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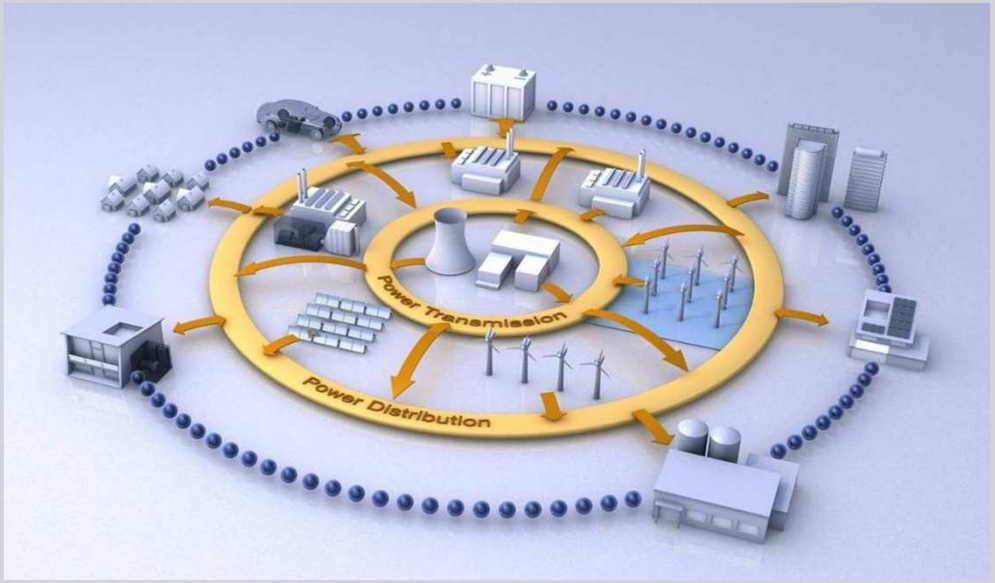
Siemens and Smart Grid

Critical infrastructure for economic growth and stability



8th Annual North Carolina Sustainable Energy Conference

Raleigh, North Carolina

April 26, 2011

Our vision and our values

Siemens – the pioneer in

- Clean & efficient energy
- Industrial productivity
- Affordable and personalized healthcare
- Intelligent infrastructure solutions

Our values

Responsible

Committed to ethical and responsible actions

Excellent

Achieving high performance and excellent results

Innovative

Being innovative to create sustainable value

Siemens is geared to develop answers for our customers' most difficult challenges

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Industry

Divisions

- Drive Technologies
- Industry Automation
- Building Technologies
- Mobility
- Lighting (OSRAM)
- Industry Solutions

Energy

Divisions

- Fossil Power Generation
- Renewable Energy
- Oil & Gas
- Energy Service
- Power Transmission
- Power Distribution
- Smart Grid Applications

Healthcare

Divisions

- Imaging & Therapy
- Clinical Products
- Diagnostics
- Customer Solutions & IT

Cities and Infrastructure *(Launches OCT 2011)*

Divisions

- Building Technologies
- Mobility
- Lighting (OSRAM)

Divisions

- Power Distribution
- Smart Grid Applications

The Smart Grid answers questions around reliable and prudent energy – a critical economic resource

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Emerging Markets

The value of Smart Grid

- An opportunity to establish decentralized power systems to support economic growth in a targeted manner
- A more efficient path to develop a power system that leverages baseload and distributed generation – effectively leapfrogging the costs of centralized systems

Industrialized Markets

The value of Smart Grid

- A means to effectively manage demand and maintain high levels of reliability for all customer classes
- A resource to extend asset value and improve operational performance
- A mechanism to safely and securely operate, maintain and enhance efficiently

Growth and stability demand infrastructure that can support all customer classes intelligently

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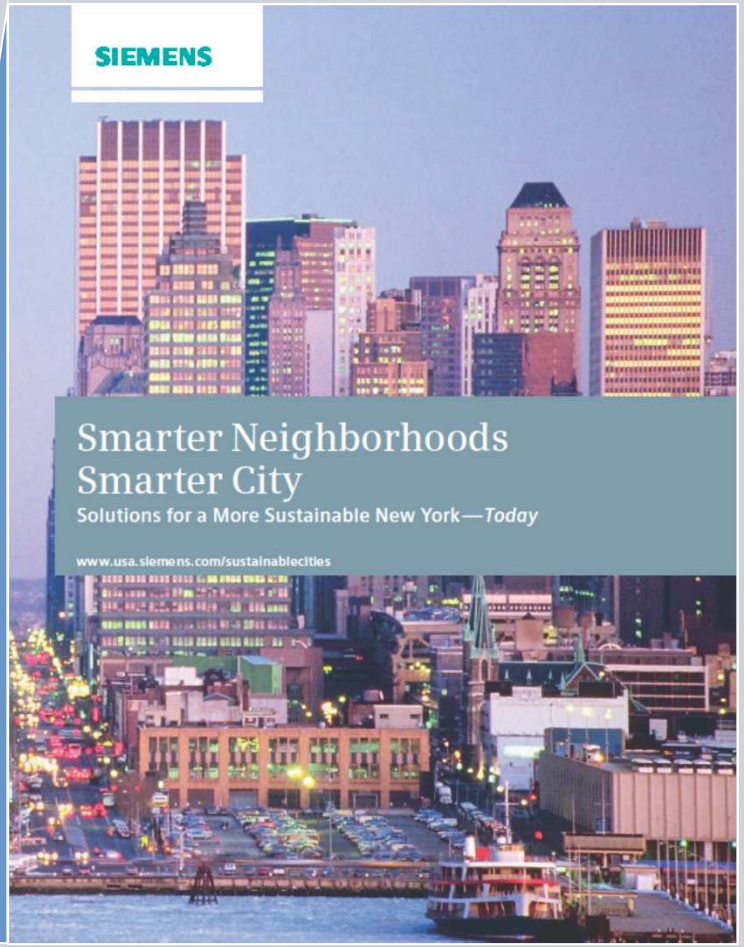
Capabilities Needed for Sustainability	▪ Balance supply and demand at all levels from the system down to the facility level ▪ Offer customers energy options to satisfy cost, operational, and environmental constraints ▪ Enable a diversity of generation types both in fuel and size ensuring security of supply
Smart Grid Enablers	▪ Distribution automation ▪ Decentralized energy systems ▪ Small scale generation and storage ▪ Demand/ consumption management/ response ▪ Modernized customer operations
Example Siemens Solutions and Impact	▪ For New York City Siemens constructed a complete sustainability plan…

Please find at:

www.usa.siemens.com/sustainablecities/



This infrastructure provides a critical raw material for local, regional, national and global businesses

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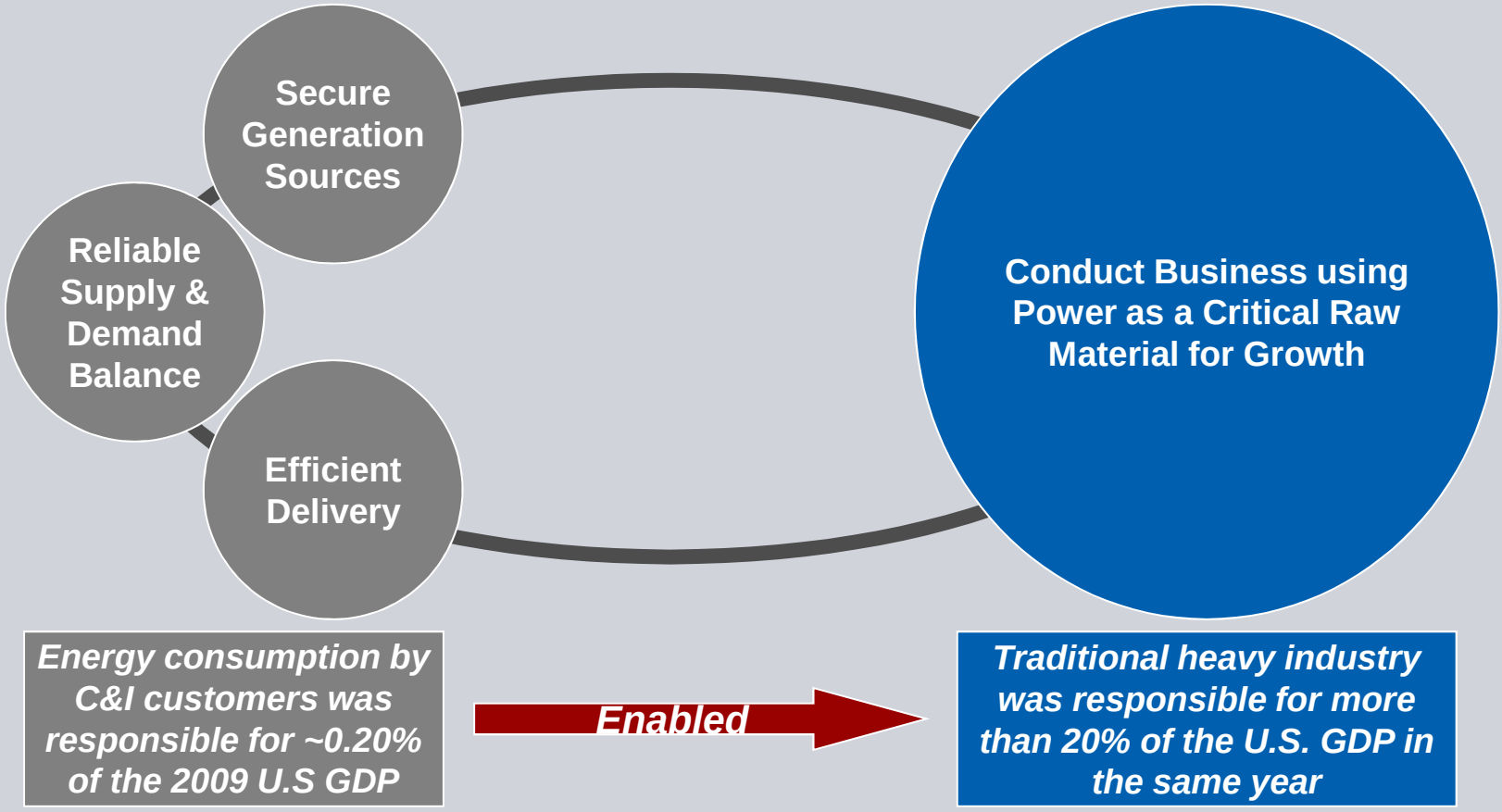
The Economic Multiplier of Smart Grid



Source: EIA Energy Outlook 2009 & Bureau of Labor and Statistics

For example, demand management is essential to making more efficient resource decisions

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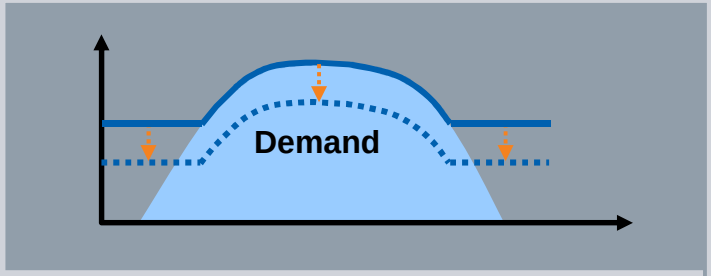
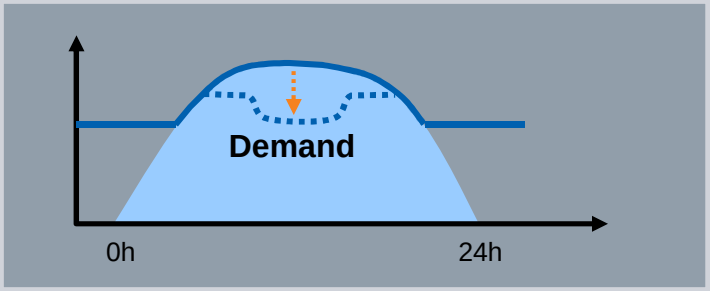
Demand Side Management

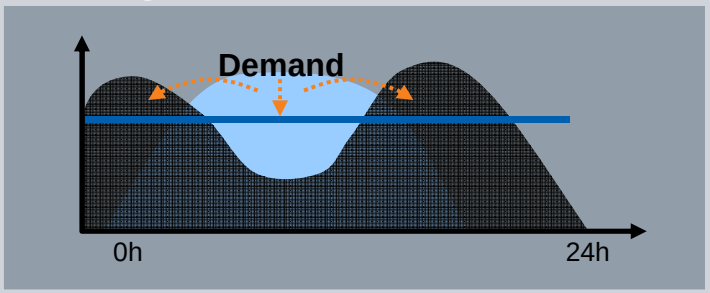
1 **Energy Efficiency**



2 **Reduction**



3 **Shifting**



Demand Management Enables Economic and Grid Stability…or Sustainability

Energy Efficiency

- More efficient use of critical raw material frees up capital that can be redeployed
- Reducing the amount of power and resources needed to supply customers limits increases in the cost of power

Reduction

- Avoiding peaks reduces stress on the power systems thereby maintaining high levels of reliability
- Typically peaks require less efficient generation and limiting their operation is economically and environmentally prudent

Shifting

- Enabling customers to make more effective energy decisions through transparency enables truly intelligent automation unlocking cost savings opportunities

No matter which part of smart you are focused, the scale of spending proves this is not fiction

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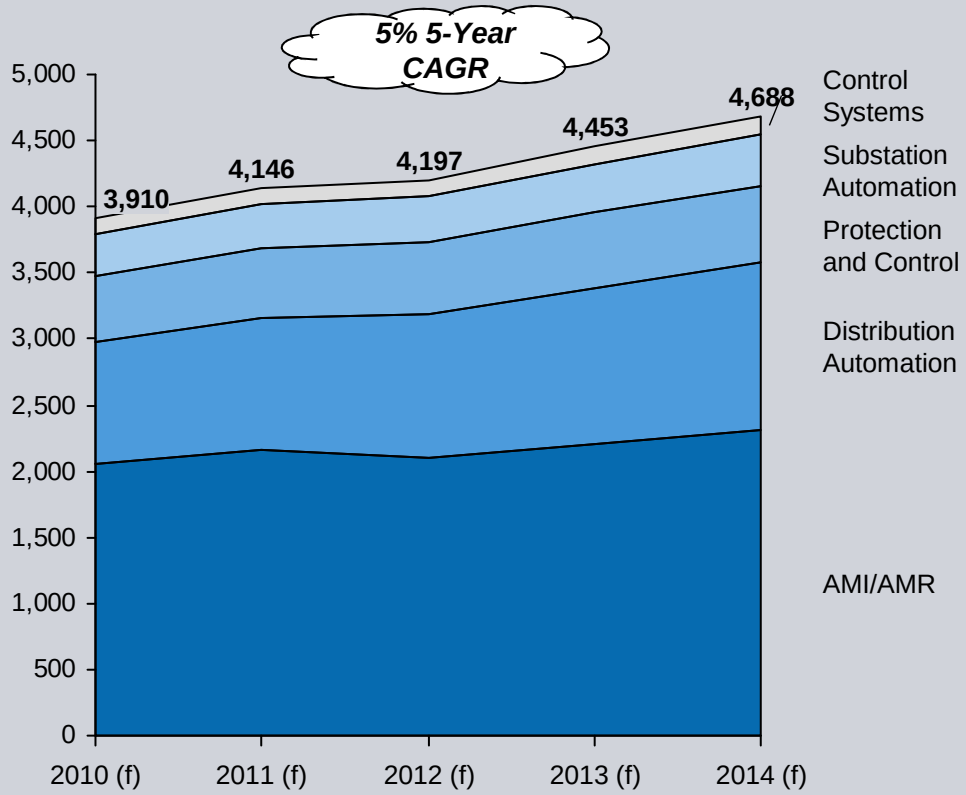
Smart Grid Spending Forecast: 2010 - 2014
North America, Millions USD



- Cisco has estimated global smart grid spending to be $20B in 2014
- SBI Research estimated global spending to be $17B in 2014
- J.P. Morgan calculated that there were $10.6B in smart grid sales in 2010 out of a possible $188B showing the potential for significant market growth

Note: Excludes conventional T&D spending
Source: Newton-Evans Research Company, Inc., Booz & Company analysis; "NARUC – Mid-Atlantic Conference of Regulatory Utility Commissioners," Booz & Company, 29 June 2010.

Thank you

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