on nuclear power for more than one-quarter of its electricity, and a higher proportion of base-load power. Nuclear provides about 40% of the low-carbon electricity. Very different energy policies pertain across the continent and even within the EU.

Which EU countries have nuclear power plants?

Common EU rules also stem from the Nuclear Safety Directive and Directive for the Management of Radioactive Waste and Spent Fuel. Currently, 12 out of 27 EU Member States (Belgium, Bulgaria, Czechia, Finland, France, Hungary, Netherlands, Romania, Slovakia, Slovenia, Spain and Sweden) host nuclear power plants on their territory.

What is a heavy water nuclear reactor?

The heavy water nuclear reactor is a type of nuclear reactor developed mainly in Canada. A variant of this reactor is the CANDU nuclear reactor , very popular in Canada. The fuel used to obtain nuclear energy is natural uranium, in the form of oxide, which is introduced into alloyed zirconium tubes.

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