


PORT HAWKESBURY PAPER

2015 *Key Environmental Measurements*



An aerial photograph of a vast, lush green forest. A winding river flows through the middle ground, and a dirt road is visible in the lower right. The sky is filled with dramatic, layered clouds, with a bright light source breaking through near the horizon. The overall mood is serene and hopeful.

LOOKING TO OUR FUTURE
with optimism



Port Hawkesbury Paper is dedicated to making some of the world's best paper in a responsible and environmentally conscious way. Our goals of safety, efficiency, economic sustainability, innovation and environmentally-friendly paper production are why we believe Port Hawkesbury Paper is one of the best mills in North America.

This past year we made big strides toward our goals and continue to focus on key projects that will help improve conservation. We reduced raw water usage nearly 16 percent per ton of paper produced, and total water usage by 14 percent per ton of paper produced from last year.

We continue to maintain Forest Stewardship Council® (FSC®) and the Sustainable Forestry Initiative® (SFI®) Inc. certifications in forest management, as well as Chain of Custody certification to FSC, SFI, and the Programme for the Endorsement of Forest Certifications™ (PEFC™).

Our woodlands team has made great strides in improving production and efficiency using top-of-the-line technology in forest management.

Our employees' commitment and professionalism is a key reason we are able to look to our future with optimism. We are delighted to be celebrating more than three-and-a-half years of operations with zero lost-time workplace injuries in the mill.

We truly appreciate our partnership with community members, our colleagues in the municipal and provincial government, and our suppliers and customers. This report is an opportunity to look back at what we've accomplished, and look forward to the exciting initiatives on the horizon.



Mike Hartery

Paper Production Manager



Bevan Lock

Pulp Production Manager



Marc Dube

Business Development Manager



Thriving woodlands—a key to a healthy operation

Port Hawkesbury Paper is proud to make some of the world's best paper right here in Nova Scotia. To keep our province beautiful, and make sure our impact on our environment is as small as possible, caring for our forests is our most important priority.

Responsibly managed public forests—like those certified by the Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI)—are essential to reducing greenhouse gas emissions. Our forests play a huge role in helping to manage climate change, and it's our promise that our greatest natural resource will be around for years to come. We buy more product from private woodlots than ever before, supporting our local economy and the environment. As we move through our fourth year of operation, we plan to do even more.

Innovation drives responsible forestry

New technology and data-mining tools are driving our efforts to responsibly manage our forests and woodlands for generations to come. Innovation is at the heart of our 100-year Sustainable Forest Management Plan, as well as our 20-year and 5-year landscape management plans. We have spent more than \$700,000 and encouraged the investment of \$20 million.

In 2015, the PHP Woodlands unit reduced the annual diesel fuel usage required to meet the mill's wood needs by approximately 115,000 gallons with:

- **Improved wood harvesting productivity (46 percent)**
- **Increased hauling payloads (13 percent)**
- **Increased wood supply closer to the mill, resulting in lower hauling distances (41 percent)**

Through the integration of laser technology, light detection and ranging (Lidar), and unmanned aerial vehicles (drones), we are collecting information for



improved resource inventories, operational planning, habitat mapping, and other forest management decisions. The Canadian Institute of Forestry recognizes Port Hawkesbury Paper's Woodlands unit as the country's leading user of FPDat technology – on-board navigation and performance recording computers. The addition of FPDats on harvesting machines improves productivity and implementation of more complex forest ecosystem-based treatments. These and other improvements in harvesting and hauling productivity, along with the development of increased wood supply in previously underutilized regions, has netted an impact of reducing fuel usage.

We are working in partnership with FPIInnovations to conduct a second Life Cycle Analysis (LCA) to compare the annual mill results between 2013 and 2015. The LCA is a method of quantifying all environmental impacts of a product or process over its full lifetime. The assessment will measure the annual results for the mill's water use, transportation, energy use, resource extraction effects, emissions to air and water, solid waste and resource use. The information and process will be audited by external professionals and will be shared with our employees, communities and customers.

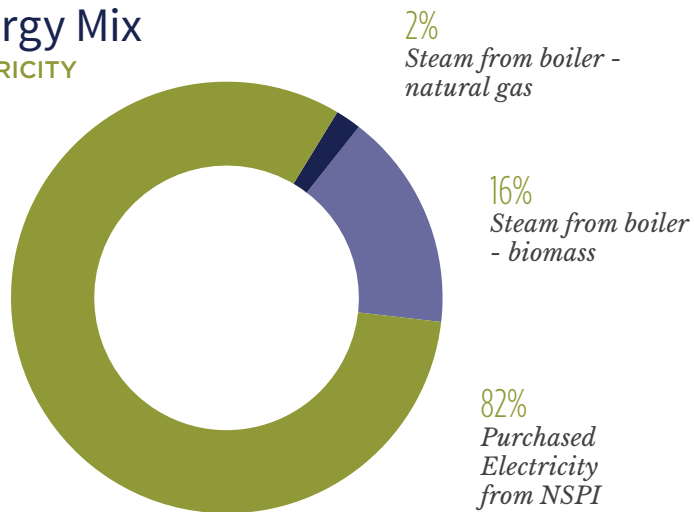


Saving energy for the future

Energy conservation and reduction is a key piece of our sustainability plan.

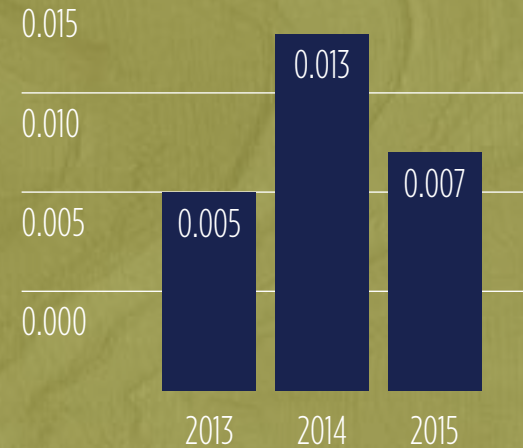
Energy conservation continues to be a focus at PHP, with some great strides made during the past year to identify and implement energy-saving projects. Our Energy Efficiency Engineer continues to implement projects around the mill that help conserve energy, improve efficiency and reduce costs. Both our electricity usage and total TMP energy use are down 4 percent from 2015 and TMP energy use is down nearly 15 percent from 2013.

Total Energy Mix FUEL & ELECTRICITY



Air Quality/GHG Emissions PER TON OF PAPER PRODUCED

Tonnes of CO2e from PB4 Only



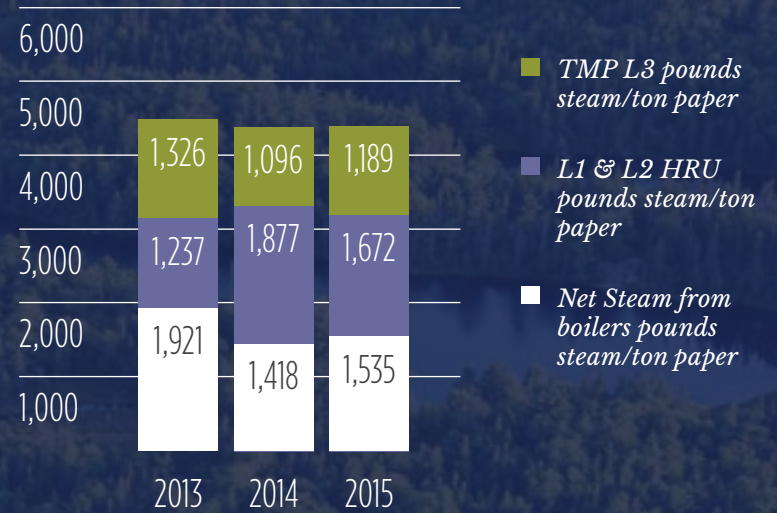
Electricity Consumption KWH PER TON



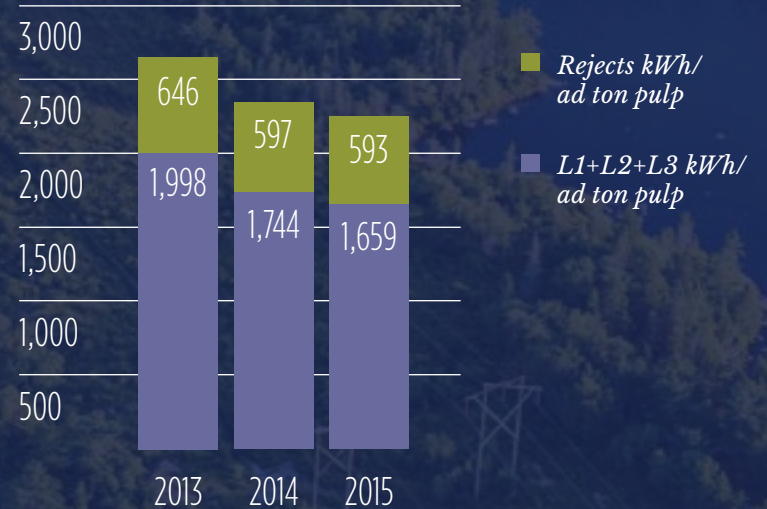


Net Steam Consumption per ton

EXCLUDES STEAM USED IN POWER BOILER



Total TMP Specific Energy



Making waves in water conservation

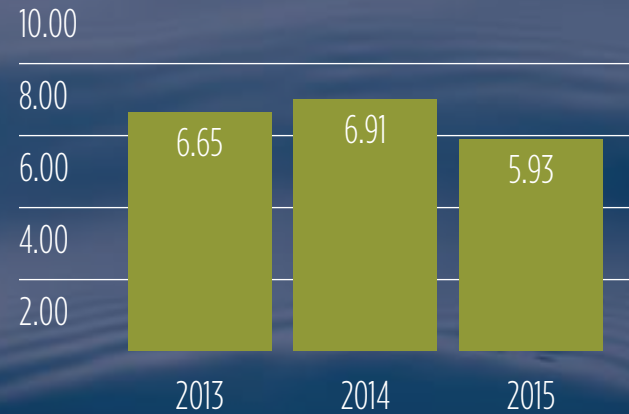
Making paper is a water intensive process, so it's important that we carefully monitor our use of this precious natural resource and find innovative ways to reduce our water consumption and effluent.

In November 2015, we successfully commissioned a project to reduce sewerage white water by converting two unused 88,000-cubic-foot groundwood silos to white water storage, reducing the amount of fresh, treated water needed. This new process also saves costs associated with both water treatment and steam heating to bring the water to process temperature. Based on the results to date, annual water savings are expected to be in the range of 185 million gallons per year. In addition to the water savings realized as a result of the groundwood silo conversion project, we save 428,000 gallons per day due to ongoing monitoring and reduction programs. That's 156 million gallons per year.

Water Consumption

RAW WATER

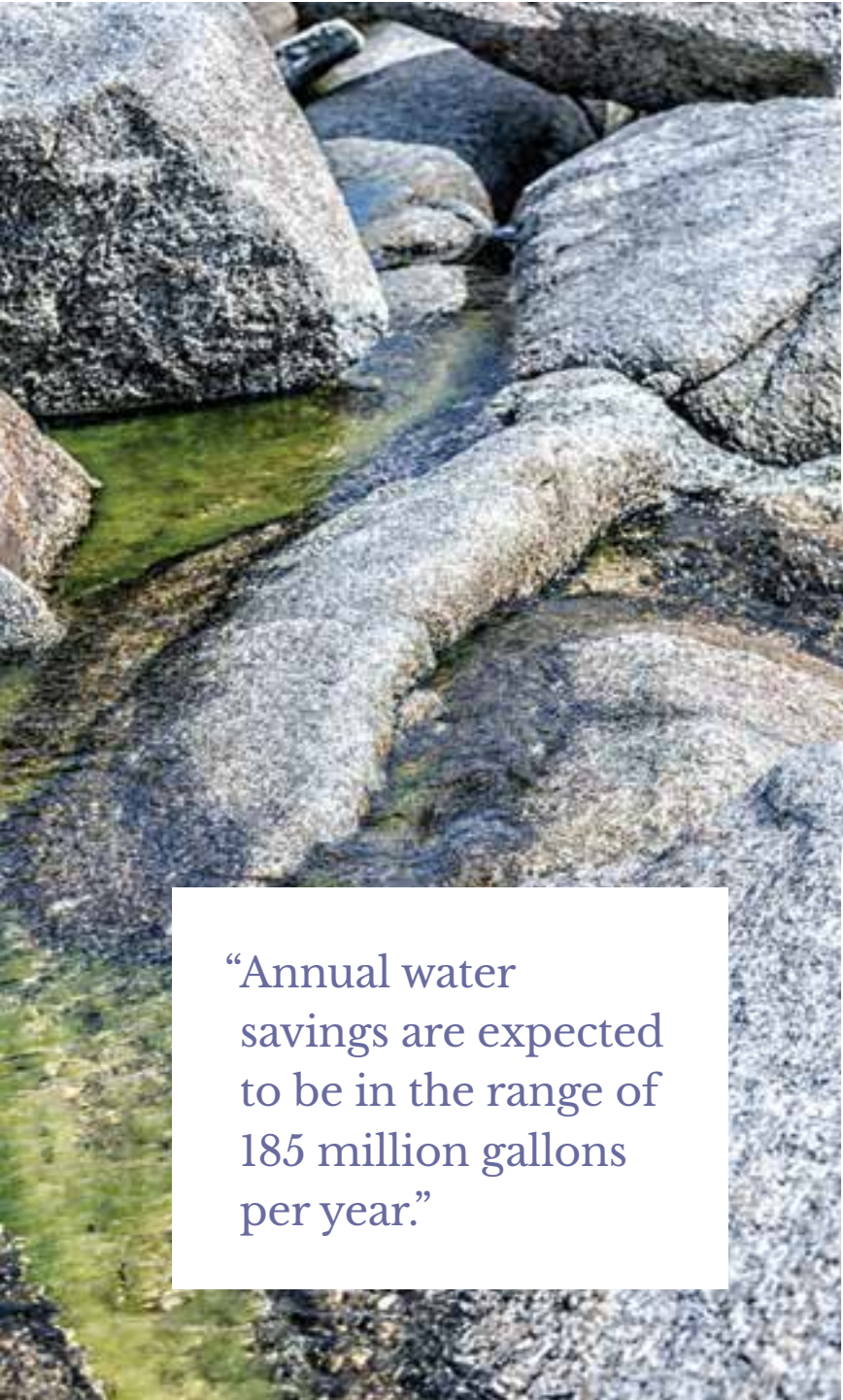
MM US gallons per day



Gallons of Raw Water

PER TON OF PAPER PRODUCED



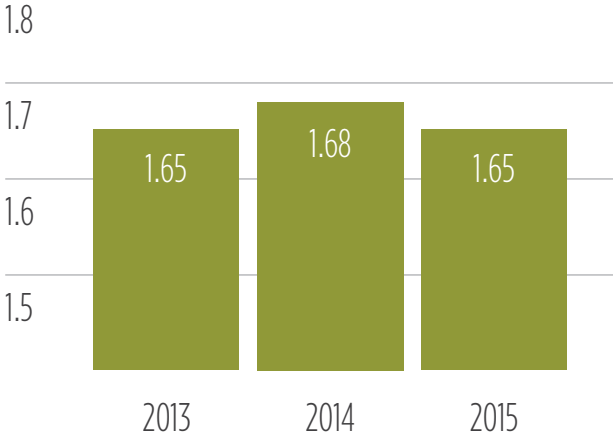


“Annual water savings are expected to be in the range of 185 million gallons per year.”

Solid Waste Generated

POUNDS PER TON OF PAPER PRODUCED

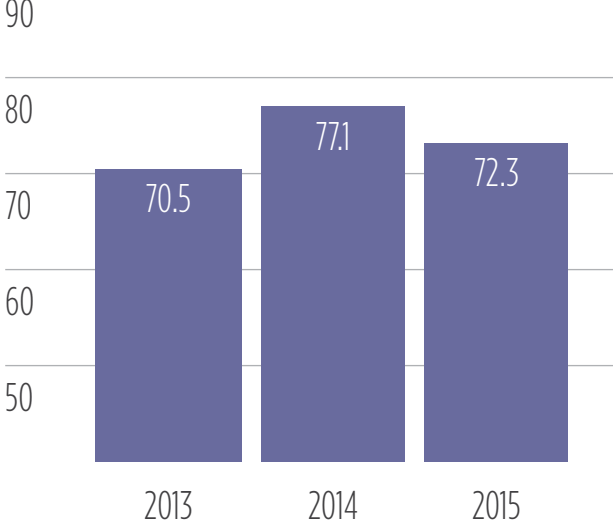
MM US gallons per day



TSS to Effluent Treatment

POUNDS PER TON OF PAPER PRODUCED

TSS to effluent treatment pounds per ton





Supporting the community

At Port Hawkesbury Paper, we work hard every day to ensure we balance social, environmental and economic considerations in the day-to-day operations of our business.

We love our home, and we always want to be the best neighbor we can to Nova Scotians. So we support and coordinate many programs and initiatives big and small, both in our own backyard and across the province.

Many of our programs focus on education. We offer an apprenticeship program that allows employees to gain journeyman status while continuing to work, and we partner with Nova Scotia community colleges and universities to provide work term experiences for their students in a dozen areas of professional expertise. Reaching further, we partner with area high schools to offer job shadows that fulfill co-op learning curriculum requirements. We are also a proud sponsor of Junior Achievement Nova Scotia.

Extending our technology expertise, Port Hawkesbury Paper assists local high schools with their Techsploration programs, which focus on exploring careers in science, trades and technology for women.

PHP is committed to finding more ways to provide employment opportunities for First Nations

community members. All external job advertisements and requests for tenders are shared with First Nations communities. We currently employ First Nations employees as operators, apprentices, summer students and contractors, and the mill's security service is provided by First Alliance Security of Waycobah First Nation. Forestry activities under the renewed forest management agreement with the Unama'ki Institute of Natural Resources are going well, and work on a Socio-Economic Benefits Agreement with the Assembly of Nova Scotia Chiefs is ongoing.

PHP and its employees continue to support many worthwhile community organizations and activities, ranging from food banks and hospitals to sports teams, sporting events, summer festivals, high school bursaries, breakfast programs and literacy projects. Since 2007, our Woodlands group has raised over \$120,000 for the IWK Children's Hospital in Halifax, Nova Scotia, through the Log A Load For Kids national giving campaign.



Safety always.

*Safety performance continues to be top notch at PHP.
The mill has now surpassed the three-and-a-half-year
mark without a lost-time injury.*

The safety incident rate of 0.91 has earned PHP third place in Canada's Safest Mill Contest results for 2015, according to Pulp & Paper Canada Magazine. We are very proud of our employees for working safely. Most importantly, it means that everyone gets to go home to their families at the end of the work day.

Additionally, the mill's employee absenteeism rate continues to be very low at 1.5 percent. As always, we're working to produce the best paper, as efficiently and safely as possible.



About Port Hawkesbury Paper

Port Hawkesbury Paper is a forest operation and paper mill in Port Hawkesbury, Nova Scotia.

Port Hawkesbury Paper is one of the most competitive producers of supercalendered paper in North America and ships its products to customers throughout North America and around the world. The mill produces the Artisan® Plus and Artisan® (SCA++), Prominence® Plus (SCA+), Prominence® (SCA) and Maritime® (SCB) brands for use in retail inserts, catalogs magazines, circulars and coupons. Over the year, Port Hawkesbury Paper will invest approximately \$160 million in Nova Scotia. Port Hawkesbury Paper directly employs 330 people, 450 people indirectly in forestry, and engages over 400 suppliers. Port Hawkesbury Paper forest operations are the only industrial forest operations that are Forest Stewardship Council® certified in the Maritimes.

Aerial images provided by Northumberland Aerial Imaging.

This piece was produced with paper that has gone through the entire FSC chain-of-custody process—from the forest to the printer, and with other controlled material. **Please pass along or recycle this piece.**

Cover printed on West Linn Paper 80# Nature Web 10 Gloss Cover, inside pages printed on 80# Nature Web 10 Gloss Text.

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