



Monday, 29 December 2008 23:24

Smart Grids are Taking Off

Economist and consultant Ahmad Faruqui knew that the smart grid had arrived on the scene when former Vice President Al Gore wrote of the need to build one in the New York Times in November of this year. “I was struck by the visibility,” said Faruqui, pointing out that much media attention has been focused on the topic lately.

In his article Gore called for investments totalling \$400 billion over a 10 year period for underground transmission lines that could transfer power from distributed renewable generation sites to urban centres. Even though the term “smart grid” is applied loosely to a range of technologies including home area networks, smart meters, and advanced metering infrastructure (AMI), industry experts believe that the time has finally come for many of these innovations to be introduced on a grand scale.

Managing the demand for power could dramatically reduce the need to construct new power plants and give the power grid a level of flexibility that wasn't present before. Renewable power could be accommodated for, as well as an increased level of security. James Woolsey, former CIA director, believes that demand-side management is a national security issue.

“2009 will be a banner year when it comes to the smart grid,” said Faruqui. “The business case is stronger than it has ever been. I'm optimistic that we're at the proverbial tipping point.”

So far in America, smart grid efforts have been pilot projects that are often funded by the government. The schemes are testing the feasibility of the technology as well as consumer response to the new services. Faruqui says that more pilot projects are to come in 2009 but others, such as Xcel Energy's SmartGridCity project in Boulder, Colorado and state-wide smart meter initiatives in California, have progressed much further.

One California utility, Pacific Gas & Electric, has begun installing 5 million smart meters for its part of the initiative. The \$1.7 billion deployment effort is being funded through rate increases but the utility believes that these costs will eventually be offset by increases in operational efficiency.

The infamous \$700 billion bailout package that President Bush signed into law in October also included tax breaks for companies making investments in smart meter technology for the first time ever. The tax incentives are expected to amount to \$915 million over the next decade and also allow for companies to make quicker depreciations of their equipment – a move that allows for bigger annual deductions. Faruqui believes that investments will advance beyond the pilot stage once the financial markets stabilise.

Eric Dresselhuys is vice president of Silver Spring Networks, a smart grid networking innovator. He agrees that smart grids are ready to explode onto the scene very soon. “We're sensing from the utility side that people are sick of talking about it,” said Dresselhuys. “They want to get going with projects at scale.”

Explosive growth is observable in venture capital investment. In the third quarter of 2008, smart grid companies gained more than \$200 million in venture capital – soaring from an average of \$30 million over the previous 10 quarters. **GridPoint is the leader in terms of investment dollars and industry experience. The company partnered with Xcel on the SmartGridCity effort. Once complete, the city of Boulder will be blanketed with the latest in supply and demand management, as well as support for plug-in electric vehicles. Consumers will also be able to manage their energy usage online.**

Faruqui says the greatest hurdles to the introduction of smart grid technology are regulation and bureaucratic red tape. “There's a strong tension between technology and bureaucracy,” said Faruqui, adding that even though the technology exists public utility commissions and utilities need to accelerate their pace. “The good news is that there is a push in that direction.”

According to Steve Hauser, market development head at GridPoint, next year much work will be done on implementing the smart grid. Deployment will be driven both by the government and by the industry. “Federal attention to clean energy is going to increase substantially,” said Hauser.