



GridWise 2006 – Palm Springs – May 17, 2006

**Capitalize on Technology-Enabled
Energy Management**

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The Story

- ○ Themes
- Energy Cornerstoning
- Enabling Technology
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Themes

- ◉ **The Energy Savings Opportunity is Massive**
- ◉ **You Can't Manage What You Don't Measure**
- ◉ **Technology Enables the Opportunity**
- ◉ **AMI and Demand Response Are the Gateways**



- ◉ **Do it NOW – It's the Gift That Keeps on Giving!**

Themes

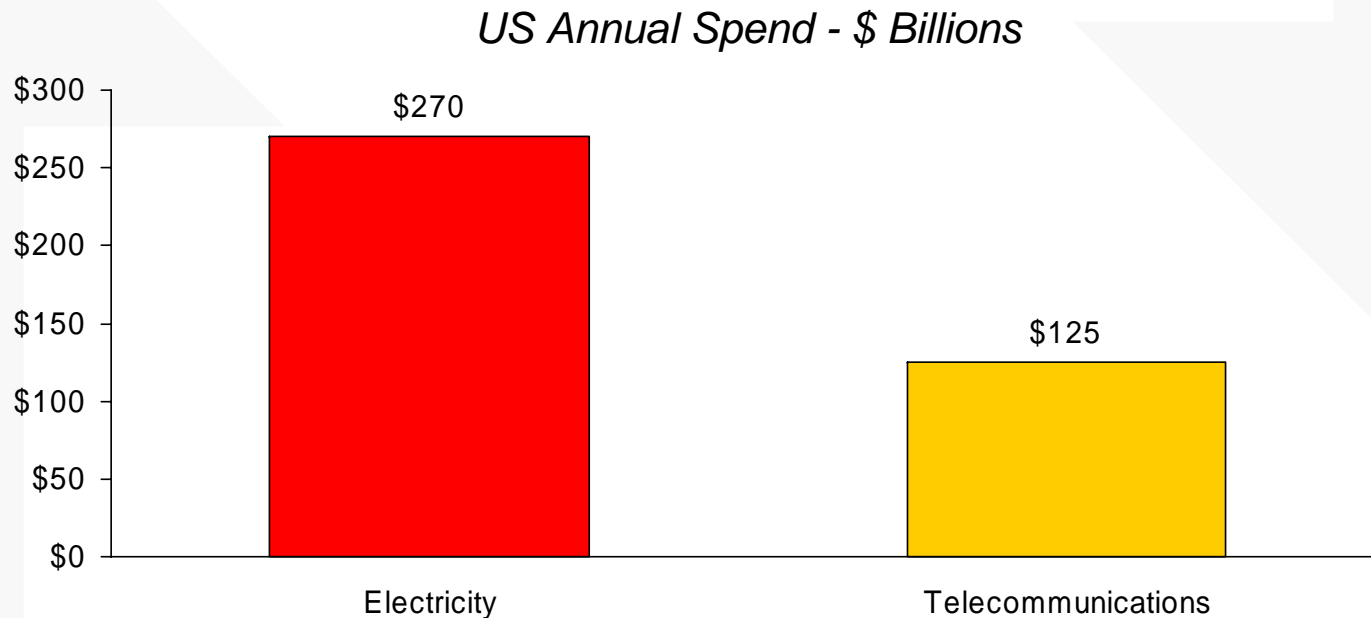
- **As much as 50%** of the nation's anticipated load growth over the next decade could be displaced through energy efficiency, pricing reforms, and load management programs.
- The DOE's five National Energy Laboratories concluded that cost-effective energy efficiency investments **could displace 15% of the nation's total electrical demand by the year 2010.**
- Customer market studies and load-response pilot programs demonstrate that the potential for load management is also quite substantial. **Approximately 15% to 17% of commercial load could be managed in response to short-term price signals.**
- A FERC-commissioned study reported that a moderate amount of demand-response could save about **\$7.5 billion annually in 2010.**

Source: Efficient Reliability: The Critical Role of Demand-Side Resources in Power Systems and Markets. Prepared for the National Association of Regulatory Utility Commissioners. Author - Richard Cowart, Regulatory Assistance Project, June, 2001.

Themes

Less than 1% of all commercial and industrial companies use advanced technology to measure and manage energy spend.

Nearly 100% use advanced technology to measure and manage telecommunications spend.



Source: 2004 Chartwell AMR Survey. 2004 Aberdeen Group Survey.

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ENERNOC

Themes

Energy Savings Impact Analysis

Annual Revenue	\$1,000,000,000
Annual Net Income	\$80,000,000
Shares Outstanding	100,000,000
Annual Earnings Per Share	\$0.80
End of Year Share Price	\$16.00
Price Earnings Ratio (PE)	20.00
Market Capitalization	\$1,600,000,000
Annual Energy Spend	\$30,000,000
Percent of Revenue Represented by Energy Spend	3.0%
Expected % Savings from Annual Energy Spend	20.0%
Expected Annual Energy Spend Reduction	\$6,000,000
Energy Savings Contribution to Shareholder Value	\$120,000,000
Addition to Share Price	\$1.20
Share Price After Institution of Total Energy Management	\$17.20
Percentage Increase in Share Price	7.0%

Agenda

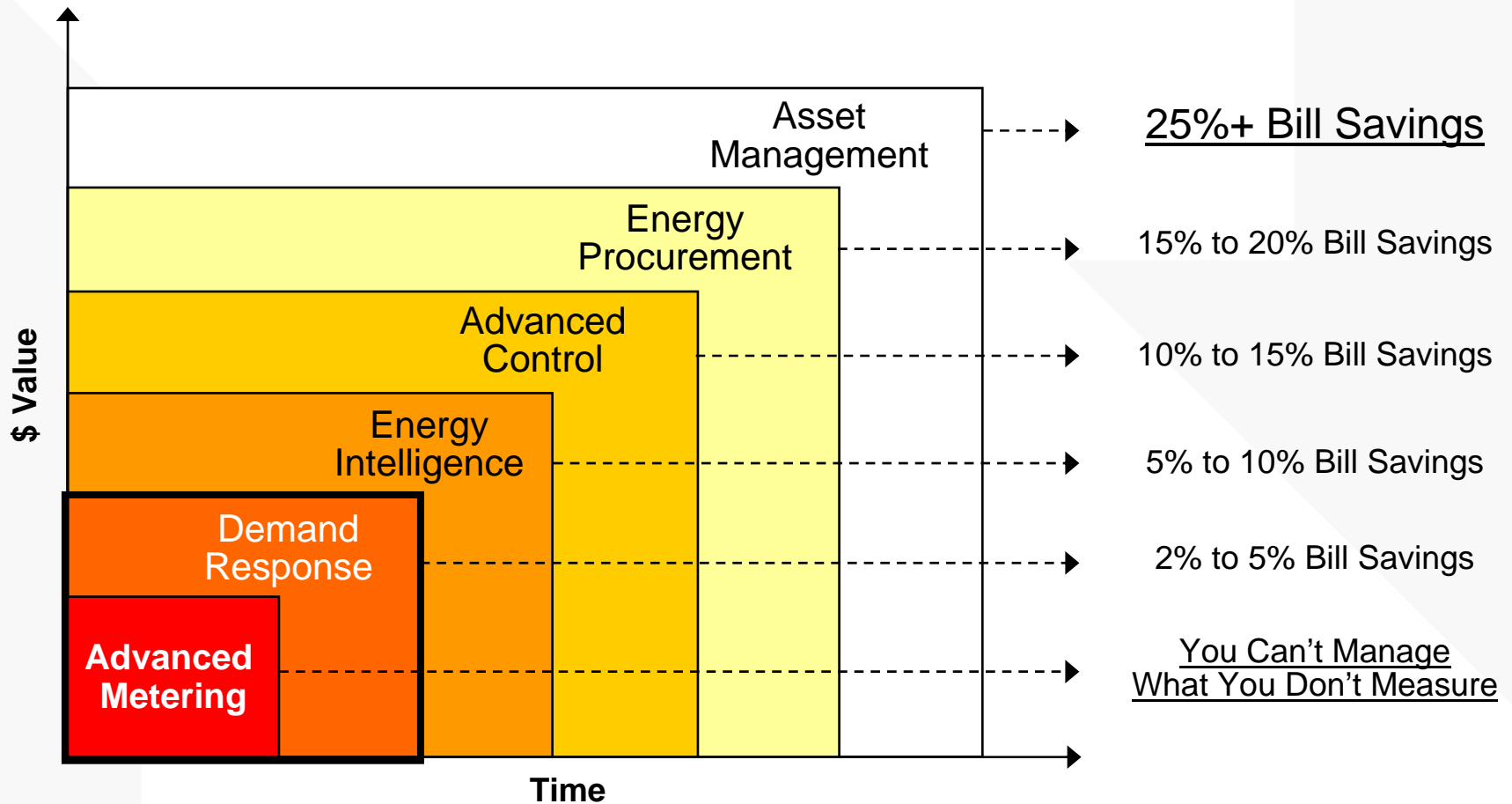
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Energy Cornerstoning

Energy savings are largely untapped within C&I businesses and offer competitive advantage to those that capitalize on the opportunity with a trusted partner.

Total Energy Management Cornerstone

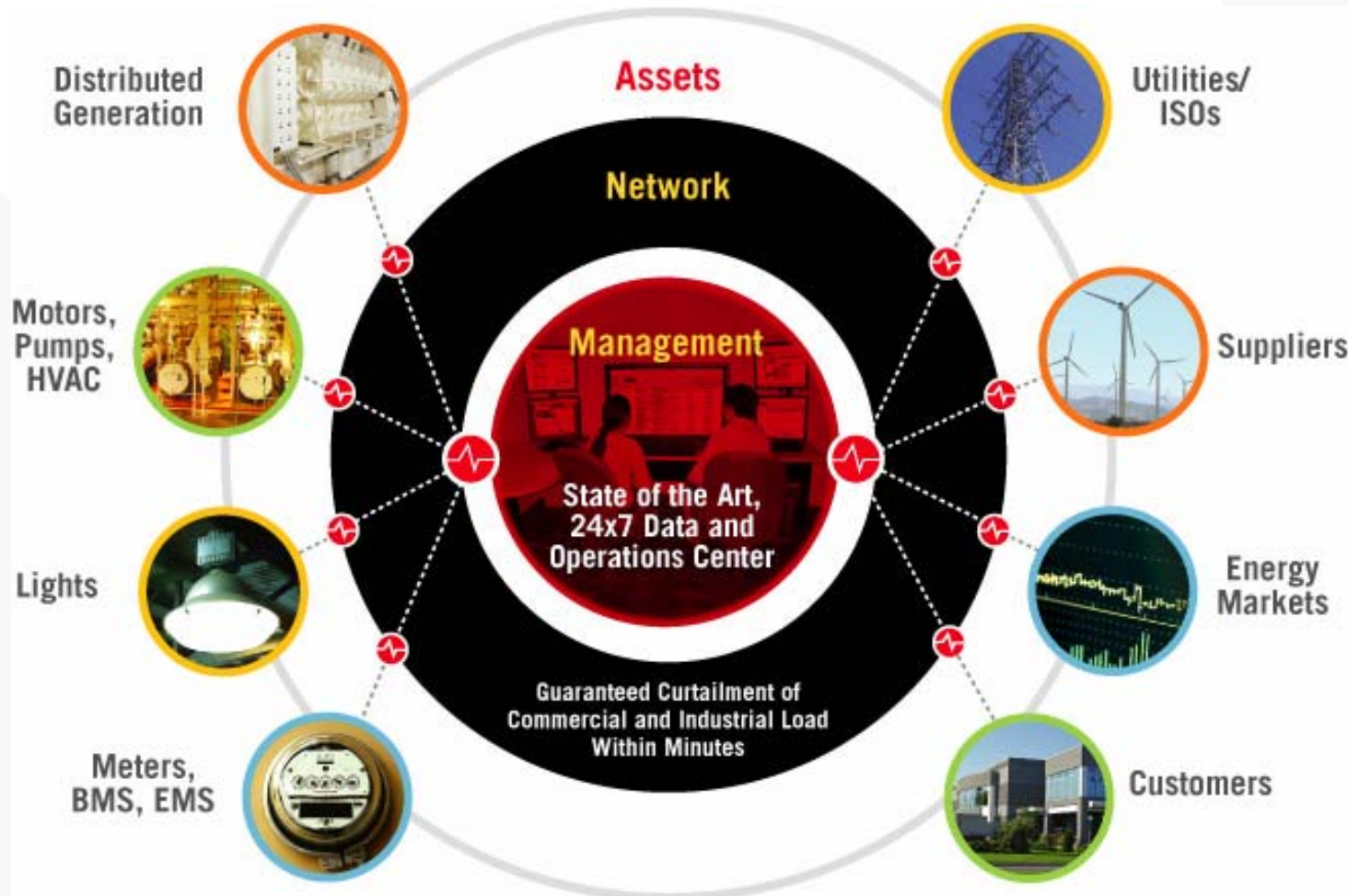


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Enabling Technology

Inexpensive, open-source technology (devices, communications, applications) enables existing assets to consume less and access market value.



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Examples

Most energy savings opportunities require little to no capital investment relative to the size of the opportunity and speed of payback.

Advanced Metering

- Commercial office customer installed real-time main meter and eliminated 73 utility sub-meters – eliminated \$18,400 per month in utility metering fees, totaling \$220,800 per year.
- Installed advanced sub-meters for tenants and billed tenants directly. Evangelized building-wide energy efficiency program that reduced energy consumption by more than 10% per customer. Savings of \$8,200 per year realized per customer across 73 customers, totaling \$600,000.
- Common area energy consumption was consequently reduced by 15%, contributing another \$80,000 per year in savings. Total program savings = \$819,400 per year.
- Cost of advanced submetering = \$426,800. Cost of monthly billing administration, technology operation = \$9,600. Cost of energy awareness education = \$34,000. Simple time to payback = 8 months. 14% annual savings off entire electricity bill.

Examples

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Demand Response

- Grocery customer entered into demand response program – received free advanced metering and energy information system in each store to participate
- 120 stores provide approximately 100 kW of demand response capacity per store, totaling 12,000 kW of enrolled market capacity
- Capacity enrolled includes 1/3 lights, anti-sweat heaters, HVAC, water heating electrical circuits
- Customer receives \$3.00/kW-month or \$300/month per store, \$36,000 per month, and \$432,000 annually, amounting to a 3% savings on entire energy bill.
- Time to payback - instantaneous

Examples

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Energy Intelligence

- Big box retail customer enrolls capacity in demand response program, gets DR benefits including free real-time advanced metering technology.
- Advanced metering technology monitors upper control limits of kW demand in real-time. Preset alarm notifies customer (by email) that demand has exceeded 120 kW at 10:00 p.m. when lighting and HVAC setbacks are supposed to reduce demand below this level.
- Next day (6th day of the month), store manager reads email, discovers that stocking crew overrode setbacks and failed to reset. Educates stocking crew. Avoided cost = \$921 ($\$0.12/\text{kWh} \times 40 \text{ kW} \times 8 \text{ hours} \times 24 \text{ remaining days in month}$).
- 300 additional stores not participating in this program. How many are not avoiding these costs? Conservative analysis of how often this happens shows a behavioral change savings potential of more than \$1,100,000 per year.
- Time to payback - instantaneous

Examples

Most energy savings opportunities require little to no capital investment relative to the size of the opportunity and speed of payback.

Advanced Control and Energy Procurement

- Using detailed annual interval data across all 120 stores, a grocery customer structures an RFP to competitive retail electricity providers.
- Combining the ability to control demand through its demand response technology, grocer is able to adjust consumption on a monthly basis to allow retailer to purchase on wholesale market with greater control over short and long positions.
- Grocer expects to receive a portion of this value in the form of a unique, highly competitive offering.
- Grocer agrees to reduce demand by a minimum of 5,000 kW up to twice per month for 2 hour events when called upon.
- Most competitive offer reduces energy supply rate by 6% over the entire portfolio of stores, amounting to a \$1,458,000.
- Time to payback - instantaneous

Examples

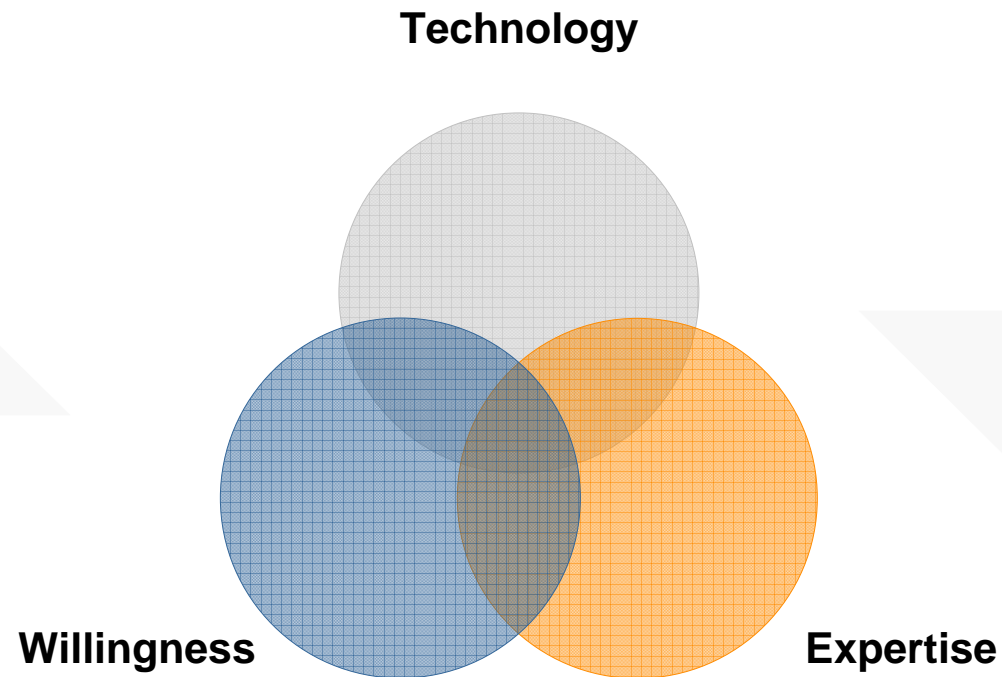
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Asset Management

- Data center customer with 18 data centers enrolls all backup generators in demand response program
- On top of the demand response revenue generated, customer agrees to allow provider to create a master services agreement to remotely monitor, cycle, and maintain gensets
- Annual per generator service cost is reduced from \$4,500 per generator to \$3,000 per generator, netting an additional \$27,000 per year in savings and greater operational reliability of units
- Time to payback - instantaneous

Examples

End-users typically cannot accomplish these benefits alone. Combining technology with end-user willingness and a partner's expertise WILL unlock the full value.



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EnerNOC Overview

EnerNOC's rapid success is based on the value we've delivered to our customers through technology-enabled demand response and energy management solutions.

Commercial Office and High Tech	       
Education	       
Food Sales and Storage	       
Government	         
Healthcare	      
Light Industrial	       
Lodging and Resorts	      



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