Powering the People

SMARTER ENERGY, SMARTER FUTURE

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AES Corporation President and CEO Andres Gluski highlights the many uses and flexibility of energy storage

Discussing the rapid growth and versatility of energy storage, Andrés Gluski, President and CEO of AES Corporation, remarked on: its ability to be permitted and built quickly - perhaps its least appreciated aspect. In fact, AES is able to deliver storage systems in six to nine months!

Gluski told the Institute for Electric Innovation's "Powering the People: Smarter Energy, Smarter Future" attendees that storage is both modular - scalable to most any size - and mobile. Essential storage elements can be moved from one site to another if needed. Storage is a veritable chameleon. It can act as an energy load or an energy source. It can provide frequency regulation or peaking service. It can ease transmission bottlenecks. And it can allow arbitrage - time-shifting - absorbing energy when it's cheap and plentiful, and delivering energy when demand and prices are higher.

AES Energy Storage has 200 megawatts (MW) of storage up and running, with another 240 MW under contract or under construction in the six countries where it is active.

AES started working on lithium-ion energy storage more than ten years ago, Gluski said, and has seen storage system costs drop by nearly 100 percent since then. Advancion® 4, is its latest design. A 30-MW



storage facility has the battery equivalent of 3.5 million iPads, as well as an inverter and control panels. But the "secret sauce," Gluski said, is the algorithms used to operate storage.

Storage is competitive today with open-cycle gas or oil-fired peaking, Gluski reported, but not yet with combined-cycle gas plants. AES's strategy, he says, is to further reduce costs through mass production. To do that, AES is partnering with other electric companies to install more Advancion[®] 4 systems, especially in the U.S. Adding to its storage installations in California, Hawaii, Arizona, and Ohio, AES is working with Southern California Edison to bring on a 100-MW storage facility by 2020. And, its 28-MW storage system for Kaua'i Island Utility Cooperative will provide 20 MWh of energy over a five-hour duration, deep into the "Garden Isle's" evening.

Electric companies in the U.S. and elsewhere are saving of tens of millions of dollars a year as a result of storage deployments, Gluski noted. In 2016, one gigawatt (GW) was installed around the world, and at least ten GWs of new storage are projected to be installed by 2020.

Storage is an exciting growth area for AES, which also owns seven electric utilities in the U.S. and abroad and also operates 35 GW of generation, Gluski said.



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