

Alternative Regulation for Pennsylvania DSM

Remarks of Mark Newton Lowry to the Pennsylvania PUC *En Banc* Hearing

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Pennsylvania's Public Utility Commission has scheduled an *en banc* hearing on the efficacy and appropriateness of alternative regulation ("Altreg") methodologies, such as revenue decoupling, which remove disincentives for gas and electric utilities in the Keystone State to aggressively pursue demand-side management ("DSM") initiatives. Pacific Economics Group Research LLC is a leading provider of research and testimony on revenue decoupling and other forms of Altreg. The Natural Resources Defense Council has asked us to prepare this white paper and oral testimony on alternative regulation for DSM.

Using gas and electric power more efficiently is the cheapest and cleanest way to meet America's energy needs. There is enormous potential to save money, create local jobs, and reduce pollution by making use of the grid less peaked and improving the efficiency of buildings, processes, and energy-using equipment. DSM programs are needed to overcome the persistent market barriers that prevent customers from seizing these opportunities. Pennsylvania energy distributors are strategically placed to undertake many of these programs, but reforms in the existing regulatory system are needed for distributors to pursue DSM aggressively.

Traditional Regulation

The traditional approach to utility regulation discourages utilities from embracing the full potential of DSM programs. Under legacy rate designs, utilities have a "throughput incentive" to promote use of their systems because increased loads bolster revenue more than costs. This discourages DSM. Utilities may also be reluctant to implement time-of-use base rates and other rate designs that encourage customers to adopt DSM because of their increased exposure to demand volatility and unfavorable demand trends. DSM reduces utility costs, but the incentive to contain these costs can be weakened by frequent rate cases and cost trackers. Environmental costs of a utility's operations have little effect on its finances. For example, carbon taxes are uncommon and might in any event be flowed through to customers via cost trackers.

We conclude that utilities under traditional regulation have a material disincentive to embrace DSM, even when DSM meets customer needs at lower cost than grid service. The gravity of the DSM incentive problem is increasing in an era in which competition from alternatives to grid service is mounting and utilities are under pressure to reduce their environmental footprints.

Key aspects of utility behavior can and should be mandated. For example, regulators should play an active role in the design of standard tariffs. Where regulators and other policymakers can effectively administer mandates there is less need for utility incentives. Even where mandates are

feasible, however, there are often benefits to complementing them with incentives that help align utility interests with the public's.

Remedies Considered

Six Altreg mechanisms are considered in the paper that are touted for their ability to encourage DSM.

[Revenue Decoupling](#)

Revenue decoupling adjusts a utility's rates periodically to help its actual revenue track its allowed revenue more closely. Revenue decoupling systems have two basic components. A revenue decoupling mechanism tracks variances between actual and allowed revenue and adjusts rates to reduce these variances. With full decoupling, the utility's revenue matches the revenue regulators allow. A revenue adjustment mechanism escalates allowed revenue to provide relief for growing cost pressures.

Decoupling is particularly widespread in the US gas distribution industry, where it is currently used in twenty-three jurisdictions. In the electric utility industry, decoupling is currently used in fourteen jurisdictions, including three that neighbor Pennsylvania. Decoupling has been particularly favored in states that strongly support DSM. Use of decoupling is growing, with recent approvals for electric utilities in Maine, Minnesota, Ohio, and Washington state.

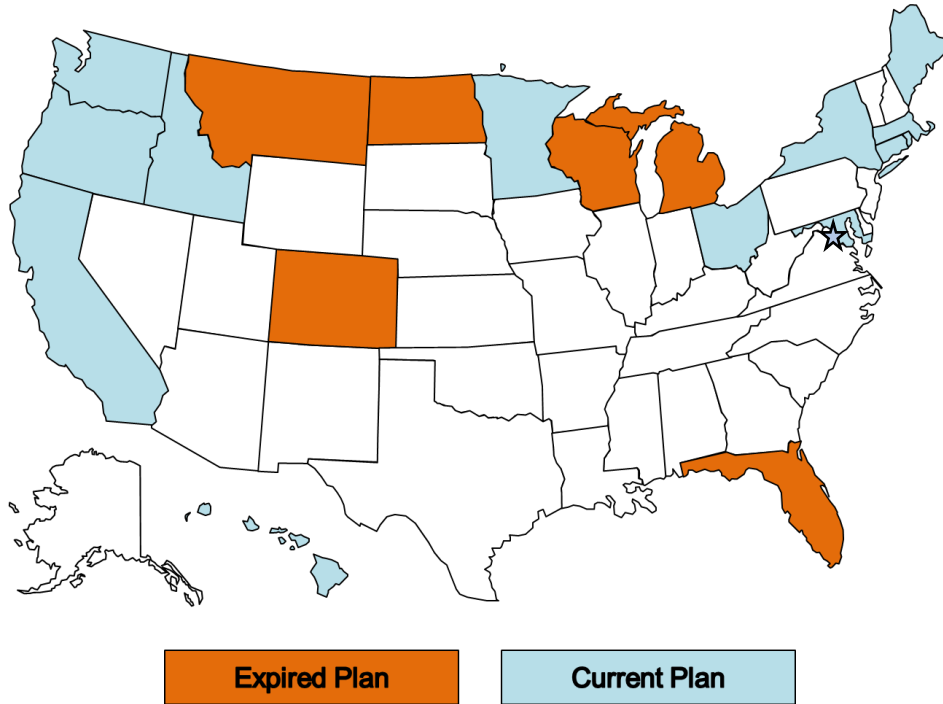
[LRAMs](#)

Under a lost revenue adjustment mechanism ("LRAM") a utility is compensated more selectively for the lost margins (base rate revenues) that are estimated to result from its DSM programs. This requires estimates of energy savings. LRAMs are more popular for electric than for gas utilities, due in part to the fact that electric utilities have larger DSM programs.

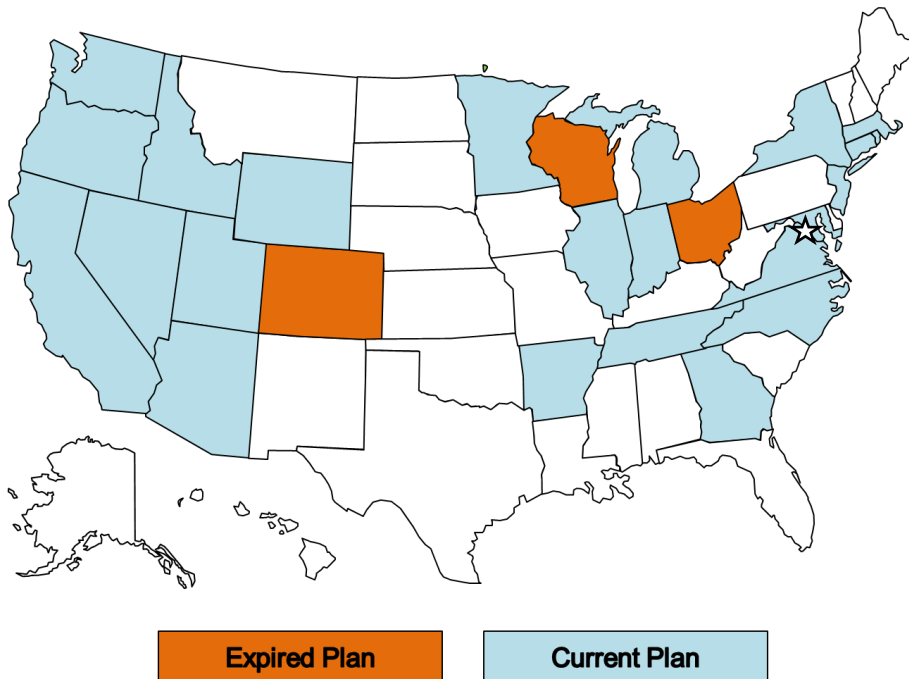
[Fixed/Variable Pricing](#)

Fixed/variable rate designs control the recovery, through customer and other fixed charges, of costs that are fixed in the short run with respect to system use. Customers pay a substantial fixed monthly charge for service regardless of their usage. This approach to pricing is more common for gas than electric utilities.

Electric Revenue Decoupling by State



Gas Revenue Decoupling by State



[Tracking Utility DSM Expenses](#)

Tracker treatment for utility DSM expenses removes the disincentive utilities have to spend money on DSM between rate cases. It thereby helps to tip the balance of incentives to embrace DSM. DSM program budgets sometimes grow rapidly. Most US energy utilities have tracker treatment for their DSM expenses today.

[DSM Performance Incentive Mechanism](#)

DSM performance incentive mechanisms (“PIMs”) link a utility’s revenue mechanically to its DSM performance as measured using metrics and targets. Utilities are commonly rewarded for DSM savings exceeding threshold amounts. Payments can be tied to estimated benefits of the scale of utility expenditures. PIMs to date have focused largely on conventional utility conservation programs. Roughly half of all US jurisdictions currently use DSM performance incentive mechanisms.

[Multiyear Rate Plans](#)

Multiyear rate plans combine moratoriums on general rate cases with revenue escalation using attrition relief mechanisms that operate independently of a company’s specific cost. These arrangements can strengthen incentives to use DSM to contain capital expenditures and other costs. Some costs are addressed separately using trackers. Most plans also include PIMs for service quality. Use of multiyear rate plans is growing in the United States but is much more widespread abroad. Britain’s RIIO approach to regulation, which has drawn considerable attention in the United States, features multiyear rate plans with revenue decoupling and numerous PIMs.

Recommendations

Relaxing the link between revenue and system use can play a key role in encouraging utilities to embrace DSM. Revenue decoupling is the preferred means of accomplishing this, for several reasons. The throughput-related disincentive is reduced or eliminated for the full range of utility initiatives that can encourage DSM. This is accomplished without complicated benefit calculations or restrictive rate designs that alternative methods require. Commissions can continue their traditional role of approving rate designs for standard tariffs which balance diverse considerations. In designing rates, Commissions should consider their impact on low use customers and the long run costs of using the grid.

Decoupling also has desirable side effects. Full decoupling, which encourages rate designs that foster DSM, also reduces the risk of demand volatility and declining average use from diverse sources. The revenue adjustment mechanism can provide responsible, automatic revenue escalation for

changing business conditions. The need for rate cases can be reduced when average use is declining. The diverse benefits of decoupling help to explain why it is widely used even where declining average use results chiefly from external sources rather than utility DSM programs. Several states use revenue decoupling for energy utilities even though DSM is chiefly undertaken by third parties. Approval of decoupling can be made conditional on commitment to DSM objectives.

Despite its many advantages, decoupling cannot by itself provide the incentives needed for utilities to fully embrace DSM due to the muted incentives utilities have to contain their costs. Utilities therefore need positive incentives to embrace DSM as a cost management tool.

Performance incentive mechanisms are used in many states to reward utilities for their DSM programs. The challenge today is to design demand side management PIMs that encourage a wide range of utility initiatives and transform markets. Multiyear rate plans can further strengthen cost containment incentives and the willingness of utilities to embrace DSM. Tracking utility DSM expenses can also encourage utilities to choose DSM as a cost containment strategy.