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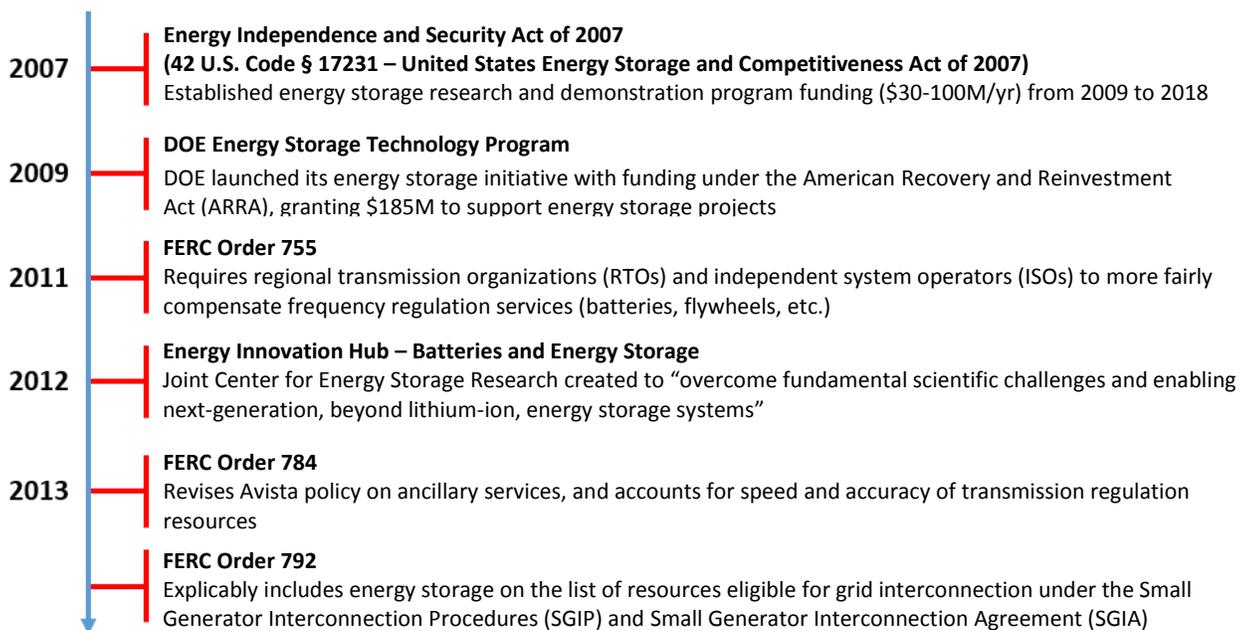
ESF® Policy Primer

The Age of Intelligent Storage: Distributed Systems, Smart Software and Control Systems

Clean Energy Connections – May 14, 2014

Energy storage facilitates electricity dispatch when power is needed rather than when it is generated, allowing efficient integration of intermittent renewable energy sources. Policy reforms, Federal research and funding programs, and favorable economics can facilitate market penetration of energy storage technologies, enabling utilities to meet growing demand. Government support in the form of investment tax credits, streamlined permitting processes and favorable policies can alleviate risks associated with storage technologies, improve project economics, and overcome obstacles to deployment.

Federal Policy Milestones and Programs Supporting Grid Storage



FERC Orders Support Utility-Scale Energy Storage Development

On December 19, 2011, the Federal Energy Regulatory Commission (FERC) finalized the “Frequency Regulation Compensation in the Organized Wholesale Power Markets” (Final Order Number 755) to support frequency regulation, a vital application of energy storage technologies. FERC Order 755 establishes a financial value for performance benefits, requiring regional markets to reward resources that rapidly respond to up or down power generation fluctuations (frequency regulation).

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On July 18, 2013, FERC issued Order 784, which builds on Order 755, requiring utilities to take into account speed and accuracy when purchasing frequency regulation resources. The Order also permits third parties who pass competitive screens to sell ancillary services to transmission providers at market-based rates – an action not previously permitted under the FERC Avista policy, which governs the sale of ancillary services.

On November 22, 2013 FERC announced Order 792, adding energy storage to the category of resources eligible for grid interconnection under the Small Generator Interconnection Procedures (SGIP), as well as allowing energy storage projects to participate in the accelerated interconnection process known as Fast Track. This will reduce the time, cost, and regulatory burden associated with interconnection of energy storage projects.

State Policy and Program Efforts to Support Grid Storage

At the state level, many policy makers recognize that energy storage is critical to the development of effective smart grids, and policies should be put in place to support energy storage technology development. California, Texas and New York have made exemplary progress with regard to legislation and initiatives.

Key States to Watch

New York	Texas	California
<p>NY Battery and Energy Storage Technology (NY-BEST): A consortium created in 2010 to position NY State as a global leader in energy storage technology</p> <p>NY Energy Highway Blueprint (introduced Oct-2012): Supports energy storage development through the proposed \$2B initiative, which will rebuild and rejuvenate NY State’s electric power system</p> <p>Charge NY Plan (proposed Jan-2013): Gov. Cuomo plan would invest \$50M in NY’s EV charging infrastructure over the next five years</p> <p>ConEd & NYSERDA outlined proposed incentives for battery storage (\$2,100/kW) and thermal storage (\$2,600/kW) – part of Indian Point retirement contingency plan</p>	<p>Senate Bill 943 (effective Sept-2011): Allows energy storage projects to interconnect to the grid and sell ancillary services to the wholesale competitive market</p> <p>Fast Response Regulation Service pilot project (launched in Jan-2013): ERCOT created this pilot project to test “pay-for-performance” methods such as those being developed in response to FERC Order 755</p> <p>Notrees Windpower Project (completed Jan 2013): Largest U.S. energy storage facility – 36MW – built by Duke Energy and assisted by \$22M DOE grant</p>	<p>AB 2514 Energy Storage Law (signed Sept-2010): Requires utilities to procure storage systems or services with 2.25% peak load capacity by 2014-2015, 5% by 2020</p> <p>AB 1150 Self-Generation Incentive Program (effective Jan-2012): Provides incentives to support existing, new and emerging distributed energy resources</p> <p>CPUC Energy Storage Procurement Policy: Orders Southern California Edison (SCE) to procure between 1,400 and 1,800 MW of energy resource capacity in the Los Angeles basin by 2021 (50MW energy storage from SCE)</p>

Sources: CA, TX, and NY State Legislatures

Looking Ahead

Supported by significant Federal and State programs and an evolving regulatory framework, grid-scale energy storage offers many benefits, from peak load leveling and frequency regulation to efficient renewable energy integration. As these systems advance and expand with changing generation capacity landscape and increased transmission line congestion, so too must their management systems and associated software to ensure quality and reliable power delivery. Going forward, continued research, development, and public-private partnerships will support energy storage as an integral part of our ever-changing energy mix.

About Energy Solutions Forum

Energy Solutions Forum is an energy policy research and data company based in the NYC ACRE program at the NYU Poly incubator. Follow @EnergySolForum for policy research and stay plugged in with ESF Calendar, the industry’s go-to resource for energy business events in and around NYC.

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