

Profiting from Energy Efficiency

TEACHING OLD DOGS NEW TRICKS

BY MICHAEL R. PEEVEY

IN SEPTEMBER, THE CALIFORNIA Public Utilities Commission issued a decision that gives utilities the opportunity to earn meaningful returns on investments in energy efficiency. With this step, California has effectively transformed this resource from something that has generally been viewed by the utilities at best as a side business, and at worst, as a threat, into a resource option that offers revenue-generating opportunities equivalent to supply-side investments. Combined with revenue decoupling instituted more than 20 years ago, these incentives will yield a sea change in the way our utilities think about energy efficiency, by completely altering the relationship between it and the utility bottom line.

Utilities are in the business of selling energy. Viewed from this perspective, their ability to earn a return on invested capital is inextricably linked to the amount of energy they sell. Energy efficiency would appear to run counter to the financial interests of utilities by reducing sales. In the early 1980s, California instituted revenue decoupling, effectively severing the link between energy sales and utility profitability. By guaranteeing utilities the ability to earn revenues sufficient to cover their capital investments plus a reasonable rate of return irrespective of their energy sales, the utilities could be rendered indifferent between energy efficiency efforts and more conventional supply-side solutions to meeting energy demand. This paved the way for the utility-administered energy efficiency programs that have been so vital in keeping California's per capita energy consumption flat over the past 20 years, while the nation's per capita energy use has increased by about 50 percent.

While decoupling has played a critical part in expanding the role of energy efficiency, there are two factors that limit this policy's ability to singlehandedly change the utility view of it from tepid acknowledgement to one of enthusiastic support. First, the opportunity utilities have to invest in infrastructure and earn a return remains largely tied to capacity, with peak energy demand determining the amount of generation, as well as the amount of transmission and distribution the utilities invest in. To the extent that energy efficiency reduces investment opportunities, it will remain counter to the utilities' economic interests. The second, and in my view, far more significant factor,

is the issue of culture. For all the reasons already stated, the generation side of the business has long dominated the utility business, while demand-side strategies were shunted to the sidelines, a result that follows directly from how utilities have traditionally made money. If someone wanted to go far in the utility world, it meant working on the supply side of the house, brokering and managing power plant or transmission projects. Energy efficiency, an inherently distributed and customer-centric approach to meeting energy needs, simply did not fit well within the conventional utility paradigm.

The incentives we have implemented in California give the utilities the opportunity to earn about \$176 million if they meet 85 percent of the three-year energy efficiency goals established by the commission and \$323 million if they achieve 100 percent of those goals. Total incentive payments are capped at \$450 million, corresponding to achievement of about 122 percent of the goals. While the numbers seem large, it is important to put this into perspective: If the utilities achieve 85 percent of the goals, ratepayers will receive an estimated \$1.8 billion in net benefits, in terms of avoided infrastructure, fuel and other operation and maintenance costs. If the utilities achieve 100 percent of these goals, ratepayers will receive an estimated \$2.4 billion in net benefits, and if they hit the incentive cap, net ratepayer benefits will be in excess of \$3.2 billion. In addition to rewarding exemplary performance, the incentive mechanism also penalizes poor performance. Utilities don't earn anything if they achieve between 65 and 85 percent of the energy efficiency goals and suffer penalties for failure to achieve at least 65 percent of the goals. We believe these incentives will increase the profile and career opportunities of those within the utility business charged with implementing energy efficiency programs by transforming these activities into a profit center comparable to what has heretofore been the exclusive domain of the supply side.

Going forward, it is my sincere hope that other states will follow California's lead. Energy efficiency remains the least-cost way of meeting ever-growing demand for energy services, in terms of the costs borne by ratepayers as well as those borne more broadly by society and the environment. The role of energy efficiency is especially important given the truly staggering implications of global warming. Through incentive mechanisms like California's, the economic interests of utility shareholders can be effectively aligned with the interests of ratepayers and society, and utilities can be transformed into agents of positive change, maximizing the role of energy efficiency and avoiding the profoundly troubling implications of business as usual.

Michael R. Peevey is president of the California Public Utilities Commission.

NewsFlash

CALIFORNIA RENEWABLES

California utility regulators have put in place prices for utilities to purchase renewable energy from customers.

Similar tariffs in Germany have spurred development of new energy technologies.

The California Public Utility Commission has also created financial incentives for utilities to promote energy efficiency.

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Xcel Energy announces Smart Grid Consortium partners, intent to bring Smart Grid City to life

DENVER – The vision of a Smart Grid City will soon be realized, under the direction of the Smart Grid Consortium announced today by Xcel Energy.

The advanced, smart grid system is expected to allow Xcel Energy to work in tandem with customers to determine when, where and how they use their energy. Potential benefits include lower bills; smarter energy management; better grid reliability; greater energy efficiency and conservation options; increased use of renewable energy sources; and support for plug-in hybrid electric vehicles and intelligent home appliances.

“We are on the verge of significant transformation in an industry that has seen relatively little change during its long history,” said Dick Kelly, chairman, president and CEO of Xcel Energy. “I’m excited to work with our partners to reshape and define the future of our marketplace. Using the smart grid, we can provide innovative solutions to the environmental challenges facing all of us today.”

In December 2007, Xcel Energy established the Consortium, bringing together leading technologists, engineering firms, business leaders and IT experts. Consortium members include Accenture, Current Group, Schweitzer Engineering Laboratories and Ventyx. The influential group will provide guidance as well as the products and services needed to bring Xcel Energy’s smart grid vision to life.

Among the Consortium’s initial tasks will be selection of a mid-size community with a population of approximately 100,000 residents. The city will represent the consumer end of the smart grid, with a fully inter-connected system managing the various parts of the grid involved in producing power and delivering it to customers. The chosen city will become a test bed for emerging technologies and deployment strategies. The goal is to create an international showcase of smart grid possibilities and evaluate their environmental, financial and operational benefits.

“The analog grid has served its purpose for the last half century, but the future requires an integrated, digital smart grid. This next-generation grid will allow customers to better manage their energy consumption while optimizing the grid through real-time generation management and distribution controls,” said Ray Gogel, CAO and vice president of customer and enterprise solutions of Xcel Energy. “Smart Grid City will be the nation’s first community with a fully integrated portfolio of smart grid technologies designed to offer environmental, financial and operational benefits.”

A number of technologies will be offered within Smart Grid City, including:

- Transformation of existing metering infrastructure to a robust, dynamic communications network, providing real time, high-speed, two-way communication throughout the distribution grid.
- Conversion of substations to “smart” substations capable of remote monitoring, near real-time data and optimized performance.
- Installation of thousands of in-home control devices and the necessary systems to fully automate home energy use.
- Integration of infrastructure to support up to 1,000 easily dispatched distributed generation technologies (including plug-in hybrid electric vehicles with vehicle-to-grid technology; battery systems; wind turbines; and solar panels).

Xcel Energy has narrowed the site location for Smart Grid City to several cities in its eight-state service territory. The Consortium will announce the selected city in March 2008 and begin the building phase in April 2008.

Xcel Energy (NYSE: XEL) is a major U.S. electricity and natural gas company with regulated operations in eight Western and Midwestern states. Xcel Energy provides a comprehensive portfolio of energy-related products and services to 3.3 million electricity customers and 1.8 million natural gas customers through its regulated operating companies. Company headquarters are located in Minneapolis. More information is available at www.xcelenergy.com.

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