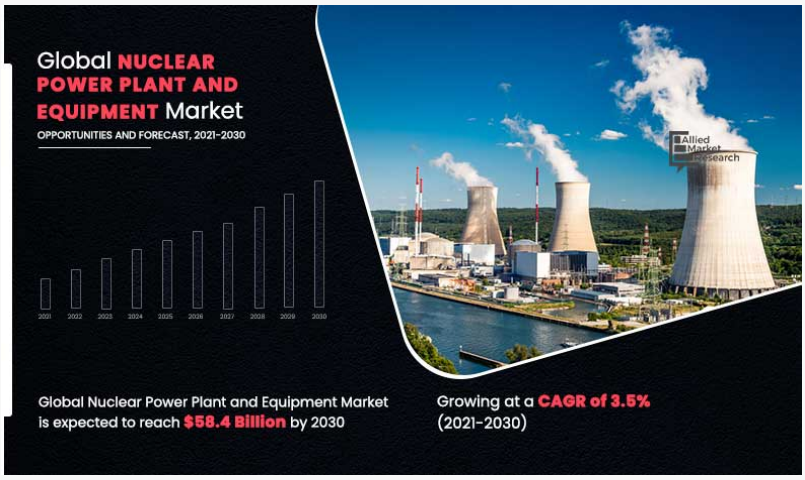
Nuclear Power Plant and Equipment Market Projected to Hit $58.4 Billion by 2030

Increase in energy demand and innovative headways in nuclear power equipment drive the global nuclear power plant and equipment market.



Global Nuclear Power Plant and Equipment Market

PORTLAND, OREGON, UNITED STATES, April 4, 2022 /EINPresswire.com/ -- The global nuclear power plant and equipment market size was valued at $41.1 billion in 2020, and is projected to reach $58.4 billion by 2030, with global nuclear power plant and equipment market forecast expected at a CAGR of 3.5% from 2021 to 2030. Nuclear power plants are differed from fossil power plants mainly in the source of heat for converting water into steam, which is subsequently used to run the turbine and produce electricity. In addition, the source of heat is nuclear fission (or fusion, in future fusion reactors), while in the latter, it is the combustion of the fossil fuels such as coal, oil, or gas. Therefore, the structural materials chosen for nuclear reactors should also meet the requirements of fossil power plants in terms of good creep resistance, oxidation resistance, low-cycle fatigue strength, and thermal conductivity. Moreover, the elements present in the structural materials should also have a low neutron absorption cross-section, that is the probability of neutrons produced in the reactor being absorbed by these elements should be low.

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Furthermore, the properties of these materials should not degrade under the high levels of radiation that exist in nuclear reactors. Such degradation is generally referred to as radiation damage and includes irradiation embrittlement, irradiation creep, and swelling, helium embrittlement. In addition, nuclear power provides almost 15 %of the world's electricity and according to the U.S. energy information and administration, as of December 31, 2020, 94 nuclear reactors were operating at 56 nuclear power plants in 28 states. 32 of the plants have 2 reactors, and 3 plants have three reactors. Nuclear power plants have supplied about 20% of total annual U.S. electricity since 1990.

The growth in demand for low-carbon-emission energy and long-life power plants led to an increase in demand for nuclear power plants, and the fast expansion of nuclear power plants created a number of opportunities for nuclear power plant equipment. .

The nuclear power plant and equipment market is segmented on the basis of reactor type, equipment type, and region. On the basis of reactor type, the market is categorized into pressurized water reactor (PWR), pressurized heavy water reactor (PHWR), boiling water reactor (BWR), light water graphite reactor (LWGR), gas cooled reactor (GCR), and others. On the basis of equipment type, it is segmented into island equipment and auxiliary equipment. On the basis of region, it is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

The global nuclear power plant and equipment market analysis covers in-depth information about the major industry participants. The key players operating and profiled in the report include BWX Technologies, INC, Dongfang Electric Co., Ltd., Doosan Corporation, General Electric, Korea Electric Power Corporation, Larsen & Toubro Limited, Mitsubishi Heavy Industries, LTD., Shanghai ALSTOM SA, The State Atomic Energy Corporation (ROSATOM), Toshiba International Corporation.

The global nuclear power plant and equipment market is analyzed and estimated in accordance with the impacts of the drivers, restraints, and opportunities. The period studied in this report is 2021–2030. The report includes the study of the market with respect to the growth prospects and restraints based on the regional analysis. The study includes Porter's Five Forces analysis of the industry to determine the impact of suppliers, competitors, new entrants, substitutes, and buyers on the market growth.

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Key findings of the study

On the basis of reactor type, the pressurized water reactor (PWR) segment emerged as the global leader in 2020 and is anticipated to be the largest markets during the forecast period.
On the basis of equipment type, the auxiliary equipment segment emerged as the global leader in 2020 and is anticipated to be the largest markets during the forecast period.
On the basis of region, the Asia-Pacific registered the highest market share and is projected to maintain the same during the forecast period

Impact Of Covid-19 On The Global Nuclear Power Plant And Equipment Market

COVID-19 has impacted various industries due to shut down of different industrial operations and disrupted supply chain. Maximum companies halted their operation due to less workforce. However, there is a gradual decline in the equipment segment of the nuclear power plant and equipment market due to the impact of COVID-19.

The electric industry accounted for significant share in terms of consumption during global lockdown. Electricity consumption has grown due to large decreases in services and industry, which have only been partially compensated by rise in household use, which has raised demand for nuclear power plants and equipment.
The COVID-19 pandemic has impacted nuclear power and the nuclear fuel industry on both the supply and demand side. In the short term, the impact is greatest on the supply side for uranium, as various mines and nuclear fuel cycle facilities are suspending operations due to health concerns. As a result, the uranium price increased 33% from its lowest point registered in mid-March this 2020.
Demand for nuclear power is directly proportional to the demand for nuclear fuel which was highly impacted due to COVID-19, but not nearly to the same extent as oil due to the nature of underlying demand for electricity versus oil. The Energy Information Administration estimates that the demand for electricity in the U.S. was declined by 3% in 2020. In France, where nearly 75% of electrical generation comes from nuclear energy, electricity demand is projected to decline by 15-20% in 2020. As a result, France's EDF has already downgraded its nuclear power generation outlook for both 2020 and 2021 by 8-12% less than its pre-pandemic forecasts.

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