

LKQ Corp

Industrial Systems Optimization Program

LKQ is North America's leading provider of recycled original equipment auto parts for cars and light-duty trucks requiring collision or mechanical repair. After a successful lighting upgrade project with Puget Sound Energy in 2017, the team looked for more ways to increase efficiency at their 75,000 sq ft manufacturing facility in Bellingham, WA.

Michael Allan, Health and Safety Coordinator at LKQ searched for a program that could guide LKQ through the next steps in their energy efficiency journey. "We're a recycling company at heart. We take engines headed for the scrapyard and give them new life. We're big on conservation—for us it's not just about lowering our energy bill," says Allan. In 2018, they applied for PSE's Industrial Systems Optimization program.



Photo credit: Brandon Sawaya

View of LKQ's shop floor in Bellingham, WA.

Project savings:

248,179 kWh/year | 13.4% of annual energy | \$15,494 saved annually | \$1,241 incentive earned (100% of project costs)

Discovering opportunities to save

Sometimes it's the small things going on just under our noses that make the biggest difference. The first step in any ISOP partnership is investigating equipment and processes to identify low-cost and no-cost opportunities for energy reduction. Among the improvements identified at LKQ, major areas for savings included set point adjustments, changing habits, and leak repairs.

- 1. Adjusting set points** – The washer for the tubs that store incoming engine blocks had a set point that was 30°F higher than necessary, causing the water heater to constantly work and never cycle off. Additionally, the small heat pump used to cool the facility's IT equipment was adjusted by 4°F, reducing the energy used without affecting the equipment. Adjusting set points provided several quick wins.
- 2. Changing habits** – Simple adjustments to everyday habits also proved to be an easy energy-saver. Observation showed machines or lights were often left turned on during break times, lunch, and at the end of shifts. Operators were reminded to turn off equipment during team meetings and energy conservation placards were installed near work stations.
- 3. Repairing leaks** – The central compressed air system also proved to be a big source of energy drain, revealing multiple leaks. Large lines run from a central compressor across the facility and drop down to about a hundred work stations where compressed air is used mainly for powering hand tools. With the help of the ISOP team, Allan put together a "Tag a Leak" program and asked employees to identify leaks at their station using bright green tags. After about a month the LKQ maintenance crew went through and fixed the leaks by simply changing out the fittings and applying new thread tape. The "Tag a Leak" program is now incorporated into standard operating procedures and fits into a planned maintenance schedule.

"We knew that leaking air was wasting money but seeing exactly how much it adds up really stuns you," - Mike Allan

Seeing is believing

Making these low-cost and no-cost changes had a big payback for LKQ. “Along with the low-cost solutions, we were able to come away with recommendations for future improvements as well, like automation for our heating equipment. The energy management engineers have been really helpful and have continued to discuss ideas after the project ended,” says Allan.

An additional benefit of ISOP is the development of an Optimization Report that includes all of the optimization findings, along with detailed action items that LKQ wasn’t able to address during the project timeline. A year after completion, Allan reported that LKQ has continued to make adjustments he learned from the ISOP team – like finding the right set points on other machines using the “tweak and peek” method.

“The tools and expertise we got from PSE helped us quantify and prioritize projects very quickly. A huge benefit of the program was having a timeline with action items for us to complete—it really helped us stay on track and know we were headed in the right direction.” - Mike Allan



Photo credit: Brandon Sawaya

Michael Allan, Health and Safety Coordinator and
Anthony Coomes, Maintenance Manager