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Enphase Energy and Hawaiian Electric Collaborate to Improve Stability of the Grid

Enphase's software-defined microinverters and remote upgrade capability save tens of millions of dollars in potential upgrade costs

PETALUMA, Calif. & HONOLULU--(BUSINESS WIRE)-- Enphase Energy, Inc. (NASDAQ:ENPH), has successfully upgraded the operating behavior of approximately 800,000 of its smart microinverters installed in Hawaii, better integrating the PV systems into Hawaii's changing island grids. This unprecedented technological accomplishment is a result of ongoing collaboration between Enphase, Hawaiian Electric and other industry partners to find technical solutions for integrating high levels of PV in Hawaii at a low cost to end-customers.

With the highest level of solar PV penetration in the country, Hawaii poses a unique challenge. Over 51,000 customers—12 percent of all residential customers—have rooftop solar. More than 60 percent of these systems are equipped with Enphase microinverter systems. Hawaiian Electric and Enphase have been working closely with other industry partners to determine new frequency and voltage ride-through settings that would allow rooftop solar installations to be more tolerant when a problem occurs on the grid, which in turn helps improve the stability of the overall grid. Because Enphase's microinverters are software-defined, Enphase was able to make these updates remotely and quickly, saving tens of millions of dollars by avoiding the need to send personnel out in the field to update the settings manually.

"Enphase is able to quickly deploy technical solutions that benefit our customers and increase the use of renewable energy in Hawaii," said Colton Ching, vice president of energy delivery at Hawaiian Electric. "Hawaii is leading the way in the adoption of solar power, and the solutions that we're developing with partners like Enphase can benefit customers and utilities across the country."

"Enphase delivers on the technological challenge of bringing scale and control to distributed power generation, with an approach that is highly collaborative," said Paul Nahi, president and CEO of Enphase. "By working closely with utility partners like Hawaiian Electric, we are able to move the industry closer to achieving the full integration of solar onto the grid."

"Our ability to quickly, safely and cost-effectively modify the settings on our advanced microinverters throughout Hawaiian Electric's service area exemplifies the broader smart grid capabilities that Enphase can provide," added Raghu Belur, co-founder and vice president of products and strategic initiatives at Enphase. "Regulators and utilities across the U.S. are working to determine the value that distributed energy resources provide to the grid, in an effort to inform policy development and procurement decisions. This most recent collaboration between Enphase and Hawaiian Electric provides a quantifiable example of how our distributed technology, with its high-granular data and control, can provide immense value and save ratepayers millions of dollars in upgrade costs."

About Enphase Energy, Inc. Enphase Energy delivers microinverter technology for the solar industry that increases energy production, simplifies design and installation, improves system uptime and reliability, reduces fire safety risk and provides a platform for intelligent energy management. Our semiconductor-based microinverter system converts energy at the individual solar module level and brings a systems-based, high technology approach to solar energy generation. Connect with Enphase on [Facebook](#) and follow us on Twitter. www.enphase.com

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About Hawaiian Electric Companies

Hawaiian Electric and its subsidiaries, Maui Electric and Hawaii Electric Light, serve the islands of O'ahu, Maui, Lāna'i, Moloka'i and Hawai'i, home to 95 percent of the population of Hawai'i.Â Hawaiian Electric's parent company is Hawaiian Electric Industries (NYSE:HE).

In a changing world, the Hawaiian Electric Companies are taking the lead in adding renewable energy and developing energy solutions for its customers to achieve a clean energy future for Hawai'i.Â For more information, visit www.hawaiianelectric.com.

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