

U.S.-EU HIGH-LEVEL INDUSTRIAL FORUM ON SMALL MODULAR REACTORS (SMR)

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EUROPEAN COMMISSION
Berlaymont Building

Overview

The European Commission (EC) and the U.S. Department of Energy (DOE) will host the 1st U.S.-EU High-Level Industrial Forum on Small Modular Reactors (SMR), both light water and advanced reactor technologies in Brussels on October 21, 2019. The SMR industry is making important progress. For example, in the US plans are underway for the first deployed SMR power plant on DOE's 890-square-mile Idaho National Laboratory. Twelve 60-megawatt modules will generate 720 megawatts of low-carbon electricity from a small footprint. On the European side, several Member States and companies have announced plans aiming at the commercial development of small modular reactors.

In this context, the U.S.-EU High-Level Industrial Forum will examine the challenges and opportunities associated with using SMR technologies as part of the future energy systems. To this end, the forum will bring together policy makers, MEPs, business stakeholders and independent regulators to discuss technology impacts, licensing/regulatory issues, and potential financial support frameworks. The event will bring together 100 high-level participants to engage under Chatham House rules to discuss and examine ways to build and foster EU-U.S. technology leadership and cooperation in this area.

SMR Technologies

Although presently the majority of new nuclear power plants planned or currently under construction are large, light water-cooled units, SMRs represent an alternative solution with state-of-the-art technological features and safety advantages. These reactors—, which could vary in size from less than twenty megawatts up to hundreds of megawatts—can be used for power generation, process heat, desalination, or other industrial uses. SMRs can employ a range of possible coolants including light water, liquid metal, or molten salt, depending on the technology.

There are a number of potential benefits to SMRs, ranging from improved safety features—such as passive safety systems – to better financing options due to reduced construction schedules, fewer components and smaller plant footprints. Other advantages include ease of construction, flexibility, improved physical security, independent operation from the grid and lower production of spent fuel and radioactive waste.

At the same time, challenges still exist in validating the business case for SMRs, assuring predictable and streamlined licensing processes and frameworks, developing global supply chains to ensure profitability, identifying suitable nuclear sites and achieving a transparent dialogue model between the concerned stakeholders.

U.S.-EU Cooperation on Nuclear Energy

The United States and the EU share a rich history of mutually beneficial cooperation on nuclear energy. Bilateral cooperation is primarily coordinated through U.S.-EU Steering Committee meetings under the DOE-EURATOM Technical Exchange and Cooperation Arrangement. This cooperation includes support for the International Nuclear Energy Research Initiative, as well as a regulatory cooperation between the U.S. Nuclear Regulatory Commission (NRC) and EURATOM in the field of nuclear safety research. DOE and EURATOM are also members of the Generation IV International Forum, (GIF) an international forum dedicated to the research and development needed to establish the feasibility and performance capabilities of next-generation nuclear reactors. This collaboration in advanced nuclear energy systems and technologies plays an important role in improving future nuclear energy systems in terms of cost performance, safety, proliferation resistance, and waste management.