State Nuclear Policies

Description: “State Nuclear Policies” is a compilation of introduced, enacted, failed, and vetoed legislation and executive orders intended to accelerate the deployment of advanced nuclear technology in the U.S. These topics derive from major themes seen in various advanced nuclear technology-related legislation, and the document is organized by the following topics:

CONTENTS

The Commonwealth of Kentucky showcases how a state government can begin to prepare for a burgeoning, new nuclear industry. The Kentucky General Assembly opened the door to nuclear construction and generation through the repeal of their nuclear moratorium in 2017. There was a

years-long lapse in nuclear legislation being considered in the General Assembly; however, during the 2022, 2023, and 2024 legislative sessions, multiple pieces of legislation were enrolled into law to examine funding sources, study the potential for a state nuclear development authority, establishing the Kentucky Nuclear Energy Development Authority, and directing the state Public Service Commission to make preparations for the siting and construction of nuclear development in the Commonwealth.

**Disclaimer: This document is not intended to serve as a list of policy recommendations, nor is it a comprehensive list of all state nuclear policies impacting nuclear energy in a state. The inclusion or exclusion of bills is not an endorsement or political opposition towards the intent or language of a bill. The "topics" listed here do not represent all areas of subject matter introduced by legislative bodies but are rather limited to topics that impact or may impact nuclear power.*

FEASIBILITY STUDIES AND WORKING GROUPS

State and local governments assess the potential for new nuclear power generation by mandating focused feasibility studies on new nuclear technology. Since 2020, several states have ordered over 20 studies to be conducted by legislative interim committees, specialized working groups, state agencies or contracted consulting firms. These studies generally provide an overview of the technical, economic and political impacts of new nuclear technology.

Connecticut HB5357 (2024): Require the Energy and Environmental Protection Agency to study the feasibility of developing a new reactor at a nuclear plant and the impacts of decommissioning Unit 1 at Millstone Nuclear Power Station.
Completed study: Although there is considerable national interest in deploying new nuclear reactors for the potential of firm, clean energy generation, cost risk represents an especially high barrier to the deployment of first-of-a-kind and subsequent early projects, particularly in states with deregulated energy markets.

Kentucky SJR79 (2023): Establish the Nuclear Energy Development Working Group within the Energy and Environment Cabinet to study and identify barriers to nuclear energy development in the state; develop recommendations for a permanent nuclear authority; and consult with federal, state, and local agencies and organizations.
Completed study: Although spent nuclear fuel, and radioactive waste in general, is of heightened concern in Kentucky, the Working Group concluded that there are no insurmountable barriers to nuclear energy development in the state.

Michigan HB6019 (2022): Require an outside consulting firm to provide for a feasibility study of nuclear energy generation in the state, including economic and environmental advantages and

disadvantages, ways to maximize nuclear-related workforce, socioeconomic assessment and impact analysis, and the timeline for development.
Completed study: Michigan is in a uniquely advantageous position with operational and decommissioned nuclear power plants that can host new nuclear projects, and SMRs have the potential to shorten nuclear project timelines considerably.

New Hampshire HB543 (2022): Establish a commission to perform an analysis on the advances in Generation IV reactors, passive safety systems, nonelectric applications, potential siting options within the state, federal incentives for nuclear power generation and potential obstacles with federal nuclear regulation.
Completed Study: First-of-a-kind reactors will have a better chance of success in regulated markets as construction costs can be spread out over time; advanced nuclear power is necessary for reducing emissions in New Hampshire, and cost efficiency and reliability of new nuclear is the primary driver for interest as opposed to climate change.

See also: Colorado HB1247, Florida SB1624, Kentucky SB198, Maryland SB805, Minnesota SF3120, Nebraska LB1100, New Hampshire HB1644, Pennsylvania HR238, Texas governor letter to public utilities chair

ESTABLISHMENT OF AUTHORITIES

State governments have established nuclear-specific authorities, usually within state agencies, to research, promote and even develop new nuclear technologies within their states. These authorities serve as the clearinghouse for all nuclear-related topics; resources for other state-level stakeholders; and points of contact for federal, nuclear-related entities.

Kentucky SB198 (2024): Establish the Kentucky Nuclear Energy Development Authority within the University of Kentucky Center for Applied Energy Research to support and facilitate development of a nuclear energy ecosystem and prepare a nuclear energy workforce. Also, this bill requires the established authority to produce a site suitability study to identify the best potential locations for new reactors by Dec. 1, 2025.

Ohio HB434 (2023): Establish the Ohio Nuclear Development Authority to be a resource for Ohio and federal agencies regarding advanced nuclear research reactors, isotopes and isotope technologies; make Ohio a leader regarding new advanced nuclear research reactors, isotopes, and high-level nuclear waste reduction and storage.

Virginia SB1138 (2013): Establish the Virginia Nuclear Energy Consortium Authority to make Virginia a national and global leader in nuclear energy and to serve as an interdisciplinary study, research and information resource on nuclear energy issues for the commonwealth.

See also: Virginia HB894

STATE ENERGY PLANNING

States have incentivized technologies that qualify them for various market incentives. By classifying nuclear energy into a suite of energy technology, utilities and technology developers can access regulatory and financial mechanisms for commercialization. State legislatures have expressed intent to attract and promote development of advanced nuclear energy, sometimes requiring state agencies to include new nuclear energy in their energy planning. Additionally, state legislatures have created or amended existing clean energy mandates to include nuclear energy, allowing equity in future deployment.

Classifying nuclear

Ensuring that nuclear energy is classified as "clean" or "green" energy under state statute often allows the technology to be allowed similar, if not the same, state tax credits and other financial incentives that renewable resources can obtain.

Colorado SB39 (2024): Classify nuclear generation as a clean energy resource in the state to allow eligibility for clean energy project financing at the county and city levels.
See also: Idaho HB96, Iowa HB2279, Ohio HB308

Utah HB241 (2024): Define nuclear generation as a clean energy system in the state allowing for the exchange of renewable/clean energy credits.

Promoting Development

Although it is difficult for state governments to mandate the construction of new nuclear generation, the legislative and executive branch can foster a nuclear-friendly environment through legislative intent, requiring requests for proposals, and mandating the potential inclusion in state energy planning and strategy.

Iowa HB2554 (2024): Modify the Legislature's intent to attract and encourage the development of nuclear power in Iowa to meet local and regional power needs.
See also: Tennessee HJR1009

Maine HB1549 (2023): Require the Public Utilities Commission to annually issue requests for proposals soliciting informational bids for small modular nuclear reactors, including the cost of establishing a reactor in the state, proposed location, timeline for development and annual operational costs.

New Mexico HB12 (2023): Classify nuclear as an advanced energy technology, allowing for a public-private partnership of an advanced energy technology project to provide economic and administrative efficiencies.

Washington SB5129 (2023): Adds "advanced nuclear reactor technology" to the requirement of developing and implementing a strategy to reduce dependence on fossil fuel energy sources in the state.

Energy standard mandates

As states assume greater responsibility for shaping the energy generation mix in a carbon-constrained future, adding nuclear as an eligible technology in renewable portfolio standards or amending clean energy standards to include nuclear allows for its integration into the state's future energy mix. These mandates ensure that clean energy, including nuclear, make up a given percentage of the state's energy portfolio by various different dates in the future.

Alaska HB368 (2024): Establish a clean energy standard of 35% by 2036 and 60% by 2051 and add a clean energy transferable tax credit worth 0.2 cents per kilowatt hour to the state's framework, including nuclear generation.
See also: Michigan SB271, Minnesota HF7, North Carolina HB951

New Hampshire HB616 (2023): Add Generation IV reactors or later nuclear energy systems deployed after Jan. 1, 2024, as a new eligible class under the state's renewable portfolio standard.
See also: Connecticut SB300, Virginia SB557, Massachusetts HB3216

FOSSIL-FUEL TRANSITION

States, particularly those historically reliant on coal generation, are transitioning to cleaner energy sources to replace or repurpose their legacy fossil-fueled generators to ensure future grid stability and reliability. States are eager to explore new job creation and revenue streams, as these clean-energy assets are vital to communities and their economies. Legislators have also considered mandating like-for-like replacement of retiring fossil assets with other dispatchable generation, including nuclear energy.

Missouri SB1423 (2024): Require state agencies planning to reduce emissions of an electric generating facility to achieve it through generation from clean energy resources, including nuclear energy.
See also: West Virginia HB4904

Oklahoma SB1712 (2024): Require electric utilities to prioritize replacement of a retiring coal plant with an advanced nuclear reactor.
See also: Arizona HB2646, Nebraska LB1370, Wyoming HB74

WORKFORCE DEVELOPMENT

A Department of Energy report projects a need for over 375,000 additional workers to construct and operate 200 gigawatts of new nuclear capacity in the U.S. by 2050. State, community and technical colleges will play a crucial role in training construction workers, welders, electricians and pipefitters; thus, states have created initiatives and allocated funding to support a new nuclear workforce.

Nebraska LB568 (2022): Establish a working group to award grants to community and state colleges to develop workforce training courses to meet the needs of the nuclear and hydrogen industries and appropriate $5 million to provide such courses.
See also: Michigan HB5608, Virginia HB1779

New Jersey SB1615 (2024): Appropriate $1 million to establish a Nuclear Energy Apprenticeship, Training, and Employment Resources Pilot Program within the Department of Labor and Workforce Development for adult apprenticeship programs in nuclear energy infrastructure, nuclear energy utilities and other nuclear energy-related sectors.

Michigan HB5607 (2024): Create the Nuclear and Hydrogen Graduate Attraction and Retention Program to award grants to recent graduates who are employed at a qualified electric generation facility for up to three years.

SUPPLY CHAIN/CLEAN ENERGY MANUFACTURING

The limited construction of nuclear plants in recent decades, combined with new requirements from advanced reactors, makes building the nuclear supply chain essential for nuclear's commercial success. Opportunities for involvement in the new nuclear ecosystem go well beyond the deployment of reactors for electrical and industrial generation; there must be a revitalization of the full nuclear fuel cycle and improvements in advanced manufacturing to meet the goals of a more carbon-constrained future.

Michigan HB4753 (2023): Provide a 15% tax credit to small modular reactor developers for research and demonstration expenses incurred in the state toward the deployment of new nuclear.

New Jersey SB235 (2024): Create tax credits of 15% to 50% for the manufacturer of equipment or components of advanced nuclear energy facilities in the state.

See also: Washington SB5244

Washington HB1981 (2024): Provide preferential business and occupation tax rates to attract the production of nuclear fuel, advanced small modular reactors and microreactors.
See also: New Jersey AB3074, Washington HB2120

Tennessee EO101 (2023): Creates the Tennessee Nuclear Energy Advisory Council and sets aside $50 million for the council to provide grants and financial assistance for nuclear power businesses that relocate or expand operations in the state.

MARKET INCENTIVES

There are various avenues state governments can take to enable markets for the commercialization of new technologies and incentives that the federal government has unlocked for advanced nuclear reactors.

Tax credits

The main source of market incentives that state governments have used to attract advanced nuclear development is through the implementation of tax credits. State-funded tax credits have been critical in the development of first-of-a-kind technologies in the past and will be an important implementation, alongside federal tax credits, for new nuclear generation.

Illinois SB193 (2024): Establish carbon mitigation credits for carbon-free energy resources, which are defined as a nuclear power plant that is interconnected to the JPM Interconnection market.
See also: Pennsylvania SB979

New Jersey AB4592 (2022): Create the New Jersey Advanced Nuclear Energy Development Program to incentivize construction of advanced nuclear energy facilities and provide tax credit incentives for constructing and producing energy.

Utah HB124 (2024): Add nuclear to the definition of an "energy delivery project" allowing access to High Cost Infrastructure Development Tax Credits.

Advanced rate recovery

Due to the high upfront costs of nuclear plant development, licensing and construction, some states have begun to allow their electric utilities to recoup costs through rate recovery before the plant is commissioned and supplying electricity to the grid.

Missouri HB1804 (2024): Allow for construction work-in-progress mechanisms of new nuclear plant construction with a capacity of 300 megawatts or less.

Virginia SB454 (2024): Allow Dominion Energy to achieve advanced rate recovery for development costs of new nuclear, including evaluation, design, engineering, federal approvals and licensing, environmental analysis and permitting, early site permitting, equipment procurement, and an authorized rate of return.
See also: Virginia HB1491, Missouri SB1493

Tax exemptions/deferments

Tax exemptions allow electric utilities planning to build a new nuclear power plant to either defer or exempt property tax payments through the planning and development stages until construction starts or to be exempt from all property taxes in general.

Kansas HB2768 (2024): Exempt "new electric generation facilities," which is defined as nuclear energy for generation, from all property or ad valorem taxes levied under Kansas law.

Wyoming HB213 (2023): Exempt energy production equipment for future generating facilities from property taxes before the start of construction.

SITING

Clear rules around siting energy sources could streamline the approval process, reducing costs and saving time. States are allocating funds, creating new regulations and encouraging early site permits to minimize siting hurdles.

Nebraska LB1100 (2022): Appropriate $1 million to conduct a feasibility study to assess (a) siting options for new advanced nuclear reactors throughout Nebraska and (b) existing electric generation facilities based on key compatibility assets for advanced nuclear reactors.

Oregon SB832 (2023): Create new provisions for small modular reactor developers seeking a land use permit in a county and relating to a cost reimbursement agreement.

South Carolina SB909 (2024): Allow utilities pursuing the deployment of new nuclear to apply for state grants to pay for siting studies, including an Early Site Permit, where such grant is not to exceed $75 million.

Washington HB1123 (2024): Establish that the state cannot override local tribes or county government resolutions supporting the siting of a nuclear energy facility over a wind or solar project.

REGULATORY

Many states do not have historical precedent for the approval process of nuclear power plants and have been directing their respective utilities commission to begin promulgating rules and regulations for new nuclear development. Although most of the major nuclear licensing and regulations derive from the federal Nuclear Regulatory Commission, there are still approval processes that need to happen at both the state and local levels.

Indiana SB271 (2022): Require the Indiana Utility Regulatory Commission to adopt rules related to granting certificates of need for the construction, purchase or lease of small modular nuclear reactors.

Virginia HB2333 (2023): Establish a small modular nuclear reactor pilot program under which any entity that holds a license from the Nuclear Regulatory Commission may apply to the Virginia State Corporation Commission for a Certificate of Need.

See also: Kentucky SJR140, New Jersey SB1187, Oklahoma SB206, Oklahoma SB1712, West Virginia HB4656, West Virginia HB5150

MORATORIUM REPEALS/EXEMPTIONS

Twelve states have some sort of restrictions on the construction of new nuclear generation, with most of them including a clause that no new construction can start before the federal government establishes a permanent repository for spent nuclear fuel from commercial nuclear generation. Since 2016, six states (Wisconsin, Kentucky, Montana, Connecticut, West Virginia and Illinois) have enacted legislation to either fully or partially repeal their nuclear moratoria.

Connecticut HB5202 (2022): Exempt new nuclear construction at Connecticut nuclear facilities from the state nuclear moratorium.

Illinois HB2473 (2023): Allow construction to begin on reactors of 300 megawatts or less once the Illinois Emergency Management Agency and the Illinois Environmental Protection Agency adopt rules to regulate small modular reactors.
See also: Minnesota HB4430

West Virginia SB4 (2022): Repeal the requirement that a federal waste depository is required before the construction of a nuclear plant in the state is approved.
See also: Kentucky SB11, Wisconsin AB384

Montana HB273 (2021): Transfer the power to authorize the construction of nuclear power facilities in the state from the public, via referendum, to the Legislature. The new measure overturns the Montana Empowering Voters to Approve Proposed Nuclear Facilities Initiative, which had been on the books since 1978.
See also: Oregon SB676

Rhode Island HB7585 (2024): Remove legislative approval of construction of a nuclear power plant, ultimately ridding the state of its nuclear moratorium.
See also: Hawaii HB1741

Each state's energy policy and strategy are unique, shaped by its natural resources and existing generation portfolio. This diversity is evident in the numerous nuclear-related legislations introduced recently. Regardless of the state considering the attraction and deployment of advanced nuclear technology and the broader nuclear supply chain, multiple innovative approaches will be necessary to advance the industry. If you are interested in proposing nuclear legislation and need technical information and resources, please reach out to the GAIN team.

About Idaho National Laboratory:
Battelle Energy Alliance manages INL for the U.S. Department of Energy's Office of Nuclear Energy. INL is the nation's center for nuclear energy research and development, celebrating 75 years of scientific innovations in 2024. The laboratory performs research in each of DOE's strategic goal areas: energy, national security, science and the environment. For more information, visit www.inl.gov. Follow us on social media: Facebook, Instagram, LinkedIn and X.

About Gateway for Accelerated Innovation in Nuclear:
The Gateway for Accelerated Innovation in Nuclear (GAIN) initiative provides the nuclear community with access to the technical, regulatory, and financial support necessary to move innovative nuclear energy technologies toward commercialization. GAIN's mission is to support the development and deployment of advanced nuclear technologies and support community engagement seeking to learn more about advanced nuclear energy. For more information, visit gain.inl,gov. Follow us on Facebook, Instagram, LinkedIn and X.