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Energy Storage Policy: Observations

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Energy Storage Policy—Current Status



- 22 states (plus the District of Columbia) have adopted decarbonization goals, however, not all have set policy for energy storage deployment
- State activity still driven mostly by 1) utility **procurement mandates, targets or goals**; 2) financial **incentive / subsidies** (CA, MD, NJ, NY); and **demonstration projects** (MA, MD, NY, UT, WA)
- Requiring storage in **utility IRPs** is also becoming more common.
- About 15 states have adopted some form of energy storage policy, which in all cases exists along with a renewables policy.
- 11 states have adopted procurement targets: CA, OR, NV, IL, VA, NJ, NY, CT, MA, ME, and MD.
- Policy approach is far from homogenous—i.e., vertically integrated versus restructured markets.

Deployment: 8 GW of utility-scale battery storage as of 2022 (mostly in CA-ISO and PJM), expected to increase by a further 20.8 GW by 2025 (ERCOT, NYISO, and ISO-NE)

Federal goal: Procure 100% carbon pollution-free electricity for federal agencies by 2030; Reduce 2030 emissions by 50% from 2005 levels

Energy Storage Policy—Challenges



- Aligning storage deployment to **scale** within the state's decarbonization timeframe.
- **Interconnection & permitting processes:** Delays & questions of questions about approval authority (e.g., MA case).
- Persistent **lack of valuation metrics**, particularly for LDES.
- **Policy inertia:** Lack of clarity as to which cases are best suited for storage and/or belief that storage is an objective for tomorrow but not today.
- **PURPA interpretations**—does storage paired with storage “count” as a QF—FERC has ruled “yes” based on total output rather than nameplate capacity. PURPA entitles QFs to relief from certain regulatory burdens and requires incumbent utilities to purchase power from QFs directly.

Energy Storage Policy—Opportunities



- **LDES:** policy development focused on applications rather than only durations, which will also inform valuation approaches.
- **Energy equity policies:** community solar + storage; mandates for storage development in disadvantaged communities.
- **Storage as a transmission asset,** which allows for the system's costs to be recovered through FERC-approved transmission rates.
- **Performance-based ratemaking**—Hawaii and Connecticut moving in this direction to drive decarbonization goals.
- **Strategic procurement:** Instead of broad MW requirements, more specific mandates that focus on the adoption of certain storage technologies (e.g., limits on pumped storage as in CA).

Energy Storage Policy—Forecasts



- Based on Sandia /CESA survey published in February, based on 22 responses from 14 states plus the District of Columbia.
- Motivations for pursuing energy storage remain quite variable.
- The next decade, particularly as a result of IRA, will likely be focused on “development and demonstration.”
 - ✓ A mix of central and local generators, energy storage, and other distributed energy resources.
 - ✓ A significant expansion of batteries used for both emergency backup generation and as peak shaving resources.
 - ✓ The use of microgrids or other DERs and their associated management systems to integrate and optimize an increasing amount of on-site intermittent renewable generation and energy storage.

Sandia's Policy & Outreach includes six core focus areas:



1. Educational outreach services to state regulatory utility commissions
2. Policy analysis and thought leadership via industry publishing
3. Support of state-level decarbonization modeling
4. Representation and engagement with federal policy groups
5. Collaboration with other federal labs
6. Support of the ESGC and DOE—OE as needed

Thank you!

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