



Hiland Dairy of Fort Smith, Arkansas: Saving Energy in the Dairy Processing Industry



Energy Efficiency Projects Pay Off for the Fort Smith Facility

Faced with mounting energy costs and environmental concerns, the Hiland Dairy management team in Fort Smith, Arkansas, committed to finding new ways to improve efficiency and save energy.

Dairy processing was the key focus, due to strict quality control requirements. Hiland also investigated more efficient methods of cleaning, testing, packaging and warehousing. Every adjustment required forethought and planning to avoid disrupting existing operations.

The Hiland Dairy Fort Smith facility produces fresh milk in a variety of sizes: five-gallon bags and one-gallon and half-pint cartons. They also produce juice and buttermilk and fill totes for ingredient customers.

In 2018, OGE Energy Corporation (OG&E) provided incentives to upgrade lighting and install a new compressor.

Shay Morse, Hiland's maintenance supervisor, was put in charge of researching available assistance and installing the new lighting and compressor. True to his usual style, Morse delivered. In 2018, Hiland invested capital funds to upgrade the outdated air compressor as well as much of the lighting throughout the facility.

Much of the up-front cost was offset by incentives provided through OG&E's Commercial & Industrial Program, resulting in a simple payback period of just over one year for both projects combined.

The new R75N variable-speed compressor is already saving money due to its lower energy and maintenance costs, and lower overall runtime.

Compressor project highlights:

- Energy Savings (kWh/yr) = **234,020**
- Energy Savings (\$/yr) = **\$11,490**
- OG&E Incentive Payment = **\$32,763**
- Simple Payback Period = **0.8 YEARS**

"This was a regular equipment replacement," explained general manager Darren Cox, "but by choosing an energy-efficient unit, we were able to secure rebate incentives from our electrical supplier."

"The air compressor runs all of our air needs for the entire plant," he added. "The new lighting replaced existing, less-efficient fixtures."



Over 100 high bay 400-watt metal halide fixtures throughout the plant were replaced with 160-watt Metalux LED fixtures. Hiland also upgraded all high-output fluorescent fixtures, as well as most of the exterior lighting. The newer fixtures require far less energy and save on maintenance since LEDs last far longer.



Lighting project highlights:

- Energy Savings (kWh/yr) = **300,004**
- Energy Cost Savings (\$/yr) = **\$22,800**
- Demand Reduction (kW/yr) = **36,234**
- OG&E Incentive Payment = **\$42,000**
- Simple Payback Period = **1.3 YEARS**



Hiland expects these two projects to save approximately **534,024** kWh annually, which equates to an energy cost savings of **\$34,290**. Total OG&E incentive payments offered an additional **\$74,763**.

