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## Two plastics industry giants partner with Vermont in energy efficiency program

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Published: March 28th, 2014

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It takes a lot of energy to run a large manufacturing plant, and that includes injection molding and moldmaking facilities, which can be energy hogs. Many plastics industry companies have taken steps to improve their energy efficiency through the purchase of energy saving machinery and other initiatives.

Nine Vermont companies - including two plastics industry manufacturers - have joined a Continuous Energy Improvement partnership with Efficiency Vermont, a program that provides technical assistance and support to develop a comprehensive approach in energy management to reduce waste and improve energy performance over time. Efficiency Vermont was created by the Vermont Legislature and the Vermont Public Service Board to help all Vermonters reduce energy costs, strengthen the economy and protect Vermont's environment.

"These companies have some of the largest energy needs in the state," said Greg Baker, senior account manager with Efficiency Vermont. "They've made a commitment to prioritize energy considerations in every aspect of their operations. As a result, they're getting significantly greater return on their efficiency investments than by viewing energy savings as a series of unrelated upgrades. In other words, they're not only installing efficient equipment, they're also using it in the most efficient way for their specific needs."



One participating company is Husky Injection Molding Systems of Milton, which has used the approach provided by Efficiency Vermont for several years. Husky takes a comprehensive view of its energy use, and has managed to cut its energy use by 38%.

"We've done a complete review of the processes and equipment in our entire facility," said DeWayne Howell, manufacturing technology manager at Husky. "In many cases, we invested in new equipment, lighting and the other kinds of upgrades that are viewed as typical energy efficiency projects. But those projects alone are now what enabled us to lower our energy usage."



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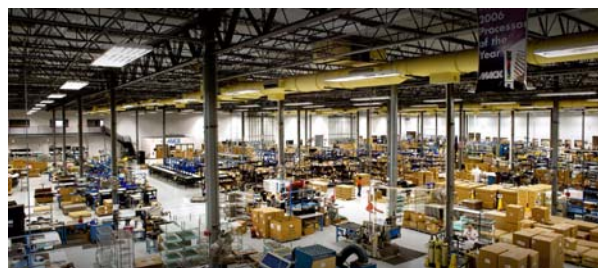
For example, with no capital investment, Husky is saving \$10,000 per month in energy costs by reducing the pressure of its system providing fluids to milling and metalworking processes, according to Efficiency Vermont. By working with Efficiency Vermont to test and assess the system, Husky discovered and remedied significant energy waste while maintaining production standards.

Mack Molding, a custom injection molding and contract manufacturer, also participates in the Efficiency Vermont program. The company has a long history of working with this group on individual energy projects. "Over the years, these respective projects, from lighting upgrades to variable frequency drive retrofits, have yielded varying degrees of measurable success," Marc Colety, director of procurement, told **PlasticsToday**. "In the past, each project was reviewed and rationalized on its individual merit, however, as an aggregate body of work, there was never a cohesive, all-encompassing energy management solution driving the activities."

Today, Mack is using a different approach - Continuous Energy Improvement (CEI) - to impact the high costs of energy in Mack's geographic location. Partnering with Efficiency Vermont and Cascade Energy (Portland, OR), Mack is using CEI practices and new energy measurement tools to form a cohesive plan to lower energy costs. By looking at how energy is used, CEI practices recognize how employee engagement, maintenance practices, and process optimization can impact energy costs.

While traditional capital equipment upgrades are also part of the CEI mix, these are integrated within a larger energy management plan, making these investments more targeted and capable of delivering results.

Colety explained that each of the participating companies in Efficiency Vermont's CEI pilot initiative is at different stages of involvement with their own initiatives because CEI recognizes that and allows enough flexibility for participants to integrate the program into their current activities. "The formation of a panel of representatives from the participating companies offers a forum for sharing ideas and concepts from real-world programs and initiatives," added Colety. "This, coupled with the individual training modules provided by Cascade Energy and Efficiency Vermont, are currently expanding the tool boxes each organization has at their disposal."



Mack's program has focused on improving the data available for making energy related decisions. Efficiency Vermont has assisted by sharing the costs associated with hardware installations, as well as the training, technical assistance and engineering review necessary to create an infrastructure that will provide real-time data on individual equipment or groups of equipment.

For example, in both the Cavendish (Vermont) plant and Mack's headquarters facility in Arlington, VT, "we are installing sub-metering equipment in order to analyze energy usage patterns, not just of the plant overall, but in 24 individual sub-sections of the plant previously identified as high energy consumption areas," explained Colety. "With this data, we can analyze power usage and cost models based on actual consumption patterns. In the Cavendish facility, we are also installing SENSEI energy measurement and verification software to drill far deeper into the cost drivers than we've been able to do before."

With this additional data, Mack will focus on implementing the most cost effective, highest yield projects in its future energy plans. Efficiency Vermont's engineering resources, coupled with Mack's ability to completely understand the cost drivers and patterns, will enable the company to yield higher returns-on-investment with future projects.

"Effectively managed, this will allow us to increase production while decreasing energy usage - the ultimate goal," Colety stated.

Added Baker: "It's a privilege to help these Vermont employers to strengthen their bottom lines by significantly reducing overhead. All Vermonters benefit from the commitment of these large energy users to reduce demand on the state's electrical grid. Their actions prevent the need for more power generation, more power lines, and associated rate increases for us all."

