



Flowers gives City Club talk

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By KEVIN TREVELLYAN
ktrevellyan@postregister.com

As the total solar eclipse swept a 70-mile wide shadow across the United States in August, it cut solar electricity production by 9,000 megawatts — the equivalent of 15 coal plants.

Coal, nuclear and hydroelectric power provided a stable baseload during the eclipse, while natural gas plants ramped up and down to keep lights on as day turned to night and back again, Idaho Falls Power General Manager Jackie Flowers said.

Though usually not as predictable as an eclipse, such interruptions are common to the sprawling U.S. electrical grid as new power-generation technologies have changed the way utilities provide electricity and Americans consume it.

Customers increasingly care about where their energy comes from, how much of it they use and how easily they can sell their own to utilities.

Flowers discussed “Disrupting the Grid” during a City Club of Idaho Falls presentation Thursday at University Place. In her opinion, utilities must adjust to advancing technologies and customer control or risk being left behind.

“Utilities need to evolve their service offerings,” Flowers said. “Connected customers are changing all types of industries, and customer platform providers are winning. Take a look around. What has Airbnb done to traditional hotels? Uber versus taxis? Social media versus traditional media? Netflix versus Blockbuster?”

Wind and solar power, dependent upon natural systems, provide varying power levels to grid infrastructure built to accommodate predictable and stable coal plants.

Though renewables are becoming increasingly popular, the need for reliable base power remains. Natural gas has become like “crack cocaine” to energy providers “addicted” to its cheapness, Flowers said.

Nuclear is on the decline, but Flowers believes NuScale’s small modular reactor design, currently undergoing a lengthy certification process, can take some of the natural gas baseload market share as a financially feasible carbon-free generation source. Flowers is chairwoman of Utah Associated Municipal Power Systems, a consortium of Western utilities seeking to build a small modular reactor west of Idaho Falls.

In addition to modular reactors, an efficient energy storage method also would vastly alter grid operations, Flowers said.

Many energy customers install solar panels that feed energy into the grid, which presents a problem given the lack of storage infrastructure. There's no grid "battery," so any electricity added to the grid needs to be used at nearly the same time. That creates management issues for utilities that can't risk infrastructure blowouts from too much power, or shortages from not enough.

Renewables, customer energy production, greater public consciousness about energy consumption and a changing regulatory environment are all threatening to "edge out perceived dinosaur monopolies known as the utilities," Flowers said.

Customers are increasingly engaged with more than their bill.

Some choose specifically to buy electricity generated by renewables. New digital technology, meanwhile, is allowing greater control over a customer's electricity usage, which as a side effect can make utilities more efficient.

A "smart thermostat" can coordinate with a digital "smart washing machine" set to automatically start a load of laundry at night outside peak usage hours. The customer gets a cheaper bill, and high-usage hours are subsequently less stressful to utility infrastructure.

"With technology leading the way ... customers are no longer just ratepayers, and are instead empowered," Flowers said. "Shaping the power industry in transforming ways with high expectations of the customer experience."

Utilities risk losing customers to other energy providers if they don't compliment, rather than fight, changing customer habits, Flowers said.

That process may involve creating a communication system between the utility, customers and their power supplies, possibly through a meter, smart thermostat, fiber-optic internet access or phone application.

Ultimately, Flowers said utilities need to provide more services on the customer end of the grid: in homes and businesses. The result, she said, is electrical service tailored closer to the customer's needs.

"Imagine the day your appliances coordinate together with your house, not you, and can determine when to turn things on and off in coordination with power from your electric utility ... ultimately helping you, the consumer, manage your pricing," she said. "Seems a little like 'The Jetsons' doesn't it?"

Reporter Kevin Trevelyan can be reached at 208-542-6762.