Utility Perspective:
Energy Efficiency Business Models:
Challenges to Traditional Utility Regulation

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NV Energy

Wednesday February 8, 2012

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In the Beginning

- 2005 Energy efficiency is added as one alternative to comply with the Renewable Portfolio Standard
- 500% expansion of programs over four years
- DSM investments afforded capital recovery with the equity part of return enhanced by 5%
- Rapid rate of growth

Recession Comes to Nevada

Recession Brings Change

- Growth disappears initially and comes back over time very slowly
- 10,000 empty homes at one point
- Businesses close
- NV Energy's Sales and revenues drop
- DSM is identified as a major drag on the bottom line

Enter Lost Revenue Recovery

- Legislature Acts and Public utilities Commission Responds with new regulations to authorize lost revenue recovery
- Lost revenue is based on approved M&V results
- Capital recovery of investment and enhanced return eliminated and replaced with dollar-for-dollar recovery

All Risk and No Reward

- Company must deliver the DSM programs with the risk of not getting full cost recovery
- There is no incentive provided for taking the risk of program recovery
- Lost revenue recovery involves extensive litigation and litigation risk for M&V results, freeridership and spillover

Fair for Ratepayers and Shareholders

- Recovery of lost revenue costs with mitigation of high litigation risk
  - Technical reference manual
  - Freeridership and spillover fixed at the beginning of the year

Fair for Ratepayers and Shareholders

- Incentives values set at time of program approval that are based on making program performance kW and kWh thresholds
- Incentives do not include extensive litigation risk and are comparable or better than other investments

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Utility Incentives for Energy Efficiency

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Role of Energy Efficiency

- Energy Efficiency is a least-cost option that will save customers money in the long run and should be at the front of the queue when considering resource options
- Utilities are monopolies with an obligation to serve and to provide reliable service for a reasonable price to all customers given that electricity and gas are necessities.

Customer Pressures

- Customers are being deluged by an unprecedented number of high cost expenses for which utilities are seeking recovery:
  - Upgraded electric transmission costs
  - Environmental compliance costs and options
  - New transmission
  - Smart Grid
  - Gas distribution system upgrades
  - Advanced meter reading
  - Pipeline expansion
  - Broadband service expansion
  - Water infrastructure upgrades.
- These multibillion dollar projects are all being financed out of the same well – customer pockets.

Customers Situation

- The plight of customers:
  - Poor economy, high unemployment
  - In Ohio, one in ten gas or electric customers is disconnected annually for non-payment; one in five is 60 days in arrears (based on data from Oct. 2010)
  - Affordability is important, service a necessity

Customer Situation (cont.)

- Beware of Customer Backlash
  - News reports of compensating utilities for lost-revenues do not sit well with the public
  - Incentive payments should be referred to more as a return on investment for completed programs, much like a completed power plant
  - Energy efficiency charges should not appear as a separate item on customer bills. (Power plants don't!)

Striking the Right Balance with Incentives

- Need to find the appropriate balance between utility incentive and customer ability to pay
- EERS with incentive mechanisms for over-compliance is the best solution:
  - Mandates that utility do what is best for customers and puts them first
  - Creates incentive to exceed benchmark by providing additional earnings

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Policy Context for an EE Business Model

- Increased interest by regulators and policymakers in pursuing aggressive energy efficiency (EE) goals
  - 27 U.S. states had an Energy Efficiency Resource Standard (EERS), electric utility savings target, or statutory requirement for all cost-effective EE as of June 2011
- Utilities under traditional ratemaking face disincentives to achieving aggressive EE goals

Policy Context for an EE Business Model

- Policy issues of interest
  - Ratepayer concerns - What are the customer bill savings and potential rate impacts of a long-term commitment to highly aggressive EE goals?
  - Shareholder concerns – What are the effects on shareholder value if highly aggressive EE goals are pursued over the long-term? Is there a viable utility "business model" that is acceptable to customers?

Lessons Learned

Empirical Question	Shareholder Perspective	Ratepayer Perspective
What is the effect of EE on utility costs?	EE reduces a utility's cost to serve in the long-run and reduces profit generating investments	It takes time for financial benefits from EE programs to reach ratepayers
What is the effect of EE on utility revenues?	Utility profitability is affected as shareholders experience negative impacts on earnings and ROE from reduced sales	Ratepayers experience overall lower bills from reduced quantity consumed
Can a comprehensive business model be designed in the pursuit of aggressive EE?	Utility can often achieve earnings (ROE) that are comparable or better than a "business-as-usual" case	Ratepayers do not give up substantial bill savings and resource benefits in order to compensate utility

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Future areas of research

- Participant vs. non-participant costs and benefits
- Uncertainty in utility costs and revenues from sales
- Changes in traditional regulation (i.e., future test year)
- Stakeholder concerns (e.g., consumer advocates arguing decoupling as "auto-pilot")
- Monetizing environmental impacts and other non-energy benefits

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