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Utility Rate Decoupling

A mechanism to encourage regulated utilities to support energy efficiency for their customers

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Utility Finance Structures

Under traditional regulatory rate structures, utility revenues are proportional to sales of electricity and natural gas, while many utility costs are fixed, regardless of sales. Consequently, programs that improve energy efficiency among their customers, and thus reduce sales, can have a negative effect on utility profits. This "throughput incentive" is a significant barrier to effective utility energy efficiency programs. Since energy efficiency is one of the cheapest, safest and cleanest ways to meet many of our energy challenges, it is important to encourage utilities to invest in effective customer energy efficiency programs. Decoupling is a rate adjustment mechanism that addresses this market barrier.

Decoupling

Decoupling refers to policies designed to "decouple" utility profits from total electric or gas sales so utilities do not have an incentive to try to sell more energy. Decoupling modifies traditional ratemaking practices to adjust rates frequently to ensure that utility revenue is neither more nor less than what is needed to cover costs and a fair return.

Rate Making

Traditional System:

Revenue = Fixed Price × Sales

Decoupled System:

Price = Fixed Revenue ÷ Sales

Because utilities operate as monopolies within their service areas, investor-owned utilities do not set their own rates. Instead, public utility commissions (PUCs) set rates every few years at a level sufficient for the utility to recover costs and earn a fair return on investment. However, actual utility revenues vary based on actual energy consumption, resulting in utilities receiving more or less revenue than the PUC said they needed. Decoupling sets the revenue needed to cover known costs, then allows rates to change with consumption to meet the revenue target. Decoupling can be implemented by adding a "true-up" mechanism, which automatically adjusts rates more frequently based on consumption. Decoupling can also be implemented through other methods, such as a balancing account, which is used to store excess revenue or make up for revenue shortfalls.

Efficiency Programs and Policies

Decoupling in and of itself does not provide utilities with incentives to increase energy efficiency. Rather, it removes the "throughput" incentive that discourages such efficiency. To promote energy efficiency, decoupling policies should be combined with other policies that require or incentivize energy efficiency. An Energy Efficiency Resource Standard (EERS),[1] which requires utilities to meet energy-saving targets with customer efficiency programs, is one such policy. Positive financial incentives for effective energy efficiency programs, such as performance bonuses, enhanced rates of return or shared savings, can also be effectively combined with decoupling.

Effects on Ratepayers

Decoupling can affect ratepayers in a variety of ways. Rate adjustments under decoupling are typically small. According to a 2013 report produced for the American Council for an Energy-

Efficient Economy and the Natural Resources Defense Council, almost two-thirds of adjustments made under decoupling were within 2 percent of the retail rate and 80% within 3 percent[2] Such adjustments are modest compared to other utility expenses that influence rates. Moreover, while 63 percent of ratepayers surveyed did see small surcharges from their providers, 37 percent of ratepayers received modest refunds.

Consumers most clearly benefit from energy efficiency investments that reduce their energy consumption and their energy utility bills, since savings in fuel and other variable costs (for natural gas, the large majority of costs) are passed along to them. As consumers broadly engage in energy efficiency, all ratepayers may benefit as the high costs of new power plants, transmission lines and pipelines may be reduced or avoided. Decoupling may also reduce volatility in energy bills due to weather and other factors, and it reduces risk for utilities too. It preserves customers' incentives for efficiency while removing utilities' disincentives.

Michigan: Effectively Combining Decoupling and Energy Efficiency

While approximately 25 states now realize the benefits associated with utility rate decoupling, Michigan provides a useful example of how decoupling can be implemented in coordination with other policies in order to realize sizeable energy efficiency gains. In 2008 Michigan passed the Clean, Renewable, and Efficient Energy Act. In addition to allowing decoupling by certain utilities, the bill required electric and natural gas utilities to aid consumers in increasing their energy efficiency. According to a 2012 report by the Michigan Public Service Commission the programs implemented as part of this legislation are expected to yield lifetime energy savings to customers worth $709 million.[3] In 2011 alone, the program resulted in savings equivalent to the electricity required to power 1.5 million homes and the natural gas to heat 40,000 homes for a year. Given Michigan's heavy reliance on coal-fired generation, reductions in energy consumption from these programs will also significantly reduce the amount of carbon dioxide and other pollutants released into the atmosphere.

Other Mechanisms

Decoupling is only one of several ways to address the throughput incentive issue. The simplest way to address this would be to charge ratepayers a flat fee that covers all fixed costs, in a system known as Straight Fixed Variable Rate Design. However, such a system would reduce efficiency and conservation incentives for ratepayers by reducing their individual savings from lower energy use.

Other methods, called Lost Revenue Adjustment Mechanism (LRAM), Net Lost Revenue Recovery, or Conservation, and Load Management Adjustment, seek to distinguish between revenue impacts of energy efficiency and other variables, such as weather and the economy, in adjusting rates. This avoids rates fluctuating due to weather and other causes. But it fails to remove the full throughput incentive and requires sophisticated measurement and verification of program savings, and hence may allow utilities to benefit from ineffective efficiency programs. Currently, there are a number of states considering implementation of these alternatives as a means to promote efficiency practices among utilities.

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[1] See Energy Efficiency Resource Standard (EERS), http://ase.org/resources/energy-efficiency-resource-standard-eers

[2] P. Morgan, *A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs, and Observations*, Sept. 2013, http://switchboard.nrdc.org/blogs/rcavanagh/Decoupling%20report%20Final%...

[3] Michigan Public Service Commission, Report on the Implementation of P.A. 295 Utility Energy Optimization Programs, Sept. 2013, http://www.michigan.gov/documents/mpsc/2012_EO_Report_404891_7.pdf