

State Siting Authority of Energy Storage Facilities

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Siting and permitting authority for power plants and other electric facilities varies, with some states holding siting authority for certain facilities at the state level, while others delegate siting to local governments.¹ Federal authorities such as the Federal Energy Regulatory Commission (FERC) and the Nuclear Regulatory Commission (NRC) oversee permitting for hydroelectric facilities, natural gas pipelines, and nuclear power plants. Among states that do site electric facilities at the state level, few have currently adopted siting rules specific to energy storage facilities.

California, Connecticut, and Vermont explicitly include energy storage projects alongside other power plants and related infrastructure under each state's power plant siting authority. New York power plant siting authority, meanwhile, applies to energy storage when paired with on-site energy generation while exempting stand-alone storage projects. Other states, such as Maryland, have taken legislative or regulatory action to incentivize deployment of storage in the state, but have not yet adopted specific permitting or siting rules or guidelines for energy storage. Many of these states are currently in the process of developing additional guidelines or regulations for storage siting or permitting, or have indicated interest in developing such guidelines.

In other states, energy storage has been explicitly determined to be outside of the jurisdiction of power plant siting authority and regulations. In Massachusetts and Rhode Island, storage project developers have submitted petitions to the states' power plant siting authorities seeking determination of whether those authorities have jurisdiction over storage facilities. Both states concluded that storage projects are not currently subject to power plant siting jurisdiction: in Massachusetts, the Energy Facility Siting Board (ESFB) concluded that the proposed Cranberry Point Energy Storage project was not a "generating facility" and therefore not subject to the Board's authority²; and in Rhode Island, the state ESFB similarly concluded that an 180-MW energy storage facility proposed by Energy Storage Resources, LLC was not a "major energy facility" defined by the statutes governing the Board and was therefore exempt from its jurisdiction.³

Relevant state actions and authorities are described below.

¹ (Kahn & Shields, 2020)

² (Department of Public Utilities Annual Report 2020, 2020)

³ (In re: Petition of Energy Storage Resources, LLC for a Jurisdictional Determination Pursuant to R.I. Gen. Laws § 42-35-8, 2019)

California:

Power plants with a capacity of 50 MW or greater in California are licensed by the California Energy Commission (CEC). CEC's power plant permitting process is regulated under the California Environmental Quality Act (CEQA), which directs the Commission to conduct an environmental impact review process and solicit public comments. "Energy storage systems" are explicitly included under the CEC's regulatory jurisdiction in the California Code of Regulations, but specific siting requirements for energy storage systems are not outlined in the text of those regulations.⁴

As one example of this process in action, the 750 MW/3000 MWh Moss Landing Energy Storage Project owned by Vistra Energy—currently the largest battery storage facility in the world⁵—underwent CEQA review before approval by the CEC in 2019. After agreeing to adopt several mitigation measures to avoid harmful environmental impacts, such as commitments to adopt no-disturbance buffer areas around any buffers or breeding pools occupied by endangered salamanders, the CEC granted the project a Mitigated Negative Declaration, permitting the project to move forward by concluding that its construction and operation would not result in any significant harms to the local environment.⁶ Pacific Gas & Electric's neighboring Elkhorn Battery Storage Facility, located on the same site, received a similar Negative Declaration the same year.⁷ Power plants and energy storage facilities with a capacity between 50 and 100 MW are eligible for a waiver from the full CEQA application process through a Small Power Plant Exemption (SPPE).⁸

In July 2021, California Governor Gavin Newsom issued an emergency proclamation directing the CEC to expedite approval for renewable energy generation and energy storage facilities in order to improve grid resilience during extreme weather and heat events.⁹ Pursuant to the emergency order, the CEC issued an order suspending CEQA review for all battery storage systems that have a capacity of 20 MW or higher, are capable of discharging for at least two hours, and "will deliver net peak energy by October 31, 2022." The CEC order outlines updated criteria for licensing new or expanded battery storage systems, which include descriptions of storage system, project site, potential environmental quality and public health impacts, relevant regulations, and interconnection authorization.¹⁰

In addition, since many project approval and planning decisions are made at the local level, the CEC and other California agencies have also developed resources to support local governments in California with siting, permitting, interconnection, and zoning of storage projects. These resources include the Local and Tribal Government Challenge grant programs, which fund planning and pilot programs to deploy storage, renewables, and energy efficiency measures; and require grantees to share best practices and implementation templates.¹¹ The state is also developing the Energy Storage Permitting Guidebook, which will help local authorities to develop consistent, streamlined permitting procedures.¹²

⁴ Cal. Code Regs. tit. 20

⁵ (Fischer, 2022)

⁶ (Re-Circulated Mitigated Negative Declaration, 2019)

⁷ (Mitigated Negative Declaration, 2019)

⁸ (Power Plant Licensing, 2022)

⁹ (Proclamation of a State of Emergency, 2021)

¹⁰ (Order Re: Process for Licensing New or Expansions of Battery Storage Systems of 20 MW or More, 2021)

¹¹ (California Energy Commission, 2022)

¹² (Developing California Energy Storage Permitting Guidance on the Customer Side of the Meter, 2022)

Connecticut:

The Connecticut Siting Council (CSC) has jurisdiction over siting and permitting of electricity infrastructure, including power plants, certain substations, and transmission lines. Energy storage facilities are statutorily included in its siting authority: the CSC may regulate “any electric generating or storage facility using any fuel.”¹³ The CSC’s “Application Guide for a Renewable Energy Facility,” published in 2010, includes storage in its definition: “any electric generating or storage facility using renewable energy sources, including, but not limited to, solar photovoltaic...[or] fuel cells.”¹⁴ Beyond this inclusion of storage, there are no additional specific guidelines or requirements for energy storage siting that are distinct from other “renewable energy facilities” in Connecticut.

The CSC has used this criteria to review and approve a small number of storage projects. For example, a Tesla-owned solar-and-storage facility in Norwich, which includes 3.5 MW of solar capacity and 750 kW of storage capacity, was found by the Council to not present any “substantial adverse environmental impact” and was approved in 2015.¹⁵ CSC review of a proposed facility that combined a 200-kW fuel cell and 100-kW battery storage system in 2017 similarly approved the project based on findings of minimal environmental impact.¹⁶

Maryland:

The state of Maryland has adopted several policies in recent years designed to incentivize the growth of energy storage in the state, including adopting an income tax credit for the costs of installing an energy storage system in 2017¹⁷ and establishing an energy storage pilot program in 2019.¹⁸ However, the state’s Public Service Commission (PSC), which reviews and approves applications for power plants, has yet to include energy storage in its siting or permitting rules. Currently, the PSC’s regulations cover any “generating station,” but energy storage is not included in the definition of a “generating station” in Maryland.¹⁹

The Commission did review the eight projects proposed as part of the state’s storage pilot program after holding a “legislative-style hearing” to consider the applications, ultimately approving six, rejecting one, and deferring consideration of the remaining project.²⁰ In 2020, the Governor’s Task Force on Renewable Energy Development and Siting issued its final report, which included recommendations that the PSC adopt a “streamlined standard to review and approve energy storage projects.”²¹

New York:

New York power plant siting authority applies to energy storage projects when paired with on-site energy generation, but not to stand-alone storage systems. Before beginning construction, any electric or gas facility, including stand-alone storage, in New York must receive a Certificate of Public Convenience and Necessity from the state’s Public Service Commission (PSC). In addition, any “electric generating facility” with a nameplate capacity of 25 MW or greater falls under the permitting authority of the New York State

¹³ CT Gen Stat § 16-50i

¹⁴ (Application Guide for a Renewable Energy Facility, 2010)

¹⁵ (Re: Petition No. 1181, 2015)

¹⁶ (Re: Petition No. 1298, 2017)

¹⁷ MD Tax-Gen Code § 10-719

¹⁸ (Order No. 89240, 2019)

¹⁹ Md. Code Regs. 20.79.01.02

²⁰ (Order No. 89664, 2020)

²¹ (Governor’s Task Force on Renewable Energy Development and Siting Final Report, 2020)

Board on Electric Generation Siting and the Environment, an arm of the PSC—however, stand-alone energy storage does not qualify as an “electric generating facility”.²²

In 2019, the New York Legislature passed the Climate Leadership and Community Protection Act (CLCPA), which set a range of statewide targets for greenhouse gas emissions reduction and renewable energy deployment, including a procurement target of 3 GW of energy storage capacity by 2030.²³ In order to meet the renewable energy and storage goals of the CLCPA, a 2020 law established a new Office of Renewable Energy Siting (ORES) to replace the Siting Board certificate process with a streamlined permitting and environmental review process for large-scale renewable energy facilities.²⁴ Stand-alone battery energy storage systems are still not eligible for expedited ORES siting, but storage systems paired with an on-site renewable energy generating system do qualify.²⁵

In June 2021, ORES issued its first siting permit for a storage-plus-renewables facility, a proposed project with 177 MW of solar and 83 MW of storage in the town of Mount Morris.²⁶ The project then received a Certificate of Public Convenience and Necessity from the PSC in November 2021.²⁷ Stand-alone storage systems, meanwhile, must only receive a Certificate of Public Convenience and Necessity from the PSC, such as the 100-MW East River Energy Storage System received in July 2021.²⁸

New York has also released resources for local governments to assist with zoning and permitting of energy storage projects, including a model permit and a model zoning law.²⁹

Vermont:

The state of Vermont passed two pieces of legislation impacting siting and permitting of energy storage facilities in the state: Act 31 in 2019, which added energy storage to the list of facilities subject to application review and receipt of a certificate of public good by the Vermont Public Utilities Commission (PUC); and Act 54 in 2021, which directed the PUC to “adopt and implement rules that govern the installation and operation of energy storage facilities of all sizes,” as well as to update its interconnection rules to incorporate energy storage facilities. The PUC is currently developing permitting and interconnection rules for storage facilities in order to comply with Act 54.

In the order opening rulemaking issued in September 2021, questions opened for initial public comments include: defining an appropriate capacity threshold below which energy storage projects should be made eligible for a simplified application process; relevant codes and standards pertaining to energy storage that the PUC should adopt; defining which application materials are necessary and appropriate for permitting of energy storage facilities; and optimal interconnection processes, among other questions. Rules have not yet been issued.³⁰

²² N.Y. Pub. Serv. Law § 160

²³ N.Y. Pub. Serv. Law § 66-p

²⁴ N.Y. Exec. Law § 94-c

²⁵ Chapter XVIII, Title 19 of NYCRR Part 900

²⁶ (DMM Matter Number 21-00025 - Siting Permit for a Major Renewable Energy Facility, 2021)

²⁷ (Case 21-E-0345 - Order Granting Certificate of Public Convenience and Necessity and Providing for Lightened Regulation, 2021)

²⁸ (Case 21-E-0122, Confirming Order, 2021)

²⁹ (New York Battery Energy Storage System Guidebook for Local Governments, 2019)

³⁰ (Case No. 21-3883-RULE: Proposed creation of Vermont Public Utility Commission Rule Concerning Energy Storage, 2021)

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