

Hiland Dairy Norman, Oklahoma Facility: Achieving Energy Efficiency through Strategic Initiatives

Overview

Through strategic initiatives and collaboration with Oklahoma Gas & Electric (OG&E), Hiland Dairy's Norman, Oklahoma plant has achieved notable milestones in sustainability and energy efficiency. These efforts earned the plant recognition in 2019 with the Sustainability Excellence in Manufacturing Award (SEMA) from ProFood World.

Objectives

- **Energy Reduction:** Decrease overall consumption by implementing an energy management system and technological upgrades.
- **Environmental Responsibility:** Significantly reduce greenhouse gas emissions.
- **Cost Efficiency:** Lower operational costs through energy-saving measures and OG&E incentives.

Approach and Timeline

1. Establishing a Baseline (2017-2018)

- Energy usage was measured to benchmark progress.

2. Forming an Energy Team (2018-2019)

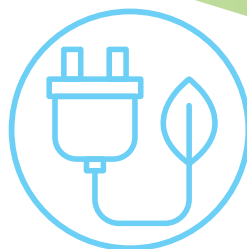
- The plant's general manager and plant manager led a dedicated team to identify and implement energy-saving opportunities.

3. Implementing Technological Upgrades (2019)

- Retrofitted the facility with LED lighting, cutting monthly energy usage.
- Replaced outdated mercury thermostats with programmable digital units.
- Optimized refrigeration systems for energy efficiency.
- Integrated daylight harvesting systems to minimize reliance on artificial lighting by automatically dimming or switching off lights when daylight was sufficient.

4. Behavioral and Operational Changes

- Adjustments to equipment runtimes and team habits further reduced energy consumption.





Results

Financial Impact

- The \$110,000 LED lighting project received \$76,751.40 in rebates and grants from OG&E, leading to a net cost of \$33,248.60.
- Achieved \$57,859 in annual energy savings in 2020.
- Recent savings from the installation of a harmonic filter on October 29, 2023, have been significant. Comparing 2024 to the previous two years:
 - November 2024, electric bills decreased by 18.38% compared to November 2023.
 - December 2024 saw a 21.92% reduction from December 2023.
 - Cumulative fiscal year savings amount to \$108,360.73, representing a 15.7% year-over-year cost reduction.

Energy Savings

- Reduced energy consumption by nearly 1.1 million kWh annually (12.2% reduction).
- Additional reductions were achieved in 2024 due to harmonic filter implementation.
- Equivalent to the energy needed to power 1,134 single-family homes for a year.

Environmental Benefits

- Avoidance of 769 metric tons of CO² emissions annually, contributing to cleaner air and a healthier environment.

Awards and Recognition

Hiland Dairy's efforts were celebrated with the SEMA award, spotlighting the Norman plant as a leader in sustainable manufacturing practices.

A Model for Sustainability

The success at Hiland Dairy's Norman facility illustrates how dedicated teams, targeted investments, and strong partnerships drive meaningful environmental and financial outcomes. This initiative serves as a replicable model for other Hiland facilities.



Visit hilanddairy.com/sustainability for additional details on Hiland's commitment to sustainability.