

State Policies That Can Accelerate Fusion Power Plant Development



Commonwealth Fusion Systems
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Introduction

Fusion energy is a fundamentally new source of clean energy. It's a zero-carbon, baseload energy source that is inherently safe and will be economically competitive. With no major barriers to rapid scaling, commercial fusion power plants will contribute to global decarbonization, energy security, economic growth, and energy independence goals.

With these advantages, it's little wonder there's such eagerness to bring fusion energy to the power grid.

U.S. state leaders and policymakers interested in attracting commercial fusion development to their own states can play a significant role in fusion companies' location decisions. In this paper, we share seven key policy pillars that can influence those siting decisions.

Fusion is the process that powers the stars. There, hydrogen nuclei fuse together into helium nuclei, releasing enormous amounts of energy in the process. Commercial fusion systems will harness this process on a relatively compact footprint and create heat that will be converted into electricity. To the grid, fusion power plants will look like a similarly sized natural gas power plant, requiring about the same amount of land, but with no greenhouse gases.

For decades, fusion was largely a scientific pursuit. Progress has now brought commercialization within reach. Dozens of private fusion company efforts, fueled by over \$10 billion in capital, are advancing with plans to bring fusion power to the grid in the early 2030s. Among countries, a global race for fusion has begun.

With 29 of 53 private fusion companies headquartered in the U.S., states have an opportunity to lead the way in commercial fusion deployment. Leading in fusion energy will mean a significant boost in economic development and in clean, baseload power generation for a particular region. States that adopt fusion friendly policies that provide timeline and development certainty to companies can gain an advantage as companies make siting decisions.

No single policy can cover all states' energy needs and regulatory landscapes, so there can be no "one policy" fits all. But we believe that implementing some of the following recommendations and engaging with private fusion companies will help states attract early fusion development.

States wanting to attract the fusion industry should consider these actions:

- **Include a definition of fusion energy in state statute**
- **Create policies that would facilitate preparing sites for fusion power plants**
- **Establish a strong in-state radiological licensing program**
- **Provide timeline certainty in existing permitting processes for fusion power plants**
- **Extend incentives to accommodate fusion or create fusion specific incentives**
- **Bolster state financing mechanisms to support fusion power plants**
- **And encourage utilities to incorporate fusion into state grid planning and modeling frameworks**



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Inside the magnet factory at CFS headquarters in Devens, Massachusetts



Defining fusion in statute

As one of the first steps in attracting early fusion deployment, state policymakers should appropriately define fusion energy in statute. Adding a definition of fusion energy to state law provides developers with more certainty in determining the applicability of certain state policies. It can also serve as a strong foundation for future legislation, including making fusion eligible for clean energy policies as appropriate.

Several states in the U.S. do not define the term “nuclear energy” in statute. This creates some confusion and ambiguity on how fusion energy would be treated in state statute.

To ensure fusion energy is treated appropriately based on its unique characteristics, states should proactively define “fusion energy” and “fusion machine” in statute. Defining fusion will help provide clarity and resolve confusion. This could be relevant in distinguishing fusion from fission. Fusion and fission are opposite reactions and fundamentally different processes, with very different risk profiles. During fusion, light elements such as hydrogen fuse together to make helium and release enormous amounts of energy. Fission, commonly known as “nuclear” power, is the process of using neutrons to split heavier and unstable elements such as uranium or plutonium to generate energy. Unlike fission, fusion does not use special nuclear materials (uranium or plutonium) as fuel, and does not work via chain reactions. Fusion does not present any risk of meltdown and does not create spent nuclear fuel or high-level, long-lived waste.

We have seen state statutes that have already defined fusion energy. Virginia, for example, defines it as “energy generated through the process of fusing together atomic nuclei.” This definition of fusion energy helps educate policymakers about the differences between fusion and fission but also provides a foundation for future policies.

Define fusion as “zero-carbon”

Given that fusion energy is a source of clean and baseload power, state legislatures should work to categorize it as such within existing state policies. To do so, they can include fusion in existing definitions of “zero-carbon,” “firm power,” or “clean energy.” Adding fusion to such definitions could also make fusion eligible for policies that incentivize clean, firm power and also help level the playing field with similar technologies.



Siting for fusion power plants



The site of the first CFS power plant, ARC, in Chesterfield County, Virginia

Ideal sites for early fusion power plants are close to an interconnection, load demand, and transportation infrastructure. Interestingly, brownfields¹ — specifically, retired coal or gas plants — tend to have a lot of these attributes. Preparing and owning these sites, however, presents developers with major challenges, mostly related to high decontamination and remediation costs, environmental liabilities, and general site preparation work. Therefore, states with policies that support pad-readiness programs for both greenfields and brownfields, generally providing appropriate funding for brownfield remediation and ensuring adequate liability protection for brownfields, will be attractive states for fusion power plants.

¹ According to the EPA, a brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.



Fund site-prep readiness work

States can attract fusion developers by dedicating funds and state expertise to site preparation for brownfields and greenfields. States can issue grants or incentive programs to fund or reimburse developers for their site prep work. States considering this approach, or something similar, could also apply existing transportation grant programs to the transportation costs associated with the project. These site-prep readiness programs could lower the upfront costs for fusion power developers and subsequently attract early deployment.

Fund brownfield redevelopment programs

Some states have existing programs that provide private developers with grants or incentives to redevelop brownfield sites. However, the existing funding levels for these programs is quite low compared to the actual decommissioning and remediation costs. Decommissioning and remediation are two major brownfield redevelopment activities. Decommissioning often involves removing equipment, materials, and buildings, while remediation requires cleaning up the existing contamination to support new developments.

Often the larger buckets of funding for redevelopment are only available to public entities or public-private partnerships. For example, Maryland caps its funding at \$200,000 for a single private brownfield redevelopment. New Jersey's Brownfield Impact Fund provides up to \$350,000 to local governments, businesses, and non profits. While Connecticut offers a more sizable grant, up to \$4,000,000, the eligible applicants are only municipalities, the economic development agency, and the Connecticut Brownfield Development Bank.

The actual cost to decommission and remediate retired coal or gas plants varies, ranging from hundreds of thousands of dollars to several million dollars depending on the site's size and condition. According to the Resources for the Future Report, the average cost to fully decommission a coal plant, which often includes remediation, is about \$117,000 per megawatt (MW) of generating capacity. Existing state programs tend to cap grants somewhere between a few hundred thousand dollars and one million dollars for private entities.² By increasing funding for brownfield redevelopment programs and ensuring private entities are independently eligible, policymakers would incentivize fusion companies not only to site within their state, but also to redevelop brownfield sites and bring economic benefits to brownfield communities.³

Ensure adequate liability protection

As noted, brownfields often have the physical attributes necessary to become suitable fusion power plant sites. However, the liability tied to developing previously contaminated sites can discourage development. These

² For example, Pennsylvania offers grants and loans up to \$200,000 for environmental assessments and up to \$1 million for full remediation.

³ Per the Commercial Real Estate Development Association, on average, "\$1 of public investments in brownfields leverages \$16 in total investments."



liabilities mainly consist of soil and water contamination, costs of ongoing monitoring, and the possibility of discovering new contamination on a site previously considered “clean.”

Although all states implement some form of “protection for purchasers of contaminated property,” they do not always protect developers adequately. To protect fusion power plant developers from taking on inappropriate liability for redeveloping a brownfield site, states should implement a comprehensive covenant not to sue (CNS). A CNS can offer adequate liability protection for developers who agree to clean up contaminated sites. The scope of existing CNSs vary from state to state, with some providing limited protection. A comprehensive CNS should include protecting developers from all state government agency lawsuits and private lawsuits, protecting developers from new contamination discoveries that originated from previous operations, and protecting developers from future changes in environmental regulations that may require additional cleanup.

Ohio and Massachusetts both have comprehensive covenants not to sue. Ohio’s CNS is a legal promise releasing the site owner, operator, and future owners from responsibility to the State of Ohio for further investigation and cleanup of the addressed contamination, provided the site is used and maintained consistent to when the state issued the CNS. Ohio strengthens this with the Bona Fide Prospective Purchaser (BFPP) defense, offering self-implementing, automatic liability protection for purchasers who conduct the appropriate due diligence, without the need for affirmative government approval. Massachusetts' Chapter 21E provides protection by designating prospective owners as “eligible persons” for Brownfields Covenant Not to Sue Agreements, if they did not cause or contribute to the contamination and if they complete a “permanent solution” cleanup, defined by the Massachusetts Contingency Plan. This program can grant liability protection from the Commonwealth, protecting against state and third-party claims for cleanup costs and property damage, and may extend to future owners.⁴ A more extensive CNS provides greater protection to developers and thus encourages brownfield redevelopment more than a limited CNS.

Support certified site programs

Certified site programs often involve states providing counties or communities grants to properly prepare industrial sites. Typically, early site preparation includes activities like analyzing characteristics of the land, utility mapping, and at times, land clearing. In Tennessee, for example, the certified site program requires counties and contracted firms to undertake and confirm some of the early analysis needed to develop sites, like geotechnical and environmental studies. This ensures sites are properly studied and therefore primed for development. Fusion power plant developers can then purchase or lease these sites that have been “certified” by the state and benefit from the completed preparatory work.

⁴ According to the Massachusetts Covenant Not to Sue, “If an Applicant is seeking protection against third party claims for contribution, Response Action costs or for property damage pursuant to M.G.L. c. 21E or for property damage under the common law, the Applicant shall provide public notice of this intent, and a public comment period shall follow the application.”



To make these programs even more attractive to fusion power developers, states can designate specific sites for fusion generation. These sites should include the following attributes: a minimum of 50 developable acres, an interconnection on site or an interconnection plan, utilities on site or a formal extension plan, a boundary survey and topographic maps, documented environmental conditions and geotechnical analysis, and a complete permitting matrix.

Creating such a program provides a large amount of information companies need to make early siting decisions quickly and effectively.

Establish opportunity zones for clean baseload power

States can establish opportunity zones for clean baseload power in high load demand zones that need additional power. These sites should have necessary physical attributes, including access to utilities, interconnection, transportation, and acreage, and should offer developers expedited permitting pathways as part of this opportunity zone program. In turn, developers of fusion power plants or clean baseload power can build generation serving these high load demand zones. This model can expedite siting for developers while also reducing transmission losses and reliance on electricity imports for the state. If states want to be even more competitive, they can layer on automatic granting of certain financial incentives, like tax credits, subsidies, and lower interest loans.



Radiological licensing

In 2023, the U.S. Nuclear Regulatory Commission (“NRC”) unanimously voted to regulate fusion machines like particle accelerators within the NRC’s byproduct material framework, under 10 CFR Part 30, a move that officially distinguished its regulatory treatment from fission. In 2024, the [federal ADVANCE Act](#) codified this decision in U.S. law.⁵ The NRC’s decision and later federal law mean that U.S. states that have entered into agreements with the NRC to assume authority over certain radioactive materials, including byproduct material, will be the licensing authorities — called [agreement states](#) — for fusion power plants.



An illustration of CFS’ ARC tokamak

A state’s radiation protection or control program often manages this devolved authority from the NRC. These agencies are typically nested under the state’s Department of Health or the state’s Department of Environment and are broadly responsible for radiation protection, including radiological licensing programs.⁶ Fusion power plant developers will give strong preference to Agreement States. Policymakers looking to attract early fusion

⁵ The Act includes a definition of fusion machine within the Atomic Energy Act and mentions fusion machines within the existing definition of byproduct materials. Specifically, Chapter 2, Section 11 of the Atomic Energy Act [defines](#) the term “byproduct material” as “any material that ... has been made radioactive by use of a particle accelerator, including by use of a fusion machine...”

⁶ A list detailing each state’s radiological licensing program can be found [here](#).



deployment should ensure their states either become agreement states if they are not already, and/or have strong state radiation protection and radiological licensing programs. Agreement States allow fusion power developers to deal directly with the state and not have to refer back to federal agencies for their licensing considerations, leading to a more streamlined process and often, improved communication.

Become an Agreement State with the Nuclear Regulatory Commission

If a state is not already one of the 40 agreement states, it should become one. To do so, the governor sends a letter of intent to the NRC chairman and the state submits a draft application to the NRC. The NRC then assesses the state's current regulatory program and issues an assessment. The process concludes with the NRC chairman and governor signing a formal agreement.⁷ Becoming an agreement state allows states to issue the radiological materials licenses needed for the operation of fusion power plants.

Increase funding for state radiation protection agencies as needed

The relevant regulations and the overarching licensing process for fusion power plants will be similar to those applicable to other particle accelerators.⁸ However, regulating fusion machines, like any new technology, may require additional education and training, especially for the teams responsible for evaluating the related radiological licensing applications. For states to become even stronger and more efficient in licensing fusion, the U.S. government⁹ should consider providing grants that support relevant training and resources at the state level. State policymakers should also consider increasing yearly budgets for their radiation protection agencies to fund additional personnel and fusion training and educational courses.

⁷ The step-by-step process for becoming an agreement state is as follows: the governor sends a letter to the NRC chairman expressing the intent to become an agreement state; the state submits a draft application to the NRC for review and comment; the governor certifies that the state has an adequate program and submits a formal request that includes supporting legislation, regulations, program description and staffing; the NRC assesses the request and after commission approval publishes the staff's assessment and proposed agreement for a 30-day comment period; the NRC assesses public comments and prepares a final assessment; and after commission approval, the chairman and the governor sign the agreement.

⁸ In practice, this means that a fusion machine operator will receive its license directly at the state level, if operating in an agreement state. The process will be to first apply for a license to handle the radiological material — tritium and activated materials — and to later register the machine as a particle accelerator.

⁹ A possible blueprint for a new fusion-specific federal grant program for agreement states and state's radiation protection agencies could be the model that is currently used by the federal Pipeline and Hazardous Material Safety Administration (PHMSA). PHMSA grants provide funding to state agencies that assume regulatory responsibility over pipeline transportation of gas and liquids on behalf of PHMSA. PHMSA's grants also support a variety of other safety initiatives undertaken by states, municipalities, and other entities to improve infrastructure, enhance safety programs, and promote public awareness for pipeline safety (e.g., the national "811 Call Before You Dig" initiative).



Permitting and regulatory certainty for new fusion power generation

Like any other energy development or industrial project, fusion power plants require local, state and possibly federal approvals. Permitting and regulatory processes to build new power generation vary across the country. Processes that come with time delays, uncertainty, and high costs will be challenging for companies working to quickly deploy fusion power plants.

Several states have begun implementing innovative programs to expedite the permitting and regulatory processes and to provide developers with certainty to start construction as swiftly as possible. Implementing fast-track permitting and regulatory programs at the state level and ensuring fusion power plants are eligible will make states more attractive for fusion power plant siting. Moreover, states can consider creating new roles and responsibilities within relevant agencies that act as single points of contact to guide fusion developers through their permitting and regulatory processes.¹⁰

Fast track programs for state level permits

Recognizing the uncertainty in permitting timelines, some states have already established expedited permitting programs, mainly for renewable energy projects and other key developments. These programs can expedite certain state environmental, zoning, and local building permits. They reduce processing time by improving coordination across agencies and establishing predictable regulatory review periods.

Some states have sought to improve coordination by simply consolidating permit approvals for renewable energy into one office. For example, New York's Renewable Action through Project Interconnection and Deployment (RAPID) Act consolidates the environmental review, permitting, and siting of major renewable energy facilities and major electric transmission facilities under the state's Office of Renewable Energy Siting and Electric Transmission (ORES). RAPID significantly shortened review periods by requiring ORES to issue a final decision within one year.¹¹ Overall, this program provides developers with a more straightforward and faster permitting process. This not only accelerates actual deployment of renewable energy but also incentivizes developers to site in New York.

¹⁰ The Texas nuclear permitting coordinator serves as a a single point of contact for stakeholders during the nuclear energy permitting process; identifies active or likely siting opportunities and required permits and approvals for nuclear energy sites and key personnel; provides tailored assistance to help industry navigate relevant local, state, and federal regulations and regulatory entities for nuclear facilities; and shares information regarding Texas' economic incentive programs for advanced nuclear reactor projects.

¹¹ "Before ORES, larger renewable developments took 5–10 years under the Article 10 process, and as a result, only a handful of renewable projects had completed the process.



Pennsylvania has also implemented its own Fast Track Program that streamlines the permitting process for key economic development projects. Pennsylvania’s program seeks to expedite the permitting process by directing the Office of Transformation and Opportunity (OTO) to manage and coordinate permitting across government agencies and liaise with applicants. Pennsylvania's expedited program helped spur a \$20 billion investment from Amazon that aims to establish “multiple high-tech cloud computing and AI innovation campuses across the state.” Considering that fusion also brings large economic development opportunities and clean firm power to the grid, states should ensure their existing or new expedited programs include fusion energy projects.

Streamline power generation approval processes

Although specific responsibilities and statutory authorities may differ, every state generally has a regulatory agency that broadly oversees utilities and some aspects of power generation. Separate from state level permitting processes, these agencies are required to authorize the development of new electric-generation facilities prior to start of construction by certifying their reliability, safety, and public benefit. The approval process for large-scale generation projects can exceed a year, potentially extending the timeline for both construction and commercial operation.

Policymakers should work with their public utility commission (or equivalent state agency) to help expedite and streamline existing processes for deployment of clean, firm electric generation. Several states have already adopted accelerated review timelines for renewable energy projects. These timelines require agencies to render a final decision within a defined period, often a few months after receiving a complete application. Extending such expedited review requirements to fusion power plants would similarly offer developers a predictable approval timeframe, fostering early deployment and investment.

Leveling the “playing field” with tech-neutral incentives

For years, states have offered clean energy developers, manufacturers of new technologies, and other large industries incentives in the form of grants, tax credits or tax exemptions. These incentives provide eligible developers with important savings and can play a large role in siting decisions. Being a new technology and a relatively new industry, fusion is not often eligible for these types of incentives. States that create fusion specific incentives or add fusion to existing incentives structures, could position themselves to attract developers and the deployment of fusion power plants.

Fusion specific incentives could emulate the ones currently applicable to other clean energy sources. Colorado, for instance, automatically provides renewable energy developers with sales and use tax exemptions for components used to produce electricity from “renewable energy sources.” Similarly, Nevada offers renewable energy developers savings via property tax abatements of up to 55% for up to 20 years for property used to generate and store electricity from renewable energy resources. More recently, Massachusetts, sought to position itself as a national leader and further attract the offshore wind industry through aggressive incentives.



As part of the Mass Leads Act, Massachusetts provided \$200 million to the state's Offshore Wind Industry Investment Fund. This fund supports industry by promoting domestic supply chains, manufacturing facilities, and innovation. If states want to attract early commercial fusion deployment, they should ensure that existing programs for clean tech or other existing clean energy sources are also available for fusion energy. They should also consider allocating additional funds, specific to fusion.



Commonwealth Fusion Systems' (CFS) headquarters in Devens, Massachusetts, site of the SPARC demonstration machine

Fusion specific incentives could include transferable fusion power tax credits of up to 30% of qualified spending. These fusion tax credits could either be based on the upfront capital costs of the project or the amount of electricity generated from the project. Developers will have varying preferences for investment based or production based tax credits, often dependent on the project's anticipated generation capacity factor, expected nameplate capacity (MW), and upfront capital costs. Therefore, developers should have the choice to apply either to the project. In practice, a fusion power developer could use these tax credits to reduce their own state tax liability and/or sell remaining credits to other third parties.¹² In turn, this could reduce a developer's annual spend and they could pass through savings to the offtaker, further driving down costs of fusion power.

¹² Several states have attracted new industries by implementing transferable state tax credits. For example, empowered by the Georgia Entertainment Industry Investment Act, Georgia implemented a transferable film tax credit up to 30% for qualifying projects. Georgia's film tax credits attract billions in production spending and investment each year. The business of power plants is different from films, but the upfront costs of both products remain very high.



Bolstering state financing mechanisms

Fusion developers, like any other energy developer, are always looking to lower the cost of upfront capital. Therefore, states that offer more aggressive financing mechanisms will become very attractive to private fusion developers. These more aggressive financing mechanisms may include creating a specific fusion development fund, ensuring fusion is eligible for clean energy funds, and offering low interest loans to developers.

Create a Fusion Development Fund

One year after Texas declared itself a leader in advanced nuclear energy, Governor Abbott signed House Bill 14 into law, dedicating \$350 million to the industry. This fund provides reimbursement grants for various activities including but not limited to technology development, feasibility studies, site planning, engineering work, permitting, manufacturing, regulatory licensing fees. On a smaller scale, Tennessee implemented its own \$70 million nuclear development and manufacturing fund to support nuclear energy business investments. States looking to attract early fusion deployment could build a similar fusion development fund offering grants, tax incentives, and low interest loans for fusion development activities, including site pad readiness work.

Make fusion power eligible for clean energy funds

Several states have existing clean energy funds or similar programs that leverage both public and private capital to pursue goals for clean energy projects.¹³ In 2023, there were reportedly more than 20 clean energy funds across 16 states and the District of Columbia. Clean energy funds typically require initial government seed funding. With time, the invested public dollars grow with modest interest and are reinvested into new clean energy projects, making the fund self-sustaining over time. These funds provide “financing and incentivize investment opportunities to large private capital investors and smaller-scale consumer investors,” the National Governors Association says. They typically offer lower-cost capital in the infrastructure project via loan guarantees, low interest long term loans, and/or credit enhancements. States with clean energy funds or similar programs should ensure fusion is eligible as a clean energy source.

New York launched its clean energy fund, also known as a “green bank,” in 2013. According to the Green Bank, it has invested and reinvested its “initial \$1 billion capitalization to result in over \$2 billion of capital commitments advancing New York’s green economy.”¹⁴ New York’s fund is one of the largest in the country. It has provided substantial financing loans, including \$60 million to help finance solar and battery storage projects. Long-term lower interest loans, even if for part of the project, can substantially lower financing gaps and reduce private

¹³ Clean Energy funds are also referred to as energy investment partnerships (EIPs), infrastructure or resilience banks, and green banks.

¹⁴ “NY Green Bank reached self-sufficiency earlier than expected in July 2017 with revenues exceeding operating expenses.”



capital risk, which then encourages commercial deployment. Additionally, the company pays interest, even if just a little, providing the state with consistent revenue to reinvest into other projects.

Loan guarantees are also a crucial tool for attracting private capital to finance clean energy projects. As noted by the [National Governors Association](#), loan guarantees mitigate risk, because “the green bank assumes the obligation of payment in the event of a borrower default.” The [Coalition for Green Capital](#) concludes that these loan guarantees are especially suitable “for a market where private lenders are interested in entering the market but are hesitant due to perceived risks.” In practice, a state can guarantee a certain amount of capital for loans of a certain amount. For instance, California will guarantee up to \$5 million for a \$20 million loan, essentially lowering the risk for investors from \$20 million to \$15 million. States interested in attracting early fusion deployment should consider increasing these credit guarantees for fusion power plants, considering they are much larger capital projects than traditional community and some utility-scale renewable energy projects.

Implement options for low cost of capital

Separately from clean energy funds, several states have implemented lower interest long-term loan programs for energy and other key infrastructure projects. These lower interest loan programs can offer companies substantial loans at 0.9% to 3% interest rates, significantly lower than traditional private financing. States should ensure fusion companies are eligible for these lower interest loans and consider providing more substantial lower interest loans to developers building fusion power plants where electricity demand is high.¹⁵

This year, Texas [announced](#) a loan agreement for a large gas plant that will interconnect at one of the largest electricity demand centers in Texas. The state government will provide a 20-year \$562 million loan at a 3% interest rate, representing about 60% of the overall project cost. This significantly reduces financing costs for the developers while also bringing dispatchable power to the state.¹⁶

Several state governments operating in interconnected markets also provide options for reduced cost of capital through loans to energy infrastructure projects. While the loans may be less substantial than what Texas offers, they can still offer some relief to smaller-scale development projects. For instance, Iowa [offers](#) up to \$10 million in loans per quarter at a 2% interest rate for most applicants.¹⁷ If states in interconnected markets want to better serve their high demand load centers and attract fusion power plants, they should first ensure fusion power plants are eligible to participate. Second, states should work toward providing larger lower cost loans to fusion power developers.

¹⁵ High-demand centers are geographic areas on the electrical grid that experience more concentrated electrical usage due to higher demand.

¹⁶ Texas’ independent grid infrastructure, ERCOT, serves almost all of the state’s power demand. Therefore, the Texas government may have an easier time committing this level of dollars to an energy project, knowing it will strictly serve state residents.

¹⁷ Each applicant may receive up to \$2.5 million.



Incorporating fusion into state grid planning and modeling frameworks

Integrating fusion power plants into state and utility planning processes is essential to evaluate the full system benefits of this safe, clean, dispatchable, and flexibly locatable resource. For states pursuing ambitious decarbonization goals, fusion can reduce overall system costs by providing non-intermittent clean capacity and energy. For states focused on economic growth and rising electrical loads, fusion's inherent safety and lack of dependence on major fuel pipelines allow siting closer to load centers. That in turn helps limit the need for new and expensive long-distance transmission. As baseload power, fusion can help improve the resiliency and reliability of an evolving grid.

To realize these benefits, states should ensure fusion is included in core planning exercises. More than 30 states rely on Integrated Resource Plans (IRPs), but even in states without formal IRPs, forward-looking analyses occur through Long-Term Adequacy and Transmission Plans, Clean Energy Standard compliance filings, and decarbonization roadmaps. Policymakers should encourage utilities to treat fusion as a test-case resource and include it in scenario development and sensitivity analyses within these planning documents. This approach ensures fusion is assessed alongside other emerging clean technologies rather than excluded because of legacy modeling assumptions.

States should also employ their internal technical expertise to support this forward-looking evaluation. Energy offices, public utility commissions, and grid planning groups often have staff with the data access and modeling capabilities needed to develop standardized fusion scenarios. These state-led scenarios can quantify fusion's potential contributions to the grid — benefits like capacity value, transmission deferral, operational flexibility, and system resilience. Establishing a consistent modeling framework sends fusion companies a clear signal of interest, strengthens the credibility of early analyses, and helps create the conditions necessary for fusion projects, especially early on.



Conclusion

Fusion is coming soon — but it's coming soonest where it's most wanted. Fusion companies naturally will prefer states that are able to reduce business uncertainties, provide incentives that will bring long-term benefits to states, and appropriately recognize fusion's role on the future power grid.

Although leading fusion companies expect to deliver energy by the early 2030s, fusion power plant siting decisions have already begun. Drafting legislation and updating policies can take time. But working to implement these kinds of changes will surely make a state a stronger candidate for fusion power plant siting.

As the fusion industry matures from prototypes to first-of-a-kind power plants to larger-scale deployment, many states now have a chance to be home to this next-generation power source. But the states at the forefront of innovative energy policies that recognize fusion will be the most attractive to fusion companies and the earliest to see fusion's benefits — electricity to support economic growth, steady baseload power for a healthy grid, and thousands of homes and businesses running off clean, zero-carbon energy.

About Commonwealth Fusion Systems

Commonwealth Fusion Systems (CFS) spun out of MIT in 2018 with the goal to bring fusion energy to the world, at large scale, as fast as possible. The company is bringing the innovation and speed of the private sector to a foundation of proven fusion science. CFS is now the largest private fusion energy company in the world, with over a thousand employees, and close to \$3 billion in private funding from a wide range of investors. CFS is building a fusion demonstration machine called SPARC at its headquarters in Devens, Massachusetts, to demonstrate net fusion energy — producing more power from fusion than it takes to sustain the process, crossing a threshold called $Q>1$. CFS plans to demonstrate $Q>1$ in 2027. In parallel, CFS has begun designing the first grid-scale fusion power plant, called ARC, and selected a site in Chesterfield County, Virginia, where it'll deliver 400 megawatts of power to the grid in the early 2030s.