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Hyperscalers Supporting New Nuclear Energy Industry

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RECENT DEVELOPMENT

[Google](#) and [Amazon](#) announced major initiatives in mid-October to incorporate Small Modular Reactors (SMRs) into their clean energy strategies. Google partnered with Kairos Power to explore their fluoride salt-cooled, high-temperature reactor technology, while Amazon formed agreements with Energy Northwest to develop four advanced SMRs in Washington state and is exploring an additional project with Dominion Energy near Virginia's North Anna nuclear station. These initiatives aim to power their data centers while advancing their sustainability commitments.

ANALYST COMMENT

The Department of Energy's recent opening of \$900 million in funding applications for next-generation nuclear technologies signals strong federal support for SMR development. While the US joins countries like Russia, China, Canada, and the UK in pursuing SMR technology, the industry faces significant hurdles. This was evidenced by the November 2023 cancellation of NuScale's Carbon Free Power Project in Utah, which failed after costs nearly doubled, raising subscription prices for participating utilities from \$58 to \$89 per megawatt hour. The project's collapse highlighted key challenges in the SMR sector: cost escalation, complex regulatory requirements, and the need for stable customer commitments.

Hyperscalers like Amazon and Google are emerging as critical players in this landscape, bringing both financial resources and guaranteed demand through their data centers. Their involvement, driven by growing HPC/AI infrastructure power needs, could help create a more favorable environment for new nuclear power development. By providing stable, long-term customer commitments and significant investment capital, these hyperscalers could help SMR companies overcome the financial and market challenges that hindered previous projects.

If SMR companies can successfully navigate these challenges and deliver cost-effective solutions, their technologies could become a crucial component in the global transition to carbon-free power, benefiting both industrial users and communities worldwide. The enormous power requirements of HPC/AI development, often criticized for their environmental impact, may prove instrumental in advancing carbon-neutral energy solutions by providing SMR companies with the crucial early-adoption market they need to establish commercial viability.

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