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## Small nuclear reactors face US demand boom

HOUSTON: Everyone from the US energy secretary to Big Tech touts small modular nuclear reactors as a potential answer to booming power demand, but the technology is struggling to become commercial due to costs and regulatory hurdles.

Energy-hungry data centers powering artificial intelligence (AI) are expected to spike electricity demand, including in the United States where its use has been mostly flat for two decades.

Backers of small modular reactors say the technology will eventually be cheaper and faster than today's nuclear power plants because it would be built out of mass-produced parts rather than as massive bespoke projects.

The reactors can theoretically produce virtually emissions-free electricity.

But the only countries that have built small modular reactors (SMRs) also have centralised governments, which has helped projects secure financing and decide which SMR fuel types and coolants to use.

Russia opened a floating SMR in the Arctic in 2019 and China opened an SMR in 2023.

The US regulatory framework is under-developed, other power sources are cheaper, and there are nagging concerns about uranium supplies and radioactive waste.

**“To really move forward aggressively with a new nuclear build (of SMRs) you really want the established, experienced players to be driving the trend.”**

Greg Jaczko

Greg Jaczko, former chairman of the US Nuclear Regulatory Commission (NRC), said the players pushing SMRs are not utilities with decades of experience dealing with the intricacies and safety requirements of nuclear plants but rather AI companies, the data centre community and vendors.

“To really move forward aggressively with a new nuclear build (of SMRs) you really want the established, experienced players to be driving the trend,” he said.

Global gas supplies are growing and solar power and battery storage costs are falling, providing stiff competition for advanced nuclear technology to emerge.

“We are truly at the beginning of a new industry,” US Energy Secretary Chris Wright told *Reuters* in an interview at the

CERAWEEK conference in Houston.

The first SMRs will not be able to compete with gas but they will become cheaper as technologies develop, and the US government will try to help them clear regulations and with financing, said Wright, who sat on the board of SMR company Oklo until becoming secretary.

Oklo signed a non-binding agreement in December to deploy SMRs to data centre operator Switch over 20 years.

Oklo hopes to get a licence from the NRC in late 2027, after the regulator initially rejected the application in 2022.

Oklo's founder and chief executive officer Jacob DeWitte blamed the rejection on difficulties with remote work during the Covid-19 pandemic. — Reuters

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