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Demand Response

Earn Automated Revenues and Stabilize a Cleaner, Smarter Grid

Demand response (DR) programs pay resources like energy storage to relieve grid stress during peak times. But participating in DR programs can be difficult for organizations, particularly if they can't easily adjust their own energy use or reschedule operations. Stem's energy storage solution is ideal for demand response. We offer companies an automated way to earn DR revenues without impacting operations. And we offer utilities and grid operators a proven, flexible resource to help manage fluctuating grid conditions and costs.

Capture Automated DR Revenues with Smart Energy Storage

Founded in 2009, Stem pioneered energy storage in North America and now operates the world's largest digitally connected energy storage fleet. Stem was the first energy storage provider to successfully launch a network of behind the meter (BTM) energy storage systems as a Virtual Power Plant (VPP) and integrate it into California's wholesale energy markets as a demand response resource. Our best-in-class Athena™ smart energy software has logged thousands of dispatches for DR and other grid services across tens of millions of runtime hours. Stem helps Fortune 500 enterprises and commercial and industrial companies participate in leading DR programs across North America, including California's Demand Response Auction Mechanism (DRAM), Massachusetts' ConnectedSolutions program, and Ontario's Capacity Auction.

Demand Response Services

· Tariff & Program Assessment
· Economic Modeling & Analysis
· Program Enrollment
· Utility Signal Integration & Dispatch Scheduling
· Data Management
· Performance Reporting & Settlement

Optimize DR Value Streams

DR revenues are one of several potential value streams for energy storage, and DR program requirements can change several times over a project's lifetime – as can tariffs, incentives, and wholesale market rules. Stem's Athena artificial intelligence (AI) software co-optimizes value streams in real time and adapts to changing conditions over time so projects can realize maximum ROI.

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Stabilize a Cleaner, Smarter Grid with Stem

Trends in DR programs are changing the nature of DR participation. Peak hours are occurring later in the day, and demand for flexible, economic resources from utilities and wholesale energy markets has increased. Companies now need to be ready to respond at all times (even after normal business hours), provide frequent and flexible load reductions, and monitor market pricing in real time. For many customers, this is complicated. Stem's automated battery storage solution makes it easy to maximize value from DR programs.

Energy Storage is 100% Automated

Intelligent energy storage processes demand response notifications and automatically discharges to reduce your load. You don't need to manually curtail, monitor your demand during the DR event, or interface with your utility.

Energy Storage Causes Zero Disruption

With energy storage, you can participate in DR without impacting your operations. All load reduction happens in the background via the energy storage system. You don't have to shut down any processes or risk employee/customer discomfort by adjusting HVAC setpoints. Get paid to reduce your load and keep your business operating.

Energy Storage Maximizes Your Flexibility

Energy storage can respond instantaneously, or to a day-ahead notification. It can adjust output on a second-by-second basis, or on a seasonal basis. It can dispatch for five minutes, or up to four hours. Whatever the requirements of a demand response program, energy storage can meet them. And as program requirements change over time, Athena will change the system's operating parameters to adapt.

Energy Storage Integrates with Other Resources

Energy storage plays well with other resources at your facility, including traditional manual curtailment. With Stem's partnerships with other DR providers, you can combine energy storage with your traditional curtailment strategy to maximize your load reduction – and your revenue – in DR programs.

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Project Spotlights

Aerospace Engineering

Storage System
105kW / 170kWh

Configuration
Standalone storage

Impact
New cash flows from Massachusetts' ConnectedSolutions program

College Campus

Storage System
1MW / 4.2MWh

Configuration
Solar plus storage

Impact
New cash flows from DR programs as a networked Virtual Power Plant (VPP)

Manufacturer

Storage System
5.3MW / 8.5MWh

Configuration
Standalone storage

Impact
$420K annual savings and 90% load-shedding capability without impacting operations
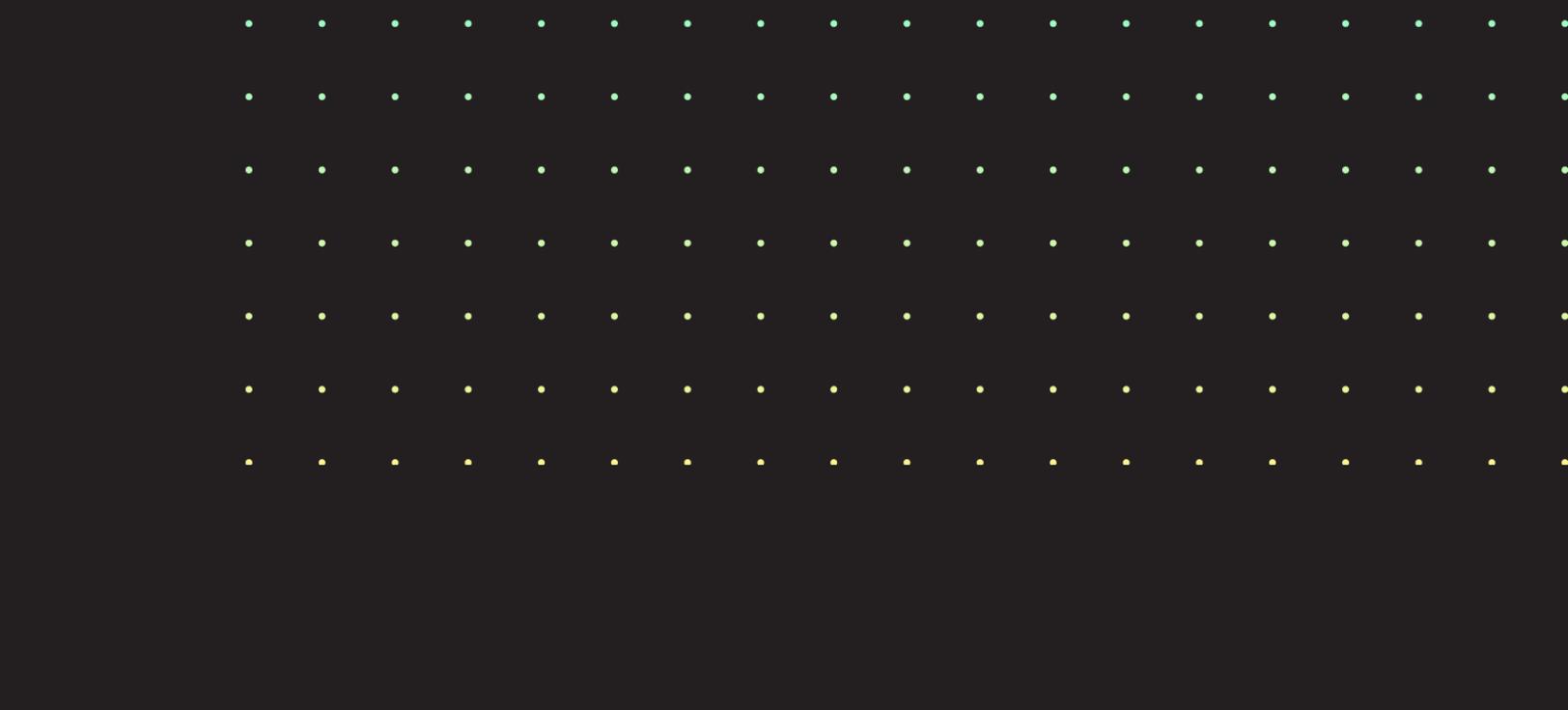
About Stem

Stem provides solutions that address the challenges of today's dynamic energy market.

By combining advanced energy storage solutions with Athena™ AI, a world-class artificial intelligence (AI)-powered analytics platform, Stem enables customers and partners to optimize energy use by automatically switching between battery power, onsite generation and grid power. Stem's solutions help enterprise customers benefit from clean, adaptive energy infrastructure and achieve a wide variety of goals, including expense reduction, resilience, sustainability, environmental and corporate responsibility and innovation. Stem also offers full support for solar partners interested in adding storage to standalone, community or commercial solar projects–both behind and in front of the meter.

For more information, visit www.stem.com

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