

The following electrical energy-saving projects were implemented across WPPI Energy's member communities and are provided as examples of eligible projects for the RFP for Energy Efficiency Program.

Refrigeration System Upgrades



Cheese Processing Facility - This project represents a best practice for dairy processing facilities. The facility installed an energy saving regeneration system, which helps save energy both for heating as well as cooling milk. The system transfers thermal energy from hot sweet cream to chilled milk in preparation for the pasteurization process. A second stage of the process pre-cools water for the whey process. By controlling the energy used during processing they not only save energy, they also reduce operating costs and improve the operational efficiency of their systems.

Incentive Funding: \$40,000 for refrigeration system improvements

Estimated Impacts: 91.7 kW demand reduction
514,000 kWh/yr conserved

Annual estimated energy savings: \$28,184

HVAC Upgrades



Medical Care Facility - A small town Medical Care Facility conducted a comprehensive study of their existing heating, ventilation, and air conditioning system. The study revealed that installation of direct digital controls on a number of valves and dampers, upgrading the existing building automation control system, and installing variable speed drives on air handling units would not only save energy, but also improve issues such as occupant discomfort and improper ventilation. Once installed, the facility was able to properly control conditioning and improve indoor air quality, while implementing night and occupancy roll-backs to help save energy.

Incentive Funding: \$30,000 to upgrade controls and ventilation equipment

Estimated Impacts: 220,000 kWh/yr energy conserved
\$38,000 saved annually (includes gas and water)

Annual estimated energy savings: \$15,669 in electric savings



Chiller/Process Cooling Upgrades

Medical Device Manufacturer - Through an advanced study, this manufacturer determined that they could meet process cooling needs using a custom well pump system. The project allowed a 90 ton chiller to be taken offline. This proved to be cheaper to operate and maintain than other scenarios of replacing and upgrading the existing chilled water system. The new system saves them energy and helps reduce operating costs.

Incentive Funding: \$20,000 to install custom cooling system

Estimated Impacts: 33 kW demand reduction

289,080 kWh/yr energy conserved

Annual estimated energy savings: \$18,790

Compressed Air System Upgrades

There are numerous compressed air upgrades that can be completed in a facility ranging from plant improvements, upgrading base load compressors, or upgrading to variable speed compressors.



Automotive Product Manufacturer - This local manufacturer optimized the compressed air system in their facility by addressing both the supply- and demand-side. The existing system was metered and modeled to establish a solid baseline. The incentive helped them attain the acceptable project return on investment set by the investment company owners of the facility. By upgrading to a newer, more energy-efficient model, they were able to reduce operating costs, improve productivity, product quality, system reliability and competitiveness.

Incentive Funding: \$19,345 for compressed air control panel, flow control valve, and storage capacity

Estimated Impacts: 45.0 kW demand reduction

370,000 kWh/yr energy conserved

Annual estimated energy savings: \$28,250

Grocery Store Upgrades

Grocery stores often have opportunity to upgrade to high-efficiency fluorescent lighting and address refrigeration energy consumption. Light-Emitting Diodes (LEDs) are becoming popular in refrigeration cases, which saves energy in lighting and produces less heat in the cases. An additional opportunity is to upgrade evaporator fan motors with high efficiency Electronically Commutated Motors (ECMs). Some stores have added refrigeration controls or heat reclaim.



Grocery Store - With the help of their Energy Services Representative, multiple opportunities for energy savings (lighting, ECMs, and refrigeration controls) were identified at this local grocery store. The RFP award brought the simple payback to under 2.5 years which allowed all the measures to be implemented within one project scope. Their savings however, will continue year after year.

Incentive Funding: \$39,000 for lighting, ECMs, and refrigeration controls
Estimated Impacts: 64.2 kW demand reduction
611,000 kWh/yr energy conserved
Annual energy savings: \$62,997

Wastewater/ Blower/Aeration Projects

Wastewater systems typically have large pumps moving lots of water. This presents opportunities for high efficiency or optimized pumps and variable speed based on demand. Wastewater systems also have to keep water moving and maintain oxygen levels with aeration and blower systems. Both involve large electric motors. High-efficiency systems and fine diffuser aerators are frequently used to decrease energy use of these systems. Larger projects from a paper manufacturer and a consumer tissue products manufacturer have also been approved with savings of more than 1 million kWh.



Wastewater Treatment Plant - This locally-owned public power utility made several upgrades at their plant and used RFP funding to install a high-efficiency blower with a variable frequency drive, as well as additional aeration piping and blower control system upgrades. These energy efficient upgrades made it possible to reduce expenses, better serve ratepayers, and run the wastewater treatment plant more effectively.

Incentive Funding: \$60,000 for high efficiency VFD blower & aeration system upgrades
Estimated Impacts: 33.4 kW demand reduction
428,000 kWh/yr energy conserved
Annual estimated energy savings: \$41,157



Other Custom Systems

Rubber, Plastic, and Silicone Manufacturer - As part of an expansion project to convert their existing plastic resin drying process with a more efficient centralized system, this manufacturer had an opportunity to increase the energy efficiency of their processes. In addition to energy cost savings achieved with less drying and vacuum pump load, the new energy-efficient centralized system which was installed resulted in less material handling time, less raw material waste and higher machine utilization; saving them energy and helping their bottom line. The RFP funding helped them achieve project economics within the corporate hurdle rate of 2.0 years.

Incentive Funding: \$116,900 to replace plastic press dryers with a central system
Estimated Impacts: 227.0 kW demand reduction
 1,362,000 kWh/yr energy conserved
Annual estimated energy savings: \$85,766

HOW TO GET STARTED

Talk to our Energy Service Representative for more information. They can help you identify eligible electrical projects, choose the right project for your energy-saving goals and collect the information you'll need to complete the application process.