State Clean Energy-Environment Technical Forum
Aligning Utility Incentives to Encourage
Energy Efficiency Investment
December 13, 2007
Call Summary

Participants: 40 participants from 19 states and a number of regional and national organizations

Materials: The participant list, agenda, and all presentation materials from this call are available at http://www.keystone.org/Public_Policy/2007_8DOCS_CLEANENERGY/2007_8DOCS.html. Please refer to these documents for additional detail.

Key Issues Discussed

- Several approaches, including decoupling, adjustments for lost revenues, earnings incentives and more timely program cost recovery, which mitigate disincentives under traditional ratemaking for increased energy efficiency (EE)
- Reasons why these approaches are gaining more attention
- Causes and potential magnitude of the impact on utility earnings from lost sales
- Case studies highlighting the results of removing these disincentives

Summary of Presentations

A. Welcome/Introduction – Julie Rosenberg, US Environmental Protection Agency (EPA)

- Decoupling is a topic that EPA is frequently asked about—how it fits in with other mechanisms, how it works, etc.
- The hope is that participants will gain an understanding of how decoupling fits into a broader portfolio that states can utilize in their efforts towards increased energy efficiency.

B. Overview of State Utility Ratemaking Approaches for Encouraging Energy Efficiency – Val Jensen, ICF International

- Decoupling has become the generic term to describe how utilities are affected financially by pursuing energy efficiency programs. Traditional ratemaking links utility recovery of fixed costs and profits to the volume of sales. Decoupling describes different approaches to de-link this relationship.

- **Why are we talking about decoupling?**
  - When rates are set, there are variable costs (recovered as expenses) and fixed costs (recovered on a depreciated basis over time with a return). The utility regulatory commission looks at all of a utility's costs to determine a revenue requirement, and the average unit price is set by dividing the revenue requirement by expected sales. Often some or most of the fixed costs, which do not change with a change in sales, are allocated to a price/kilowatt hour (kWh) charge. **This approach is fine as long as the level of sales (as estimated when the rates were set) is actually realized. If sales are lower, the utility will under-recover its fixed costs (this is the lost margin).**

- There is a strong correlation between the level of interest in decoupling and the rise in utility spending on energy efficiency.

- There are three things that come into play when a utility spends a dollar on efficiency:
  - **Program cost recovery:** Utility wants to recover each dollar spent on energy efficiency programs as close in time to the expenditure as possible. If they are unable to recover it, it drops to the bottom line as lost earnings.
  - **Lost margins:** If the utility is successful in implementing energy efficiency programs, it will potentially lose profit. This needs to be addressed particularly where utility efficiency program spending is high.
  - **Opportunity cost:** Any time a utility spends a dollar on energy efficiency to reduce load and defers the need for additional generational capacity, they are not spending a dollar on "steel in the ground," where profits traditionally come from. This is less of a direct cost than the others.

- **A 2% reduction in sales can result in a 20% reduction in earnings by shareholders, left unaddressed.**

- A **National Action Plan for Energy Efficiency (NAPEE)** was released in 2006 to create a sustainable, aggressive national commitment to energy efficiency by gas and electric utilities, utility regulators, and partner organizations.
  - Recommends examining ways to align utilities' financial interests with an increasing interest in energy efficiency, which led to recent paper "Aligning Utility Incentives with Investment in Energy Efficiency."

- **Policy options**:
  - **Rate case treatment:** Recovery of program costs through periodic rate case proceedings may not fully address the earnings/net operating margin problem because of lag time and uncertainty about future commission decisions.
  - **Lost margins:** The lost revenue adjustment recovery mechanism (LRAM) can be set up to recover only the amount of earnings the utility can prove it lost through successful program implementation. It is in use in Kentucky and Indiana.
  - **Utility performance incentives**: Financial incentives that are based on actual results of the efficiency programs, e.g., higher allowed return on equity.
  - **Decoupling:** Aims to separate the recovery of revenues and profits from sales (more discussion by Keogh).

- **Important policy issues:**
  - **Timing of recovery:** The longer the utility has to wait, the less inclined they may be to spend on efficiency; trend is toward more rapid recovery through tariff riders. A tariff rider is an attachment to a rate schedule that allows the utility to recover energy efficiency program costs on an ongoing basis.
  - **Risk of non-recovery:** Deferred accounts are not a popular option because there is risk that the utility may not recover the costs.

- **Rate impacts vs. total customer cost:** Rates (cost/kWh) may go up, but if the customer is benefiting from efficiency programs, their total costs or bills may go down.
- **Capitalization vs. expensing program costs:** From the utility's perspective, these options should be financially equivalent. On an annual basis, capitalization has a much lower impact on revenue requirements because it spreads annual costs over a longer depreciation schedule, but costs substantially more over the long run because utilities are entitled to earn a return on capital costs.
- **There is some debate** over whether the overall financial condition of a utility is significantly affected; whether utilities should be guaranteed a return; and whether utilities should be investing in energy efficiency as a matter of obligation to serve rather than being given performance incentives to do so.

C. FAQ: Decoupling for Electric and Gas Utilities – Miles Keogh, National Association of Regulatory Utility Commissioners (NARUC)

- **Why is decoupling important to utility commissioners?** Energy efficiency is clearly a significant resource for providing service to electric and gas customers.
  - **Utilities see multiple benefits:** EE helps manage load (especially peak loads), defers the need to build new infrastructure, helps manages resource adequacy, and reduces customers' bills.
  - However, under traditional revenue structures, a **utility has an incentive to create more consumption rather than less because they make more money with greater sales**.
  - Decoupling periodically adjusts rates so the utility earns predictable revenues despite any lost sales from efficiency activities. If a company sells more than forecasted, customers get a rebate. If they sell less, the rates are adjusted upwards.

- **Who has tried it?**
  - Nine states have implemented it in some form and three are looking at it seriously.
  - It has been more frequently deployed for gas utilities than electric. Some gas markets are experiencing attrition, so decoupling is more appealing to these utilities as a way to keep revenue streams whole. It is increasingly being investigated in the electric markets.

- **What does it do?**
  - Decoupling eliminates the incentive to increase revenue through increased sales; eliminates any profit linkage from increased sales (i.e., eliminates losses from a reduction of sales); and captures the effects of all efficiency and demand side management (DSM) activities.

- **What it doesn't do:**
  - Decoupling does not create a positive incentive for increased efficiency or demand-side resources; does not address any barriers to efficiency or DSM; or change the design of rates.

- There is tension between inclining block rates (that theoretically encourage conservation) and decoupling, which stabilizes revenues no matter how many units are sold.

- **Does it make rates go up?**
  - Not necessarily; if they do, it will likely be a small increase that is offset by system benefits from increased efficiency.
  - An additional variable is the number of people paying into the system (billing units)—in some markets this number is increasing over time and has a dilution effect on rate increases.

- **Does it make bills go up?** As the utility sells fewer units and the rate increases to compensate for lost revenue, wouldn't conservation ultimately result in an increased bill?
  - The effect of the rate adjustment should be minute compared to benefits from reduced usage. Customers who receive energy efficiency services will use less and the net effect will be lower bills.
  - Rates and costs of customers who do not receive the direct benefits of the efficiency may go up. Some utilities are addressing this by targeting decoupling to specific customer classes where this approach makes the most sense. It is important to allocate costs and benefits accurately to prevent benefits being transferred between classes.

- **Isn't the current system good enough?**
  - That depends on who you ask. Some state commissions have found their existing programs to be well-run and effective. Others argue that on a larger scale, the scope of the efficiency expenditures being required and the impact of energy efficiency on revenues are too big to overcome with incentives alone.

- **Approaches to aligning utility incentives:**
  1. **Full or Per-Customer Adjustment Revenue Decoupling.** This is the mechanism that has been discussed so far. A variation of the full sales adjustment clause is the per-customer method, which sets a per-customer revenue target. In addition to Sales-Revenue Decoupling, another variation called "Sales-Margin Decoupling" separates margin recovery from sales by setting a margin-per-customer target.

  2. **Net Lost Revenue Recovery, Lost Revenue Adjustments, or Conservation and Load Management Adjustment Clauses.** This mechanism adjusts net changes in revenues only for sales changes demonstrated to have resulted from efficiency programs. Revenues continue to be susceptible to variations in sales from all other causes. While favored by some observers, this mechanism has also been criticized as being less effective than decoupling because it does not remove the sales incentive, can require much more sophisticated monitoring and evaluation, and could allow utilities to recover costs for expenditures on programs that do not result in increased efficiency.

3. **Straight-Fixed Variable Rate Design.** This mechanism moves variable distribution charges into a fixed delivery services charge or an increase in the fixed customer charge alone. With this approach, it is assumed that a utility's revenues would be unaffected by changes in sales levels if all its overhead or fixed costs were recovered in the fixed portion of customers' bills. This approach has been criticized for having the unintended effect of reducing customers' incentive to use less electricity or gas by eliminating their usage charges and billing a fixed monthly rate, regardless of how much they consume.

- **Does decoupling increase utility efficiency expenditures?**
  - The jury is still out on this issue. California has the longest history with it and saw increases in efficiency. Con Edison in New York also saw corresponding investment in energy efficiency spending. However, other NY utilities that did not implement decoupling also increased their EE expenditures. They appear to be linked, but not perfectly.

- **What are some of the risks of decoupling?**
  - Unless normalization techniques are used, decoupling can also protect utilities from the risk of economic and weather changes. Energy efficiency programs typically have a fairly modest impact on sales—the larger factors tend to be changes in the weather and the economy.
  - In Maine, decoupling was implemented and shortly after that the economy changed (electricity sales decreased, people were losing their jobs). Then the adjustment mechanism kicked in and rates went up. Deferral accounts built up and up and ultimately it was decided that decoupling wasn't working. However, decoupling wasn't the problem—the recession was. **The lesson is that decoupling may need to be normalized for things such as weather and economic changes. Easing the transition is important.**

Questions

- ***You mentioned that decoupling does not change the design of rates. If the cost of decoupling is borne by residential customers only, doesn't that proportionately change revenue and thus rates?***
  - If rates are accurately reflective of the utility's revenue requirement, no such shift in overall revenue should occur if decoupling is applied. However, in this instance, "changing the design of rates" was meant to highlight the difference between an inclining-block rate design (cost/kWh increases with increased consumption) and other rate design approaches, such as flat per-unit cost rates.

D. New York's Experience with Decoupling – Jim Gallagher, New York City Economic Development Corporation

- New York implemented decoupling around 20 years ago, then moved away from it, and is now moving back to it.
- Revenue decoupling mechanisms (RDMs) eliminate the linkage between electricity sales and utility revenues and profits.

- Existing utility rate designs are, in most cases, not optimal because they do not collect all fixed costs through fixed charges and all variable costs through variable charges.
- **Implementing decoupling removes a disincentive more than it provides an incentive.**

- **New York's past experience:**
  - In 1988, companies were instructed to implement plans to achieve a 10% reduction in sales by 2000. At the same time, revenue decoupling was implemented by three utilities.
  - DSM expenditures went up 370% in a ten-year period in companies that had a broad-based decoupling mechanism in place. However, DSM expenditures significantly exceeded 370% in four non-RDM utilities over the same ten-year period.
  - **The conclusion from this data is that the revenue decoupling could not be isolated as a factor driving the increase in DSM expenditures.** The state energy efficiency goals and DSM incentives may have been the primary drivers of the increase.

- **Some concerns raised with RDM:**
  - At the time, there were concerns with skewed price signals (need to true-up/recover lost revenues); large utility accruals building up over time; customer bill volatility; and reduced incentives for economic development.
    - In reality, the revenue reconciliations had swings from -0.2% to +2% which, relative to commodity swings, represents minimal volatility.

- **Problems less likely today:**
  - Substantial progress has been made since the 1990s in moving fixed costs out of volumetric delivery charges.
    - **Stand-by tariffs have been put in place for larger customers**, where fixed charges recover fixed costs. This results in smaller true-ups.
    - **Restructuring limits the revenues that are affected by decoupling:** After electricity restructuring, revenue decoupling would only apply to delivery revenues, not power supply costs. The commodity (kWh or therms) revenues have been unbundled, and the market price on commodities would be unaffected by decoupling.
    - **Decoupling can be more targeted.** In New York, decisions were made to focus on mass market customers.
    - **Improved metering technology** will allow for more frequent true-ups (quarterly or even monthly).

- **Alternatives to Decoupling:**
  - **EE project-specific lost revenue recovery:** Any utility in New York that implemented energy efficiency programs had to document those revenue losses through program evaluations. The downside was that the mechanisms were often complex and the evaluation requirements were significant. Actions beyond the utility's control were not rewarded.

- **Third party administration of EE programs:** In 1996, the New York State Public Service Commission (PSC) called for the establishment of a System Benefits Charge (SBC) to fund public policy initiatives not expected to be adequately addressed by New York's competitive electricity markets. In 1998, the PSC specified SBC funding levels for three years and the framework for delivering efficiency measures, research and development, and low-income sector assistance.
  - This moves the program away from the utilities and towards common approaches. **However, utilities have largely dismantled their DSM delivery infrastructure and now have to rebuild it.**
  - It is often easier to oversee a regulated utility rather than its sister state agency.
- **Cost-based delivery rates:**
  - Movement towards fully cost-based rates can provide improved price signals and significantly reduce utility disincentives to promote conservation programs.
  - However, fully cost-based rate design primarily makes sense for the larger customer. There is a significant equity impact and few incentives to conserve for smaller customers.

- **New York's preferred strategy** is to move back to revenue decoupling for mass market class customers and move to fully cost-based rates for larger industrial/commercial customers. This combined approach helps to promote energy efficiency and other behind-the-meter initiatives, while mitigating significant customer bill impacts.

- **Reasons for recent actions:**
  - New York has assumed a very aggressive target to reduce energy consumption by 15% by the year 2015. New York City has a target of 30% carbon reduction by the year 2030. To achieve these targets, the utilities need to reengage in the delivery of energy efficiency programs.

E. Questions and Discussion

As you move back towards decoupling, do you have any suggested changes to the public benefits fund levels or funding decisions?

We believe the public benefits fund will need to increase to achieve the 15% reduction by 2015 target in the state even with decoupling. Commission staff did a preliminary analysis of the cost to reach those targets and came up with an estimated $5 to 6 billion cost range over an eight-year period. Need to determine how we allocate the additional costs over the various delivery systems.

How would you measure the success of a decoupling program that is implemented?

It is often very hard to isolate why a company's performance is what it is. One should look to see what the results are in increased expenditures and what the company is achieving in terms of energy savings. Are there incentives in place to reward the company? One of the bigger incentives is having a utility's CEO on board and working to change the culture of the company from top to bottom—this often has a greater impact on change than a mechanism put in place by a regulator.

Other factors to watch are changes in customer service or reliability. Need to be sure that increased expenditures in EE are not offset by decreased expenditures in other critical areas.

If we have a baseline of what a utility's performance is before the program is implemented, would one way to measure its success be to see what the incremental amount of efficiency is after the program is implemented?
Yes, at a minimum. Complicating this is the fact that sales or demand reduction targets such as in NY will probably increase the amount of money being spent and shouldn't be attributed to decoupling. States should look to get rid of any potential disincentives from the outset and then determine what incentives should be provided.

The point about reliability is especially important. Ideally there are still some oversight mechanisms in place that reward/penalize a company for how they do in terms of delivering reliable service.

Some utilities in the Midwest are expecting rate cases every 36 months for the foreseeable future. With that kind of frequency, doesn't the issue of lost revenue recovery vs. decoupling become muted?
More frequent rate cases may improve your ability to project sales and the impact of the programs more accurately, reducing the chance of lost revenues significantly. However, increased frequency does not necessarily improve the company's ability to predict weather and economic changes that might impact utility sales.

Even an annual adjustment is probably not frequent enough. To really have the effect you are looking for, adjustments should be done quarterly or semi-annually.

Regarding fully cost-based rates for large customers, do you mean that fixed costs are fully recovered in the customer charge and the commodity charge is hourly/real time? You would not make the delivery charge hourly, right?
That is correct.

Is there any pattern or have you looked at the connection between states that have restructured and states that are looking at decoupling?
It is unclear whether there is a specific link. One reason California abandoned decoupling is because of restructuring. Restructured states tend to have utilities that have unbundled their big fixed cost assets and therefore the regulated distribution company's revenues are not impacted as much by changes in sales.

The passion for this issue has tended to come from the gas utilities, where there is a correlation with climate change (warmer winters and reduced sales). There hasn't been as much interest from the electric utilities.

NEXT TECHNICAL FORUM CALL: January 22nd from 2:00 p.m. to 3:30 p.m. ET
TOPIC: Advanced Metering