

## Case Study: Virginia’s Advanced Nuclear Future

In October 2022, the Governor of Virginia released a [new energy plan](#) with a proposal for \$10 million in funding for innovative energy technologies including hydrogen, carbon capture, battery storage, and advanced nuclear energy. Out of this \$10 million, \$5 million would fund the establishment of a Nuclear Innovation Hub in Southwest Virginia. According to this plan, the Nuclear Innovation Hub would leverage the existing “nuclear ecosystem” in Virginia and catalyze advanced nuclear innovation across the United States by deploying new nuclear technologies. The Nuclear Innovation Hub would focus on:



- Deploying the first commercial small modular reactor (SMR) in the US;
- Funding nuclear workforce development;
- Developing Spent Fuel recycling technology; and
- Deploying nuclear-hydrogen energy projects across the state, leveraging existing and future nuclear reactors statewide

Each project would be a first of its kind and would provide economic and social benefits to communities across Virginia. The Governor's Plan builds off years of momentum in the Virginia Legislature. In the years since 2013, Virginia [has enacted multiple bills](#) that have spurred clean energy technology development, including Advanced Nuclear Reactor Technologies (ANRT).

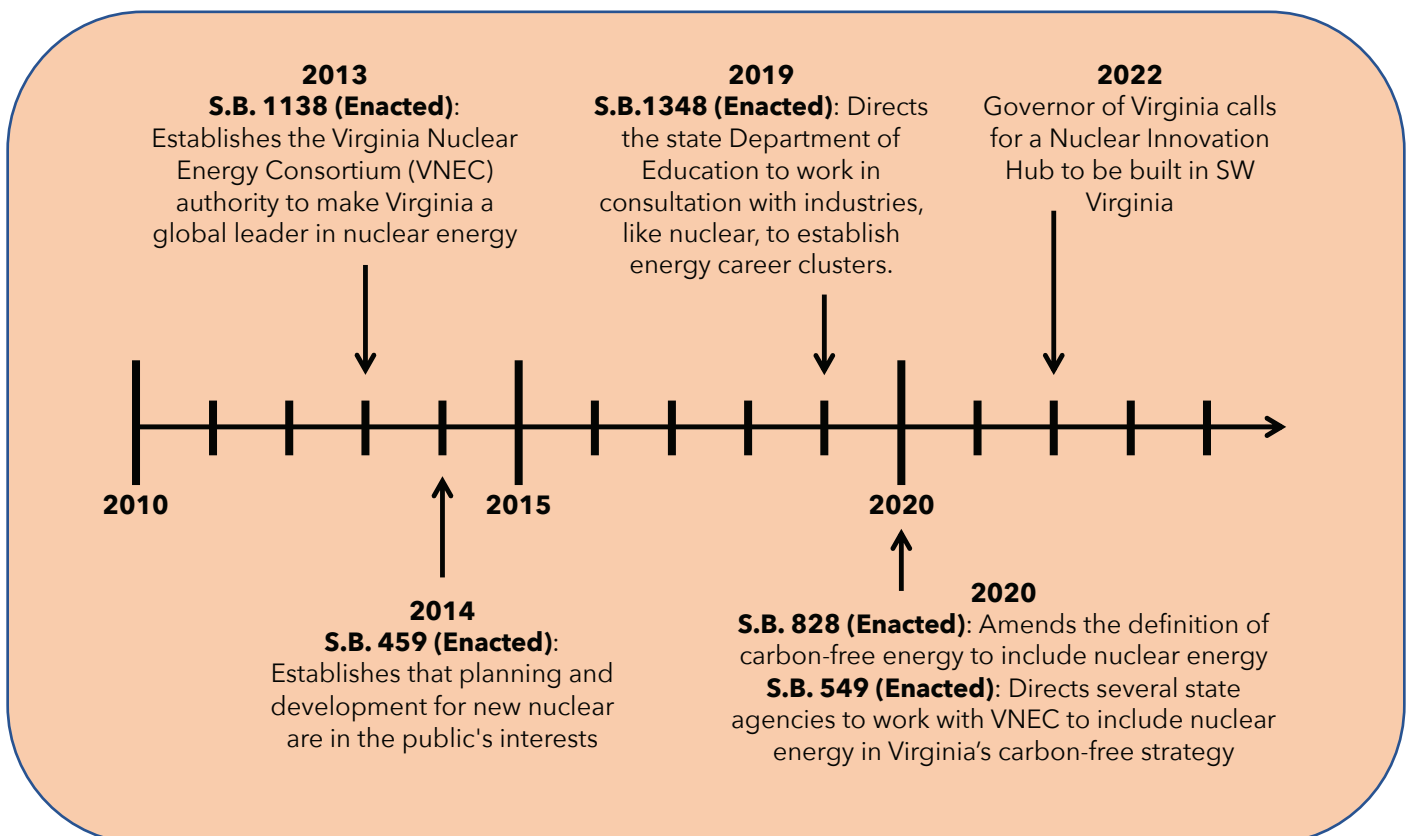


Figure 1: Key Legislation Enacted Leading Up to Nuclear Innovation Hub Announcement

A key driver of Virginia's potential nuclear energy future is the [Virginia Nuclear Energy Consortium \(VNEC\)](#). The consortium consists of universities, utilities, and reactor technology companies ranging from developers to nuclear fuel companies. Their mission is to sustain and enhance the Commonwealth of Virginia as a national and global leader by serving as an interdisciplinary business development, research, training, and information resource on nuclear energy issues.

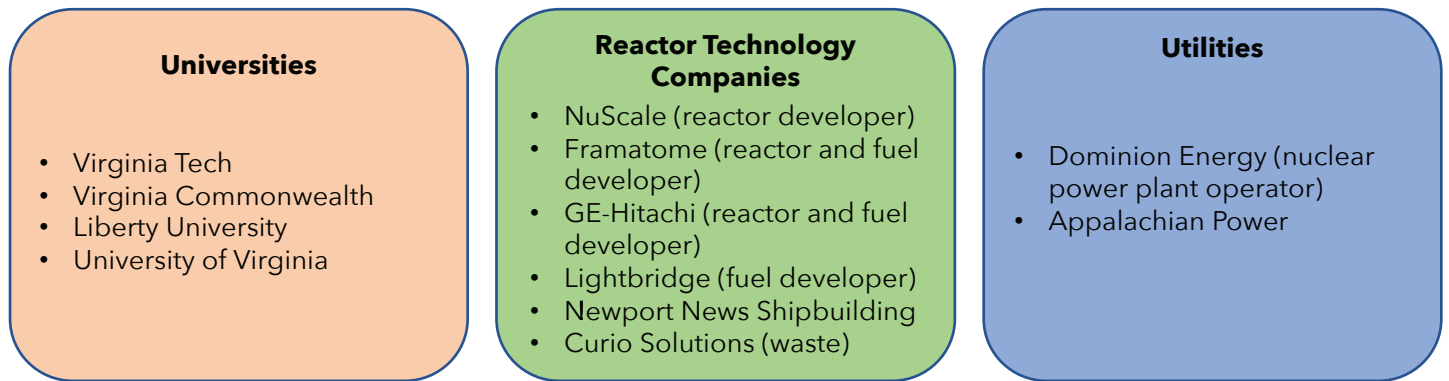


Figure 2: Virginia Nuclear Energy Consortium (VNEC) Members

As a result of S.B 529 (2020), VNEC developed and submitted the "[Virginia is Nuclear](#)" Strategic Plan in early 2021 to advance Virginia's nuclear energy industry. Through VNEC and their work, Virginia is well poised to bring a Nuclear Innovation Hub into reality. With an existing nuclear workforce, a variety of companies involved in nuclear innovation and operation, and a university system that can support the next generation of engineers, experts, and technologists, Virginia is among few states with the level of infrastructure required to develop a Nuclear Innovation Hub.

Early adoption of the Nuclear Innovation Hub plan would provide Virginians more [high paying jobs](#) and centralized supply chains that can serve as footholds for a rapidly growing and dynamic industry. The deployment of advanced nuclear can also help achieve Virginia's long-term energy goals by serving as a reliable, flexible, low-carbon emission energy source that can be used to generate electricity and [decarbonize other sectors](#) like hydrogen production or process heat. Virginia can also lead the nuclear waste conversation by developing spent fuel recycling technology in the state.

The Governor's budget proposal is one example of momentum across the United States for nuclear innovation and the deployment of advanced nuclear projects. From [Alaska](#) to Virginia, states have begun to take notice of the advantages of advanced nuclear energy and have taken the first steps to deploy these technologies by introducing and enacting nuclear inclusive legislation. Before the Nuclear Innovation Hub is official, it must be approved by the Virginia General Assembly. Under Virginia's biennial budget schedule, Virginia's budget bill is adopted in even-numbered years and amended in odd-numbered years. The budget would need to be amended in 2023 to include the Nuclear Innovation Hub proposal or the next biennial budget in 2024 could include the hub. For more information on how states can play a role in deploying advanced nuclear projects, please contact [vibarrajr@nuclearinnovationalliance.org](mailto:vibarrajr@nuclearinnovationalliance.org).