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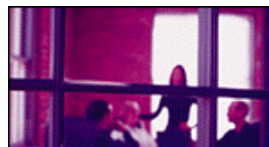
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1] Smart Energy Tech Brewing in NW

"Is there a wave of smart energy coming, and can the Northwest take advantage of that wave?" Robert Pratt, a representative of the national GridWise alliance, rhetorically asked a gathering of utility executives, policy makers, environmentalists, implementers and energy experts at this week's "Energizing the Northwest, Today and Tomorrow" symposium held in Portland, Ore.

"I'm here to answer that question with a very strong affirmative," declared Pratt, also a staff scientist at the Pacific Northwest National Laboratory in Richland, Wash. With the right work and proper investment, the region can become the "standard bearer" of smart energy technologies, he said.

Pratt told symposium guests that under the present paradigm, the United States will need to spend a figure approaching a half trillion dollars on electric infrastructure over the next 20 years simply to meet load growth. But rather than make this investment in 20th century technology, Pratt stressed that by focusing on smart energy technologies, the nation can develop a 21st century electric system, and save some \$80 billion in the process.

Smart energy technologies, which promise to bridge the information age with the electric power age, will "absolutely and profoundly transform how we produce, deliver and consume electricity," said Pratt. According to *Poised for Profit II: Prospects for the Smart Energy Sector in the Pacific Northwest*, a study released last November by Olympia, Wash.-based Climate Solutions and the Athena Institute's Center for Smart Energy of Redmond, Wash., the smart energy sector in the Northwest encompasses more than 225 companies with annual revenues in excess of \$2 billion. The study adds that the region provides a particularly fertile land for the smart energy sector to grow, as it already possesses a number of successful smart energy companies, world-class research institutes, and transmission and distribution expertise, as well as a strong environmental consciousness [see **Early Markets for Smart Energy**, November 14, 2003].

The Poised for Profit cooperative, created to assess both the opportunities and barriers in making the Northwest a leader in smart energy technology development, is comprised in part by the Pacific Northwest National Laboratory, the Northwest Energy Technology Collaborative and the Bonneville Power Administration, coordinator of the "Energizing the Northwest" symposium.

On hand to demonstrate two smart energy technologies and their potential in advancing the role electric consumers can play in curtailing load were Harvey Michaels of Nexus Energy Software and Dick Wandersheid, director of electric and telecommunications for the city of Ashland, Ore. BPA provided support to promote development of both projects.

"We clearly can use a smarter consumer base to improve the reliability of the [electric] system ... [achieve]

greater responsiveness and create other ways to resolve shortages" rather than building a lot of new infrastructure, Michaels said. He added that Nexus software enables customers to "better manage how they use energy" by allowing them to evaluate electric rates and options online and in real time, as well as determine exactly how much they are spending on lighting, air conditioning and hot water, for example. The program will also prove "extremely valuable for the future ... of non-wires programs," said Michaels, because it can provide utilities with an understanding of which customers are where, and will ultimately allow them to instantly create offers, rates and incentives toward relieving congestion in given locations.

Using a program developed by Invensys, Wandersheid demonstrated how a pilot project in Ashland enables remote control of electric devices within residential homes via the Internet. Over the next two years, he said, the city and BPA will study the effects of the project, specifically looking at how often customers override curtailment, what value there is in controlling energy over the Internet and whether or not this technology can be applied to other parts of the Northwest as an alternative to building new transmission.

GridWise's Pratt said that for smart energy technology to continue to blossom, its true value will need to be revealed and illustrated to all involved parties, including utilities, regulators, ratepayers and third-party investors. "But we have to communicate those values," he told members of the symposium, "and we have to communicate future values, such as mitigating new infrastructure that might be needed to meet load growth. Connecting the dots of the value chain is absolutely key in making this work," he said.

Jeff Morris, director of the Northwest Energy Technology Collaborative, highlighted a number of Northwest companies, including fuel cell manufacturer ReliOn of Spokane, Wash., which he said have developed market-ready smart energy technologies. Morris said that over the next 15 years, the clean energy and new energy technologies sector promises the region three times the number of jobs that will be created within the entire aerospace sector worldwide. In discussing the future of the sector in the region, however, he noted that antiquated government policies, prohibitive utility policies and a need for increased financing represent the top three challenges to the deployment of smart energy technologies.

"We need laws on the books that encourage, not discourage, these technologies," Morris stressed. He noted that in Washington state, there exist some 40 utilities with different interconnection standards, which he said impedes smooth adoption across the marketplace. Morris added that local permitting officials will also need to be made more familiar with new smart energy technologies. A lack of education regarding such technologies on the part of permitting officials can often be "the biggest roadblock to getting these technologies out," he said. **[Joel Puglisi]**

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