Lanai Energy Point Man Set Up Microgrid in Calif.

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HONOLULU (AP) — The man hired by billionaire Larry Ellison to turn Lanai into a renewable energy laboratory has already done something similar at the University of California, San Diego.

The school generates 92 percent of its own power, drawing on gas turbines, methane from the campus wastewater treatment plant, solar panels and other sources.

Byron Washom, who is the university's director of strategy energy initiatives, told a panel at the Asia Pacific Clean Energy Summit and Expo on Monday that managing this microgrid is like conducting an orchestra.

"We need to know what each instrument is playing, what each player is capable of doing," he said.

The school does it by having a diverse supply of energy and controlling demand as supply fluctuates, he said.

One key innovation has been the school's use of cloud-tracking cameras that take pictures of the sky every 30 seconds. The images provide information on the velocity, height and vector of clouds to determine when the clouds will affect the power generated by every solar panel on campus.

"You can now know how much every panel is going to produce," he said. This addresses the variability and intermittency of solar power, one of its major drawbacks.

Washom says he first learned about living sustainably as a child on Midway Atoll, a tiny, remote island 1,200 miles northwest of Honolulu, where his father was stationed with the Navy.

Polynesian culture, as exemplified by the Hawaii state motto — The Life of the Land is Perpetuated in Righteousness — shows the way on renewable energy, he said.

"Harvest the sun, the wind, sustainably harvest the sea and sustainably harvest the land, and do this all in harmony. If we remember all of these fundamental Polynesian ideals, one can move forward on a sustainable microgrid," Washom said.

Washom didn't speak specifically about the Lanai project during his presentation.

When asked by an audience member, he said he had been retained to be the chief architect of a Lanai microgrid and would share the results of that effort "at the appropriate time."

Jeffrey Mikulina, executive director of the Blue Planet Foundation, a Honolulu-based nonprofit organization that promotes renewable energy, said Washom's work at UCSD is applicable to Lanai. He noted the campus has what Washom called "an energy diet" of a city of 90,000 while Lanai's population is around 3,000.

"Hopefully we can use Lanai as a test bed and demonstrate what this looks like in islands," Mikulina said after listening to Washom.

Ellison, the CEO of Oracle Corp., bought 98 percent of Lanai last year from Castle & Cooke, which is owned by David Murdock.

A sale price wasn't disclosed, but The Maui News previously reported Castle & Cooke was asking $500 million to $600 million for its Lanai holdings.

Ellison later told financial news channel CNBC he envisions Lanai becoming a "little laboratory" for experimenting with more environmentally sound ways to live.

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