

# Fact Sheet on Grid-Scale Battery Storage in Rhode Island



## What is “Grid-Scale Battery Storage”?

There are several types of electric grid energy storage. Some of these storage mechanisms include *thermal energy storage*, *flywheels*, *pumped hydroelectric*, *compressed air* and *battery storage*(sometimes referred to as *electro-chemical*), which will be the focus of this fact sheet. Similar to the small rechargeable batteries used for personal devices, larger batteries can be used to store electricity for later direct discharge in homes and buildings, as well as a source for grid electricity. It is not uncommon to find batteries of a few feet in size in people’s homes, basements or garages (usually used in conjunction with residential-scale solar panel roof arrays). These “electro-chemical”, on-site energy storage battery options usually fall under the local regulations related to the solar energy systems that they are commonly attached to.



*Pascoag Utility District Battery Storage (Agilitas Energy, 2022)*

For larger applications and for energy storage to be used at a later time through the electric grid, there are “grid-scale energy systems” that contain much larger batteries (commonly compared to the size and dimensions of one or more semi-trailers). These large systems can power entire businesses, or even entire neighborhoods. For these types of storage systems, there can be several operational, regulatory and zoning considerations. As more renewable energy is introduced to the electric grid, the use of and the need for these large battery grid-connected systems increases.

*“Grid-Scale U.S. Storage Capacity Could Grow Five-Fold by 2050” (National Renewable Energy Laboratory)*

## What do we currently have in Rhode Island?

Currently in Rhode Island, there are only a few battery storage systems that could be considered “grid-scale”, but even those systems are on the smaller end of what these system sizes are in other places. In both Burrillville (see photo above) and in East Greenwich, there are battery systems that are currently being used to supplement the electrical grid. Negotiations for other systems may be ongoing, as municipal regulators have seen this relatively new(new to Rhode Island) land use pop up on their radars. A model zoning ordinance exists for the State of New York, but it should not be used as a full guide to Rhode Island municipalities, although there may be some helpful tips found in [the document](#).

## Where are we headed in Rhode Island?

In January of 2020, Executive Order 20-01 was released. This order to renewably source 100% of Rhode Island’s electricity generation, was the first goal of its kind set by any state. Although there is no specific carve-out for grid battery storage, battery storage is likely to assist with a significant portion of the overall renewable energy capacity. This Fact Sheet is to help local officials start identifying battery storage siting considerations. For further information as it becomes available, refer to the RI Office of Energy website’s “Battery Storage” page [HERE](#).

Several characteristics should be considered when regulating the location of utility grid scale battery storage systems:

1, Zoning for the intended use could be allowed by right in certain zones or allowed by special permit or major land development in other zones. Residential batteries should be regulated differently.

2. Current and future energy use and production, as well as supporting infrastructure should be considered when deciding where to site and how much capacity the system will have.





RI Division of Statewide Planning  
Department of Administration  
235 Promenade St, Suite #230  
Providence, RI 02908  
(401) 222-7901  
Paul.gonsalves@doa.ri.gov  
[www.planning.ri.gov](http://www.planning.ri.gov)

## Why is Grid-Scale Battery Storage so important?

As renewable energy technology and production advances, there is no doubt that increased energy storage capacity will be a major factor in Rhode Island meeting its future energy goals. Also, with a surge in electric vehicle(EV) activity, we need to properly plan for adequate EV charging infrastructure. Renewably sourced grid-scale energy storage through batteries, and EV charging could be seamlessly linked to result in a situation where US energy independence and significantly reduced carbon emissions are both realized. As climate change is realized across the area, grid reliability and security during and after large storm events is more critical than ever. Bringing more energy storage online will help in these areas.

## Sources and additional information:

RI Office of Energy Resources –  
<https://energy.ri.gov/renewable-energy/energy-storage-0>

US Department of Energy (USDOE), Office of Electricity -  
<https://www.energy.gov/oe/energy-storage>

[Energy Storage Program Fact Sheets](https://www.energy.gov/oe/information-center/library/fact-sheets#storage) (USDOE) -  
<https://www.energy.gov/oe/information-center/library/fact-sheets#storage>

National Renewable Energy Lab(NREL), U.S.  
<https://www.nrel.gov/index.html>

Environmental Protection Agency(EPA)  
<https://www.epa.gov/energy/electricity-storage>

CONTACT: [paul.gonsalves@doa.ri.gov](mailto:paul.gonsalves@doa.ri.gov)