ACEEE
American Council for an Energy-Efficient Economy
529 14th Street, N. W., Suite 600 Washington, D.C. 20045 202.507.4000 202.429.2248 www.aceee.org

EXECUTIVE SUMMARY

One Small Step for Energy Efficiency: Targeting Small and Medium-Sized Manufacturers

The manufacturing sector accounts for about a third of primary energy consumed in the United States. This sector is increasingly relied on to generate energy savings to meet efficiency targets set by states and energy utilities. While most of that effort has sought savings from large manufacturers (the 10% of establishments that account for close to 50% of energy use), more energy efficiency programs are beginning to address the needs facing small to medium-sized manufacturers (SMM). This report discusses barriers, opportunities, and solutions to designing energy efficiency programs that result in significant savings from smaller manufacturers.

The term "small and medium-sized manufacturers" should not be confused with "small and medium businesses," a group that includes many non-manufacturing establishments. This report is focused on the manufacturing sector. It is also generally applicable to industries such as agriculture and mining.

For energy efficiency programs, onsite energy consumption—or sometimes electrical demand—is generally the best metric for judging industry size. This figure is commonly between a few hundred and several thousand megawatt hours (MWh) per year, or a half to several million therms of natural gas. In practice the industry composition in a given service territory drives the size threshold. For example, an area with large petrochemical facilities may have a different definition of "small" than an area with mostly auto parts suppliers.

SMM make up about 90% of manufacturing establishments and use about 50% of the energy consumed by industry. Despite using less energy at a given facility than their larger counterparts, SMM are good targets for energy efficiency programs for a number of reasons. Not only do they pay higher prices for their energy and are less likely to have dedicated onsite energy managers, but smaller energy savings projects tend to save a higher percentage of total consumption. Still, barriers exist: a lack of staff resources, capital constraints, and a dearth of expert information on energy efficiency opportunities.

To overcome some of these barriers, energy efficiency programs have offered manufacturers, including SMM, a suite of program models. These include energy audits to identify opportunities, prescriptive rebates that provide low-hassle incentives for common measures, custom rebates to provide incentives for more complex or unique measures, and workshops and informational materials to help manufacturers build internal capacity for identifying energy efficiency opportunities. Even the successful models can be improved upon. Some programs have changed their interactions with SMM, developed new offerings, or redesigned their existing offerings in the face of particular barriers.

Energy efficiency programs targeting SMM have opportunities in the areas of outreach, energy management, financing, and leveraging existing resources.

A key to successful energy efficiency programs is reaching out to and developing relationships with customers. This is true for all manufacturing, but it is a particular challenge when trying to reach a large number of smaller facilities. One way to reach out is through trade allies. In many cases, trade

allies already have relationships with SMM based on goods and services they have provided in the past. In addition to trade allies, programs can partner with other existing organizations such as local manufacturing trade associations, Industrial Assessment Centers, manufacturing extension partnerships, and state energy or economic development offices. Another way to increase participation among SMM is to streamline processes to reduce transaction costs.

Several successful energy management programs have learned from their experiences with larger energy users and applied those lessons to the SMM market. One way of doing this is to use a cohort approach, which involves recruiting companies and treating them as a group to reduce interaction costs for training and education events. This approach allows program staff to address several customers at once, and also provides a peer network for the manufacturers to share best practices and benchmark against. Another promising energy management strategy for SMM is to share energy managers. This approach is attractive because SMM typically do not have the staff capacity to hire a full-time energy manager. In one example, a manufacturer hired a consulting firm to provide the equivalent of one full-time staffer to manage the energy use of six of their plants.

A third opportunity for energy efficiency programs targeting SMM is to help secure financing for projects. Promising strategies include on-bill financing, in which the utility provides financing and customers pay for it through their energy bills, and property-assessed clean-energy (PACE) programs, in which energy efficiency projects are supported through a property tax assessment. These tools reduce the upfront cost of energy efficiency improvements, a crucial barrier to SMM.

Finally, efficiency programs can leverage existing resources such as state and federal tax credits. One often overlooked group of resources are the programs run through the United States Department of Agriculture (USDA), including the Rural Energy for America Program (REAP), the Business and Industry Guaranteed Loan Program, and the Rural Business Enterprise Grant Program.

Five lessons emerge from successful programs:

- Build relationships with industrial customers.
- Think about how to streamline administrative processes to reduce transaction costs.
- Help customers build energy efficiency expertise on their staff.
- Identify a particular barrier to the SMM being served and design the program around it.
- Build on past successes.