

Meeting Efficiency Goals Through Codes and Standards

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The nation's electricity use continues to grow. But a recent study by the Institute for Electric Efficiency (IEE) found that an increase in energy efficiency standards for new appliances and a tightening of residential and commercial building energy codes could help offset that anticipated growth over the next 15 years.

The study, "Assessment of Electricity Savings in the United States Achievable Through New Appliance/Equipment Efficiency Standards and Building Efficiency Codes (2010-2025)," developed its moderate and aggressive scenarios using as its baseline the Energy Information Administration's "2011 Annual Energy Outlook," which incorporates the latest appliance efficiency standards and building energy codes.

In the moderate scenario, tightening those codes and standards could cut overall electricity use by up to 9 percent or about 350 terawatt-hours (TWH) by 2025. EIA projects an increase of 364 TWH of electricity demand during this period. Further, under the aggressive, no-holds-barred scenario, the strongest codes and standards actually could reduce the nation's overall demand.

But only a few states include codes and standards, which can be highly cost-effective, in their overall energy efficiency goals; and utilities, which currently administer energy efficiency programs in most states can play a vital role in the codes and standards process. When the utility plays a role, everyone wins.

A Difficult Proposition

Of the two scenarios, the moderate one is the more likely, as it projects future energy savings based on top-of-the-line, high-efficiency appliances that are currently available in the market, such as those with the ENERGY STAR label. Reaching the full energy-savings potential of codes and standards is a difficult proposition, because it requires a high degree of coordination among many energy-efficiency stakeholders—manufacturers, utilities, standards-setting organizations, builders, the government, and customers—who have priorities in addition to efficiency, like cost and appliance performance.

The majority of savings in both scenarios result from appliance efficiency standards—from 65 percent to 76 percent

of the total savings depending on the scenario. An underlying assumption in the forecast is that states and local governments will adopt the most recent set of building energy codes and that the building industry will fully comply with the most recent code. Empirical evidence suggests otherwise—state and local governments have struggled to attain high compliance rates with the prevailing code.

Given the challenge of developing and implementing new and more stringent codes and standards, the roles of customer engagement and stakeholder education become ever more important—utilities have a vested interest in providing those things.

Expanded Utility Role

Indeed, utilities have a demonstrated track record of achieving energy savings through energy efficiency programs, and such savings continue to trend upward. More than half the U.S. states have some form of energy-efficiency resource standard with annual increases in energy-efficiency targets. Codes and standards programs can help meet long-term savings and efficiency goals cost-effectively. In fact, when

utilities can integrate codes and standards into their existing energy efficiency portfolios, they create a win-win for consumers by pursuing the most cost-effective approaches to saving energy.

In many cases, however, codes and standards are not included in the portfolio, nor are utilities actively involved in using them to their best effect with governments, builders, inspectors, and customers. As a result, it becomes more difficult and expensive for the utility to achieve the state's efficiency goals.

Codes and standards are not new to utilities—15 years ago it was not uncommon for a utility to have its own codes and standards

group working in conjunction with state governments. Today, only a handful of states have a codes and standards process with a clear role for the utility. In those states, utility-funded codes and standards development efforts yield large energy savings at very low cost. For example, California projects that roughly 10 percent of its energy-efficiency goals in the 2010-12 program cycle will come from codes and standards programs—at very low cost.

Given the enormous savings potential from codes and standards, the time is now for the electric utility industry to work with state regulators, consumer advocates, state officials, and regional energy-efficiency organizations, to integrate codes and standards into existing utility energy efficiency portfolios. Helping stakeholders understand the potential for an expanded utility role in the codes and standards process and taking advantage of existing state models for accomplishing this can deliver substantial cost-effective energy savings nationwide and help to meet energy efficiency goals. ♦



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