Renewable Energy Vermont

Benefits of Energy Storage

- Increases grid resiliency, integrity, and stability
- Helps residents and businesses manage electricity use, lowering electric costs
- Lowers costs to ratepayers by reducing electricity demand during peak periods when additional supply is needed
- Helps avoid costly distribution and transmission infrastructure upgrades, reducing costs to ratepayers
- Provides backup power when the grid is offline
- Replaces fossil fuel powered backup generators
- Reduces greenhouse gases
- Maximizes use of VT produced renewable energy
- Supports economic growth
- Proven technology already deployed around the world

Energy storage provides an intelligent buffer between generation and demand that provides grid operators an essential tool for a reliable, resilient, and flexible power grid. While transmission provides energy where it is needed, energy storage provides energy when it is needed.

- Babu Chalamala, Energy Storage Program Manager, Sandia National Laboratories

Massachusetts “State of Charge” study found that energy storage could deliver billion$ in benefit$ to Massachusetts, lower peak demand by 10%, and reduce more than a million metric tons of carbon dioxide emissions over ten years.

Energy Storage in Other States

- California (2010), Massachusetts (2015), and Oregon (2015) enacted laws requiring utilities to provide storage.
- Eversource (ISO New England’s largest utility) is making a $100 million commitment to energy storage.
- New York, Maryland, Hawaii, and California offer incentives for energy storage.
- At least 7 states are currently considering legislation to study, further incentivize, or require utilities to adopt energy storage (MD, HI, NV, NJ, NY, MA, MN).

Electric vehicle batteries could charge during off peak times, and provide energy back to the grid during peak periods.
Storage Pilots in Vermont

- Northern Reliability built 10 storage units supporting VTA operations for remote cellular and broadband resiliency after Hurricane Irene.
- Grassroots Solar and GMP are installing storage at Emerald Lake State Park in East Dorset, to take the park off the grid. The cost is estimated to be 20% less than that of rebuilding the distribution line.
- Green Mountain Power customers may lease a Tesla Powerwall battery for their home from GMP, providing 4 – 6 hours of backup power.
- The Stafford Hill Solar Farm installed by groSolar, Dynapower, and GMP in Rutland was named by the U.S. Department of Energy as the first utility microgrid in the country, powered by solar energy coupled with storage. In 2016, the project saved GMP $200,000 in one hour.

Source: Inline Policy

March 2017