Energy storage is a game changer. In a recent blog, I noted how the falling costs for batteries, along with the spread of solar power, has the potential to significantly expand the ability of energy storage and distributed energy resources to participate in the nation's electricity system. GTM Research expects the U.S. energy storage market to grow to roughly 2.6 GW in 2022, almost 12 times the size of the 2016 market. Seventy-one megawatts of energy storage were deployed in the first quarter of 2017, growing 276 percent over Q1 2016.

As the energy storage sector witnesses rapid growth, policymakers, regulators and utilities across the nation are also beginning to recognize its value. Energy storage is a critical component of grid modernization efforts currently underway in many states, providing flexibility, resiliency and reliability to the energy grid. Particularly, as more distributed energy resources such as solar and wind come online, the importance of energy storage will continue to grow.

According to data from the Department of Energy Global Energy Storage Database, 21 states have 100 megawatts of energy storage projects deployed, announced or contracted, with California as the undisputed king of the U.S. energy storage market. Energy storage is thus no longer confined to a handful of U.S. states on either coasts and can be found in a diverse group of states including Alabama, Georgia, Massachusetts, Nevada, South Carolina and Texas.

These states use a variety of technologies for electricity storage such as pumped hydroelectric, flywheels, batteries and thermal energy storage. While pumped hydro accounts for more than 90 percent of existing energy storage capacity on the U.S. grid, the new storage capacity that is being added to the grid relies on other technologies such as a 20 MW flywheel system by Beacon Power in Pennsylvania, a 32 MW lithium-ion battery system by AES Energy Storage in West Virginia, and a 110 MW compressed air energy storage facility in Alabama.
In recent months, there has been significant activity at the state level to implement measures to encourage the development and integration of energy storage, especially the newer advanced energy storage technologies, into the marketplace. State initiatives have taken the form of both mandates and incentives to facilitate the market entry of these technologies.

On June 30, the Massachusetts Department of Energy Resources, or DOER, announced a statewide energy storage target of 200 megawatt-hour by 2020. The target builds upon Gov. Baker’s Energy Storage Initiative, which is a $10 million commitment to support energy storage companies in the state and develop policy options to encourage energy storage deployment. Massachusetts has also announced up to $10 million in additional funding for energy storage demonstration projects.

Massachusetts is the third state in the nation to set a capacity target on energy storage. California and Oregon are the other two states that have imposed specific requirements on investor owned utilities to procure a certain minimum level of capacity in energy storage facilities. California’s first-mover status in storage policy helped it corner a major share of the energy storage industry but the competition is heating up.

Other states are considering tax incentives to incentivize the deployment of energy storage technologies. On May 4, 2017, Maryland became the first state in the nation to offer a tax credit for energy storage systems. The tax credit is not limited to storage systems that are charged by renewable energy sources. The tax credit is up to $5,000 for a system installed on a residential property and the lesser of $75,000 and 30 percent of the cost of the energy storage system installed on a commercial property.

Elsewhere in the country, Nevada recently enacted a series of legislations that can catapult it into the ranks of important storage markets like California, Hawaii, Massachusetts and New York. Nevada is after all home to the Tesla Gigafactory, producing lithium-ion battery cells to be used in Tesla’s energy storage products. The Nevada Public Utilities Commission, or PUC, has been directed to investigate whether it is in the public interest to require an energy storage procurement by utilities. The PUC would set annual procurement requirements if it determines that the benefits of energy storage outweigh its costs. This would make Nevada the fourth state in the nation to implement a storage target. Senate Bill 145 also establishes an incentive program for energy storage within the
state’s solar program.

Energy storage is undeniably gaining traction in many states. This is a trend that is expected to continue and as the market grows, state policies will evolve to facilitate greater deployment of these technologies.

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