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Obama's smart grid message rolls out across America, world

What does spending mean for other 2,900 US power firms?

It was quite a day yesterday as the president of the United States, probably Earth's most famous person right now, spoke about the smart grid as a certainty with far reaching implications -- a speech that was picked up, broadcast, reported and analyzed by every major news outlet in the country and probably many more around the globe.

President Obama's announcement of \$3.4 billion to be distributed to 100 firms this year (SGT, [Oct-27](#)) will end up being

important for all firms working on the smart grid in the US, SmartSynch CEO Stephen Johnston told us yesterday. His firm is working with grant recipients and firms that applied without avail -- and he helped us look at the news from the perspective of both sides of the fence (but first we report some details).

The White House yesterday published the list of the grant awards [by category](#) and [by state](#) plus [a map](#) was offered showing the distribution of the awards.

In his announcement yesterday, Obama divided the grant monies this way:

- **Integrating** and crosscutting different "smart" components of a smart grid -- \$2 billion. Much like electronic

banking, the smart grid is not the sum total of its components but how those components work together, said the White House in a press release adding some details to the president's remarks. The administration is funding a range of projects that will incorporate these various components into one system or cut across various project areas including smart meters, smart thermostats and appliances, synchrophasors, automated substations, plug-in hybrid electric vehicles, renewable energy sources and more.

- **Empowering consumers** to save energy and cut utility bills -- \$1 billion. These investments will create the infrastructure and expand access to smart meters and customer systems so that consumers will be able to access dynamic pricing information and have the ability to save money by programming smart appliances and equipment to run when rates are lowest, the White House explained. This will help cut energy bills for everyone by helping drive down "peak demand" and limiting the need for "stand-by" power plants -- the most expensive power generation in existence.

- **Efficiency**, making power distribution and transmission more efficient -- \$400 million. The administration is funding several grid modernization projects nationwide to significantly cut the amount of power now wasted from the time it is produced at a power plant to the time it reaches a home, said the White House. By deploying digital monitoring devices and boosting grid automation, these awards will increase the efficiency, reliability and security of the system and will help link up renewable energy resources with the electric grid. This will make it easier for a wind farm in Montana to instantaneously pick up the slack when the wind stops blowing in Missouri or a cloud rolls over a solar array in Arizona, the president's office wrote.

- **Manufacturing**, building a smart grid manufacturing industry -- \$25 million. These investments will help expand the nation's manufacturing base

With grants awarded, utilities look to DOE loan guarantees

Loan guarantees for smart grid activities are about to sprout from a \$16 billion DOE Loan Guarantee Program, Matt Rogers, senior adviser to the Secretary at DOE, said during a White House press office briefing Monday night. The loans themselves could well come from the US Treasury's Federal Financing Bank, plus private lenders who take part in DOE's Financial Institution Partnership Program (FIPP), Graham Noyes, a Stoel Rives lawyer, told us yesterday.

Separate and apart from the Smart Grid Investment Grant (SGIG) program under ARRA, Section 1705 of ARRA -- titled "Temporary program for rapid deployment of renewable energy and electric power transmission projects" -- added \$6 billion to a \$10 billion loan guarantee program established in [EPAAct](#) to help finance innovation in technology.

DOE first made use of the loan guarantee program this year, giving the initial two guarantees to "clean tech" firms. In both cases, the actual loans are being funded by the Federal Financing Bank (SGT, [Jul-07](#)).

"We'll see a very healthy portion of that expressly authorized for smart grid activities by private developers," Noyes told us in May (SGT, [May-11](#)).

DOE is adopting "a broad definition of 'smart grid,'" that makes sense when the federal government is essentially "building a new electricity highway for the country" via DOE's SGIG program, Noyes said yesterday. The highway metaphor echoed President Obama's comments on smart grid yesterday at a press conference in Florida where he likened the smart grid to the creation of the federal interstate highway system in the 1920s and 30s.

DOE's approach, said Noyes, is based on the idea that "to have a functioning smart grid, you need more conventional transmission to serve the areas where you have substantial renewable energy project development opportunities" such as in the Dakotas.

Time to talk transmission

Some projects may in some respects look like conventional transmission capacity but will have [Continued on page three](#)

of firms that can produce the smart meters, smart appliances, synchrophasors, smart transformers and other components for smart grid systems in the US and around the world -- representing a significant and growing export opportunity for our country and new jobs for American workers, said the press release.

Benefits expected to spread

"This is just a great day for our industry," Johnston noted. With the SGIG awards, "smart grid technology is going to become more affordable for all -- and the functionality of the smart grid is going to be validated," he added.

"The benefits of the smart grid will begin to flow to the customers and that will create a huge market opportunity beyond where we are today," he added. "This is just the infant stages of a very, very large market."

The administration's focus with the grants was clearly on "making America, utilities, consumers very smart about the grid" and ushering the US energy infrastructure into the digital age, Johnston said.

Of the 3,000+ utilities in the US, 400 applied for matching grants from DOE and 100 made the cut. "That means 2,900 aren't getting anything and those 2,900 still have the same issues that those other 100 do," said Johnston.

"When you think about knowledge transfer that's going to take place in the industry from the 100 to the other 2,900, I think that's just an amazing concept to grasp," he added. "This funding established a very, very broad base of support for a future smart grid industry in the US that is truly smart."

Firms getting grants "now have defined timelines and amounts of money

CORRECTION: We yesterday mistakenly bunched DOE's \$16 billion loan guarantee program with the \$3.4 billion Smart Grid Investment Grant program. They are not the same thing and the loan guarantee program is reported in detail in today's issue (story this issue).

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available and know what the projects look like" -- and they can jump on the projects, he added.

Grants are not done deal?

Before any money is distributed, every grantee has to negotiate with the DOE to make sure its plans are achievable, several grantees told us yesterday. Some said they

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If California smart grid policy is out front, others are close behind

New York, Ohio, Pennsylvania have policies set or on the way

While California is ahead of the other US states now with its smart grid law (SGT, [Oct-26](#)), a couple other states have set policies to boost grid modernization, too. Coordination of smart grid deployment plans at the state level is happening in New York and Ohio, Dan Delurey, executive director of the Demand Response & Smart Grid Coalition (DRSG), told us Monday.

New York's Smart Grid Consortium is trying to break down the traditional barriers between utilities in one state and share information among the smart grid projects, Mark Torpey, an R&D program manager with the New York State Energy R&D Authority (NYSERDA) told us last week (SGT, [Oct-20](#)). One challenge will be persuading the state legislature to compel residential customers to pay variable power rates, thus departing from an entrenched protectionist tradition, he added.

The New York State effort "does not have the power of legislation" but appears to be similar to California's state-level coordination effort, Torpey said.

An Ohio electricity law that took effect in July 2008 was broader than grid modernization but "includes a number of provisions that are related to smart grid, some policy provisions that among other things encourage deployment of advanced metering and time-differentiated pricing," Paul Centolella,

one of five commissioners at the PUC of Ohio, told us Monday.

That law also directed regulators to "establish quality of service standards for distribution" of power, he added. "We have retail competition but some of the provider of last resort (POLR) rates can remain regulated. One of the avenues for ratemaking allows for incentive and single-issue ratemaking treatment for grid modernization."

The PUC of Ohio approved mechanisms to allow cost recovery for all four IOUs in the state. For two of the utilities -- AEP and Duke -- regulators approved smart grid programs.

"We also have cases in front of us involving First Energy and Dayton Power & Light," said Centolella.

Ohio is providing leadership "in the sense that we've taken some positions on policy here at the level of the general assembly and at the level of the commission and we're moving forward with some substantial deployments," he added. "By the end of next year, we'll have probably more than 200,000 advanced meters deployed."

Pennsylvania's PUC in June established smart meter technology procurement standards that the state's large electric distribution firms have to meet. The PUC set out minimum smart meter capabilities, guidance on deployment of the technology, requirements for cost data and a timeline for implementation of the EDC plans.

A state law, Act 129, required electric distribution firms with over 100,000

customers to file by Aug 14, 2009, a smart meter technology procurement and installation plan for commission approval. The firms are required to furnish smart meter technology when a customer asks for it and agrees to pay the cost of the smart meter at the time of the request. Smart meters are required in new building construction and in accordance with a depreciation schedule not to exceed 15 years, too.

The law defined "smart meter technology" as that capable of bidirectional communication that records power use on at least an hourly basis -- and including related electric distribution system upgrades to enable the technology. It directed that smart meter technology has to give customers direct access to use data and such as hourly use and let them use the data. The ability to support time-of-use rates and real-time price programs was required as was automatic control of power consumption by the customer.

Seven plans were received, PUC spokeswoman Jennifer Kocher told us yesterday. Each of them is under review by an ALJ. Each has been challenged by one or more parties -- consumer and environmental advocates, Kocher said. The judges are expected to make recommendations by January on which plans should be implemented. An added comment period will follow before the PUC makes its final decision, Kocher said.

[Details on the plans](#) are available on the PUC's Web site.

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With grants awarded, utilities look to DOE loan guarantees

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“added capabilities” that advance DR or integrate advanced storage solutions, Noyes reported.

Ten of the 100 SGIGs announced yesterday are grouped under “electric transmission systems” and most of them include the installation of phasor measurement units (PMUs).

The \$13.7 million grant going to PJM Interconnection, for example, will help “deploy over 90 PMUs and other digital monitoring and analysis technologies across 10 states that will provide real-time data on the operating conditions of the transmission system, improving reliability and reducing congestion,” an SGIG document released yesterday by the White House said.

At Midwest Independent Transmission System Operator, the \$17 million SGIG grant will fund an initiative to “install, test, integrate and monitor 150 PMUs in strategic locations across the Midwest on independent transmissions system operators, which will improve the energy dispatching, system reliability and planning capabilities,” the White House document added.

DOE recently put out a specific solicitation under Section 1705 of ARRA for transmission “to bring renewable generation resources into load,” Rogers said during the SGIG briefing Monday. “The second leg of that solicitation closed today and we have quite a good pipeline of attractive transmission projects in that pool.”

The DOE loan guarantee program includes not only electric power transmission but also renewable energy and leading-edge biofuel technologies.

Will some loan guarantees under Section 1705 go to smart grid activities, as Noyes predicted?

“We will, in fact, see some transmission projects funded over the 1705 program,” Rogers told us during the briefing Monday. “We’ll be evaluating [applications] in the next several weeks. The loans to the transmission part will complement another set of large renewables loans we’ll be making as well.

“As with the [SGIG] applications, we have some large utilities, small utilities and private developers” applying, he added.

Rogers could not be reached for further comment yesterday.

How much can grid get?

It is difficult to calculate how many loan guarantees DOE will ultimately approve, Noyes said yesterday. One of the primary purposes of the loan guarantee funds is to serve as a reserve in the event a project defaults. DOE calculates these expected costs during the loan guarantee “due diligence” process.

If DOE anticipates that less than 10% of projects it backs will default, the agency could leverage up to \$6 billion -- \$2 billion from the \$6 billion ARRA bucket and \$4 billion from the \$10 billion bucket created by EAct 2005 -- to provide \$60 billion in loan guarantees for “the smart grid if we’re thinking about it in the expansive sense as including transmission,” said Noyes.

He in May estimated that \$7 billion from the two buckets could be leveraged but he revised his estimate downward yesterday in part since “while smart grid likely has accessibility into both of those buckets of money, we’ve also seen a lot

of true grants going in the smart grid direction and there are likely a limited number of private developers pursuing debt financing for smart grid projects, given the challenges in earning an ROI on those projects,” he explained. “The key question is whether utilities will have an interest in financing projects in this manner.”

Loans coming out of the ARRA bucket will not face a credit subsidy cost since ARRA authorizes DOE to pay the credit subsidy costs for these projects, he added, noting that projects getting those loans need to meet a time window that closes Sept 30, 2011; comply with Davis Bacon requirements concerning the wages they pay; meet “Buy American” clauses, and conform with “rigorous reporting requirements.”

Loans coming out of pre-ARRA bucket can avoid these hurdles but will face the credit subsidy cost, he added.

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1 story in 0.2 minutes

Landis & Gyr reports

personnel changes: Rick Kovener was named senior electrical engineer at Landis & Gyr and will be involved in the specification, design, development, modification and evaluation of electronic circuitry and systems and their components. Peter Graham was hired as the firm’s Canadian technical manager to offer assistance to field sales and engineering personnel, said the AMI and smart grid firm.

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are going to Washington, DC, the week of Nov 16 for those negotiations while others said they will carry out negotiations remotely.

Several grantees reported still needing approval from their own boards of directors, their PUCs or both before proceeding.

Many smart grid projects DOE rejected “will move forward based on their own merits” since the applicants took the time to build business cases for the initiatives as part of the SGIG application process, said Johnston.

“Many of our core clients did receive funding” and some that applied were of course turned down, he said, noting that SmartSynch is working with over 100

of the nation’s utilities. “But in talking to them today, they communicated their desire to move forward with their projects” even without grants.

Orders were already booming

Business at SmartSynch has been ballooning in the past few months. The volume of orders for the last two quarters was higher than ever in the history of the nine year old firm, said Johnston. “We continued to get awards and orders over the past few months even though the larger projects have been somewhat on hold until they found out if there was going to be stimulus funding or not.

“Our business basically doubled this year in size and next year we’re anticipating it will double again, at a minimum,”

he said. To prepare for wild growth, SmartSynch has in the last 10 months grown its staff to about 90 from about 50.

The Obama administration’s “commitment to getting smart metering technology deployed throughout the country” impressed Johnston, he added. “While there are a few really large projects, I was impressed with how they also funded projects in states with small utilities. It’s very important that the smart meter concept gets pushed down to consumers in all geographies and in all populations.”

Alaska’s out, Mississippi in

Alaska was the lone state left out of the SGIG program (**Editor’s note:** We don’t know whether any of the state’s

nearly 30 power firms -- as measured by membership in the Alaska Power Assn -- even applied).

South Mississippi Electric Power Assn (SMEPA), with about 240,000 customers, is a good example of inclusion, Johnston noted by phone call from SmartSynch's headquarters in that state's capital, Jackson.

DOE gave SMEPA a grant of \$30.6 million to install smart meters for all of its customers plus "smart grid infrastructure across a range of SMEPA's member cooperatives,

providing increased communication and monitoring for the grid," an SGIG document released yesterday by the White House showed. "It proves that the smart grid is for everyone," said Johnston.

TOMORROW: Our SGIG coverage continues tomorrow with our first steps into reporting the details of the 100 projects that won SGIG grant approval -- and what patterns or trends may be emerging among those likely fast-tracked projects.

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