

Ameren Missouri BizSavers® Program Energy Savings Case Study

Toyota Motor Manufacturing Missouri

Automotive component and motor manufacturing is a complex and energy-intensive process, and keeping costs down is essential to producing parts of affordable cars and trucks. When combined, compressed air, lighting and HVAC account for 49% of the average automotive manufacturing facility's electricity use, which is why Toyota Missouri started upgrading these technologies when they began pursuing energy efficiency. The plant in Troy, Missouri, worked with the Ameren Missouri BizSavers Program to upgrade their equipment, reducing long-term energy costs while earning incentives to reduce the initial cost to upgrade. Toyota Missouri's upgrades now save the company more than \$240,000 in energy costs each year!

Project Summary

Beginning in 2016, Toyota Missouri replaced more than 200 fluorescent lamps and fixtures with more efficient LEDs before quickly moving on to upgrade old compressed air units. Along with investing in more energy-efficient air compressors, they conducted a Retro-commissioning (RCx) study of the entire compressed air system that identified and corrected inefficiencies such as air leaks in the distribution system, which improves performance while using less energy. The company continued by installing high-efficiency rooftop cooling units and variable frequency drives (VFDs) before going back to replace even more lamps and lighting fixtures. Following these improvements, Toyota Missouri was able to reduce their annual energy use by 4,111,855 kWh.

Incentive

Toyota Missouri has earned a grand total of \$304,440 in incentives for their energy-saving upgrades through the Ameren Missouri BizSavers Program. Because of the generous incentives and annual energy cost savings, the upgrades to the automobile manufacturing company will pay for themselves in just shy of six years.

Technology

Compressed air accounts for as much as 14% of the average automotive manufacturing facility's electricity costs. Old, inefficient or poorly-maintained compressed air systems can be extremely costly. Optimizing system performance and upgrading to more efficient equipment can help reduce pressure drops and system leaks, saving energy and money. Another easy energy efficiency improvement can be made by upgrading to LEDs. LED lighting is known for its low energy costs and long life. In fact, LED lamps can reduce energy costs by 30-50% when switching from comparable fluorescent lamps or fixtures. They also generate less heat, reducing the impact on the HVAC load. New, efficient HVAC systems can use 30-50% less energy than older, inefficient units, and adding additional improvements like HVAC controls and variable frequency drives can take your savings even further. Newer units not only save on energy costs, but they can also reduce maintenance costs and improve comfort and safety, providing a better environment for employees.

Facility Information

Facility type:
Industrial/Manufacturing

Measures:
**Lighting, Cooling, VFDs,
Compressed Air, RCx**

Annual energy cost savings:
\$243,470

Annual kWh savings:
4,111,855

Total project costs:
\$1,162,464

Total incentives:
\$304,440

Payback:
6 years

Get Started Saving!

Find out how you can save at AmerenMissouri.com/BizSavers or by contacting a Business Development Representative at BizSavers@Ameren.com or **1.866.941.7299**. Ready to start saving now? Find an approved contractor at TradeAllyNetwork.com.