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NUCLEAR POWER IS GAINING MOMENTUM AGAIN

Construction of nuclear power plants have been intensified in the world despite the Fukushima accident. Many consider nuclear power to be green, since nuclear power plants have virtually no greenhouse gas emissions. Therefore, years after the Fukushima accident, plans for the development of nuclear power are beginning to be revised in many countries in favor of increasing the construction of

nuclear power plants. But the disposal of nuclear waste and the elimination of the consequences of accidents often cost companies-operators significant amounts of capital.

Japan's Ministry of industry began a full-scale discussion in 2018 on whether to build new nuclear power plants to meet the goal of reducing greenhouse gas emissions.

This discussion was a part of the government's plans to update the basic energy program until 2030. The program is reviewed every three years. The government's current energy balance plan provides that in fiscal year 2030 (through March 2031), nuclear power in Japan will account for 20-22% of the electricity produced. To achieve this goal, it will be necessary to use 30 nuclear power units.

In 2017 the law on nuclear reactors and other related facilities was revised in Japan. According to, it operators of nuclear power plants have required to publish their plans, measures and opportunities for ensuring the disposal of reactors and other nuclear facilities. This includes the estimated costs of decommissioning facilities and the amount of radioactive waste that will be generated after dismantling.

While in Korea the Shin-Kori nuclear power plant is under construction of the 5th and 6th power units, which include the APR-1400 reactors (developed by the Korean company KEPCO on the basis of the previous domestic OPR-1000 project using American technology). The NSSC approved applications for their construction in June 2016, but in June 2017, the Cabinet decided to suspend construction. After three months of discussion and public opinion, a 500-person jury decided to resume construction, which the president of Korea Moon Jae-In agreed to. In December 2018, the readiness of blocks 5 and 6 was 42%. The commissioning dates for the units have been moved to October 2021 and October 2022, respectively.

The UK is one of the pioneers of global nuclear power – its first Calder Hall nuclear power plant with a capacity of 50 MW entered service in 1956, two years after the world's first Soviet nuclear power plant in Obninsk. Over the next three decades, more than four dozen first-and second-generation gas-cooled graphite power reactors, built according to original domestic designs, have been operating in the UK. By now, three-quarters of them have already been stopped.

For more than 20 years, the UK has not commissioned new nuclear power plants. The last nuclear unit built was Sizewell B in Suffolk, which entered service in 1995. The first new British nuclear power plant to be launched this century will be Hinkley Point C in Somerset. After entering into operation, the station will provide about 7% of the national electric production. The first unit is expected to start operating in 2023. The UK government released a Single national energy and climate plan for the period up to 2035. According to it, a policy will be pursued to

gradually reduce the share of fossil energy sources and replace them with renewable sources and nuclear generation.

At the same time the US is discussing the development of a strategy for the transition of the country's economy to 100% carbon-free generation. Former U.S. Energy Secretary Ernst Moniz presented a report on the "transition to a clean energy ecosystem" in the Senate. It claims that one of the "critical technologies" needed to achieve the goal is the promising new-generation nuclear reactor projects. Both the advantages of nuclear power and the issues related to the nuclear industry are noted. It is emphasized that the solution to these problems can be the development of a fleet of improved new-generation reactors that have cost-effectiveness, improved safety system, the introduction of nuclear cycle options that eliminate the risk of proliferation, as well as the ability to longer loading cycles.

An alternative project for switching to carbon-free generation was the "Green new deal" introduced in Congress. It proposes to abandon nuclear power and completely switch to renewable sources, and to switch road transport to electric traction.

Commenting on this program, Moniz recalled that nuclear power today provides 20% of electric energy and more than 50% of carbon-free generation in the country – more than all other carbon-free sources combined. Therefore, it is impossible to achieve the goal of completely clean electric energy without nuclear power.