How Consumers See Value

Patty Durand
Executive Director
Smart Grid Consumer Collaborative

Presentation
TAG Smart Grid Society

June 7, 2011

SmartGrid consumer collaborative

Smart Grid Consumer Collaborative

The SGCC is a consumer focused non-profit organization aiming to promote the understanding and benefits of modernized electrical systems.

SmartGrid consumer collaborative

The Smart Grid Consumer Collaborative Mission:

listen **via consumer research**

educate **via outreach and messaging toolkits**

collaborate **via shared best practices**

Working for a consumer-friendly consumer-safe smart grid

SmartGrid consumer collaborative

Three Types of Memberships:

Technology Companies

Itron, Accenture	IBM, Best Buy
Intel, Control4	GE, Landis+Gyr

Utilities

AEP, BG&E, PG&E	Consumers Energy
OGE, Duke Energy	Progress Energy

Nonprofits

GridWise Alliance	Green DMV
Southeastern Energy Efficiency Alliance	Utility Consumers' Action Network
Ohio Consumers' Counsel	Future of Privacy Forum
Environmental Defense Fund	Natural Resources Defense Counsel

Two main reasons to create a national smart grid:

Today's grid is built in the 21st century, is aging, one way communications and lacks current technology

Substantial Benefits:

- **Reliability**
- **Economic**
- **Efficiency**
- **Environmental**

Scientists' Report Stresses Urgency of Limiting Greenhouse Gas Emissions

By LESLIE KAUFMAN
Published: May 12, 2011, *New York Times*

The New York Times

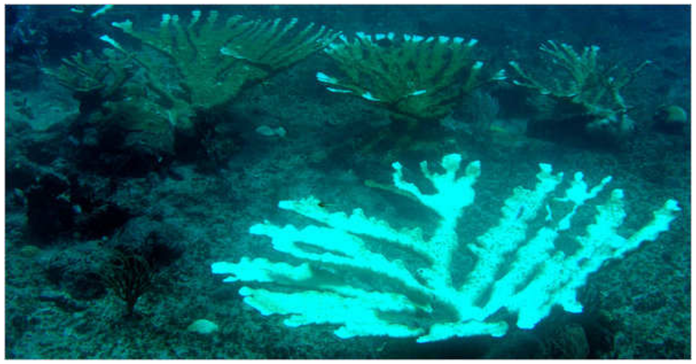
The nation's scientific establishment issued a stark warning to the American public on Thursday: Not only is global warming real, but the effects are already becoming serious and the need has become "pressing" for a strong national policy to limit emissions of heat-trapping gases.

SmartGrid consumer collaborative

Under the Sea, Coral Reefs in Peril

By JOHN COLLINS RUDOLF
Published: June 4, 2011, *New York Times*

The New York Times



… a new study by an international research team offers some of the strongest observational evidence linking carbon emissions to reef damage.

"This study proves we must urgently transition to a low-CO2-emissions future or we face the risk of profound losses of coral ecosystems," said Katharina Fabricius, a coral reef ecologist with the Australian Institute of Marine Science…

Just days before the study was published, the International Energy Agency released new data indicating that the world's carbon dioxide emissions had reached a record-breaking 30.6 billion tons last year, despite the continuing effects of the global recession.

SmartGrid consumer collaborative

A Warming Planet Struggles to Feed Itself

By JUSTIN GILLIS
Published: June 4, 2011, *New York Times*

The New York Times

Many of the failed harvests of the past decade were a consequence of weather disasters, like floods in the United States, drought in Australia and blistering heat waves in Europe and Russia...

Temperatures are rising rapidly during the growing season in some of the most important agricultural countries...shave yields.

SmartGrid consumer collaborative

How can a smarter grid reduce CO_2 emissions?

1. **By improving energy efficiency**
2. **By encouraging renewable and distributed energy**
3. **By communicating between utility and consumers about deferrable loads**
4. **By facilitating the adoption of EVs and Plug-in Hybrids**

Utility executives: customer buy-in essential

Yet less than half of utilities are preparing their customers

Phil Carson, May 26, 2011

intelligentutility® WHERE THE SMART GRID MEETS BUSINESS AND REALITY

SmartGrid consumer collaborative

Role of the Smart Grid Consumer Collaborative:

- **Dedicated to consumer research and understanding**
- **Unique in the field: consumer and environmental advocates as members**
- **Primary focus is educational**

80+ sources with many common findings

The Knowledge Gap

- Few Americans are energy literate, take electricity for granted
- Distinctions among EE, DR, etc. are lost
- Funding by PUCs and DOE can encourage silos
- Integrated narratives vs. hardware substitution

Many People Want to Know More

- Interest tends to be financial and relational rather than technical
- Privacy and data access of greater concern to stakeholders than most consumers
- Greater transparency on funding is desired by consumers with expectation they will share in the operational savings
- Financial implications of failure to take action needs to be part of story

SmartGrid consumer collaborative

Major Drivers for Consumers

- Knowledge and perspective matter
- Early adopters care about tech or environment
- Energy champions care about big picture
- Cost saving expectations higher than realistic
- Need to weigh risks/costs of action/inaction

Consumer Segmentation

- Key to successful engagement
- Varied methodologies, comparable findings
- More predictive than traditional demographics
- Simple consumer view for self-selection
- Utilities need to deal with all segments
- Percentage mix actionable on local level

SmartGrid consumer collaborative

Different approaches to segmentation

Believe *new technologies will help reduce energy* consumption and costs in the future.

Energy Optimist

Anxious about future energy costs. Want to *reduce energy costs through automation and info features*.

Energy Worried

Have done *about all they can* to be as energy efficient as possible. May not be satisfied with their utility bills.

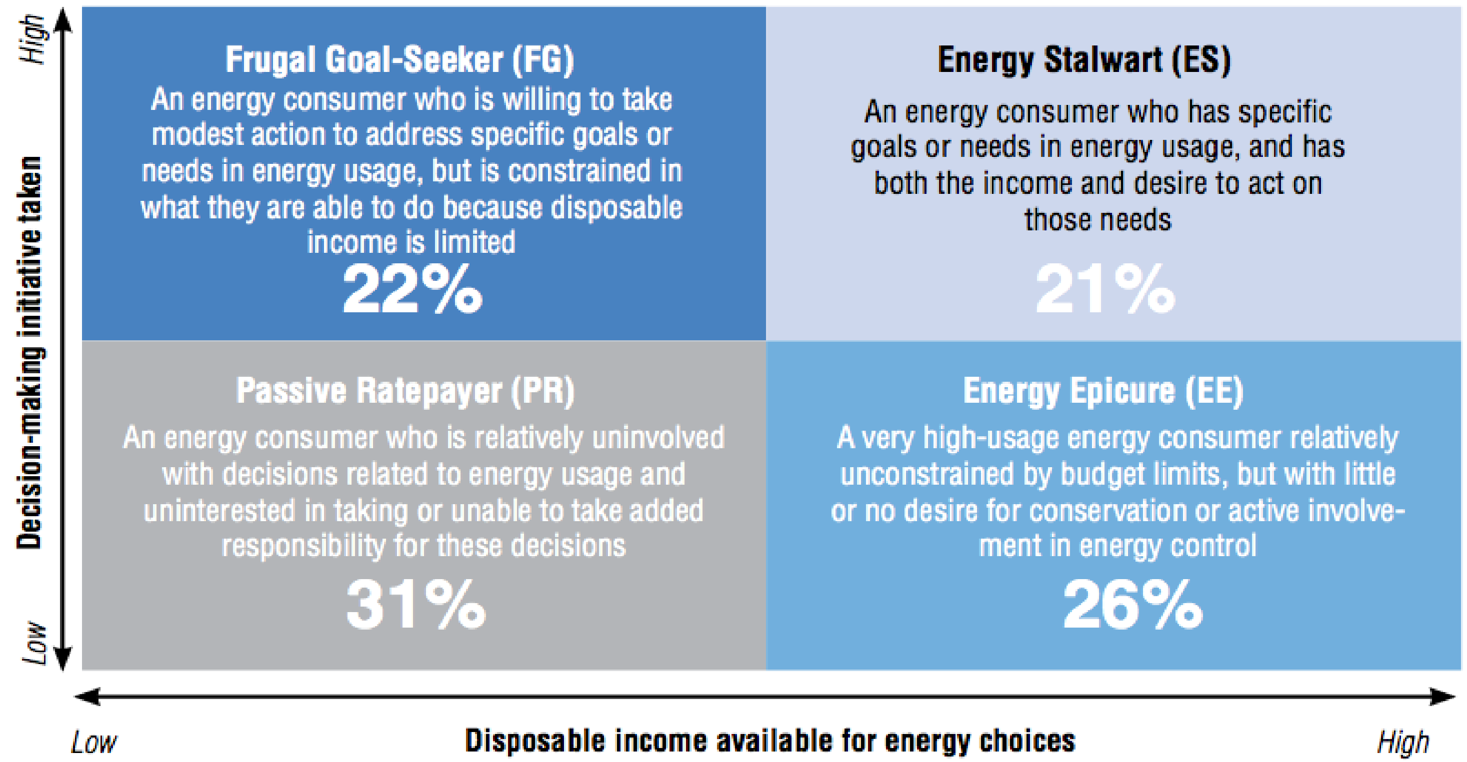
Energy Satisfied

Have accepted the size of their utility bill and see little payback from investing in making home more energy efficient

Energy Indifferent

Different approaches to segmentation

FIGURE 5.
Types of residential and small commercial energy customers.

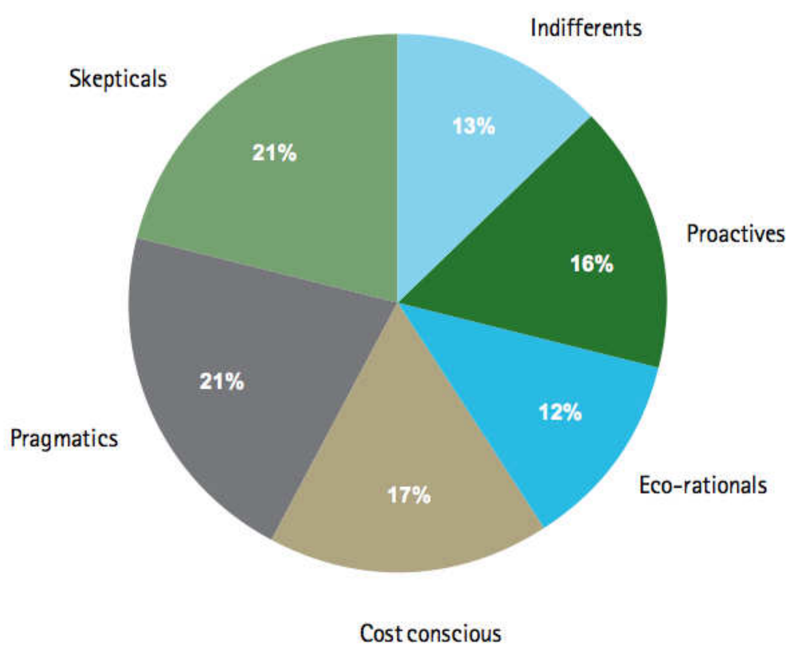


Sample size = 5084
Source: IBM 2008 Utility Consumer Survey.

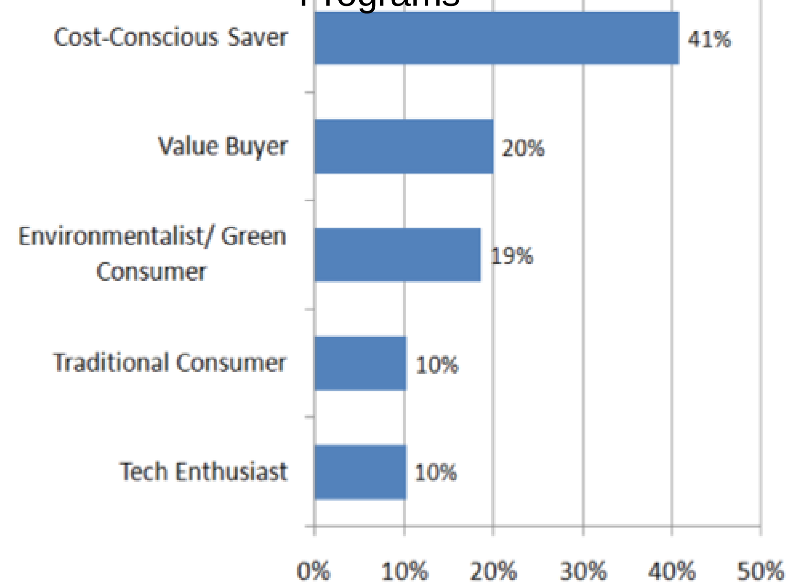
IBM

SmartGrid consumer collaborative

Different approaches to segmentation

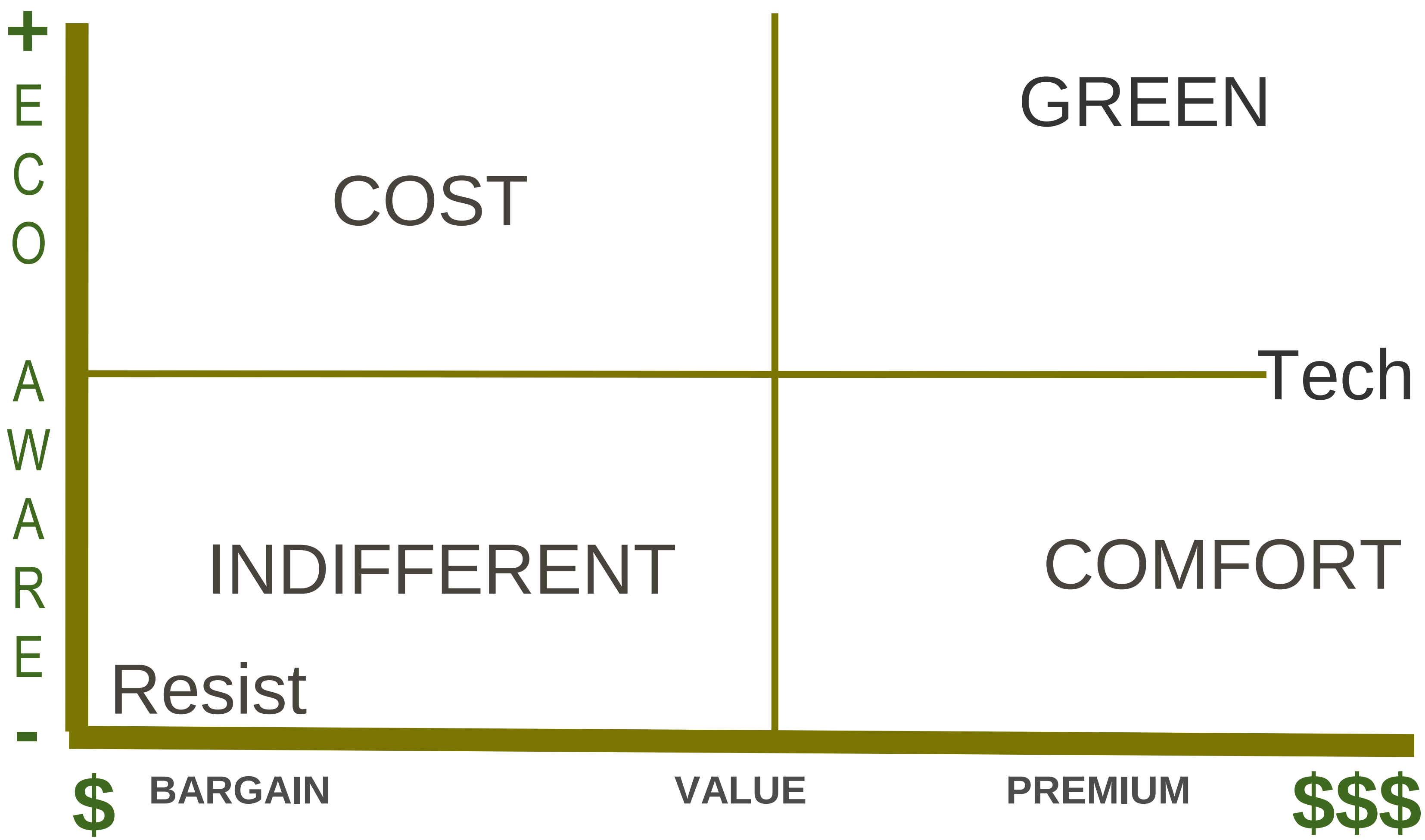


Motivation on the Use of New Technologies/Participation in New Energy Programs

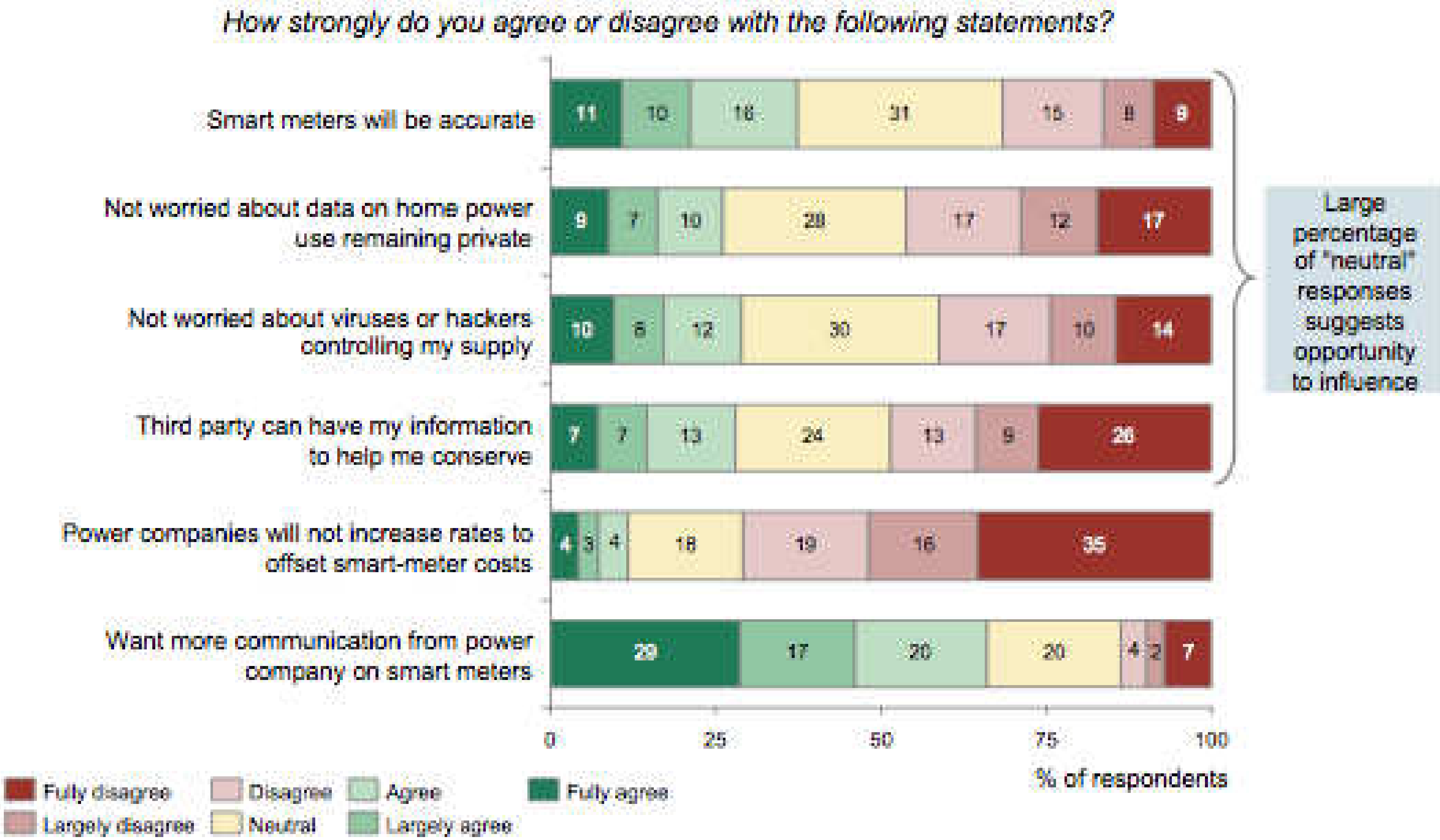


Six consumer segments have been identified according to their preferences for the different components of electricity management programs.

Simplified Motivational Map



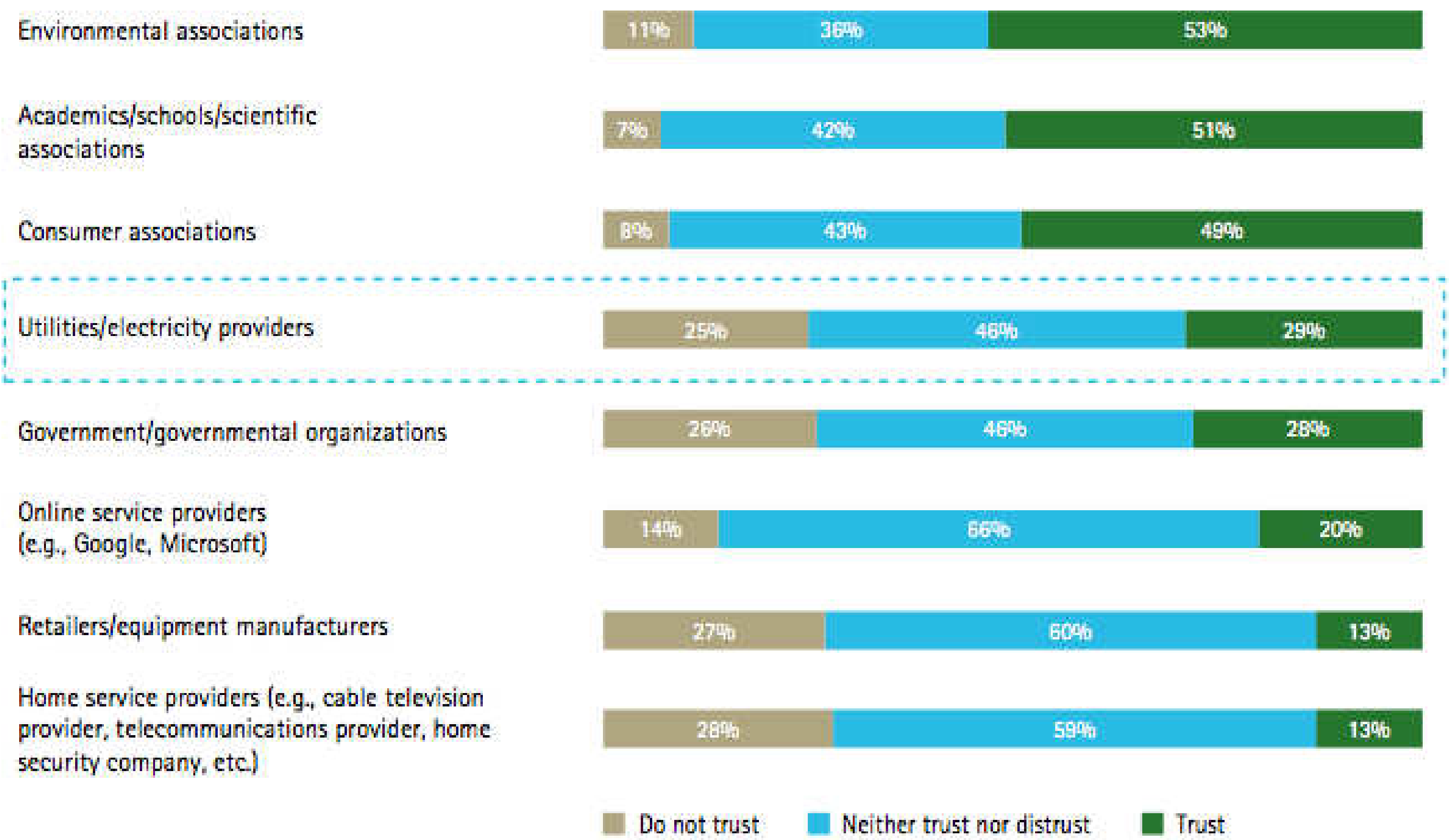
Consumer Concerns: privacy, security, data access



Boston Consulting Group

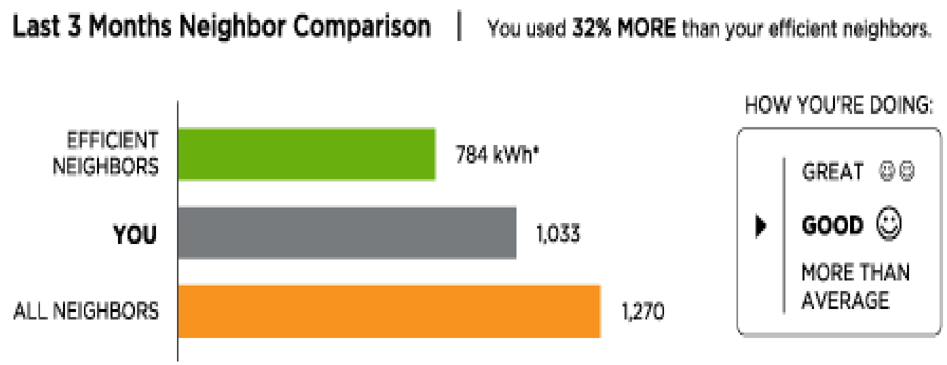
Who Consumers Trust

Figure 11.
What organizations do you trust to inform you about actions you can take to optimize your electricity consumption?



Source: "Understanding Consumer Preferences in Energy Efficiency," Accenture 2010.
Base: All respondents

Empowering Consumers



* kWh: A 100-Watt bulb burning for 10 hours uses 1 kilowatt-hour.

Key Takeaways:

- **The electrical grid is aging and needs significant infrastructure investment**
- **Today’s communications capabilities must be integrated to build efficiencies**
- **Consumers have a critical role to play**
- **Consumers should be approached via their values rather than demographics**