

# The Details Matter

By Lisa V. Wood, executive director, Institute for Electric Efficiency

There's a big desire to measure and benchmark the effectiveness of electric utility energy efficiency programs nationwide. In the last five years, utilities have doubled their financial support of electric efficiency (EE) programs (from \$2.7 billion in 2007 to \$6.8 billion in 2011)—and, through those efforts, millions of residential, commercial, and industrial customers have saved energy and reduced their power bills. Total EE spending in the United States, using ratepayer funds, was \$4.8 billion in 2010, with budgets of \$6.8 billion for 2011. As a result of both new efficiency programs and the continuation of existing ones, total energy savings reached 112 million megawatt-hours in 2010, enough to power approximately 10 million homes for a year.

One reason that ratepayer-funded EE is strong in this country is that utilities offer a variety of programs to meet the needs of a diverse customer base. Once you start to peel back the layers, you begin to realize the complex nature of delivering efficiency to such varied end users. Program offerings vary by utility and largely are determined by its experience, the need for demand-side resources (to meet both reliability concerns and policy directives), and the regulatory regimes that influence program incentives.

At this point, the industry has a wealth of data on the effects of efficiency programs; and several third-party studies and surveys, well intentioned and even influential, have tried to benchmark utility EE spending and savings. A general concern is that benchmarking exercises often overlook diversity across utilities and the needs of the marketplace—with the result that the conclusions can mislead, distort a utility's efforts, and create unreasonable expectations.

To gain perspective, we asked several utilities to provide their insights. Here's a small collection of their wisdom.

## Details Are Important

First, maturity matters. The utility's experience in running EE programs, the maturity of the programs in the market, and customer responsiveness influence what resources will support EE at the regional level. For instance, a utility with 20 years' experience delivering efficiency products and services likely works in a more mature marketplace and may need to provide things that have a higher marginal cost per unit of energy saved than a utility just starting its program in a relatively unsaturated market.

Second, the development of demand-side resources, such as EE and demand response (DR), is influenced by market, regulatory environment, electricity prices, and policies having to do with EE resource standards, regional portfolio standards, and carbon.

Utilities develop demand-side management programs either to deliver energy savings (kilowatt-hours) or to affect energy demand (kilowatts). This distinction influences the program approach, customer outreach efforts, cost-effectiveness, and program outcomes. The primary focus of a DR program is to shift demand from peak to nonpeak hours, not to reduce consumption. Some spillover effects from these programs do reduce total energy consumption, but a simplified program performance measure, such as percent change of retail annual sales (a favorite of many studies), is not the right measure for utilities trying to meet policy goals for demand reduction and peak shifting.

Third, the largest EE provider in the United States, the regulated electric utility industry, uses ratepayer-funds for EE. But each utility faces different incentives, disincentives, and cost-recovery environments, depending on its state regulators. While all programs must pass a cost-benefit test prior to regulatory approval, the five primary tests vary greatly: participant cost, program administrator cost, ratepayer impact measure, societal cost, and total resource cost (TRC). Each provides a different perspective on a program's costs and benefits, but no test is administered universally. TRC is the most common test, but regulators sometimes use a combination, complicating program comparison across states.

In addition, the factors used in calculating the costs and benefits of demand-side programs include region-specific elements like the cost of running the program, alternative generation costs, regional electricity prices, and net-to-gross market effects. These factors inherently vary. Hence, each state commission makes its own determination of cost-effectiveness.

Once an EE program is determined to be cost-effective and is rolled out to customers, the process of measuring and verifying the effects tends to vary. Some utilities report gross energy effects; others report net effects. Methods to determine those values differ, as do the basic definitions of the terms.

A potentially useful approach to comparing EE program performance is to create peer groups, whose state policies, regulatory tendencies, and customer bases are somewhat similar. Even then, weighting all the factors correctly would be difficult. In the end, while lots of data exist on utility EE spending and savings, comparing programs is no simple task—attention should be directed at how utilities are succeeding in crafting programs that address regional policy concerns while delivering energy savings to customers. ♦



**The power of choice.** Utilities offer an assortment of EE programs to meet the needs of a varied customer base.

Courtesy: GE

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