



ENERGY EFFICIENCY: 'Smart grid' advocates seek \$10B in economic stimulus bill

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These days the "smart grid" is the poster child for energy infrastructure investment in a possible \$800 billion economic stimulus package that congressional Democrats expect to pass by mid-February.

President-elect Barack Obama has repeatedly highlighted the need for investment in a smart electricity grid in order to take advantage of any significant expansion of renewable energy. House Majority Speaker Nancy Pelosi (D-Calif.) has also pointed to investments in the smart grid as a "modern approach to building infrastructure" in the United States.

And after almost a decade of trying to bring attention to the industry, smart grid technology companies are ecstatic about the looks in their direction, said Steve Hauser, head of market development at GridPoint, an intelligent energy management company, and a president emeritus at the GridWise Alliance.

Hauser said congressional aides have floated the idea of spending \$10 billion over two years on smart grid technology. That number would be about half the amount of money Senate Democrats have said they would like for energy provisions in the stimulus, although Sen. Barbara Boxer (D-Calif.) said even that amount for energy was a bit low (*E&E Daily*, Jan. 12).

"I think \$10 billion is a good number because there are certainly billions of dollars in the pipeline that could take advantage of it over a two-year period, or thereabouts," Hauser said. "I think that's probably in the right ballpark."

Last week, a **report** released by the GridWise Alliance said \$16 billion in smart grid incentives over four years could push forward smart grid projects worth \$64 billion and create 280,000 new jobs, including 150,000 at the end of 2009.

The attention to smart grid technology intensified last year as calls for more renewable energy generation -- and the necessary transmission to reach the intermittent resource -- surged on high energy prices and as states began to require certain percentages of electricity be generated from renewable resources.

But Hauser cautions lawmakers from blurring smart grid technology and the need for transmission lines to reach remote locations of renewable energy.

"This past year lawmakers have picked up the mantra we have got to have a lot more renewable energy, and need transmission lines, so they ... gradually tried to create this message that smart grid is transmission lines for renewable projects and that is not part of what we deemed as smart grid," Hauser said.

Smart grid technology should not get "hung up" on specific issues that transmission faces, especially siting, he said. "Smart grid is much more down on the distribution level that is much easier and cheaper to get to," Hauser said.

Smart grid includes technology that enables utilities and consumers better control and management over energy use, Hauser said. So there is a "synergy" between smart grid technology and renewable energy generation: Smart grid technology enables utilities to quickly manage and compensate for generation changes coming from wind or solar plants and may make use of that electricity more efficient, but it does not transmit electricity.

Another very visible component of the smart grid technology has been "smart" meters, an end-use technology that informs consumers about how much electricity they are consuming and, for some, the price of that electricity on a real-time basis.

Sen. Maria Cantwell (D-Wash.), Rep. Jay Inslee (D-Wash.) and other politicians want faster depreciation rates for the installation of "smart" meters. Congress already reduced smart meter depreciation from 20 years to 10 years last October.

But the technology is evolving so quickly, it would be helpful to lower it still, said Katherine Hamilton, president of GridWise Alliance. "Smart grid equipment is very high tech," she said. "So, similar to the way computers have a five-year depreciation you can write off investment earlier" and have extra cash to replace equipment with more advanced versions, she said.

"If you are able to replace equipment you stimulate demand for equipment" or have the funds to buy more equipment," Hamilton said, noting that most smart grid equipment and raw parts are manufactured or found in the United States.

But other supporters say the emphasis and the funds should concentrate on the distribution level -- and to some extent the transmission -- and not just on the highly visible smart meters.

"That is a problem in my mind," said Frederick Butler, president of the National Association of Regulatory Utility Commissioners and a member of the New Jersey Board of Public Utilities. "Some folks aren't ready for meters. Smart meters don't work if you have dumb rates," he added.

Instead, digitalizing and improving communication systems on the grid should be a priority for the stimulus money, Butler recommended. "That is what I told the transition team and the Center for American Progress," a think-tank closely associated with Obama's energy policy transition team, Butler said. "It is a building block necessary for all end-use" including meters, he said.

The stimulus should provide revised depreciation rules for smart grid communication technology, as well as investment tax credits and loan guarantees or a direct grant for utilities who upgrade their transmission and distribution technology, Butler said.

Disbursement

But Butler and his fellow state regulators could present an easy target for critics of the stimulus package, who have said many of the potential projects will not create jobs or spur the economy quickly enough. Utilities will have to present almost any smart grid improvement investment to state regulators for some sort of cost recovery unless the government finances the whole project, which is very unlikely.

But Butler said the state regulatory review process should not hinder projects and will likely take place over only a few months. "The state process has to be efficient but deliberative" to protect consumers, he said.

Another hiccup for smart grid enthusiasts is how the stimulus money would be disbursed -- a problem the whole economic stimulus bill faces. Investment tax credits may be too slow a mechanism to really spur companies to create jobs this year, lawmakers including Sen. John Kerry (D-Mass.) have cautioned.

On the other hand, Hauser said, loan guarantees and other grants must be disbursed somehow by the government, which does not have the strongest track record on speed.

"We are concerned in general that the money gets stuck somehow in an agency," Hauser said. "If the money gets delegated to a particular agency and it spends six months or more setting up an infrastructure to get the money distributed that doesn't help the industry or get the money out."

In addition, to have a near-term effect most of the money would go to projects that have already been filed with the state regulators -- and those for the most part are just smart meter demonstration projects.

But Hauser said utilities and regulators are coming to a new understanding about what smart grid technology can do and should be able to expand the business case and applications already before the commissioners if Congress provided the stimulus funds.

"I believe that in general there is the flexibility for them to go beyond smart meters ... into a more comprehensive smart grid deployment and do that fairly quickly," Hauser said. "I think the industry is starting to say, smart grid is more than just meters. It is really providing consumer information and utility control asset in the field. All these things go beyond meters. People are really hungry for that information now."