



JUST MILLING ABOUT

Quebec tissue mill keeps the motors running in tune with its sustainability agenda

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PHOTOS BY PIERRE LONGTIN

A nightmare for elm trees? Not for **Kruger Inc.**, an environmentally responsible producer of paper-based products.

Founded in 1904, the Montreal, Que.-headquartered Kruger is an iconic corporate institution in Canada's venerable pulp-and-paper industry, with a major presence in the North American markets for publication papers, tissue, lumber and other wood products, corrugated cartons made from recycled fibers, and recycled paper and paperboard products.

Based in Mississauga, Ont., the company's **Kruger Products L.P.** division operates four mills across Canada and one in the U.S. to make a broad array of paper-based consumer products, with its sprawling papermaking complex in Gatineau, Que., playing a key part in Kruger's long-enduring success in the North American marketplace for tissue products.

According to Kruger Products vice-president of sustainability and innovation Steven Sage, "We are Canada's market leader in consumer tissue products, as well as in the away-from-home segments."

Comprising 93,600 square feet of converting space and an additional 191,000 square feet devoted to papermaking, the Gatineau mill boasts papermaking capacity of 87,500 metric tonnes a year, notes Sage.

Receiving third-party sourced virgin and/or recycled pulp de-inked at its Crabtree mill, the Gatineau mill produces a variety of paper grades, including bathroom tissue, facial tissue, paper towels and napkins for the away-from-home market segments such as hospitality, education, foodservice, healthcare, manufacturing, property management and public facilities—marketing its products in each of those segments under the company's **Embassy**, **Esteem** and **White Swan** brands.

Also home to Canada's bestselling facial tissue consumer brand **Scotties**, the mill was originally opened up under the **E.B. Eddy** banner in 1926 and bought out decades later by **Scott Paper** in 1988, ultimately becoming part of the Kruger family in 1997.

Nowadays the mill employs approximately 470 people to produce a diverse range of tissue products shipped all over Canada and the U.S., according to Sage.

Like all companies in the energy-intensive paper-making business, Kruger Products has considerable challenges on its hands in terms of reducing the environmental footprint of their manufacturing operations, Sage readily acknowledges, but it's a challenge that Kruger has so far embraced with open arms.

Big Role

"As Canada's market leader, Kruger Products recognizes its responsibility to be a leader in sustainability as well," Sage told **Canadian Packaging** in a recent interview.

"Big companies can make big differences in environmental stewardship," says Sage, citing a successful recent installation of a biomass gasification system at the company's production site in New Westminster, B.C., which helped reduce the mill's annual GHG (greenhouse gas emissions) by 36 per cent each of the past two years.

"The project was the first deployment of this type of technology within the pulp and paper industry, as well as the first for any manufacturing industry, in Canada," Sage declares.

Not to be outdone, the Gatineau mill installed a new heat recovery system in 2010, relates Sage, "which has helped reduce energy consumption by 11 per cent at the mill, while reducing green house gas emissions by 15 per cent."

According to Sage, all the heat from the air that

Looking for production line efficiency and energy savings, Kruger Products installed 40 Movifit and Movigear mechatronic drive systems manufactured by SEW-Eurodrive at its Gatineau paper mill.

used to escape outdoors is now being captured at the source and used to heat the facility during the winter, as well as to heat the process water.

Such improvements are all part of a five-year sustainable development plan launched by Kruger in 2010 to reduce its environmental impact through reductions in nine measurable areas, explains Sage, citing energy use, GHG emissions, water consumption, waste and packaging as prime focus areas.

According to Sage, Kruger has had some great successes, including:

- reduction in overall energy consumption by 3.7 per cent, representing 370,000 GJ (gigajoules);
- reduction of GHG emissions by 15 per cent;
- a four-percent improvement in logistics efficiencies.

"Kruger became the first tissue manufacturer to achieve Forest Stewardship Council Chain of Custody certification from the Rainforest Alliance, and now we are able to offer customers one of the largest tissue portfolios of FSC-certified products in North America," says Sage, pointing out that Kruger Products has one of the largest product portfolios of **EcoLogo**-certified tissue products in Canada.

Adds Sage: "Right now, 93 per cent of our fiber is third-party-certified, and we will achieve 100 per cent by the end of 2012."

"Increasingly, there is an emphasis on using packaging materials manufactured from recycled materials, third-party certified materials, as well as eco-friendly materials," mentions Sage, citing such examples as the **Forest Stewardship Council**-certified KD shipping cases and cores for paper towels and bathroom tissue, along with biodegradable poly openings on facial tissue cartons and biodegradable shrinkwrap used on multipacks of facial tissue.

"Gatineau is a key mill in the Kruger Products system, and it continues to contribute to the division's success with an emphasis on quality, safety, continuous improvement and commitment to its talented employees," says Sage, relating that the **ISO-9000**-certified mill makes extensive use of demanding **Six Sigma** quality control practices and procedures through its inhouse-designed **Kruger Way** system of continuous improvement.

The mill also deploys a proprietary Environmental Management System, whereby a designated quality management team is deployed at the facility to coordinate across the Kruger system, includ-



Kruger Packaging vice-president of sustainability and innovation Steven Sage plays a key role in the company's environmental stewardship development.



A pair of SEW-Eurodrive Movigear drive motors power a conveyor system.

ing close interaction with the brand management teams to ensure consistency in achieving targets.

During the summer of 2011, Kruger purchased a new, high-efficiency converting and packaging line for its Gatineau facility, which has been up-and-running since December.

"Making this capital investment was an easy decision for Kruger," explains Sage. "In order to meet the growing demand for our products, we needed to upgrade our technology, which helped us improve our processes and increase our output at the facility."

Gatineau electrical projects engineer Martin Levesque says that Kruger Products has around 40 conveyors to handle the movement of products such as facial carton, carton multipacks, and bathroom roll bags throughout the operation, with all conveyor systems programmed and integrated by the Quebec City-based **AIA Automation**.

Saving Green

According to Levesque, one of the key factors in the selection of the new conveying and packaging line—including a new conveyor system from Milton, Ont.-based **Span Tech Canada**—was the purchase of 40 **Movifit** and **Movigear Mechatronic** drive systems manufactured by **SEW-Eurodrive Co. of Canada**.

Says Levesque: "Span Tech's solution provided us with not only a great price, but flexibility on how we could create a conveyor system that worked best for us."

"After they suggested we go with SEW's Movifit system, I did some research on the products and met with SEW-Eurodrive's Montreal office here at

our facility to discuss it further before deciding to go with the Movifit."

The SEW-Eurodrive **Movigear** is a drive motor unit controlled by the **Movifit**, which is used to modulate the speed on the Kruger conveyor system. Levesque says that Kruger employs one **Movigear** for each conveyor, attached to the conveyor shaft.

One of the biggest selling factors for Kruger was that the SEW-Eurodrive **Mechatronic** drive system provides them with energy savings as part of its integrated process solution.

"In this system 25 motors can be running at the same time," explains Levesque. "As Kruger has them running 24 hours-a-day, seven-days-a-week, we have determined that compared to a standard motor system, our SEW-Eurodrive system will help save us around \$4,000 a year."

"It's not a huge amount of money," he says, "but any way we can save money by running our production line leaner is good for the company."

Sage concurs: "It is consistent with our desire to reduce our energy consumption through our Sustainability 2015 initiative."

Back Pay

While SEW-Eurodrive drive components may be more expensive than conventional drive solutions, within one or two years, depending on range of usage, those costs are offset by the savings in energy expenses.

Along with the energy savings from the Movigear, there is also a reduction of CO₂ (carbon dioxide) emissions, says Sage.

"Retailers and away-from-home companies—particularly government, accommodation, foodservice and property management segments—are looking for greener products from manufacturers who are focused on implementing sustainable initiatives to improve their position," he sums up.

"That's why reductions in energy, water, emissions, waste and packaging are primary areas of focus for us, along with fiber-sourcing." 🍁



Manufactured by Fanuc Robotics, the high-speed M-410iB/140H palletizing robot is capable of speeds up to 1,900 cycles per hour.

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Thanks to its i-Tech ink system, the A320i inkjet coder from Domino Printing Solutions provides Kruger with maintenance savings optimizing operational running costs.