

Smart Grid and Achieving Efficient Energy Distribution

New Energy For America Summit

Brian T. Castelli, Executive Vice President
Programs & Development
Alliance to Save Energy

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What is the Alliance to Save Energy?



Mission:

- To promote energy efficiency worldwide to achieve a healthier economy, a cleaner environment, and greater energy security.

The Alliance is...

- Staffed by 50+ professionals
- 31 years of experience in policy, research, education, communications, technology deployment and market transformation



Alliance Directors: Bi-Partisan Elected Officials & Industry Leaders



- Guided by a 37-Member, elected Board of Directors
- Leaders of environmental, consumer, and trade associations; state and local policy makers; corporate executives



Senator Mark Pryor (D-Ark.) Jim Rogers, CEO
Duke Energy



Bi-partisan, bi-cameral Honorary Vice Chairs

Smart Grid Potential Benefits



- Enhance customer service
- Improve operational efficiency
- Enhanced DR and load control
- Customer behavior
- Support new utility business models
- Integrate intermittent RE and PHEVs



"The Green Grid; Energy Savings and Carbon Emissions Reductions Enabled by a Smart Grid." Report, No. 1016905

Enhance Customer Service



■ Energy Efficiency Potential

- Continuous commissioning and proactive maintenance
- More options for dynamic pricing
- Potential savings (2.2-8.8 bkWh)

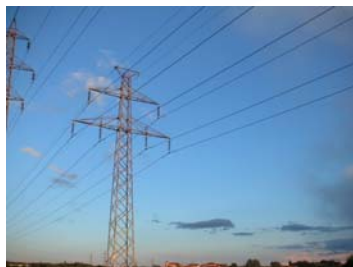


Improve Operational Efficiency



■ Energy Efficiency Potential

- Reduce line losses (3.5-28 bkwh)
- Automated meter reading -- reduced transportation energy
- Customer feedback through metering and billing (0-10%)



Enhanced DR & Load Control



■ Energy Efficiency Potential

- Automated Demand Response (0-3.7 bKWh)
 - Energy reductions 65 kWh per kw
- Other load control
 - Energy reductions 97-113 kWh per kw
- Deploy Renewable Energy for peak demand
- Reduce use of less efficient peaking plants



Customer Behavior



■ Energy Efficiency Potential

- Potential Feedback via display devices
- Feedback via improved billing
- (20.7-120.7 bkwh)



Support New Utility Business Models



- Energy Efficiency Potential
 - Improved EM&V capability
 - Accelerated innovation in devices due to open standards
 - (10.2 - 40.1 bkWh)



Non-EE CO2 Reductions



- Integrate intermittent Renewable Energy
- Integrate PHEVs



Chevy Volt



BYD Auto's F3DM



Questions?

- What's required to realize these potentials?
- What's the actual role of smart grid?
- Is smart grid funding on track to realizing these potentials?