



## **CLEAN ENERGY GROUP PROPOSES 20 FEDERAL STRATEGIES TO ADVANCE BATTERY STORAGE MARKETS**

### ***RECOMMENDS NEW FEDERAL POLICY, SUPPORT FOR LOW- AND MODERATE-INCOME COMMUNITIES, AND NEW FINANCE TOOLS***

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Clean Energy Group (CEG), a national nonprofit organization that has worked on multiple battery storage issues over the last several years, has proposed a comprehensive series of new policy actions the federal government could take to accelerate the battery storage market. These new strategies are contained in [comments CEG filed](#) in response to the [Energy Storage Grand Challenge](#) Draft Roadmap (“Storage Roadmap” or “Roadmap”) and a [Request for Information](#) (RFI) the US Department of Energy (DOE) released in late July 2020.

The Draft Roadmap proposes that the federal government pursue a long-term federal strategy to expand the energy storage market along the lines of the successful [Solar SunShot Initiative](#). The SunShot program adopted hard cost reduction targets for solar adoption and provided grants to communities, states and NGOs to support new policies and actions at the state and local level to drive down solar costs through market activity.

Clean Energy Group’s comments contained three important overall observations, which then are to be addressed through a series of 20 specific recommendations for how the draft Roadmap could be improved.

First, battery storage is the key to the market expansion of renewable energy technologies, especially in new behind-the-meter (BTM) technology combinations that will provide the end-use customer with greater efficiency, resiliency, and energy cost reductions. Moreover, storage and other utility-scale energy technologies will provide grid resiliency, reduce expensive peak demand, and result in other economic and environmental benefits as compared to our current grid configuration.

Second, those market advances must be widely and equitably distributed throughout society, so that low- and moderate-income (LMI) customers and communities of color enjoy those benefits equally with others more privileged. Most early stage energy technologies tend to be adopted first by upscale, wealthy customers, leaving these beneficial technologies to trickle down years after early market adoption. More equitable distribution of battery storage technologies through targeted policies and outreach efforts to reach LMI markets should be a high priority of any future efforts to advance energy storage technologies in the US.

Third, these strategies are now more needed than ever. As the CEG response to the RFI notes, “the negative effects of COVID-19 and climate change have come together to make these technologies even more important than ever. That is, there are new market uses of these battery storage technologies in making homes—which are now serving triple duty as offices, schools, and housing—more resilient. Energy resilience from batteries provides a safety net for people with electricity-dependent, home health care equipment, making them less at risk from power outages due to storms or other causes. Resilient power systems can make entire communities more secure from extreme weather, wildfires, and the accompanying power outages. Our disaster-prone “new normal” means that battery storage technologies are now essential tools to save lives, reduce physical and economic harm, and preserve communities from disruptions due to power outages.”

The following are the specific recommendations that CEG proposes for any new, federal, energy storage Roadmap.

## Federal and Policy Programs

1. **Federal energy storage tax credit:** A new federal effort to develop storage policy should include a stand-alone federal storage tax credit. As with other emerging clean energy technologies, it is important to support storage deployment while the industry is in its early growth phase. This will help battery storage to scale up faster, access new markets, and gain economies of scale.
2. **Federal/state partnerships:** Federal-state partnerships and programs provide a model that could be expanded (and better funded) so that US DOE can work with more states to create demonstration or “lead by example” energy storage projects and advance policy and regulatory development.
3. **National storage capacity goal:** An important role for the federal government would be to set a national energy storage capacity goal, or a series of targets, and to support these targets with incentives and technical and policy support resources, for example through a national lab.
4. **National storage pricing goals:** A national effort is needed to establish battery storage pricing targets and other standards, such as energy density and round-trip efficiency, to improve the technology while driving prices down. This will expand the number of applications for which storage can provide cost-effective services and thereby grow storage markets.
5. **ConnectedSolutions/BYOD utility incentives:** A new federal storage effort should include support and guidance for states to adopt ConnectedSolutions, a new utility incentive program for battery storage applications, or equivalent bring your own device/BYOD battery programs within their energy efficiency plans.
6. **Municipal utility and rural electric cooperative storage adoption:** A federal effort to support energy storage deployment should include technical assistance and knowledge resources for municipal utilities and rural electric co-ops.

## National Lab Analysis and Support

7. **Storage applications, valuation and markets, and industry benchmarking and tracking:** A federal effort is needed, led by national energy laboratories, to advance understanding of battery storage economics, particularly in the areas of quantitative valuation of storage applications, stacking of applications, and needed market reforms to enable monetization of these applications. This would then inform recommendations on market rules, regulation, and policy.
8. **Storage codes and standards/best practices:** National energy labs should help to develop codes and standards for battery storage adoption as part of a national market development effort.
9. **State policy and regulatory best practices:** A more robustly funded and staffed knowledge-sharing effort, led by the national labs, would provide policy best practices reports, establish a national policy database, offer training to state policy makers and regulators, support state energy storage program development, and otherwise assist local, state, and regional entities.
10. **Battery storage for resilient power and cyber-security:** A national program to explore and develop the role of battery storage for resilient power and cyber-security applications should be launched within the national labs.
11. **Support for New State and Community Policies and Programs:** Each federal agency with a hand in energy policymaking should create and support “Federal and State Innovation Offices” that are well-staffed and that have budgets to share with state and local governments. The offices would support multi-state

partnerships, networks, and analytical capacity to develop new clean energy and battery storage policy innovations, and to bring those innovations into place at the federal level through new federal-state partnership programs.

- 12. Expansion of the existing program supporting joint federal/state and public/private storage deployment:** Increased funding should be provided to expand the US DOE-OE Energy Storage Research program that provides funding and technical support, in collaboration with the national labs, to state and municipal agencies, for storage deployment projects that advance understanding of new technologies, applications and business cases.

## Battery Storage and Resilience for Health and Social Equity

- 13. Lowering energy burdens and increasing opportunities for community wealth creation:** US DOE should create a new “Resilient Power” agency in the Office of Energy Efficiency & Renewable Energy (EERE) that would provide federal grants, technical assistance support, and other measures to advance LMI energy storage markets across the country. This program, along with the other federal programs proposed here, should include dedicated funding to provide low-income communities and communities of color with access to “Technical Assistance Funds” that could be used to conduct feasibility assessments and help them to analyze the costs and benefits of installing such systems in their communities and to encourage community ownership of such systems.
- 14. Improving health outcomes in the event of a power outage:** US DOE should work with Department of Health and Human Services (HHS) to consider how to provide coverage throughout Medicare or Medicaid for battery storage as an eligible technology to protect vulnerable populations with electrically dependent, home health care equipment. HHS (perhaps in partnership with DOE) should create a new “Office of Resilient Home Health Care” that could administer such a program and offer incentives to companies to offer new technology innovations in this market. Such a program could open millions of people to life saving, clean energy technology.
- 15. Supporting emergency preparedness and response:** US DOE should work with the Federal Emergency Management Agency (FEMA) to develop a new “Resilience Funding Program” that would commit to use federal community development disaster preparedness and disaster recovery funds to install solar and storage at critical disaster recovery locations around the country—including shelters, schools, and other facilities—to provide electricity to power essential community services in the event of storms and power outage disasters.
- 16. Replacing peaker plants to enhance public health.** With US DOE, in partnership with other agencies such as the Environmental Protection Agency (EPA), the federal government should create a new “Peaker Replacement Program” that would offer an array of federal support to phase out the over 1,000 fossil-fuel peaker plants over time and replace these outdated, fossil-fueled units with renewable energy and battery storage alternatives.
- 17. Providing resilience at multifamily affordable housing:** US DOE should work with HUD to create a new “Office of Housing Resiliency” to provide grants to housing developers and owners, as well as other forms of information and analytical support, to encourage the installation of solar and battery storage in affordable housing units across the country.
- 18. Bring resilient power to Federal Community Health Centers:** US DOE should work with HHS and other relevant federal agencies to institute a new program to ensure its thousands of federally qualified community health centers have 24/7 reliable electricity with solar and battery storage technologies. It

should begin a program of funding and support to guarantee that these centers have the capacity and the funding to install needed resilient power options in clinics across the country, including in Puerto Rico and other territories and commonwealths.

## New Financing Models for Energy Storage

19. **Supporting a foundation-funded payment guarantee model for battery storage financing:** US DOE should expand a new, foundation supported, payment guarantee model for battery storage by supporting efforts to recruit additional foundations and government guarantors, as well as establish a dedicated “Clean Energy Financing” program that would support the development of new initiatives to overcome financial risk in LMI clean energy markets. US DOE also should provide funding to support a pilot demonstration of this portfolio finance model. That support might take the form of additional loan guarantee funds (or other means of credit enhancement) as a match for foundation PRIs, and to cover project predevelopment expenses.
20. **Supporting replication of utility incentive programs for battery storage like the ConnectedSolutions utility model:** US DOE should support the expansion of the ConnectedSolutions battery storage, energy efficiency incentive model through EERE and other programs that support innovative utility energy efficiency programs across the country. This support should also encourage better protections for low-income provisions in these programs, including an LMI carve-out to ensure that some portion of program funds are allocated in underserved communities, as well as an LMI adder to help developers in these communities overcome barriers. Such support also should demand greater resiliency provisions in these programs, such as a resiliency adder that acknowledges the added expense for the customer in making solar+storage systems “islandable” (able to support host facility electrical loads during a grid outage).

## Conclusion

The US needs a new federal strategy to advance energy storage technologies. The proposed US DOE Energy Storage Roadmap can be substantially improved with a heightened focus on the strategies proposed in Clean Energy Group’s response, with recommendations that the final Roadmap would address the following:

- It should articulate a clear path forward to specific, time-bound, targeted cost reductions and committed funding pathways for battery storage.
- It should pay greater attention to support the BTM market for battery storage, as that is where the greatest innovations can produce the most immediate benefits to energy consumers.
- It should adopt a host of new federal policy roles for US DOE and other agencies, including the national laboratories, to promote a multi-agency federal effort to address the need for greater market analysis, support for state partnerships, and other policies to advance battery storage throughout the federal government.
- It should especially address a noteworthy omission in the current draft, as it does not materially focus on the need to get these new energy saving technologies into the hands of LMI customers, who in various sub-markets are in most in need of the many economic, public health, and environmental benefits the pairing of solar and battery storage can provide now.
- It should develop new financing platforms that help reduce the financing risk of early stage battery storage technologies, again especially in hard to reach LMI markets.