ECOBRITE LINEN
NEW CONSTRUCTION PROJECT CASE STUDY

Photos courtesy of Seventhwave

PROJECT SNAPSHOT	
Customer	**EcoBrite Linen**
Measures implemented (partial list)	» **Efficient interior lighting** » **Demand control ventilation** » **Variable speed dryer exhaust** » **Refrigerated compressed dryer air** » **Process wastewater heat recovery**
Building type	**44,288 square foot industrial facility**
Architect	**Nevin Hedlund Architects, Inc.**
Mechanical engineer	**Farekas Engineering Group, Inc.**
Energy consultant	**Seventhwave**
Estimated annual energy savings	**243,605 kWh / 161,374 therms**
Estimated annual cost savings	**$137,323**
ComEd® Energy Efficiency incentives received	**$74,361**

PROJECT SUMMARY

When founder and CEO of Ecobrite Linen, Brian Polatsek, was seeking support with his energy efficiency goals for his new industrial laundry facility, he turned to the ComEd® Energy Efficiency New Construction Service. Ecobrite Linen is unique in that it serves the healthcare industry by providing linens and personal patient laundry services specifically for long-term care and skilled nursing facilities. In addition to energy efficiency in their process and building operation, the business model for Ecobrite Linen is founded on many sustainable principles that are visible in other areas of the company. The linens produced are designed to last a long time. In order to extend the life of the linen, Ecobrite Linen utilizes cleaning solutions that actually protect the linens through the washing process. There are no toxic solvents or chemicals used. Employee safety and ergonomics are first and foremost, and equipment such as washers incorporate water conservation technologies too.

In seeking a space to launch his company, Brian looked at over 100 properties to find the one that included all of the attributes he was seeking. He opted for an existing 44,288 square foot warehouse space in Skokie. The location provided easy access to major thoroughfares of the surrounding communities, which the company serves. The space was designed for growth, and in the first year of operation Ecobrite Linen planned to almost double the number of employees working at the site.

Since Brian had a previous, positive experience with the ComEd Energy Efficiency Program; he led the charge

with building systems and process equipment efficiency objectives. He sought out opportunities with measures that had a reasonable payback period to help defray the costs. The aim was to maximize savings opportunities through energy reduction and recovery. What resulted was the incorporation of creative and innovative solutions that "not only made sense from an energy conservation perspective, but from a financial perspective too." according to Drew Morrison, the energy engineer providing technical support on the project.

The program offers both the owner and the design team technical services which includes independent energy analysis. The analysis reviews various efficiency measures under consideration and rates them so investments made can be justified prior to implementation. Brian was especially interested in how the team could establish a baseline for measuring the performance of the process equipment. Some of the specialized equipment Brian was interested in purchasing included efficiency upgrades that were not available on the standard laundry equipment. Several innovative efficiency measures were examined. Process water heat recovery was incorporated into the project. Process water heat recovery can often result in significant savings in heating fuel consumption by recovering thermal energy from the wastewater stream which would otherwise be lost to the sewer. The equipment required is a significant investment, which is why it is often a challenge to implement this measure. Also included was a refrigerated compressed air dryer; which avoids over drying by adjusting the drying cycle for the humidity level.

Building efficiency upgrades included: installation of LED fixtures throughout the high bay space which were zoned on different circuits with occupancy sensors so only areas needed were lit. A demand control ventilation strategy in an area where most would specify a large makeup air unit and exhaust fan was incorporated, by adding in differential pressure sensors so the fans can run at variable speeds.

According to Brian, "It was a pleasure working with the new construction team. It was a smooth process. It's a shame if you're not using it." He recommended that everyone should utilize this outside service to look at their project and take advantage of the incentives that are available.

THE SOLUTION

The team provided energy modeling services using eQUEST® software. Energy savings and incentives were calculated for the following energy efficient systems, materials and technologies which improved building performance beyond code requirements:

» Reduction of interior and exterior lighting power density through sparse layout and with the use of LED fixtures

» Reduction of soil room exhaust and makeup air fan speeds through demand control ventilation

» Preheat tempered process feedwater and boiler makeup water from non-recyclable wastewater stream

» Utilization of a heat exchanger to recover sensible heat from the dryer exhaust air stream

» Installation of variable-speed drives on dryer motors to reduce fan speed when not in operation

» Use of a refrigerated dryer instead of a desiccant dryer for compressed air

PROJECT BENEFITS

» Qualified for $74,361 in incentives from the ComEd Energy Efficiency New Construction Service

» Reduced estimated energy costs by $137,323 annually

» Received energy modeling services at no cost

FOR MORE INFORMATION

For more information about the ComEd Energy Efficiency Program, visit **ComEd.com/NewConstruction**, call **855-433-2700** to speak with a representative, or email us at **SmartIdeasBiz@ComEd.com**.

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