



LOUISIANA FOOD MANUFACTURER

LSU INDUSTRIAL TRAINING AND ASSESSMENT CENTER

Audit Highlights

- The team's report identified six recommendations that estimated annual savings at \$79,584.
- The total implementation cost of projects is estimated at \$587,569 with an average of payback period of 7.38 years.
- The recommended projects incorporate repurposing scrap plastics.

Facility Highlights

- The site provides the students with product samples to taste various blends and products.
- Students mentioned the frequent use of this quintessential Louisiana brand.
- The facility prioritized employee ergonomics and cleanliness to increase productivity.

Summary

The LSU Industrial Training and Assessment Center (ITAC), hosted by the LSU College of Engineering, in partnership with the LSU AgCenter, worked with local chemical manufacturers to take the next step into a sustainable future. As part of the U.S. Department of Energy Office of Manufacturing and Energy Supply Chains (MESCC) funding, the team of students and faculty provided no-cost sustainability assessments for the manufacturer. The team recommended projects including repurposing scrap plastics, improving roof surface and adding programmable thermostats. The assessment took place during the summer 2025 cycle and will hopefully lead to a future successful funding application from the manufacturer.



Packaging areas have opportunities for waste savings. Photo by LSU ITAC students

Application Process

To take part in an assessment with the LSU team or for more information, visit the DOE-ITAC website or email M.P. Hayes at mhayes@agcenter.lsu.edu with questions. This program is designed for manufacturers with annual utility costs of \$100,000 to \$3,500,000 and annual revenue less than \$250 million. Other programs may be available for facilities that do not meet this requirement. In previous years, there have been funding opportunities associated with recommendations for implementations for eligible manufacturers through various federal agencies.



Colored Roof for Solar Loading

The LSU team observed that the facility's roof was not coated with reflective paint or any cool-roof mechanism during the assessment. The team noticed that the color of the existing roof is dark, which absorbs a lot more heat than a lighter color because it absorbs radiation energy. Conventional roofs can reach temperatures of 150 F or more on a sunny summer afternoon. Under the same conditions, a reflective roof could stay more than 50 F cooler. Furthermore, the ability of the reflective coating to reduce the effect of radiation energy will consequently decrease the cooling load on the HVAC in the space, resulting in energy savings.

Energy Savings
52,942 kWh/year

Total Cost Savings
\$4,606/year

Implementation Cost
\$17,913

Payback Period
3.89 years

Repurposing Scrap Plastic

Energy Savings
None

Total Cost Savings
\$16,005/year

Implementation Cost
None

Payback Period
None

The team identified opportunities to improve scrap plastic management by recycling or regrinding excess material for reuse in production, reducing the need for new raw plastics. Reusable parts could be directed to secondary application, while unsalvageable plastics could be sold to external buyers. These measures would lower disposable costs, reduce material expenses and support the facility's sustainability goals through waste diversion and resource efficiency.

Programmable Thermostats

During the team's visit, the students observed that the facility lacked programmable timers and thermostats for its HVAC and lighting system during the assessment. Without these controls, equipment often operates longer than necessary, leading to excess energy use. Timers and thermostats allow the system to run only when spaces are occupied or when conditions require it, reducing unnecessary runtime. This not only lowers electricity consumption but also extends equipment lifespan. Implementing such controls could result in measurable energy savings and improve operational efficiency.

Energy Savings
149,559 kWh/year

Total Cost Savings
\$13,011/year

Implementation Cost
\$50

Payback Period
0.01 years

Other Recommendations

The team has additional recommendations for upgrading to higher-efficiency equipment and renewable options. The lighting system is currently outdated, but upgrading could reduce electricity consumption while maintaining

proper illumination throughout the space, saving \$3,367 per year with a \$3,470 implementation cost. The outlined recommendations are a summary and not a comprehensive economic analysis of the projects.

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