



Energy-Efficiency Initiatives Lead to a Greener Paper Mill.



COMPRESSED
AIR



LED
LIGHTING



MOTORS

Aiming for sustainability

Recognized for its high-tech equipment, sustainable manufacturing processes and high-performance product line, Greenpac Mill annually manufactures 540,000 tons of lightweight linerboard made with 100% recycled fibers for packaging converters and printers.

Since the construction of the Niagara Falls, N.Y.-based paper mill in 2011, Greenpac Mill's desire for energy efficiency has been a top priority. In addition to recycling 2,000 tons of cardboard per day, the linerboard manufacturer separates other waste materials, such as plastics, secondary fibers and metals, and delivers them to other local companies and organizations.

Plastics, for example, are shipped to a neighboring business for combustion, which in turn produces steam that's delivered back to the Greenpac Mill to dry the paper in the manufacturing process. The paper mill also sends secondary fiber rejects to farms for use as animal bedding.

Greenpac Mill produces up to 220 tons of waste per day, but with these arrangements in place, the waste becomes beneficial to other companies that can use it instead of having it end up in a landfill. The company is closer to its goal of 100% beneficial waste by the end of 2020, having recently achieved approximately 85% of beneficial waste use.

"The name of our company denotes that we're a green paper mill," said Murray Hewitt, the general manager of Greenpac Mill. "Every decision we make and everything we do strives to be environmentally conscious."

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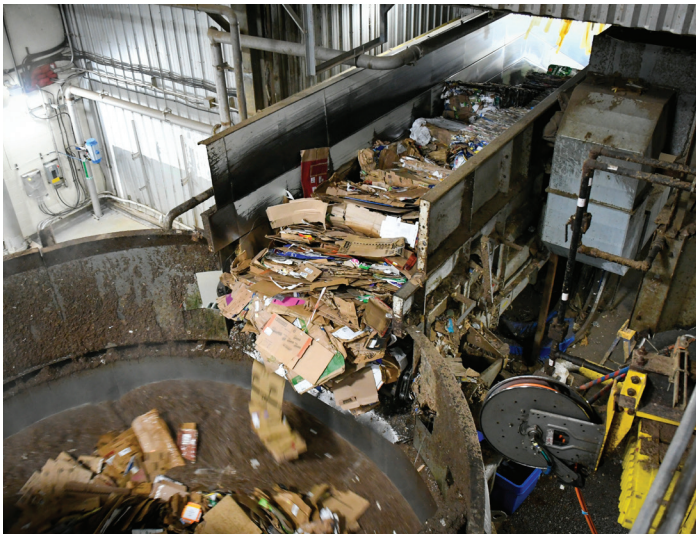
Murray Hewitt, General Manager,
Greenpac Mill

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Teamwork

Greenpac Mill has an energy team of 15 employees who collaborate on ways to save energy costs. In addition to the internal team, National Grid and Greenpac Mill have been partners in energy efficiency since 2015.



Greenpac Mill recycles 2,000 tons of cardboard per day.

By taking advantage of National Grid's no-cost energy assessment, Greenpac Mill identified 40 different projects designed to reduce energy consumption.

These projects, ranging from simple procedural changes to full-fledged capital investments, have led to significant savings for the Greenpac Mill. Four projects, in particular, are expected to save Greenpac Mill approximately 7% in energy costs.

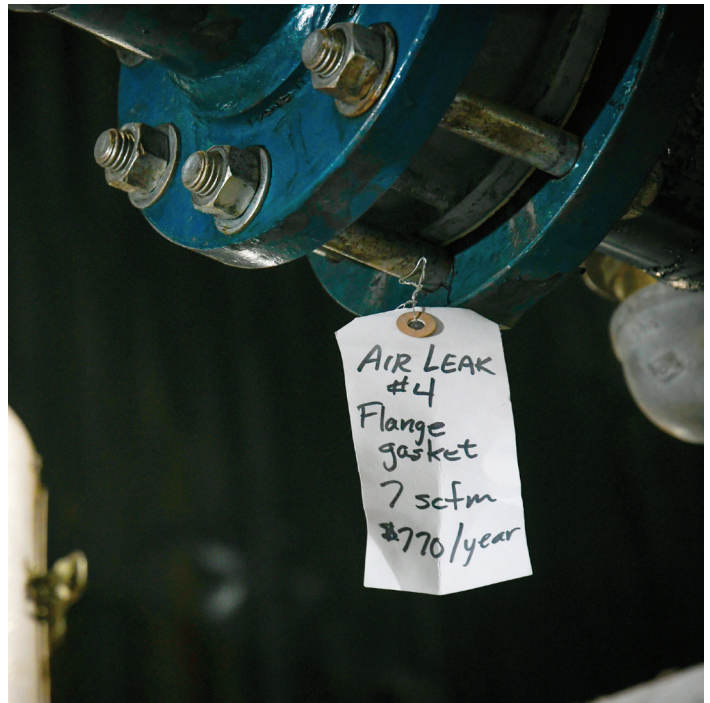
Upgrades

LED lighting: National Grid offered \$553,960 of incentives to Greenpac Mill to upgrade all the interior and exterior lights to LED bulbs. Not only have the brighter LED bulbs improved the workplace environment, they have saved the plant \$178,411 annually on energy consumption.

Motors: Greenpac Mill learned during its energy assessment that they no longer needed all four of the 1,500-horsepower motors that were previously powering the plant. After one motor was shut down, the mill saved approximately 5 million kWh annually. The shutdown of the second motor will likely result in yearly savings of an additional 7.2 million kWh.

Compressed air: During an evaluation of the compressed air system, National Grid identified 19 leaks that affected the system's optimization. This no-cost audit has saved the mill \$13,200 a year from wasted kWh of energy from the leaks, and Greenpac Mill only had to pay for 50% of the repair costs due to National Grid's incentive program.

Vacuum blower motor: Greenpac Mill has recently turned to National Grid to conduct an audit on its 2,000-horsepower vacuum blower motor. The survey will determine if there is an opportunity to reduce the usage of the motor. Once complete, it is expected that opportunities will be found for energy-efficiency upgrades to specific facility components and systems, and even for industrial process improvements.



As a partner with Greenpac Mill, National Grid evaluated the compressed air system and identified 19 leaks that affected the system's optimization, resulting in savings of \$13,200 a year.

So far, these energy-efficiency upgrades have saved 2.7 percent of Greenpac Mill's five percent goal in energy consumption reduction. After the completion of the projects, the anticipated return is seven percent.

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The value of the no-cost assessment

For a green company that is constantly attempting to reduce energy usage and costs, National Grid serves as a valuable partner to ensure that Greenpac Mill is obtaining the maximum possible energy-efficiency incentives.

"National Grid challenges us to consider a variety of ways we can cut energy usage," said Craig Eddy, the project leader of operations at Greenpac Mill. "We're always looking for ways to improve energy efficiency and cut usage. National Grid tells us about programs and incentives out there that could help us. Listening to their experts opened our eyes and helped us realize that there was a lot more we could do to improve our energy consumption."

"Our no-cost energy assessments are a great way for companies like Greenpac Mill to identify energy-saving opportunities," said Robert Compise, a lead energy-



Robert Compise (left), a lead energy efficiency representative at National Grid, poses with Craig Eddy, the project leader of operations at Greenpac Mill.

efficiency representative at National Grid. "We have a specialist come in who will recommend energy-saving projects that may be as simple as changing light fixtures and making HVAC upgrades to more custom solutions involving facility-specific equipment. Our specialists also help companies prioritize improvements based on budgets and needs."

Give your manufacturing facility an upgrade

National Grid can help your efficiency projects come to light. We offer technical guidance and can help you learn the best opportunities for energy efficiency.

When you're ready to make a change, technical energy advisors are available at no cost through National Grid's industrial initiatives in New York.

If you're ready to boost morale, lower energy costs, and increase production, we're ready to make it happen.

\$553,960

Final cost of LED bulb installation

\$553,960

Authorized incentive

\$0.00

Customer cost

3.9m kWh

Annual reduction from switching to LED bulbs

\$178,411

Annual savings from switching to LED bulbs

50% OF TOTAL COST OF LABOR

Compressed air system incentive

\$13,200

Annual savings from repairing compressed air leaks

5m kWh

Annual reduction from motor shutdown

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