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Electric Efficiency

Consumers are the Key to Future Smart Energy Management

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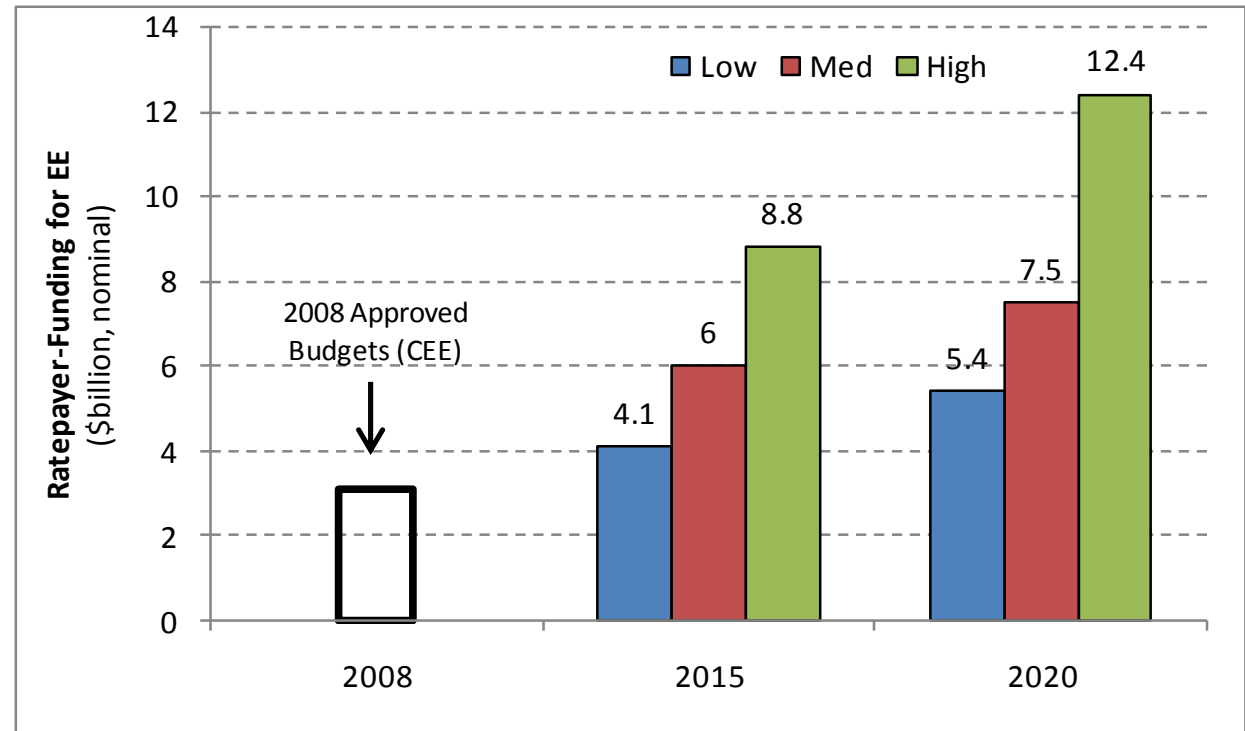
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The Santa Fe Conference
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Expected energy efficiency savings forecasts

- AEO forecasts electricity growth of 399 TWh by 2020 (April 2009 forecast)
- Energy efficiency potential forecasts cover wide range
 - EPRI: Energy efficiency savings due to programs: 372 TWh (maximum achievable) by 2020 (Jan. 2009)
 - McKinsey predicts 1,080 TWh “saved” by 2020 with an up-front investment of \$520 billion (July 2009)
- In 2008, electric efficiency programs saved 96 billion kWh (based on CEE data)
 - Enough to power 7.4 million homes for one year
 - 58 million tons of CO₂ avoided
- Customers will play a vital role in achieving EE potential

Energy efficiency spending is growing significantly. Ratepayer funded EE budgets -- \$3.3 billion in 2008 and \$4.4 billion in 2009 – 33% increase (CEE).

LBNL forecasts
\$12.4 billion of
ratepayer
funded EE by
2020 (under
high scenario) –
a three-fold
increase from
today

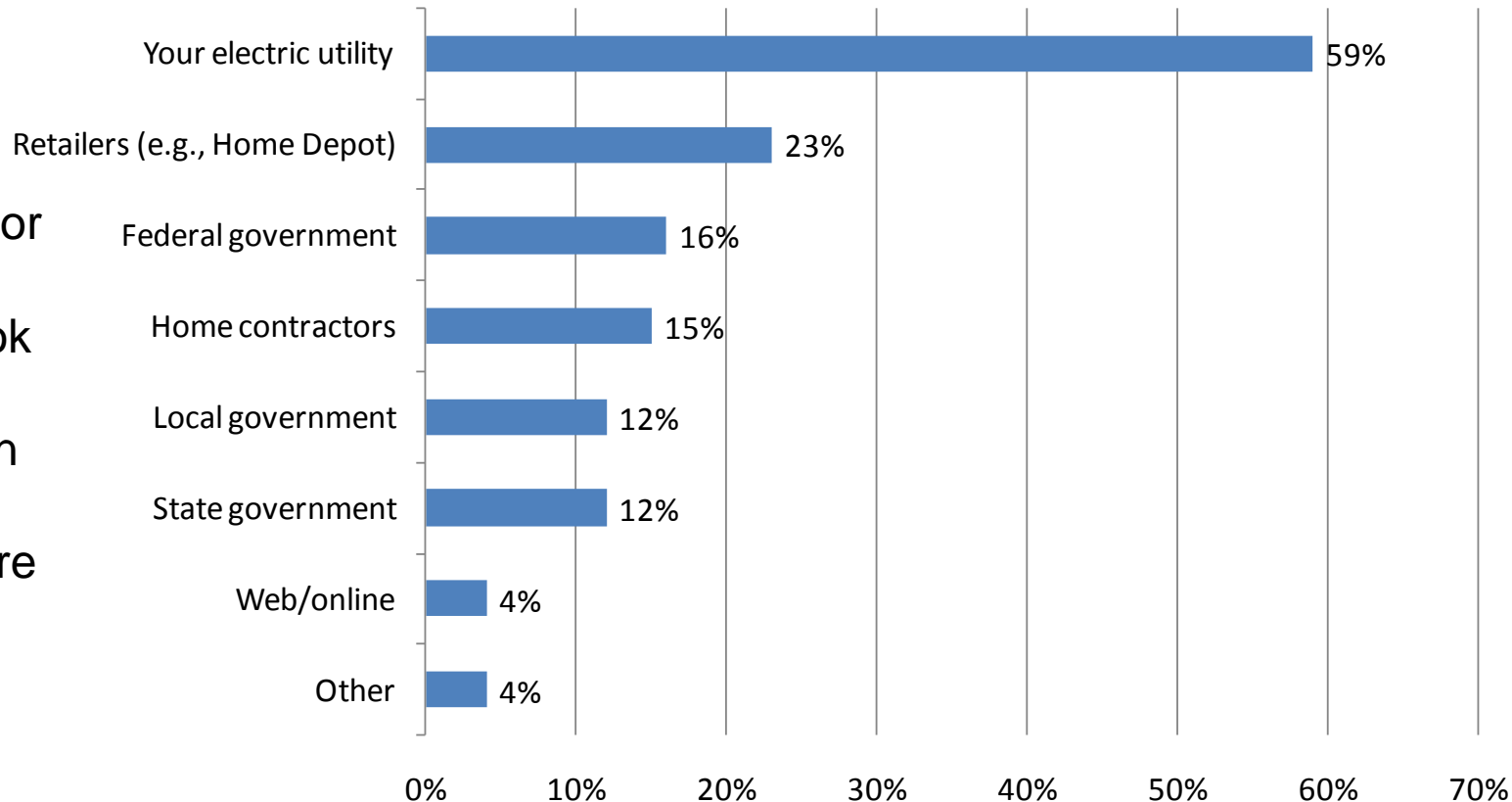


Regulatory environment is supporting the increased electric utility energy efficiency efforts

- The number of states aligning utility incentives with investments in EE has increased significantly over 2 years.
 - 18 states now have some type of fixed cost recovery (decoupling; lost revenue recovery; or save-a-watt); another 4 are pending. Up from 7 states in 2007.
 - 21 states have some type of performance incentive for energy efficiency allowing utilities to earn a return; 7 more are pending. Up from 12 states in 2007.
- Nineteen states have energy efficiency resources standards
- Energy efficiency is still the low hanging fruit (about \$0.035 per kWh saved)

Majority of customers look to their electric utility for efficiency information (Q4, 2009)

What groups or organizations would you look to for more information on how to use electricity more efficiently?



Deployment of smart meters/smart grid is a paradigm shift for power industry

- Multiple smart meter pilot programs across U.S.
- About 60 million smart meters now being deployed across U.S. (over 50% of U.S. households)
- Smart meters will enable
 - new energy management approaches
 - distributed generation
 - plug in hybrid electric vehicles
- Multiple vendors entering energy management space
 - Customer motivators: energy information; community competitions; goal setting; rewards; commitments; and smart rates

Utilities are partnering with vendors like OPower and using “Home Energy Reporting” as a motivator to save

- Utilities send out monthly “Energy Reports” to motivate customer action. Make comparisons to neighbors
- Results are measured and accepted as an efficiency resource (average cost is \$0.03 per kWh saved).
- Customers save energy

Flagship Product – Home Energy Report™



Efficiency Portal



Utility Partners:



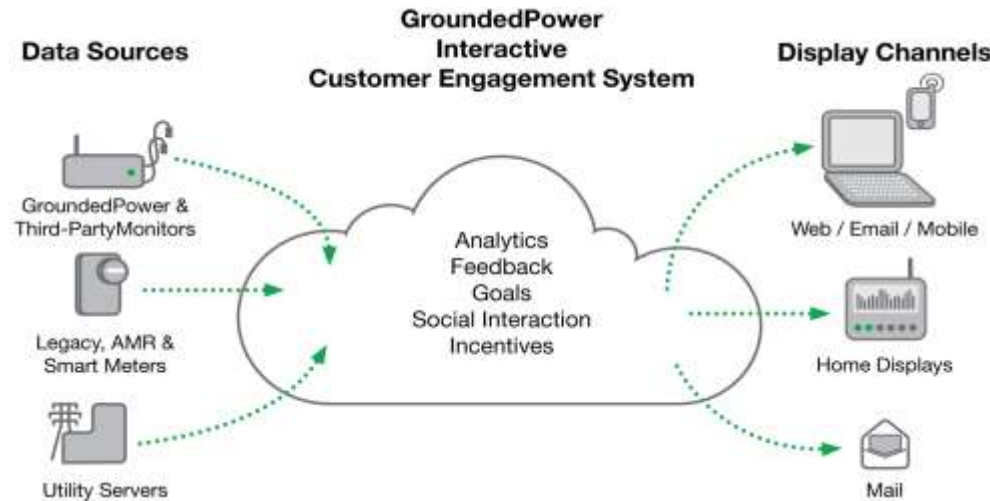
Large-Scale Customer Engagement



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Utilities are partnering with vendors like Grounded Power and using multiple channels to motivate consumers to save: web, in-home displays, mail

- Focused on consumer feedback; motivate consumers by comparing use to similar households
- Provides hardware for managing energy (in-home displays)
- Employs a rewards point system, goal setting, and commitments to motivate customers
- Results in energy savings



Example: Commonwealth Edison just launched major AMI and rate pilot with customer centric design

■ Customer education innovations

- Web energy management tools including comparisons; educational modules; monthly updates
- In home displays, programmable communicating thermostats
- Community support

■ Customer energy management assistance

- Via bill comparisons, web tools, call center, monthly educational meetings

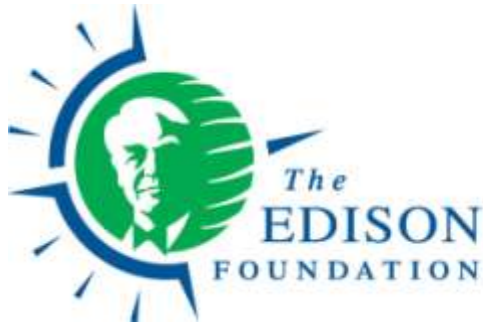
■ About 131,000 customers

- 8,500 smart rates responders
- 120,000 smart energy managers



Big question: How will we motivate customers to be smart energy managers?

- We know customers benefit from smart rates on smart meters
- But, for those customers with smart meters but no smart rates (i.e., the vast majority right now), empowering customers to be smart energy managers is the key
- Consumers are ready to be smart energy managers.
- We need to provide the tools and the education.



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