

Arizona Proposes 3 GW Energy Storage Goal, Most Ambitious Nationwide

Spread of Renewables, Declining Costs, and Supportive Policies Bode Well for Storage

Industry Insight

On January 30, 2018, **Arizona Corporation Commissioner** Andy Tobin unveiled the Arizona Energy Modernization Plan which would set the goals of **80 percent clean energy by 2050** and **3,000 MW of energy storage by 2030**. Declining costs combined with a growing recognition of the multiple benefits of storage have led more states to consider storage in their energy planning and regulation. Moving forward, the future of storage will depend on creating rates and markets that capture the full value of storage and improving grid connection practices.

#1: Arizona Plan

Arizona seeks to attract **large-scale storage** to address peak demand challenges, provide system backup and stability, and avoid expensive investments for consumers. The plan draws on the role of storage in offsetting gas supply shortages from the California Aliso Canyon leak and addressing outages in the islands impacted by hurricanes Irma and Maria.

Goal 1

80%

clean energy by
2050

Goal 2

3GW

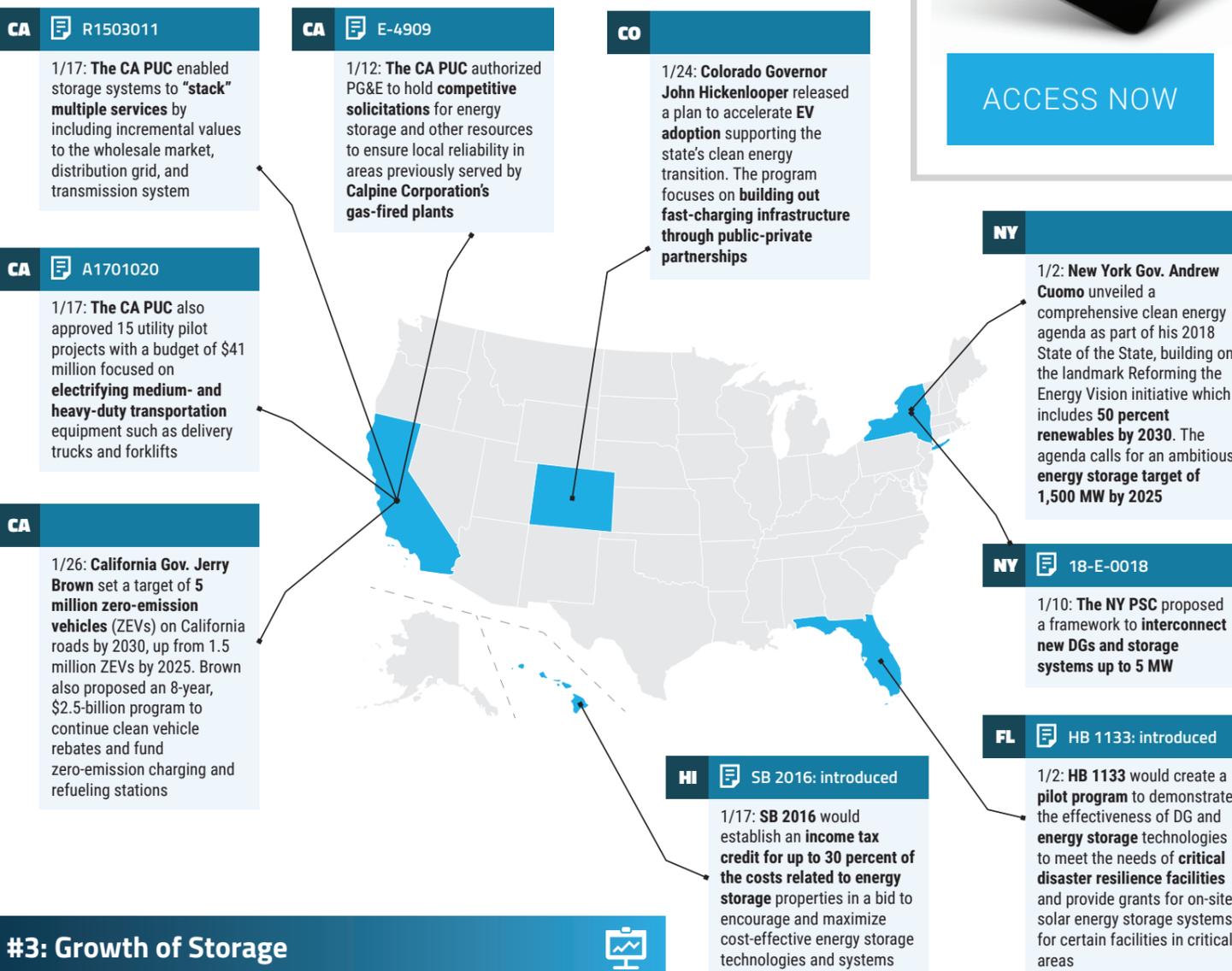
energy storage by
2030

-  **Diverse technologies: mechanical, thermal and gravitational**
-  **Permits retrofitting existing renewables with storage**
-  **Clean Peak Standard sets a baseline of clean resources deployed during peak hours**
-  **Utilities must propose residential and commercial EV charging program**

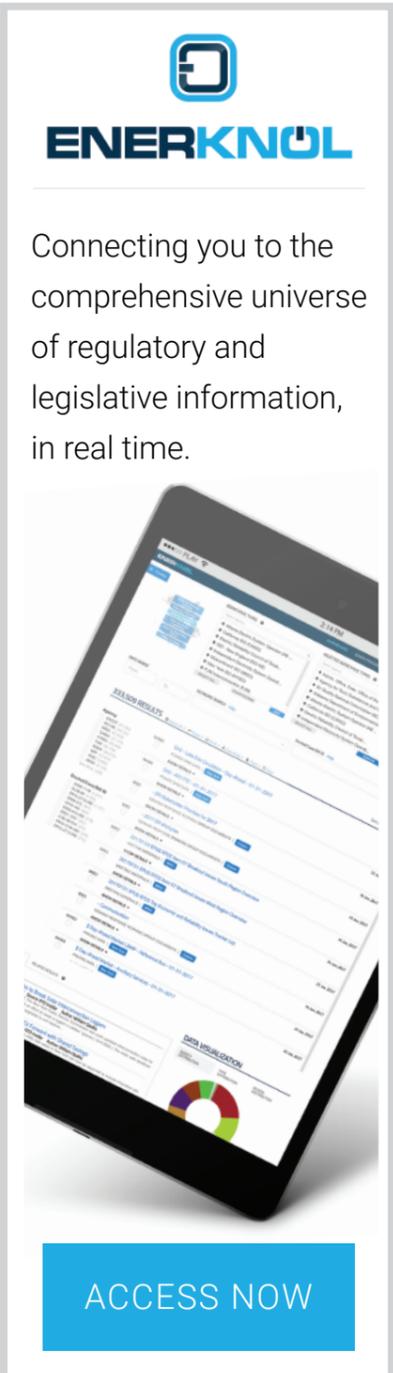
To advance a diverse portfolio of resources including efficiency, the plan would rename the current **Renewable Energy Standard and Tariff (REST) to Clean Resource Energy Standard and Tariff (CREST)**.

The Arizona Corporation Commission will consider the proposal at an upcoming meeting (the date of which has not been specified at the time of publication).

#2: Storage Policies in Other States



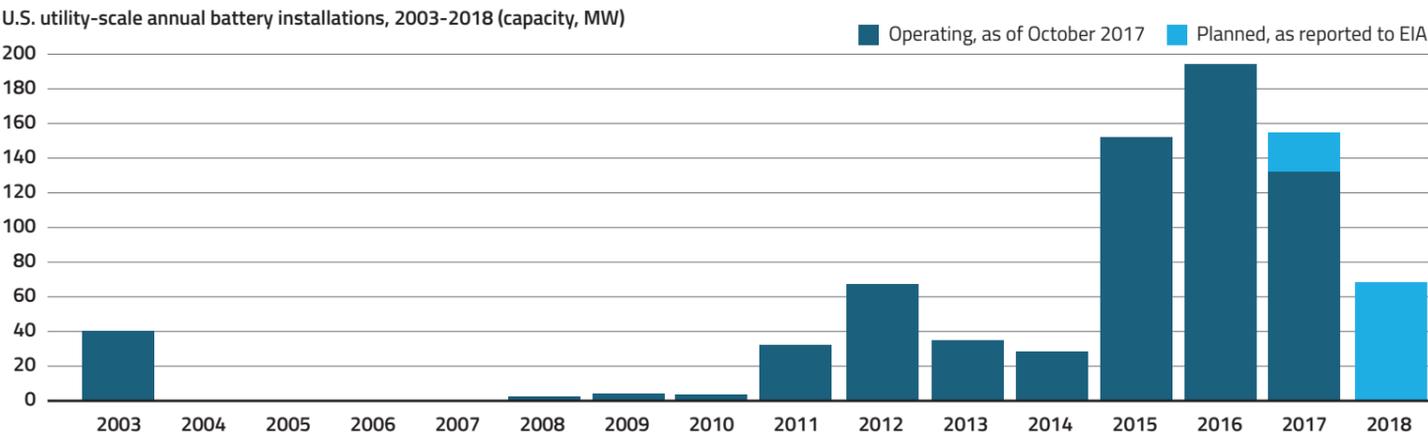
- CA R1503011**
1/17: The CA PUC enabled storage systems to "stack" multiple services by including incremental values to the wholesale market, distribution grid, and transmission system
- CA A1701020**
1/17: The CA PUC also approved 15 utility pilot projects with a budget of \$41 million focused on electrifying medium- and heavy-duty transportation equipment such as delivery trucks and forklifts
- CA 1/26: California Gov. Jerry Brown** set a target of 5 million zero-emission vehicles (ZEVs) on California roads by 2030, up from 1.5 million ZEVs by 2025. Brown also proposed an 8-year, \$2.5-billion program to continue clean vehicle rebates and fund zero-emission charging and refueling stations
- CA E-4909**
1/12: The CA PUC authorized PG&E to hold competitive solicitations for energy storage and other resources to ensure local reliability in areas previously served by Calpine Corporation's gas-fired plants
- CO 1/24: Colorado Governor John Hickenlooper** released a plan to accelerate EV adoption supporting the state's clean energy transition. The program focuses on building out fast-charging infrastructure through public-private partnerships
- NY 1/2: New York Gov. Andrew Cuomo** unveiled a comprehensive clean energy agenda as part of his 2018 State of the State, building on the landmark Reforming the Energy Vision initiative which includes 50 percent renewables by 2030. The agenda calls for an ambitious energy storage target of 1,500 MW by 2025
- NY 18-E-0018**
1/10: The NY PSC proposed a framework to interconnect new DGs and storage systems up to 5 MW
- FL HB 1133: introduced**
1/2: HB 1133 would create a pilot program to demonstrate the effectiveness of DG and energy storage technologies to meet the needs of critical disaster resilience facilities and provide grants for on-site solar storage systems for certain facilities in critical areas
- HI SB 2016: introduced**
1/17: SB 2016 would establish an income tax credit for up to 30 percent of the costs related to energy storage properties in a bid to encourage and maximize cost-effective energy storage technologies and systems



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#3: Growth of Storage



Bottom Line

Many Drivers
Supportive policies, technological advancements, economies of scale, and the penetration of renewables will continue driving storage forward. Policies that support multiple-use applications as in California demonstrate the need to properly value all the services provided by energy storage to improve its economics.

Particular Designs
Storage will particularly benefit from market designs that capture its full value including contribution to grid resilience and avoided infrastructure and peak demand costs. While procurement mandates encourage utilities to incorporate storage into their systems and planning processes, streamlined permitting and interconnection policies will also boost storage in the future.

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