

2019 Sustainability Report

Sappi
North America



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About this report

Sappi North America (SNA) has been publicly reporting progress on sustainability initiatives since 2008 as part of a global sustainability report, issued annually by Sappi Limited. This is the ninth consecutive year that SNA has issued its own sustainability report, with consolidated global sustainability performance included in the annual report to shareholders. Sappi Limited will continue to publish a separate online report in conformance with the Global Reporting Initiative's G4 framework and disclosing compliance with the United Nations Global Compact (UNGC), to which we are a signatory.

Covering the fiscal year 2019 (FY19) from October 1, 2018, to September 29, 2019, this year's report focuses on performance against goals and an update on key performance indicators. The report includes environmental performance data for SNA's North American manufacturing operations in Skowhegan, Maine; Westbrook, Maine; and Cloquet, Minnesota. Metrics for the recently acquired Matane, Quebec, mill will be included in next year's report. Social responsibility and prosperity metrics are reported for the full region, including our corporate facilities, sales offices, and sheeting facility in Allentown, Pennsylvania. Copies of reports produced by Sappi Limited can be accessed at sappi.com/investors. Online access to sustainability reports from Sappi's regional divisions in Europe and South Africa can be found at sappi.com/sustainability-sappi-group.

Looking for even more on sustainability?
Scan the cover of this report.



Step 1

Download the Sappi XP and Paper Calculator app on the App Store or Google Play

Step 2

Launch the app on your mobile device and tap the Live Print button at the bottom

Step 3

Tap the Scan button and scan the cover of the 2019 Sustainability Report

Step 4

Watch our video on sustainability and start making a difference today

A letter from Steve Binnie



This past year saw significant progress at Sappi North America (SNA). For the second year running, we produced an excellent safety performance—again lowering the injury frequency and severity ratings to record-low levels. I would like to thank each and every staff member for their personal commitment to this journey.

In 2019, a debottlenecking project at Cloquet Mill was completed that will boost dissolving wood pulp production. Another significant highlight was the acquisition and integration of the Matane high-yield pulp mill in Quebec, Canada, to bolster further expansion in the group and the region's packaging and speciality paper capacity. Sales volumes and contributions increased from packaging grades produced on the converted Paper Machine 1 (PM1) at the Somerset Mill, delivering on our strategy to increase capacity in higher-growth and higher-margin product segments.

As a renewable resource company, we are focused on maintaining the health of the forests, insisting that our timber suppliers apply responsible forestry management practices and encouraging the use of third-party certification programs. This past year, we worked with our print customers to secure the benefits that print-based communication delivers and supported the local economies where we operate through ongoing investment in our facilities. We also continued to provide customers with sustainable, responsible, and renewable product choices in a carbon-constrained world.

SNA is well-placed to deliver value across all of our sustainability goals during 2020.

Steve Binnie
Chief Executive Officer
Sappi Limited

A letter from Mike Haws

As we look ahead to the next five years of growth and innovation, we couldn't be more optimistic about our prospects here at Sappi North America (SNA).

We have the strongest team in the industry, a team that has tackled issues head-on, transforming our company into a well-diversified and resilient organization. Our commitment to sustainability provides us with a competitive advantage in a market demanding renewable resource solutions, and delivers enhanced value to all stakeholders. Our approach establishes a path for future investment and growth for the benefit of all of our employees and the local communities where they live and work.

We have a bold vision for Sappi North America and complementary values, which we see as providing the foundation of our future collective success.



Safety

Our commitment to the safety and well-being of our employees is a bedrock value shared by all of us at SNA. Without a demonstrated track record of continuous safety improvement, we simply would not be a successful company. We finished our fiscal year 2019 with a lost time injury frequency rate (LTIFR) of 0.25—the second consecutive year where we achieved our lowest full-year result ever. In addition, our severity rate has declined significantly from a high of 1,673 lost workdays in 2011 to 588 lost workdays in 2019—a 65% decrease. This impressive safety performance reflects the engagement and focus of all of our employees and the personal accountability they bring to the job every day.

Investment in our employees and in our communities

No company can achieve sustained success without engaged, empowered, and inspired employees. In 2017, we established sustained engagement as a global five-year goal to foster collaboration with our employees; in 2019, we earned a score of 78%, in line with other global manufacturing companies, and we strive to do more. We have rolled out an employee recognition program, TOUTS, which celebrated more than 2,700 acts of excellence from SNA employees in 2019. Additionally, this past year alone, we provided 105 hours of training per employee (more than 2½ weeks) on average.

We recognize our responsibility extends to advancing the vibrancy and health of our communities where we work and live. We invest in our local communities, providing educational and training resources as well as leveraging the energy and passion of our employees through our Employee Ideas that Matter grants. We support local college and university programs not only through financial support but through company mentorship programs. We are active members of the community, participating in educational, charitable, and civic events throughout the year. We know that giving back to our communities makes us stronger.

Reflecting the values of our customers

Our long-term success depends on our customers. We must strive every day to deliver products and services that anticipate their needs and satisfy their requirements for consistency, reliability, and advantaged performance. The far bigger challenge now is to understand our customers' needs beyond product attributes and service. Our customers want to know the environmental footprint of our products and services. They want to understand our strategies and success in reducing waste throughout our manufacturing process and logistics networks. They demand that we design products with end of life in mind—with a renewed focus on recyclability and compostability. They also expect greater transparency in the full supply chain they are part of, asking us to assess and mitigate risk in our supplier base.

We are working hard on all of these fronts. We have re-engaged our Sustainability Customer Council, with representatives across our businesses, to hear their candid feedback on our sustainability progress and emerging priorities. We have issued at the group level a Supplier Code of Conduct, which asks our suppliers to step up their commitments to us and our customers. We relaunched our eQ Calculator to provide our customers with the ability to assess the carbon footprint impact of their purchase decisions, and we're committed to increasing transparency of our footprint reporting going forward.

Natural resource stewardship and advocacy

Sappi recognizes its responsibility to act as a steward of natural resources, so we promote sustainably managed forests, energy, soil, and water conservation, and clean air. We are in the process of setting new forward-looking five-year goals that will be tied to our capital and business plans. We are committed to reporting our sustainability progress publicly. These goals capture the key elements of our stewardship commitments to minimize waste, improve energy efficiency, and ensure we only source from low-risk forests. Many more measures are captured in our Key Performance Indicators section, also reported publicly.

Lastly, we recognize that our advocacy in the global business community counts. Sappi was an early supporter of the commitments reflected in the Paris Agreement on climate change, signing the pledge in 2015. Just this past year, we joined the Sustainable Apparel Coalition as well as supported the American Forest Foundation and GreenBlue's Forests in Focus project, to add our voice to these critical initiatives measuring and influencing industry sustainability commitments.

Looking ahead

As the newly appointed President and CEO of Sappi North America, and on behalf of the organization, I would like to thank my predecessor Mark Gardner for providing us with the foundation of a strong, well-invested company. I look forward to working with the full SNA team—including all the talented Matane employees who just joined us in November—to build our future. While the common benchmark of success is improved profitability and stronger financial returns, it is only through the continued support of our employees, suppliers, and communities that we will achieve our ultimate goal of providing the best solutions to meet the needs of our customers.



Mike Haws
President and Chief Executive Officer,
Sappi North America

Summary of Sappi Limited

Sappi North America is a subsidiary of Sappi Limited (JSE: SAP)—a global company headquartered in Johannesburg, South Africa. Sappi Limited has more than 12,000 employees with manufacturing operations on three continents (nine mills in Europe, four mills in North America, and five mills in South Africa). Sappi is focused on providing dissolving wood pulp (DWP), packaging, speciality papers, graphic papers, biomaterials, and biochemicals to our customer base in more than 150 countries. Each year, we produce approximately 5.7 million tons of paper, 2.6 million tons of pulp for paper and packaging (including Matane), and 1.4 million tons of DWP.

Sappi North America

Headquarters: Boston, Massachusetts
2 Paper mills
1 Paper and dissolving wood pulp mill
1 High-yield pulp mill
6 Sales offices
4 Regional distribution centers
1 Sheeting facility

Sappi Southern Africa

Headquarters: Johannesburg, South Africa
2 Paper mills
1 Dissolving wood pulp mill
1 Paper and dissolving wood pulp mill
1 Saw mill
6 Sales offices

Sappi Europe

Headquarters: Brussels, Belgium
9 Paper mills
14 Sales offices
1 Coated barrier film and paper operation

Sappi Trading

Headquarters: Kowloon, Hong Kong
2 Logistic offices
11 Sales offices



Key

- Headquarters
- Mills

Overview of Sappi North America

Sappi North America (SNA)—headquartered in Boston, Massachusetts, with more than 2,000 employees in the United States and Canada—is a subsidiary of Sappi Limited. Our four North American mills have the capacity to produce 1.35 million metric tons of paper and packaging and 1.17 million metric tons of kraft, high-yield and dissolving wood pulp (DWP). The success of our four diversified businesses is driven by strong customer relationships, world-class assets, and outstanding products and services, backed up by solid technical, operational, and market expertise. This year, we've invested in the longevity of our business with the acquisition of Matane Mill in Quebec, Canada, to further expand our specialty paper and pulp capabilities.

Sustainability Steering Committee

Mike Haws

Chair, President and Chief Executive Officer, Sappi North America

Anne Ayer

VP, Pulp Business and Corporate Development

Bob Bertolami

VP, Procurement

Paul Bortolan

Interim VP, Coated Business

Bob Forsberg

VP, Graphics Sales and Business Development

Deece Hannigan

VP, Packaging and Specialties Business

Annette Luchene

Vice President and Chief Financial Officer, Sappi North America

Sarah Manchester

VP, Human Resources and General Counsel

Jennifer Miller

Chief Business Sustainability Officer

Mike Schultz

VP, Manufacturing

Sustainability Council

Alexander (Sandy) Taft

Chair, Director, Sustainability, Corporate

Rebecca Barnard

Manager, Forestry Certification, Corporate

Scott Castonguay

Packaging Innovation Leader, R&D

Melissa Johnson

Manager, Compensation and Employment, Corporate

Micki Meggison

Continuous Improvement Black Belt, Westbrook Mill

Lynne Palmer

Manager, Product Stewardship, Corporate

Chuck Qualey

Senior Engineer, Energy, Somerset Mill

Rob Schilling

Manager, Environmental, Cloquet Mill

Pulp

SNA is an integrated pulp and paper producer with state-of-the-art pulp mills. With the recent acquisition of the Matane Mill in November 2019, we now produce 270,000 metric tons of high-quality, high-yield bleached chemi-thermo mechanical pulp (BCTMP). We also produce bleached kraft pulp for our own use and DWP, recently rebranded Verve, for sale to other manufacturers. Our world-class mill in Skowhegan is capable of producing 525,000 metric tons of bleached kraft pulp. With the 2013 conversion of the pulp mill at Cloquet, we are capable of producing 470,000 metric tons of bleached kraft pulp or 370,000 metric tons of dissolving pulp. Combined with our South Africa DWP production, Sappi group is one of the largest producers of DWP in the world. To learn more, visit sappi.com/dissolving-wood-pulp.

Graphic papers

Our coated papers are specified for printing projects where top-quality results are essential—direct mail, fashion magazines, catalogs, car brochures, art books, and beyond. Sappi offers a broad selection of fine printing papers in a variety of brightness levels, finishes, and weights in Sheets, Web, and Digital formats. Our innovative brands are McCoy®, Opus®, Somerset®, Flo®, EuroArt Plus, and Galerie. To learn more, visit sappi.com/graphic-papers.

Packaging and specialty papers

Following a substantial rebuild of Paper Machine 1 (PM1) and modernization of the woodyard at our Somerset Mill in 2018, we launched Proto®, Proto Litho®, and Spectro®—three new single-ply paperboard brands for luxury packaging, folding carton, and food service applications. We also produce a line of coated one-side (C1S) products: LusterPrint® and LusterCote®. Our grease-resistant LusterPrint is designed for use within a wide variety of products, such as bag applications for pet food, popcorn, coffee, and bakery products. LusterCote is a C1S designed for labeling cans, jars, and corrugated boxes, and other converting applications, such as point-of-purchase displays, and envelopes. We also offer many specialty papers produced from our mills in Europe, including Algro Design, a solid bleached board used in folding carton applications, and the Algro Sol line of clay-coated, silicone-based release papers. To learn more, visit sappi.com/packaging-and-specialty-papers.

Casting and release papers

Sappi North America is the world's leading supplier of casting and release papers for the fashion, decorative laminate, automotive, and engineered films industries. Our release papers—including the globally recognized Ultracast® brand—provide the surface aesthetics for synthetic fabrics used in footwear, clothing, upholstery, and accessories as well as the textures for decorative laminates found in kitchens, baths, worktops, flooring, and other decorative surfaces. To learn more, visit sappi.com/sappi-casting-release-paper.

World-class assets



Cloquet Mill

ESTABLISHED

Pulp mill: built 1915, replaced 1999, conversion to include dissolving wood pulp 2013, expansion 2019
 PM4: built 1931, rebuilt 1993
 PM12: built 1989, rebuilt 2013

COATED FREESHEET PAPERS

340,000 mt/yr

PULP CAPACITY

370,000 mt/yr of dissolving wood pulp or 470,000 mt/yr bleach kraft pulp

PRODUCTS

McCoy, Opus, Flo, LusterCote, and Verve
End uses: annual reports, advertising brochures, fine-art books, direct mail, labels, point of purchase displays, textiles

EQUIPMENT

Pulp mill: 10 batch digesters
 Paper mill: 2 paper machines, 1 off-machine coater, 2 off-machine calender stacks

EMPLOYEES

Approximately 700

WATER SOURCE

Lake Superior,
 St. Louis River

ON-SITE PCC PLANT

Owned and operated by Specialty Minerals, Inc.

Matane Mill

ESTABLISHED

Pulp mill: built 1990

ANNUAL PRODUCTION CAPACITY

270,000 mt/yr

PRODUCTS

Sappi Matane Aspen and Sappi Matane Maple
Pulp end uses: printing and writing paper, paperboard and linerboard

EQUIPMENT

2 production lines

EMPLOYEES

150

WATER SOURCE

Matane River



Somerset Mill

ESTABLISHED

Pulp mill: built 1976, expansion 1995, recovery cycle upgrade 2010
 PM1: built 1982, rebuilt 2007 and 2018
 PM2: built 1986, rebuilt 2002
 PM3: built 1990, rebuilt 2003 and 2012
 Wood room: rebuilt 2018

BLEACHED KRAFT PULP

525,000 mt/yr

ANNUAL PRODUCTION CAPACITY

970,000 mt/yr coated freesheet and packaging paper

PRODUCTS

Publication: Opus, Somerset, and Flo Web
 Packaging: Spectro, Proto, Proto Litho, LusterPrint Web, LusterCote

EQUIPMENT

Pulp mill: Continuous digester
 Paper mill: 3 paper machines

EMPLOYEES

725

WATER SOURCE

Kennebec River

ON-SITE PCC PLANT

Owned and operated by Imerys Pigments



Westbrook Mill

ESTABLISHED

Paper mill: built 1730
 Coater installations: 1976, 1981, 1986, 1989, 1998, 2000
 Biomass power boiler: 1982

ANNUAL PRODUCTION CAPACITY

40,000 mt of coated specialty paper

PRODUCTS

Casting and release papers, including Ultracast, Classics, and PolyEx
End uses: Casting surfaces for coated textiles and laminates

EQUIPMENT

1 paper machine, 4 off-machine coaters. Biomass boiler supplying steam and power to the mill and the technology center, along with selling power to the local grid.

EMPLOYEES

287

WATER SOURCE

Presumpscot River

SNA sustainability leadership

A dialogue with Sappi North America's sustainability and innovation leaders

Jennifer Miller is SNA's Chief Business Sustainability Officer, responsible for integrating the company's sustainability strategy into its business growth plans. An experienced business professional in managing profit and loss as well as market strategy, Jennifer recognizes the important roles that customer insight, employee engagement, and strong governance play in ensuring an effective sustainability strategy.



Jennifer Miller
Chief Business Sustainability Officer

Beth Cormier, SNA's Vice President, Research, Development, and Sustainability, wears multiple hats in leading the company's innovation strategy. Using market insights, she partners with manufacturers, suppliers, and customers to drive new and improved product and process initiatives consistent with business strategy. In addition, she collaborates with global leaders within and outside Sappi to invent, incubate, and grow our emerging biomaterials business.



Beth Cormier
Vice President, Research, Development,
and Sustainability

Sandy Taft is SNA's Director of Sustainability. With a strong energy and environmental management background, Sandy adds a fresh perspective to SNA's sustainability initiatives. High on his priority list is Sappi's continued commitment to productively engage in the circular economy through material waste reduction, product design for end of life, and carbon mitigation strategies. Sandy is also keenly focused on how to describe and promote the role that the wood products industry can play in carbon sequestration strategies in North America and globally.



Sandy Taft
Director, Sustainability

Here, Jennifer, Beth, and Sandy share their thoughts on how the success of SNA's sustainability strategy depends on great innovation.

[What is the value of looking at sustainability through the lens of innovation, particularly for a renewable resource company like Sappi?](#)

Jennifer Miller (JM): Our value as a company is strengthened through our ability to innovate and create unique, sustainable solutions to evolving customer needs. Innovation is how we create a sustained competitive advantage in a carbon-constrained world, by offering products derived from a naturally renewing resource, wood. And innovation is not limited to our product line. Just look at the power of leveraging employees' passion for volunteerism as a great way to invest in your local community as we do with our Employees Ideas that Matter program grants. Innovation provides a holistic lens, looking at old challenges in new ways. What can we do differently as a company to make more sustainable choices, invest in different paths to create a more sustainable future for our customers, employees, and communities?

Beth Cormier (BC): I look at it this way, most anything you can do with a fossil fuel, you can do with the natural cellulose from trees; you just need to be creative and tackle the technical challenges involved. Since cellulose is the most abundant polymer on Earth, innovation in this space is opening up new markets to us and helping us optimize our well-established legacy business. We are fully engaged in developing innovative new processes, designed to extract more value from each tree and utilize these biomaterials to provide more sustainable and lower-carbon alternatives in textile, packaging, and graphic communication markets.

[Lowering your carbon footprint seems to be a common commitment many companies are making these days. What role can innovation strategy play here?](#)

Sandy Taft (ST): As we look to bring the pulp and paper industry closer to net carbon zero, disruptive technologies will be key. Sappi North America and, in fact, much of the paper industry, has made great strides in reducing carbon impacts through fuel switching and energy conservation and efficiency measures. For example, since 2005, the NA pulp and paper industry has lowered its carbon footprint by 35%, and SNA by 66%, in excess of the US 26% to 28% reduction commitment called for under the Paris Agreement on climate change. But the next phase of carbon mitigation strategies will depend on breakthrough innovation in process and material use.

BC: At SNA, and across the entire Sappi group, R&D teams investigate a broad range of options to mitigate carbon impacts. We're looking at lower-carbon product compositions, particularly innovative new binder and coating technologies. We're looking at ways to increase the recyclability and compostability of our products, which will help mitigate life cycle impacts. Beyond product, we're also experimenting with next-generation technology for reducing energy use in our mills. Finally, we're developing valuable biomaterials and biofuels from naturally renewable components of trees, such as cellulose, hemicellulose, and lignin. By substituting these biomaterials for fossil fuel-based materials, we impact many markets and help reach global carbon goals.

[What roles do customer insight and market expectations play in setting SNA's strategy around product innovation and sustainability?](#)

JM: Customers play an absolutely critical role in shaping our priorities. We recognize that customers have choices in the market and that meeting product performance expectation is no longer enough. If we're to be a valued part of their supply chain, we must source all materials responsibly, manufacture without waste, transport in lower-carbon ways, and commit to transparent reporting, so all of our efforts can be assessed and compared with the competition.

BC: SNA uses a stage-gate process for managing innovation. We need a rich funnel of ideas, and those must be rooted in market insights. It is critical that Sappi scientists get out of the laboratory and meet with customers and attend industry events to hear firsthand what unmet needs they have, ask them what challenges they have in reaching their own business and sustainability goals. Their answers inspire us to rethink and reimagine possible solutions to those needs.

ST: What really struck me when I joined Sappi was just how much we focus on what customers say and how much we take what we hear to heart. I spent a good deal of my time this first year at Sappi with our sales teams and with our customers. It was important to me to get that foundation—of what we were doing right from their perspective and what was missing. Based on their feedback, we relaunched the eQ Calculator, and jump-started a new, invigorated Sustainability Customer Council. Their insight is powerful.

When you think about innovation strategy, you think “confidential, proprietary,” and yet in sustainability strategy, it’s all about transparency. How do you reconcile that tension?

BC: It’s tough, but doable! In my view, there should be protection for our inventions and trade secrets, whether it is a new process or how we make a product. That said, we can share a lot—benchmarking that measures the carbon footprint of one product design over another. Assessments around the recyclability and compostability of the materials used in our products as part of product declarations. The list goes on.

ST: We’re exploring new supply chain platforms that may have the potential for allowing us to increase our level of transparency with our customers, with the protections of encrypted technology. We’ll have to be measured on how we proceed, but I think there is a great opportunity to engage more deeply with our full value chain while protecting proprietary information.

JM: At the end of the day, it’s a matter of trust. Consumers have a new expectation—they want assurances that they can trust that the products they buy are produced responsibly, the product materials are safe, and that employees are working in safe, healthy, supportive environments. It’s our responsibility to figure out, in partnership with our suppliers and our customers, just exactly how to provide those assurances. We are committed to doing just that.

Jennifer Miller announces retirement

Jennifer Miller has announced her retirement later this spring, and Beth Cormier has been named Vice President, Research, Development, and Sustainability with responsibility for both innovation and sustainability strategy. Jennifer reflects on our sustainability journey.



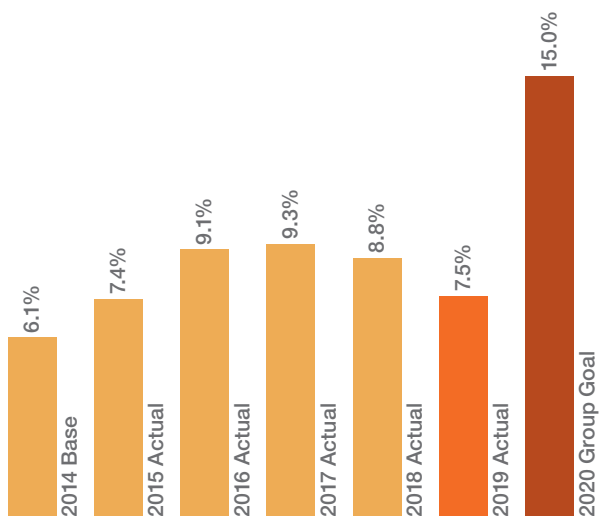
“Over my nearly 25-year career at Sappi, I have been driven by the principle that you can’t grow and prosper as a company if your chosen business strategies don’t reflect the values of employees, customers and broader communities. Sappi North America has so many opportunities to create tremendous business value while reducing our impact on the environment, promoting the development of our people, and investing in the economic health of our communities. We have accomplished a lot already, and I know that by fostering a vibrant employee culture and a commitment to innovation to deliver renewable resource solutions, the prospects for a sustainable future couldn’t be brighter.”

Jennifer Miller
Chief Business Sustainability Officer

Sustainability goals



At Sappi North America (SNA), we keep sustainability at the forefront of our operations. Together with the 2020Vision—Sappi’s global growth strategy—we use our sustainability goals program to set targets, initiate improvement actions, and monitor our commitment to progress. Our goals reflect the voice and expectations of our employees, customers, and investors.



EBITDA as a percentage of sales

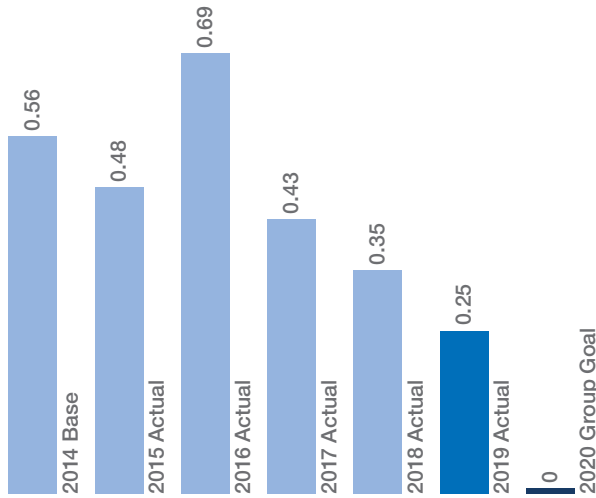
Contribute to 15% group EBITDA margin target

Earnings before interest, taxes, depreciation, and amortization (EBITDA) is a standard measure of profitability and financial performance. Sappi Limited uses the EBITDA margin (EBITDA expressed as a percentage of sales) as one of our key metrics to measure success. EBITDA was 7.5% for the year. Total group performance stood at 12% compared to the group goal of 15%.

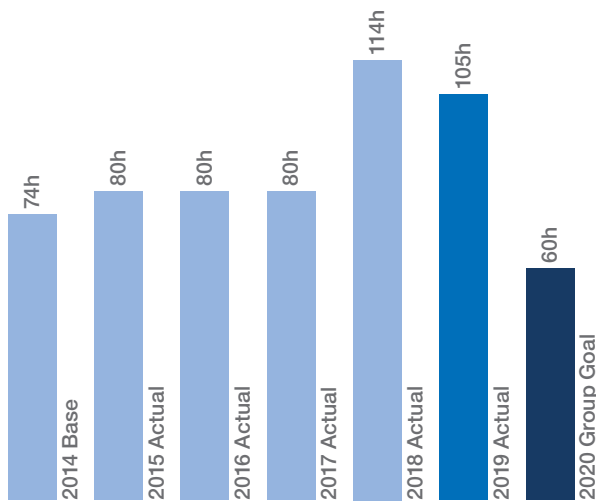
FY19 was a pivotal year for SNA. We executed transformational changes across the business while simultaneously facing some of the most difficult market conditions in the past decade. Our new paperboard business gained significant traction during the year, but due to unusually weak graphics demand, we experienced overall volume shortfalls and took curtailment on the paper machines. We were able to offset part of the volume miss through higher graphics pricing, lower fixed and delivery costs, and the benefit of kraft pulp sales out of Somerset Mill.

Looking ahead to 2020, we'll benefit from the continued growth of our packaging business as well as benefits associated with the Matane acquisition and integration. For a comprehensive discussion of our financial results for the year, please refer to the 2019 Annual Integrated Report at sappi-reports.co.za/reports/sappi-air-2019/index.php.

People



Lost time injury frequency rate



Average employee training hours

Achieve zero workplace injuries

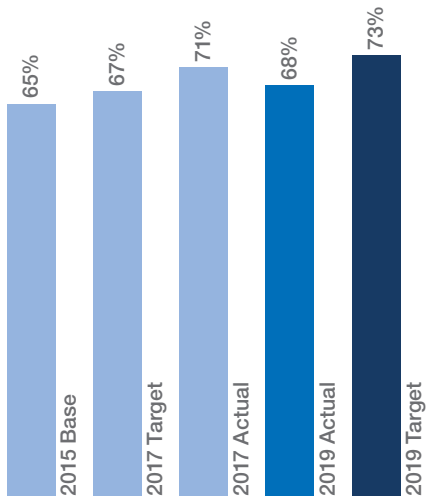
Safety is the top priority at Sappi. Across all regions, we are committed to zero workplace injuries. The metric we use to measure our progress toward meeting our goal is known as lost time injury frequency rate (LTIFR), which measures injuries resulting in lost time per 200,000 employee hours of exposure—equivalent to 100 full-time employees per year.

In 2019, we achieved an LTIFR of 0.25, our best-ever reported performance. Of note, both our Allentown sheeting facility and the Technology Center achieved zero workplace incidents. The Cloquet Mill sustained only one lost-time injury and posted a very strong performance of 0.13 LTIFR.

Achieve 60 training hours per year, per employee

SNA's regional goal for employee training is 60 hours per employee (hourly and salaried, on average). In FY19, we achieved an average of 105 hours per employee, with a particular focus on the manufacturing operations. This strong performance reflects our significant commitment to training across all employees in the organization and covering safety competence and skills.

People

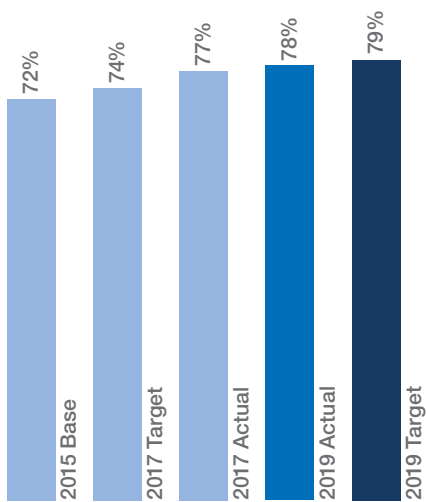


Promoting employee engagement

Every two years, the entirety of Sappi group undertakes the Willis Towers Watson Employee Engagement Survey, from which we've established two metrics for employee engagement. The first goal was to increase employee survey participation to 73%, which is 2% above the previous survey results. This year, our survey participation dropped to 68%. The second goal was to increase sustainable engagement by two percentage points to reach 79%. Sustainable engagement is determined by employee responses to survey questions such as commitment to company goals, discretionary effort, and recognition. We fell just short with a response result of 78%.

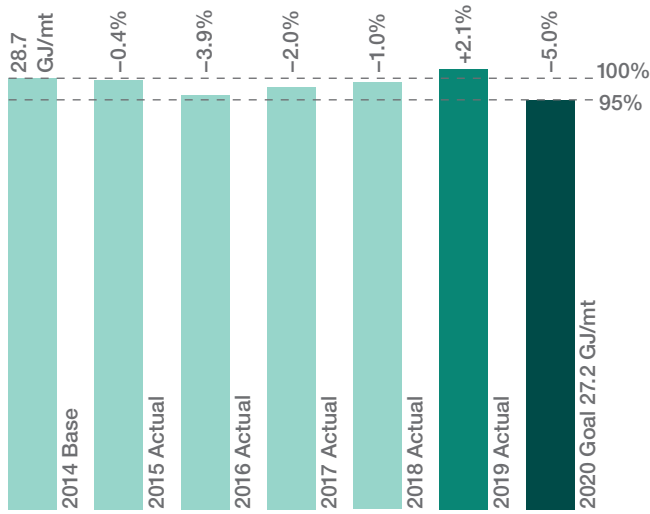
Our strategies to improve survey participation and sustainable engagement include enhanced training, stronger supervisory skills, and better employee communications specific to the lower scoring organizational areas.

Survey participation



Sustainably engaged employees

Planet



Reduction in energy consumed (GJ/mt)

Lower total energy consumed

Total energy consumed is one of the most important mill metrics we have. It captures the efficiency of our operations in both the numerator (gigajoules of energy used) and the denominator (air-dried metric tons of paper produced). By running our mills more efficiently, energy consumption is lowered. If we ensure that all of the products we produce are saleable, then we avoid the energy waste associated with remaking the products.

It was a difficult year influenced greatly by market conditions. To address the slowing market, we had to curtail operations, which meant equipment was running at less than full capacity and with decreased efficiency. Curtailment also means less paper was produced, resulting in an even greater impact on this intensity metric, as it reduces the denominator. Based on results from recent years, projects have been identified to drive energy efficiency closer to goal performance.

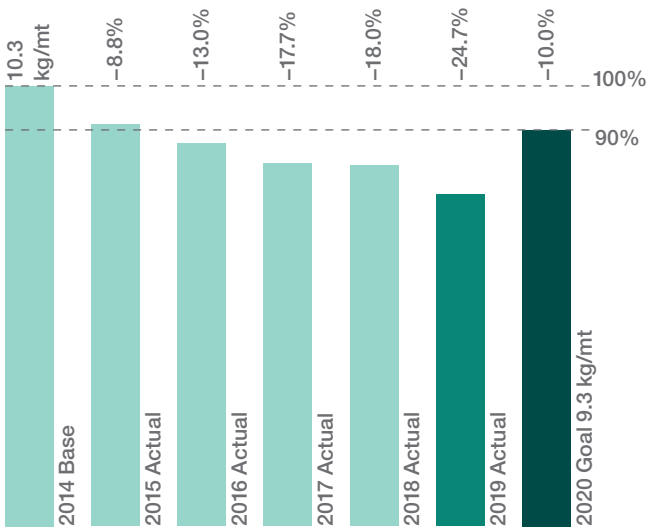
The bar chart has been updated back to 2014 to account for the hydropower contribution to the Cloquet and Westbrook mills.

Planet

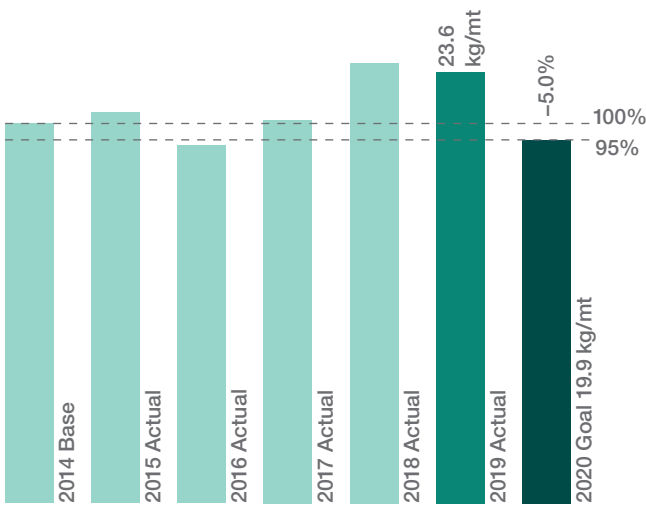
Reduce raw material waste in our pulp and paper mills

The efficient use of raw materials improves front-end cost savings, reduces environmental impact, and lowers costs associated with waste processing. To achieve these benefits, we have separate goals for the pulping and papermaking process areas. For the pulp mills, we targeted a 10% reduction in losses by 2020, whereas for the paper mills, we established a 5% reduction goal by 2020.

With respect to pulp mill losses, we have well surpassed the five-year goal, reaching a 24.6% reduction over the 2014 baseline. In contrast, paper mill losses were 13% higher than the 2014 baseline. While this represents a slight improvement over last year, significant progress will be needed to reach our 2020 goal. Since this year's results were primarily driven by market curtailment (higher sewer losses, due to machine startups and shutdowns, plus fewer saleable tons), we expect better performance in 2020, as machines settle down with fuller order books.

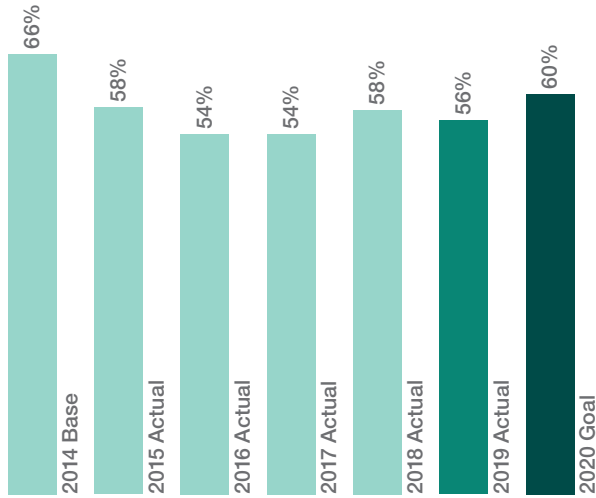


Pulp mills raw waste (kg/mt)

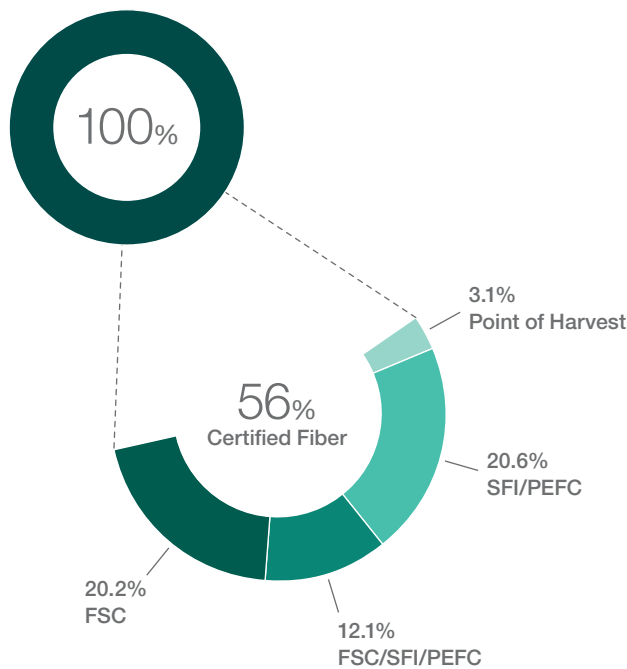


Paper mills raw waste (kg/mt)

Planet



Total certified fiber content



2019 Total responsible fiber sourcing and fiber certification

Achieve 60% certified fiber

Our certification goal tracks the amount of certified wood fiber across our three US manufacturing operations (Matane will be reported next year). All of SNA's US-based paper and packaging mills are triple certified in accordance with the leading global sustainable forestry chain of custody certification systems, including the Forest Stewardship Council® (FSC®-C014955), the Sustainable Forestry Initiative® (SFI®) program, and the Programme for the Endorsement of Forest Certification™ (PEFC™).

In 2019, 52.8% of the wood, chips, and pulp sourced by our US mills was third-party certified under SFI, FSC, or PEFC standards, with an additional 3% recognized as Point of Harvest certified. Point of Harvest certified fiber refers to wood and chips from lands not otherwise certified by one of the aforementioned forest management standards, yet harvested by logging professionals who are trained in practices designed to conserve forestland, promote biodiversity, and protect soil and water quality. The total, 56%, is only slightly lower than 58% in 2018.

Furthermore, 100% of SNA's wood, chips, and pulp inputs are sourced from well-managed forests and are third-party verified as originating from controlled and noncontroversial sources. Additionally, all of the wood and chips that SNA procures for the Somerset and Cloquet mills meet the requirements of the SFI Fiber Sourcing Standard. This standard provides third-party verified claims and customer assurance of Sappi's responsible procurement operations that utilize trained loggers and contribute to biodiversity, forest research, adherence to best management practices, and landowner outreach.

Our 2014 base year performance of 66% certified fiber—which was well above target—reflects that year's high use of purchased, 100% certified kraft pulp for the Cloquet paper machines after the conversion of the pulp mill to produce saleable dissolving wood pulp. Since 2014, we have transitioned back to making more of our own kraft pulp from wood and chip inputs, which on average include a greater proportion of noncertified fiber compared to purchased pulp. This impact is reflected in lower overall annual certified fiber levels.

For more information on our third-party certifications, please visit sappi.com/na-certifications.

100% of our forest fiber is from well-managed forests, at low risk of any controversial sources.

Reframing our goals for 2025

As we enter into the last year of our five-year performance cycle, we're already thinking about what 2025 might look like.

Our sustainability journey began in earnest back in 2008 when we became a signatory to the UN Global Compact. The Compact had us focusing on four broad topics as a means to improve society: human rights, labor, environment, and anti-corruption. To deliver in these areas, we set goals and targets that were most applicable to the difference we could make with our business. Since that time, we've accomplished a great deal.

In 2019, a working group of representatives from each of the Sappi regions was formed to determine our focused priorities going forward. The group found inspiration by studying in detail the UN Sustainable Development Goals (SDGs).

Where the UN Global Compact targeted 10 principles covered in the four areas mentioned above, the UN SDGs define 17 global priorities and aspirations for 2030 with an explicit call on all businesses to lean in and apply their creativity and innovation to solve these challenges.

The group has identified seven goals where they believe Sappi can make the most effective contributions:

- Clean water and sanitation (6)
- Affordable and clean energy (7)
- Decent work and economic growth (8)
- Responsible consumption and production (12)
- Climate action (13)
- Life on land (15)
- Partnerships for the goals (17)

The working group is now developing a strategy that aligns the company's goals and advocacy positions around these seven issues that are material to our business. This alignment will be announced in 2020 as part of the new 2025 goals.



Prosperity



Meeting the needs of our customers is key to ensuring our prosperity goals are met. We balance a daily operational focus of sourcing wood, identifying improvements at our mills, and fulfilling customer orders with a long-term view for expansion through investment in new markets, innovative equipment, and groundbreaking technology. From 2010 to 2019, we strategically invested more than \$650 million in assets to ensure that our customers receive the highest-quality products in the most sustainable manner.

Ensuring holistic value creation

At Sappi, we take a holistic view of value creation. As we shared in this year's annual integrated report, value for Sappi is not only about delivering returns to our shareholders, it is about maximizing the value of every resource along the value chain to ensure those returns are sustainable. We recognize that our sphere of influence and impact extends beyond our mill gates. Accordingly, we strive to increase our positive impacts on people and planet as well as minimize our negative impacts, while securing prosperity through sustainable profit margins.

2019 financial performance

Our group EBITDA margin in 2019 was 12% compared to our group target of 15%, with SNA's EBITDA margin standing at 7.5%. At the group level, total EBITDA was \$687 million, with performance challenged by slower economic growth in many geographies and the impact of lower dissolving wood pulp prices. Lower DWP pricing was caused primarily by a softening of textile demand, excess capacity of viscose staple fiber producers (consumers of DWP), and lower kraft pulp pricing, which caused swing producers to produce DWP instead of kraft. At the regional level, SNA posted EBITDA of \$110 million with results impacted by a prolonged weak graphic paper market, which declined by approximately 10% in North America. We are committed to optimizing our graphics business—growing with customers who highly value print. Of course, these structural changes in graphics reinforce the wisdom of our strategic decisions to expand our packaging business and to increase the flexibility of our assets. These decisions allow us to swing between DWP and kraft pulp at Cloquet, as well as between packaging and graphics grades at Somerset. Of particular note, packaging volume growth increased 72% year over year following the successful commercialization of all of our new paperboard grades. Additionally, through a very successful debottlenecking project at Cloquet, we created 30,000 tons per annum of additional DWP capacity at the mill. For a complete report of financial performance for the group and for SNA, please refer to the 2019 Annual Integrated Report at sappi-reports.co.za/reports/sappi-air-2019/index.php.

Looking ahead to 2020

Looking ahead to 2020, we are poised to take advantage of the transformative investments made over the last several years. We are committed to identifying further opportunities in our new markets for packaging and specialty papers, dissolving wood pulp, and biomaterials. We will continue to promote our strong graphics brands and to develop innovative service offerings to support our graphics business. As we embrace these new market perspectives, our prospects for sustainable growth have never looked better.

“Our transformation to a more diversified and sustainable business is on track. Sappi's recent Matane acquisition, the optimization of PM1 at Somerset, and the expansion of our dissolving wood pulp capacity at Cloquet continue our track record of strategic reinvestment to position ourselves for the future. Our goal is always to create long-term value for all our stakeholders, and these investments reflect Sappi's ongoing commitment to our people, our operations, our communities, and our customers.”

Annette Luchene
Vice President and Chief Financial Officer,
Sappi North America



Annette Luchene, Vice President and Chief Financial Officer,
Sappi North America



Sappi acquires the Matane Mill in Quebec, Canada

On August 1, 2019, Sappi Limited was very excited to announce the completion of the \$175 million transaction to acquire Matane Mill from Rayonier Advanced Materials. Joining Sappi are approximately 150 talented employees who operate this high-yield hardwood pulp mill that is located on Quebec's Gaspé Peninsula at the mouth of the Matane River.

The mill has a capacity of 270,000 metric tons per year and will allow Sappi to integrate this pulp into its fast-growing packaging papers businesses in both North America and Europe. Doing so will reduce Sappi's cost of pulp as well as the volatility of earnings through the pulp cycle and positioning us well for higher-margin growth segments.

High-yield pulp is used in a variety of applications—providing higher bulk, opacity, and stiffness in the final product. Demand for the pulp is primarily driven by the packaging board and printing paper markets. The global high-yield pulp market is approximately 5 million tons, 40% of which is produced in Canada due to lower fiber and energy costs.

As Mike Haws, President and CEO of SNA, explains, the acquisition will increase pulp integration for our North American and European businesses as well as add a healthy market pulp business with a strong customer base to our portfolio.



The ripple effect: how Sappi jobs drive strong local economies

Sappi North America plays a valuable role in driving the health of the local communities where our mills are located. Of the approximately 2,200 employees, the vast majority work in small communities across North America: approximately 700 at the Cloquet Mill in Minnesota; 725 at the Somerset Mill in Skowhegan, Maine; 287 at the Westbrook Mill in Maine; and approximately 150 at the Matane Mill in Quebec.

The economic benefit of these mills to their communities goes well beyond the direct jobs they provide. In an October 2019 paper,¹ Josh Bivens of the Economic Policy Institute described ripple effects that spread to the rest of the labor market: “Each industry has backward linkages to economic sectors that provide the materials needed for the industry’s output and forward linkages to the economic sectors where

the industry’s workers spend their income.” These ripple effects are much more pronounced in manufacturing-sector jobs than for those in other sectors.

Josh calculates employment multipliers by industry and estimates that 100 jobs directly in pulp, paper, and paperboard mills support 468 indirect jobs in related industries (such as logging and transportation) and 218 in service industries (such as restaurants and shops) where the workers and supplier employees spend their income.

“Each industry has backward linkages to economic sectors that provide the materials needed for the industry’s output and forward linkages to the economic sectors where the industry’s workers spend their income.”

Josh Bivens, Economic Policy Institute

¹ Josh Bivens, Updated employment multipliers for the US economy, January 23, 2019, Economic Policy Institute, <https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/>

The Minnesota Forestry Industries² reports that, in 2014, the forest products industry in Minnesota generated \$8.2 billion in economic impact that was felt throughout the state, and the value of pulp and paper products that year exceeded \$2 billion. A study by the Maine Forest Products Council³ states that the forest products industry impacts businesses of every type in Maine and contributes an estimated \$2.7 billion in value-added impact, which was 4.96% of Maine's gross domestic product for 2016. The pulp and paper manufacturing sector accounted for 64% of that total.

Dr. Mindy Crandall of the University of Maine reports that there are not only ripple effects in employment but that additional or net economic changes are generated when an export-driven industry (like forest products) brings new revenues into a region and supports the local economy. There are also indirect impacts resulting from the sector's purchases of goods and services from supporting sectors as a part of doing business. She calculates that the Maine forest product industry's estimated direct output in 2016 of \$5.5 billion represents a much larger economic impact on the state of Maine—\$8.5 billion.⁴

What's the bottom line? Our 1,925 mill jobs translate to roughly 13,000 additional jobs for economies in Minnesota, Maine, and Quebec. That's quite a ripple effect to support local schools, infrastructure, and vibrant community life, one that we're proud of at Sappi.



Sappi North America receives gold rating from EcoVadis

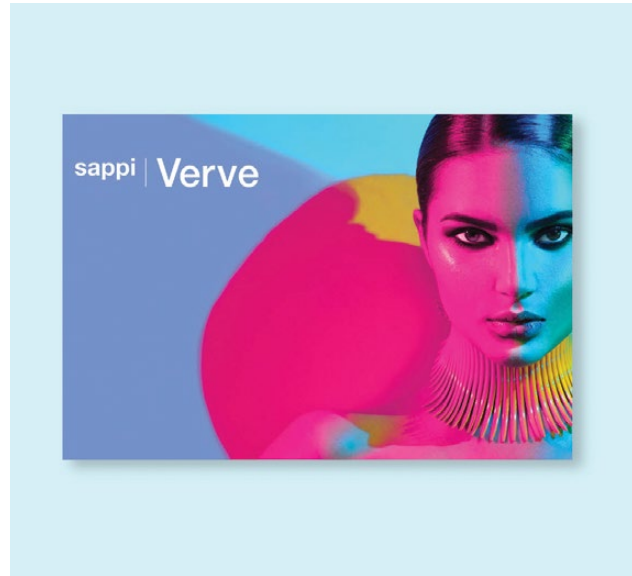
SNA received a regional-level sustainability scoring from EcoVadis, a third-party platform that scores information across a range of sustainability categories, including environment, labor and human rights, ethics, and sustainable procurement. In 2019, EcoVadis recognized Sappi North America as a gold rated company—their highest level of recognition. Our overall score is in the top 4% of companies assessed by the platform in the pulp, paper and paperboard industry.

2 Minnesota's Forests, a 2016 report by the Minnesota Forestry Industries, <https://www.minnesotaforests.com/statistics-research>

3 Maine's Forest Economy, 2016 Update by the Maine Forest Products Council, <https://maineforest.org/wp-content/uploads/2016/09/Maines-Forest-Economy-10-12-2016.pdf>

4 Dr. Mindy Crandall, "How is economic impact determined?" Article in Maine's Forest Economy, 2016 Update by the Maine Forest Products Council, <https://maineforest.org/wp-content/uploads/2016/09/Maines-Forest-Economy-10-12-2016.pdf>

Innovations that help our customers thrive



Packaging and specialty papers

Sappi has introduced a new set of tools to showcase the performance of its new paperboard offerings, including printed demonstrations, sell sheets, a custom presentation folder, and a dimensional box designed to capture attention and show off the superior surface. Special effects, unique folds, foils, soft touch coating, and sculptured debossing and embossing were utilized to show off the quality of Sappi's new paperboard. These tools help our customers see how superior reverse-side printing and innovative convertibility can turn their ordinary projects into outstanding works of art. We also announced our new C2S grade to complement our full line of Spectro paperboard products. New product demonstrations highlight the premium surface and printability from a proprietary coating engineered to deliver a smooth and uniform surface, for brilliant color reproduction, sharper details, and better ink hold-out.

Our highly requested holiday kit also featured our packaging brands, to demonstrate a variety of applications for our products and ways to offer environmentally conscious consumers an alternative to fossil fuel-based packaging.

Dissolving wood pulp

Our dissolving wood pulp (DWP) brand, Verve, is a truly sustainable raw material. In addition to its primary use in clothing and home textiles, it can be processed into products used in food, health, hygiene, and pharmaceuticals, along with many more applications that touch our daily lives. DWP used in textiles, particularly for viscose and lyocell fibers, is both the largest and fastest-growing textile sector. As a result, we've introduced a variety of tools, such as posters, brochures, and a video that demonstrates the power of wood fiber in a resource-constrained world. With our membership in the Sustainable Apparel Coalition (SAC), we join more than 240 global brands, retailers, and manufacturers as well as government, nonprofit environmental organizations, and academic institutions, which are collectively committed to improving supply chain sustainability in the apparel, footwear, and textile industry.



Graphic papers

Sappi North America launched the second installment of its educational *Verticals* series, “The Marketing of Fashion,” which highlights successful marketing and promotional approaches used by leading brands. The *Verticals* series dives into individual markets, examining the unique challenges, traditions, and idiosyncrasies each faces when communicating with target audiences (brand owners, printers, designers, and many more).

Printed on Sappi’s premium McCoy paper, “The Marketing of Fashion” explores how current marketing trends like micro-influencers, sustainability, omnichannel shopping, mass customization, and premium brand experiences are used by leading brands to set themselves apart. The guide showcases how print remains a vital part of the marketing mix, with examples of special effects that evoke the tactile side of fashion and demonstrate ways that luxury marketers can stand out by using print in a digitally fatigued world. Jaw-dropping techniques demonstrate how specialty coatings like leather scented, rubberized, glow in the dark, embossed, and flocking (just to name a few) have the power to bring a piece to life.

A notable aspect of Sappi is that each of its core business units touch the fashion industry in some way—whether it be with high-quality paper for magazines and catalogs, paperboard for luxury packaging and shopping bags, DWP for textiles, or casting and release textures used on handbags, apparel, and footwear.



Casting and release papers

Sappi North America recently launched its new casting and release swatch book. This swatch book serves as design inspiration and is chock-full of coated fabrics highlighting different color effects and casting techniques created with our textures. It includes eight fan decks of more than 160 textures from Sappi’s Ultracast and PolyEx release paper brands, with a color-coded key on the inside flap. Designed with the customer in mind, each fan deck is organized alphabetically by texture category, such as heavy grain leathers, geometrics, or textile patterns, making it easy to find exactly what you’re looking for. Plus, the fan decks have a snap-loop closure, allowing the ability to separate swatches for side-by-side comparisons and to return them as needed. This also allows convenient updating of the swatch book with the latest Sappi textures as they become available. With 4,000 produced and distributed across the globe, our new swatch book is designed for a quick and easy customer texture experience. As a plus, we also offer a Sappi Release Texture Catalog mobile app as a visual companion tool to the swatch book.

Unlocking the value of trees for a sustainable future

As Sappi seeks to create sustainable profits while minimizing its impact on the environment, we are reexamining ways to unlock the full value of trees. Traditionally, the papermaking process has only used approximately two-thirds of the raw wood material to manufacture pulp and paper products. The balance of the raw material is used to generate energy to power the mill or to sell into the electricity grid. Yet, a tree has so much more to offer. “We have only begun to tap the full potential of trees,” says Beth Cormier, SNA’s Vice President, Research, Development, and Sustainability.

Wood is made up of lignin, hemicellulose, and cellulose, which are among the most abundant polymers on the planet. Forests are renewable, and the biomass cycle continually sequesters carbon dioxide, making wood an ideal natural resource for biomaterials.

Beth notes, “We burn the lignin extracted during the papermaking process—it is a good, renewable fuel, but are there better and more profitable uses for it?”

Beth’s job—along with her team in North America and her counterparts in Europe and South Africa—is to develop innovative new processes and biomaterials that extract more value from each tree and provide sustainable/lower carbon alternatives to materials most commonly used today. Transforming wood into consumer products is in Sappi’s DNA. Global Teams are leading us forward with what Beth calls “this wonderful material” that is so good for our planet and provides products with remarkable characteristics with so many uses and “surely more to be unlocked.”



Cellulose

Cellulose, the most abundant organic polymer on Earth, is the main component of plant stems, leaves, and roots, and gives wood its remarkable properties. The main commercial uses for cellulose have been in producing paper and packaging. At Sappi, we have gone further.

Sappi produces Verve, a dissolving wood pulp that is 91% to 98% pure cellulose. Verve is suitable for subsequent conversion into a range of products, primarily in the viscose industry, where pulp is converted to yarn and ultimately textiles, providing soft, breathable fabrics that hold color well and drape beautifully. Dissolving wood pulp is also used for household, industrial, and pharmaceutical applications, including for tablets, acetates, and cellophane.

Nanocellulose

Nanocellulose, produced by processing cellulose fibers down to the smallest fibril component, opens opportunities in new and adjacent markets for Sappi. Nanocellulose is a lightweight, solid substance composed of crystals and amorphous cellulose. Nanocellulose was developed during the 1980s but was not successfully commercialized because of the energy-intensive production process involved. Sappi's proprietary process does not require significant energy inputs, and the process can produce several size varieties of cellulose materials. These materials can impart useful strength and flow characteristics.

Hemicellulose

Using a biorefinery process, the hemicellulose sugars extracted from wood during the pulping process can be used to create higher-value products in a wide variety of applications. These include sugar alcohols such as xylitol (a low-energy sugar substitute), lactic acid (used in the production of polylactic acid, a renewable plastic), and glycols (used in the production of PET for plastic bottles).

Sappi has completed the construction of a sugar extraction demonstration plant at Ngodwana Mill in Mpumalanga Province, South Africa. The demonstration plant extracts hemicellulose sugars and lignin from Sappi's existing dissolving pulp line. Since these are coproducts from our existing line, pressures on other agricultural resources are reduced, which is extremely important because of a rapidly growing global population.

Lignin

Lignin comprises 10% to 15% of a tree's mass. After cellulose, it is the most abundant renewable polymer on Earth. In Sappi's papermaking process, most lignin is removed from pulp in the form of black liquor, which is then burned as a renewable fuel. But lignin has other uses.

On April 8, 2019, Sappi and Borregaard celebrated 20 years of operation of their joint lignin extraction plant in Umkomaas, South Africa. The plant has matured into one of the largest lignosulphonate manufacturers globally, with the product LignoTech used as a binding and dispersing agent in a wide range of agricultural and industrial applications. Lignosulphonate is used as a component of biodegradable plastic, plywood, pastes and glues, dust suppressants, soil stabilizers, and cement and asphalt products. Research is underway to expand its use as a substitute for phenols or formaldehyde and in bioglues and bioplastics.

Today Sappi has established lignosulphonate operations in Europe as well as in South Africa. New technologies offer a process that extracts lignin from kraft black liquor commonly available in the US, indicating the promise of this technology here. The lignin can then be sold for use in the manufacture of specialty chemicals or as fuel in pellet or powder form. "The goal," says Beth, "is to put lignin to its best use, and that is why we continue to explore all options."

Sappi collaborates with Constantia Flexibles and Nestlé for innovative recyclable and sustainable packaging solutions

SNA's sister company Sappi Europe has teamed up with packaging supplier Constantia Flexibles and the world's largest food and beverage company, Nestlé, to support the launch of the YES! snack bar, wrapped in recyclable paper. The innovative wrapper meets the market demand for more sustainable products, without compromising on food protection and shelf life, according to Susanne Oste, VP of Innovations and Sustainability at Sappi Europe.

"The acquisition in 2017 of barrier film technology company Rockwell Solutions Limited gave Sappi the opportunity to enhance its product offering by adding recyclable barrier coatings to its products," says Thomas Kratochwill, VP of Sales and Marketing, Packaging and Speciality Papers at Sappi Europe. "The recent launch of the YES! bar by Nestlé provides a clear example of the benefits brought through collaboration across the value chain in our joint efforts to increase the use of recyclable packaging made from renewable wood fiber."

The recyclable paper wrapper uses Sappi Guard—an innovative paper-based packaging solution with integrated barriers against oxygen, water vapor, grease, aroma, and mineral oil. Thanks to the integrated barriers, there is no need to apply special coatings or laminations. This innovative paper responds to market demand for alternatives to foils and plastic, lowers costs, and reduces environmental impact.

SNA implements food safety management system

The implementation of a Food Safety Management System (FSMS) at the Somerset Mill was completed this year. The system selected to be implemented was ISO 2200: food safety management systems—requirements for any organization in the food chain. In addition to adhering to FDA compliance for food-contact products, this well-recognized global certification strengthens our positioning in the food packaging sector by providing additional third-party assurances to our customers beyond FDA compliance.



Lynne Palmer, Manager, Product Stewardship, ensures that Sappi North America's new food packaging products meet food safety regulations and customer expectations.



Cliff Slater, Director of Compliance at Hood Packaging, shares his expectations on food safety standards at a Customer Council meeting.

People



Our social responsibility efforts focus on our customers, employees, and local and global communities. We engage with customers to inspire partnerships and create innovative products to keep our business moving forward. Across our operations, we focus on the safety, wellbeing, and expertise of our employees—routinely working to connect and contribute in our local communities and beyond.

Union employees work to make Sappi a successful, safety-focused company

“We are all in it together,” says Jay Arnston, fiberline control room operator and president of the USW Local Chapter 11-63 at the Cloquet Mill. “It wasn’t always that way,” he says, describing his many years of union involvement with Sappi and previous owners of the mill. “But we’ve come a long way. There is a lot more transparency, and we are informed about a lot of the decision making.”

Loren Manty, President of the NCF&O Local 939, agrees: “The whole union role has changed. We realized we both need each other, and we are working on the same side. We still have differences, but we can sit down, talk, and figure out what’s right. It is beneficial all the way around.”

Loren also says there is no greater example of this cooperation than in the safety approach at Cloquet. “With Sappi, it is obvious that safety is the number one goal. We do it all together. There is no difference in hierarchy regarding safety.”

“The culture has shifted,” he continues. “In the past, people were scared to ripple the water. Now we are empowered for safety. If you see a minor accident, make it so it never happens again. We have torn down a wall between us and them.”

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Loren Manty, President NCF&O Local 939



From left to right: **Jay Arnston**, fiberline control room operator and president of the USW Local Chapter 11-63; **Tom Radovich**, Managing Director, Sappi Cloquet Mill; and **Loren Manty**, President of the NCF&O Local 939.



The Cloquet Mill's excellent safety performance is largely due to a strong collaboration between Sappi and union leadership.

Jay also lauds the safety effort at Cloquet. "We have team safety leads for all shifts," he says. "There is more engagement. We have two hourly, a safety liaison, and an industrial hygienist working full time on safety. We are empowered to do our own thing; safety is a constant work in progress. We have a Safety Leadership Council, both hourly and salaried employees, that meets monthly to create and sustain safety standards. It is a great thing."

Safety is a major part of the sustainability emphasis at Sappi, but Jay notes other aspects of Sappi's sustainability program that are important to him: "The mill has been in Cloquet for more than 100 years and has shaped the culture of the community. The company and union support many different events with lots of volunteers. The company provides great jobs in a region where opportunities are limited."

"What the company has done for the environment is a remarkable story," Jay continues. "Ninety-five percent of our energy used is renewable, and we can sell this renewable energy back to the grid. Stack testing is going on all the time. The river is now clean." He concludes: "Cloquet is a model for the industry."

Both Jay and Loren believe that Sappi is making the right moves and investments to keep the Cloquet Mill sustainable well into the future. According to Loren, "For the past four years union leaders have participated in higher-end budget meetings. Workers appreciate this transparency. And from this, it is apparent that the company has made smart decisions on diversifying the product line. They are investing in Cloquet because they are planning to stick around."

The union leaders credit the company for their openness and the workers for demonstrating their ability to get things done. Jay says, "I attribute the mill's success to our people," and cites Project Athena, which enabled the pulp mill to swing between dissolving wood pulp and kraft pulp, as an example of the workers' demonstrated ability to take on and deliver on time and under budget.

In turn, Tom Radovich, Managing Director of the Cloquet Mill, credits the healthy partnership with the unions for helping make Cloquet a stronger, safer, more productive mill. "We've earned each other's trust over the years," he says, "and it is important that all employees understand how their work aligns and supports our ultimate mission, a globally competitive, sustainable mill. I appreciate the commitment that Loren and Jay have brought to their leadership roles."



Another record year for safety

This past year was very special for safety in Sappi North America (SNA). Our employees achieved their best-ever lost time injury frequency rate (LTIFR) result at 0.25. Everyone stepped up to make this achievement possible. For the entire year, we had only six lost-time injuries, and during the second quarter of the year, we had zero lost-time injuries—our ultimate goal and the first time it was ever achieved. On May 19, 2019, our Cloquet Mill employees operated 1.3 million hours without a single lost-time incident. Our Allentown

employees continued their record-breaking streak with another year of zero recordable lost-time incidents. For our Somerset Mill employees, it was their second-best year on record. Westbrook employees also made strides with a new Fit Stop Wellness Centre, joined by more than 130 employees. At Sappi, our common goal is to ensure safety—working hard every day to get each other home to our families, friends, and communities where we are needed most.



Sappi employees from the publishing team celebrated Earth Day with customers by planting over 400 saplings in Bushkill, PA.

Employee ambassadors deliver Sappi’s sustainability commitment to communities

Our Lead Sustainability Ambassadors, a team of nine passionate leaders at sites around North America, work together to drive employee engagement through a variety of activities—whether it be organizing a volunteer event with a local charity, improving an on-site recycling program, or promoting educational opportunities. Working with Sandy Taft, ambassadors regularly meet to discuss ideas, share best practices, promote our sustainability story, and provide outreach to their local communities. Truly our “boots on the ground,” our Lead Sustainability Ambassadors show how a career at Sappi can pay it forward in local communities.

Lead Sustainability Ambassadors

- | | |
|--|---|
| Mark Wagner
Allentown | Mary Buckelew
South Portland Office |
| Estefanie Franco and Olga Karagiannis
Boston | Rachel Kaul
Technology Center |
| Dan Menor
Cloquet Mill | Lisa Patterson
Westbrook Mill |
| Laura Brosius
Sales | |
| Mark Barnes
Somerset Mill | |

Ideas that Matter

A spotlight on grant winners

Where the rest of the world sees problems, designers see solutions—which is why Sappi created the Ideas that Matter (ITM) grant program 20 years ago. Since its inception in 1999, the program has granted more than \$13.5 million to designers partnering with more than 500 organizations, ranging from community arts to animal welfare and from international humanitarian efforts to children’s healthcare. Not only does Ideas that Matter create social good across the globe, but the designers we work with find joy in the program as well.

BasicSafety.net

Preparing communities for disaster

The mission of *BasicSafety.net* is to put free disaster preparedness guides into every home in San Francisco, and hopefully beyond. While there’s plenty of information available online, and despite numerous campaigns, many households still don’t have supplies or plans to deal with a major disaster, such as an earthquake, electrical outage, or even threat of wildfire.

These bilingual guides are intended to address a gap in the current approach to dealing with emergencies and help families know what to do in the real possibility of no internet connection. A physical guide that provides information on what to do before, during, and after a disaster will help prevent additional risks to health and property damage. With the Ideas that Matter grant from Sappi, designer Brian Singer, President of Altitude SF, was able to design and print guides that were distributed to more than 54,000 households in San Francisco.

Balancing Earth IRL

A toolkit to help rebalance our planet

Balancing Earth IRL is an educational toolkit that introduces high school students to sustainability—engaging them on a personal journey to maintain the Earth’s balance “in real life.” It serves as a platform with printed and online tools for faculty and students. For faculty, the kit offers training tools and a facilitator guide that includes a modular curriculum to introduce sustainability to classes. For students, a set of tools (videos, presentations, exercises, hands-on activities, and challenges), matched to the age and interests of ninth graders, was created. The goal is to help students become more reflective about their habits while offering strategies to tackle crucial issues of sustainability.

The five stages in the IRL curriculum include a brief introduction to sustainability and the impact humans have on the planet, a visit to a local organization that is either reducing or is affected by environmental human impact, a day of conversations that help students connect what they learned on the field trip with what they experience every day, a day of making and creating stories that help students visualize the world they want, and a day of taking action via the Balancing Earth Challenge.



Covers of the teacher and student guides.

StreetCred

Helping low-income families understand and secure EITC

Low-income families often don't receive the tax benefits to which they are entitled, due to the complicated income tax preparation system and lack of awareness about their benefits. To combat this issue, Boston Medical Center established the StreetCred program, which offers free tax services to families receiving pediatric care who are eligible to receive the earned income tax credit (EITC) and child tax credit. This campaign will use print and digital materials in the pediatrician's office to reach low-income families eligible for the EITC. These materials will address key obstacles to claiming the EITC and will include postcard flyers, engaging graphic posters, short pamphlets, and mobile-friendly digital resources.



Naomi Usher continues to make a difference through ITM

Naomi Usher is a four-time winner of ITM grants, including her 2013 grant earned for EducationSuperHighway—a nonprofit with a mission to upgrade Internet access in every public school in America. Across the nation, 72% of public schools lack adequate infrastructure to take advantage of digital learning, leaving 40 million kids on the wrong side of the K–12 digital divide. EducationSuperHighway changed that. Using a grant from Sappi ITM, Naomi was able to produce a mini campaign, a printed piece, a microsite, and an animation that helped drive people to that microsite—which had macro results. These design elements garnered attention and support, with funding from Bill Gates and Mark Zuckerberg. The FCC committed \$5 billion, and the effort was highlighted in former President Obama's State of the Union address. Founder and CEO Evan Marwell announced in the annual State of the States report that the classroom connectivity gap is now closed, with 99.2% of America's schools having enough internet connectivity to make digital learning available in their classrooms.



Naomi Usher,
Four-time winner of ITM grants



Sappi employee **Christine Chu** used her EITM grant to help the Meadowbrook Waldorf School replenish its library, which was lost to a fire.

2019 Employee Ideas that Matter program brings charitable ideas to life

Through the structured Employee Ideas that Matter (EITM) program, Sappi North America employees bring their charitable ideas to life. For three years, employees have been applying for direct funding to benefit the nonprofit organizations that they are most passionate about, and the winners share \$25,000 in corporate giving to support their selected causes. Funding can be used in many ways—from financing a project, sponsoring a trail cleanup, or providing new equipment or supplies.

In 2019, Sappi received applications for nearly 40 worthy causes around the country. The competition was tough, but in the end, 10 were selected.

“We truly value the effort that all of the applicants make to apply for the Employee Ideas that Matter program,” said Sandy Taft, Director of Sustainability. “EITM is strongest when it brings us together as a team and reminds us of our shared values to improve the communities where we live and work. Mike Vashon’s project at Somerset brought 37 employees together to build an outside reading space, a great example of how we can leverage our power together.”

2019 grant recipients included:

Mike Browne

Main Street Skowhegan
Grant to implement Skowhegan AmeriCorps Outdoor Recreation Program

Christine Chu

Meadowbrook Waldorf School
Grant to replenish library lost to fire

Estefanie Franco

Children Across America
Grant to sponsor Summer Reading and STREAM Club programs

Kathie Gagnon

Windham Primary School
Grant to construct a quiet space

Jeff Krohn

Pine Valley Mountain Bike Trail Extension Committee
Grant to construct 2.5 miles of trail

Mark Lessard

Habitat for Humanity
Grant to cover a full day of construction of homes in Scarborough

Paul Olson

Habitat for Humanity
Grant to repair homes as part of the Age in Place program

Brett Peterson, Shawn Halli, and Eric Gibson

Carlton Amateur Hockey Association
Grant to improve lighting around the Four Seasons Event Center in Carlton, Minnesota

Gerald Rollins

Masonic Lodge #52
Grant to benefit the Bikes for Books program

Mike Vashon plus 37 Somerset employees

ShineOnCass
Grant to create outdoor reading space

SNA receives Minnesota Dual-Training Grant for Cloquet Mill

Sappi North America received a \$100,000 training grant in September from the Minnesota Office of Higher Education and Department of Labor and Industry. The grant allows Sappi to strengthen the local workforce by providing advanced technical training to employees, while improving functions and safety at its Cloquet Mill. SNA has participated in the grant program six times and continues to offer the opportunity for up to 25 employees each year to join a training cohort. Through the years, this grant has provided on-site training to more than 100 employees. The trainings were developed in collaboration with Lake Superior College to create a sustainable and strategic educational program, including necessary trade-focused, tactical learning, and classroom-based lessons.

“With the help of the Minnesota Dual-Training Grant and Lake Superior College, we can give employees at all levels necessary training in real time that would otherwise not be available,” said Brittany Bonk, Talent Manager, SNA. “We are continuously grateful to the state for their support and for making these opportunities possible for those looking to grow their skills in the manufacturing sector.”

Offered to all levels of employees in the maintenance department, the program aims to teach essential skills and grow employees’ technical knowledge in the electrical and mechanical focus areas. Those participating will be eligible for national certification testing after completion of this year’s program.

“Sappi truly values all of their employees, which shows through their continued investments in building a skilled workforce here in Cloquet,” said Loren Manty, National Conference of Firemen and Oilers (NCFO) Local 939 President and a 34-year employee at the mill. “We look forward to seeing more employees enter the training program as well as continuing to support those who are going on to certify in specific trades.”

“With the help of the Minnesota Dual-Training Grant and Lake Superior College, we can give employees at all levels necessary training in real time that would otherwise not be available.”

Brittany Bonk, Talent Manager, SNA

Paper & Packaging – How Life Unfolds

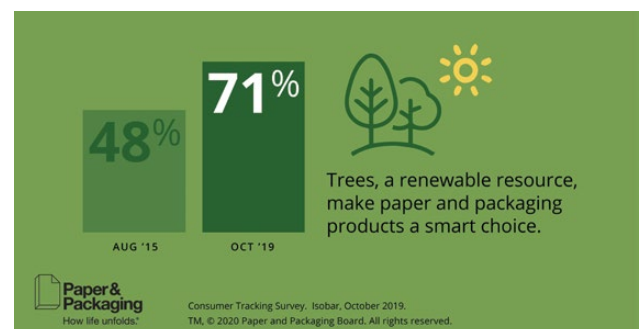
For five years, Sappi has been a proud supporter of the Paper & Packaging – How Life Unfolds campaign. This national consumer campaign tells the story of paper and paper-based packaging to consumers and business audiences by highlighting how these products enhance productivity and learning, ensure the security of delivered goods, and provide an environmentally responsible option.

In the years since the Paper & Packaging – How Life Unfolds campaign began, attitudes toward paper and paper-based packaging have become more positive, especially when it comes to sustainability. In 2015, 48% of consumers believed that because paper and packaging products are made from trees, a renewable resource, they are an environmentally smart choice. Today, this number has risen to 71% of consumers.¹

Our Faces of the Forest video series reinforces the resource stewardship story and features forest owners who grow and tend to the land in their care. One of the more recent videos in this series features the town of Falmouth, Maine, in the Northeast wood basket (supply area). To date, this video series has more than 2.1 million views.

The Paper and Packaging Board initiates 45% of all positive conversations on news and social media about paper and packaging, many of which reinforce paper and paper-based products as a sustainable choice. Given today’s climate, this message is more important now than ever.

Follow the campaign at HowLifeUnfolds.com.



¹ Isobar, October 2019. Data reported on Expressives aware of the campaign.

Sappi employee biking for a cause

Shawn Ray, Financial Analyst at Sappi North America's headquarters in Boston, felt a personal connection when he decided to participate in the 2019 "Pan-Mass Challenge."

"I ride to make a difference," said Shawn. "My family has been participating for the better part of 10 years now, and I was lucky enough to join the team. Since losing my grandmother and mentor, Carol Ryan, to cancer in 2014, I knew that I had to get involved, and riding in the Pan-Mass was the best decision I have ever made."

The Pan-Mass Challenge is an annual bike-athon in Massachusetts, where riders can participate in 12 different routes, ranging from 25 to 192 miles in length, across the state. The money raised supports research efforts at the notable Dana-Farber Cancer Institute.

This past August marked Shawn's fourth ride with the Pan-Mass Challenge, where he rode alongside his team, Pedals for Pediatrics.

"I can't describe the emotions I felt during my first 192 miles. From the living-proof riders to the amazing volunteers to the overwhelming support along the entire route, it was truly a life-altering experience for me. No one should lose their life to this disease, and with every donation and new rider in the Pan-Mass, we are getting #CloserByTheMile."

SNA's Community and Employee Relations Committee (CERC) in Boston matched employee donations to Shawn's ride, to increase his positive impact. CERC's support is just one example of how Sappi North America amplifies the passions of its employees to better our communities.



Planet



We approach environmental responsibility holistically, carefully considering raw material use, energy generation, and product end of life. We believe this mindset ensures that natural resources are conserved and promotes the health and wellbeing of our employees, communities, and customers.



In 2019, we marked our 10th anniversary of commitment to sustainable freight management practice with SmartWay.
Reprinted with permission of BNSF Railway Company.

Reducing waste and consumption

Sappi's Lean Six Sigma (LSS) team members—over 155 strong in 2019, when you include both Black and Green Belt experts—produce some of the most leading-edge solutions to our sustainability challenges. Most LSS projects work to reduce waste, thereby reducing our footprint, and often find creative reuses for the byproducts of our manufacturing process, saving us time and money. At Cloquet, a team led by Ben Boyum, a Process Engineer in the Pulp Technical Services group, identified an opportunity that not only kept more waste out of the landfill, but also reduced the need for buying more raw materials, which improved the bottom line.

In the kraft pulping process, there is a chemical recovery procedure to convert chemicals back to their original form so that they can be reused. The Cloquet recovery process utilizes a drum filter for filtering green liquor and process particulates known as dregs. The filtering process requires a layer of lime mud on the filter media as a pre-coat to allow the dregs to be separated from the green liquor. With each revolution of the drum, this pre-coat is scraped away until it's all used, then the filter is recoated with lime mud.

The goal of the project was to significantly reduce the amount of lime mud used for pre-coats by increasing the amount of time between recoating the filter with lime mud and still maintaining the quality of the green liquor. The project was a success, resulting in approximately 1,600 fewer tons of lime mud wasted each month that would have been either landfilled or transported for beneficial use applications, if available. To put it in perspective, that's more than 65 fully loaded semitrailers of material each month! Equally important, by keeping the lime mud in the system longer, there is less need for purchasing new raw materials.

This project was a triple win for Sappi—we reduced waste, saved money, and developed a new LSS Green Belt team leader in Ben Boyum.

10th anniversary of partnership with SmartWay program

In 2004, the EPA developed the SmartWay program to address the trend of increasing freight activity and the challenge of increasing global freight transport emissions. This voluntary public-private partnership program provides a mechanism that allows logistics providers, transportation providers, and shippers to communicate their collective fuel use and calculated freight emissions. This mechanism lets companies benchmark their performance and identify strategies to reduce emissions through the selection of modes, carriers, and equipment.

Given that sustainability is a core value of Sappi North America (SNA), we submitted our initial data and became certified as a SmartWay Transport Partner in 2009. Our certification as a “shipper” under SmartWay means that we utilize carriers that leverage technology and design to minimize our collective carbon footprint. We work toward increasing the amount of our freight moved on intermodal and rail as well as increasing the amount of our freight moved on certified carriers. In addition, we've held several meetings with our customers to share our positive experiences with SmartWay as part of an outreach effort. In 2019, we marked our 10th anniversary of commitment to sustainable freight management practice.



Sappi partners with Sustainable Apparel Coalition

In 2019, Sappi joined the Sustainable Apparel Coalition (SAC), the apparel, footwear, and textile industry's leading alliance for sustainable production. Sappi will use the SAC's sustainability measurement suite of tools to drive environmental and social responsibility throughout its supply chain, to address inefficiencies, improve sustainability performance, and achieve the environmental and social transparency consumers are demanding.



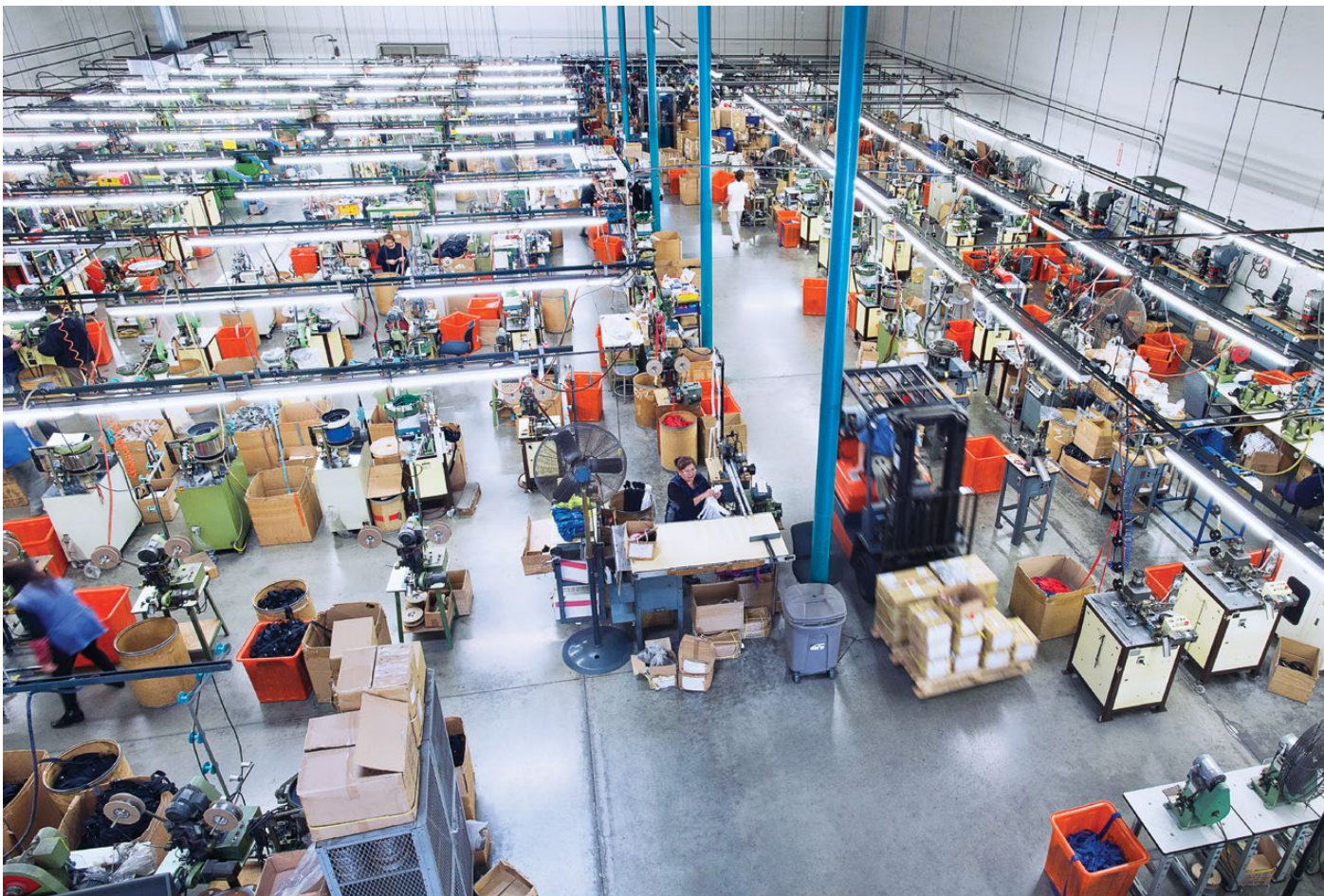
With its membership in the SAC, Sappi joins more than 240 global brands, retailers, and manufacturers as well as government, nonprofit environmental organizations, and academic institutions, which are collectively committed to improving supply-chain sustainability in the apparel, footwear, and textile industry.

Sappi Limited CEO Steve Binnie commented, "Sappi's sustainability strategy builds on our 2020Vision, people, and core assets and aims to create real value by evolving our business as we expand our range of products derived from wood fiber, including packaging and specialty papers, wood fiber-based bioproducts, and, importantly, dissolving wood pulp for the textiles industry. I'm really pleased to be joining the Sustainable Apparel Coalition and confident it will have a positive impact on product sustainability over time."

"We welcome Sappi to the Sustainable Apparel Coalition and look forward to their participation in this industry-wide effort in sustainability," Coalition Executive Director Amina Razvi said. "Having Sappi as part of the Coalition widens the scope of our impact within the industry and accelerates the change we are making toward responsible industry actions."

"I'm really pleased to be joining the Sustainable Apparel Coalition and confident it will have a positive impact on product sustainability over time."

Steve Binnie, CEO, Sappi Limited



Sappi's membership in the SAC supports textile facilities like these as they work to improve supply-chain sustainability.

The changing landscape of responsible wood and fiber sourcing

We are proud of our approach to responsible sourcing and our commitment to the various voluntary forestry certification programs. These systems are detailed and complex, so it's important to understand the level of effort and care that goes into implementing and conforming to these important standards.

One such standard that has undergone significant changes in recent years is the Forest Stewardship Council (FSC) Controlled Wood Standard. Entities such as Sappi that are certified to the FSC Chain-of-Custody (CoC) or Controlled Wood Standard are required to implement a due diligence system (DDS) to ensure avoidance of controversial sources. As defined by FSC, controversial sources include wood fiber from:

Category 1

Illegally harvested wood

Category 2

Wood harvested in violation of traditional and human rights

Category 3

Wood from forests in which high conservation values (HCVs) are threatened by management activities

Category 4

Wood from natural forests being converted to non-forest use or conversion of natural forests to plantations after 1994

Category 5

Wood from forests in which genetically modified trees are planted



Rebecca Barnard, Forestry Certification Manager, leads SNA's fiber certification program, in addition to offering training and strategic direction on certification matters.

A foundational part of the DDS process is the development and application of FSC Controlled Wood Risk Assessments to evaluate the frequency of occurrence and risk severity of controversial sources within an entity's wood basket. If "specified risk," as opposed to "low risk," is identified, FSC-certified entities are required to implement control measures.

For many years, FSC-certified entities were required to develop and conduct their own "company-level risk assessments." In 2019, FSC approved and published national risk assessments (NRAs) for the United States and Canada, and the FSC CoC certificate holders were allotted six months to incorporate the results of the NRAs into their DDS and implement "control measures" for any "specified risks" by October 5 of 2019 for US sources, and December 26 of 2019 for Canadian sources.

The results of the recently finalized NRAs confirm Sappi's previous position that our operations predominantly occur in areas with "low risk" for controversial sources. Within the United States, all of our operations and supply areas are considered "low risk" across all five Controlled Wood Standard risk categories, thus no additional mitigation/control measures are necessary to avoid controversial sources.

For Canadian sources, the NRA indicates a mixture of "low risk" and "specified risk" for the regions in which we produce wood/chips. Accordingly, specific control measures to avoid and/or mitigate the risk of controversial sources will be required of us and our suppliers. Details of our sourcing areas and control measures are available in our FSC Controlled Wood DDS Public Summary Report, which can be accessed via the FSC database certificate search function under SNA's company profile.

SNA is fortunate to be located in regions where the risk of controversial sources is very low relative to other parts of the countries in which we operate or elsewhere in the world. However, this can't all be attributed to good fortune. For years, landowners, foresters and biologists, loggers, wood procuring mills, local communities, and society at large have been equally committed to the sustainable management of natural resources. Sappi is proud of the recent recognition from our certification auditor for our successful Lake States Forestry team, one small example of evidence that Sappi is a positive influence on the surrounding environment and communities that we serve.



Sappi forestry team earns praise for outstanding work

SNA's Lake States Forestry team was recognized by Bureau Veritas for their impressive and outstanding outreach program. The team was noted for their collaborative work with the Minnesota Department of Natural Resources (DNR) to save DNR operating and administrative costs while benefiting wildlife on a wildlife management area by employing summer harvest techniques. The Sappi team was also complimented for their comprehensive landowner outreach package, emphasizing Sappi's reputation for follow-up with on-the-ground assistance, as well as their innovative use of roadside billboards to promote sustainable forestry.

Sappi's Lake States Private Forestry Program provides a team of experienced forestry professionals who can develop and execute a forest management plan to help landowners achieve their optimal property ownership objectives.

These goals need not be exclusive. A well-managed forest can provide food and cover for songbirds, deer, and other species while generating income and providing recreational opportunities. Many forest landowners are concerned about the health of their forest. Our professional forestry team is available to provide the landowner with information and advice on the forest management tools that can best help ensure that the property remains healthy and productive for future generations.

The role of the forests in addressing climate change

The world is faced with an enormous challenge to mitigate global climate change. Since the release of the UN Intergovernmental Panel on Climate Change (IPCC) October 2018 report, there has been a call for greater action. The role of forests as a solution to global climate change has long been recognized.

Forest products provide two unique opportunities to mitigate climate change. First, trees remove or sequester CO₂ from the atmosphere, absorbing CO₂ during photosynthesis and releasing oxygen. Second, the carbon is then stored in paper, paperboard, and dissolving wood pulp products, and is released only as the products decompose or are incinerated. Therefore, one important way to mitigate climate change is to prevent the conversion of forests to other uses like agriculture or commercial development. Equally as important is the promotion of sustainable forest practices that ensure that existing wood baskets are healthy and thriving.

As a wood products company, Sappi is especially focused on the future of the forests and the important role they play in addressing climate change. As a result, we have signed on to two new initiatives, Forests in Focus and Greenhouse Gas Protocol.

Forests in Focus

Forests in Focus (FF) is a new risk assessment platform being developed in partnership with the American Forest Foundation (AFF) and GreenBlue. The platform will optimize multiple public data sources to provide customers, brand owners, and investors with user-friendly analyses of the sustainability strengths and risk profiles of forested lands across specified landscapes.

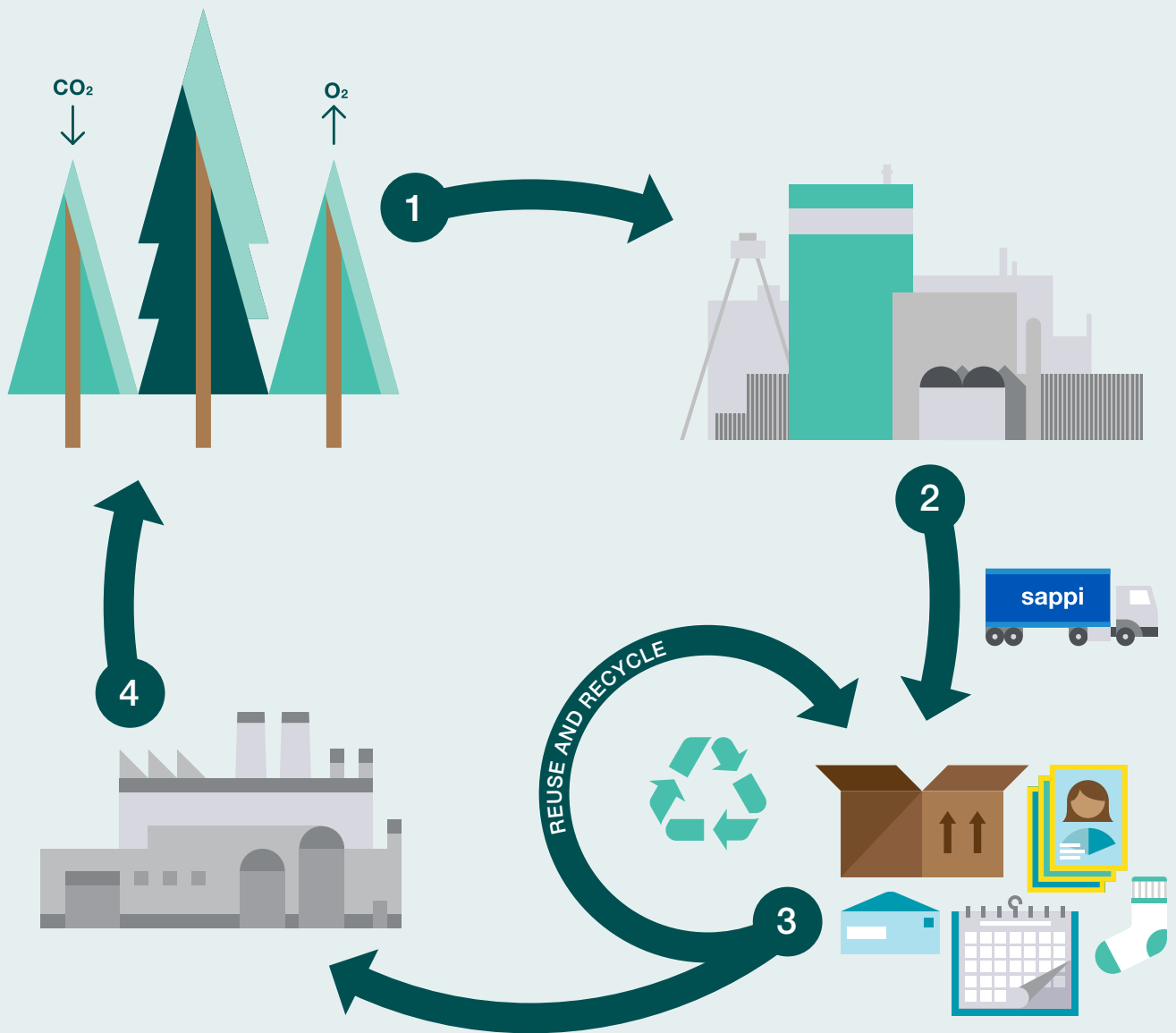
Sappi is investing in this initiative as a founding member because we see significant value in using this tool to assess the actual health of our wood baskets, using trusted public data from sources, including the US Forest Service. The tool will be particularly useful in assessing the health of forests belonging to small landowners, who typically lack the resources to secure third-party certification. Down the road, we also see great potential in this platform being able to assess the carbon sequestration and storage potential of various woodbaskets following defined sustainable forest management principles. Longer term, if the FF platform can be used to create incentives for small holders to keep working forests working, then the power of forests to mitigate climate warming could be amplified.

Greenhouse Gas Protocol

Greenhouse Gas Protocol is an initiative by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) to develop new standards for how companies should account for the following activities in their greenhouse gas inventories:

- Carbon removals and sequestration
- Land use
- Land use change
- Bioenergy
- Related topics

The project will develop internationally accepted standards for corporate GHG accounting on the above topics, seeking input from a partnership of businesses, nongovernmental organizations (NGOs), governments, and others. Sappi is participating in the Technical Working Group and the Review Group.



The carbon sequestration cycle

1. Sustainably managed forests

Sustainably managed forests sequester and store carbon dioxide. Trees absorb carbon dioxide (CO₂) during photosynthesis and release oxygen (O₂).

2. Pulp and paper mills

Pulp and paper mills use wood from trees to make paper, paperboard, and dissolving wood pulp products, thereby transferring the carbon in the trees to the wood products themselves.

3. Paper, paperboard, and dissolving wood pulp

Carbon is stored in paper, paperboard, and dissolving wood pulp products. Wood fiber has the capacity to be reused seven times before it no longer maintains its properties.

4. Energy recovery center

After a product has been recycled through seven cycles, it can be combusted as fuel, which is preferred over landfilling. Combustion releases carbon dioxide into the atmosphere, which is absorbed by the forest and starts the cycle over again.

Maine company works with Sappi to make biodegradable coasters

If you visit one of the many craft breweries in Portland, Maine, your beverage may be served on a coaster made of Sappi softwood pulp and spent grains left over from the brewing process. Sappi is supplying technical support and fiber to help Kai Smith, an eco-entrepreneur based in Falmouth, Maine, gear up for a pre-commercial trial of beer coasters made from Maine wood pulp. In the initial trial, Kai will supply the coasters to 10 to 15 Maine-based breweries.

“We like to work with entrepreneurs like Mr. Smith, especially when they are committed to sustainability and finding innovative new uses for our wood fiber,” says Beth Cormier, Vice President, Research, Development, and Sustainability for SNA. “We are helping the company find local facilities to manufacture their coasters and supporting their research, linking them up with the University of Maine and the SUNY College of Environmental Science and Forestry in Syracuse, New York.”

According to Kai, nine out of every 10 beverage coasters in the United States are produced from raw materials overseas. His goal is to work with local mills to create bio-based products that are manufactured locally and are healthy for the environment. Kai is the

founder of Maine Coasters & Bio-Boards, which will market the coasters once the trial is complete. While their coasters will be more expensive than many currently available, the company notes that the coasters are FSC and SFI certified as well as biodegradable and made with waste materials diverted from landfill. The coasters are highly absorbent with a smooth surface, ideal for offset lithographic printing. They are printed with environmentally friendly vegetable dyes. And, Kai says, “Maine’s heritage in the pulp and paper industry is a perfect match with the booming growth of the craft beer market.”

The prototypes for the coasters were generated at the University of Maine Process Development Center. Scott Castonguay from Sappi’s Westbrook Technology Center is helping oversee the pre-commercial trial. Maine’s Environmental Health Strategy Center honored Kai with its Business Leadership Award in 2018. The award is given to recognize businesses whose actions demonstrate sustainable, innovative practices that set a precedent for businesses and communities to follow in supporting the health of individuals, families, the public, and the planet.



Photo credit: Tim Greenway

Key performance indicators



Each year we survey our performance in important areas of environmental and social responsibility by monitoring key metrics for fiber, emissions, energy usage, and the impact of our operations on air, water, and solid waste. We use this data to set improvement goals for our operations and interactions with key stakeholders.

Global metrics team

Sappi ensures consistency and accuracy of environmental metrics through a global team (E4 Cluster), including two SNA representatives:



Rob Schilling
Environmental Manager
Cloquet Mill
E4 Cluster



Chuck Qualey
Senior Engineer
Somerset Mill
E4 Cluster

Energy

Renewable energy continues to be the dominant source of energy at our three US mills as indicated in the pie charts. (Matane’s metrics will be featured in next year’s report, but Matane also has a very high percentage of renewable fuels.) Before taking into account Renewable Energy Certificates (REC) sales, 80.8% of our power was generated by renewable resources. Net of REC sales, it is 73.7%. In 2019, our total on-site renewable energy use consisted of black liquor 60.5%, biomass 37.6%, sludge 1.1%, hydro 0.7%, and bioliquid and/or biogas 0.1%. Purchased electricity also includes a renewable contribution, and we benefit from the commitments of our regions to increase the amount of renewable energy in the market.

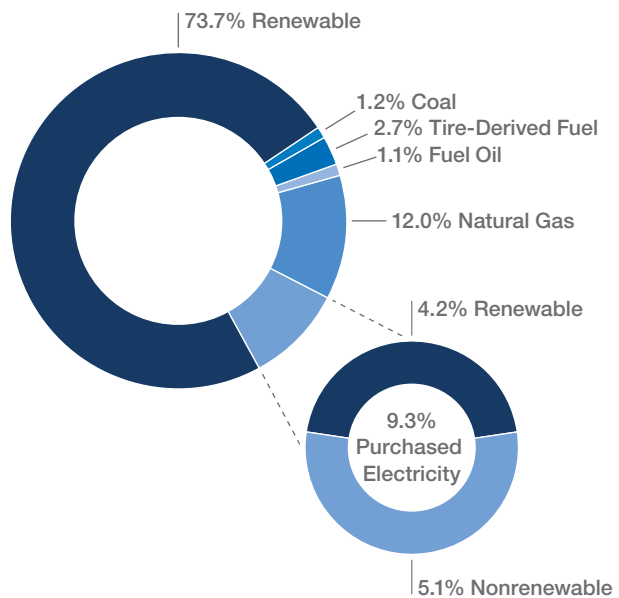
The percent renewable energy bar chart provides a historical perspective of the percent of renewable energy we used over the last five years. The contribution has been relatively consistent in the past three years. Hydropower was added this year for the Cloquet and Westbrook Mills, and the bar chart has been updated to reflect that back to 2014.

Other sources of energy we use are composed of alternative fuels and fossil fuels. Both are noted on the pie charts. Alternative fuels (waste that is repurposed instead of disposed of or landfilled) are also noted on the pie graph and include tire-derived fuel (TDF), waste oil, and construction and demolition debris. Fossil fuels predominantly include the use of natural gas but also some coal and fuel oil.

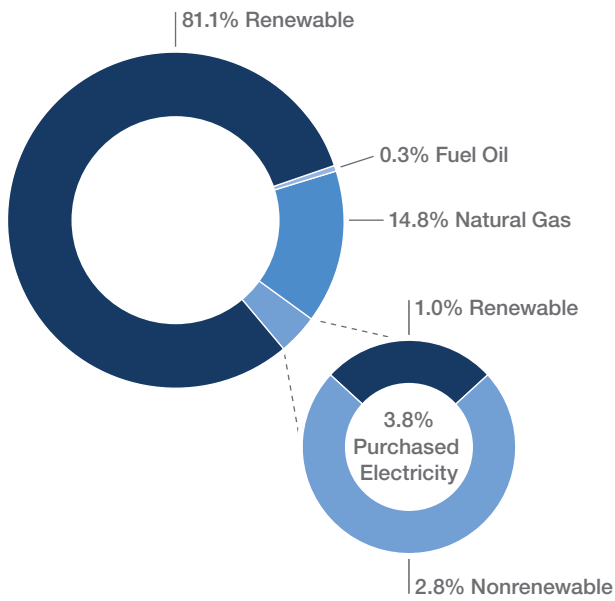
To monitor our commitments to energy efficiency, we track energy intensity, as illustrated in the bar chart. We define energy intensity as the total energy consumed to produce a set unit of product. Total energy is measured in gigajoules and is determined by the fuel type and volume used. A unit of product is measured in air-dried metric tons (ADMT) and is the saleable product manufactured during the year, including market pulp.

For fiscal year 2019, we had an increase in energy intensity of 2.1%, due to the impact of significant market curtailments in paper production at both the Cloquet and Somerset mills. The Westbrook Mill was similarly impacted by low production. In addition, the pulp mill at Somerset produced a record amount of pulp, which increases the energy per ton of paper sold. All three mills have developed a set of energy-efficiency projects, which, together with more stable production, should allow us to close the gap to our 2020 goal.

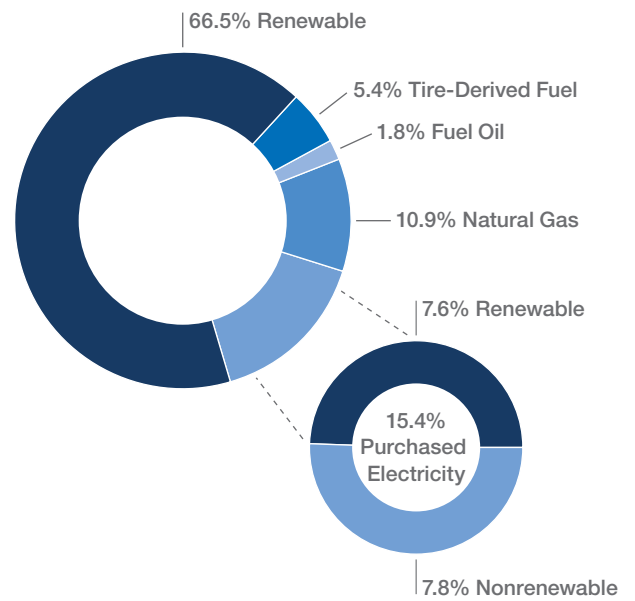
2019 Sappi North America total energy



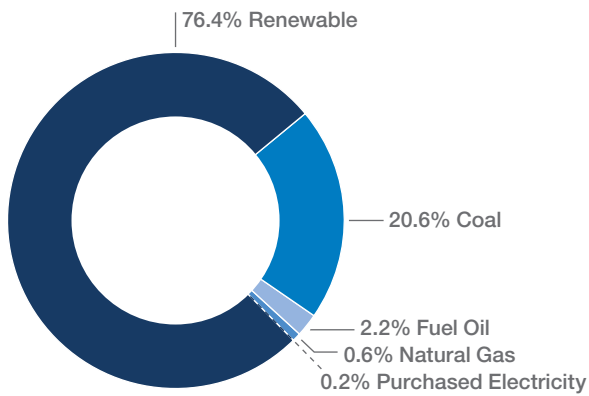
2019 Cloquet Mill total energy



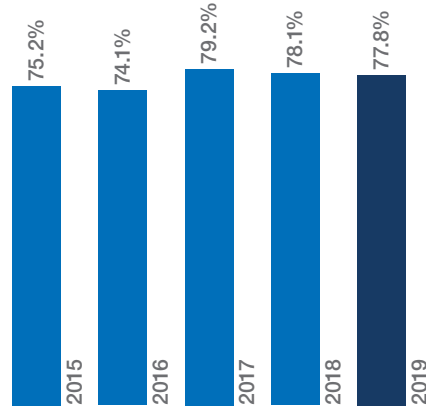
2019 Somerset Mill total energy



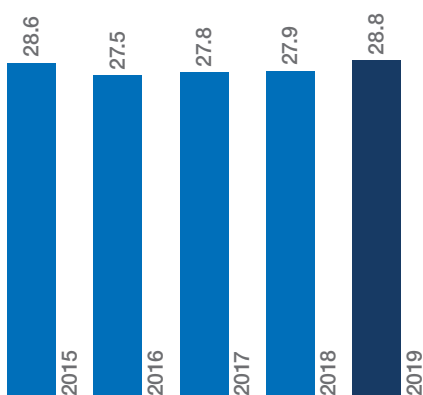
2019 Westbrook Mill total energy



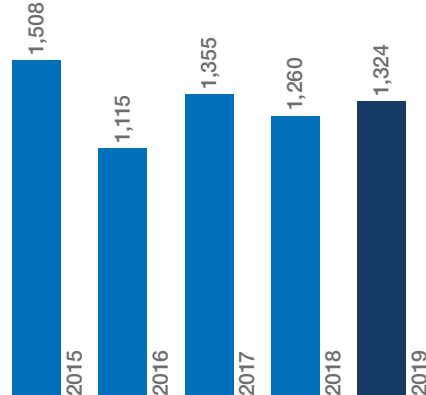
Percent of renewable energy^b



Sappi North America energy intensity (GJ/mt^a)



Consumption of alternate fuels (TJ/yr)



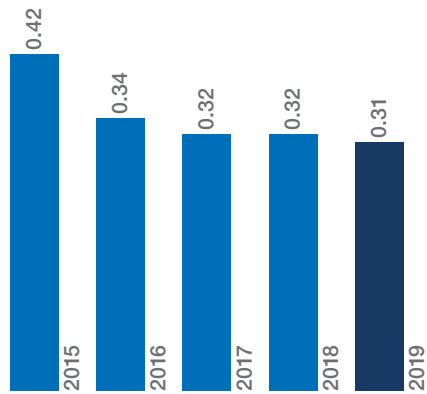
a Intensity metrics reflect the impact per ADMT of saleable product (including market pulp).

b The bar chart had been updated back to 2014 to account for the hydropower contribution to the Cloquet and Westbrook mills.

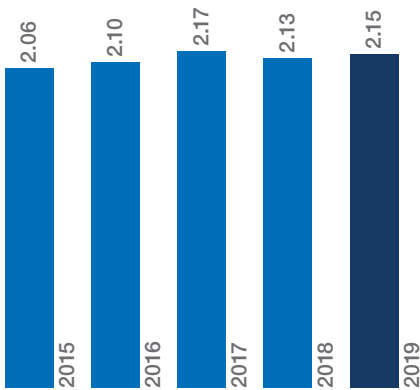
Emissions

There was no significant change in particulate, SO₂, and NO_x emissions this year. GHG emissions, measured as intensity value (tons CO₂e /ADMT), are higher than the prior year, which is a function of lower production at all three mills—influencing the denominator, ADMT. In addition, there was an increase in fossil fuel. At Cloquet, more natural gas was used at the lime kiln as throughput increased. And at Somerset, TDF became a more economical fuel choice during shortages of biofuel. Absolute Scope 1 and Scope 2 GHG emissions are shown per mill.

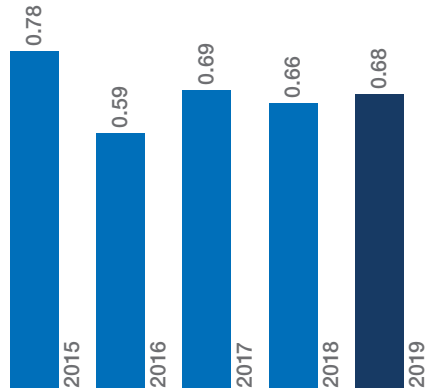
Particulate emissions (kg/admt^a)



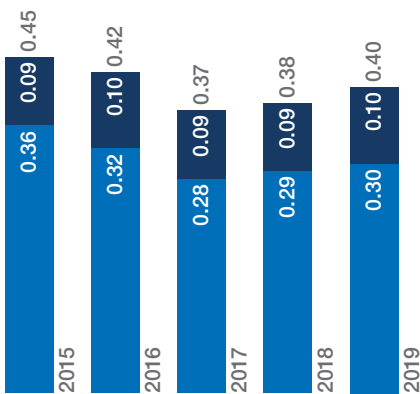
NO_x emissions (kg/admt^a)



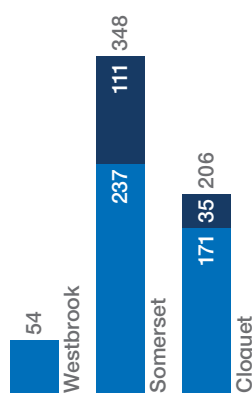
SO₂ emissions (kg/admt^a)



GHG emissions (ton CO₂e/admt^a)



2019 GHG emissions by mill (1K ton CO₂e)



■ Scope 2^c
■ Scope 1^b

■ Scope 2^c
■ Scope 1^b

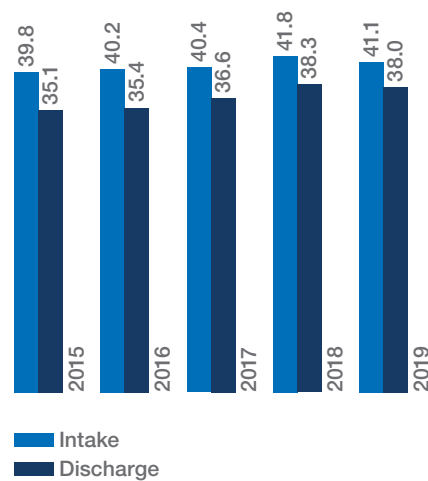
a Intensity metrics reflect the impact per ADMT of saleable product (including market pulp).
 b Direct GHG emissions—emissions from sources that the company owns or controls.
 c Indirect GHG emissions from purchased electricity, steam or heat—emissions associated with the generation of electricity, steam, or heat.

Water

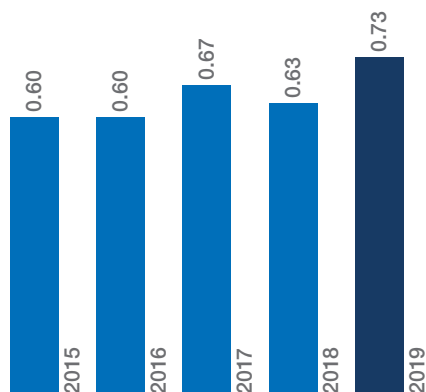
Our North American mills draw water from surface sources (rivers and lakes) and return treated water to the same primary sources. As we do with our emissions, we manage our use and discharge of water in accordance with comprehensive environmental permits.

Our specific water intake and discharge remained essentially flat this year compared to last year. Biological oxygen demand (BOD) and total suspended solids (TSS) notably increased compared to previous years (see bar charts). Though these were increased over past years, we did not exceed our regulatory thresholds at any of our mills. In general, increases in BOD and TSS are attributable to lower removal efficiencies as a result of operational changes that impacted settling in the mill primary clarifiers. As is the case with our energy KPIs, mill curtailments caused more frequent paper machine startups and shutdowns, impacting the management of these process streams. Note that the data is also reported on a specific basis, so the lower production also has a negative impact on the results.

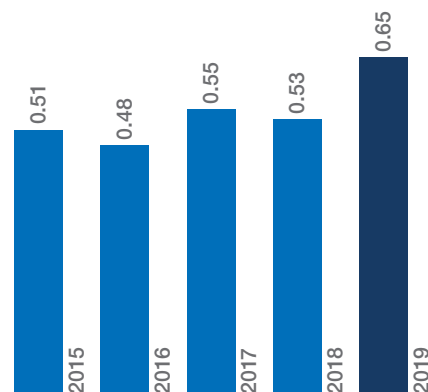
Water intake and discharge (m³/admt^a)



Biological oxygen demand (kg/admt^a)



Total suspended solids (kg/admt^a)

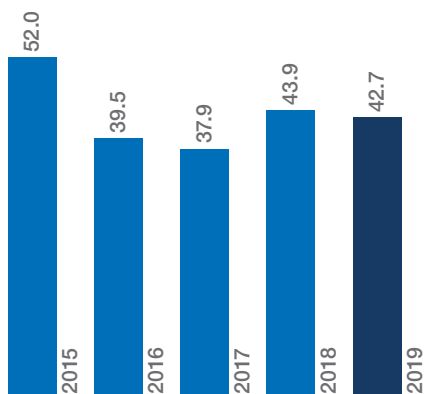


^a Intensity metrics reflect the impact per ADMT of saleable product (including market pulp).

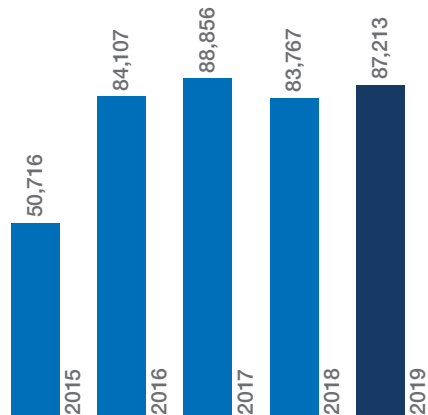
Solid waste

Managing our solid waste and finding ways to minimize landfill waste remain the focus at all of Sappi's North American mills. We maintain an ongoing effort to find beneficial uses for byproducts, and as a result, Somerset has been stable year after year. Cloquet and Westbrook both improved—Cloquet with a reduction in dregs, and Westbrook with less boiler ash. There was a slight improvement with less going to landfills as a result of numerous small contributions, such as improved sludge burning at Cloquet and increased bark burning at Somerset. At Cloquet, a Lean Six Sigma project improved beneficial reuse by 10,000 tons year after year, which meant less waste going to the landfill.

Total solid waste to landfill (kg/admt^a)



Beneficial use of solid waste (ton/yr)



a Intensity metrics reflect the impact per ADMT of saleable product (including market pulp).

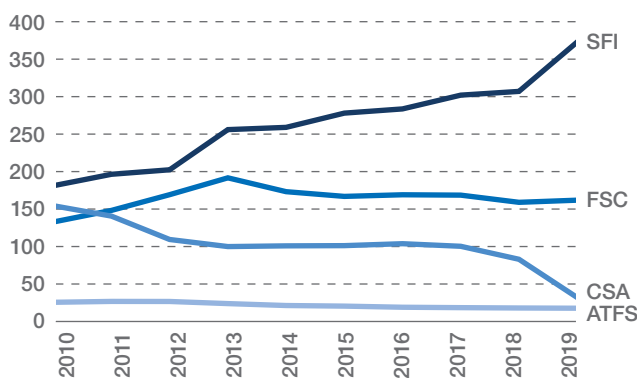
Fiber

Responsible manufacturing begins with responsible sourcing. In line with Sappi Limited's Global Woodfibre Procurement Policy, 100% of our forest fiber (wood, chips, and pulp) is procured from well-managed forests, as defined by the forestry certification systems mentioned below, and is third-party verified as originating from controlled and noncontroversial sources. These third-party programs provide assurances that wood-based products have been procured from well-managed forests and are legally harvested.

In the US, a strong legal framework has instilled responsible forestry practices for generations, highlighted by the 1970s Clean Water Act, which established requirements for best management practices (BMPs). The US also requires, under the Lacey Act, that any wood, chips, or pulp imported are not harvested illegally. While Sappi does not own any forestland in North America, our foresters provide active forest management services for landowners within our procurement zones.

We continue to support and recognize the efforts of multiple third-party certification programs, which provide a scalable assurance mechanism for stakeholders, including the Forest Stewardship Council, the Sustainable Forestry Initiative (SFI) program, and the Programme for the Endorsement of Forest Certification (PEFC) and PEFC-endorsed certification programs, including the Tree Farm System (ATFS). The amount of certified forest varies significantly by country and region. North America is home to more than one-third of FSC-certified land globally and over half of the world's PEFC-certified land.

Forest Management Certification in North America (million acres)



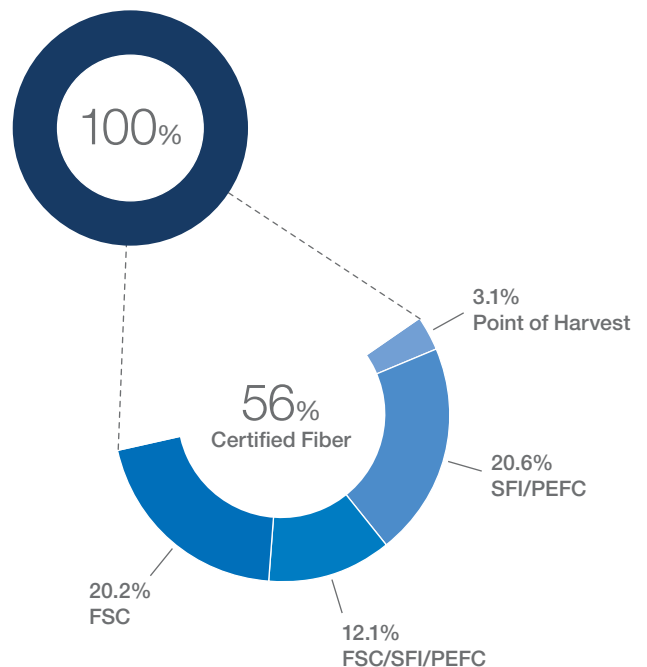
For more information on third-party forestry certification programs, please visit:
 Forest Stewardship Council (FSC), www.fsc.org
 Programme for the Endorsement of Forest Certification (PEFC), www.pefc.org
 Sustainable Forestry Initiative (SFI), www.sfiprogram.org

However, only approximately 20% of US timberland is third-party certified, and of all the certification programs, only the SFI program has experienced consistent growth in acres certified since 2010.

Because of the restricted availability of certified forest fiber, nearly all supply chains use a blend of certified and uncertified fiber. To maintain the highest levels of assurance without chain-of-custody claims, the leading global certification standards require additional control measures for fiber from uncertified lands. FSC developed a Controlled Wood Standard, which focuses on avoiding controversial sources. SFI developed a Fiber Sourcing Standard, which also requires avoidance of controversial sources in addition to proactive measures, such as the use of qualified logging professionals, adherence to BMPs, measures to broaden biodiversity, landowner outreach, and investments in forest research. The SFI Fiber Sourcing Standard ensures similar outcomes are achieved across the entire landscape.

Because a significant portion of our North American wood fiber is harvested from small, private land holdings, we are exploring new innovative methods of engaging and assisting interested property owners such that the traditional certification barriers of cost and administrative burdens are minimized.

2019 Total responsible fiber sourcing and fiber certification

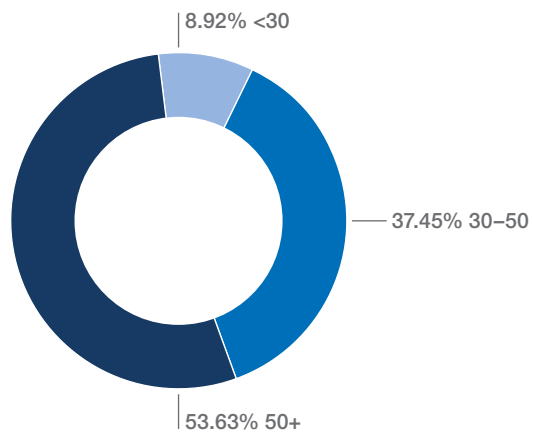


100% of our forest fiber is from well-managed forests, at low risk of any controversial sources.

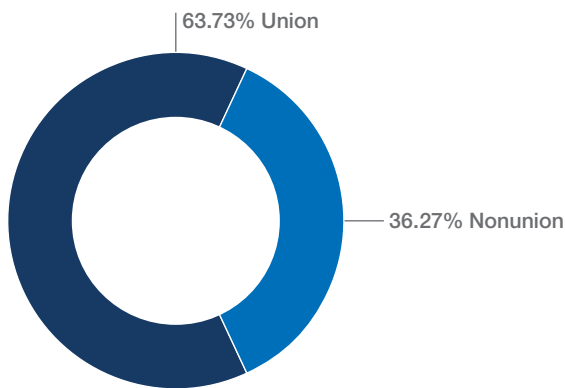
Social indicators

Below are some of our key demographic measures for the year. With an aging employee demographic typical for our industry, we are pleased to have increased the number of new hires versus the previous year. As the majority of our employee turnover is driven by retirements, our commitment to training the next generation of employees remains high—including through the introduction of a management training program and a global leadership program.

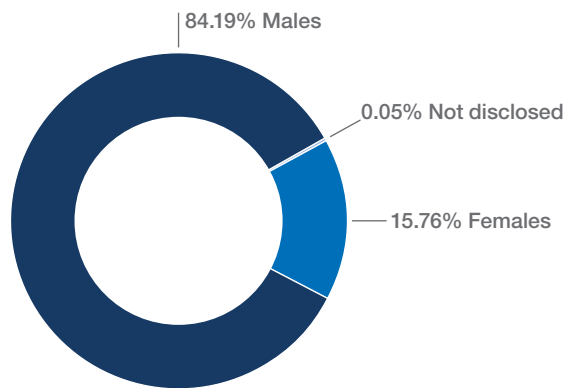
Sappi North America age demographic



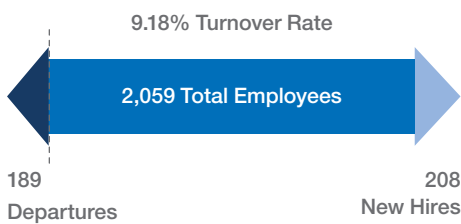
Percentage of employees covered by collective bargaining agreements



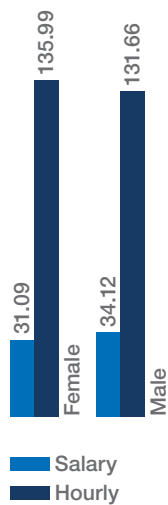
Sappi North America workforce by gender



Total number and rate of employee turnover



Average hours of training per year per employee by employee category



A letter from Sandy Taft



This report details many of our accomplishments in 2019 and is an excellent recap of key milestones in our sustainability journey. As important, however, is the work that goes on every day to make sustainability an integral part of our business decisions and plans. We held a SNA Sustainability Summit early in 2019, bringing together senior business leaders from across the organization to create alignment in our sustainability objectives and execution. Later in the year, the Sustainability Customer Council met to provide us with fresh market perspectives across packaging, graphics and other market sectors. Both forums were instrumental in shaping the goals we will be pursuing in 2020 and beyond.

What attracted me to join Sappi over a year and a half ago was the culture, and I continue to be impressed with our spirit of volunteerism and the generosity demonstrated by employees across our company. Over the course of the year, I was able to spend quality time at all our mills, where I met with senior mill leaders, members of our Sustainability Council and our Sustainability Ambassadors. I was consistently impressed by how committed everyone is—not just to our mill-based sustainability goals but to thinking well beyond our mill gates to how we can improve the quality of our communities.

In April, Sappi announced a new Supplier Code of Conduct, which establishes new standards for increased transparency and continuous improvement with our suppliers. Responsible sourcing was always a key part of our procurement team's approach, and they are again leading the way with implementation of the new Code. Similarly, I have seen firsthand how seriously Sappi and the entire forestry sector take responsible sourcing from our wood baskets, working hard to support healthy, sustainably managed forests.

Looking forward to 2025 and beyond, I am so proud to be part of the Sappi global team that will set new goals to mitigate and prepare for climate change, to grow the market for wood-based products and to set plans to achieve our key UN sustainable development goals in collaboration with our employees, customers, and other stakeholders.

Lastly, Jennifer Miller, our Chief Business Sustainability Officer, recently shared that she would be retiring at the end of April. Jennifer understood, well over a decade ago, the importance and value of a “sustainability” mindset for business and the value that would bring not only to our business but also to our customers. She worked to create and entrench a sustainability mindset throughout the organization, which has made all the difference for us. We thank her and wish her the best!

Alexander (Sandy) Taft
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Sappi North America
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LinkedIn: [linkedin.com/in/alexander-sandy-taft/](https://www.linkedin.com/in/alexander-sandy-taft/)
Email: sandy.taft@sappi.com

“Our commitment to sustainability not only provides us with a competitive advantage in a market demanding renewable resource solutions, but it sets us on a path for future investment and growth for the benefit of all of our employees and the local communities where they live and work.”

Mike Haws

President and Chief Executive Officer,
Sappi North America



Sappi North America certifications

Mill	FSC™ CoC	PEFC™ CoC	SFI® CoC	SFI® Certified Sourcing	ISO 9001	ISO 14001	ISO 22000	OHSAS 18001
Cloquet	•	•	•	•	•	•		•
Matane	•	•						
Somerset	•	•	•	•	•	•	•	•
Westbrook	•	•	•		•	•		•

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Sappi North America's Business Units



Dissolving
wood pulp



Graphic
papers



Packaging and
specialties



Casting and
release papers