

Applied Decoupling

SEE Action Network
Utility Motivation Working Group

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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 from 1991-2001 and is an engineer.
- Funded by foundations and the US Department Of Energy. We have worked in nearly every state and many nations.
- Also provides educational assistance to stakeholders, utilities, advocates.



Outline

- A little history
- Key Attributes of Decoupling Plan
- State Specific Plan



History

- Throughput incentive identified as energy efficiency was being deployed in early 1980s
 - California first effort in 1982
- Solving throughput incentive adds no positive motivation to do energy efficiency, but does remove motivation to stifle energy efficiency
 - Is a constructive regulatory signal, which helps
- Two LBNL reports are excellent at capturing the sense of the time, including the problem presented by the throughput incentive



Theory and Practice of Decoupling 1994

Pros

- Throughput incentive exists and is a problem
- Decoupling produces indifference to energy efficiency
- Free utility to do the right things

Cons

- Is the throughput incentive so significant that such a change to regulation is justified?
- Automatic ratemaking is troubling
- Risk appears to shift to customers



Counterfactual Layers

- Just as it is hard to measure the consumption that does not occur as a result of energy efficiency programs
- It is harder to measure the energy efficiency programs that do not occur due to the throughput incentive, or whether they do occur if the throughput incentive is resolved
 - No definitive study of this phenomenon exists



Decoupling Compared to What?

- Traditional Regulation as usual
- Frequent rate cases
 - Do sales decline slower than revenues?
- Future test year
- Rate Design (+ cust chrg, -volume chrg)
- Lost revenue adjustment cases
 - In a rate case, or
 - Stand along case (w/ rider)
 - Accounting treatment for deferral
 - Shelf life
- Normalization adj.



Decoupling Attributes

- Purposes (most attributes do at least one of...)
 1. Approximate what revenue requirement will be over the plan duration and match actual revenue
 2. Capture benefits for customers
 3. Avoid nuisance process
 4. Protect against extreme results
 5. Transparency, continuous improvement

For some attributes, added regulatory process is needed



Decoupling Attributes - Process

- How rates change
 - Ministerial – objective info processed, no hearing required
 - Hearing
 - Deadbands – avoid very small changes
- How often rates change
 - Annual
 - Quarterly
 - Monthly (lagged, or current)



Decoupling Attributes - Process

- Length of Plan
 - Driven by horizon of confidence in key assumptions and commitments
 - 3-4 years typical
 - Deemed a pilot?
- Connect to revenue requirement review
 - Simultaneous
 - Recent
 - No



Decoupling Attributes -- Policy

➤ What changes rates in the plan? Choose...

– Revenue per Customer

– Inflation

– Productivity

– Capital budget

- Adjusted for actuals

– Cost of Capital changes

– Cost Category Indexes

– Other formula factors

Controlled exceptions
to ban on single issue
ratemaking

Exogenous and large
events (i.e. hurricane,
major tax change)
generally treated
outside the plan



Decoupling Attributes -- Policy

- Limits to changes in rates
 - Cap on rate adjustment (up or down)
 - Any single adjustment
 - Over the course of the plan
 - Deferral rules
 - Cap on earnings (up or down)
 - Recognizes that utility can manage costs to increase or decrease net income regardless of revenue side
 - Deadband where utility takes all +/-
 - A band where earnings are shared
 - Absolute cap (excess returned to customers)
 - Symmetry or not



Decoupling Attributes -- Policy

- Costs included
 - Fixed, non-generation
 - All Fixed
 - All
- Degree of decouple
 - Full difference bet. Projected and actuals
 - Partial
- Interaction with other adjustments
- Normalization
 - Weather
 - Economy
- Customers included
 - All
 - Non-industrial
 - Per class calculations



Decoupling Attributes -- Policy

➤ Conditions

– Commitments

- EE, RE, DG, other actions

– Performance Standards

- Service, Reliability, EE, other indicators

– Reports

- To commission
- To consumers

– Other



Decoupling Attributes -- Policy

➤ Risk Profile of the Firm

– Change, if any, assessed

- Capital structure and or ROE adjusted immediately
- Capital structure and or ROE may adjust in future

– No assessment, provisional change applied

– No assessment or change

➤ Firm is assessed not just on what happened, but on likelihood that it will persist



States - California

- “Attrition” (inflation & productivity & revenues) adjustments to true up revenues annually
- Revenue per customer in use
- Multi-year plans associated with revenue case
- Covered fixed costs may include generation
- Integrates performance metrics
- Decoupling firm



States - Idaho

- Deemed a pilot (three years)
- Large customers excluded
- Includes generation (64% of total costs)
- Connected to a rate case, annual true up coincident with other true ups
- Maximum 3% rate change which would be separately reported on bills
- Energy Efficiency, annual audit reports required
- No change in capital structure (was considered)
- Future unclear



States - Maryland

- Monthly adjustments based on RPC (Full)
- Rate changes capped
- ROE reduced to reflect + revenue certainty
- Applies similarly to electric and gas
- Time mismatch led to electric revenue stabilization ahead of EE programs
- Applied differently to different classes in elect.
- Decoupling firm



What is Success?

- If parties are generally satisfied, plan addresses local concerns and decoupling plans become routine
 - As in California, Maryland (gas), Oregon (gas) and Vermont
 - Reflects multiple points of view
 - Still hard to specify with rigor exactly what is different about energy efficiency administration beyond anecdotes
- Most decoupling plans are too new to fully evaluate success



LBNL Benefits Cost Calculator

- Background information already provided
- Applied in Arizona for electric sector
- Informed ACC in its 2010 order on energy efficiency
 - Ramp up annual EE savings to 2.5% of sales by 2016 from 1.25% in 2011
 - Cumulative 22% by 2020 (2% from DR)
 - Savings from Building Codes count



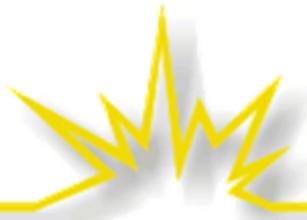
LBNL Benefits Costs Calculator

- For a set of energy efficiency savings goals compared with business as usual
 - Documents benefits, costs, financial effects
 - For customers
 - Rates
 - Cost of service
 - For utility
 - Earnings
 - ROE
 - Analyze effects of decoupling
 - Long term perspective



Arizona Business as Usual

- Significant EE anyway
- Shareholder incentive policy applies in all cases
 - Benefit capped at 14% of pre-tax program costs
 - No lost revenue recovery system in place
- Two large IOUs (APS, and TECO)
 - Arizona Public Service a high load growth company
 - Tucson Electric has low-moderate load growth



Arizona EE+ case - APS

- +2x EE saved
- +2.5x capacity saved
- + 50% in net benefit PV – total costs -6%
- Generation deferred (two nuclear units in outyears)
- Rates +1.0 cents/kWh (+6% on avg)
- Reduced sales drop faster than reduced revenue (load growth cut in half)

Effects of 2011-2020 programs
over the period 2011-2030



Arizona EE+ case – APS

- Without decoupling compared with BAU
 - Earnings (\$B PV): -\$0.22 net of shareholder incentive
 - ROE: -52 bp net
- With decoupling
 - Earnings (\$B PV): -\$0.07 net
 - ROE: -7 bp net
 - Rates up 0.15 cents/kWh from w/o decoupling



Arizona EE+ case – TECO

➤ Without decoupling

- Rates up 1.8 cents/kWh (12%)
- Earnings (\$B PV): -\$0.03 net
- ROE: -46 bp net

Load growth nearly eliminated

➤ With decoupling

- Rates up 0.1 cent/kWh
- Earnings (\$B PV): +\$0.01 net
- ROE: +13 bp



Florida PSC: Conclusion of Report to the Governor (rejecting decoupling)

“Altogether, stronger mandates for conservation, the administrative complexity of decoupling mechanisms currently implemented in other states, and the FPC revenue decoupling experiment support the position that Florida is already paving a path toward the objectives of decoupling without incurring the cost and difficulties associated with design, implementation and maintenance of a specific decoupling mechanism. This consideration must be weighed with the fact that a significant portion of revenues (including an increasing level of capital costs) are currently being recovered through clauses, achieving a similar effect as would be achieved with a decoupling mechanism. The greater the emphasis placed on achieving mandatory energy efficiency goals, the lesser the impact that would be gained by implementing a decoupling mechanism.”



Oregon PUC Order 09-020

pg 27 (approving decoupling)

“... 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.”



Some References

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- The Theory and Practice of Decoupling, Joe Eto, Stoft, Belden (LBNL) January 1994



Thanks for your attention

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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.***