



Battery technology has advanced and costs have fallen in the last decade.

Home batteries can help residents store solar energy and deal with outages.

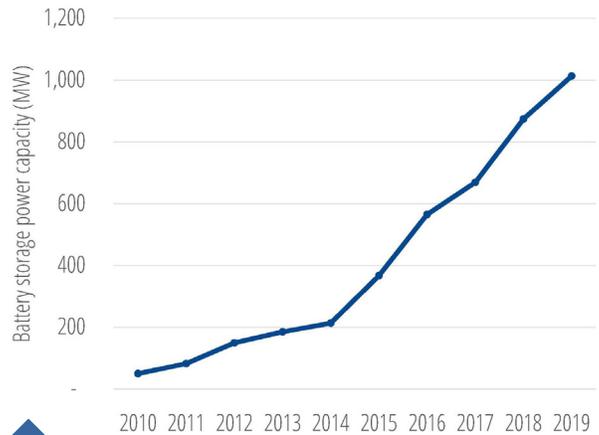
Battery Storage on the Rise

Battery storage can help the transition to clean, renewable energy

Battery storage allows for solar and wind energy to power the grid at all hours of the day or night, bringing America a step closer to 100% renewable energy. Experts predict that improving batteries will propel rapid growth in energy storage in the coming years.

Utility-scale battery power capacity has grown 20-fold since 2010

- Battery storage is still in its early stages, but recent price declines and improvements in technology have made battery storage a viable and flexible option. The amount of utility-scale battery power capacity on the grid increased by 16 percent in 2019 alone.¹
- BloombergNEF predicts that the cost of utility-scale lithium-ion batteries will fall by 52 percent between 2018 and 2030, and that the U.S. will exceed 100 gigawatts of installed battery storage by 2040, an almost 100-fold increase from current capacity.



America's utility-scale battery storage capacity grew 20-fold from 2010 to 2019.

Energy storage contributes to a renewable energy future

America can achieve a 100% renewable energy future by tapping our abundant clean energy resources, maximizing energy efficiency, and adding flexibility to the grid. Energy storage technologies like batteries can play a critical role in smoothing the deployment of renewable energy by storing excess clean energy for later use.



Utility-scale batteries can help integrate renewable energy into the grid.

¹ For a full list of sources, visit <https://environmentamerica.org/feature/ame/renewables-rise-2020>.

California and the PJM regional grid lead the way on energy storage

- California accounts for over a quarter of total utility-scale battery capacity nationwide. This is due in part to a California Public Utilities Commission requirement that utilities increase energy storage capacity, pushing California to take the lead in battery storage.
- Five of the top 10 states for battery storage are part of the PJM regional grid, located in the Mid-Atlantic and Midwest, which was the first transmission organization to adjust its policy to reflect a federal rule to increase compensation for grid additions that support rapid changes in electricity production.

Increasing battery storage capacity is essential

In order to reach our renewable energy goals quickly, local, state and federal governments must increase energy storage capacity nationwide by:

- Setting ambitious energy storage goals, including for distributed energy storage in homes and businesses.
- Investing in grid technology improvements to be better able to integrate storage into the grid.
- Driving further development of battery technology through investment in research and development.
- Exploring other options for energy storage beyond batteries.

State	2010 capacity (MW)	2019 capacity (MW)	Growth (MW)	Rank (based on growth)
California	0	254.5	254.5	1
Illinois	0	132.7	132.7	2
Texas	4	114.2	110.2	3
Hawaii	0	63.0	63.0	4
West Virginia	2	49.5	47.5	5
New Jersey	0	42.6	42.6	6
Arizona	0	42.0	42.0	7
New York	0	33.0	33.0	8
Ohio	2	33.0	31.0	9
Pennsylvania	0	28.4	28.4	10

Top 10 states for utility-scale battery storage power capacity growth, 2010-2019.

Battery storage has grown across the country

- California, Illinois and Texas lead the way in battery storage capacity nationally, followed by Hawaii and West Virginia.
- Only five states had significant utility-scale battery storage capacity in 2010. Today, 33 states have at least some battery storage.

Explore the growth of energy storage online

Our report *Renewables on the Rise 2020* documents the rapid growth of clean energy technologies from energy storage to solar power. For interactive charts and data showing the rise of renewable energy in your state and around the country, visit <https://environmentamerica.org/feature/ame/renewables-rise-2020>.



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Find more information and the full report online:

www.environmentamericacenter.org

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