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Can renewable energy standards be changed to protect against all-encompassing blackouts?

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State renewable standards could be tools for keeping the power on at critical facilities like hospitals during extreme weather events like Superstorm Sandy, according to a new report.

Because 29 states have such standards in place, and there is a precedent for adding adjustments to them, they are an obvious potential choice to establish new mechanisms for improving the nation's outdated infrastructure and vulnerability to blackouts, according to a study from the Clean Energy States Alliance, a pro-renewable and energy efficiency group.

Tweaks in renewable standards also could drive money toward technologies such as fuel cells and microgrids that have a unique dual ability to cut greenhouse gas emissions and also keep running during blackouts, according to the report.

"Many states do not have the resources, and those with clean energy funds typically have committed those funds to supporting more conventional distributed renewable energy projects, such as rooftop solar and small- to medium-scale wind turbines," the report says.

Some states could consider, for example, allowing solar photovoltaics backed up by batteries to qualify as an alternative energy source under existing renewable standards, the report says. Under many state renewable mandates, only the photovoltaic portion of such a battery-solar system would qualify, making it unusable in the case of a power outage.

Similarly, combined heat and power systems do not qualify under some state renewable standards unless they are fueled by biomass, which is not always an available fuel in urban centers prone to blackouts. Combined heat and power systems use both the heat and electricity of an energy source, which advocates say makes them more efficient than typical fossil fuel power plants. These systems also can operate apart from the grid.

A power 'resiliency' market develops

The power outage issue often was a matter of life and death during last year's Superstorm Sandy, said Lewis Milford, president of the Clean Energy Group. The storm left 8 million without power.

After the storm, for example, several city hospitals evacuated patients because of backup generator failures, including the entire 215-patient population at New York University's Langone Medical Center.

"The politics have dramatically changed. There is a sense of vulnerability," said Milford about the attention of Northeastern states to critical infrastructure. In an editorial in The Huffington Post, Milford said a "power resiliency" market is developing in Northeastern states with help from some new programs and businesses specifically targeting technology linkages between renewable energy and critical power outages.

In the wake of Sandy, New Jersey, New York and Connecticut are considering -- or are already implementing -- programs that could provide blueprints for "resilient clean power," even though many of these programs have not yet been officially incorporated into state renewable mandates, according to the report.

Last month, Gov. Andrew Cuomo (D-N.Y.) announced $40 million in funding for combined heat and power projects that could guard against power outages. New York also has a fuel cell program within its state RPS.

In New Jersey, the Board of Public Utilities is considering a standard for "storm response" combined heat and power systems that would be developed via on-bill financing, the report notes.

Worries about displacing renewable energy

Renewable standards have their share of fervent critics, including lawmakers in states such as North Carolina who recently attempted repeal efforts. But some of the challenge to the idea of changing renewable standards also comes from environmentalists.
The New Jersey proposal, while technically designed outside of the state renewable standard, would not be helpful, said Jeff Tittel, director of the New Jersey chapter of the Sierra Club. A recently floated state bill with a similar concept has the potential to pit combined heat and power -- which utilizes fossil fuels -- against renewables, he said.

"In order to pay for combined heat and power, we are going to be muscling out cleaner forms of energy," Tittel said. "It doesn't rise to the same level as wind and solar."

The report suggests that states consider capping the number of qualifying "resiliency" projects to avoid hampering other renewable sources. The fact that such resiliency projects would apply to a limited number of critical facilities like hospitals and police stations would reduce any problems, it says.

"It is unlikely that energy resiliency projects would displace a significant amount of renewable energy deployment, due to the numerous criteria energy resilience projects must meet," the report states.