FERC Action on Energy Storage:
Where We've Come From, Where We're Going

Jason Burwen, VP of Policy

January 26, 2021

www.energystorage.org

1

Energy storage is flexibility

Supplying the precise amount of electricity exactly when and where you need it

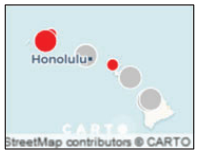
Optimize the electric grid & enable system transformation

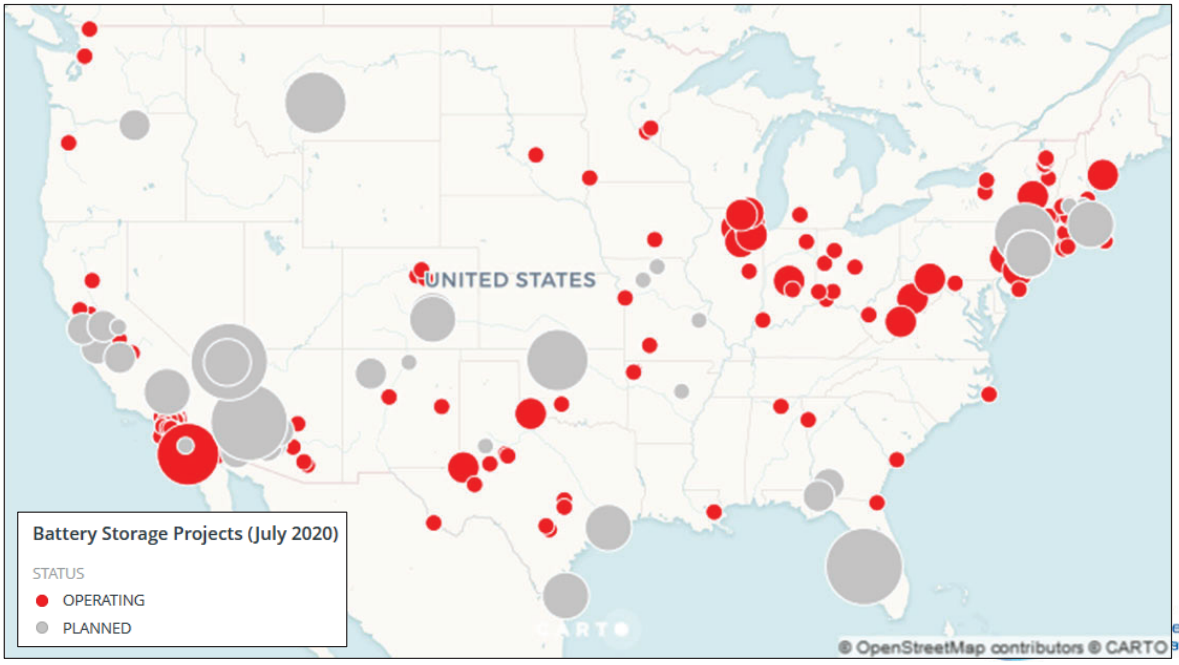
1. **Efficiency //** save households & businesses money
2. **Resilience //** make service more disruption-proof
3. **Adaptability //** integrate diverse, changing resource mix

2

Grid Battery Projects

EIA 860m Series - July 2020

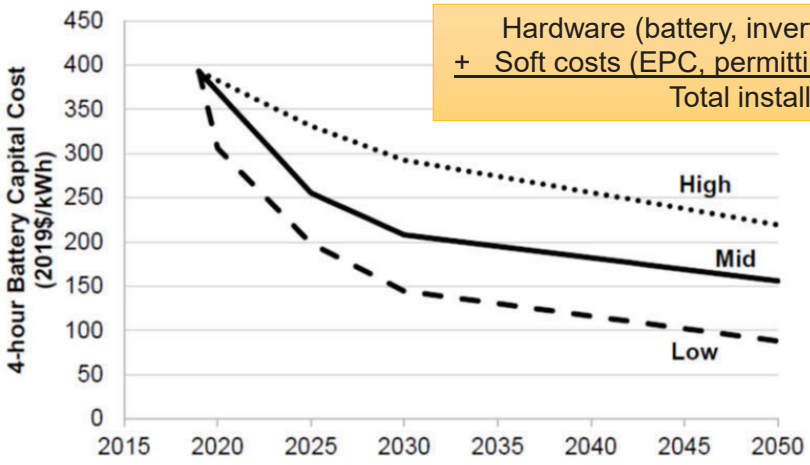




3

Trend: Battery storage installed costs continue to decrease

Bulk-scale 4-hour lithium-ion grid battery installed cost ($/kWh)



Hardware (battery, inverter, etc)
\+ Soft costs (EPC, permitting, etc)
Total installed cost

SOURCE: NREL 2020

Annual Cost Decline Rates from 2018

	2025	2030	2040
Low Cost	-10%	-9%	-6%
Mid Cost	-6%	-5%	-3%
High Cost	-1%	-1%	-1%

Source: Bloomberg New Energy Finance (2018) and NREL (2019b) with Brattle analysis.

ESA Energy Storage Association

4

Sizes and durations rising

Shift from primarily providing ancillary services to increasingly providing capacity / resource adequacy

All battery storage installed 2003-2017:
800 MW / 1200 MWh

Single PG&E battery online in 2020:
300 MW / 1200 MWh

DER storage aggregations
Will follow
(largest today ~20 MW)

2008:
1 MW, 15 min battery in PJM

2012:
36 MW, 40 min battery in ERCOT

2016:
30 MW, 4 hour battery in SDG&E

2017:
100 MW, 75 min battery in Australia

2020:
300 MW, 4 hour battery in PG&E

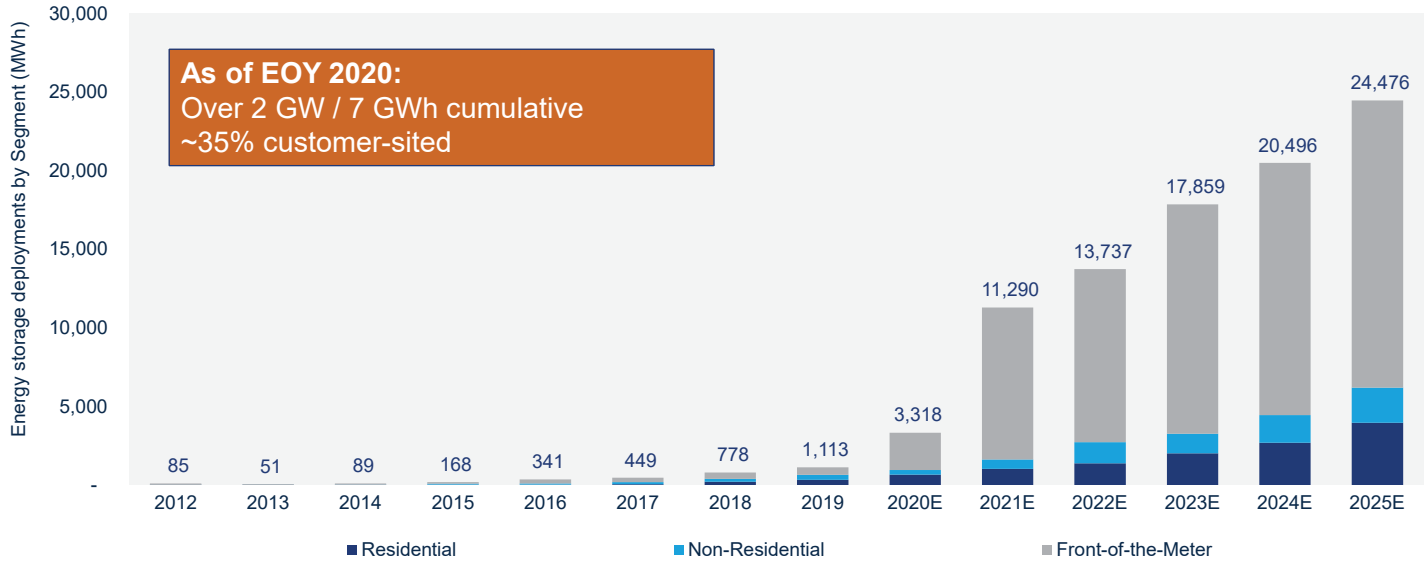
Energy Storage Association

5

U.S. market will reach 24 GWh annually by 2025

Longer durations for standalone and solar-paired projects will drive 7x market growth compared to 2020

U.S. energy storage annual deployment forecast, 2012-2025E (MWh)



Source: Wood Mackenzie Power & Renewables

6

UT LAW CLE | THE UNIVERSITY OF TEXAS | TEXASLAW

Find the full text of this and thousands of other resources from leading experts in dozens of legal practice areas in the UT Law CLE eLibrary (utcle.org/elibrary)

Title search: FERC Action on Energy Storage: Where We've Come From, Where We're Going

Also available as part of the eCourse
2021 Renewable Energy Law eConference

First appeared as part of the conference materials for the
16th Annual Renewable Energy Law Institute session
"FERC Action on Energy Storage: Where We've Come From, Where We're Going"