

Consumer Issues Related to Smart Grid & Peak Load Reduction

Peak Load Management Alliance
Spring Conference

Presented by;

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Power Markets	Natural Gas Markets	Demand Response
Renewable Energy	Energy Technology	Sustainability

Measurable Success With Over 200 Clients Since 1996

Boston Los Angeles Houston

Defining US Consumer Markets

End User Electricity Revenue

- \$ 155.4B **Residential**
- \$ 138.5B Commercial
- \$ 68.9B Industrial

End User Customer Count

- 125 M **Residential**
- 17.6 M Commercial
- .775M Industrial

143.3 Million Meters

- 87% **Residential**
- 12% Commercial
- <1% Industrial

< 20 Million Smart Meters

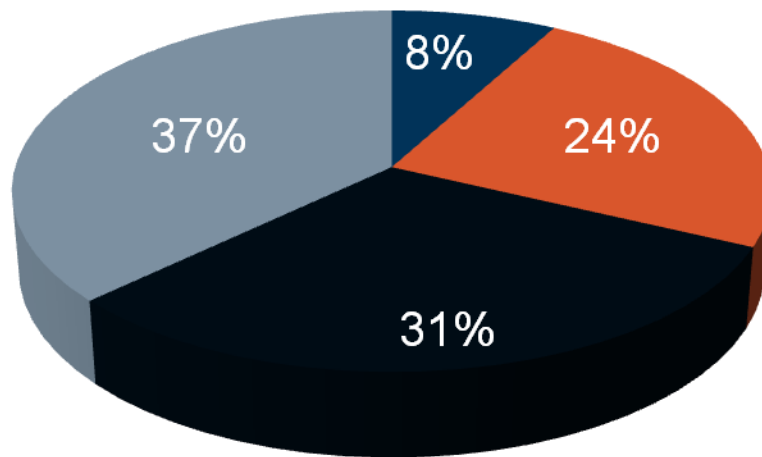
Smart Grid: A Long Road Ahead

68% of Americans have **never heard the term Smart Grid**

62% 'Agree' Smart Grid **will increase the cost of electricity**

Source: Harris Interactive

Utility Smart Grid Scorecard



- Completely adopted
- Not yet started
- Plans in place but not started
- Adoption in progress

Source: Skipping Stone

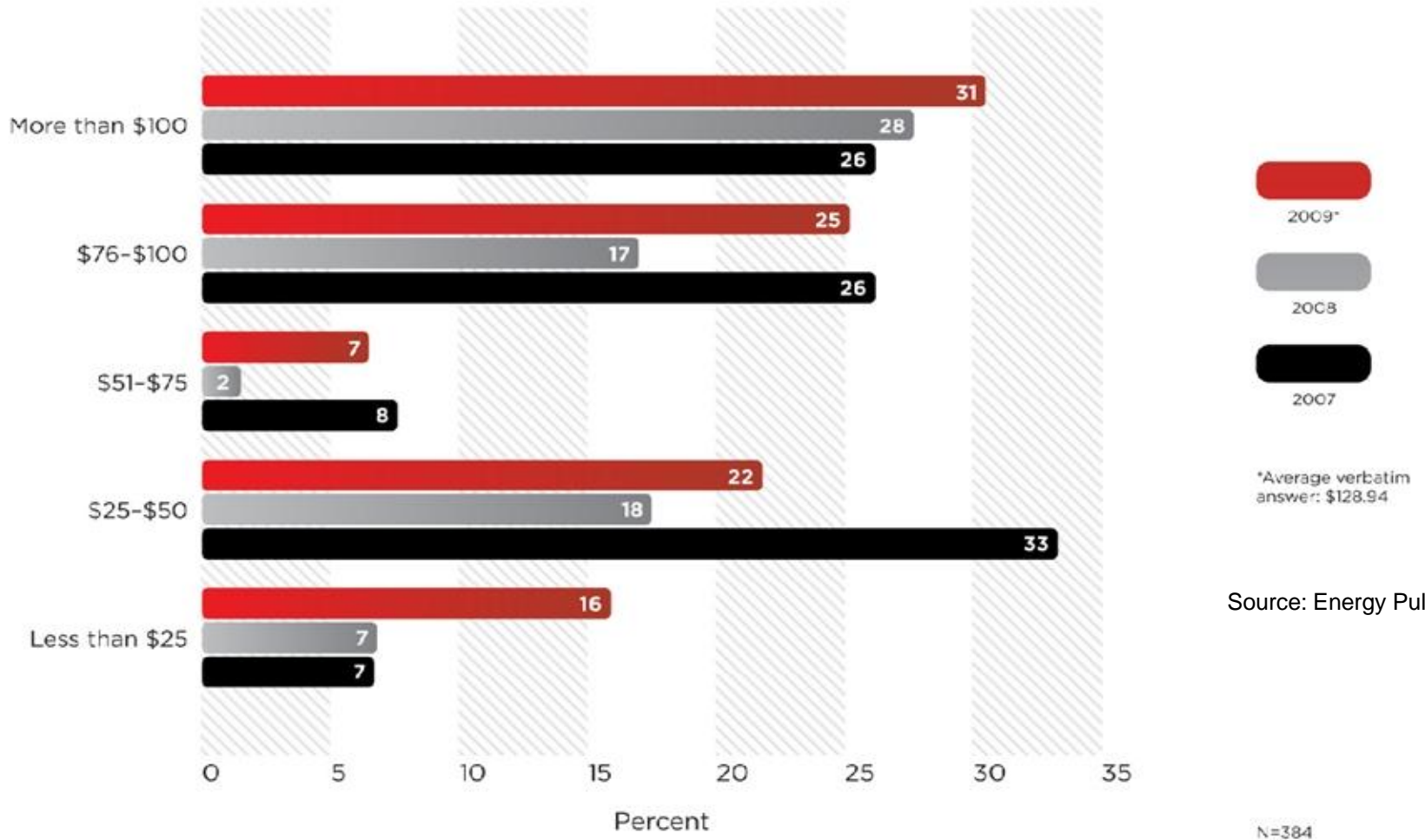
The Consumer Myth

“If consumers just knew how much power they were using on a moment by moment basis, they’d make better choices.”

The Reality

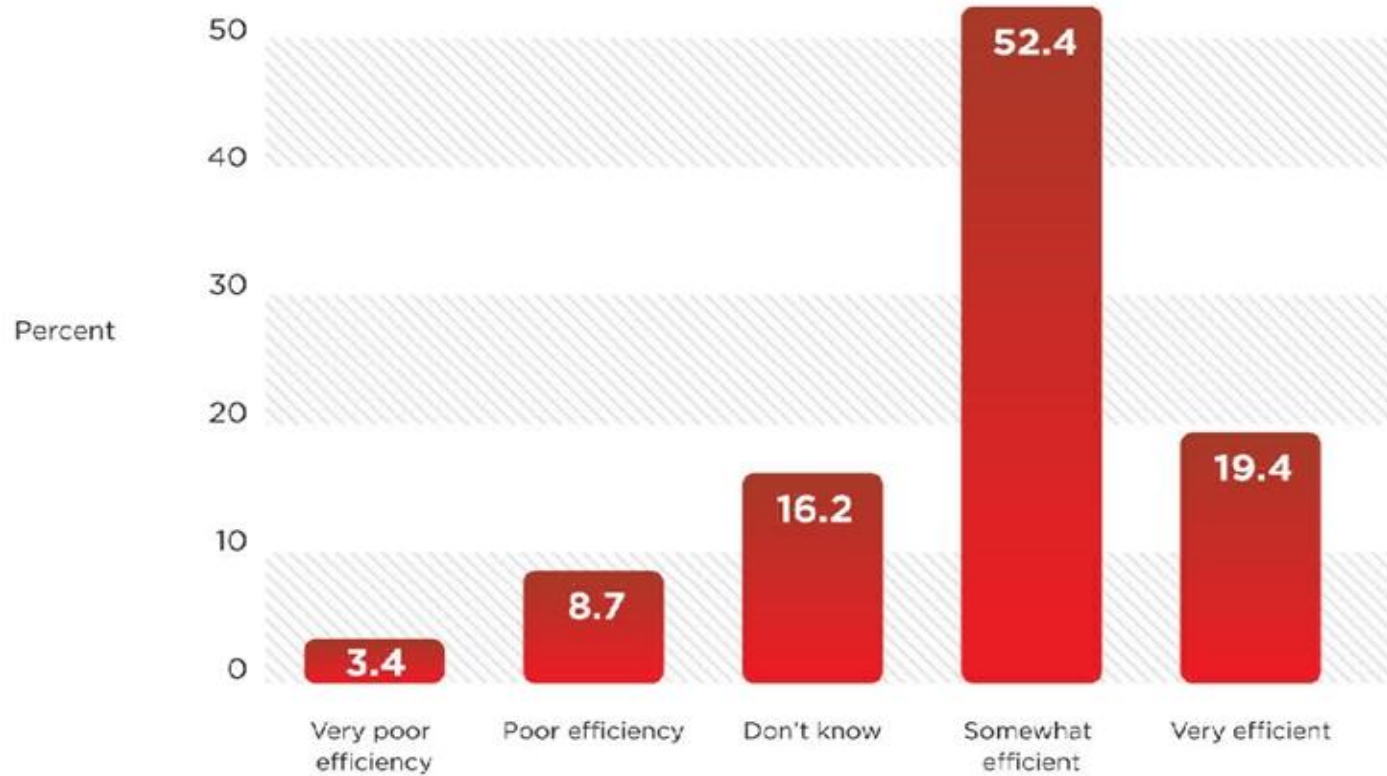
The vast majority of consumers are willing to essentially pay
- or waste money –
to do absolutely nothing to
improve their energy situation.

Survey Says...



How much would your monthly bill have to go up before you take action?

Problem...What Problem?



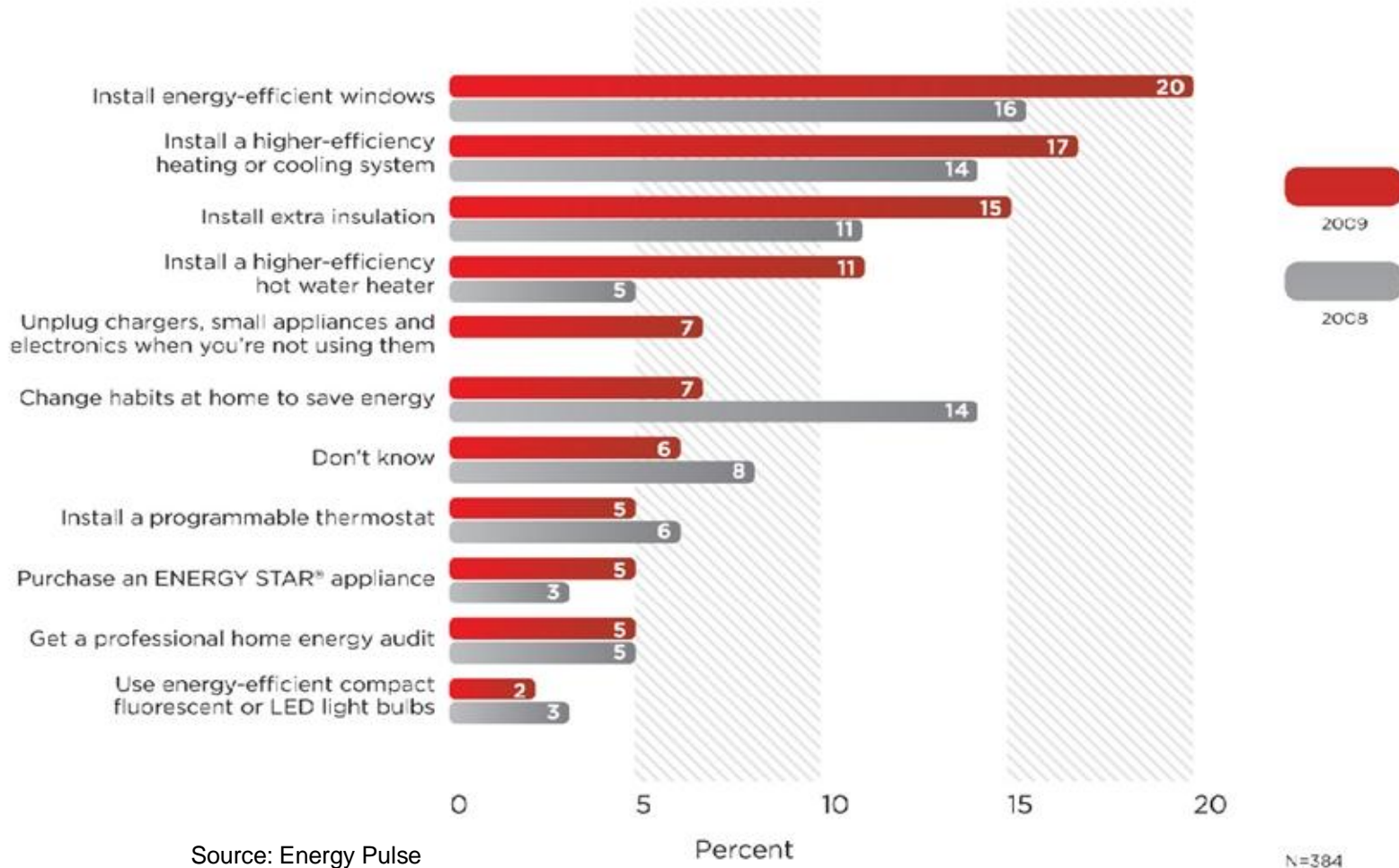
Source: Energy Pulse

Top Box = 71.7%

How energy efficient is your home?



Good News for Home Depot



What is the one thing that you could do to reduce your energy bill?

Is It a Consumer Issue or An Industry Issue?

- Consumers want an “easy” button, or no button at all.
- In the consumers mind Smart Grid = Costs More...
 - In other words, the marketing message isn't working
- By making it “simple” we are actually confusing people.
- If the DR market is supposed to grow from \$1.4B to \$8.2B in the next 10 years... where is it?

Source: Pike Research

Follow the Upgrades in Distribution Automation





Estimates and Forecasts of DA Adoption Rate in North America

Type of Utility	2010	2011	2012	2013	2014
Investor-Owned-TOP 50	20%	24%	30%	35%	40%
Investor-Owned - Other	20%	26%	33%	40%	45%
Public Power Large	25%	25%	30%	30%	35%
Public Power -Other	15%	15%	15%	18%	19%
Cooperatives-Large	25%	27%	30%	32%	35%
Cooperatives - Other	10%	11%	14%	16%	20%

Source: Newton – Evans Research

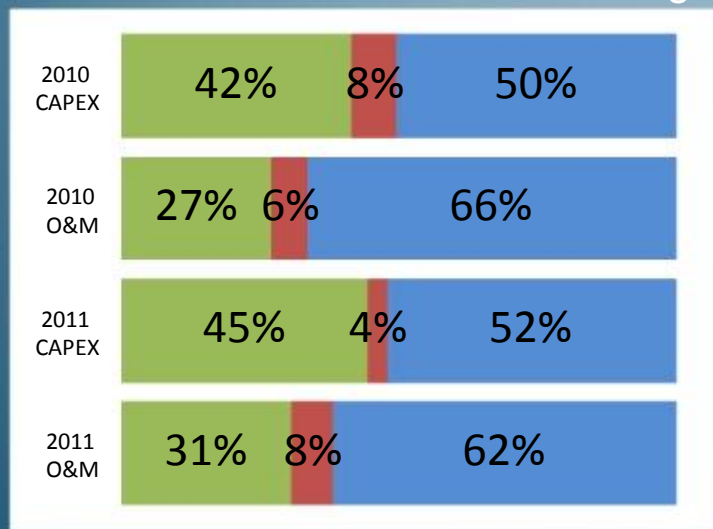
What's Being Implemented

PRIMARY ENERGY PURCHASING CATEGORIES

Generation:		Plant Asset Management Software Load Forecasting Generation Plan and Scheduling
Transmission & Distribution:		Grid Asset Management Software Capacitors Outage Management GIS Energy Management Systems Distribution Management Systems Energy Balance Management
Metering:		Advanced Metering Infrastructure Meter Asset Management Meter Data Processing Automated Meter Management Smart Meters Pulse Meters Switches and Routers Net Metering Smart Appliances
Building Automation Systems:		Software That Integrates and Normalizes Data From: Building Systems, IT, Energy Supply & Energy Demand
Security Technology:		Identity management and access control Threat defense Data center security Utility Compliance Security monitoring and management Physical safety and security Professional services

Distribution Automation Budget Trends

Increase Decrease No Change



Source: Newton – Evans Research

DA is on the verge of becoming a very exciting, technically feasible component of the smart grid.

DA holds the keys to providing the easy Button for DR solutions

Total North America DA CAPEX
2010 Estimate: \$1.6 - \$1.825B

Thank You

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