

# Everyone Benefits When Everyone Pays: The Importance of Keeping Large Customers in Utility Programs

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## ABSTRACT

Some of the least-cost efficiency opportunities exist at sites consuming large amounts of energy. Comprehensive utility portfolios should include programs to capture these large-customer savings, yet many large energy users push to opt out of utility programs, eliminating a proven low-cost resource, reducing fairness, and increasing costs for all customers. Twelve states allow some or all large customers to completely opt out of paying for energy efficiency resources, and the trend is increasing across the country. While the decision to approve an opt-out is a state's choice, these policies often increase the difficulty of achieving desired outcomes including reductions in energy use and in greenhouse gas emissions. This paper documents the fundamental role of large customers in the broader utility system and describes the opt-out problem and the extent to which the problem is impacting utility program savings. It identifies existing and new strategies that utilities can apply to make program portfolios more responsive to the needs of large energy users, with an emphasis on the changing landscape for electric utilities and the distributed grid.

## Introduction

Energy efficiency programs have yielded significant benefits for society and the utility system including lower energy prices, reduced grid congestion, fewer greenhouse gas emissions, and increased reliability. To achieve these benefits state regulators, utilities, and program administrators have pursued a range of programs designed to meet the needs of various customers. Some of these programs target the largest energy users in the utility system, which are typically industrial customers but may also include institutional or commercial customers.<sup>1</sup> These large users represent a big opportunity for achieving low-cost energy savings through their investment in energy-efficient equipment and processes.

However most states harness only a fraction of the energy-savings potential from their largest customers. Standard prescriptive programs that work well with other customer classes are not typically effective with large energy users, resulting in missed savings opportunities across the country. Instead of targeting these customers with programs that respond to their needs, some states allow large customers to opt out of energy efficiency program participation and funding, leaving behind even more potential savings. Without participation from all customers it is more difficult for these states to reach energy-savings targets and achieve other, broader public policy outcomes.

This paper examines the opt-out issue in two parts. The first part documents the fundamental role of large customers in the broader utility system and describes the problem and the extent to which opt-out policies impact state-level energy savings and utility program

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<sup>1</sup> In this paper the terms *large energy user* and *large customer* refer to members of the group of nonresidential customers that consume significant amounts of energy and tend to be eligible to opt out of utility energy efficiency programs.

portfolios. The second part identifies both existing and new ways utility companies can attract and retain program participation from their most energy-intensive customers. It focuses on applying best practices in program design for large energy users and improving efforts to demonstrate the value of participation to large customers. It also identifies new program ideas that are emerging as electricity markets and the modern electric grid evolve. When utilities achieve strong participation from their largest users in energy efficiency programs, the whole system benefits.

## **The Fundamental Role of Large Customers**

In many utility systems a small number of large customers represent a majority of the energy demand and a significant amount of the cost-effective energy-savings opportunity. For example, among all the customers served by Eversource Energy, one of New England's largest energy providers, only 2% of customers account for about 80% of total energy demand (Beup and Gibbs 2015; McLean-Connor 2015). By establishing strong relationships with a small number of the largest energy users, program administrators can often access a large savings opportunity.

The sizable amount of savings that can be gained with large energy users is a primary reason most states determine it is necessary to include these customers in overall energy efficiency efforts. On average commercial and industrial (C&I) customers contribute 55% of total energy efficiency program savings (Molina 2014).<sup>2</sup> As table 1 shows below, this amount varies and can be higher in some states, especially where long-standing programs for large energy users exist. For example, C&I programs achieved approximately 70% of savings in Oregon in 2014 (ETO 2014). Variation among states is likely due to a number of factors including differences in savings potential or specific regulatory requirements, but the availability of well-administered efficiency programs that are responsive to the needs of large energy users is apt to play a primary role in achieving a high percentage of savings from the C&I customer class.

The cost effectiveness of savings that can be achieved with large energy users is another main reason state regulators and program administrators aim to reach these customers. Savings from large customers can often be acquired at a lower cost than programs targeted at other sectors and on a national level the industrial sector saves more energy per program dollar than other customer classes (SEE Action 2014). One reason large-customer programs cost less on average is that typical C&I measures tend to have longer lifetimes than many residential measures (Molina 2014). As table 1 shows, the levelized cost of savings from a selection of C&I efficiency programs implemented in 2014 was less than 3 cents per kilowatt-hour (kWh). Compared to new generating resources, investing in programs for large energy users is at least half the cost. The levelized cost of energy for a new combined cycle natural gas plant is approximately 7.5 cents per kWh (EIA 2016).

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<sup>2</sup> Most programs report electricity savings in aggregate for residential customers and for business customers. Because few programs disaggregate savings data for commercial and industrial customers, we assume that C&I-sector data are representative of large energy users.

Table 1. Energy savings and levelized cost from a selection of C&I programs in 2014

Program administrator	Percent energy savings from C&I programs	Levelized cost of C&I savings (cents/kWh)
Energy Trust of Oregon	70%	2.4
National Grid Rhode Island	63%	2.8
Focus on Energy Wisconsin	57%	1.8
Xcel Colorado	54%	1.9
AEP Ohio	48%	1.2

*Source:* ACEEE estimates based on publicly available program administrator annual reports for 2014. We calculated the levelized cost of the program using the PMT function in an Excel spreadsheet and assumed a 13-year measure life and a 5% discount rate.

The size and cost effectiveness of the large-customer savings opportunity make this an important segment for energy efficiency programs. Large-customer energy efficiency is the cheapest energy resource available in virtually any utility system, and when it is not captured the utility must acquire other, more expensive resources. If these assets are not built, their costs do not need to be recovered in customer rates, keeping electricity bills low and saving money for all customers in the community. For these reasons reaching large energy users is an important component of a comprehensive strategy for managing energy demand, achieving statewide energy-savings targets, and improving the cost effectiveness of energy efficiency portfolios.

### **Keeping Large Customer Savings in the Portfolio**

Even considering the fundamental role of large energy users in the efficiency of the utility system, most states leave much of the energy-savings potential from these customers untapped. Studies estimate that there is the potential to reduce energy consumption from just the industrial sector by an additional 15–32% by 2025 (DOE 2015). However several states have passed legislation over the last decade making large customers harder or impossible to reach. State-level policies called opt-out provisions allow large customers to stop contributing funding for energy efficiency programs, which prevents utilities from incentivizing, measuring, or otherwise accounting for these savings in resource-planning efforts (see figure 2).

Texas became the first state to allow industrial customers to stop paying into programs when the legislature amended its energy efficiency rule in 2007 (PUCT 2007). Today 12 states allow some or all large customers to completely opt out of paying for and participating in programs, and the trend continues, with more states across the country considering opt-out provisions. In 2015 the Florida Public Service Commission considered and later denied a request by a group of large customers to opt out of paying energy efficiency fees. Opt-out legislation was also introduced in Pennsylvania, and that bill, known as Senate Bill 805, is likely to come up for consideration again in 2016. Most recently Senate Bill 320 was introduced in Ohio and, if passed, it would expand the state’s existing opt-out policy by lowering the threshold for eligibility to one of the lowest in the country.<sup>3</sup>

<sup>3</sup> Currently customers using 45 million kWh per year are eligible to opt out in Ohio. Senate Bill 320 would lower the threshold to 700,000 kWh per year. Other states use different thresholds to determine eligibility, but of the states that

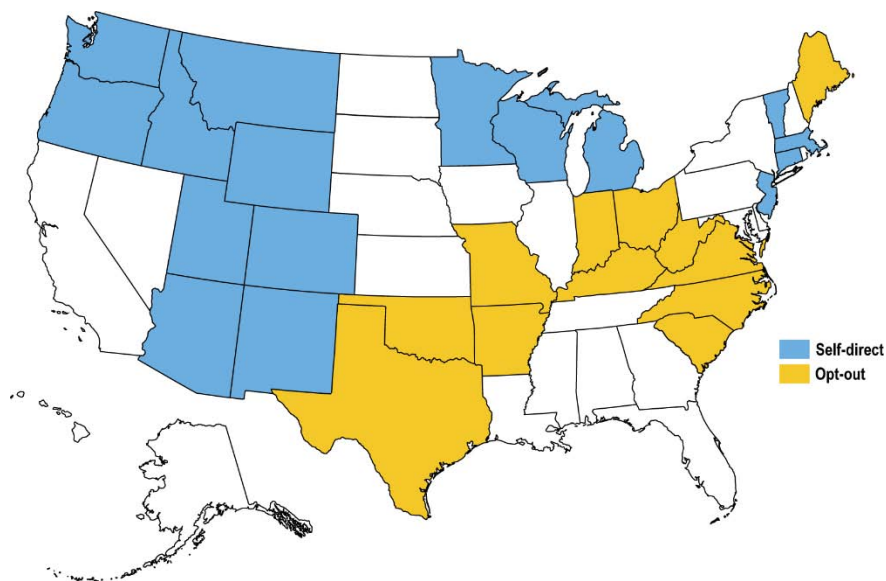


Figure 1. Status of opt-out and self-direct programs by state. States with self-direct policies typically allow large customers to control how some or all of their fees for energy efficiency are used, but do not allow them to opt out of programs completely. *Source:* ACEEE 2016a.<sup>4</sup>

The ongoing push by large customers to opt out of utility programs artificially limits a utility’s ability to capture cost-effective energy savings that reduce load on the entire utility system. In Oklahoma approximately 90% of eligible electric customers opt out, preventing utilities from targeting efficiency programs at about 30% of the state’s total load (Gilleo et al. 2015). Utilities lose access to some of the least-cost energy savings, which can drive up program portfolio costs and result in less efficiency and greater overall system costs. Removing large customers from the equation also means that smaller businesses and residential customers end up paying more for systemwide benefits. Lack of consistent data on the efficiency measures undertaken by large customers outside of utility programs makes the impact of opt-out provisions very difficult to pinpoint, but available data from ACEEE’s *2015 State Energy Efficiency Scorecard* suggest lower-than-average savings in opt-out states.

The *State Scorecard* ranks states on their policy and program efforts, providing an annual benchmark on the progress of state-by-state energy efficiency activities. Scores for the 12 states with opt-out provisions have consistently ranked in the bottom half of the list, and the majority of opt-out states saved less energy than the national average of 0.7% of 2014 retail sales. Opt-out states had an average *Scorecard* ranking of 32<sup>nd</sup> and average electricity savings of 0.53% of retail sales. Table 2 shows statewide savings and *Scorecard* rankings for the 12 states with opt-out provisions.

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determine eligibility for opt-out on the basis of usage (kWh), North Carolina and South Carolina currently have the lowest thresholds, at 1 million kWh.

<sup>4</sup> Status current as of August 1, 2015. Note that plans for self-direct programming are under way in New York. Earlier in 2015 the New York Public Service Commission (PSC) directed electric utilities to offer a self-direct program for C&I customers by 2017.

Table 2. 2014 electricity savings and 2015 *State Scorecard* rankings for states with opt-out provisions

Opt-out states	% of 2014 retail sales	2015 rank
Maine	1.21%	14
Ohio*	1.05%	27
Indiana	0.74%	38
North Carolina	0.64%	24
South Carolina	0.53%	40
Arkansas	0.53%	31
Missouri	0.52%	44
Kentucky	0.37%	29
Oklahoma	0.30%	38
West Virginia	0.23%	45
Texas	0.19%	26
Virginia*	0.02%	31
<i>Average</i>	<i>0.53%</i>	<i>32</i>

Notes: \*We did not have 2014 savings data for these states. They were scored on 2013 savings as reported in EIA 2015. *Source:* Gilleo et al. 2015.

Maine stands out for achieving the highest percentage of savings and a high ranking on the *State Scorecard* compared to other states with opt-out provisions, although alternative sources of funding for efficiency help support large-customer programs in that state. Any customer that takes transmission or sub-transmission service in Maine is automatically opted out of paying for efficiency programs through a cost recovery mechanism, but still has access to programs and incentives through Efficiency Maine’s Large Customer Program. Program administrators report that large customers do participate in the program, and Efficiency Maine is able to address the savings opportunity with funds from the Regional Greenhouse Gas Initiative (RGGI), the Maine Power Reliability Program, and the Settlement of Maine Yankee (I. Burnes, Team Leader, Efficiency Maine Trust, pers. comm., May 5, 2016). This may be one reason why Maine is achieving higher levels of savings than other opt-out states. Ohio achieved the second-highest level of savings, but data for Ohio do not reflect the opt-out as they were reported before the provision went into effect, in January 2015.

The impact of opt-out provisions is also evident at the program administrator level. As savings from energy efficiency programs have grown in the past decade, national leaders in utility-program administration have emerged. In a report published earlier this year, *Big Savers: Experiences and Recent History of Program Administrators Achieving High Levels of Electric Savings*, ACEEE reviewed annual program performance for 14 leading energy efficiency program administrators with a focus on costs, electricity savings, cost effectiveness, and portfolio design (Baatz, Gilleo, and Barigye 2016). While numerous factors contribute to program administrators’ success, it is noteworthy that none of the big energy savers that emerged

in this analysis were administering programs in states with opt-out provisions, and all of them offer targeted programs that achieve significant energy savings from large customers.

It is very difficult to identify the level of savings achieved by large customers that have opted out of programs because they do not verify and report their results. Still, it is unlikely that they are implementing all of the measures that would be carried out through program participation, as programs help provide shorter payback periods for investments and include access to technical assistance and engineering expertise that are not otherwise available. ACEEE added relevant survey questions to its data request for the *2016 State Scorecard* to explore what if any data are available on savings and costs achieved outside of programs. Future research on the impact of opt-out provisions on utility program savings and costs would be useful.

## **Encouraging Greater Program Participation**

Opt-out is an outcome that can be avoided, and various program approaches can encourage greater participation from large energy users. This section explores approaches in three broad categories for enhancing the success of large-customer programs: (1) designing more-responsive programs, (2) demonstrating the value of programs, and (3) considering alternative program structures. It includes existing strategies that have proven successful in certain regions but have not been widely adopted across the country. It also includes new ideas that utilities can consider applying to future large-customer programs, especially with the greater integration of distributed energy resources on the horizon.

### **Designing Responsive Programs for Large Customers**

Designing programs that are responsive to the needs of large customers is the first and best way to encourage greater participation. Recent experience in Florida demonstrates how working with utilities to improve utility program offerings is one way to avoid an opt-out. Last year, a group of large customers petitioned the Florida Public Service Commission for the ability to opt out of paying energy efficiency fees. The petitioners claimed that existing utility programs were unsatisfactory and argued that they could implement energy efficiency measures more effectively on their own (FPSC 2016). In the end the commission found that the existing custom incentive programs offered by utilities were a viable alternative to opting out and reiterated their goal of ensuring that energy efficiency investments benefit all customers, not merely one group (Salisbury 2015). Instead of allowing large customers to opt out the commission directed utilities to work with the petitioners to make the programs less burdensome and more responsive as a means of increasing customer participation.

US Department of Energy (DOE) research has identified the most important design features of industrial energy efficiency programs (SEE Action 2014). Many of these best practices—going beyond prescriptive options and providing custom programs, understanding the customers’ primary businesses, accommodating their schedules—are not new strategies. Years of experience show that the most successful programs focus on building strong partnerships with the customer, which enables joint pursuit of the kinds of complex projects that represent some of the largest savings opportunities.

For some utilities this means investing in external firms to provide process and engineering expertise, which increases their capacity to tackle challenging projects. Leidos Engineering implements the Wisconsin Focus on Energy Large Energy Users program and has helped customers save 1,452 gigawatt-hours (GWh) since 2001 (Leidos 2015). With more than

30% of Wisconsin's energy consumption coming from industrial energy users, utilities have made a significant investment in providing leading-edge engineering capabilities to pursue more-creative and complex projects that result in high levels of savings.

Leidos's most recent contract includes the implementation of a strategic energy management (SEM) program in Wisconsin. Utilities in the Northwest and Northeast have widely adopted SEM programs with positive results, and other parts of the country may benefit from this model. SEM programs are a systematic approach to energy management involving workforce education and training and organizational culture change to achieve continuous improvement in energy efficiency. Some SEM programs include utility incentives to hire an onsite energy manager, which helps address the lack of staff time and expertise that prevents many large customers from participating in programs more fully. At least five utilities or third-party administrators provide this funding as part of their suite of efficiency programs (Kolwey 2016). Several programs are also including installation of and training in the use of an energy management information system (EMIS), which automates much of the data collection and analysis of energy savings.

More new technologies are becoming available that enable greater cost savings and more-efficient production processes on the customer side, which utilities can incorporate into their program offerings to meet savings goals. With these capabilities some utilities are starting to change the way they see their largest customers and are beginning to find new ways to partner with them and gain from investments in the electric grid. Large customers are often good candidates for distributed resources such as energy-efficient combined heat and power (CHP) systems, or for offering demand-responsive loads that reduce energy use during peak times. Targeted incentive programs can encourage customers to install distributed energy resources or do energy efficiency and demand response in locations along the distribution system where they are most valuable to the utility. This may help avoid grid congestion in an overloaded circuit or substation or help meet certain reliability requirements in locations where it is required.

A good example that is now routinely cited is Con Edison's Brooklyn Queens Demand Management (BQDM) Program, which specifically targeted a region of Con Edison's service territory for meeting major demand growth with customer-sited solutions. In 2014, instead of spending \$1 billion to build a new substation, the New York PSC awarded Con Edison \$200 million to pursue nontraditional customer-sited resources within the BQDM zone. Con Edison is offering a new program in 2016 to encourage commercial-building owners and industrial facilities to install energy-efficient CHP systems, by matching state incentives for CHP already offered by the New York State Energy Research and Development Authority (NYSERDA) (Con Edison 2016). This program will effectively double the incentive levels for CHP in this targeted area. Incorporating the locational value of large-customer resources into programs is a good strategy for meeting demand, and simultaneously lowers costs and gives customers greater control over their energy use.

Another new program recently launched by Con Edison is providing an incentive to large customers with onsite generation through a program enabled by networked system capabilities. Using advanced metering practices Con Edison will provide a performance credit to CHP system owners for standby power that they do not use, which can be a significant component of utility bills for facilities that generate their own power. One building owner in White Plains, New York, hosts a 2-megawatt (MW) rooftop CHP system and is expected to realize about \$41,500 in performance credits on its electricity bill in 2016 through the program (Graziano and Falcier 2016). While this program does not pay for the metering equipment itself, these connected

devices are required to calculate the incentive, and they benefit customers by automating the process for measuring and verifying their performance.

Other programs are directly incentivizing the adoption of information and communication technology (ICT)-enabled devices and networked system components for large customers. Commonwealth Edison, the largest electric utility in Illinois, provided incentives for a networked lighting system through its Smart Ideas for Your Business program. Funding supported the installation of LED lights that are controlled by an intelligent predictive system, saving approximately 1.2 million kWh per year at a Chicago warehouse (Digital Lumens 2013). As utilities gain experience with these kinds of incentives, this may lead to greater inclusion of smart manufacturing technologies, another strategy for encouraging greater participation in utility programs by large customers. The manufacturing sector has seen the introduction of many smart devices and control systems that can increase production-process efficiency, but given their complexity utilities have not yet embraced smart manufacturing technologies as part of their custom programs (York et al. 2015).

### **Demonstrating the Value of Programs to Large Customers**

Even when good, responsive programs are available large customers may still ask to leave. The pressure to stay competitive in global markets is a distinct reality for large companies, and fees for energy efficiency programs can sometimes add up to hundreds of thousands of dollars per year. The desire to avoid these charges is understandable, but the value a business receives from participation can be much greater than what it contributes through payment of system benefit charges or fees. Therefore, another approach beyond program design is to better communicate the value of these programs to large customers and state policymakers.

Large energy users often say that they do not need utility programs and will invest in all-cost-effective energy efficiency on their own as a matter of good business practice. This perspective was a central argument in the testimony of the Florida Industrial Power Users Group in the Florida opt-out case (FPSC 2016). The Industrial Energy Consumers of Pennsylvania made a similar claim in their testimony supporting an opt-out before the Pennsylvania House Consumer Affairs Committee (Messer 2015). The truth is that while industrial firms have continued to become more energy efficient per unit of product output, most have not captured many cost-effective energy-savings opportunities because they are constrained by the need for quick and high returns on their investments. Many large customers, for example, report that investments in energy efficiency must realize short, one- to two-year payback windows. Numerous projects that are indeed cost effective for the broader utility system cannot meet this payback requirement.

Utility companies have more-flexible investment requirements and can tolerate longer payback schedules. Their business model is designed to tolerate large-scale investments in public infrastructure like power plants and transmission lines, which offer slower returns on investment and may not pay off until 10 to 20 years in the future. That means that utilities can afford to be more patient in their investment decisions, especially when they prioritize least-cost resources like energy efficiency. Utilities that are motivated to capture energy efficiency resources can contribute program dollars to help fund high-quality efficiency projects at industrial facilities with medium-term payback periods, in the range of three to nine years. It is the combined investment of utility incentives and industrial program dollars that makes new savings possible



(as figure 2 shows). Utility programs that effectively address the capital planning processes and financial hurdles of the private sector can achieve greater energy savings than large customers can when they are left to act alone.

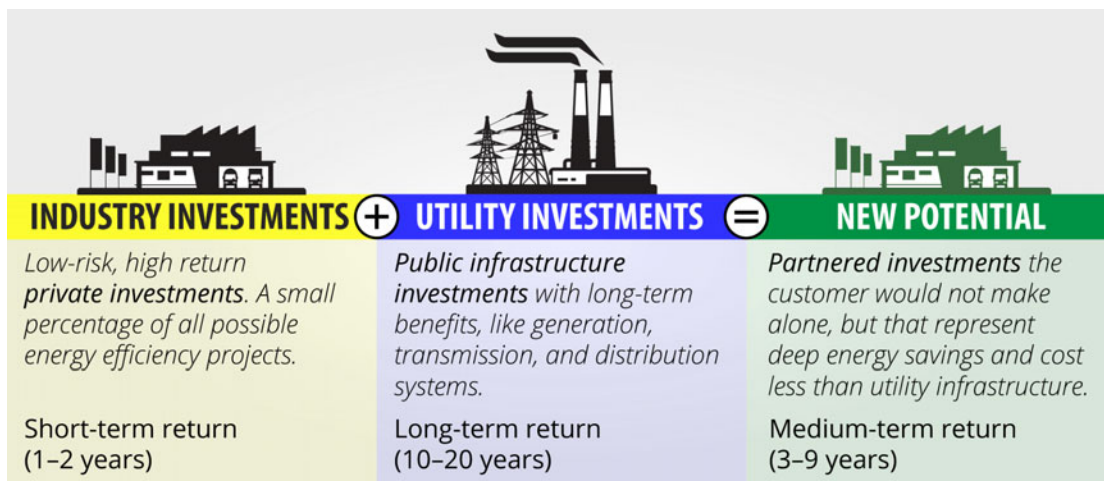


Figure 3. Combined industry and utility investments increase energy savings. *Source:* ACEEE 2016b.

When investments in energy efficiency are made through utility programs, customers get more than just financial incentives that reduce the cost of initial investments. Participation in programs is often the catalyst for identifying projects and the incentive to implement them. For some customers the access to technical expertise and project-implementation support is worth more than the actual incentive payment. Utility program implementers and engineering experts bring a fresh set of eyes to facilities and may find opportunities that plant staff have previously overlooked. They also bring an endorsement value and can confirm the validity of savings offered by a vendor, which helps give internal decision makers the confidence they need to approve investments.

Good account management is another important way utilities can help communicate the value of participating in programs. Too often implementers bring energy efficiency projects to customers without fully understanding their businesses or their top-priority issues. The best account managers listen carefully to learn what problems customers are most worried about and then make recommendations to address them with measures that also result in efficiency gains. Some utilities assign a small team of account managers who focus exclusively on energy efficiency for large customers. Efficiency Vermont manages its program with a team of 10 account managers specifically dedicated to building relationships and bringing value to the state's largest customers. The reality is that account managers are pulled in multiple directions, much as their customers are, and it is often easier to avoid acting as a champion for energy efficiency.

The value of participating in programs may not always be apparent, despite the fact that financial incentives, strong technical and engineering expertise, and reduced operating costs can significantly increase business competitiveness for large customers. In a recent DOE report industrial companies in four states—Colorado, Illinois, Kentucky, and Vermont—gave testimonials demonstrating the clear business value that they gained from participating in utility

energy efficiency programs (SEE Action 2015). When customers see the true value of participating in programs, they often choose to engage in programs for multiple years and are less likely to support a push for opt-out.

### **Consider Alternative Program Models for Large Customers**

It is possible that good utility programs exist and that their value has been clearly demonstrated, but large-customer participation is still not realized. In situations in which traditional programs cannot meet the needs of certain customers, states may consider developing alternatives such as self-direct programs or customized agreements between the utility and the large customer.

Sixteen states have pursued self-direct programs, which are fundamentally different from true opt-out provisions.<sup>5</sup> The self-direct approach typically allows customers to control some or all of how their energy efficiency fees are used and includes requirements that savings from energy efficiency are measured and verified. These programs can also offer additional customer benefits such as the flexibility to aggregate fees over multiple years, which effectively creates a source of capital finance for energy efficiency improvements. Self-direct programs are well suited to support a facility's internal energy-management activities because they allow customers to apply funds toward a wide variety of technologies and processes, some with multiyear time spans. These kinds of projects may be important to the facility's long-term energy-management strategy, but may not have fit within more-traditional efficiency programming.

Savings from self-direct programs are useful for system resource planning only if they are adequately measured and verified, and good programs require routine progress reporting. ACEEE research has identified several key elements of successful self-direct programs (Chittum 2011). Programs should be developed as part of a larger portfolio of robust program options, and they should allow a wide range of eligible technologies and flexibility with timing. The mechanism that allows customers to apply their fee contributions to projects is an important design consideration. The most common approach provides customers with rate credits on their bills or offers a rebate after progress toward savings goals is verified. However one of the most effective approaches for encouraging energy savings is to offer an escrow-like account that functions as a use-it-or-lose-it bank of funds. Puget Sound Energy offers this option in Washington State, allowing customers exclusive access to their energy efficiency funds, collected over a multiyear, noncompetitive program phase. At the end of the phase any unused funds are transferred to the overall budget for efficiency programs, and all customers can compete for these funds in the next phase (PSE 2014).

Self-direct programs operate very differently from state to state, and not all of them are effective alternatives to traditional programs. Some happen entirely outside utility programs and do not provide any avenue for reporting or verifying energy savings, but are still considered self-direct options. In Minnesota large customers may participate in a self-direct program managed by the Minnesota Department of Commerce that allows total exemption from fees for energy efficiency, as long as customers show that they are making reasonable efforts to implement energy efficiency on their own (Revisor of Statutes 2015). This program structure has little oversight and is arguably more similar to an opt-out provision than to a good self-direct program.

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<sup>5</sup> The states with self-direct programs are Arizona, Colorado, Connecticut, Idaho, Massachusetts, Michigan, Minnesota, Montana, New Jersey, New Mexico, Oregon, Utah, Vermont, Washington, Wisconsin, and Wyoming. Appendix C of ACEEE's *2015 State Scorecard* describes each policy in more detail.

It does not allow utilities to count on savings, and it discourages future engagement and relationship-building activities between utilities and large customers.

A few utilities in the Northeast have used a different alternative model to engage large customers, which avoids some of the issues that arise with weak self-direct programs. This approach establishes a memorandum of understanding (MOU) between the utility and the large customer, which allows both parties to negotiate and agree to multiyear energy-savings goals and incentive levels. Eversource Energy recently signed an MOU through its Customized Solutions Partnership (CSP) framework with United Technologies, a major aerospace manufacturer in Connecticut. The agreement provides a dedicated utility consulting team, a predictable incentive strategy, and an energy-savings target of 15% for electricity and 8.3% for gas over the course of three years (Eversource 2015). Program administrators in Massachusetts implement a similar model, called a strategic energy management plan (SEMP). Boston University has an agreement in place with both National Grid, the university's gas provider, and Eversource, its electricity provider. The university expects to reduce gas use by 5% per year over three years with National Grid and save 30 million kWh of electricity over four years with Eversource. Both utilities provide important additional resources through the agreements. National Grid provides a part-time energy engineer, and Eversource provides a partnership with a top engineering firm (BU 2016a).

The MOU/SEMP arrangement has advantages for both the customer and the utility. From the customer's perspective, it enables more certainty that incentives will be available, greater flexibility to accommodate capital planning processes, and the kind of outside engineering and technical services needed to improve process efficiency. According to Boston University the primary advantage of the agreements is the set incentive amounts based on a fixed dollar value per therm of natural gas or kWh of electricity saved, which allows the university to make the most of the incentive and more easily plan for future projects (BU 2016b). The utility has the advantage of being able to rely on the customer's commitment to save energy, which is important for resource planning. The MOU/SEMP approach may be better than traditional programs or the self-direct alternative for some utilities, especially as their customers seek more opportunities to control their own energy supply and demand, and as customer engagement and relationship management become more important.

## **Conclusion**

Energy efficiency programs offer a tremendous opportunity to benefit large energy users and help achieve the energy-savings goals of the states in which they are located. States that choose to keep their largest energy users in the fold of their energy efficiency programs and policies have a greater opportunity to achieve large energy savings at the lowest cost to all customers in the system. By contrast, states where large customers are allowed to opt out of participating realize lower-than-average savings and tend to rank in the bottom half of ACEEE's *State Scorecard*.

As we move toward the electric grid of the future, large energy users have the potential to play an increasingly important role in utility program portfolios. New technologies and advanced capabilities are becoming more prevalent, and utilities can use them to create innovative programs that encourage efficiency at optimal locations across the utility system. Large customers are uniquely positioned to bring significant value to the smart grid in a way that minimizes impact on the utility and maximizes benefit to the large customer and everyone else.

While utilities and program administrators apply these strategies, support from policymakers is needed to encourage large-customer participation for the long-term benefits that accrue to the communities in which they operate. Approving an opt-out is a state's choice, but these provisions often work against desired policy outcomes in energy and other important areas including economic development and the environment. The availability of energy efficiency programs for large customers is an important tool to help states attract and retain businesses, and residential customers can benefit as well, because highly cost-effective energy efficiency resources at large-customer sites displace the need for more generation and save money for all customers. Less energy waste at large-customer facilities is also a good strategy for reducing greenhouse gas emissions, and less air pollution results in health benefits for local citizens. Taken from all angles, everyone is better off when all stakeholders pay for and participate in programs and policies for a more energy-efficient future.

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