# Energy storage policy fonafote

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Climate XChange"s Dashboard Digest is a deep dive on each of the policies that we track in the State Climate Policy Dashboard and an exploration of how these policies can interact with one another to form a robust policy landscape. The series is intended to serve as a resource to state policy actors who are seeking to increase their understanding of climate policies, learn from experts in each policy area, and view examples of states that have passed model policies. We"re beginning our series by exploring renewable energy and energy storage policies.

Energy regulators at every level (local, state, regional, and national) are tasked with keeping the lights on. But as states around the country clean up their electricity grids with renewable power, there are concerns that renewables will be sufficiently reliable. For example, rooftop solar panels can help power homes and businesses, but without the ability to store the energy they"re left in the dark if the sun isn"t shining. Energy storage presents a solution for those concerns.

Energy storage standards cover a variety of different policies that enable states to more effectively use renewable energy. Some of these policies reduce barriers to the implementation of advanced batteries, while others attempt to incentivize their adoption and modernize entire energy grids. Because energy storage standards are a suite of different policies, they are categorized into different tiers of the policy stacking framework that we discussed in a previous article.

In this article for our Dashboard Digest series, we will take a look at the benefits of energy storage, barriers to its development, and some of the policies that states can and have put in place.

The State Policy Opportunity Tracker (SPOT) is a tool from the Center for the New Energy Economy that tracks state-level energy and transportation policies using a framework of potential policy components.

Island governments face unique challenges when providing reliable and cost-effective energy to their residents. With isolated grids separate from mainland infrastructure and a susceptibility to major power loss after storms, islands can benefit tremendously from implementing energy storage.

Hawaii, like other islands, generates all of its own power, often by importing expensive fossil fuels. Unlike other states, they can"t import just the electricity through interstate transmission lines, it all must be generated and balanced on the islands. The state generates 75 percent of its energy through fossil fuels, and has the highest retail price for electricity in the country.

Utility-scale and distributed energy storage facilities can also help keep the lights on by ensuring that if parts of the grid are damaged, others are kept online. Even if there are blackouts, batteries can help get the grid back online quickly with what is known as a "black start." Hawaii has already faced blackouts in 2006 and 2008

due to earthquakes and extreme weather, and with climate change leading to more extreme weather events, the risk increases each year.

Recognizing the opportunity to generate cleaner and more affordable energy in Hawaii, the state set an ambitious Renewable Portfolio Standard of utilizing 100 percent renewable energy by 2045. However, with their goal to entirely shift away from fossil fuels, the Aloha State faces real challenges with ensuring that the power supply remains reliable. Energy storage technologies present a way for a state like Hawaii to continue transitioning to renewable energy while meeting peak demands for electricity.

For example, the Kapolei Energy Storage project, a 185 MW battery facility, is scheduled to open on the island of Oahu in early 2023. This project will be one of the largest standalone batteries in the world, and Hawaiian Electric"s modeling estimates it will enable the grid to use ten percent more renewable energy in its first five years. Utility scale storage facilities like this one can help to ensure a sufficient supply of electricity during periods of changing demand and help maintain power following extreme weather events.

Hawaiian utilities appear to be on board with energy storage, because they simply have to be in order to reach the state"s mandate to be carbon negative by 2045. Batteries are the only way for them to manage the necessary load without fossil fuel plants.

Historically, power grids haven"t been set up to favor energy storage because we"ve been able to get away without it. Grid infrastructure and utility business models were designed to encourage large scale generators to provide power for their customers, and draw from other generators when needed. This model has become challenging to adapt to renewable energy, which is generated intermittently and can come from distributed sources, but energy storage can help bridge the gap.