

Ameren Missouri BizSavers® Program Energy Savings Case Study

Parkway School District

One of the largest school districts in the St. Louis metro area is saving more than one million dollars each year because they are making energy efficiency upgrades to benefit their students, the environment and their bottom line. Beginning in 2009, Parkway School District began actively pursuing energy efficiency upgrades in their facilities. After more than ten years of work with the BizSavers program, virtually every school building has seen significant reduction in energy use. One key to Parkway's success has been setting district-wide standards for the procurement of new equipment with efficiency at the forefront, knowing that they can count on energy savings and Ameren Missouri BizSavers® incentives to mitigate the cost. The district has also developed mechanisms within their organization to 'recycle' funds from one energy efficiency project and use it to help fund another, continually completing projects and earning, in total, **more than 1.5 million dollars in incentives** from the Ameren Missouri BizSavers Program.

Project Summary

Energy costs are one of the top operating expenses for K-12 schools across the nation; and earning incentives from energy efficiency projects make a big difference in school budgets. With 218 total projects completed, the district has updated thousands of fluorescent, incandescent and HID lamps and fixtures to LEDs. They also have replaced old inefficient HVAC systems with higher efficiency units, often adding variable frequency drives (VFDs). In their existing buildings, Parkway has also taken advantage of retro-commissioning incentives to optimize building performance and implement advanced HVAC control strategies with quick payback periods.

Parkway looks beyond common lighting and HVAC projects and utilizes the Custom Incentive Program to earn incentives for everything from high-efficiency walk-in freezers to high-insulation roofs.

For new buildings, including the 2-story addition at Parkway South Middle School and the re-purposing of the Instructional Services Building into an elementary-primary center, the district has taken advantage of New Construction incentives to set up these buildings with LED lighting, controls and more efficient HVAC equipment than required by local code.

Overall, these upgrades have reduced Parkway School district's energy use by **more than 13,500,000 kWh every year.**



Facility Information

Facility type:
K-12 School District

Measures:
HVAC, Cooling, Lighting, VFDs, HVAC Controls, Geothermal and Air Source Heat Pumps, New Construction, RCx, EMS

Annual energy cost savings:
\$1,220,605

Annual kWh savings:
13,598,855

Total project costs:
\$8,335,568

Total incentives:
\$1,631,157

Total projects:
218

Payback:
3.30 years



Parkway School District Case Study *Continued*

Incentive

In total, Parkway **earned over \$1,600,000 in incentives** for their energy-saving upgrades from the BizSavers Program. With the generous incentives and annual energy cost savings, the median payback period for Parkway's facility upgrade projects is just 3.3 years!

Technology

Known for their low energy consumption and long life, LED lamps can **save up to 50% in energy costs** as compared to fluorescent lamps and provide students with a better and brighter learning environment. They also generate less heat, reducing the impact on the HVAC load.

New, efficient HVAC systems use about **30-50% less energy** than older, inefficient units. Additional incentives can also be earned by adding improvements like HVAC controls and VFDs. A big energy saver for Parkway has been the replacement of old rooftop HVAC units with more efficient systems that employed advanced strategies including demand control ventilation. Installing Energy Management Systems (EMS) can greatly lower energy usage and costs because the system monitors various components like lighting and

HVAC, controls applications, gathers usage data and optimizes performance to save energy and money.

Schools can save thousands on future electricity costs through the BizSaver's New Construction Program by completing a building energy model to find optimal ways to save energy before the building process begins.

With countless ways to save and a variety of energy efficiency projects to pick from, the Parkway School District will continue to invest in energy-efficient improvements, providing students with a healthier, more efficient learning environment.



Project Breakdown

Lighting:

5,658,058 kWh annual savings
\$498,850 in incentives earned

Cooling:

2,517,597 kWh annual savings
\$373,106 in incentives earned

HVAC & Controls:

4,037,319 kWh annual savings
\$678,288 in incentives earned

Miscellaneous:

942,760 kWh annual savings
\$48,200 in incentives earned

Motors:

179,037 kWh annual savings
\$8,952 in incentives earned

Water Heating:

264,087 kWh annual savings
\$23,768 in incentives earned

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.