Solution Sheet

Energy Storage

Energy storage technology enables you to manage when and how your energy is used.

Energy Storage Systems (ESS) have emerged as a promising, versatile technology that can provide solutions to many electric-grid challenges. Without the ability to store large amounts of energy, conventional power systems have been reliant on matching supply and demand in real-time. However, with recent advances in storage technology and significant cost reductions, energy storage has never been simpler.

Commercially available storage technologies today include Lithium Ion Batteries, Lead Acid Batteries, Flow Batteries and Mechanical Flywheels. Lithium Ion Batteries are the most widely deployed energy storage method in the United States.

Applications for Energy Storage

- **Electric Bill Management** – Store energy when it is inexpensive and save it for use during peak times when demand and prices are high.
- **Consumption of Onsite Generation** – Store excess energy for later use when onsite renewable generation (Solar, CHP, Wind, etc.) exceeds site load. This is advantageous if self-consumption of the energy is more valuable than selling it to an off-taker, or if a connection to the utility grid is not available.
- **Demand Response** – Storage serves as a resource to support demand response programs and can discharge when called upon by a utility in exchange for payment.
- **Backup Power & Microgrid Support** – If utility power is lost, energy storage can play a pivotal role in conjunction with microgrid controls and/or onsite generation to continue serving loads. Energy storage can bridge to back-up generation or help maintain power quality of an islanded distribution system.
- **Wholesale Market Services** – Storage can participate in the Independent System Operator (ISO) markets and can provide energy, capacity, and ancillary services.
- **Peaking Capacity** – The electric power grid is built to meet the peak load, which only occurs in limited hours in the year. Energy storage resources can serve peaking capacity needs while simultaneously providing other services, thus reducing the need for gas peaker power plants.
- **Distribution Services** – With the growth of renewable resources at the distributed level, energy storage can provide reliability services to help with reverse power flow, voltage, and power quality.
- **Distribution & Transmission Deferral** – Often the transmission and distribution system needs to be upgraded to meet the demand that occurs in limited hours per year. Energy storage can defer the costs associated with new wires while providing valuable real-time savings.

AMERESCO by the Numbers

- Delivered over **$6 Billion** in Energy Solutions
- **70+ Offices** Throughout the USA, Canada, and the UK and more than **1,000 Employees**
- Developed over **300 MW** of Renewable Energy Projects
- Up to **45% Energy Cost Savings** with Comprehensive, Audit-Based Improvements
- Socially **Responsible** & Economically **Efficient**
- In 2019, Ameresco's Renewable Energy Assets and Customer Projects Delivered a Carbon Offset Equivalent to **11,167,978** Metric Tons of CO_2

Bringing Long-Term Value to Customers Since 2000

Founded in 2000, Ameresco, Inc. (NYSE:AMRC) is a leading independent provider of comprehensive services, energy efficiency, infrastructure upgrades, asset sustainability, and renewable energy solutions for businesses and organizations throughout North America and Europe. Ameresco's sustainability services include upgrades to a facility's energy infrastructure and the development, construction, and operation of renewable energy plants.

Ameresco's Advanced Technology Portfolio Includes:

Energy Efficiency | Distributed Energy Generation, Storage & Microgrids | Infrastructure | Energy Analytics & Supply Management | Operations & Maintenance

Ameresco has successfully completed energy saving, environmentally responsible projects with Federal, state and local governments, healthcare and educational institutions, housing authorities, and commercial and industrial customers. With its corporate headquarters in Framingham, MA, Ameresco has more than 1,000 employees providing local expertise in the United States, Canada, and the United Kingdom.

Ameresco's team of energy experts can assist you in identifying the solution that fits your needs.

For more information about Ameresco and our full-range of energy efficiency and renewable energy solutions, please call **1-866-AMERESCO** or visit **ameresco.com**.