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CONTACT Todd Olinsky-Paul Clean Energy Group/ Clean Energy States Alliance Email: Todd@cleanegroup.org Ph: 802-223-2554

New Solar + Storage Microgrid Project to Provide Resilient Power

Unique Federal-State-Utility-NGO Partnership Supports New Approach to Protect Communities

Montpelier, VT: Clean Energy Group/Clean Energy States Alliance applauds the announcement of a groundbreaking solar + storage microgrid project in Rutland, Vermont. The Stafford Hills project is being developed by Green Mountain Power, in collaboration with Dynapower and GroSolar. The energy storage component of this project is co-funded by a unique federal-state-NGO partnership involving the State of Vermont; the U.S. Department of Energy, Office of Electricity; and the Energy Storage Technology Advancement Partnership (ESTAP), a project managed by Clean Energy States Alliance and Sandia National Laboratories.

"This project is a national model for the future of clean energy – combining solar with energy storage," said Lewis Milford, president of Clean Energy Group, which manages the Clean Energy States Alliance. "Solar power and battery storage will provide clean reliable power to a school that serves as an emergency shelter, helping a community cope with loss of power in a future disaster. This new form of resilient power is what all communities need to protect themselves from power outages in severe weather events."

Dr. Imre Gyuk, Energy Storage Program Manager in the Office of Electricity Delivery and Energy Reliability, U.S. Department of Energy, commented, "This project provides resilient power during emergencies while benefitting the grid at other times. The technical innovations will reduce cost and make the project commercially viable.... This is the perfect project! It has social value, technical innovation, and furthers renewable integration for the grid."

This project is unique in several ways:

- It is one of the first exclusively solar-powered microgrids in the US, and the first to provide full back-up to an emergency shelter on the distribution network;
- It is the first solar + storage microgrid to be developed on a brownfield site, contributing to brownfield redevelopment efforts in Rutland, VT;
- It incorporates 7,722 solar panels, capable of generating 2.5 MW of electricity, helping GMP to reach its goal of making Rutland, VT the Solar Capital of New England, and helping Vermont to reach its renewable energy goals;

- It incorporates 4 MW of battery storage, both lithium ion and lead acid, to integrate the solar generation into the local grid, and to provide resilient power in case of a grid outage;
- It incorporates innovative multi-port inverters designed specifically for this project by Dynapower, a local Vermont firm;
- It will provide resilient power to a Rutland school that serves as a public emergency shelter (additional critical facilities may be similarly supported by this microgrid in the future);
- It will provide clean, distributed generation and resilient power to an economically challenged, urban community that is targeted for revitalization, and that suffers frequent power outages due to storms;
- It was partially funded through a joint federal/state partnership for deployment of energy storage technologies;
- It is part of Green Mountain Power's larger vision for transforming Rutland into "The Energy City of the Future."

This project puts Vermont in the forefront of the new movement toward microgrids, energy storage, and grid modernization. Solar + storage and microgrid technologies are poised to revolutionize resilient power, bringing clean, locally-generated power to communities all over the world. These systems can keep critical facilities, such as emergency shelters, firehouses and fueling stations, operating when the grid goes down. There is a great need for such resilient power solutions, as shown by recent disasters such as Hurricane Sandy, which affected the entire eastern seaboard and left millions without electrical service. With this project, Vermont takes a giant step toward addressing this need, as well as meeting Vermont's clean energy and emissions reduction goals.

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About Clean Energy Group (CEG) and Clean Energy States Alliance (CESA)

CEG is a leading national, nonprofit advocacy organization working on innovative technology, finance, and policy programs in the areas of clean energy and climate change. CEG also manages the Clean Energy States Alliance (CESA), a coalition of state and municipal clean energy funds. CESA's Energy Storage Technology Advancement Partnership (ESTAP) is a federal-state funding and information sharing project that aims to accelerate the deployment of electrical energy storage technologies in the U.S. Learn more at www.cleanegroup.org and www.cesa.org.

About Green Mountain Power

Green Mountain Power, or GMP, is a local electricity utility in the state of Vermont focused on providing its customers with a balance of the most reliable, affordable, smart, and clean electricity, in an effort to be the best small utility in America. Learn more at <u>www.greenmountainpower.com/</u>.

About the U.S. Department of Energy's Energy Storage Program

The U.S. Department of Energy's Office of Electricity Deliverability and Energy Reliability manages the Energy Storage Program under the direction of Dr. Imre Gyuk. The Energy Storage Program funds research and development work for a wide variety of energy storage technologies. The Program collaborates with industry partners, utilities, and state energy organizations, and is the chief funder of CESA's Energy Storage Technology Advancement Partnership (ESTAP). More information on the U.S. DOE's Energy Storage Program is available here: <u>http://energy.gov/oe/services/technology-development/energy-storage</u>