

DOE

Study of how renewables hurt the grid puzzles analysts

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Energy Secretary Rick Perry's call for a report on the grid and market impacts of renewable energy is raising eyebrows among clean energy experts.

In a [memo](#) dated April 14, Perry directed his chief of staff, Brian McCormack, to develop a study by tomorrow to look at "[t]he extent to which continued regulatory burdens, as well as mandates and tax and subsidy policies, are responsible for forcing the premature retirement of baseload power plants."

Perry drew on discussions from his recent meeting earlier this month with other energy ministers from the Group of Seven (G-7) countries, where they spoke about the need for an energy transition with fuel diversity ([Climatewire](#), April 11).

Of particular concern to Perry is baseload power, where coal and nuclear power plants run at a constant output. Subsidies that spur the addition of more wavering solar and wind power are hurting baseload power plants, forcing them to close, which in turn threatens grid stability, according to Perry ([Climatewire](#), April 17).

"Those subsidies create acute and chronic problems for maintaining adequate baseload generation and have impacted reliable generators of all types," Perry wrote.

However, one researcher noted that the jury has already rendered a verdict on the question of increasing renewables on the grid.

"It's a bit strange that the Energy Department is ordering a study on this when those studies have already been done," said Christopher Clack, a former electricity grid researcher at the University of Colorado, Boulder, and at the National Oceanic and Atmospheric Administration. "It's an old question that's being re-brought up."

In a previous study, Clack and his collaborators found that dialing up the percentage of intermittent renewables on this grid using existing technology can be fast and cheap ([Climatewire](#), Jan. 26, 2016).

The paper also showed, counterintuitively, that higher penetration of renewable energy increases grid stability. As solar and wind farms proliferate, they cover a wide enough swath of land to harness sunshine and breezes in one region even when it's still and cloudy in another.

Other technology advances, like smart power inverters for photovoltaics and synthetic inertia systems for wind turbines, are increasing the capacity factor and reliability of these generators.

Clack, who is now CEO of Vibrant Clean Energy, a company that constructs models and plans for high penetrations of renewables on the grid, added that the idea of baseload generation is growing outdated and power markets are increasingly placing a higher premium on flexibility than on raw output.

These market changes put coal and nuclear plants at a disadvantage, so it's unfair to solely blame subsidies for renewables for the decline of baseload generators, according to Clack.

"I think [the new DOE study] is pointed towards coal," he said. "To me, this is the worrying part."

A renewable energy industry group was also skeptical about the new DOE study.

"We're puzzled that the Department of Energy is launching a new study based on the premise that renewable energy policies are accelerating the decline of coal and nuclear plants, or somehow undermining grid resilience," said Gil Jenkins, a spokesman for the American Council on Renewable Energy, in a statement. "Numerous studies have demonstrated otherwise, including the 2016 long-term reliability assessment from the North American Electric Reliability Corporation."

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