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Will an expanded power grid help California fight climate change?

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In three years, California's largest utilities could be slashing their use of fossil fuels by swapping homegrown solar energy for Rocky Mountain wind power in a sprawling Western electricity grid.

Or a newly expanded grid could provide a profitable market to revive out-of-state coal plants that would otherwise face a harder time complying with California's aggressive greenhouse-gas-reduction efforts.

Those contrasting scenarios are driving debate as the state's energy and air-quality regulators finish studies on a proposal to merge the grid for California's biggest power companies – Pacific Gas and Electric Co., San Diego Gas and Electric, and Southern California Edison – with another privately run entity that serves 1.8 million customers across the West. The combined grid would serve about 32 million customers.

California lawmakers set the stage for the merger last year when they passed SB 350, the law that calls for utilities to generate half of their power from renewable sources by 2030.

This month, lawmakers and Gov. Jerry Brown could decide whether to commit to linking California's main grid, known as the Independent System Operator, with one managed in six states by PacifiCorp.

Here's a look at what's motivating the proposal and some of the questions that are leading smaller utilities to ask the Brown administration to slow down the merger.

Why merge?

Connecting California's grid with other Western states will give power managers more leeway to move renewable energy around the country at the moment it's created. That's the part of the proposal that just about everyone likes.

It means that a sudden surge of solar energy in California could power homes in Wyoming instead of going to waste. After dark, California customers could rely on wind power from Wyoming rather than draw from local natural gas plants.

Supporters of the proposal contend that flexibility will help all the states use more renewable energy, leading them to move away from fossil fuels faster at a lower cost than they might be able to accomplish on their own.

What will happen to my power rates?

A thick stack of consultant reports suggests state ratepayers stand to save more than $1 billion a year by 2030 if the ISO and PacifiCorp link their grids. The savings could grow if more states join the super grid, according to consultants.

Some large agencies argue that those estimates may be too rosy. The State Water Contractors, an organization made up of utilities that draw from the State Water Project, in a July letter worried that grid expansion could be costly if the new grid raises fees it charges when utilities move electricity on its transmission lines. Those utilities say higher fees could swell the cost of delivering water to Southern California.

The Sacramento Municipal Utility District is not part of the ISO, and the merger may not impact local customers. However, SMUD joined a number of other public power operators in writing letters asking the state to move cautiously in considering the proposal.

They’re worried that a multistate, regional grid will overwhelm the market. Like the water project, the agencies are concerned a merger would raise transmission fees. They also want to make sure that publicly owned utilities have a seat on the board that would govern the combined gird.

“At this juncture, there are more questions than answers on a host of significant market-related issues,” wrote SMUD attorney Andrew Meditz in a July letter to the ISO.

How will it save money?

Utilities believe a larger, Western grid will save them money because they won’t have to build as many renewable-energy production facilities to comply with California’s climate change law.

For instance, California would need to use about 365,200 acres of land for renewable production to hit the law’s 2030 goals. Without the grid plan, a little less than half of those sources would be located in the state.

The total acreage required drops to 290,700 acres if the ISO combines its grid with PacifiCorp because the two organizations would be able to trade clean power. That means fewer new solar farms eating up acreage in California.

“What this does is it shifts the environmental impacts from California” to the broader region, said Susan Lee, a consultant from the Aspen Environmental Group, at a California Energy Commission workshop last week.

Also, utilities won’t have to keep as much power in storage if they spread out their renewable-energy sources across a broader geographic footprint. That land would allow them to better account for sudden changes in weather that would affect energy production.

Energy getting cleaner or dirtier?

In the long run, the ISO contends the combined market would reduce greenhouse-gas emissions across the entire West at a faster rate than if the utilities continue operating as they are now. The difference would be about 12 million tons of carbon emissions in 2030, according to a study released by the ISO in July.

But in the near term, the utilities anticipate a 0.2 percent rise in carbon emissions as they draw from coal-fired plants managed by PacifiCorp in Arizona, Colorado, Montana, Utah and Wyoming.

That short-term bump caught the attention of the Sierra Club, whose members fear that any boost in profitability for the PacifiCorp coal plants will lead them to stay in operation.

“What we’re worried about is if you open up California’s market, you’re actually opening an outlet for those coal plants,” said Travis Ritchie, a Sierra Club attorney.

Supporters of the combined grid argue that the opposite will occur, with coal-fired plants losing their share of the market to renewable sources.

“If anything, this will expose the coal plants in the rest of the West to competition, which is what we need to do,” said Robert Weisenmiller, the chairman of the California Energy Commission.

What’s the rush?

By law, California’s energy regulators have until the end of 2017 to study how they’d manage a multistate power grid and to evaluate whether doing so would meet the state’s environmental goals.

Weisenmiller said those studies are almost finished and likely will be available for lawmakers before the end of their legislative session this month. It’ll be up to Gov. Brown and the Legislature to decide whether to move fast or to take more time.

If lawmakers choose to expand the grid, a PacifiCorp partnership could be in place by 2020.

Weisenmiller would prefer to commit to the PacifiCorp expansion soon. Passing on it, he said, could encourage utilities to join competitors in other regional grids. An Arkansas-based grid called Southwest Power Pool, for instance, added six states to its footprint last year.

“The reality is there’s a unique opportunity with PacifiCorp in terms of timing,” he said. “At some point you have to make the decision. If you keep saying, ‘We’re going to do more and more studying,’ that would be one way to obstruct the deal.”

A wide variety of utilities has written letters suggesting they like the idea of an expanded grid in theory. But, like SMUD, they’re generally not ready to endorse the proposal.

“When you’re talking about a market this big, it’s going to have a lot of influence,” said Michael Bell, the interim executive director of the California Municipal Utilities Association. His organization wrote a letter to the ISO in July asking it to take more time because of the “enormity of the issues” the merger presented.