

[Click to Print This Page](#)

[Back to Article](#)

SmartGridNews.com

The insider's guide to the modernization and automation of electric power

Beyond the Buzz: The Potential of Grid Efficiency

By Guest Editorial

Nov 7, 2006 - 1:21:00 PM

The term Smart Grid describes a collection of transmission and distribution (T&D) system technologies. Such a grid fuses the physical delivery network with intelligent sensors, software, communications, and distributed control. The result is new levels of security, reliability, economy and efficiency.

Many leading utilities have recently launched major smart grid projects under monikers such as 'Utility of the Future.' Although the taglines vary, the goals are very similar. They strike a theme of investment in the 'last mile' of physical delivery systems and in the information technology required as a foundation. These programs typically include technology-enabled customer participation in the energy markets through smart metering, demand response, load control, and, ultimately, widespread distributed generation interconnection.

But the Smart Grid also brings other significant industry and societal benefits. Those benefits include grid efficiency through time-tested "blocking and tackling" engineering and operations strategies such as:

- load balancing
- feeder voltage management
- real-time power flow analysis
- distribution automation

These methods reduce integrated system losses, lower CO₂, SO_x and NO_x emissions while simultaneously increasing reliability as measured by IEEE 1366 standards.

The grid can be green too

With these facts as a backdrop, T&D technology and infrastructure investment are finally becoming a hot topic in utility board rooms and in regulatory and local government reviews across the country. Long the red-headed investment step-child of the integrated rate case, these infrastructure and automation projects are finally getting their much needed day in the sun alongside advanced metering infrastructure. Early adopter utilities are now investing ahead of the curve.

Unfortunately, the efficiency efforts lag behind more 'glamorous' initiatives. Private equity interest in clean energy technology is undoubtedly soaring. And positive national sentiment towards renewable generation is on the rise. Even so, the public's limited short-term appetite to pay for the Smart Grid — which they largely don't understand — lags behind the headlines and the clean energy buzz. For example, recent research indicates U.S. utilities have deployed SCADA to less than 70% of electric substations. And that feeder automation penetration is less than 20%. Widespread industry, political, and social barriers to mainstream Smart Grid adoption still persist. This fact is reflected by regulators and local politicians who face relentless consumer pressure to keep prices low, often to the detriment of long-term infrastructure investment that could provide economic security for their region.

Grid efficiency represents a vast 'renewable' energy resource hovering over our heads, waiting to be tapped. Although grid automation and efficiency lack the front page sizzle of green energy generation, they nevertheless play a critical role. They deserve funding, legislative and national leadership support. It's time to get beyond the buzz.

The McDonnell Group, Inc. is an Atlanta-based corporation that provides marketing strategy, communication and business development services to energy technology and software companies.

The McDonnell Group Web site
Email Don McDonnell

Subscribe to our FREE eMail News Alert!

Smart Grid Newsletter (SGN) is the insider's guide to the Smart Grid revolution. It consists of a FREE bi-monthly email summary, along with a companion Web site that contains the full stories and other helpful materials.

Benefits of subscribing: SGN is the only central source for all of the news, trends, research and marketplace information relevant to grid automation. In it, you will read about cutting edge technologies; successful pioneers and how they got ahead; regulatory changes that could unleash new markets; the latest research; and new opportunities for sales of grid-related products and services.

© Copyright 2008 SmartGridNews.com