



National Action Plan for EE

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Group B

Modify policies to align utility incentives with the delivery of cost-effective EE and modify ratemaking practices to promote EE investments



Goal for Breakout Group B

- Advancing the dialogue in the Mid-Atlantic Region to help “modify policies to align utility incentives with the delivery of cost-effective EE and modify ratemaking practices to promote EE investments.”
- Group will discuss and identify:
 - Barriers and options for modifying policies to align utility incentives with the delivery of cost-effective EE and modifying ratemaking practices to promote EE investments
 - Assistance needed to implement the Action Plan recommendation
 - Actions and next steps



Opportunities exist across US for EE through utilities

- Utilities and customers benefit from EE programs*
 - Control load growth
 - Portfolio diversification
 - Reduce carbon risk
 - Lower system costs
- Financial disincentives for EE programs exist in utility regulation
 - Utilities sell less of their product and earn less revenue
 - Program cost recovery can be uncertain
 - Utilities don't earn return like other investments
- Regulators and public boards can help
 - Send clear policy direction
 - Remove throughput disincentive (align incentives with public benefit)
 - Provide clear path to cost recovery
 - Reward performance
 - Promote incentives to maximize EE investments where cost-effective

* See National Action Plan Report, Chapter 4: Business Case for EE, for more information



Utilities and states are exploring several policy and rate design options

- To make cost effective EE investments as financially attractive as traditional asset investments the full array of disincentives should be addressed.
- Policy options:
 - **Remove Disincentives:** Addressing the “throughput” issue (separating utility net income and fixed cost coverage from sales volume)
 - **Recover Costs:** Providing a reliable process for utility cost recovery for EE program costs
 - **Reward Performance:** Providing incentives for successful programs (earning an effective rate of return on EE spending)
- Rate design options to encourage EE



Options to Consider from the Action Plan

Policy options:

- Addressing the typical utility throughput incentive and removing other regulatory and management disincentives to EE.
- Providing utility incentives for the successful management of EE programs.

Rate design options:

- Including the impact on adoption of EE as one of the goals of retail rate design, recognizing that it must be balanced with other objectives.
- Eliminating rate designs that discourage EE by not increasing costs as customers consume more electricity or natural gas.
- Adopting rate designs that encourage EE by considering the unique characteristics of each customer class and including partnering tariffs with other mechanisms that encourage EE, such as benefit sharing programs and on-bill financing.



Remove Disincentives



Traditional Regulation: Disincentive for EE

- Utility* revenues and net income (financial health) are typically linked to unit sales (kW, kWh, therms).
- Loss of sales due to successful implementation of EE may lower utility profitability.
- Creates a disincentive to investment in cost-effective demand-side resources because it reduces sales.
 - Typical Vertically Integrated Utility - 1% sales loss yields 5% cut in profits**
- Utility may be discouraged to spend money for a purpose for which cost recovery is insufficiently likely

* Utility defined broadly to include investor-owned, municipal and cooperatives.

** 2006 NARUC Workshop: Aligning Regulatory Incentives with Demand-Side Resources. David Moskovitz *Understanding the Ratemaking Implications of Linking Profits and Sales*



Traditional Regulation: Disincentive for EE (2)

Fixed Cost Recovery

- Expectation of recovery of just and reasonable costs for plant and overhead
- Expectation of recovery of debt service and (for IOUs) net income (or profit)
 - All utilities are concerned with fixed cost recovery
- Rate case decides recoverable cost
- Rates are set to recover costs



Traditional Regulation: Disincentive for EE (3)

- After a rate case, reduced sales from test year sales cuts into expected fixed cost recovery
- In addition, margins associated with added sales would be lost
 - Utilities use these “margins” for flexibility and for contingencies and to avoid rate cases
- This is a disincentive for the utility to invest in EE
- Removing the throughput incentive does not by itself create an incentive for EE



Addressing the Throughput Incentive

- Regulations can allow utilities to receive revenue requirement and its net income without linking to sales volume.
- Options:
 - 1.) Decoupling revenues from sales
 - 2.) Lost revenue recovery
 - 3.) Fixed / Variable Rate Design (straight-fixed variable)
- Key considerations in evaluating options:
 - Completely remove the sales incentive
 - Investment in all cost-effective EE does not negatively affect fixed cost recovery or net income
 - Removes utility disincentive to support public policies that increase EE
 - Does not reduce customer incentive to invest in EE
 - Empowers customers to control energy costs
 - Administratively straight-forward



Option 1: Decoupling Revenues from Sales The Basics

Basic Revenue Decoupling:

- Utility “base” revenue requirement determined with traditional rate case
- Each future period has a calculated allowed revenue requirement
- Differences between the allowed revenues and actual revenues are tracked on an average use per customer or other basis
- The difference (positive or negative) is flowed back to customers in a small adjustment to unit rates



Option 1: Decoupling Revenues from Sales Decoupling & Risk Allocation

- Effective decoupling can lower utility risk and reduce revenue volatility.
 - Lowers cost of capital – realized through increase in IOU's debt/equity ratio or a decrease in ROE.
 - For all utilities, lower risk flows through to debt ratings and credit requirements.
- Risk allocation decisions have been made successfully
 - Options exist to allocate risks to utility or customers or both
- Effective decoupling smoothes out rate changes due to weather and sales cycle factors for both utilities and customers.
 - Even with sales and weather risk, customers may benefit
 - Utility investing in cost-effective EE
 - Lower utility risk profile can reduce financing costs passed through to customers
 - Successful examples include Portland General Electric, Northwest Natural Gas, and Pacific Gas & Electric.



Option 1: Decoupling Revenues from Sales Pro's

Pro's:

- Removes sales incentive and distributed resource disincentives
- Authorized fixed costs covered by revenue requirement
- Utility can undertake all beneficial DSM without adversely affecting net income or coverage of fixed costs
- Opportunity to reward or penalize utilities based on performance
 - add productivity factors, inflation adjustments, and performance indicators with rewards and penalties
- Balancing accounts or revenue per customer true-ups are relatively simple
- Reduces volatility of utility revenue resulting from many causes. Risks from abnormal weather, economic performance, or energy market can be allocated explicitly between customers and the utility
- Rate changes due to true-ups based on EE savings are modest and can occur outside rate cases



Option 1: Decoupling Revenues from Sales Con's

Con's

- Limited experience
- Viewed by some as a more complex process
- Quality of forecasts is very important
- Consumer advocates may be uncomfortable with rate adjustments outside rate case or familiar fuel adjustment clause
- Process of risk allocation can be contentious
- Past experience with decoupling indicates that it can be hard to “get it right”
- Concern over increased frequency of rate cases



Option 2: Lost Revenue Recovery Overview

- Lost Revenue Adjust Mechanisms (LRAM) allow a utility to directly recoup the net lost revenues associated with not selling additional units of energy because of a successful EE program.
- Amount of lost revenue typically estimated by multiplying the fixed portion of utility's prices by the energy savings from EE programs.
- Lost revenue directly returned to the utility to support fixed costs and to fully compensate shareholders (avoidable costs not included).



Option 2: Lost Revenue Recovery

Lost Revenue Recovery Pro's & Cons

Pro's

- Restores revenue lost from qualifying EE programs that the utility needs to cover fixed costs.

Con's

- Lost revenues based on projected, not actual, savings –utilities can recover more revenue than the EE program actually saved
- Throughput incentive still exists
 - Utility still earns profits on additional sales and return on new infrastructure to meet load growth
 - Utilities discouraged from implementing effective EE programs
 - Sales reductions from EE outside qualifying programs are not addressed
- Historically contentious, relatively complex process to decide on lost revenue adjustment.
- Potential to reward under-performing EE programs.



Option 3: Fixed / Variable Rate Design Overview

- Places all or most of the utility's fixed costs, including a regulated profit, into a fixed monthly fee.
- Three primary types:
 - a) Redesigned Customer/Service Charge
 - Rates are less volumetric and more fixed
 - b) Two-Tier Customer Charge Option
 - Rates are less volumetric and more fixed.
 - c) Demand Rates
 - Rates are not volumetric but vary with the level of demand



Option 3: Fixed / Variable Rate Design Pro's & Con's

Pro's

- Eliminates sales incentive if the rate design shift moves variable cost component down to the short run marginal cost
- Reduces monthly customer bill fluctuations
- Bills are simpler and easier to understand
- Reduces frequency of rate cases

Con's

- Substantially reduces consumer incentive to undertake EE
- Without time-of-use prices, may lead to growth in on-peak loads (e.g., air-conditioning)
- Provides incentives for ROE on new infrastructure needed for load growth
- Low use customers could get a large percentage increase in bills due to the high fixed cost



Recover Costs



Cost Recovery Overview

- Provide sufficient, timely and stable EE program cost recovery. Variety of methods, including:
 - **Revenue requirement / procurement funding** – Costs in rates as part of the utility's resource procurement budget*.
 - **Spending budgets / savings targets** – Establishes a minimum level for EE programs. To be combined with other cost recovery mechanisms.
 - **Tariff Rider for EE** – Allows for a periodic rate adjustment to account for differences between planned costs (included in rates) and actual costs.
 - **Public-purpose charge/System benefit charge** – Distinct charge on bills to collect funds for clean energy. Frequently legislated. Can be vulnerable to state government budget decisions. Funds not informed by EE potential.

* See National Action Plan Report, Chapter 3: Energy Resource Planning Processes, for more information



Expensing or Capitalizing EE Costs

- Many utilities expense EE costs
 - EE costs are placed into rates during the year of the expense
 - Can lead to an increase in rates but avoids carrying charges.
- Utilities also capitalize EE costs
 - Minimize initial rate effect
 - Allows cost recovery over time (more like supply alternatives)
 - Could cost more than expensing over the long run because a utility can earn a ROI on rate-based EE costs
 - Creates regulatory assets to an extent that it might adversely affect the perception of the utility with debt rating agencies.
- Examples:
 - **Oregon** – Allows capitalization of costs.
 - **Vermont** – Expenses EE spending. Formerly amortized program costs over 5 years.



Reward Performance



No Good Turn...

- Some utilities promote EE despite the throughput incentive
 - Commissions can presume that no change to regulation is needed
 - Commissions can address the throughput incentive anyway because such utilities may not be able to sustain this behavior, or in order to encourage more comprehensive resource decisions without concern for sales



Are Utilities Truly Indifferent?

- Consider the role of EE as a resource: a substitute for other resources
 - Some resources enable shareholders to earn a return: generation, transmission, other capacity-driven assets
 - Some resources are a cost pass-through: power contracts, spot market purchases
- Some suggest that utilities are not indifferent to efficiency until it produces the same earning potential as supply resources



Performance Incentives

- Performance-based ratemaking (PBR) allows utilities to earn a return on EE spending, in a manner similar to their investment in hard assets.
- Incentives linked to:
 - Achieving performance objectives and avoiding unnecessary expenditures.
 - Regulator evaluation of the utility's ability to produce cost-effective program performance.
- Performance objectives can also form the basis of penalties for inferior program performance.
- Performance incentives can be revenues above those that would normally be recovered in a revenue requirement from a rate case or they can substitute for lost revenue recovery.
- Examples:
 - **Rhode Island** sets aside 5% of EE budget for performance incentives
 - Two **Connecticut** utilities are eligible for performance management fees (totaled \$5.27 million in 2004)



Bonus Return, Shared Savings

- Regulators can authorize a return on investment that is slightly higher (ex. 5%) for EE investments or offer a bonus return on equity investment for superior performance.
- Regulators can share a percentage of the energy savings value (ex. 5-20%) with the utility.
 - Shared savings links magnitude of reward with the level of program performance.
- Examples:
 - Before retail competition, **California** utilized a shared savings approach, where IOU's received revenue equal to a portion of the savings value produced by the EE programs.
 - **Nevada** – Allows a bonus rate of return for DSM that is 5% higher than authorized rates of return for supply investments.



State or Third Party Administration

- Non-utility administration does not change the utility incentives toward EE
 - It does avoid any real or apparent interference in the successful management of programs
 - Utility incentives are still important
 - Customers should see utility and administrator as partners in service
 - Utility still has opportunity to promote end-use efficiency in other ways, incentives can assure that they do



Rate Design



Rate Design

- Can complement good program design and system planning
 - Hours that tend to be high cost can have higher rates
 - Programs can be designed to provide customers with ways to manage bills



Existing Rate Designs Can Discourage EE

- Average rates do not communicate the value of EE in some hours
- Declining block rates give the impression that there is always more electricity available at ever-decreasing prices
 - In a time of some concern over resources, declining block rates communicate the reverse



Time-Sensitive, Value-Driven Rates

- Real time pricing
 - Can be controversial and can require significant capital investment
- Critical Peak Pricing
 - Narrows exposure to most expensive hours
- May also consider stronger price signals in districts where prices are higher, or where transmission congestion is emerging or chronic
 - This may go against principles that lead to applying the same rate across the entire service area regardless of local conditions



Rates and the Conservation Effect

- The most effective way to produce EE is through programs
- Rate design also has a conservation effect
- Rate design is unlikely to address the many barriers that prevent customers from doing EE without the help of programs
 - It will motivate some customers, programs should adapt and M&V should factor in changed base line behavior



Questions for the Group Discussion



Questions for the Group

- While all three policy areas (remove disincentives, recover costs, reward performance) are important, in your state/region is it appropriate to address one or two before the others?
- In the Mid-Atlantic, is the throughput incentive limiting increased investment in EE?
- What is the right balance of incentives for the program administrator that also reflect the utility obligation to procure long term least cost resources?
- To what extent should EE be a reason to justify dynamic prices?



Measuring Action Plan Commitments

- Nationally, Action Plan commitments to “modify policies to align utility incentives with the delivery of cost-effective EE and modify ratemaking practices to promote EE investments” will be measured by:
 - Explore potential to remove throughput incentive by utility, regulator, state, or region
 - New rate design that encourage EE