

Powering the People

SMARTER ENERGY, SMARTER FUTURE

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Hawaiian Electric President and CEO Alan Oshima discusses distributed energy integration challenges and collaborative solutions

Hawaii is the most remote populated place on Earth, Alan Oshima, President and CEO of Hawaiian Electric Co., told attendees at the Institute for Electric Innovation's recent "Powering the People: Smarter Energy, Smarter Future" event. Hawaii's closest neighbor is San Francisco, 2,500 miles away. Given its remoteness and dependence on imported oil, Hawaii's electricity is very expensive. Oil price spikes hit island electricity prices hard. That's a situation Hawaii wants to avoid in the future. And, that's one reason why Hawaii plans to be 100 percent renewable by 2045.

Hawaiian Electric, whose utilities serve five of the state's six populated islands with electricity – each island having a separate, isolated grid – has often been called a "Postcard from the Future," because, early on, it faced very real energy grid operating problems when customers installed private solar on rooftops in huge numbers.



To put things into perspective, Oshima also offered a "Postcard from Hawaii's Past" – a vision of pre-statehood, pre-TV Hawaii, which received mainland news a whole day late, flown in by a now-defunct airline. Its economy was driven by pineapples and sugarcane, but that's no longer the case. Today, satellites, undersea cables and big chain stores have descended on Hawaii. "Sometimes we feel like we're part of California," he said, but that feeling can create unrealistic expectations – because we're not.

Integrating distributed energy is Hawaii's future. But how do we integrate energy we don't control with our isolated grids and ensure it works smoothly? Whatever energy is produced – either by Hawaiian Electric or by customers, we have to use it or store it.

Oahu has 80,000 approved private rooftop solar systems – one in three single-family residences in Honolulu. That's 20 times the national average. At first, the company was viewed as being an obstacle – not a good thing. The natural tendency of the electric company – for reliability and grid safety – is to want to control what's coming onto the system. A traditional electric company is ill-equipped to manage a grid that it can't control. But that mindset is changing.

And the situation is changing quickly too. Things we might have built into the grid two years ago may not be needed today because consumer electronics may better provide the needed technology, Oshima observed.

Oshima described one example of how Hawaiian Electric has dealt with physical challenges, given the pace of solar adoption. Oshima noted that private rooftop solar was hitting 150 percent of minimum daytime load and moving even higher. How can that energy be put to use? In response, the electric company proposed a very attractive time-of-use rate for Hawaii public schools, which have a big cooling need. It may seem counterintuitive, but the company was asking the schools to increase their daytime load, which would both lower the school's energy budget and allow integration of more renewables.

A big lesson we've learned, Oshima said, is to engage early and often with all stakeholders, not just regulators. Customers want options.



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