

## SMART GRID BENEFIT QUANTIFICATION

Wired Group experience conducting comprehensive, independent evaluations can help utilities credibly quantify the value of smart grid investments for management, customers, regulators, and performance improvement efforts.

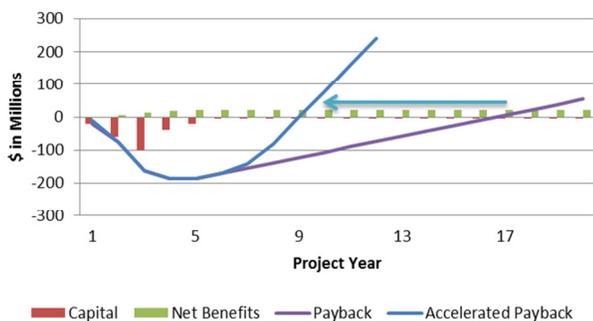
### Utilities and stakeholders want to know: what benefits are smart grid investments actually delivering?

Utilities implementing large smart grid deployments are now being confronted by high stakeholder expectations and the integration and optimization challenges associated with new grid capabilities. Investor-owned utilities are particularly concerned with growing regulator interest in incorporating smart grid-related performance measures into ratemaking processes.

Regulators and customers are demanding that grid investments deliver on lofty economic and reliability expectations, including:

- Reduced O&M costs
- Reduced revenue leakage
- Improved distribution efficiency
- Deferred capital investment
- Improved reliability

### How to Accelerate Payback?



The Wired Group offers best-in-class smart grid benefit quantification and performance evaluation

### The Opportunity

Utilities of all types have the opportunity to document value creation to customers, regulators, and other stakeholders by using credible experts to quantify the benefits of smart grid investments. Utilities also have an opportunity to improve performance over time by establishing baseline values on standardized metrics, providing a reference point for comparisons over time or for benchmarking performance relative to peers.

Wired Group benefit quantification helps utilities:

- Identify smart grid capabilities and related operating processes not delivering anticipated benefits.
- Build the business case for additional smart grid investments.
- Optimize capital by identifying the capabilities that deliver the greatest return on investment
- Justify smart grid investments to skeptical customers, regulators, and other stakeholders
- Isolate benefit drivers for practical and actionable performance improvement planning.

(Smart Grid Benefit Quantification, continued)

## Benefit Quantification Protocols

The Wired Group is at the forefront of smart grid benefit quantification. Our understanding of the manner in which various smart grids capabilities create value helps utilities establish post-deployment optimization plans that maximize the value of smart grid capabilities. Validated quantification protocols exist for all smart grid capabilities, benefit types, and sources:

- **Advanced Metering Infrastructure**
  - Improved revenue capture from theft reduction and improved meter accuracy
  - Reduced O&M expense in meter reading, customer care, and disconnects/reconnects
  - Reduced capacity costs resulting from time-varying rate participation
- **Distribution Automation**
  - Fault location
  - Fault isolation
  - Customer-sited generation
- **Integrated Volt/VAr Control**
  - Reduced customer energy use
  - Reduced capacity costs

## About the Wired Group

Wired Group principals and associates have decades of experience in distribution utility businesses, including smart grid, demand response, and renewable energy. Our consulting services support visioning, planning, execution, and evaluation. Wired Group President Paul Alvarez is the author of *Smart Grid Hype & Reality – A Systems Approach to Maximizing Customer Return on Utility Investment*. Please visit [www.wiredgroup.net](http://www.wiredgroup.net) for more information. Or, for a no-obligation consultation on your utility's smart grid deployment performance, contact Paul Alvarez at x-801, or at [palvarez@wiredgroup.net](mailto:palvarez@wiredgroup.net).

## Standards-Based, Field Tested

Wired Group benefit quantification protocols were developed from emerging measurement standards (such as EPRI's cost/benefit analysis methodology.)<sup>1</sup> The Wired Group has further refined these standards through application in cost-benefit analyses conducted on large, high-profile smart grid deployments, including:

- **Xcel Energy's SmartGridCity™**
- **Duke Energy's Ohio deployment**

## Credibility

Wired Group provides advice and counsel on smart grid benefit quantification to some of the most respected, knowledgeable, and demanding clients in the U.S., and our thought leadership on benefit quantification is sought out and distributed by the most influential industry conferences and media outlets, including:

- **Public Utilities Fortnightly**
- **DistribuTECH**
- **Association for Demand Response and Smart Grid**
- **Smart Grid News**
- **Canadian Electricity Association**
- **IEEE Power and Energy Society**

<sup>1</sup>"Methodological Approach for Estimating the Benefits and Costs of Smart Grid Demonstration Projects". Wakefield, M. et al. Electric Power Research Institute Publication 1020342. January, 2010