

Utility Regulation: You Mean Energy Efficiency Doesn't Just Happen!?

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About the Regulatory Assistance Project

- 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 was commissioner of the Vermont Department of Public Service and NECPUC member from 1991-2001 and is an engineer.
- Funded by foundations, the US Department Of Energy & Environmental Protection Agency. We have worked in nearly every state and 16 nations.
- Also provides educational assistance to stakeholders, utilities, advocates.



Our Panel Today

- Floyd Barwig: Director, Office of Energy Efficiency and Environment, NY PSC
- John Perkins, Iowa Consumer Advocate
- Paul Caldara from the Colorado PSC had a family emergency and could not join us today
- The program anticipates these issues...



Cost Recovery Mechanisms – Decoupling, Cost Trackers/Rate Case Design, Performance Incentive Programs

- What is the right mechanism for each state?
- The importance of a top-down approach to portfolios
- Will utilities be at risk for failure to achieve goals?
- The decoupling debate - Energy efficiency incentive or disincentive?
 - decoupling mechanisms - update on what states have passed or are close to passing such measures
- Rate design to provide customer incentives for efficiency
- Performance Earnings Basis (PEB)



Is there a right answer?

- Most important is to ask the right questions
 - Does traditional regulation lead to an incentive by the utility to sell more electricity or to promote throughput and discourage efficiency?
 - If so, is this bad?
 - If it is bad, are there solutions that address the problem without causing more problems?
 - If there are, can any barriers to those solutions be addressed in a satisfactory way?




States are Different

- So the path to solving the throughput problem endemic to traditional regulation is generally unique to each state



How Changes in Sales Affect Earnings

% Change in Sales	Revenue Change		Impact on Earnings		
	Pre-tax	After-tax	Net Earnings	% Change	Actual ROE
5.00%	\$9,047,538	\$5,880,900	\$15,780,900	59.40%	17.53%
4.00%	\$7,238,031	\$4,704,720	\$14,604,720	47.52%	16.23%
3.00%	\$5,428,523	\$3,528,540	\$13,428,540	35.64%	14.92%
2.00%	\$3,619,015	\$2,352,360	\$12,252,360	23.76%	13.61%
1.00%	\$1,809,508	\$1,176,180	\$11,076,180	11.88%	12.31%
0.00%	\$0	\$0	\$9,900,000	0.00%	11.00%
-1.00%	-\$1,809,508	-\$1,176,180	\$8,723,820	-11.88%	9.69%
-2.00%	-\$3,619,015	-\$2,352,360	\$7,547,640	-23.76%	8.39%
-3.00%	-\$5,428,523	-\$3,528,540	\$6,371,460	-35.64%	7.08%
-4.00%	-\$7,238,031	-\$4,704,720	\$5,195,280	-47.52%	5.77%
-5.00%	-\$9,047,538	-\$5,880,900	\$4,019,100	-59.40%	4.47%



Are Rate Cases the Solution to the Throughput Problem?

- Can be if rate cases are frequent
 - Frequent (annual) rate case can reset rates to collect proper revenue going forward
 - Any shortfall due to energy efficiency and reduced sales during rate year is lost unless there is also a Lost Revenue Adjustment
- Should business model supporting energy efficiency rely on frequent rate cases and lost revenue adjustment?



IRP vs. EERS

- Does the form of regulation matter depending on whether an energy efficiency resource standard is in place?
 - Regulation can say: Just Do It!
 - Regulation can be more or less accommodating
- Entity responsible for energy efficiency is always accountable for missing targets
 - Forfeit upside (if performance incentives)
 - Risk downside (penalties always possible)



Restating a question

- Concern about regulatory incentives:
 - Is it about dealing with the outcomes of energy efficiency?
 - Is it about signaling to utilities and others that least cost strategies are preferred, whatever they are (EE, DR, DG)?



Decoupling



A Regulatory Model: Revenue-Sales Decoupling

- Breaks the mathematical link between sales volumes and revenues (and, ultimately, profits)
 - Revenue levels immune to changes in sales volumes
 - Enable recovery of the utility's prudently incurred fixed costs, including return on investment, in a way that doesn't create perverse incentives for uneconomic actions and outcomes
- Two objectives:
 - To protect the utility from the financial harm associated with least-cost actions and
 - To remove the utility's incentive to increase profits by increasing sales



A Regulatory Model: Revenue-Sales Decoupling

- Decoupling revenues, rather than earnings directly, preserves the utility's incentive to improve its operational and managerial efficiency
- This is a revenue issue, not a pricing issue: it is not intended to decouple customers bills from consumption
 - Unit-based consumption pricing approaches remain
 - Customers continue to see the cost implications of their consumption decisions, while the utility's risks associated with variations in sales due to efficiency are mitigated
 - Unit-based consumption pricing reflect the relationship between demand and cost causation in the long-run



Restating Purpose of Decoupling

- Utility profits no longer linked to sales, but to operational efficiency
- Remove a key barrier to least-cost energy service



Design Goal

- Over time, utility revenues track what frequent rate cases would have produced
 - Note emphasis on revenues
 - Rates change from time to time to meet revenue sufficiency, the base was set in the last rate case



Revenue per Customer Advantages

- Revenues track more closely with what rate case would likely produce
 - Fixed Costs track # of customers
 - Avoid rate cases
 - Relook every 3-5 years as structural changes to cost of service occur



Revenue Decoupling: The Essential Concept

➤ Basic Revenue-Sales Decoupling

- Utility “base” revenue requirement determined with traditional rate case
- Each future period has a calculable “allowed” revenue requirement
- Differences between the allowed revenues and actual revenues are tracked
 - Variety of ways of tracking differences
- The difference (positive or negative) is flowed back to customers in a small adjustment to unit rates



Grades of Decoupling

- Full – insulates utility revenue from any sales deviation between actuals and expecteds
- Partial – part of revenue change is insulated, part is not
- Limited – Sales adjustments due to energy efficiency programs only, so weather and economy are normalized in an extra step



Idaho (Idaho Power)

- Seen as a pilot for 3 years (CY 07-09)
 - PSC staff or company can say “quits”
- Revenue per customer
 - 54% of revenue requirement is fixed costs
- Limited decoupling
- Partial decoupling: res and sm comm
- Annual true up
 - Annual cumulative rate change capped: 3%



Idaho (traditional)

- Connected to Idaho Power commitment to do energy efficiency
 - 1.5% of revenues
 - Performance incentives with penalty potential also allowed
- Initial rate adjustment was down



Vermont (third party EE administration)

- Both IOUs under a decoupling plan
- Revenue cap (forecasted for future years)
 - Dead band, adjustable for exogenous factors
 - Adjustments triggered if actual are outside
- Partial decoupling
- Earnings sharing outside a collar
- Dead band for power cost variation
- Rate change capped
- ROE adjustment



Maryland (restructured)

- Full decoupling for PEPCO and BGE
- Revenue per customer
- True up monthly
 - Cap of 10%
- ROE adjustment



California

- Decoupling in place for all three IOUs
- Revenue cap
 - Future test year
 - Attrition case captures inflation, productivity



Oregon (third party EE administration)

- Portland General Electric, 2 years (09-10)
 - Approved coincident with a rate case
 - Evaluation required, discussion encouraged
- Revenue per customer
- Deferrals at a risk free (Treasury) rate
- Small ROE reduction



Oregon PUC Order 09-020

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“... PGE does have the ability to influence individual customers through direct contacts and referrals to the ETO. PGE is also able to affect usage in other ways, including how aggressively it pursues distributed generation and on-site solar installations; whether it supports improvements to building codes; or whether it provides timely, useful information to customers on energy efficiency programs. We expect energy efficiency and on-site power generation will have an increasing role in meeting energy needs, underscoring the need for appropriate incentives for PGE.”



Wisconsin Public Service

6690-UR-119

- Full decoupling
- Rules for range of under or over collection that will be adjusted and what will not
- Connect to added energy efficiency spending and other climate change policy



Other State Implementation

- Minnesota
- Massachusetts
- Connecticut
- New York
- Colorado

In these states, there is a recent **legislative** or **commission** directive to adopt or consider decoupling. The implementing activities are in varying stages.



Straight Fixed Variable Rate Design

- Revenue recovery more predictable, reliable if customer charge is higher and volumetric charge is lower
 - Customer charge has to get pretty high to make utility indifferent to sales
 - Some political trip wires and questionable economic justification for electric sector


Straight Fixed Variable Rate Design



Pros

- Set rates, no administration

Cons

- Raise bills to low use customers by large %
 - Damage value to customer of reduced energy use
 - Interfere with use of rates for “smart pricing”
 - Confuses short run and long run marginal costs, corrupts effect of price on long run investment
- 



Financial Incentives for Energy Efficiency

- Increasingly rewarding savings, rather than spending
- Does incentive need to be designed to substitute for generation earnings?
 - Or should it just reward company and staff for a good job?
 - Third party administrator can represent a limit to financial incentives
- Design choices:
 - Shared savings
 - Performance metrics
 - ROE bonus on top of rate base treatment



Wrap up on Utility Incentives

- Important to consider regulatory incentives
 - Status quo is a choice
 - How are consumers better off?



Thanks for your attention

- rседano@raponline.org
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- RAP Mission: *RAP is committed to fostering regulatory policies for the electric industry that encourage economic efficiency, protect environmental quality, assure system reliability, and allocate system benefits fairly to all customers.*