

# Paper mill leads water stewardship

By: Lisa Bauer-Lotto, M.S., Corporate Director, Environment & Sustainability, Green Bay Packaging Inc.

For strategic growth, Green Bay Packaging Inc. (GBP) constructed a new 100% recycled paper mill in Green Bay that uses recycled old corrugated containers (OCC) and mixed office paper to produce paper used to make packaging and boxes. The new mill was a substantial investment, not just in the productive capacity of the mill and quality of our products, but importantly in the company's sustainability efforts. It reflects fidelity to GBP's deep heritage of environmental stewardship and its commitment to an environmentally sustainable future.

We are seeing a shift in customer and stakeholder interest toward increased sustainability attributes of their products and their desire to align with likeminded sustainable supply chain partners, like GBP. In a visible example of this interest, we have seen a blossom of tours by customers, other paper mills, supply partners, community and education stakeholders that wish to see

first-hand the technology and advanced sustainability performance of the next level for papermaking at our Green Bay mill.

One of these industry leading advancements drawing attention is the mill's use of "reclaimed" water and its circular water system, where municipal wastewater is recovered and treated by GBP for further reuse. A portion of the Green Bay mill make-up process water is piped from the municipal wastewater discharge (NEW Water) with additional treatment for continued use in our papermaking. The reclaimed wastewater replaces water volume that otherwise would be city's freshwater (tap water) supply. A water system that fully counterbalances its freshwater demand through the use (and reuse) of reclaimed water is known as a "net zero" water system. The GBP Green Bay mill is the first in the world to achieve third-party validation as a net zero water operation, by United Laboratories (UL). In 2022 alone, the water saving innovation of the circular reclaimed water system and advanced technology reduced use of water from Lake Michigan by more than 200 million gallons. It resulted in 30% less water use per ton of paper production.

Paper mills are water intensive and highly reliant on water sourcing which, makes net zero water use in a papermill setting a seminal achievement. Water as the lifeblood of papermaking, transports the paper fiber through the papermaking process, with the paper starting as 99% water and 1% fiber

and the final product consisting of approximately 8% moisture. GBP chose to be more water resilient with reclaimed water use and avoid the need for any direct intake or discharge to the adjacent Fox River. In addition to the efficiency gains and the importance of water stewardship to the company, it was a key decision for the long-term strategy of the mill sustainable water program to incorporate reclaimed water due to the increasing regulatory



uncertainty in this area. Attributed to water treatment removal efficiencies, our reclaimed water system has resulted in 64% less BOD and 73% less TSS per ton of paper production. Using an alternative (reclaimed) water supply also benefits the shared local water resource, protecting water quality.

Paper is a sustainable product of nature sourced from responsibly managed forests. The trees are grown and nurtured like a crop in tree farms. Paper is renewable, recyclable and wood fiber regenerative. The forests have sustainable green attributes during the years of growth absorbing the greenhouse gas carbon dioxide (carbon sequestration) and in final products (carbon storage). For the corrugated packaging industry to remain sustainable we rely on virgin wood fiber inputs; without virgin fiber from trees recycled fiber (paper) would not exist. Boxes can be recycled about seven times— seven lives!



From left to right: Bob Mihalski, Director of Mill Sales, Trades, and Continuous Improvement, Lisa Bauer-Lotto, MS, Corporate Director, Environment & Sustainability, William Cone, Vice President and General Manager Green Bay Mill Division, Andrew Stoub, Environmental Manager





Advancing water stewardship of paper mill water systems pays homage to the Kress family’s vision, starting with its founder George Kress. The Green Bay mill was the first in the world to have a closed process-water-loop in the early 1990s and was featured in a National Geographic article on The Magic of Paper, March 1997. In 2022, the GBP Green Bay mill was recognized for sustainable circularity and water stewardship on many levels to include the Wisconsin Sustainable Business Council’s 2022 Sustainable Product of the Year, Clean Water Action Council award to Will Kress as Environmental Citizen of the Year and American Forest and Paper Association peer industry award for Leadership in Sustainability.

The success of any good sustainability investment for change should be measured not in awards received but in gallons, energy, and waste. The overall sustainability performance of the mill investment has reduced impacts by 25% less greenhouse gas, 12% less energy, 30% less water and 33% less waste per ton paper production. These reductions are assurance of GBP’s sustainability commitment on transformative manufacturing through product innovation, technology and pioneering ‘out-of-the box’ advancements into our products.

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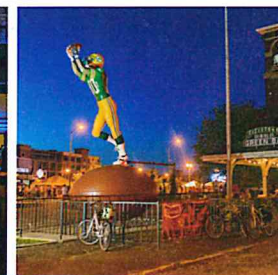


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