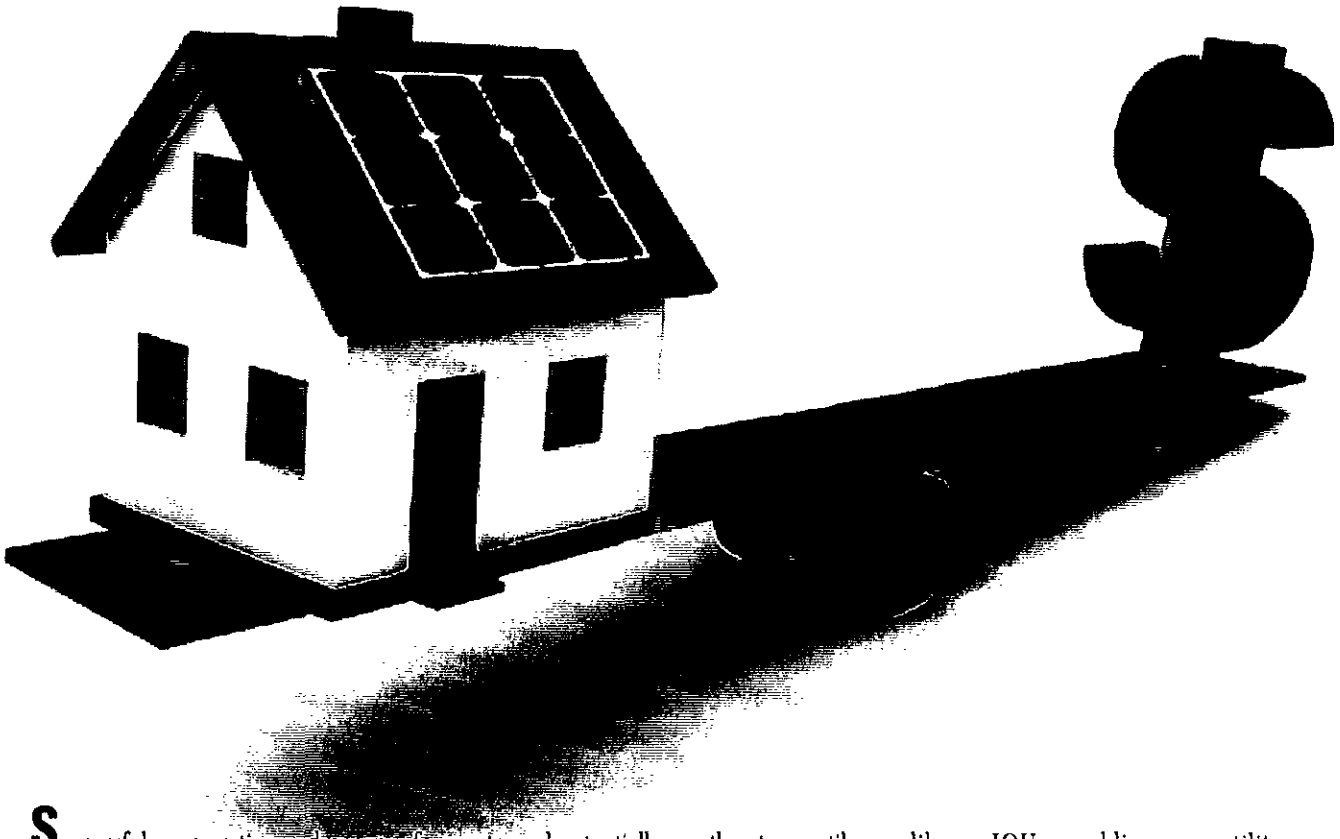
Late Backup

#1e1

RECONCILING
Energy Efficiency Programs and Revenue Adequacy

BY DIANE MOODY



Successful conservation and energy efficiency programs decrease sales, and since electric utility rates typically are based on sales volume, also decrease utility revenues. This potential for lower revenues gives utilities a disincentive to promote energy efficiency programs.

Most utility costs, including the majority of power supply costs, are variable—they change in proportion to the amount of power sold. However, most distribution and customer service costs do not vary with the amount of kilowatt-hour sales, even though these costs are recovered mainly through a per-kWh rate. A reduction in sales, therefore, leads to a greater reduction in revenues than in costs, and potentially can threaten a utility's financial health.

Some investor-owned utilities have addressed the potential problem of under-recovery of costs by implementing automatic adjustment mechanisms that separate or "decouple" sales from revenue. The goal is to ensure that IOUs recover their entire revenue requirement regardless of the effect of energy efficiency programs on total sales.

A public power utility, however, may not find it necessary to implement such decoupling mechanisms because the utility operates on a nonprofit basis and so has different goals and a different business model than an IOU. For example, unlike an IOU, a public power utility does not need to maximize returns to shareholders. In addition, a public power utility typically has more flexibility to adjust rates on a timely basis and can make changes to its rate structure if energy efficiency programs are limiting the utility's ability to recover costs. Key factors in gaining support for any necessary rate adjustments are a good working relationship with the local regulatory body and customer education.

The IOU Experience—To encourage energy efficiency, some state public utility commissions have allowed investor-owned utilities to adopt rate mechanisms that break the link between

sales and revenue. Typically, these decoupling mechanisms true up any under- (or over-) recovery of forecasted revenue on a regular basis. The utility's disincentive to promote energy efficiency is removed because the decoupling mechanism ensures full recovery of the utility's revenue requirement. Decoupling mechanisms often apply only to the delivery or distribution portion of the rate. This is because many IOUs already include power supply or fuel cost adjustment factors in their rates and because for utilities purchasing all of their power (such as those IOUs that no longer own generating resources), power supply costs change in proportion to sales.

At its most basic, the decoupling calculation compares the IOU's revenue requirement—as determined by the public utility commission—with the actual revenue collected by the utility for the subject period. The difference between the two is the amount of under- (or over-) recovery. This amount is divided by the kWhs sold by the utility to determine the per-kWh adjustment factor to be applied to utility rates during the next period. Generally, there is a separate calculation for each applicable rate class. This automatic rate adjustment occurs at the end of each period—monthly, quarterly or annually.

There are many variations of the basic decoupling mechanism, and typically these variations came about to address criticisms of decoupling. A major criticism is that the basic true-up mechanism results in rate adjustments regardless of the reason for the under- (or over-) recovery of revenue, and thereby insulates utilities from a wide variety of business risks. Weather and economic conditions can each have a strong influence on utility sales, and these effects would also be captured and mitigated by the rate adjustments. Thus, one option is to limit guaranteed revenue recovery to the amount of revenue lost as a result of the utility's energy efficiency programs. However, calculating and monitoring this is more difficult for the utility and the commission. It gives utilities an incentive to overestimate savings from energy efficiency programs but does not motivate utilities to promote energy efficiency.

Rather than try to measure the change in sales resulting from energy efficiency, a second option is to devise formulas that eliminate other factors that affect sales volume. Thus some commissions have approved decoupling formulas that calculate the rate adjustment factor based on sales in the subject period after they have been normalized for weather.

Another major issue centers on whether utilities should be allowed to recover the entire revenue shortfall (the difference between actual revenue and the utility's revenue requirement). An IOU's rates are designed to recover operating costs (both variable and fixed), other fixed costs, such as depreciation, and a return to the utility's shareholders. Some argue that the utility should be allowed to recover only the amount of the revenue shortfall that covers fixed costs. This has been called fixed cost recovery or lost revenue margin recovery, and is calculated by multiplying the difference between expected kWhs sold and actual kWhs sold times the portion of the per-kWh rate that covers fixed costs.

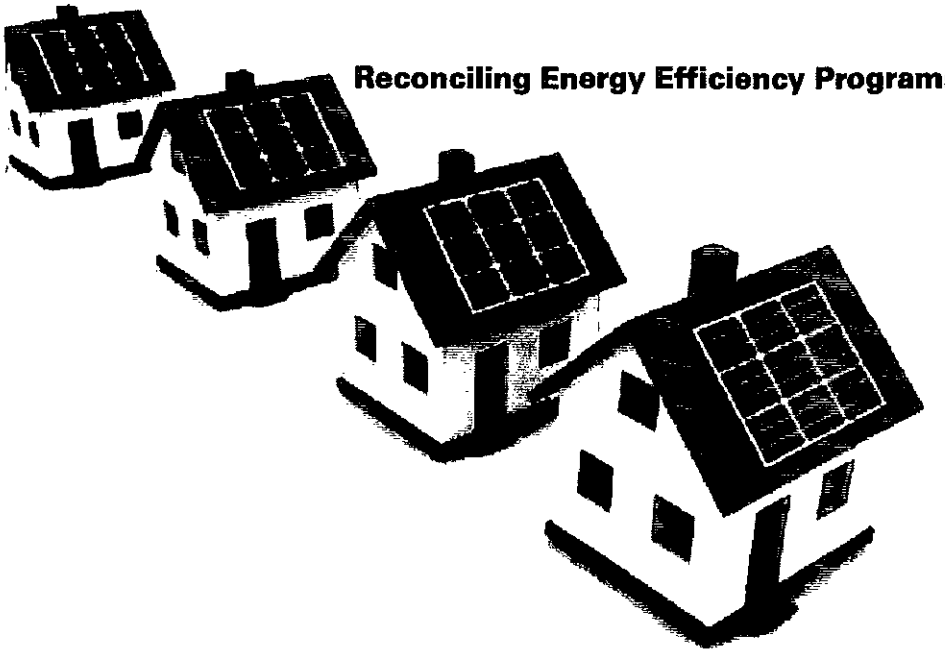
Unlike an IOU, a public power utility does not need to maximize returns to shareholders.

IOUs argue that the basic per-kWh decoupling formula reduces a utility's ability to recover costs associated with growth in the customer base and eliminates any incentive to promote economic development. In response, commissions have adopted a per-customer decoupling formula. The per-customer target is set by dividing the allowed revenue requirement by the number of customers. Going forward, the utility multiplies the per-customer target by the actual number of customers served during the period to obtain the revenue requirement for the period. Actual revenue for the period is compared to the calculated revenue requirement to determine any under- (or over-) collection of revenue. The amount is divided by kWhs sold in the period to determine the per-kWh rate adjustment for the next period. The per-customer methodology can also be used with the fixed-cost recovery mechanism.

Another way of addressing fixed-cost recovery is to modify a utility's rate structure to collect all fixed costs in a per-customer charge. The per-kWh portion of the rate—which would cover all costs that vary with volume—would be reduced. While this method has the benefit of recovering costs in line with how they are incurred, there are major drawbacks. Typical IOU rates include a modest per-customer charge to cover billing and metering expenses; the per-customer charge would need to increase substantially to cover all fixed costs. Customers who use less power would pay significantly higher bills, while customers who use more power would see their bills reduced. This not only reduces incentives to conserve power, but also raises bills for low-income customers (who tend to use less power). While some commissions have approved higher per-customer charges for utilities, none have attempted to recover all fixed charges on a per-customer basis.

Regulators have used methods other than decoupling to encourage IOUs to invest in energy efficiency. In fact, IOUs and many promoters of conservation argue that while decoupling is a necessary step, it is not sufficient, because it only eliminates the utility's disincentive to promote energy efficiency programs. They argue that regulators should also approve positive financial incentives for utility investment in energy efficiency. Proposed incentives include rate of return adders on investments in energy efficiency programs; sharing the savings (between customers and shareholders) from energy efficiency programs; and earning a designated percentage of the avoided cost of new capacity. In some cases, state commissions have allowed utilities to earn positive financial incen-

Reconciling Energy Efficiency Programs and Revenue Adequacy



tives from investments in energy efficiency, but ruled that these incentives eliminate the need for a decoupling mechanism. The American Recovery and Reinvestment Act (ARRA), enacted in February 2009, provides grants, loans and other financial incentives with the goal of creating new jobs, promoting economic recovery and assisting those most hurt by the current recession. Significant resources are aimed at investments in technology and energy infrastructure, and reducing the country's reliance on carbon-based fuels. Thus, several programs provide funding for renewable resources, energy efficiency and smart grid technology.

The Department of Energy's (DOE) State Energy Program receives $3.1 billion in funding under the ARRA. The funds can be spent on a wide variety of programs, including both energy efficiency and renewable energy programs. However, a state can receive the funding only if state regulators seek to implement a "general policy that ensures that utility financial incentives are aligned with helping their customers use energy more efficiently and that provide timely cost recovery and a timely earnings opportunity for utilities." (Section 410 of ARRA).

Implementation of the "general policy" would most likely apply only to utilities under the rate jurisdiction of the state regulatory authority, and so would affect the rate-setting practices of public power utilities only in the few states where the state regulates public power rates. However, if a state commission does not meet the new law's requirement, the state—and all entities within a state—will not receive State Energy Program funds allocated under the ARRA.

There has been no formal interpretation of the Section 410 provision, but it appears that it does not mandate decoupling and that the language is broad enough to allow state regulatory commissions a choice of policy options. Possibilities could include: changes in rate design (larger fixed charges or rates based on future projections); reducing regulatory lag through more frequent rate cases; use of a third part to implement energy efficiency programs; and increased incentives for energy efficiency investments.

The Public Power Difference—Like IOUs, public power utilities worry that successful energy efficiency programs will result in both lower sales and lower revenues. However, there are also key differences. Most importantly, IOUs are for-profit companies and so seek to obtain the highest possible returns for their shareholders. IOUs have no incentive to invest in energy efficiency unless it benefits shareholders; conversely, they have a strong incentive to obtain regulatory treatments for energy efficiency investments that will increase their profits. Thus, some proposals to compensate IOUs for under-recovered revenue or provide other incentives for energy efficiency programs reflect IOUs' motivation to make these programs as profitable as possible for shareholders.

Public power utilities are not-for-profit entities owned by their customers via state or local government. Since their customers and "shareholders" are one and the same, public power utilities do not need to satisfy two different constituencies. This means they do not need to earn a return on energy efficiency programs or collect from customers revenues in excess of costs. A public power utility that proposes rate adjustments to recover revenue shortfalls caused by successful energy efficiency programs is in a much less adversarial position with its regulator because the utility is concerned with recovering only that part of the revenue shortfall that represents unavoidable or fixed costs

There is also a significant difference in how IOUs and most public power utilities are regulated. State regulators approve IOU rates in "rate case" proceedings that establish revenue requirements, recoverable costs, and the utility's rate base and allowed rate of return. These proceedings are time-consuming and often adversarial, so, typically, an IOU prefers to wait several years between proceedings. One way to stretch out the period between rate cases is to include automatic adjustment mechanisms, such as fuel cost adjustments or revenue decoupling.

Most public power utilities have their rates regulated by a local governing body, such as a city council or independent utility board. Local governance and a less complex rate-setting process give public power utilities greater flexibility in proposing rate adjustments on an as-needed basis. The national credit rating agencies regularly note that the ability of public power utilities to adjust rates on an as-needed basis is a major credit strength. For example, in its December 2008 utility outlook report, Fitch Ratings said the credit outlook for public power utilities was stable, and listed as an important driver "local control over rate-setting without state commission oversight and continued willingness to recover costs in rates on a timely basis. And in response to a recent question on how public power utilities could protect their creditworthi-

ness, Moody's Investors Service said utilities should maintain strong relationships with their governing boards to make sure board decisions protect the financial condition of the utility.

In a recent report on the potential for energy efficiency, the Electric Power Research Institute estimated that efficiency programs could realistically reduce electricity demand from the Energy Information Administration's forecasted annual average rate of 1.07 percent per year through 2030 to 0.83 percent per year. Under ideal conditions, the growth rate could fall to 0.68 percent per year. Thus, for a typical utility, sales would continue to grow, just at a slower rate. The utility develops its rate formula based on assumptions: about weather, economic activity, and now can add in expectations on how investments in energy efficiency will affect sales. These three factors behave in different ways: weather is unpredictable, economic conditions tend to change in a cyclical pattern, and energy efficiency reduces demand.

If energy efficiency programs result in greater revenue losses than expected and endanger the utility's financial health, the utility and governing body can work together to implement a rate adjustment to ensure that the utility can cover its fixed costs and meet its budget. To get the necessary support, the utility may need to educate city officials and the community. The utility can show how investing in energy efficiency can result in lower utility bills. Programs that reduce peak demand can reduce the utility's power supply costs and delay or eliminate the need for new generating resources. In addition, typically, the cost per kWh saved of effective energy efficiency measures is significantly less than the cost of building new generation or purchasing power in the market.

The utility can increase support for energy efficiency programs by providing city officials with information on how these programs promote economic development. Energy efficiency programs can provide jobs – weather-proofing houses; energy audits; installation of new technology or upgraded equipment; and over the long term, can lead to lower total costs than neighboring utilities because of lower reliance on high-cost power supplies. Industrial customers, in particular, want to keep electric costs low in order to stay competitive in their own industries. If the utility can help reduce a customer's electric bills, the customer is more likely to stay in business or consider expanding locally.

Programs that reduce peak demand can reduce the utility's power supply costs.

The utility should also educate its customers on the distinction between rates and bills. For example, the utility may need to increase the per-kWh rate to collect sufficient revenue to cover its fixed costs. But customers who take advantage of the utility's energy efficiency programs—or implement their own energy-saving measures—may offset part or all of the rate increase through lower consumption. The utility should make sure its customers know that energy efficiency programs—both implementation costs and any rate adjustments to ensure fixed-cost recovery—account for only a small portion of total rates, especially when compared to power supply costs.

Many utilities are experiencing unanticipated demand reductions as a result of the current economic recession, and should be careful not to erroneously attribute the decline to utility-sponsored energy efficiency programs. A utility may need to make changes to its budget, reserve levels, or rate structure to maintain its financial health throughout the recession, but, historically, most recession-induced declines in demand are temporary. ■

Diane Moody is director of statistical analysis for the American Public Power Association.