

- 1 **Utility Business Incentives are Important (but please also pay attention to rate design!)**
Presented by Richard Sedano
- 2 **Introducing RAP and Rich**
 - RAP is a non-profit organization providing technical and educational assistance to government officials on energy and environmental issues. RAP Principals all have extensive utility regulatory experience.
 - Richard Sedano directs RAP's US Program. He was commissioner of the Vermont Department of Public Service from 1991-2001 and is an engineer.
- 3 **Topics for Today**
 - Rate Design and Decoupling
 - Current Trends in Utility Business Incentives from the states
- 4 **Rate Design Partners with Decoupling**
 - Utility investment signals and customer price signals can and should support energy efficiency
 - “alignment”
- 5 **Rate Design should be about price signals to consumers, not revenue adequacy**
- 6 **How High Customer Charge Affects Payback on Efficiency Investments**
- 7 **Many Ways To Calculate “Cost of Service”**
 - Categories of Studies
 - Marginal Cost
 - Embedded Cost
 - Approaches Within Each Category
 - Production / Transmission
 - Peak Responsibility
 - Base – Intermediate – Peak
 - Peak Credit
 - Distribution Costs
 - Minimum System
 - Basic Customer
- 8 **The Method Chosen Affects Customers and the Utility**
 - Recovering fixed costs in fixed charges stabilizes utility revenues, makes lenders comfortable, but puts a heavy burden on small users and discourages energy efficiency investments.
 - Putting the bulk of cost recovery on incremental usage encourages conservation, but leaves the utility finances vulnerable to weather and other factors.

- Both are "cost of service."

9 **Some of the Basic Principles
for Cost Analysis**

- There are as many ways to calculate "cost of service" as there are analysts doing studies
- No method is "correct"
- Many regulators require multiple studies, and consider the results of multiple methods
- Some are based on engineering principles, some on economic principles

10 **Synthesis**

- Yes, it is important in regulation to follow principles
- But principles don't lead to a single answer
- Policy results you want can guide the answer
 - If you want a lot of energy efficiency, choose the principled rate design that helps the most
 - And now a few words about inclining blocks...

11 **Different Residential Uses Have Different Load Shapes**

- **Basic lights and appliances:** relatively even usage all year; **High** load factor.
- **Water heat / Water pumping:** Some usage all year; **Medium** load factor.
- **Space Heating and Cooling:** Sharply seasonal usage; very weather sensitive; very peak-oriented. **Low** load factor.

12 **What if We Make a Residential Rate Out of Demand/Energy Costs?**

13 **A Forward-Looking Rate Design
Prepares Customers For the Future**

14 **One Innovative Proposal
Tucson Electric**

- Inverted, seasonal residential rate design
- Annual decoupling adjustment
 - Decoupling credits applied to initial block
 - Decoupling surcharges applied to end blocks

15 **Please see our new book**

16 **Nationwide Trends**

- For context, let's look back
- A few states embraced connection between energy efficiency, rates and utility business incentives
 - Especially California
- Most did not, relying on regulatory discipline with a dash of performance incentives

17 What History Tells Us

- Institutions prefer not to mess with the traditional regulatory system
 - But after they do, “tinkering” may continue
- Lost revenue recovery systems do not work well
 - Decoupling works fine when done thoughtfully
- Revenue impacts on companies from energy efficiency were not that big
 - A principled problem was relatively small

18 2011 and Forward

- New states and utilities getting involved with energy efficiency
 - Utilities new to “big EE” say they need instant resolution of business model issues
 - More states responding, some not
- Savings target levels higher
 - Business, revenue impacts will be larger
- Risks associated with generation larger
 - Success from EE more important, apparent

19 Challenge: Manageable Regulation

- Recognize right trade-off between cost and precision
 - Attribution
 - Diminish need for (and litigation about) precision
 - Lost contributions to fixed costs
 - Shared savings
 - Expectations in an evidence-based process
- How to achieve regulatory stability?

20 More States Interested in

Utility Business Model Options

- Tools from RAP, ACEEE, others
- LBNL Benefits Cost Calculator
 - A tool available to a small number of states at any given time
 - Useful for a collaborative to work through how to find balance among many options to resolve consumer and utility issues adapting to high levels energy efficiency
 - Requires active engagement from LBNL staff

21 LBNL Benefits Cost Calculator

- Outputs relate key results important to consumers and utilities
 - Rates
 - Cost of service
 - Utility earnings
- Allows a community to test adjusting rate design, method of cost recovery,

method of throughput incentive solution, performance incentive design

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