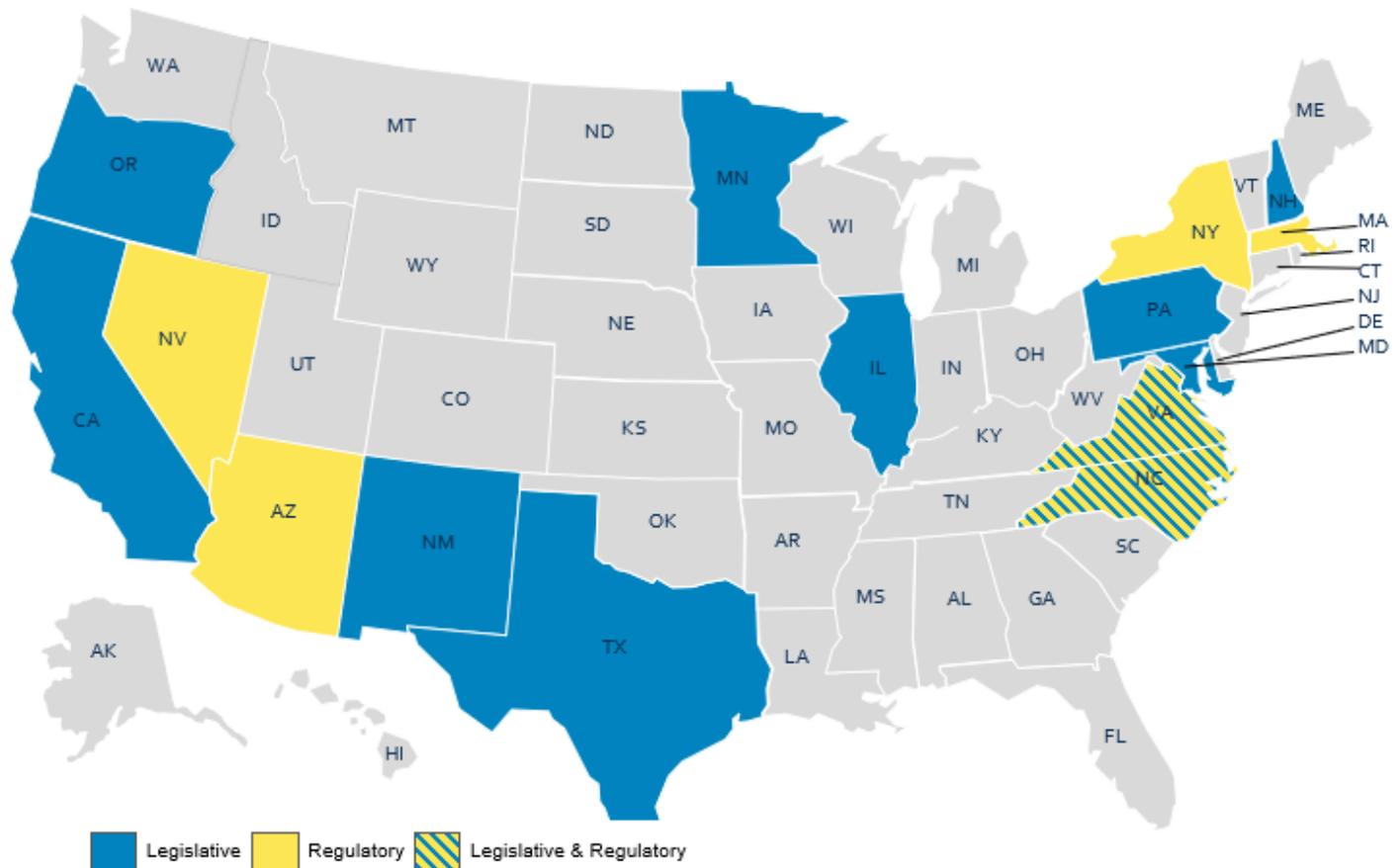


Regulatory & Legislative Energy Storage & Microgrid Updates



The map depicts updates to or new state activities in March-April 2019.

State Activity

Arizona

On August 17, 2018 the Arizona Corporate Commission opened Docket [RU-00000A-18-0284](#) to explore AZ's energy modernization. On April 25, staff published [recommendations](#) on how to proceed with grid modernization. Staff included a recommendation for a Clean Peak Standard of 15 percent by 2030, and storage paired with renewables is eligible. The proposal will undergo informal comment periods and workshops, and then official rulemaking will commence.

California

[AB 1144](#) passed the Assembly April 25. The bill would require the CPUC to allocate 10 percent of the annual collection for the self-generation incentive program in 2020 for community energy storage and other distributed energy resources for customers that provide critical infrastructure to communities in high fire threat districts to support resiliency during a deenergizing event.

Introduced Feb 22, amended April 12, [AB 1503](#) would require the CPUC, beginning in 2022, to show how distributed energy and microgrids create jobs in its annual report to the Governor and the Legislature on recommendations and plans for a smart grid.

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Introduced Feb 22, and scheduled for a hearing May 6, [SB 772](#) would require the ISO to initiate a competitive solicitation process for 2-4 GW of long-duration bulk energy storage by June 30, 2022. To be eligible, a storage project must have at least 400 MW of capacity, an eight-hour minimum discharge capability, and a useful life of at least 40 years. The competitive solicitation process would provide for cost recovery from load-serving entities within the ISO territory. A similar bill passed the Assembly in 2018.

Illinois

Introduced Feb 15, and amended Mar 7, [HB 3624](#) would establish a clean peak program which would include energy storage resources that commit to provide demand reduction during times of high demand. It would also allow utilities to propose Clean Energy Empowerment Zone pilot projects for the procurement of independently-owned storage systems.

Introduced Feb 14, [HB 2966](#) is an energy omnibus that would direct the Commission to study energy storage potential in Illinois and to recommend a target above 1,000 MW by 2030. Electric companies would be able to recover costs associated with procurement, and would provide rebates for storage at \$350/nameplate capacity kW if storage is part of DG and uses the same inverter.

Massachusetts

The Massachusetts Department of Energy Resources released a [Clean Peak Straw Proposal](#) April 2 that outlines the clean peak seasons and multipliers for receiving credits. Storage that commenced operation starting in 2019 is eligible as standalone and incremental pumped hydro, as well as when paired with renewables. Renewables operational prior to Jan 1, 2019 can qualify if new storage is added; paired storage would have to have minimum 4-hour duration. MA DER plans to release a draft regulation by end of Q2 2019.

Maryland

[SB 573](#) passed the Senate in March and the House in April, and is awaiting Governor Hogan's signature. The bill, which codifies a PC-44 Storage Working Group business model proposal, would require the Commission to establish a storage pilot program where the utilities would be required to use 2 out of the 4 proposed business models (one of which must be either the "third party ownership" or "virtual power plant" model), and would allow utilities to own and operate storage, particularly in the wholesale markets.

Minnesota

Introduced Jan 14, 2019, Minnesota's [SF 100](#) passed the Senate in February, referred to the House where it stalled. It would allow for IOU storage pilot cost-recovery if PUC finds energy storage in the public interest. The bill would also require public utilities to include an assessment of energy storage systems in their required resource plans and would require the commissioner of commerce to produce a study of the potential costs and benefits of energy storage systems in Minnesota by December 31, 2019.

Nevada

Under Docket [17-07014](#) to implement SB 204 that requires energy storage targets, the Commission held a workshop May 1 to discuss target implementation that the Commission recommended despite Staff's recommendation that a target was not necessary because the electric companies are already planning to install significant amounts of energy storage.

New Jersey

As an outcome of A3723 enacted in 2018, NJ BPU is conducting a storage potential study that would evaluate the value of storage to ratepayers, the optimal amount of storage to add within five years, and a proposed goal of deploying 600 MW of energy storage by 2021 and 2,000 MW by 2030. The study is due out mid-May.

New Hampshire

Introduced Jan 1, 2019 and passed by the House Mar 14, [HB 183](#) would establish a committee to study the applications of microgrids in New Hampshire and changes in law necessary to accommodate the deployment of microgrids. The bill requires the committee to report their findings and recommendations by Nov 1, 2019.

Introduced Jan 3 and passed by the House on Mar 19, [HB 715-FN](#) that would shave at least 2 percent of peak capacity with storage by Dec 2022, and would require the Commission to study whether a higher peak shaving target up to 15

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percent post 2022 is appropriate. At least 50 percent of this capacity must be developed and owned by third parties, and above the 50 percent threshold, preference would also be given to non-utility projects. The bill would establish a bring-your-own-device program.

Introduced Jan 22, passed by the Senate Mar 3, and reported favorably by House committee on May 1, [SB 204](#) would direct the commission to adopt rules that expedite the installation, interconnection, and use of customer-sited energy storage systems. In addition, it would allow cities and towns to adopt a property tax exemption for customer-sited energy storage systems.

New Mexico

Introduced Feb 14, but died, [HB 593](#) would have established a personal and corporate income tax credit for energy storage systems installed on taxpayer property.

Enacted March 12, NM [SB 489](#) will transition NM to 100% clean energy by 2045. In phasing out fossil fuels, electric companies may install energy storage as a type of replacement capacity. The bill requires the PUC, in granting a certificate of public convenience and necessity for energy storage systems, to ensure that energy storage replaces or defers generation, transmission, distribution system investment, provides ancillary services, provides renewables integration and T&D reliability, reduces demand for fossil fuels in peak loads and greenhouse gas emissions. The bill enables the electric company to operate, maintain, and control energy storage to ensure reliable and efficient service.

New York

On March 11, NYSEDA published the [Energy Storage Market Acceleration Incentives Implementation Plan](#) under [18-E-0130](#) allocating \$130 million for less than 5 MW BTM and FTM grid-connected retail storage and \$150 million for bulk storage greater than 5 MW AC on the transmission or distribution systems that provide wholesale market/ancillary services.

North Carolina

Introduced Apr 2, [SB 510](#) would require the NCUP to expedite the interconnection of energy storage systems, and to determine if new tariffs are required to compensate operators for the full range of services they provide. The addition of energy storage to a renewable energy facility would not require significant interconnection procedure modifications. Finally, energy storage equipment would become a special property class, and 80 percent of its appraised value would be excluded from the tax base.

On Oct 8, 2018 Duke Energy filed for a certificate of public convenience and necessity under [Docket E-2 Sub 1185](#) to build and own a 3 MW solar+4MW storage MG at Hot Springs, Madison, NC. On March 22, 2019 the DEP and PUC staff filed a joint proposed Order granting Duke Energy the certificate.

Oregon

Introduced Jan 14 and passed the Senate Mar 14, [SCR1](#) is a non-binding resolution that supports the development of closed-loop pumped hydro storage in Oregon.

Pennsylvania

Introduced Apr 29, [SB 600](#) would direct the commission to conduct a renewable energy storage analysis using a 2,000 MW target as a benchmark and submit a report of the results within a year of enactment of the bill. Following the report, the commission would be required to issue a renewable energy storage target to be achieved by Dec 31, 2025. Utilities would be allowed to own energy storage to achieve this target.

Texas

Introduced March 7 and passed the Senate April 17, [SB 1941](#) would prohibit electric companies in the ERCOT region from owning energy storage. The bill would require electric companies to procure storage through RFPs for up to 40 MW per contract, volume capped per company, and would enable them to authorize battery discharge for reliability purposes.



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Virginia

Introduced Jan 15 and enacted Mar 18, Virginia's [SB 1707](#) creates the Southwest VA Energy Research and Development Authority with a July 2029 sunset date. The bill supports development of pumped hydro in Southwest Virginia, and energy storage generally.

The VA Solar Energy Development and Energy Storage Authority, created in 2015 is carrying out a study on storage - barriers and opportunities, and long-term planning, implemented by Strategen Consulting. The draft study was due in April.

Storage in the News

April 2019

[Maryland passes energy storage pilot program to determine future regulatory framework](#)

Utility Dive – Apr. 2, 2019

MD lawmakers passed an energy storage pilot program approach that codifies the business model approach to energy storage operation and ownership developed under the PC-44 Energy Storage working group. The legislation is awaiting Governor Hogan's signature.

[NYPA initiative targets quicker commercialization path for storage, EV startups](#)

Utility Dive – Apr. 3, 2019

NYPA is committed to creating partnerships and assist businesses, including startups, in the EV and energy storage space as part of the NYPA Innovation Challenge initiative.

[FERC asks grid operators for more detail on storage participation](#)

Utility Dive – Apr. 3, 2019

On April 1st, FERC asked regional grid operators for more information on how they plan to implement Order 841. FERC's request is a follow-up to the new tariffs for storage market and power market prices that were filled in February but were incomplete.

[How Massachusetts Compensates Battery Storage Owners for Energy Efficiency: Report](#)

Microgrid Knowledge – Apr. 4, 2019

According to a Clean Energy Group report, MA believes battery storage is cost effective as it can be used energy efficiency tool to shift energy usage from expensive high peaks to low demand. For this reason, in Jan. 2019, the state agreed to pay the customers who install batteries depending on how much they reduce the load.

[APS's battery addition extravaganza](#)

PV Magazine – Apr. 4, 2019

APS announced an RFP to install hundreds of MW of energy storage capacity which will provide backup and flexibility to the 1 GW of renewable energy scheduled to be online by 2025.

[Michigan Energy Storage Idea Poses New Life for Old Mines](#)

RTO Insider – Apr. 4, 2019

Researchers at Michigan Technological University are investigating if some of the state's abandoned and flooded mines could operate as an underground hydroelectric pumped storage. A report with the findings is expected to be produced in fall 2019.

[House Democrats roll out energy storage tax credit while pushing broader clean energy incentives](#)

Utility Dive – Apr. 5, 2019

Rep. Mike Doyle, D-Pa., introduced legislation (H.R. 2096) that aims to make energy storage technologies fully eligible for the investment tax credit. To access the tax credit, project developers would have to complete the storage project within 4 years from the initial investment.

[Global Energy Storage to Hit 158 Gigawatt-Hours by 2024, Led by US and China](#)

GTM – Apr. 10, 2019

Wood Mackenzie report projects that globally the energy storage deployments will grow from a 12 GWh market in 2018 to a 158 GWh market in 2024.

[Feinstein, Heinrich, Gardner Introduce Bill To Establish Investment Tax Credit For Energy Storage](#)

Feinstein Senate – Apr. 11, 2019

The four senators introduced the bipartisan Energy Storage Tax Incentive and Deployment Act of 2019 to establish an ITC for business and home use of energy storage. The tax credit is meant to “trigger long-term investment signals for the storage industry.”

[EVgo adding 14 battery storage systems to spur EV fast charger deployment](#)

Utility Dive – Apr. 12, 2019

EVgo company will use 14 battery storage systems at 11 public fast charging to help accelerate the construction of charging infrastructure and boost EV adoption.

[GE Renewable Energy to Implement DC-Coupled Solar and Battery Energy Storage Hybrid System in Upstate New York](#)

GE News Room – Apr. 15, 2019

GE has reached an agreement with Helios Energy to install two energy storage and solar systems together in upstate New York to be online in the second quarter of 2020. The hybrid system will increase the reliability by enabling dispatchable renewable energy into the grid.

[Hawaiian Electric targets nearly 1.4 GWh storage, 135 MW solar equivalent in latest solicitation](#)

Utility Dive – Apr. 16, 2019

The storage and solar capacity is expected to be online by 2022 to compensate for the scheduled retirement of two fossil-fuel power plants and to bring the state one step closer to its 100% renewable energy goal by 2045.

[Green Mountain Power aims for 100% renewables by 2030 with up to 100 MW storage](#)

Utility Dive – Apr. 16, 2019

GMP set a goal to reach 100% carbon-free resources by 2025 and 100% renewables by 2030. To reach that goal the electric company plans to add 50 MW to 100 MW of storage over the next 10 years and to gradually decrease its nuclear electricity generation.

[Interactive map pinpoints energy storage installations worldwide](#)

Wind Power Engineering – Apr. 16, 2019

At the ESA annual conference, the Consortium for Battery Innovation (CBI) unveiled a digital map detailing more than 120 lead battery-powered energy storage projects in the world. The goal of this initiative is to demonstrate the different uses of lead batteries around the world.

[California's Record-Setting Virtual Power Plant](#)

CP Executive – Apr. 18, 2019

In its first year of operation, a VPP that provides power to 15 million people has delivered more than 2 GWh to the grid. The VPP's is part of SCE's grid modernization plan and aims to reduce peak demand in the Los Angeles Basin by installing battery storage systems behind the meter at properties of SCE's commercial customers.

[APS and Fluence Investigating Explosion at Arizona Energy Storage Facility](#)

GTM – Apr. 22, 2019

Fluence is investigating what caused the explosion at one of APS' grid-scale battery facilities.

[Nevada passes bill for 50% renewables by 2030, 100% carbon free by 2050](#)

Utility Dive – Apr. 22, 2019

Nevada passed Senate Bill 358 that would require the state to generate 50% of its electricity from renewable resources by 2030 and aim for 100% carbon-free resources by 2050. In

support of the bill, NV Energy plans to add over 1 GW of solar and 100 MW of battery storage to its generation mix.

[More Time Needed for Storage Compliance, MISO Says](#)

RTO Insider – Apr. 22, 2019

MISO will ask for at least another year to comply with FERC Order 841. Incorporating storage into its markets is greater than anticipated.

[Duke, Eversource commit to create energy storage safety standards](#)

Utility Dive – Apr. 23, 2019

ESA announced that 27 energy companies, including utilities and third-party storage developers, signed an energy storage corporate responsibility pledge. In addition, they committed to participate in a taskforce to optimize safety standards

[Insurers are easing adoption of large-scale energy storage](#)

Axios – Apr. 24, 2019

Munich Re will offer 10-year warranty on battery storage performance. This move could spur adoption of innovative technologies by utilities.

[New York allocates \\$280M for energy storage projects as state targets 3GW by 2030](#)

Utility Dive – Apr. 29, 2019

The funding for energy storage project is part of a \$400M investment to achieve New York's goal of deploying 3GW of energy storage by 2030. This initial investment could drive as much as 1 GW of energy storage.

[Utility buy of DER providers: A perfect match or a problematic combination?](#)

Utility Dive – Apr. 29, 2019

The growing but fragmented DER market represents a great opportunity which regulated electric companies would want to seize. However, in a buy-out or M&A, utilities and DER providers would need to address the cultural differences between innovative startups and risk-averse institutions to work together effectively.

[California adopts 2030 Preferred System Portfolio with 12 GW new wind, solar, storage, geothermal](#)

Utility Dive – Apr. 29, 2019

The California Public Utilities Commission voted to adopt a Preferred System Portfolio that includes 12 GW of new solar, wind, battery storage and geothermal resources to meet the 2030 ambitious greenhouse gas reduction goals.

[Environmental Groups Add To Pressure For Energy Storage Tax Boost](#)

Forbes – Apr. 29, 2019

Nine environmental groups co-signed the statement calling for energy storage to get access to the same tax credits as solar and wind. Signatories emphasize that such credit would accelerate the transition to renewable energy.

[SCE to add 195 MW of energy storage, DR by 2021](#)

Utility Dive – Apr. 30, 2019

SCE signed seven contracts for 195 MW of energy storage and demand response resources—expected to go online in 2021—to meet local capacity requirements. The projects remain subject to California Public Utilities Commission approval.

PROJECTS & USE CASES

[Fremont, California, Fire Station Is First In US With Solar Microgrid](#)

Clean Technica – Apr. 5, 2019

The Fremont project entails a solar microgrid system with battery backup for a fire station in the United States. The installation is composed of 40-kilowatt solar arrays on car canopies combined with 110-kilowatt-hour battery energy storage systems at three fire stations in Fremont. The microgrid was subsidized with funding from the CEC. The city will purchase the electricity under a renewable 10-year PPA.

[Eversource advances Cape Cod battery project, defers 13-mile distribution line](#)

Utility Dive – Apr. 8, 2019

By installing a 25 MW / 38 MWh lithium-ion battery in Provincetown, MA, Eversource will be able to defer the construction on a 13-mile distribution line and reduce the outages in the area. In addition, the MA Department of Public Utilities has also approved Eversource's request to develop a 14.9 MW facility on Martha's Vineyard.

April 2019



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