Revenue Decoupling and Its Alternatives

An Intervener's Guide to Retail Ratemaking Policies on Decoupling

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> Rent seeking occurs when an individual, organization or firm seeks to earn income by capturing economic rent through manipulation or exploitation of the economic environment, rather than by earning profits through economic transactions and the production of added wealth.
>
> -- *Wikipedia*

Introduction

This paper is a general guide to revenue decoupling and various implementation issues that often are addressed when state regulatory bodies consider the mechanism. The paper is intended to help large industrial ratepayers to manage their intervention efforts related to decoupling proposals and to complement ELCON's advocacy paper, *Revenue Decoupling: A Policy Brief of the Electricity Consumers Resource Council*, that was published in 2007.

What is Revenue Decoupling?

Revenue decoupling (RD) is a retail ratemaking mechanism used to maintain a utility's margins and/or revenue stability. For electric utilities, the mechanism eliminates the so-called "throughput incentive" that encourages utilities to emphasize sales growth at the expense of efforts to promote conservation, energy efficiency and Distributed Generation. RD is a form of revenue cap, and like other revenue caps, rates are periodically adjusted to ensure that the utility is allowed to collect its approved revenue requirement from ratepayers. Under traditional regulation, it works the other way around. Rates are set (capped) but the revenues collected fluctuate because of weather and market conditions or other factors. Decoupling does not generally guarantee the level of earnings of the utility.

Why is Decoupling Used?

In general, revenue decoupling is intended as a regulatory response to mitigate any risk that a utility may not recover it revenue requirement.

Retail rates allocate a mixture of the utility's variable and fixed costs.[1] But typically only large C&I ratepayers are charged separately for variable energy-related costs and fixed demand-related costs. There is nothing comparable to a "demand charge" for most residential or small commercial electric or natural gas service so rates tend to be volumetric in nature to avoid a relatively large (and politically unpopular) customer charge. Such rates are often called "one-part tariffs."

Large electric ratepayers are often served under a "two-part tariff" (or "multi-part tariff") with separate demand and energy charges. Ideally, for electric service, all fixed

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[1] Some tariffs are multi-part (with more than two components) to recover costs of other services not directly related to kW and kWh.

cost should be allocated to the demand charge. But social ratemaking policies often allocate some fixed charges to the energy component. In the residential class, this practice under-charges electricity for low-usage customers (assumed to be low or fixed income customers) and over-charges high-usage customers. Many states also allow fixed costs that should really be allocated to residential ratepayers to be recovered in the energy (or other) component of rates for non-residential classes, *i.e.*, cross-class subsidies.[2] These costs are often labeled system benefits and all kinds of regulatory schemes have evolved to make such charges non-bypassable. On some utility systems even a small reduction in sales can result in a disproportionate reduction in profit margins. The inverse of this phenomenon is the "throughout incentive" – a small increase in sales by higher margin customers (*e.g.*, 1%) can lead to a sizeable (*e.g.*, 5%) increase in profits. RD breaks this alignment of profits with sales volume and, in theory, utilities should be indifferent to variations in sales (up or down).

Advocates of decoupling do not consider the mechanism as a desired end state but as the first of several steps for "regulatory reform" or as part of a "package" of incentive mechanisms for achieving social ratemaking objectives. For example, the Illinois Climate Change Advisory Group, in a paper advocating decoupling, makes the following claim:

> Decoupling Should be Part of a Package Deal
>
> Despite the fact that decoupling provides symmetrical protections for both the utility and ratepayers, there is some overall beneficial effect to utilities from reducing their risk of cost-recovery. On balance, if decoupling results in significant new energy efficiency programs, then ratepayers (and society) will be better off and the trade-off for decoupling would be worthwhile. For that reason, advocates and regulators have typically required that any adoption of decoupling be part of a "package deal", with significant new investment in energy efficiency. Indeed, the two leading states in terms of implementing decoupling (i.e., CA and OR) are two of the states with the very highest levels of utility funding for energy efficiency.

This approach has been the pattern in many states where a decoupling rate design is proposed concurrent with the filing of major, new commitments to sponsor conservation programs.

Given their druthers, utilities may or may not be interested in decoupling. Gas distribution companies tend to use decoupling as an attrition mechanism and they have more aggressively sought authorization to decouple, and have generally been more successful in securing regulatory approval to decouple rates.[3] Electric utilities are candidates if they also have a perceived need for revenue stability, to minimize

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[2] Cross-class subsidies result in inter-class return differentials (*e.g.,* where large customers are paying more than the cost of service, and small customers less).

[3] Gas distribution companies that collect the bulk of their revenues from residential and small commercial customers face declining average revenues per customer. New customers that tend to own and operate the most energy efficient heating systems contribute to the trend.

regulatory lag or are enticed by the prospect of new performance-based incentives that increasingly complement the authorization to decouple. For example, some utilities were motivated in the past to bury fixed costs in inelastic variable rate components because their state PUCs would not allow the use of other, more cost-specific recovery mechanisms (trackers) to mitigate revenue volatility. Decoupling is especially attractive to these utilities because it minimizes regulatory lag associated with recovering lost margins. Finding ways to increase "contributions to margin" is a popular mantra in utility rate departments and board rooms. In theory, lost sales resulting from energy efficiency measures result in the loss of margins. This is perceived to discourage utilities from offering energy efficiency programs. Hence, sales are "decoupled" from revenues to keep the utility whole.

What are the Downsides of Decoupling?

A 1994 paper by the National Regulatory Research Institute (NRRI) summarized the downsides of decoupling as the following:

> … decoupling is not a trouble-free incentive mechanism. It is a sweeping approach to resolving the lost revenues problem that accomplishes more than simply making the utility whole with respect to its DSM activities. In addition to eradicating lost revenues caused by a utility's DSM activities, decoupling obliterates lost revenues that are attributable to any cause whatsoever. Under "blank check" decoupling, the utility's revenues are protected from the effects of economic and weather fluctuations, imperfect forecasts of load growth, nonproductive DSM programs, and lost revenues that are due to productive DSM programs. Recalling that regulation is meant to hold the utility accountable for its actions, decoupling represents a major departure from traditional regulatory oversight. [Graniere & Cooley, 1994]

Decoupling has two potential negative impacts on large industrial customers. The first is the direct impact associated with rate true-ups. The second is the indirect impacts associated with abandoning a utility business model that is based on profit maximization, and replacing it with a business model in which regulators attempt to maximize certain social objectives. The problems posed by decoupling for large industrial customers may not be the mechanism itself because two-part large industrial service tariffs are already decoupled. It is what follows decoupling that should be the primary concern: the establishment of a complementary regime of performance-based earnings incentives.

The most typical form of decoupling (called full decoupling on a revenue-per-customer basis) immunizes the utility from almost all normal business risk in between rate cases. It basically puts the company's revenue stream on autopilot and assures recovery of the revenue requirement granted in the most recent rate case *plus* any upward adjustments for new customers. Rates are adjusted (often monthly) to prevent weather, recessions, changing technologies, and other sources of sales fluctuations from impacting revenues. Whether this makes utilities more amenable to sponsoring energy efficiency programs is debatable, but that is the theory.

An important consumer concern with decoupling is the deliberate attempt to provide an almost "ministerial" alternative to revenue recovery that avoids or delays formal rate cases in which consumer interests are allowed to challenge the prudence of costs and test year assumptions. Revenue decoupling is also often introduced via single-issue ratemaking that ignores the fact that lost margins resulting from utility energy efficiency programs are often dwarfed by the increase in margins associated with higher customer usage and customer growth. Advocates of decoupling use the rate-case avoidance argument in their efforts to entice the support of utilities for decoupling mechanisms.[4]

Other problems with decoupling are:

- It greatly distorts the value of rates as a means to send appropriate price signals to customers. The rate true-ups resulting from over- or under-recovery of revenues result in after-the-fact rate surcharges or credits that misalign consumption decisions with actual utility costs. The use of decoupling is itself intended to prevent "appropriate price signals" because it deliberately misaligns the incremental component of rates from actual incremental costs.
- It makes a utility less inclined to file general rate cases and any cost savings achieved are not shared with ratepayers. It does not eliminate the incentive to inflate sales during rate cases. This risks over-earning by the utility and over-paying by its ratepayers. Note that if such conditions prevail without implementing decoupling, the utility will likely *not* seek to decouple.
- It removes an important incentive to promote economic development and to provide high quality customer service in return for increased sales.
- It greatly reduces the transparency of the ratemaking process, which lends itself to further rent-seeking behavior by the utility or decoupling advocates.
- The true-up mechanism misaligns the price signal from the utility's cost structure, creating the anomaly that customers see their rates go up when they reduce consumption (*i.e.*, customers are forced to share bill savings with the utility) and go down when they increase consumption.
- Decoupling guarantees benefits to the utility but does not guarantee any benefits to ratepayers resulting in less than stable political support for the mechanism. Utility managers are aware of the tenuous nature of decoupling policies.
- Finally, RD is a serious departure from acceptable ratemaking principles and practices. Other mechanisms are better suited for addressing problems associated with earnings stability. These are discussed later in this report.

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[4] See, for example, *Decoupling: Mechanics and Issues*, Presentation to the New Mexico Public Regulation Commission Energy Efficiency Incentives Workshop, Presented by Wayne Shirley, The Regulatory Assistance Project (RAP), July 16-17, 2008.

Does Decoupling Work?

There is no evidence that decoupling induces a short-term or sustained change in the mindset of utility management in which the number one priority is how a small fraction of the business' gross revenues are committed to energy efficiency programs or ratepayer conservation. Even in states that have mandated the most aggressive social programs over 90% of the typical utility's revenues remain associated with the sale and delivery of electricity. The fiduciary responsibilities of the company's board and officers remain accountable to that fact and shareholder benefits of growing the business. If anything, the imposition of decoupling has induced changes in the utility's rent-seeking behavior before its regulatory commission in response to the package of performance-based incentives that typically complement decoupling rate designs. When a utility is advocating decoupling for itself, it is in fact seeking an uncompensated transfer of wealth from its ratepayers in return for its support of a trendy public policy.

Many electric utilities are recognized for their support of energy efficiency and conservation efforts, and they obtained that recognition without decoupling. In fact utilities have had recent requests for decoupling denied by their state PUCs for this very reason. The Washington Utilities and Transmission Commission (WUTC) rejected a decoupling proposal by Puget Sound Energy (for gas customers) in 2007 because "PSE's corporate culture insofar as conservation is concerned is strongly favorable, and has been for many years [without decoupling.]"[5] The WUTC also rejected the notion that if the commission did not authorize decoupling in the proceeding that it would be "penalizing PSE for its longstanding commitment to conservation." Florida Power & Light believes that there "is no evidence that decoupling leads to reductions in demand or electricity, … and given FPL's record as the nation's No. 1 utility for energy conservation, [FPL is] hard-pressed to see how decoupling could have done a better job."[6]

More than any other state, California probably has more experience with decoupling and other regulatory mechanisms that purport to remove incentives to sell or create incentives to unsell electricity. Given the state's long history with such experiments it would seem that some empirical evidence might exist to defend the use of such mechanisms. But the evidence is not there. Figures 1 and 2 on the next two pages plot the relationship between the level of financial incentives given to utilities and two measures of performance related to DSM: annual DSM expenditures and first-year net energy savings. It is obvious from the graphs that neither performance measure is correlated with the incentives. California's first effort with decoupling ("Electric Revenue Adjustment Mechanism" or ERAM) was implemented from 1982 through 1996. It was reinstated in 2001. Note that decoupling is supposed to remove the disincentive and does not in and of itself create an incentive to promote utility DSM

[5] WUTC Final Order, Puget Sound Energy, Dockets UE-060266 and UG-060267, January 5, 2007

[6] John Dorschner, "FPL's Efforts to Conserve Power Usage Spark Battle," *The Miami Herald*, December 23, 2008.

programs. The ramp up in expenditures in 2004 and 2004 results from the adoption in May 2003 by the California PUC, California Energy Commission (CEC) and the California Power Authority (CPA) of the state's first Energy Action Plan (EAP).

The State of New York unwittingly provided a "controlled experiment" on the effects of decoupling on promoting DSM as measured by utility expenditures on such programs. In response to a 1988 New York Public Service Commission order, three New York electric utilities (O&R, Niagara Mohawk and ConEd) were decoupled between about 1991 and 1997. Four other electric utilities (RG&E, NYSEG, CHE&G and Lilco) in the state were not decoupled, yet the ten-year planned DSM expenditures of those four utilities actually exceeded (by a small amount) the three decoupled utilities over the same ten-year period.[7] In the 1990s in Oregon, two electric utilities (Portland General Electric and Pacificorp) were allowed decoupling mechanisms and their conservation activities "actually decreased significantly while those companies were decoupled."[8]

Different Types of Decoupling

There several different variations of decoupling that State PUCs are asked to consider:

- Full Decoupling
- Partial Decoupling
- Limited Decoupling

Full Decoupling eliminates any variation in sales, due to conservation, weather, economic cycle, or other causes results in an adjustment (true-up) of collected utility revenues with allowed revenues. Full Decoupling can be applied to total revenues or on a revenue-per-customer basis. See example spreadsheets that illustrate this form of decoupling mechanism.

The most common RD methodology in practice is revenue-per-customer (RPC). It is applied as total revenue per customer or more specifically to a rate class, *i.e.*, total class revenue per customer in class. RPC accounts for changes in utility costs resulting from the changes in the number of ratepayers served within a class. For electric utilities, RPC provides assurance that they continue to benefit from the growth in customers. For natural gas utilities, RPC provides assurance that they recover costs associated with changes in the number of ratepayers (including the likelihood that new customers consume on average less than existing customers). This method can be adjusted to account for price inflation or changes in the utility's productivity.

[7] James T. Gallagher, *Revenue Decoupling: New York's Experience and Future Directions*, December 13, 2007

[8] Oregon PUC Order No. 02-633, Portland General Electric, Docket No. UE-126, September 12, 2002.

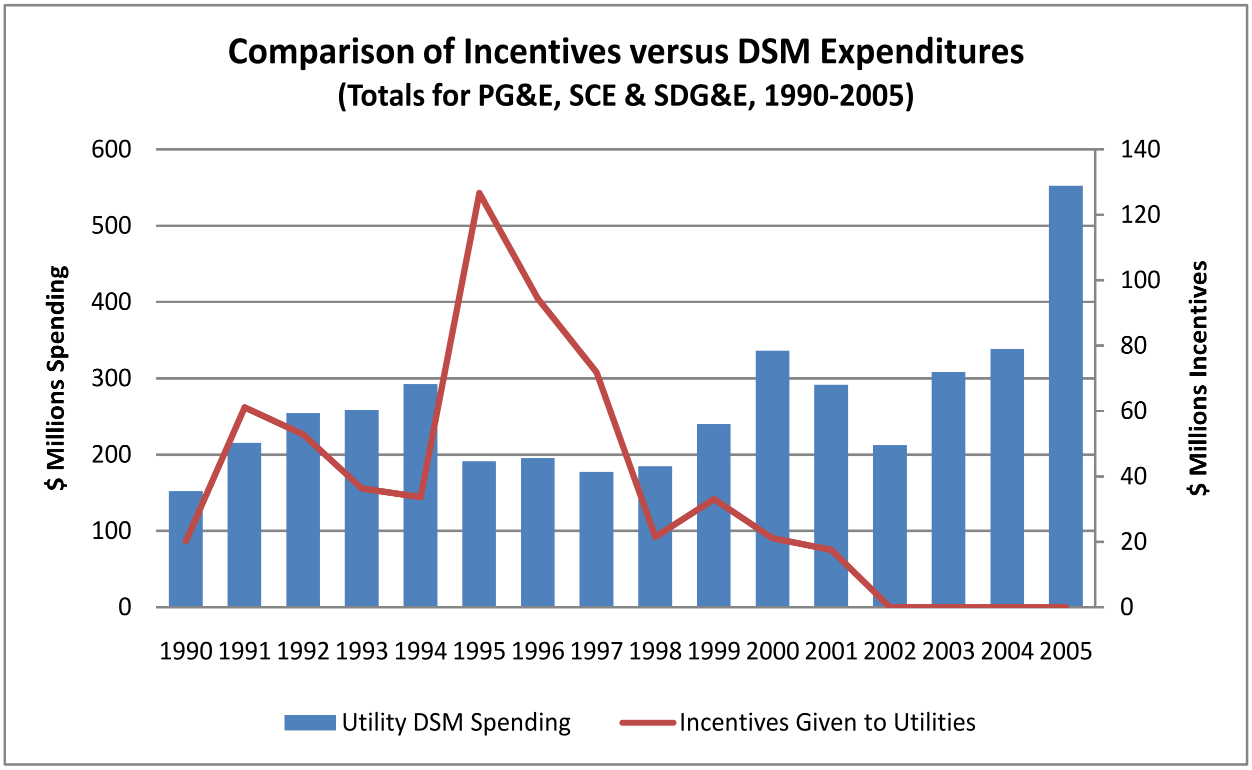

Figure 1. This chart compares the annual level of financial incentives given to California utilities over a 15-year period with the utilities' actual annual expenditures on DSM programs. The chart demonstrates that there is no correlation between higher incentives and total DSM spending levels. Decoupling was suspended in 1996 and reinstated in 2001. The ramp up in expenditures in 2004 and 2005 resulted from the state's Energy Action Plan that followed the 2000-2001 Electricity Crisis.[9]

[9] Source: Nancy Brockway, *Decoupling Revenues from Sales: Some DSM Issues for Consideration*, A Presentation to the Delaware PSC Decoupling Task Force, May 16, 2007; Marcel Hawiger, The Utility Reform Network (TURN), *TURN's Opening Brief Concerning the Proper Benchmark for Sharing Net Benefits of Energy Efficiency Between Shareholders and Ratepayers*, CPUC Rulemaking 06-04-010, June 18, 2007.

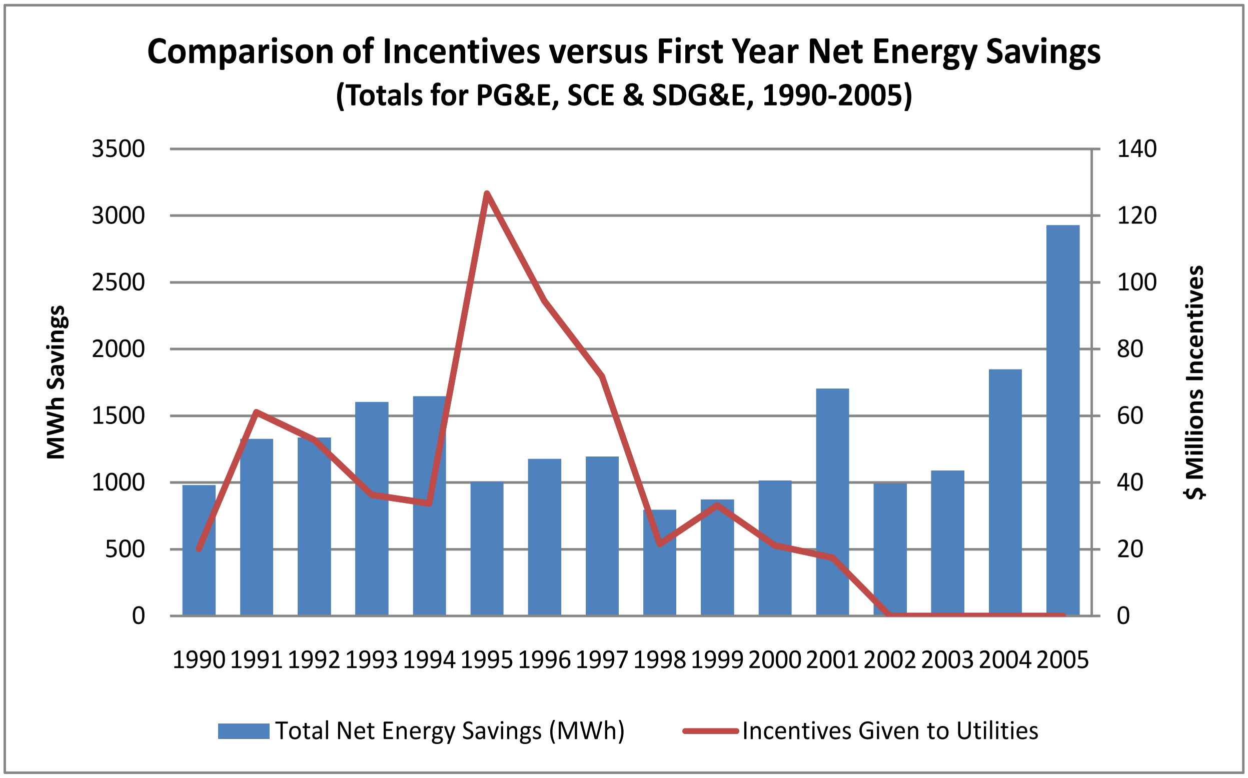

Figure 2. This chart compares the annual level of financial incentives given to California utilities over a 15-year period with the utilities' first-year net energy savings resulting from DSM programs. The chart demonstrates that there is no correlation between higher incentives and level of savings.[10]

[10] Source: Marcel Hawiger, The Utility Reform Network (TURN), *TURN's Opening Brief Concerning the Proper Benchmark for Sharing Net Benefits of Energy Efficiency Between Shareholders and Ratepayers*, CPUC Rulemaking 06-04-010, June 18, 2007.

Partial Decoupling also eliminates any variation in sales, due to conservation, weather, economic cycle, or other causes but limits the true-up to some fraction of allowed revenues (*e.g.*, 90% of lost margins recovered). The main argument in favor of partial decoupling is that it reduces the risk shifted to ratepayers. The mechanism suffers from the inevitable compromise of the opposing views on where to set the percentage factor.

Off-Ramps and Other Adjustments to Decoupling*

Decoupling is a substantial departure from traditional rate-making, and may be new to States and utilities.

Therefore it makes sense to approach implementation with caution, considering corrective mechanisms to ensure that the change in structure has the intended effects and avoids harmful unintended consequences.

Some of the mechanisms that have been considered are:

Balancing Accounts: Depending on the frequency of adjustments, a separate account can be established and used to track and accumulate over- or under-collections, in order to defer the adjustment and "smooth out" unusual spikes in rates. Typically this kind of account is used when adjustments are scheduled to occur less frequently.

Rate banding: This triggers the periodic adjustment to rates when the changes in revenue would result in a change within a certain percentage. If the rate band were set to 10% over or under the target rate, only changes less than 10% would trigger the adjustment. Outside the band, a new rate case would be triggered.

Revenue banding / shared earnings: In order to prevent unintended windfalls or shortfalls by the utility, earnings greater or less than certain limits can be shared with customers. For example, if an earnings band is set to 5% of return on equity compared to the allowed return found in the most recent rate case, earnings or shortfalls greater than 5% would be shared with consumers on a proportional basis though rates. This can also be computed on the basis of revenue changes, which avoids the complication (and potential litigation) of computing returns on equity.

Course corrections for single events, changes in industrial customers or activity: The addition of a new customer among large users, such as an industrial customer, or large change in the activity of a customer—a factory adding a new shift, for example--can have a disproportionate effect on rates for other customers in that class. In these cases, language allowing for adjustments that take special circumstances into account can help avoid unexpected rate shifts.

***Source:** National Association of Regulatory Utility Commissioners, *Decoupling for Electric & Gas Utilities: Frequently Asked Questions*, NARUC Grants & Research Department, September 2007.

Limited Decoupling eliminates only specified causes of variation result in rate adjustments, *e.g.*, only variations due to weather are subject to the true-up (*i.e.*, actual year revenues (sales) are adjusted for their deviation from weather normalized revenues). This is simply a weather adjustment clause; variations due all other factors (*e.g.*, economy, end-use efficiency) except weather are included in the true-up; or some combination of the above.

Off-Ramps and Other Adjustments to Decoupling

Efforts to implement RD rate designs in the past were almost always interrupted or suspended by unexpected events such as economic recessions. These case studies are often used to argue against the implementation of RD. Advocates counter the argument by recommending the use of off-ramps or other adjustments to the RD mechanism to protect utility shareholders and/or ratepayers from unexpected risks of decoupling. The following table (prepared by the staff of the National Association of Regulatory Utility Commissioners (NARUC) illustrates several examples of off-ramps and other adjustments that state commissioners have used to moderate the potential risk of RD.

Alternatives to Decoupling

The intent of decoupling is to eliminate the disincentive to acquire demand-side resources when a utility's net income is tied to sales volume. To the extent the problem is specific to certain "high margin" rate classes (*e.g.*, residential), decoupling could be applied only to that class with protections to ensure interclass revenue neutrality. Other tools available to State PUCs are:

Lost Revenue Adjustment (LRA) Mechanisms

Lost revenue adjustment (LRA) mechanisms are intended to compensate the utility for lost revenues associated with utility-sponsored conservation and energy efficiency programs. The common argument against LRA or lost margin recovery is the complexity and cost of measurement and verification (M&V) methodologies used to assess a utility's energy efficiency programs. Advocates of decoupling also argue that

LRA does not account for revenues lost from external factors outside the direct control of utilities such as new building codes or appliance standards. Utilities also complain that recovery of DSM program costs is treated separately from lost revenue recovery. All arguments are weak. If the intent of decoupling is to promote energy efficiency as a supply alternative, than credible M&V must be part and parcel of the program.

Frequent Rate Cases – Multi-Year Rate Cases

An important element of the traditional ratemaking process is to review the dynamic nature of revenues, expenses and investments and establish appropriate base rates that provide utilities with a reasonable opportunity to earn a fair return under prudent management. Almost all state regulatory commissions provide a rate case process to evaluate and measure the appropriate overall cost of service where a balanced review of jurisdictional expenses, rate base investment, the cost of capital, and revenues at present rates are investigated at a common point in time (*i.e.,* the test period). As the procurement of demand-side resources becomes more commonplace, the process for allocating and recovering the costs of these resources becomes part and parcel of each utility's normal business model.

Expenditures for (or investments in) demand-side resources can be raised in capital markets (not from ratepayers) giving utilities the same reasonable opportunity for the recovery of and on those capital costs as would apply to traditional supply-side resources. Utilities may seek CWIP but should not be guaranteed CWIP without a showing of net ratepayer benefits but for CWIP.

Straight Fixed-Variable (SFV) Rate Designs

Straight-fixed variable (SFV) rate designs eliminate fixed costs from variable cost components of rates and are, therefore, completely "decoupled." SFV rates recover all fixed costs through fixed charge components (e.g., demand and customer charges) that

Revenue Decoupling versus Lost Revenues Adjustments (LRAs)	
Decoupling	**LRAs**
Removes "throughput incentive" and all DSM disincentives	Removes only the DSM disincentive associated with potential lost sales
Does not require accurate measurement and verification of energy and capacity savings	Requires credible measurement and verification of energy and capacity savings
Utility does not profit from demand-side programs that do not actually produce real savings	Utility may profit from demand-side programs that do not actually produce real savings
In theory, removes utility disincentive to support conservation and energy efficiency policies. Depends on how utility defines its "core business"	Preserves sales orientation of traditional utility business model but also compensates utility for supporting public programs that, in theory, may reduce sales
Increases the number of contentious issues in subsequent utility rate cases	No direct effect on subsequent rate cases
Reduces volatility of utility revenue resulting from many factors that are often unrelated to conservation or energy efficiency	Reduces volatility of utility earnings only from specified demand-side programs

typically take the form of monthly customer charges. All variable (energy) costs are recovered through a volumetric charge that is often called the rate's tail block.

The one issue in which utilities may have a legitimate concern applies to rate designs that are so laden with other forms of social ratemaking schemes—often that conflict with one another—that rates for some or all ratepayers are no longer cost-based (marginal or average). The solution is to clean up the rate designs and many states have made substantial progress in moving fixed costs out of volumetric charges, thus reducing the potential for unrealized revenues directly resulting from customer conservation or utility demand-side programs.

SFV rate designs are controversial because the lower tail-block rates are deemed to encourage higher usage notwithstanding the potential accuracy of such rates to reflect actual incremental costs.

Third-Party Administration of EE Programs

Several states have successfully used alternative (third-party) entities—including government agencies—to administer energy efficiency programs. This creates an entity whose sole mission is to promote reduced utility sales, while retaining a separate entity whose responsibility is to efficiently plan for, sell and deliver energy. Even under strict climate policies, the primary business function of utilities will be the sale and delivery of energy to customers. It is vital to the interests of US manufactures and other domestic businesses that utilities have the incentive to perform such function efficiently. Decoupling—at best—promotes mediocrity by making utility managers indifferent to sales. Third-party administration of energy efficiency programs avoids the conflict of interest that may results from regulatory policies that force utilities to both sell and unsell its product.

States that have attempted this approach are Wisconsin, Maine, New Jersey, Ohio, Vermont, Oregon, New York, and Connecticut. In New York, for example, the New York State Energy and Research Development Authority (NYSERDA) is charged with the responsibility for demand-side programs, and is funded by a systems benefit charge that is collected by the utilities. Wisconsin established *Focus on Energy* as a public-private partnership offering energy information and services to residential, business, and industrial customers throughout the state. There services are delivered by a group of firms contracted by the Wisconsin Department of Administration's Division of Energy.

Some state commissions resist the use of third-party administrators (especially the delegation of program administration to other state agencies) because they believe that oversight authority over the use of ratepayer funds is weakened.

Alternative Incentive Mechanisms

Decoupling in and of itself does not create an incentive to encourage utility sponsored DSM programs—but it may create other, unintended incentives. What typically happens in states that consider or adopt decoupling is that the state PUC will consider establishing direct financial incentives in addition to or in place of decoupling. It is beyond the scope of this document to review the pros and cons of different incentives proposals. But it goes without saying that continued use of shareholder "rewards" and ratepayer "subsidies" for energy efficiency measures is an inefficient use of funds that may be counterproductive in the long run if the various parties deem such rewards and subsidies as an entitlement.

The table on the next page describes the range of incentive proposals advanced by investor-owned utilities that are often appended to decoupling proposals.

Alternative Methods for Providing Performance Incentives to Utilities for Pursuing Energy Efficiency: As Recommended by Utilities Source: Lisa Wood & Roland Risser, *Making the Business of Energy Efficiency Both Scalable and Sustainable,* The Brookings Energy Security Initiative, April 2009.	
Ratebase Utility's Energy Efficiency Expenditures	Allowing all or some portion of the investment in energy efficiency to become part of the utility rate base (approximately equivalent to generation or other capital investments, which allows a rate of return including embedded earnings as set by the Public Utility Commission). This means higher utility investments in energy efficiency also provide an opportunity for higher shareholder earnings. This is both an approach to cost recovery and, at the same time, a method for providing a performance incentive. However, capitalizing and depreciating energy efficiency program costs is currently out of favor.
Incentive ROR for Energy Efficiency Expenditures	Increasing the utility rate of return for energy efficiency investments provides a performance incentive or "kicker" for energy efficiency; this higher incentive can offset the negative impacts of increased energy efficiency in a way that is financially similar to decoupling and subsequent true-ups. In this case, the utility will still be negatively impacted by reduced revenues from lower energy sales due to energy efficiency, but the higher return (if set properly) can offset this impact (so lost revenue recovery may not be pursued separately).
Shared Savings or 'Carrot and Sticks' Financial Incentives	Providing a financial incentive for achieving certain energy savings targets and a penalty for not meeting targets (this could be a fixed value, a variable value based upon achieving certain savings thresholds, or retaining a portion of the savings the program delivers to customers.). If set correctly, this approach can create significant management alignment around increasing energy savings while ensuring that the cost of these incentives (along with other program costs) are less than the total benefit of the program. Hence, both the utility and the customers share in the benefit. This approach is currently used in most states that provide performance incentives.
Save-a-Watt or Supply-Side Comparability	Managing the investment in energy efficiency like a virtual power plant (sometimes referred to as Save-a-Watt). In the case of a virtual power plant, the utility simply manages the overall investment in energy efficiency and does not separately deal with issues of cost recovery, decoupling, and performance incentives, per se.

California is the proverbial poster child for utility energy efficiency programs, and the scope and sophistication of authorized utility incentives are often cited as industry standards for emulation elsewhere. Consumer advocates in the state take a different view. The following overview of the status of these programs is excerpted from the web site of The Utility Reform Network (TURN), an independent consumer advocate group:

All Californians pay a fee on our utility bills to fund these programs. That monthly investment is supposed to provide us with resources to save both energy and money, including consumer education, rebates and direct assistance in reducing our energy usage. But under the administration of the state's large investor-owned utilities, the programs have become top-heavy, with the utilities inflating their administrative costs, and not spending enough on actually saving energy. TURN supports an independent administration of Energy Efficiency Programs because of the obvious conflict of interest: utility companies are charged with reducing use of what they sell.

Administrative Overhead

Only 40 cents out of every ratepayer dollar for the 2009-2011 Energy Efficiency programs will be used to help ratepayers save energy and money through consumer education, rebates and direct assistance in reducing our energy usage. The majority of the $4.2 billion [i.e., $2.52 billion] will be spent on administration, general overhead and marketing materials.

Shareholder Incentives

The California PUC created a shareholder incentive system to reward companies that met energy efficiency goals. The utilities designed plans that maximized shareholder rewards without reducing California's long-term energy use. In addition to submitting plans that do not actually save energy, last year (2008) the utilities collected $82 million in bonuses for achieving CPUC-mandated goals that they did not actually meet. The energy companies demanded fast payments based on their own self-reporting rather than waiting for independent verification of energy savings. The CPUC favored expedience over accountability, ruling in January 2009 that the companies could keep the interim payments, even though the utilities did not meet minimum goals. [11]

Conclusions

Electricity is deemed a public service and therefore states grant utilities a monopoly franchise—typically in a "Public Service Law"—in return for a reasonable opportunity to recover and earn a return on prudently incurred costs. The return is commensurate to the risk of the investment. This regulatory compact holds whether a utility sells or unsells its product.

There is no legitimate reason to isolate the process used to allocate and recover the costs of demand-side resources from the process used to determine the utility's overall revenue requirement or allow any other special treatment such as "shareholder incentive structures," decoupling or other such regulatory policies.

Industrial consumer concerns with the aggressive promotion of utility sponsored energy efficiency programs are driven by pleas for exceptional treatment of any activities related to promoting reduced sales. Monopolists, by definition, can withhold supply to unilaterally raise prices or rates. Utilities can do the same with demand-side resources – withhold demand-side offerings until regulators (or legislators) give them the authority to charge monopoly rents on such services. In effect, utilities are capable of (and quite adept at) holding policymakers hostage to regulatory windfalls.

[11] http://www.turn.org/article.php?id=863

Appendix: The Mechanics of Revenue Decoupling

An Illustrated Example of an Annualized Full RD Mechanism[12]

Base Case

Average Rate per KWh	$0.10
Baseline Sales in KWh	2,500 GWh
Utility's Authorized Revenue ($0.10 per KWh × 2,500 GWh)	$250 million
Value of Utility's Fixed Costs	$200 million
Authorized Return to Equity Owners (ROE)	10%
Authorized Earnings to Equity Owners (10% of $200 million)	$20 million
Variable Costs of Delivery (T&D)	0

1% Reduction in Average Customer Consumption

Forecasted Actual Sales	2,475 GWh
Actual Revenues Collected ($0.10 × 2,475 GWh)	$247.5 million
Adjusted Earnings to Equity Owners ($20 million minus $2.5 million)	$17.5 million
Actual ROE	8.75%
Reduction in Basis Points	125

Revenue Adjustment Mechanism

Forecasted Revenue Shortfall	$2.5 million
Revenue Adjustment per KWh ($2.5 million/$247.5 million)	$0.001
Adjusted Rate ($/KWh)	$0.101
Adjusted Revenue ($0.101 × 2,475 GWh)	$250.0 million
Actual Revenue Shortfall	$2.0 million
Accrual (Balancing) Account	$500,000

[12] This is a highly simplified example of revenue decoupling in the context of the ratemaking process that assumes no change in the number of customers or accounting for price elasticity.

An Illustrated Example of Revenue-Per-Customer (RPC) Mechanism With Monthly True-Ups

Base Year Allowed RPC

For a Base Year Month

Base Year Rate	$0.05
Base Year (Month) Sales	1 billion
Base Year (Month) Revenue	$50 million
Base Year Number of Customers	1,000,000
Allowed RPC ($250 million/1,000,000)	$50

Calculation of Revenue Adjustment

For A Single Month

Base Year Rate	$0.05
Actual Sales for the Month	1.05 billion
Actual Revenues for the Month	$52.5 million
Actual Number of Customers	1,010,000
Allowed RPC	$50
Allowed Revenues	$50.5 million
Revenue Adjustment	$(2 million)
Forecasted Next Month Sales	1.1 billion
Revenue Adjustment (Revenue Adjustment/Forecasted Sales)	$0.0018

This adjustment is added to rates for sales the following month, or at the end the year.

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