



Electricity



Transportation



Buildings



Industrial



Agriculture



Sequestration

Industrial Energy Efficiency Systems

Client: Cayuga Milk Ingredients
2019

Cayuga Milk Ingredients offers locally produced, high-quality, and specialized dairy ingredients. Their 110,000-square-foot facility is designed to process up to 1.85 million pounds a day of liquid milk into ingredients like milk protein concentrates, milk protein isolates, 42% butterfat cream, skim milk powder, and whole milk powder.

During the design phase of the facility in the Finger Lakes region of upstate New York, Cayuga Milk Ingredients identified several energy conservation measures to implement during construction, including a refrigeration system, air compressors, process pumps and process equipment, and reverse osmosis and mechanical vapor recompression.

Working with NYSERDA's Industrial and Process Efficiency-Existing Facilities program, Frontier Energy calculated the dairy's energy savings. We used EMCs that Cayuga developed and incorporated into the new facility process design and reviewed the measurement and verification plan.

We inspected the facility after construction to ensure upgrades and ECMs were installed as designed, and then produced a report detailing the process. Once the facility started operating, the Frontier team helped Cayuga execute the M&V plan.

Annual energy savings from the upgrades total 6,638,597 kWh and 98,962 MMBtu, and Frontier estimated \$923,544 in annual cost savings.



FRONTIER ENERGY:

- Contacted Cayuga to explain the process and requirements of participating in the program
- Completed an engineering analysis review of Cuyuga's eligibility, the reasonableness of savings estimates, and the appropriateness of the proposed Measurement and Verification (M&V) plan
- Completed a pre-installation inspection of the facility
- Conducted a post-installation inspection and report that documented project costs and incentive payment recommendation
- Reviewed the annual savings reports at the end of the measured performance period to verify compliance with the M&V plan