



# 2018

## KEY ENVIRONMENTAL MEASUREMENTS

PORT HAWKESBURY PAPER



## PORT HAWKESBURY PAPER IS A LEADER IN SUPERCALENDERED PAPER MANUFACTURING, BUT OUR BUSINESS IS MUCH MORE THAN JUST PRODUCING PAPER.

Our company standards are derived from deep ties to our local community. We are committed to managing the business with a focus on safety, economic, environmental and social values, and all are essential to the sustainability of the mill and the forests we depend on in Eastern Nova Scotia.

In our Woodlands Unit, Port Hawkesbury Paper (PHP) employees are dedicated to responsible and sustainable forest management, and it shows in our work. We are committed to continual improvement of resource inventories, operational planning, habitat mapping, and other forestry objectives. Our forest management practices are audited by third-party agencies, with sixty values identified for special management or protection. These include species at risk, large intact forest landscapes, municipal water supply areas and culturally significant sites for Indigenous peoples. Our employees are part of the community, so we have a personal stake in the environmental impact of our operations and are transparent in our sustainability reporting. A detailed Annual Monitoring Report can be found on our website. Additionally, outside analysis, like the findings and recommendations found in *An Independent Review of Forest Practices in Nova Scotia* (Lahey, 2018), provides a comprehensive assessment of forestry practices in our region as commissioned by the Nova Scotia Minister of Natural Resources. This analysis examined positive and challenging aspects of current forest practices on environmental, social and economic values. Recommendations for improvement were identified that will drive refinement and innovation to our forest management to further balance environmental, social, and economic interests.

It is also important for us to carefully manage our processes to become more cost-effective while also reducing emissions, water use, and waste. Last year, Port Hawkesbury Paper focused on projects to identify areas where we might improve our fiber losses. By closely monitoring, measuring, and analyzing sewer losses in the mill, we were able to create process improvements that resulted in a 35% decrease in fiber losses year over year on average. One project alone equated to a savings of over \$500,000 per year.

Port Hawkesbury Paper is the largest industrial employer in Cape Breton. With over 325 direct full-time equivalent jobs and nearly 700 additional indirect jobs, our business is integral to the economic success of the region – both directly through employment and through related businesses and services. We are committed to our community and a workplace environment that fosters pride for our workforce. The sense of pride can be found in our newly developed mill video narrated through the voice of Port Hawkesbury Paper employees. We hope this report provides some insight into our operations and accomplishments and gives a look forward to a bright future.



**BEVAN LOCK**  
CO-MILL MANAGER



**MIKE HARTERY**  
CO-MILL MANAGER





# SAFETY IS OUR FIRST PRIORITY

Safety performance is critical. We continue to manage our recordable incident rate, which is generated from the number of recordable incidents we have compared to our total work hours. From 2017 to 2018, we saw a significant reduction in the recordable incident rate.

We believe that every employee's actions make a difference. The mill's success relies on committed, skilled people to be accountable for their actions with regard to not only safety but also the quality, profitability, and the overall integrity of the business. The results of each employee's decisions contribute to the success, long-term viability, and sustainability of the company.



**IT IS NOT JUST ABOUT MAKING PAPER.**  
IT IS ENVISIONING OUR TOMORROW.

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# PORT HAWKESBURY PAPER: SUPPORTING THE COMMUNITY

Port Hawkesbury Paper supports community organizations and activities ranging from hospitals, literacy initiatives, daycares, sports teams, food banks, breakfast programs, summer festivals, high school bursaries, volunteer fire departments, and the YMCA. Port Hawkesbury Paper also provides financial support for selected local sports events, festivals, and outdoor concerts. The Woodlands Unit raises funds for the IWK Children's Hospital in Halifax through the Log a Load for Kids National giving campaign. With last year's golf event, our total exceeds \$198,500 since 2007.

The mill supports many local education programs with apprenticeships, Junior Achievement, co-op student work terms, hosting various high school and community college classes for mill tours, and support for local literacy council programs.

Each spring, we accept community college students for their work terms. Students are enrolled at schools from Sydney to Halifax. Working with students in this way helps them fulfill their career-field educational requirements. PHP has helped students in Electrical, Instrumentation, Steam/Pipefitting, Industrial Mechanic (Millwright), Heavy Equipment Mechanic, Natural Resources & Environmental Technology, Business Administration, Office Administration, and Information Technology.

PHP works in partnership with surrounding communities. For example, the mill worked to improve the tie-ins for the Town of Mulgrave's

new water treatment plant. PHP implemented a capital project to install a new Wye connection in the pipe, along with a new isolation valve. The mill's engineering department designed and commissioned the installation and, as a result, the town was able to commission their new water treatment plant, and it is in full use today.

We are continuously committed to providing new employment opportunities for Indigenous community members. External job opportunities and requests for tenders are always shared with the Indigenous communities, as a priority. We employ Indigenous people in a variety of ways at the mill, including operators, apprentices, summer students, co-op engineering students, and contractors. Additionally, the mill's security service is provided, in part, by First Alliance Security of Waycobah First Nation.



# ECONOMIC SUSTAINABILITY

PHP continues to work with local universities and the broader business community to develop opportunities to up cycle bi-products from our core pulp and paper business and help play a leading role in the development of the local Bio-economy. To this end, we are working with strategic partners to leverage the various assets and services associated with our extraordinary location and world class operations to generate additional business activity and revenue.

- PHP HAS OVER **\$1 BILLION** IN EXPENDITURES SINCE IT WAS RE-OPENED IN 2012 UNDER THE CURRENT OWNERSHIP
- THE NUMBER OF DIRECT AND INDIRECT JOBS IN NOVA SCOTIA THAT ARE SUPPORTED BY PHP EXCEEDS **1,000** FULL-TIME EQUIVALENT JOBS
- THE AVERAGE PHP EMPLOYEE INCOME IS **44% HIGHER** THAN THE AVERAGE INDUSTRIAL WAGE IN NOVA SCOTIA



THE ANNUAL SPEND BY PORT HAWKESBURY PAPER IN NOVA SCOTIA EXCEEDS **\$170 MILLION**

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# THRIVING WOODLANDS: UTILIZING TECHNOLOGY AND PLANNING FOR FUTURE GENERATIONS

The Woodlands Unit relies on innovation and technology to ensure we have the most complete information to facilitate our forest management activities. To further ensure the long-term sustainability of the forests we manage in the seven eastern counties in Nova Scotia, we manage forest stands using a range of ecologically appropriate harvest treatments to maintain and improve natural Acadian forest characteristics over time.

Port Hawkesbury Paper also invests in training and technology, working closely with its contractors to better plan forestry operations, monitor results, and improve operational efficiency. All of PHP's Crown land harvesting machinery is equipped with FPDats, which are rugged computers that utilize live GPS positioning to inform the operator of their proximity to environmentally sensitive features and ensure boundary compliance. Implementation of integrated laser technology of light detection and ranging (LiDAR) supplies us with useful applications in forestry. We leverage this information to make improved data-driven decisions. This technology allows for an accurate depiction of topography and forest structure, allowing for precise locations of streams and sensitive areas to be mapped. The Enhanced Forest Inventory data derived from LiDAR adds a great deal of information to our current knowledge of the forest inventory. With innovative resources, we can supervise our operations to strict standards to ensure healthy, productive forests.

Since opening in 2012, Port Hawkesbury Paper has invested over half a million dollars of financial and in-kind support into Species at Risk research, and habitat protection. These habitats include lichen surveys for endangered species and forested wetlands.

## PORT HAWKESBURY PAPER WOODLANDS UNIT VISION STATEMENT:

“That the forest resources, for which we have a responsibility, will sustain healthy ecosystems and natural biodiversity, provide a continuous and expanding supply of valuable wood and conserve the forest characteristics of value to society, wildlife and the environment.”



## **SINCE 2012, PHP HAS INVESTED OVER \$500,000 INTO SPECIES AT RISK RESEARCH.**

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Port Hawkesbury Paper manages 30% of the Crown land in Nova Scotia. Crown land represents 58% (roughly 523,000 hectares) in the mill's forest management area. Because of four decades of silviculture activities on these lands, the forest will increase in economic value over the next 20 years.

PHP is the only industrial company in Eastern Canada that is independently certified to the Forest Stewardship Council® (FSC®) forest management and chain of custody standards, Sustainable Forestry Initiative® (SFI®) forest management and chain of custody standards, and PEFC™ chain of custody standard. In 2018, over 25% of our total sales were FSC certified. Certification is a voluntary process by which planning, procedures, systems, and performance of on-the-ground forestry operations are audited by a qualified and independent third party against a predetermined standard. Forest operations found to be in conformance with the given standard are issued a certificate. Port Hawkesbury Paper supports the mutual recognition of credible forest certification systems that consider national and regional characteristics such as natural conditions, forest ownership structures, and legislation.

### **PHP'S KEY COMMITMENTS TO THE ENVIRONMENT:**

- To carry out operations in ways that do not endanger the environment. Sustaining a healthy environment is an integral part of all company operations.
- To continually improve all aspects of our sustainable forest management system for company-managed lands through experience and forest research.
- To utilize long-term landscape ecosystems planning, appropriate silviculture systems, and operating practices that conserve biodiversity in managing our forest areas.
- To meet or exceed all applicable regulations, legal obligations and other requirements to which PHP subscribes



# NEW WAYS TO MANAGE ENERGY USE

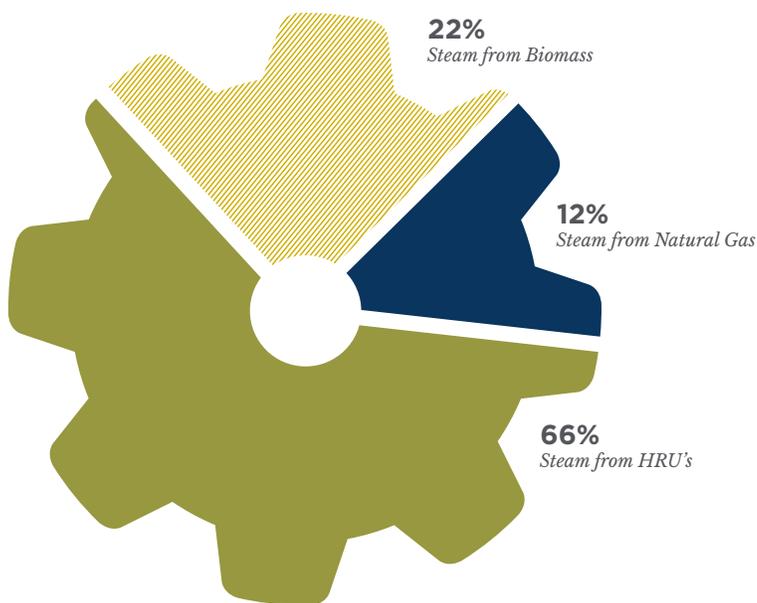
## PORT HAWKESBURY PAPER IS COMMITTED TO ONGOING ENERGY CONSERVATION AND REDUCTION.

Port Hawkesbury Paper purchases 100% of our electrical energy from Nova Scotia Power (NSPI) and the chart illustrates the source of energy used to generate the steam on site required to run our manufacturing facility. Last year, PHP conducted research on the biomass plant handling and storage to improve fuel quality, resulting in increased energy production using less biomass. Increasing the mill's ability to produce more and stronger TMP fiber instead of kraft fiber for use in paper production provides the added benefit of using fewer trees due to the higher yield from this type of pulping process.



### STEAM GENERATION FUEL MIX

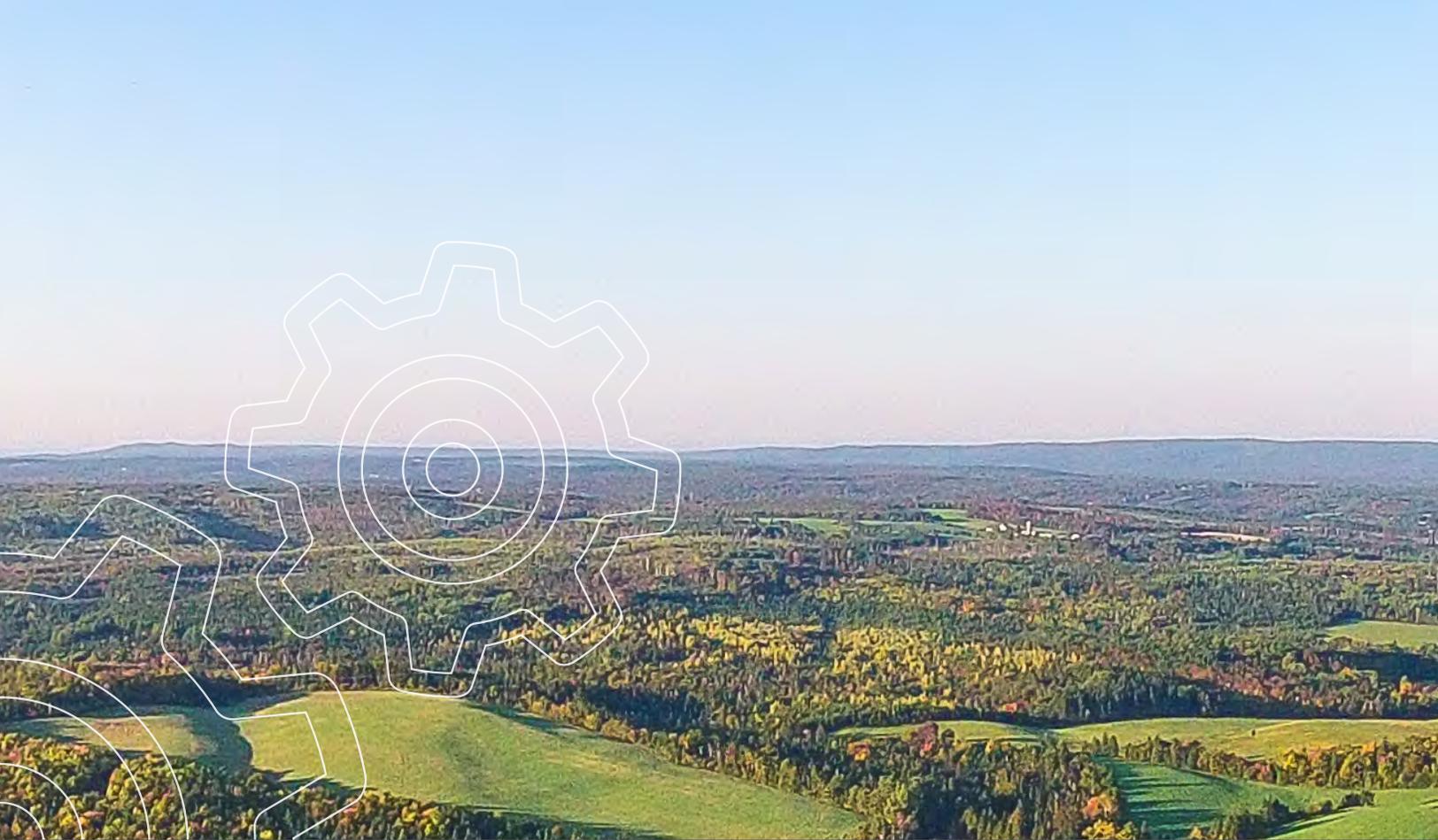
STEAM FROM NATURAL GAS, BIOMASS AND FROM HEAT RECOVERY UNITS (HRU)



### NET STEAM CONSUMPTION

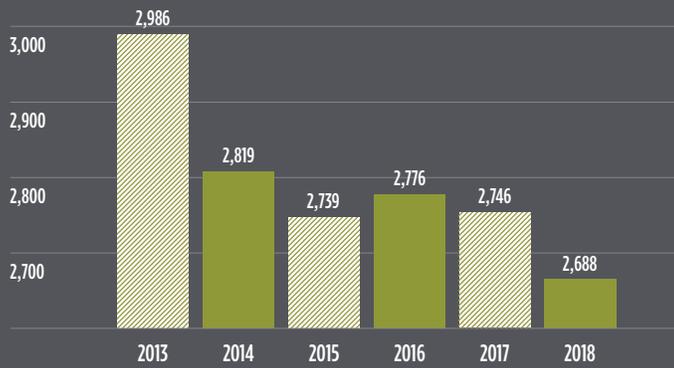
GIGAJOULES PER METRIC TONNE OF PAPER PRODUCED





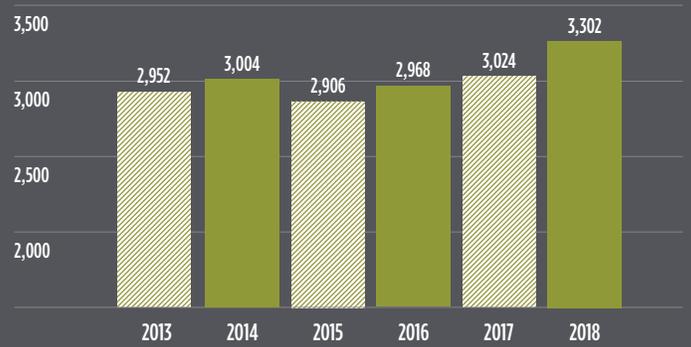
### AIR QUALITY/GHG EMISSIONS

KG OF CO2 EQ PER METRIC TONNE OF PAPER PRODUCED



### ELECTRICITY CONSUMPTION

KWH PER METRIC TONNE OF PAPER PRODUCED



*Electricity consumption increase was due to reduction in use of kraft pulp*





# REDUCING FIBER LOSSES

Beginning in mid-2017, we implemented a program to reduce fiber losses by more closely monitoring and trending sewer losses throughout the mill. This process improvement resulted in a rapid and significant reduction in effluent flows from the paper machine and thermomechanical pulping (TMP) processes. This means losing less fiber to waste streams from our pulp and paper production processes. During the first six months of data collection, the average mass flow of the effluent sample points was 26 metric tonnes per day, and during the same six-month period in 2018, the average was 17 metric tonnes per day, a 35% decrease. Two key factors in the decreased losses are improvements made to the pulp cleaning/screening area of TMP and the operation of the paper machine disc filters.

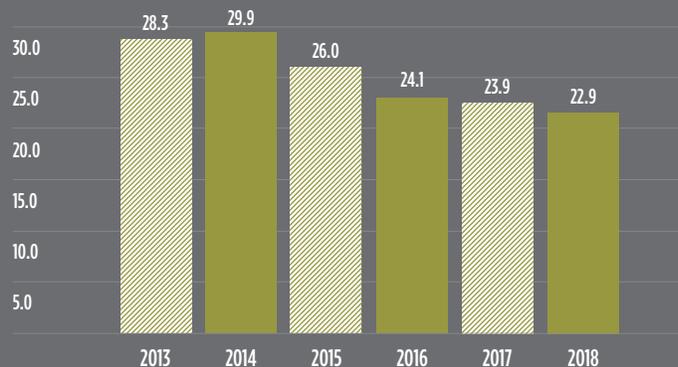
The paper machine disc filter received a complete mechanical overhaul and installation of improved design filter bags in 2018, which resulted in better fiber mat development and more efficient operation. The improvements decreased the fiber losses by approximately five metric tonnes per day, which equates to savings of more than \$500,000 annually.

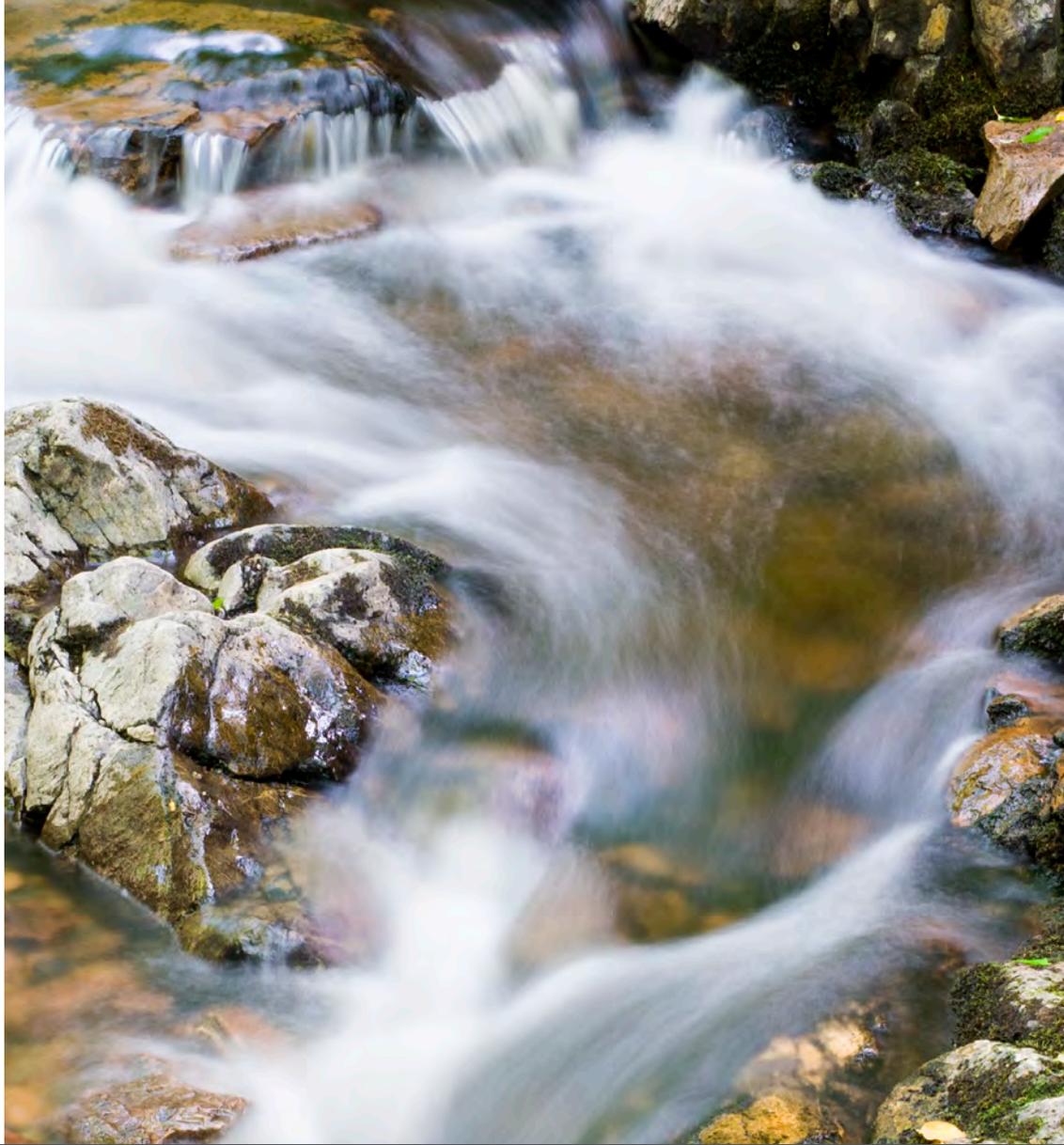
We continue to focus on decreasing fiber loss, with plans to make further refinements by increasing visibility and measurement, and by looking for new and innovative ways to reduce or recover waste streams.



## WATER CONSUMPTION

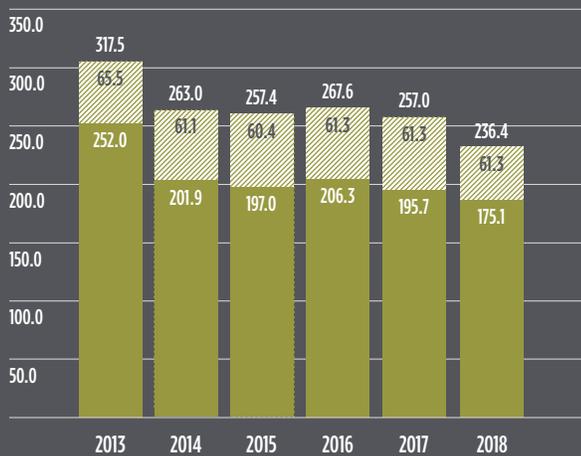
CUBIC METER PER METRIC TONNE OF PAPER PRODUCED





### SOLID WASTE GENERATED

KG PER METRIC TONNE OF PAPER PRODUCED

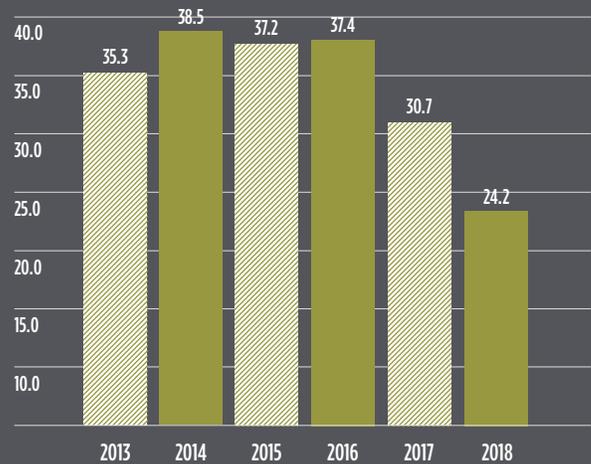


 Solid Waste dry kg/tonne  
 Solid Waste wet kg/tonne



### TSS TO EFFLUENT TREATMENT

KG PER METRIC TONNE OF PAPER PRODUCED



# ABOUT PORT HAWKESBURY PAPER

At Port Hawkesbury Paper, we are the leader in supercalendered paper manufacturing in North America. We believe that every employee's actions make a difference, and we rely on committed, skilled people to use leading-edge process and technology to develop best-in-class products. The secret to our effectiveness is shown in the consistent and reliable quality of our products and our open communication and problem-solving with our employees, suppliers, and customers. Quality, reliability, and consistency of products and services deliver ultimate customer value.

Port Hawkesbury Paper 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. Port Hawkesbury Paper is the only industrial company in the Maritimes that is independently certified by the Forest Stewardship Council® (FSC®) forest management (FSC-C023189) and chain of custody standards (FSC-C112699), Sustainable Forestry Initiative® (SFI®) forest management and chain of custody standards, and PEFC™ chain of custody standard.

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.

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