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THE PENINSULA

South Korea Back on Track for Nuclear Energy Exports: The Czech Bid and Beyond

Published August 29, 2024
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Category: South Korea

On July 18, South Korean Minister of Trade, Industry, and Energy Ahn Duk-geun announced that Korea Hydro & Nuclear Power (KHNP) had been selected by the Czech Republic as the preferred bidder for the construction of new nuclear reactors, the largest investment project in the history of the Czech Republic, valued at approximately 24 trillion KRW (18 billion USD). The bidding also involved US company Westinghouse—which earlier in the tender was excluded by the Czech government for not meeting the required conditions—and France's Electricite de France (EDF). The successful bid, driven by South Korean President Yoon Suk-yeol's diplomatic effort, marks the first major win for South Korea's civilian nuclear export sector since securing the Barakah nuclear energy plant project in the United Arab Emirates (UAE) in 2009.

Yet, the final stages of the deal for Seoul remain to be completed by March 2025. This includes finalizing price negotiations with Prague to ensure the project's profitability and, more importantly, addressing the lawsuit filed by Westinghouse against Korea Electric Power Corporation (KEPCO) and its subsidiary, KHNP, concerning intellectual property rights. As the world increasingly turns to nuclear energy following the Ukraine War, South Korea's hard-earned opportunity to regain its competitive position in global nuclear power exports should be carefully managed and leveraged to maximize its strategic and economic benefits, given today's complex geopolitical dynamics.

Growing Global Embrace of Nuclear Energy

Since the Ukraine War, more European countries have embraced nuclear power, as voiced in March at the Nuclear Energy Summit, the first high-level meeting focused on the role of nuclear power in addressing global challenges, including reducing fossil fuel use, enhancing energy security, and boosting economic development. Hosted jointly by Belgium, then President of the Council of the European Union, and the International Atomic Energy Agency, the summit produced a declaration to "fully unlock" the potential of nuclear energy. This was built on the historic inclusion of nuclear during the United Nations Climate Change Conference (COP28) in December 2023, which called for accelerating the deployment of nuclear power. In the pursuit of net-zero carbon emissions, the United States also led a global coalition at COP28 to "triple nuclear energy by 2050," joined by 25 countries, including South Korea and the Czech Republic.

In Washington, the push for nuclear energy has also gained momentum through a series of initiatives laid out by the White House, including the completion of new reactors at Georgia's Vogtle plant, the first in the United States in over 30 years. On the legislative front, President Joe Biden signed the bipartisan ADVANCE Act, attached to the Fire Grants and Safety Act, to revitalize the US nuclear industry by expediting nuclear energy deployment in the country. He also signed the bipartisan Prohibiting Russian Uranium Imports Act to end US reliance on uranium from Moscow, which supplies approximately 35 percent of US imports for nuclear fuel and represents 44 percent of the world's uranium enrichment capacity. With Russia and China leading global nuclear trade, Washington's recent emphasis on nuclear power appears to be motivated by strategic objectives beyond climate considerations.

South Korea's Renewed Commitment to Nuclear Power

Against this backdrop, President Yoon's shift from the previous South Korean administration's nuclear phase-out policy to prioritizing nuclear exports meets timely geopolitical demands. Under the promise to increase the share of nuclear power in South Korea's total energy production from around 27 percent to over 30 percent by 2030, the construction of the Shin Hanul 3 and 4 nuclear reactors—suspended under his predecessor's leadership—was approved to resume last year. Yoon also announced a comprehensive support plan to revitalize South Korea's nuclear power industry, including a 4 trillion KRW (3 billion USD) investment in nuclear energy research and development.

On the diplomatic stage, Yoon visited the Korean-built Barakah nuclear energy plant with UAE President Mohamed bin Zayed Al Nahyan during his first state visit to the country in January 2023. When the UAE President returned the visit to Seoul in May, the joint statement underscored the two countries' nuclear partnership and future commercial prospects, noting that the two leaders "agreed to seek ways to facilitate potential cooperation in follow-up unit projects." In December 2023, Yoon's state visit to the Netherlands yielded another joint statement addressing nuclear cooperation, which committed to "develop bilateral cooperation on nuclear energy topics such as construction and operation of nuclear power plants." During the NATO summit in Washington, D.C., in July, Yoon held bilateral meetings with Czech, Dutch, Finnish, and Swedish leaders, with each meeting covering nuclear industry cooperation.

Amid the global shift toward nuclear power and Yoon's pro-nuclear energy policy, South Korea has been actively pursuing nuclear reactor exports, capitalizing on the momentum from its recent Czech deal. The KHNP president said that his organization is currently conducting a feasibility study for nuclear reactors with the Dutch government and added that discussions with the Polish government are ongoing. He also said that KHNP intends to participate in the bidding for nuclear reactor projects in Finland and Sweden. In addition to Europe, South Korea is competing to build Ghana's first nuclear reactor, where Beijing's China National Nuclear Corporation will be a formidable contender.

Remaining Challenges for South Korea

In light of domestic concerns that KHNP may have bid too low—reportedly much lower than EDF's offer—it is important to note that the Czech tender initially sought to build four reactors: two at Dukovany and two at Temelin. KHNP has secured preferred status for the Dukovany units, while the decision regarding the Temelin units remains with the Czech government. To ensure future contracts and maximize profits, it is crucial for Seoul to complete the Dukovany units "On Time, Within Budget," as promised. Moreover, considering KEPCO's loss of the preferred bidder status for a UK nuclear project in 2018, the successful execution of this project is essential for Seoul to restore confidence in South Korea's nuclear export capabilities.

Yet, the greater challenge remains the lawsuit filed by Westinghouse against KEPCO and KHNP. In October 2022, Westinghouse filed a complaint against the two energy companies, claiming that Korean reactor designs, including APR1400 and APR1000, are "derived from, based on, and incorporates technology licensed to Defendants [KEPCO and KHNP] by Westinghouse's predecessor-in-interest, Combustion Engineering, Inc.," which Westinghouse acquired around 2000. The company asserted that the lawsuit seeks to "prevent the unauthorized transfer of nuclear technology to foreign countries in violation of Part 810 of Title 10, Code of Federal Regulations," which regulates the export of unclassified US nuclear technology and assistance to foreign entities. The case was dismissed by the District Court for the District of Columbia in September 2023, ruling that export control enforcement decisions are the prerogative of the US government, but Westinghouse has appealed the decision.

Additionally, the newly added language on nuclear energy cooperation in the US-South Korea joint statement in 2023 deserves attention. In the statement, the two presidents committed to global civil nuclear cooperation "while mutually respecting each other's export control regulations and intellectual property rights," a point absent from the 2022 statement. Considering the situation, Minister Ahn's visit to Washington, D.C., in early August for the ROK-US Energy Ministerial Meeting with his US energy counterpart, Secretary Jennifer Granholm, was important. Upon arrival, he told reporters that the governments have been cooperating on joint nuclear exports to third countries and said, "Various discussions between the two governments have been progressing smoothly."

What Comes Next

Pursuing a legal dispute over whether the technology behind Korean reactor designs belongs to Westinghouse is not the wisest course of action for either side. Instead, Seoul and Washington should find a solution to the Czech deal that benefits them both without compromising their bilateral relationship. One example to refer to is the two countries' partnership on the Barakah nuclear energy plant project, which "brought hundreds of new jobs and approximately $2 billion in additional revenue to U.S. nuclear suppliers" under the US-South Korea Agreement for Peaceful Nuclear Cooperation. Given the symbiotic relationship between the two countries, despite being both competitors and collaborators in the global nuclear energy market, fostering cooperation rather than conflict will better serve their mutual interests.

Facing added appeals by both Westinghouse and EDF—separate from the former's legal appeal—against the Czech government's decision to select KHNP as the preferred bidder, President Yoon will be visiting Prague in September to help seal the deal. As part of this effort, the two leaders are expected to sign a Trade and Investment Promotion Framework, enhancing economic cooperation between Seoul and Prague. South Korea's ambitious entry into the European nuclear energy market is now under test, aiming to make a strong impression on the Czech Republic, its neighbors, and the world while remaining unimpeded by external challenges. As Yoon told Czech Prime Minister Petr Fiala, "in the era of nuclear renaissance," successfully passing this test will not only strengthen Seoul-Prague relations but also elevate South Korea's standing as a major nuclear power exporter on the global stage.

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