



Sappi North America

2020 Sustainability Report

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ABOUT THIS REPORT

Sappi North America, Inc. (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 10th 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 fiscal 2020 from September 30, 2019, through September 27, 2020, 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; Cloquet, Minnesota; and Matane, Quebec.¹ Social responsibility and prosperity goals are reported for the full region, including the four mills, 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-and-impact.

¹ Matane performance was not included in environmental goals due to timing of acquisition; it was included in all KPI's.

Looking for even more on sustainability?

Scan the cover of this report to watch our video on sustainability.



Step 1

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

Step 3

Tap the Scan button and scan the cover of the 2020 Sustainability Report.

Step 2

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

Step 4

Watch our video on sustainability and start making a difference today.

A letter from Steve Binnie



The past year has been unprecedented. The impact of COVID-19 cast a long shadow over the world. Our business was negatively affected, which influenced our ability to deliver our sustainability goals. However, I am extremely proud of the manner in which the Sappi family stood up and stood together during this time. Across our global operations, our first priority was the immediate safety and wellbeing of our staff and their families.

In the long term, this would count for little if we could not ensure that our business remained operational. Thus, our second priority was to keep our operations running—applying all the required preventative health and safety measures to continue production and support for our customers. Many of our products were essential to assisting in the response to COVID-19, and in some cases, we actually developed new products following requests from customers. We are grateful for the dedication and commitment of our staff, the support of our suppliers, and the strong relationships we have with our customers.

Beyond the pandemic, safety remained of critical importance. Our North American colleagues achieved their best-ever safety record—a significant accomplishment given the challenges of the year. Significant progress was also made to strengthen our presence in the growing packaging segment while providing stability and excellent service to our graphic papers customers. Our newly acquired Matane Mill integrated smoothly into the Sappi family, supporting our internal production and increasing external pulp sales alongside our dissolving pulp product, which is produced at Cloquet. The restructuring of our Westbrook Mill is delivering new options for our casting and release customers while enhancing the efficiencies across our North American operations and improving our environmental footprint.

The past year also saw each region set clear targets and work programs to implement our Thrive25 business strategy, which will take us through 2025. We've also increased focus on innovation and sustainability with the associated advantages this will bring through new products, reduced impacts, and greater collaboration.

I am confident that our North American business is well positioned to contribute to building a circular economy through products from sustainably and responsibly managed natural and renewable resources.

In closing, please join me in congratulating Sappi North America for their AF&PA Leadership in Sustainability Award—a fitting recognition for the commitment of the region's leadership and employees.

Steve Binnie
Chief Executive Officer
Sappi Limited

A letter from Mike Haws

Our commitment to sustainability underpins our strategy and is based on being a trusted, innovative partner providing enhanced value to our employees and customers.



Although the global pandemic created substantial challenges across our businesses and communities this year, I was reminded every day of the resiliency of our company. Thanks to dedicated employees and strong customer partnerships, we managed to navigate through these difficult times and remain a strong, sustainable business.

Our exciting vision and strategy for growth is “to build a thriving world by unlocking the power of renewable resources to benefit people, communities, and the planet.” This purpose statement, together with our values, drives us to create relevant solutions with enhanced value to customers and communities. To help synchronize our efforts, we have aligned our sustainability goals with the United Nations Sustainable Development Goals (UNSDGs) framework. This structure has guided our improvement efforts and motivated us to establish relevant and ambitious goals.

At the beginning of fiscal 2020, we welcomed the Matane facility in Quebec, Canada, to our Sappi family. We are extremely proud of how well the mill embraced our strategic vision for the future. We are confident that our business plans, innovative spirit, and desire for enhanced partnerships will deliver unique value for our employees, customers, communities, and investors.

Safety

The health and wellbeing of our employees is absolutely vital to our success. Our commitment to safety was especially critical during fiscal 2020 as we adopted workplace protocols to protect our employees from COVID-19. Despite the distractions introduced by the pandemic, our employees’ commitment to safety did not waver. In fiscal 2020, we achieved a lost time injury frequency rate (LTIFR) of 0.16—the third consecutive year in which we achieved a record low lost-time rate. Equally impressive was the reduction in injury severity rate, which moved from 588 lost workdays in fiscal 2019 to 37 in fiscal 2020, a 93 percent reduction. Lastly, four out of five manufacturing sites and the Westbrook Technology Center achieved zero lost-time injuries for the year.

Employee and community value proposition

Sappi’s purpose-driven intent is to make a meaningful contribution toward the wellbeing and development of our employees and communities. We start with a focus on employee training and development, and during fiscal 2020 our employees engaged in an average of 97 training hours, surpassing our 60 hours per employee goal. In addition, every two years, the full Sappi group participates in an employee engagement survey. As our 2019 results did not meet our stated improvement goals, we have focused considerable attention in 2020 on improvement plans with emphasis on training, supervisory skills, and communication. We look forward to the fiscal 2021 survey to better understand our progress and path for continued improvement.

We appreciate that our focus on wellbeing must extend beyond employees and into the communities in which we live and work. Despite this year’s economic challenges, we remained committed to our vital community support. To complement our legacy Ideas that Matter program, we rolled out a sister program a few years ago for Sappi employees to donate time and funding to local charities of interest. Employees from all sites have participated, providing approximately \$100,000 in community funds since program inception.

Trusted partner to customers and value chain

At Sappi, we seek to go beyond merely meeting current customer requirements by partnering in ways that can anticipate future needs. We also understand that customers today demand more transparency from the full supply chain. Customers seek to understand the environmental footprint of our products and how our operations minimize waste and reduce climate impacts. We welcome this scrutiny and believe that increased customer sophistication makes us a better company as we strive to meet their needs.

One example of this commitment is Sappi's supplier code of conduct, which requests transparency from the upstream partners in our supply chain and reinforces our collective commitment to sustainable business practices. Sappi has also committed to a better understanding of our procured materials emissions—our Scope 3 emissions. These actions will require strong partnering with our supply network, and we know that our value chain partners will rise to the occasion.

Critically important this year was the strengthening of our partnership with our Sustainability Customer Council. We added new members to more fully represent the diverse marketplaces we serve. This council has been vital to ensuring that we receive timely, honest feedback on our sustainability efforts.

Custodian of land and forest

Responsibly utilizing wood fiber, our key natural resource, is both a vital business practice and a commitment to future generations. As a renewable resources company, we focus on maintaining the health of the forests and where practical, we encourage the use of third-party sustainable forestry certification programs. Over the past few years, we have improved our due diligence processes, which has heightened our confidence in sourcing from low-risk forests and led to strong external audit results.

Our global alignment with the UNSDGs, which we go into more detail on page 18, helps us coordinate and publicize our commitments toward improved sustainability practices. Demonstrating our advocacy in the greater business community is vital. In addition to our early adoption of the Paris Agreement on climate change, we engage with several organizations, such as GreenBlue's Forests in Focus, Two Sides, and the Sustainable Apparel Coalition. Furthermore, in 2020 we signed a letter of commitment to join the Science Based Target initiative. This action demonstrates our global commitment to responsible decarbonization and helps benchmark our efforts in a comprehensive manner.

At the end of this very challenging year, we celebrate a few significant sustainability accomplishments. We earned a Platinum EcoVadis rating, moving Sappi North America into the top 1 percent of filing companies within our sector. We also improved our standing in both the Forests and Climate Change categories in the ratings from CDP, a prominent nonprofit rating platform for environmental reporting. Last, we are proud to have received the AF&PA Leadership in Sustainability Award for our water stewardship at our Somerset Mill. These achievements illustrate Sappi's commitment to sustainable business operations and set the stage for achieving our 2025 sustainability goals.

Innovation

Sappi's innovative spirit and drive for improved solutions for our customers are at the heart of our strategy. Using our strength as a sustainable and diversified global wood fiber group, we can provide differentiated renewable alternatives to fossil-based products. With our global network of seven R&D centers, we are well-positioned to capitalize on the global trends for more sustainability solutions for both our customers and operations. Most important is partnering with our customers early and often to search for innovative ways to leave the planet better than we found it.

Looking ahead

Our Thrive25 business strategy includes a refresh of our corporate brand, which highlights our strong position as a renewable resources company and our focus on employee health and safety, customer and community partnership—all leading to a sustainable, prosperous company. Our commitment to sustainability is based on being a transparent, trusted, and innovative partner. We are confident that together with our value chain partners, Sappi will grow as a thriving, prosperous company and enhance our contributions to the circular economy.



Mike Haws

President and Chief Executive Officer
Sappi North America

Summary of Sappi Limited

At Sappi Limited, we're unlocking the power of renewable resources to meet the needs of the planet while seeding prosperity for all. Sappi North America is a subsidiary of Sappi Limited (JSE: SAP)—a global company headquartered in Johannesburg, South Africa. Across the globe, Sappi Limited has more than 12,800 employees with manufacturing operations on three continents (10 mills in Europe, four mills in North America, and five mills in South Africa). We're focused on providing dissolving pulp (DP), 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 metric tons of paper, 2.4 million metric tons of pulp for paper and packaging (including Matane), and 1.4 million metric tons of DP.

- 
- Headquarters
 - Mills and Manufacturing Facilities
 - Technology Centers

Sappi North America

Boston, Massachusetts

- 1 paper mill
- 1 speciality paper mill
- 1 paper and dissolving pulp mill
- 1 high-yield pulp mill
- 6 sales offices
- 4 regional distribution centers
- 1 sheeting facility
- 1 technology center

Sappi Europe

Brussels, Belgium

- 9 paper mills
- 1 coated barrier film and paper operation
- 15 sales offices
- 5 main regional distribution centers
- 3 technology centers

Sappi Southern Africa

Johannesburg, South Africa

- 2 paper mills
- 1 dissolving pulp mill
- 1 paper and dissolving pulp mill
- 1 sawmill
- 6 sales offices
- 3 regional distribution centers
- 3 technology centers

Sappi Trading

Kowloon, Hong Kong

- 1 logistics office
- 9 sales offices



Overview of Sappi North America

Sappi North America (SNA) is helping build a thriving, sustainable world through our approximately 2,100 valuable employees in the United States and Canada. We're headquartered in Boston, Massachusetts, and are a subsidiary of Sappi Limited. Our four North American mills have the capacity to produce 1.33 million metric tons of paper and packaging and 1.17 million metric tons of kraft, high-yield, and dissolving pulp (DP). The success of our diversified businesses is driven by collaborative customer relationships, world-class assets, and outstanding products and services—strengthened by solid technical, operational, and market expertise. The acquisition of the Matane Mill in Quebec, Canada, in November 2019, has supported growth in the packaging and pulp businesses.



Pulp

Sappi's dissolving pulp (DP) brand, Verve, encompasses almost 17 percent of the global market share. The majority of our share is consumed in the textile industry where pulp is converted through the value chain to yarn and ultimately textiles, providing soft, breathable fabrics in addition to a myriad of household, industrial, and pharmaceutical applications, including for tablets, acetates, washing sponges, and non-wovens. 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 DP production, Sappi group is one of the largest producers of DP in the world. In addition, our world-class Somerset Mill in Skowhegan, Maine, is capable of producing 525,000 metric tons of bleached chemical pulp. Our recent acquisition of the Matane Mill has allowed us to increase production to 270,000 metric tons of high-quality, high-yield hardwood pulp, cultivating growth for our packaging business. To learn more, visit sappi.com/dissolving-pulp.



Graphic papers

Our brilliant, high-performing range of graphic papers creates impactful brand experiences through direct mail, fashion magazines, catalogs, brochures, art books, and beyond. Sappi offers a broad selection of fine printing papers in a variety of brightness levels, finishes, and weights for printing processes, including sheetfed, web offset, and digital formats. Our innovative brands are McCoy®, Opus®, Somerset®, Flo®, EuroArt Plus, and Galerie. To learn more, visit sappi.com/graphic-papers.

SUSTAINABILITY STEERING COMMITTEE

Mike Haws

Chair, President and Chief Executive Officer

Anne Ayer

VP, Pulp Business and Supply Chain

Beth Cormier

VP, Research, Development, and Sustainability

Deece Hannigan

VP, Graphics, Packaging, and Specialties

Annette Luchene

VP and Chief Financial Officer

Sarah Manchester

VP, Human Resources and General Counsel

Mike Schultz

VP, Manufacturing

SUSTAINABILITY COUNCIL

Alexander (Sandy) Taft

Chair, Director, Sustainability, Corporate

Rebecca Barnard

Manager, Forestry Certification, Corporate

Scott Castonguay

Group Manager, Sustainable Packaging

Frederic Gagnon

Technical Superintendent, Matane Mill

Melissa Johnson

Manager, Compensation and Employment, Corporate

Micki Meggison

Continuous Improvement Black Belt, Westbrook Mill

Lynne Palmer

Manager, Packaging Product Stewardship, Corporate

Chuck Qualey

Senior Engineer, Energy, Somerset Mill

Rob Schilling

Manager, Pulp Technical and Environmental, Cloquet Mill

Claudia Sides

Procurement Specialist



Packaging and speciality papers

Sappi packaging and speciality papers provide stunning, sustainable alternatives to plastic to help any product stand out on the shelf. 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. Sappi's Guard for flexible packaging applications, responds to the market demand for alternatives to foils and plastics, and comes with integrated barriers against oxygen, water vapor, grease, aroma, and mineral oil.

Our packaging and speciality offering also includes our casting and release papers. We are 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 about these innovative products, visit sappi.com/sappi-casting-release-papers.

World-class assets



Cloquet Mill

Cloquet, Minnesota

ESTABLISHED

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

ANNUAL PRODUCTION CAPACITY

340,000 mt/yr of coated freesheet

PULP CAPACITY

370,000 mt/yr of dissolving pulp or
470,000 mt/yr of bleached 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



Matane Mill

Quebec, Canada

ESTABLISHED

Pulp mill: built 1990

ANNUAL PRODUCTION CAPACITY

270,000 mt/yr

PRODUCTS

High-yield bleached chemi-thermo mechanical pulp (BCTMP): aspen and maple
Pulp end uses: printing and writing paper, paperboard and linerboard

EQUIPMENT

2 production lines

EMPLOYEES

Approximately 150

WATER SOURCE

Matane River



Somerset Mill

Skowhegan, Maine

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

ANNUAL PRODUCTION CAPACITY

970,000 mt/yr of coated freesheet and packaging paper

BLEACHED KRAFT PULP

525,000 mt/yr

PRODUCTS

Opus, Somerset, Flo Web, Spectro, Proto, Proto Litho, LusterPrint and LusterCote

End uses: direct mail, magazines, catalogs, brochures, art books, luxury packaging, folding carton, grease-resistant bags, labels

EQUIPMENT

Pulp mill: continuous digester

Paper mill: 3 paper machines

EMPLOYEES

Approximately 730

WATER SOURCE

Kennebec River

SHEETING FACILITY

Sappi Allentown, Pennsylvania



Westbrook Mill

Westbrook, Maine

ESTABLISHED

Paper mill: built 1730

PM9¹: built 1905, rebuilt 1947, 1953, 1955, 1958, 1963, 1988 and 2001

Coaters installed: 1976, 1981, 1986, 1989, 1998, 2000

Biomass power boiler¹: 1982

ANNUAL PRODUCTION CAPACITY

23,000 mt/yr of coated speciality paper, casting and release paper

PRODUCTS

Casting and release papers, including Ultracast, Classics, and PolyEx

End uses: casting surfaces for coated textiles and laminates

EQUIPMENT

4 off-machine coaters; biomass boiler supplies steam and power to the mill and technology center, and also sells power to the local grid

EMPLOYEES

Approximately 200

WATER SOURCE

Presumpscot River

¹ Assets retired in 2020.

Sappi's global innovation network

Sappi's global research and development network features seven technology centers functioning as OneSappi and partnering to bring value-added renewable solutions to market.

At Sappi we believe a key to profitable, sustainable development is customer-focused innovation. As a renewable resource company, we believe our strong competency in tree biotechnology and forestry is vital.

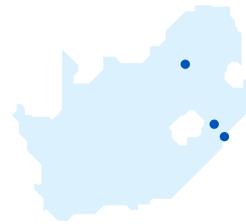
The Sappi Shaw research center in Tweedie, South Africa, is dedicated to tree breeding, seed technology, propagation techniques, and silviculture. The scientists at this center help Sappi—and the forest products industry at large—understand climate factors and build better protocols for healthy forests. A second Sappi technology center in South Africa sits in Pretoria, the nation's capital city. This center is an innovation hub for Sappi's South African operations and focuses on pulping technology, fiber processing, and paper and packaging science as well as environmental sciences. In support of our dissolving pulp business, Sappi houses a technology center at Umkomaas, South Africa, which is the center of excellence for dissolving pulp technology, processing, and customer quality assurance.

Within the Sappi Europe system, the central technology center is in Maastricht, Netherlands, where advancements in the areas of papermaking, packaging, and barrier chemistry development are explored. In this same area sits the nanocellulose competency center, including a pilot plant that produces our branded Valida products. A second Sappi technology center in Europe exists in Graz, Austria, where technical expertise in fiber processing and coating technology is developed. In support of our Sappi Biotech division, we operate the Wilton technology center in Redcar, UK, which is our biorefining center of excellence. Our newest center, established in 2017, is focused on extracting added value from trees through bioderived chemicals, and support for our lignosulphonate business.

In North America, we have a technology center in Westbrook, Maine, that focuses on developments to advance our diverse businesses of graphic papers, packaging and specialities. Core competencies in coating and calendering technology, barrier chemistries for packaging, and release chemistries for our texturing business are exploited to enhance customer value. Our scientists in this facility are supported by two high-speed coaters aiding in rapid prototyping for our customers.

This global network of Sappi technology centers is working to unlock the power of trees to make every day more sustainable for our customers and communities.

SOUTH AFRICA



NETHERLANDS



AUSTRIA



UNITED KINGDOM



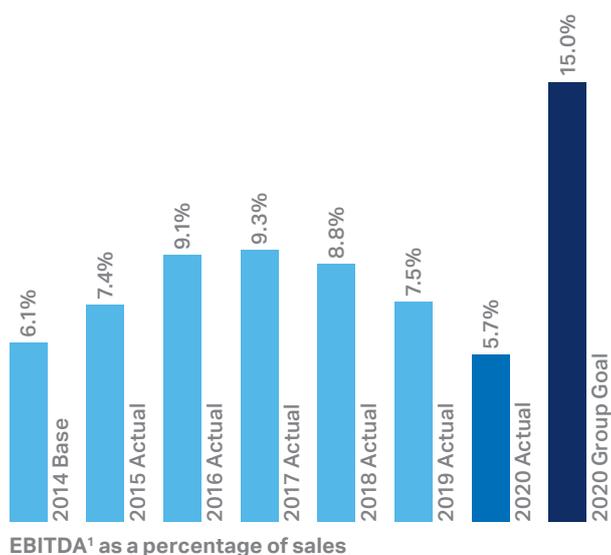
UNITED STATES





Sustainability goals

At SNA, our unwavering commitment to sustainability drives our thinking, provides a competitive advantage, and drives us toward continuous improvement. We work in partnership to unlock the power of renewable resources and serve the market needs of our employees, customers, and investors.



EBITDA¹ as a percentage of sales

Contribute to group EBITDA margin

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. SNA EBITDA margin was 5.7 percent. Total group performance stood at 8.2 percent, compared to the group goal of 15 percent.

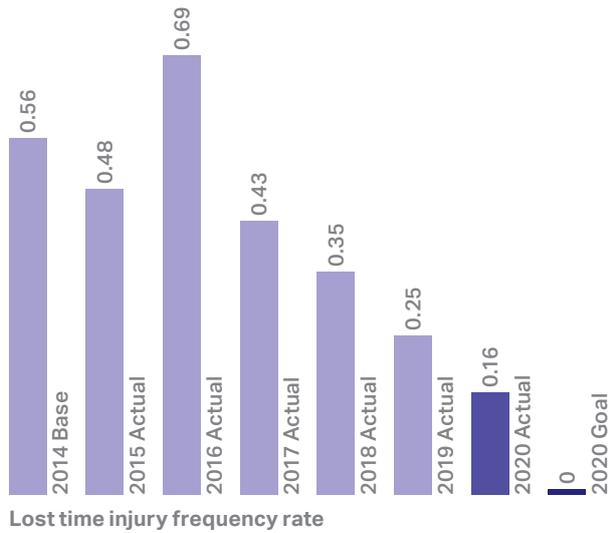
The COVID-19 pandemic had a severe impact on SNA, as was the case for many businesses. Strong demand for our packaging papers was offset by weak graphics and release paper demand, which resulted in curtailment of our paper machines. Pulp results were mixed as we were able to partly offset weak DP demand with higher kraft production. Careful cost management in all areas mitigated some of the top-line declines.

Looking ahead to 2021, SNA is confident we will see continued packaging growth and a recovery across all of our businesses. For a comprehensive discussion of our financial results for the year, please refer to our 2020 Annual Integrated Report.

We will retire EBITDA as a formal goal going forward and instead track it as a KPI.

¹ Excluding special items.

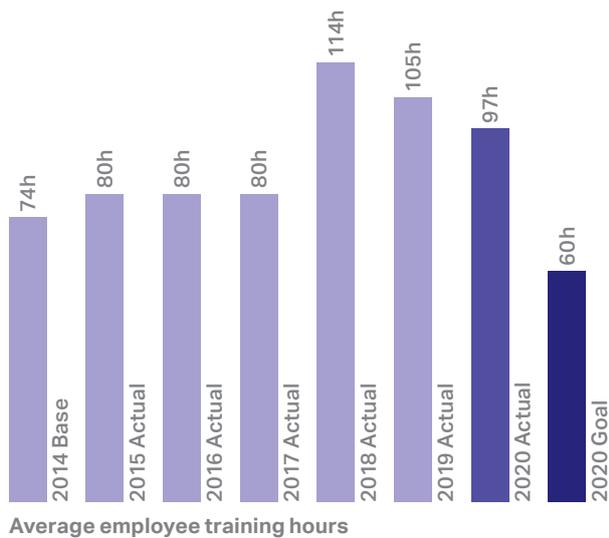
People



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.

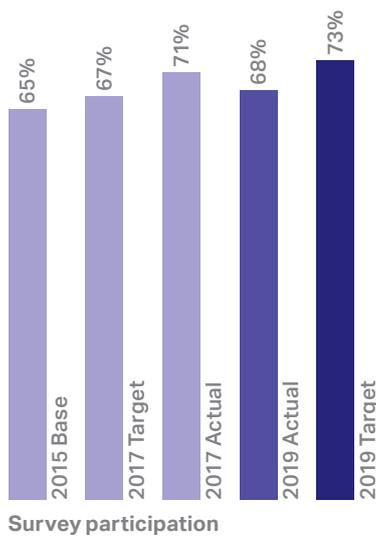
In 2020, we achieved an LTIFR of 0.16, which establishes another new record for lowest full-year result. Since 2016, we have seen continual improvement year over year. Another noteworthy trend is the decline in severity rate, from 1,673 lost workdays in fiscal 2011 to 37 lost workdays (a record low) in fiscal 2020. This year we also achieved zero lost-time injuries at four out of our five manufacturing sites and the Westbrook Technology Center.



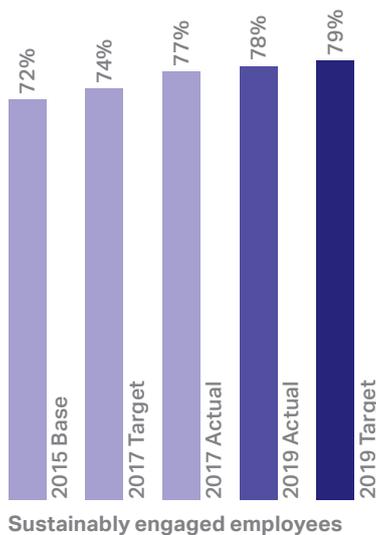
Achieve 60 training hours per year per employee

SNA's regional goal for employee training is 60 hours per employee (hourly and salaried, on average). In fiscal 2020, we achieved an average of 97 hours per employee, with a particular focus on manufacturing operations. This strong performance since the 2014 base year reflects our significant commitment to training across all employees in the organization and covering safety competence and skills. We will retire training as a formal goal going forward and instead track it as a KPI.

People



Survey participation



Sustainably engaged employees

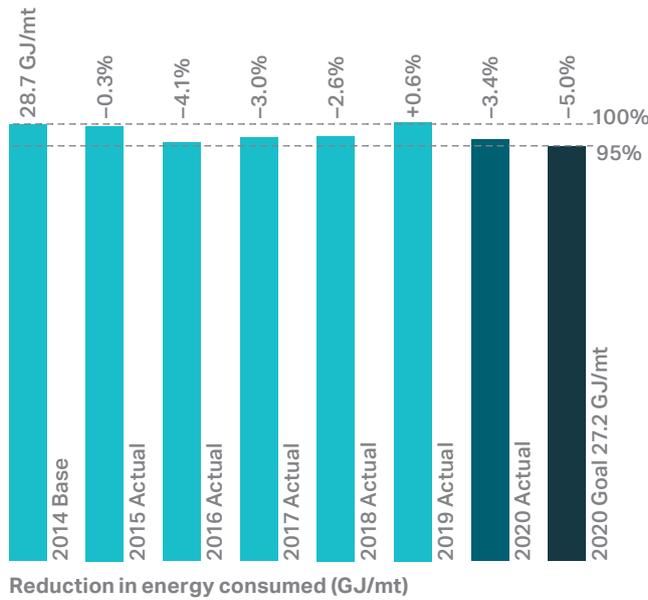
Promoting employee engagement

Every two years, the entire Sappi group undertakes an employee engagement survey from which we've established two metrics for employee engagement. The first goal is to increase survey participation by 2 percentage points. In 2017, we achieved that goal with a 71 percent participation rate—6 percentage points better than the 2015 baseline of 65 percent. In 2019, the goal was set at 73 percent (2 percent greater than the previous results) and we did not achieve the target, reaching approximately 68 percent participation.

The second goal is to increase our sustainable engagement (such as commitment to company goals, discretionary effort, and recognition) by 2 percentage points from a base of 72 percent. In 2017, we surpassed that goal by reaching a level of sustainable engagement of 77 percent. In 2019, we fell short of the goal of 79 percent with a score of 78 percent.

Since the 2019 survey, the company has communicated the results and established action items to improve engagement, particularly at the manufacturing sites, where we have the biggest improvement opportunity. Action items include enhanced training, developing stronger supervisory skills, and improving employee communications. We identified 85 follow-up actions, almost 90 percent of which are either complete or on track. These initiatives include a maintenance excellence initiative intended to enhance effectiveness and engagement in the maintenance areas where we have historically scored lower across Sappi North America.

Planet



Lower total energy consumed

Energy intensity, commonly referred to as specific energy, is one of the most important mill metrics we have. It captures the efficiency of our operations in both the numerator (gigajoules [GJ] of energy consumed) and the denominator (metric tons [mt] of saleable product [pulp and paper] produced). Specific energy can be reduced in two different ways—by reducing total energy use through improved efficiency (e.g., capital investment or equipment optimization) or by producing finished product with less waste.

Our energy goal was to reduce intensity (GJ/mt) by 5 percent by 2020, compared to the 2014 baseline. Our performance for fiscal 2020 shows a decrease in energy intensity of 3.4 percent, a miss to the 2020 goal but a significant improvement when compared to 2019, especially considering the COVID-19-related market curtailment. If the pandemic had not occurred, we believe we would have met our 5 percent energy intensity reduction goal. The Somerset Mill met the five-year goal of 5 percent energy reduction. While the Cloquet Mill did not meet the goal in 2020 due to COVID-19-related downtime, it was ahead of target reductions every year leading up to 2020.

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.

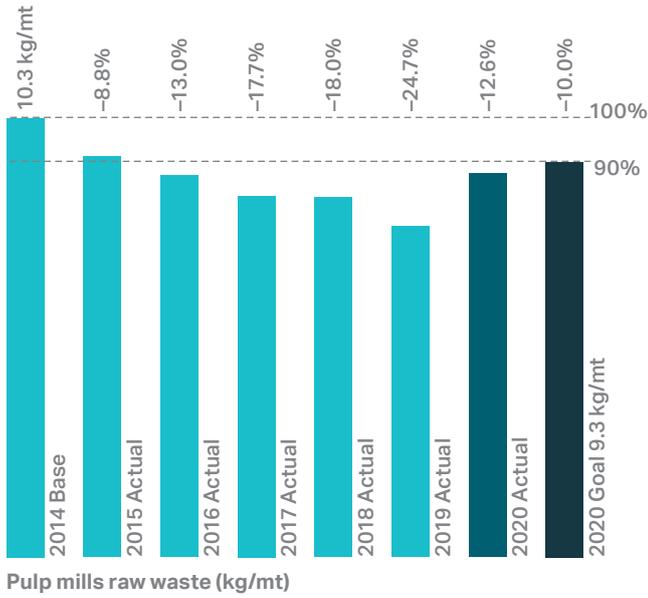
To achieve these benefits, we have separate goals for the pulping and papermaking process areas.

For the pulp mills, we targeted a 10 percent reduction in losses by 2020, whereas for the paper mills, we established a 5 percent reduction goal by 2020.

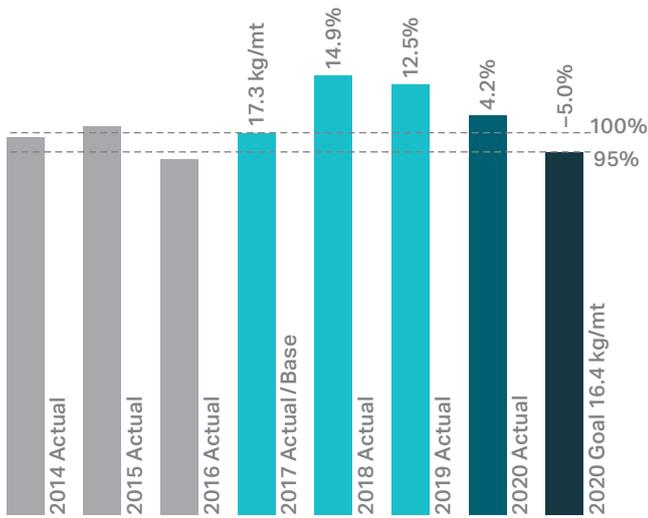
With respect to pulp mill losses, we have surpassed the five-year goal, reaching an approximately 13 percent reduction over the 2014 baseline.

In contrast, paper mill losses were about 4 percent higher than the 2017 baseline. While this represents a significant improvement over 2019, losses were driven by COVID-19-related curtailment and more frequent grade changes. At Cloquet, the implementation of quick hits from the Lean Six Sigma (LSS) sewer loss project reduced losses to better than plan for Q3 and Q4.

We will retire these two goals going forward and instead track them as KPIs.

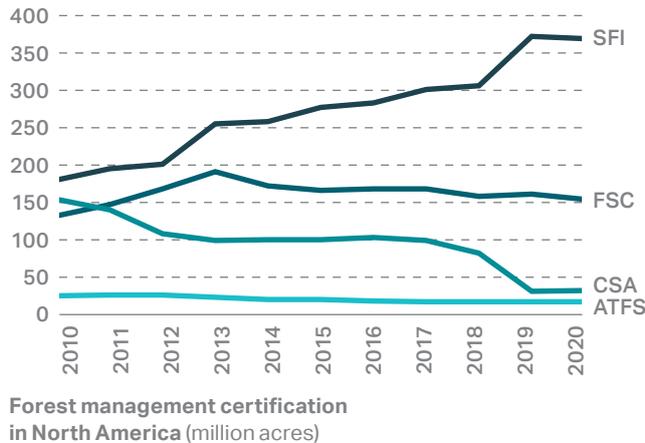
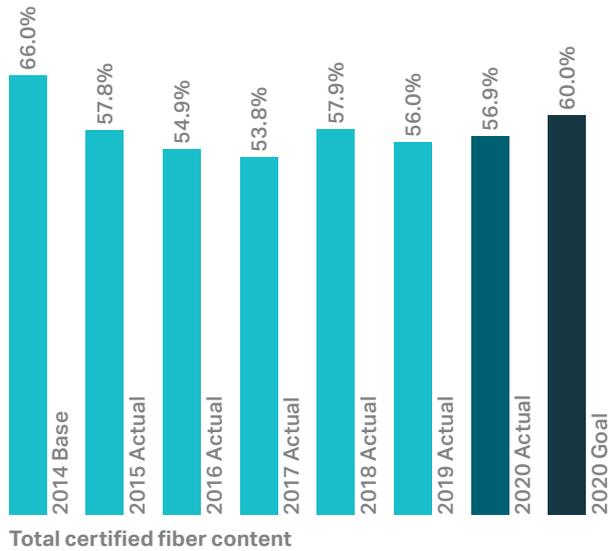


Pulp mills raw waste (kg/mt)



Paper mills raw waste (kg/mt)

Planet



Responsible sourcing of our key fiber resource

Sustainably managed forests provide vital economic, environmental, and social benefits indispensable to our quality of life. Forest certification is a well-established tool providing conscious consumers with scalable assurance mechanisms to ensure that wood fiber originates from legal and responsible harvesting operations where ecological and social aspects, such as indigenous peoples’ rights, have been considered. Chain-of-custody (CoC) certification tracks certified fiber throughout the manufacturing process.

All of SNA’s US-based mills are triple-CoC certified under the Forest Stewardship Council® (FSC®-Co14955), the Sustainable Forestry Initiative® (SFI®) program, and the Programme for the Endorsement of Forest Certification (PEFC/29-31-10). Sappi’s Matane Mill in Quebec is FSC (FSC-C151943) and PEFC (PEFC/26-31-135) CoC certified. SNA strives to offer our customers a wide array of products and certification options.

SNA’s goal to procure 60 percent certified fiber encompasses our three US manufacturing operations. In 2020, 52.3 percent of wood fiber sourced was third-party certified under SFI, FSC, or PEFC standards, with an additional 4.6 percent from point-of-harvest (POH¹) operations. The total of 56.9 percent is slightly below 2018 and 2019 levels due to significantly lower external pulp purchases in response to COVID-impacted market conditions. Although total certified fiber decreased, SNA’s wood and chip procurement performance increased from 39.9 percent in 2019 to 44.8 percent third-party certified in 2020.

While not officially part of the 60 percent goal, Matane achieved 67.73 percent for a combined total across Sappi’s US and Canadian mills of 54.0 percent fiber sourced as third-party certified.

One hundred percent of Sappi’s wood fiber inputs are sourced from well-managed forests and are third-party verified as originating from controlled and noncontroversial sources. All wood and chips procured for SNA’s US mills meet the requirements of the SFI Fiber Sourcing Standard, which requires the use of trained loggers, biodiversity conservation, investment in forest research, adherence to best management practices, and landowner outreach. Learn more about Sappi’s responsible sourcing strategy on page 41.

¹ “POH,” or “point of harvest,” refers to wood and chips purchased directly from noncertified forest landowners via “stumpage operations,” harvested by logging professionals who are trained in practices designed to conserve forestland, promote biodiversity, and protect soil and water quality.

Our goals for 2025

We've made the United Nations Sustainable Development Goals (SDGs) an integral part of our business. The goals define 17 global priorities that challenge us all at Sappi to lean in and apply our creativity and innovation to contribute solutions to challenges—from climate change to responsible consumption and production.

The SDGs were a natural starting point to develop Sappi's new sustainability framework and 2025 targets. They enabled us to establish focused, ambitious, and measurable targets that will deliver on Sappi's business strategy and also address broader global concerns. Aligning with SDGs also creates the right context for our employees and serves as a common language for our stakeholders and customers.

Focus teams across Sappi worked intensively to evaluate the 17 SDG themes and identify the seven goals where we could be most impactful, making these our global priority areas for goal setting.

Sappi is joining the call to step up—using our global impact, and working with governments, civil society, businesses, and society—to achieve ambitious action for sustainable development.

If you're interested in our regional targets for Europe, North America, and South Africa, please visit sappi.com/sustainability-and-impact.



SDG 6

CLEAN WATER AND SANITATION

Reduce specific water use in water-stressed locations ¹	—
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SDG 7

RENEWABLE AND CLEAN ENERGY

Increase share of renewable and clean energy	Within 5% of baseline (81.7%) or higher
Decrease specific total energy	5%

SDG 8

DECENT WORK AND ECONOMIC GROWTH

Achieve zero injuries	Zero injuries
Increase proportion of women in management roles	4% pts
Share of procurement spend with declared compliance with Supplier Code of Conduct	80%
Participation in Employee Engagement Survey	> 85%
Percentage of staff fully engaged with our business	> 83%
Return on net operating assets (RONOA)	2% pts above WACC²

SDG 12

RESPONSIBLE CONSUMPTION AND PRODUCTION

Launch products with defined sustainability benefits	5 products
Reduce specific landfilled solid waste	10%

SDG 13

CLIMATE ACTION

Decrease specific GHG (Scope 1 + 2) emissions	5%
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SDG 15

LIFE ON LAND

Increase share of certified fiber	100% CoC purchased pulp >47% CoC wood
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SDG 17

PARTNERSHIPS FOR THE GOALS

Build and activate mutually beneficial partnerships	Ongoing
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¹ This target currently applies to Sappi's mills in South Africa; Sappi's mills in North America and Europe are not located in water-stressed locations.

² WACC: weighted average cost of capital



Prosperity

At SNA, we make it our responsibility to enable people and communities to prosper with us. We use our creativity and ingenuity to make the most of each tree, byproduct, and resource, and to constantly create a more circular economy. Our mission to build a thriving world is bolstered by championing innovative approaches in every aspect of our business.

Thrive25 and UN goals for prosperity

As discussed, Sappi has identified seven priority UNSDGs where we believe we can make the biggest impact. Therefore, we are aligning our new sustainability goals with specific SDGs.

For our 2020 vision, our prosperity goal was measured by EBITDA—earnings before interest, taxes, depreciation, and amortization. This is a common financial metric and will remain an important tracked metric. However, we will no longer use EBITDA as our single prosperity goal.

For 2025 we will utilize three prosperity goals; chief among them will be RONOA—return on net operating assets. RONOA is a strong growth metric that will illustrate the investment return value of our capital-intensive business. Our 2025 goal is 2 points above the weighted average cost of capital.

The other two new prosperity goals are the percentage of our supply network declared compliant with our supplier code of conduct (revised in April 2019) and number of products launched with defined sustainability benefits. The targets for these 2025 goals are 80 percent and five products, respectively.

These two new goals signal our greater focus on sustainability and innovation across the supply chain, and most align with **SDG8**—promoting decent work and economic growth—and **SDG12**—responsible consumption and production. As these goals require greater collaboration across the value chain, **SDG17**—partnerships for the goals—is applicable; however, at this time, no specific goals have been set.

SDG 8

DECENT WORK AND ECONOMIC GROWTH

Share of procurement spend with declared compliance with Supplier Code of Conduct	80%
Return on net operating assets (RONOA)	2% pts above WACC

SDG 12

RESPONSIBLE CONSUMPTION AND PRODUCTION

Launch products with defined sustainability benefits	5 products
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SDG 17

PARTNERSHIPS FOR THE GOALS

Build and activate mutually beneficial partnerships	Ongoing
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Resilience is a constant for SNA

In a world of uncertainty and constant change, resilience and flexibility are critical to our success. These attributes have been invaluable to SNA as we have navigated through both business and personal challenges.

This year we are proud of the way our employees have pulled together to exhibit flexibility and adapt to changing circumstances related to commerce, community, and connection. We are confident that by working with them and all our other stakeholders, we can leverage the window of opportunity created by COVID-19 to reflect, reimagine, and chart a prosperous course for Sappi.

2020 financial performance

The global impact of COVID-19 on the Sappi group's financial performance was severe. Our group EBITDA margin for 2020 was 8.2 percent, with SNA's EBITDA margin contribution at 5.7 percent. At the group level, total EBITDA was \$378 million and for SNA, \$79 million.

Similar to the group, SNA's overall results were strong through the first half of the year. Of all our business segments, the graphics paper market, which was already contracting, was hit particularly hard by COVID-19 as retail, travel, publishing, and general print advertising ground to a halt. We took significant downtime across our operations and minimized spending wherever possible. We did, however, end the year on a positive note, as we began to experience some market recovery in Q4, which is our seasonally busiest quarter. Despite a rough year, we remain steadfastly committed to our graphics business and to our customers who value print.

Within the specialties segment, declines in our release paper markets were offset by the 84 percent growth of our packaging business versus last year. The increased need for food service packaging during the pandemic drove demand for our LusterCote and LusterFSB products. Though we could never have anticipated the pandemic and its related hardships, our operational flexibility enabled us both to serve an unexpected rise in demand for some packaging products and to partly mitigate the impact of overall weak market demand on our assets.

Our pulp business benefited from nearly a full year of high-yield pulp production at the Matane Mill, which we acquired in November 2019. But pulp pricing, and to a lesser extent, demand, remained weak, especially for dissolving pulp (DP) consumed by the textile industry. As with our paper assets, the flexibility of our pulp operations to swing between kraft and DP allowed us to better weather the market downturn. In fact, tissue producers saw a large COVID-19 demand spike, and we supplied them and our own mills with kraft pulp.

Our financial results, while disappointing, nevertheless reflect the remarkable efforts of our employees, as well as our ongoing efforts to transform and grow the business. As part of this transformation, we made the difficult decision to cease papermaking and restructure our utility operations at our Westbrook Mill to ensure a more business-resilient site for the future.

“The strategic investments we have made in our assets over the last 10 years have given us flexibility and positioned us to better manage through a very difficult year. These investments included the Cloquet pulp mill conversion and expansion, Somerset PM1 conversion, and Matane acquisition. As we look to the future, we are focused on maximizing the return on those investments.”

Annette Luchene

Vice President and Chief Financial Officer

Looking ahead to 2021

As we look to 2021, we are confident of the continued recovery in our business. We are well-positioned with customers in the markets we serve, and our Thrive25 business strategy will keep us on a trajectory of sustainable returns.

Sappi responds to the COVID-19 pandemic as an essential business

Sappi has not been immune to the impact of the pandemic, but as an essential business, our mills continue to operate, and our products are more appreciated now than ever before. The safety and wellbeing of our colleagues continues to drive us during this unprecedented time.

Health and safety are our top priority

SNA has developed a comprehensive COVID-19 action plan with safety at the forefront. Our mills and other operations apply stringent guidelines in accordance with the Centers for Disease Control and Prevention (CDC) to mitigate the spread of COVID-19. These measures include new protocols for social distancing, providing masks and sanitizers, restricting nonessential visitors and contractors, restricting travel, encouraging remote work, requiring employees to quarantine when applicable (after traveling, if experiencing symptoms, or after being exposed to someone who may have COVID-19), expanding cleaning and hygiene practices, and conducting temperature checks. This has ensured that we continue to operate in a safe and uninterrupted manner.

The safety of our products is also a high priority. According to both the World Health Organization and the CDC, the risk of contracting the virus from packaging or paper products is low, as coronaviruses are spread most often by respiratory droplets. There is no evidence to support the transmission of COVID-19 associated with imported goods, and there have not been any cases of COVID-19 in the United States associated with imported goods. But as an added safety measure, due to the highly automated nature of our manufacturing process, there is minimal direct contact between employees and the finished product that we produce.

Economic impact of the pandemic

The initial worldwide lockdowns and the corresponding economic slowdown had a serious impact on advertising, which reduced graphic paper demand. Many companies, including retailers and consumer-related businesses, reduced advertising spend and printers halted production. Casting release sales were negatively impacted by lockdowns in key markets like China, Italy, India, and Brazil. The dissolving pulp segment experienced a rapid downturn in demand as retail stores globally were shut down and clothing sales decreased.

Fortunately, certain categories of packaging and speciality papers were unaffected by COVID-19, including food and hygiene-related packaging. Both dissolving pulp and graphic paper demand reached a low point in May and June, and a slow but steady recovery is underway as economies reopen and as retail and advertising activity increases.

Sappi's role in the supply chain

Sappi produces many products that are in high demand during this time of COVID-19. Our packaging and speciality papers are used for soup labels and food packaging that keep grocery stores stocked and organized. Our pulp is the sustainable raw material used in products like wet wipes, tissues, and paper and packaging products. Our graphic papers are used for medical brochures, pamphlets, and posters for public health information. Our casting and release papers are used for specialty medical and industrial products, such as bedding mattress covers, surgical gowns, and fabrics for temporary accommodations. Sappi supplies most of these materials to other manufacturers in the supply chain, who in turn ensure that essential food, cleaning, and hygiene products, and medical and hospital supplies, reach store shelves and the consumer.

The pandemic has also provided some new opportunities for Sappi. Our products are now being used to produce COVID-19 test kit packaging and face shields. And Sappi's Valida natural cellulose is used to make natural, biodegradable, and sustainable hand sanitizer.



COVID-19 test kit



Can labels



Takeout containers



Wipes

Sappi supplies our communities with needed equipment

Sappi supports the communities where we work and live. At the onset of the pandemic, when personal protective equipment was scarce, the Somerset Mill donated over 500 Tyvek suits to the Redington-Fairview General Hospital in Skowhegan, Maine. The mill also donated safety glasses to the SKILLS, Inc. organization, which offers community support programs, residential programs, and support in private homes across central Maine for more than 185 adults with intellectual disabilities and other challenges.

The Cloquet Mill also contributed to its community by donating Tyvek suits and safety goggles to the Cloquet Area Fire District, which provides unified fire protection, rescue, and emergency medical services in Cloquet and nearby communities.

The Westbrook Mill provided Allen Manufacturing with a financial sponsorship to buy fabric to make washable cloth face masks at their Lewiston, Maine, facility, which were then made available to the public at cost. Sappi contributed to the daily mobile/curbside food pantry and meals program at Westbrook’s My Place Teen Center, which served and delivered 22,000 homemade dinners and 5,000 snack, hygiene, and household staples kits from April through August 2020.

Diversification and innovation help Sappi manage the pandemic

During this challenging time, many businesses face unprecedented changes to their operations. The economic downturn and changing markets have stressed many businesses to the point where their sustainability is in question. But despite a rough year, Sappi remains guided by its values and purpose, and has taken immediate action to implement cost-saving measures across our operations to keep the business strong. We continue to work closely with our customers and suppliers as we systematically increase activity and output in response to market demand, and we support our local communities to mitigate the impact of the pandemic.

Many years ago, Sappi committed to diversifying our business so that we could more easily navigate challenging business environments. We are confident that Sappi North America will continue to be a strong, innovative, and essential manufacturer in the US, both during and beyond this crisis.

The future of forest products— enhancing business diversification

Sappi's continual push to find new ways to extract value from trees has resulted in the exploration of unique applications for our line of Valida products. Valida is a micro- and nanofibrillated cellulose manufactured in our pilot facility in the Netherlands. It's a 100 percent natural, biodegradable, and sustainable material produced by mechanically processing wood fibers to their smallest components, resulting in a dramatically increased surface area and greater strength as well as enhanced optical, chemical, and physical properties.

Applications for Valida can range from use in Sappi's own papermaking to foods and cosmetics, and even as an additive in concrete. One recent area of focus was Valida performance in industrial paints. Due to its high surface area and 3D networking, this natural material can serve as a stabilizing agent for paints.

Apart from being 100 percent natural, Valida is sustainable, renewable, and nontoxic, thus reducing VOC levels—important to the paint industry—while also providing improved functionality. Working with industry partners, we've demonstrated Valida's superior performance for paint anti-sag and improved dispersion behavior—both properties important to industry paint customers.



Sappi Valida is a 100 percent natural, biodegradable, and sustainable material.

Valida is a sustainable, renewable, and VOC-free multifunctional additive that not only helps reduce or replace synthetic additives in formulations, but also contributes to the value of end products. Sappi plans further market development in this area as part of our commercial Valida product launch.

Sappi North America receives Platinum rating from EcoVadis



Sappi North America is fully committed to an innovative and comprehensive approach to sustainability. Sappi relies on third-party evaluators like EcoVadis to benchmark the company's efforts and identify areas for improvement.

Sappi North America was awarded a Platinum score in the latest EcoVadis rating, scoring in the top 1 percent of companies evaluated within its sector, alongside the company's regional counterparts in Sappi Europe and Sappi Southern Africa.

EcoVadis is a leader in third-party evaluations of business sustainability performance and measures four categories when making its determination: sustainable procurement, ethics, labor and human rights, and environment. In all four categories, SNA improved from its

previous scorecard. In the environment category, SNA did exceptionally well, garnering a 90 out of 100.

"We are very pleased to see improvement in all four categories," says Sandy Taft, Director of Sustainability at Sappi North America. "We are developing new strategies and processes to improve even further upon these results next year."

"The pillars of our sustainability strategy are people, planet, and prosperity," says Sandy. "By actively engaging in sustainable practices and efficiently using our primary renewable resource, wood fiber, we will meet our commitment to all three."



People

Sappi has deep roots in the communities in which we operate. We actively support the development and safety of our diverse workforce and our communities—going beyond regulatory expectations to cultivate human potential. We support healthy practices all throughout our operations because we know that when our people thrive, our mission to unlock the power of renewable resources will thrive as well.

Thrive25 and UN goals for people

For our 2020 vision, we established four people goals: safety, as measured by lost time injury frequency rate (LTIFR); participation in the employee survey; achievement of sustainable engagement improvement goals; and training.

For our Thrive25 strategy, safety remains our most important goal, and we still aim to achieve zero lost-time injuries.

The two employee engagement goals will continue as well. The new targets for participation in the employee survey and improvement in sustainable engagement are greater than 85 percent and 83 percent, respectively.

The training goal will be moved to a key performance indicator. It is an important metric, but as evidenced by our strong success over the last five years, we believe new training KPIs will add more value.

Our new goal aimed at diversity is to increase women in senior management to 21 percent. Though our SNA senior leadership team has more than 50 percent women, we still have an opportunity to increase the number of women in management in other areas. As noted in the KPI section of this report, our 2020 workforce by gender was 15.21 percent female and 84.74 percent male with 0.05 percent not disclosed.

The above goals most align with **SDG8**—promoting decent work and economic growth. A company’s economic growth is linked to its people. When employees are provided a safe working environment and are engaged and provided with enriching opportunities, they will thrive. **SDG17**—partnerships for the goals—is applicable to all three sustainability pillars, and at this time no specific goals have been linked to it.

SDG 8

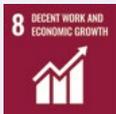
DECENT WORK AND ECONOMIC GROWTH

Achieve zero injuries	Zero injuries
Increase proportion of women in management roles	4% pts
Participation in Employee Engagement Survey	> 85%
Percentage of staff fully engaged with our business	> 83%

SDG 17

PARTNERSHIPS FOR THE GOALS

Build and activate mutually beneficial partnerships	Ongoing
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Sappi's employees have fully embraced a safety culture.

SNA makes significant progress on the journey to zero injuries

Sappi North America made impressive strides on the journey to zero injuries in fiscal 2020. Our injury rates were the most favorable in our history, with a lost time injury frequency rate (LTIFR) of 0.16. Not only has the LTIFR rate dropped for four years running, but this is the third consecutive year that SNA set a new best-year LTIFR.

Four out of our five manufacturing sites and the Westbrook Technology Center finished the fiscal year with no lost-time injuries. The Cloquet Mill operated more than 2 million hours without a lost-time incident. The technology center has operated 14 years without a lost-time injury.

Allentown, Matane, and Westbrook also finished fiscal 2020 with no lost-time injuries. The Somerset Mill struggled during the first half of the year with four lost-time injuries for an LTIFR of 0.48. However, it redeemed itself during the second half of the year with four consecutive months injury-free—the first time that happened since 2014.

Our safety accomplishments are the result of continuous engagement with our labor unions, contractors, and community. Sappi's employees have fully embraced a safety culture and are empowered to keep safety as their number one goal. Managers and frontline leaders continue to engage their teams with daily safety contacts and five-minute safety talks.

The Cloquet Mill, which has a particularly impressive safety record, exemplifies the measures that Sappi has taken toward the goal of zero injuries. Cloquet has established a joint union-management Safety Leadership Council (SLC), which in turn developed the Safety Ambassador Program to recognize individuals who exhibit a passion for safety by going above and beyond. The SLC has taken the lead in preparing a plan for the prevention of serious injuries and fatalities. They also formed a joint union-management team to coordinate response efforts to the COVID-19 pandemic. Cloquet also has a "Fit for Work" wellness program that provides ergonomic coaching and early intervention directly to on-shift employees.

While we are extremely proud of our safety record during fiscal 2020, our safety performance has deteriorated during the first several months of fiscal 2021, which is a sobering reminder that neither a strong record nor the distractions of a pandemic are an excuse to let down our guard. We made great progress in fiscal 2020, but as even one injury is too many, our work continues.

Ideas that Matter

Since its inception in 1999, Sappi's Ideas that Matter (ITM) program has granted nearly \$14 million to help fund a wide range of social impact causes ranging from sustainable food systems to healthcare to climate change. Although the pandemic put much of the world on pause, Sappi's ITM recipients were busier than ever with their world-changing projects. We were not surprised to watch how this community continues to adapt in the face of so much uncertainty.



826LA and 826 National students use poetry to demand social justice

Ideas that Matter grant recipients have included both 826 National and its Los Angeles chapter, 826LA, in recent years. The national organization is the largest youth writing network in the country with nine chapters serving nearly 40,000 under-resourced students ages 6–18 each year.

Whether it's the March for Our Lives, the Youth Climate Strike, or Black Lives Matter, young people are at the front lines of combating injustice and changing the world.

In this spirit, 826 National recently solicited youth poetry from its nine chapters and worked with 826CHI, 826LA, and 826 Valencia to edit the resulting compilation, titled *Poets in Revolt!*

The talented student voices in the publication explore themes including body positivity, institutional racism, religious freedom, sexual identity, bicultural identity, the climate crisis, gun violence, and education inequality. *Poets in Revolt!* began as a workshop led by writer Ola Faleti at 826CHI, during which students drew meaningful connections between poetry and social justice.



Studio Usher secures internet access for 5 million remote students

In 2013, Naomi Usher, principal of design firm Studio Usher, received an ITM grant to develop communication materials in print, digital, and motion for EducationSuperHighway—an organization that provides advocacy and consultation to states and school districts to connect American public school classrooms to high-speed internet. The organization brought broadband to 99 percent of all K–12 public schools and was slated to shut down in April 2020 after accomplishing their mission.

Then, in the face of COVID-19, with 55 million K–12 students sheltering in place and schools moving their classrooms online, this dynamic organization hired back most of their staff to focus on connecting the 5 million US students who do not have access to the internet at home.



Brighter Bites delivers healthy options to food-insecure families

In 2018, Allyson Lack, founder and creative director of design studio Principle, received an ITM grant to design and produce a cookbook for stakeholders of Houston-based nonprofit Brighter Bites. Since its inception in 2012, Brighter Bites has provided nutrition education and more than 27 million pounds of fresh produce to over 275,000 people in cities across the country. They work with public schools and community centers to assemble and distribute fresh produce and materials to families in need.

During the COVID-19 pandemic, when personal resources are limited, families need fresh, nutrient-rich food to keep them healthy. When their partner schools closed, Brighter Bites quickly shifted gears to deliver produce through a variety of programs and networks, including local food banks, produce distributors, and partnerships with regional grocery chains.



MASS Design Group supports hospitals with COVID-19 Design Response team

Hospitals around the world are rapidly transforming their physical environments and systems to keep employees and patients safe. MASS Design Group—composed of full-time senior design leaders including ITM grantees Michael Murphy, Alan Ricks, and Amie Shao—has formed a COVID-19 Design Response team to support these efforts. Drawing on their valuable insights from lessons learned in the field, this team responds to the needs of hospital and community healthcare partners by sharing strategies and rules of thumb with those retrofitting different spaces for infection control.

The COVID-19 Design Response team has partnered with Mount Sinai Hospital in New York City and Boston-based Ariadne Labs and conducted a three-week study to understand which spatial design interventions can help mitigate the risk of infection. As the team members share their conclusions, they hope to scale the research and collaboration between healthcare staff and designers to encourage thoughtful spatial interventions and literacy with COVID-19 units nationwide.

2020 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 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 to sponsoring a trail cleanup or providing new equipment and supplies.

In 2020, Sappi received applications for worthy causes from around the country. The competition was tough, but in the end, 10¹ were selected.



Sappi employee Patti Groh and her son deliver much-needed items to Catie's Closet, a program that provides clothing and toiletries to children experiencing poverty.

“ I am so proud to support the good work of our employees through the Employee Ideas that Matter grant program. By joining forces and amplifying employee charitable efforts, we can make a bigger and more personal impact in the communities where we live and work.”

Sandy Taft

Director of Sustainability, Sappi North America

SAPPI ANNOUNCED THE FOLLOWING GRANT RECIPIENTS OF THE 2020 EITM PROGRAM:

**Greg Anderson, Cloquet,
Cromwell Community Action Club**

To add picnic benches and additions to a local playground area in memory of his son Kaleb.

**Mike Browne, Boston,
East Boston Social Centers**

To purchase ancestry kits and journals for seniors in support of the Monday Memoir Project.

**Ray Charles, Somerset,
Camp CaPella**

To install boundary posts, plant trees, and build a wheelchair-accessible nature trail.

**Patti Groh, Boston,
Catie's Closet**

To fund promotional materials for the program, which provides clothing and toiletries to children living in poverty in Massachusetts and New Hampshire.

**Steve Merling, Cloquet,
Twin Ports Walleye Association**

To clean up two boat launches that access the St. Louis River on Duluth shores.

**Lynne Palmer, Tech Center,
My Place Teen Center**

To fund a new meal service and wellness-check system for at-risk youth during COVID-19.

**Chris Pickles, Westbrook,
Sebago Clean Waters**

To fund print and social media advertising for their Water Bandit Project campaign.

**Mark Wagner, Allentown,
Jacobsburg Historical Society**

To purchase a wood structure for use by the society as a welcome and parking gate shed.

**Ben Ward, Somerset,
Good Will-Hinckley**

To fund a cleanup effort of the grounds surrounding the recently renovated Carnegie Library.

¹ Due to the pandemic, one grant recipient's project was unfortunately canceled.



Estefanie Franco, Lead Sustainability Ambassador in Boston

Employee ambassadors deliver Sappi's sustainability commitment to communities

Our Lead Sustainability Ambassadors, a team of 10 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 the “boots on the ground,” our Lead Sustainability Ambassadors show how a career at Sappi can pay it forward in local communities. The work of the Sustainability Ambassadors does not go unnoticed—in a recent ISO 15001 audit, the auditor commented on the group’s engaging community outreach work as best practice.

LEAD SUSTAINABILITY AMBASSADORS

Mark Wagner
Allentown

Estefanie Franco
Boston

Olga Karagiannis
Boston

Mathias Lamerant
Matane Mill

Dan Menor
Cloquet Mill

Laura Brosius
Sales

Mark Barnes
Somerset Mill

Jason Toothaker
South Portland

Rachel Kaul
Technology Center

Lisa Patterson
Westbrook Mill



Together, we're helping a sustainable planet unfold.



Paper and Packaging Board poised to tell industry's sustainability story

For six years, Sappi has been a proud sponsor of the Paper & Packaging – How Life Unfolds® campaign. This national marketing campaign tells the story of paper and paper-based packaging by highlighting the intrinsic benefits of our industry's products to consumer and business audiences across a highly targeted media ecosystem.

With a team of marketing experts and research-driven insights, the Paper & Packaging – How Life Unfolds® campaign has strengthened positive consumer perceptions of our industry and its products. In 2015, 56 percent of consumers said they enjoyed receiving direct mail. Today, the four-year average is 69 percent, showing a 13 percent increase in positive attitudes.

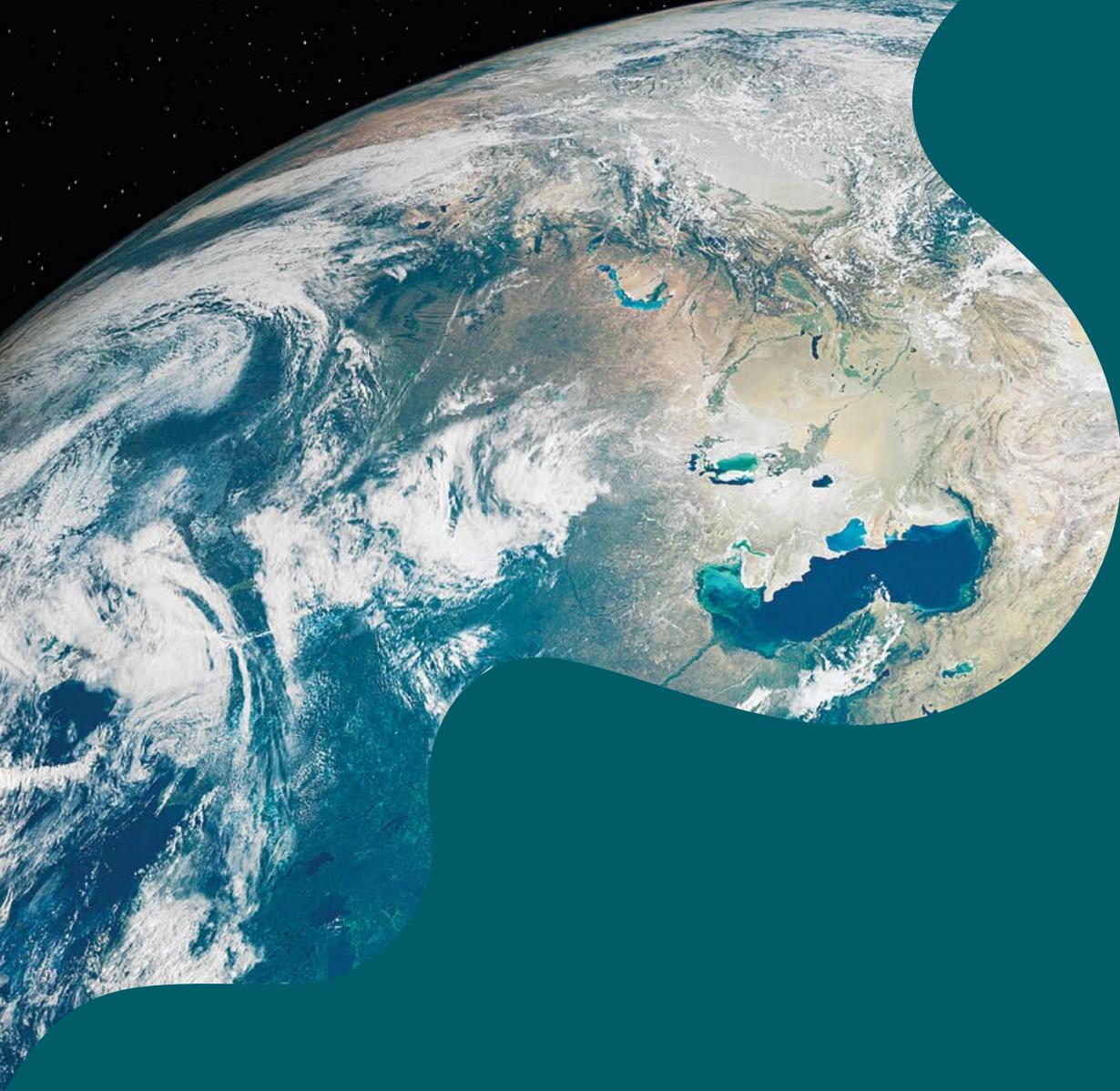
These same studies show that 74 percent of consumers agree the paper and packaging industry makes innovative products, 80 percent agree recycling paper-based products of any kind is still worthwhile, and 69 percent of consumers prefer paper-based product packaging to packaging made from plastic. In light of this success and further opportunity for improvement, participating companies such as Sappi recently voted to renew the Paper and Packaging Board campaign for another three years.¹

Now, in 2021, the data-driven campaign to move consumers is more important than ever. In response to growing consumer concern over the environment and a belief that governments and companies should do more, the campaign will focus on the industry's strong environmental stewardship legacy and sustainable product benefits.

The campaign recently released "Paper Makers" – a short documentary told through the eyes of three industry employees who cultivate sustainable forests, apply the technologies that protect them, and create nature-based sustainable products. This film alone has garnered almost 13 million views. And the Faces of the Forest video series has now told the resource stewardship stories of seven forest owners, earning over 9 million video views to date.

Our products are essential to how people live, work, and care for our planet. That story is our industry's shared future. Learn more at [HowLifeUnfolds.com](https://www.HowLifeUnfolds.com).

1 Isobar, October 2019, "Attitude and Usage Tracking." Data reported on Expressives aware of the campaign. Four-year average reflects average of scores across all nine waves of research conducted.



Planet

At Sappi, we see it as our responsibility to be stewards of the earth and its precious resources. We do this by thoughtfully sourcing materials, reducing material waste, mitigating carbon, carefully considering product end of life, and aiming to use the full potential of trees with each of our innovative endeavors.

Thrive25 and UN goals for planet

Our 2020 vision planet goals consisted of lowering total energy consumed, reducing pulp mill raw waste, reducing paper mill waste, and increasing certified fiber.

For 2025 we continue to focus on responsible operations and responsible sourcing. The primary difference is that we have five planet goals and they are more refined and supportive of specific SDGs.

Decreasing our specific total energy remains critically important, as Sappi is part of an energy-intensive industry. Our new goal is 5 percent by 2025. Reducing our energy use is not enough when we consider the importance of mitigating a warming climate. For this reason, we have two new energy-related goals: increasing our share of renewable energy within 5 percent of our baseline (81.7 percent) and decreasing our specific GHG emissions (Scope 1 and 2) by 5 percent.

Our waste metrics for the last five years have focused on raw material waste from the pulp and paper mills. We see more value in moving these metrics to KPIs and instead focusing on reducing waste to landfill. Reducing waste to landfill addresses our desire to improve our role in the circular economy and it will also help mitigate our impact on the climate. Landfill emissions are included in our Scope 1 emissions. The goal is to reduce solid waste to landfill by 10 percent.

Sustainably sourced wood resources are vital to our industry and result from a long practice of demanding sustainable management of the forests where we source our wood. Part of this success is from promoting the adoption of forest certification systems. We already achieve 100 percent certified purchase pulp and will therefore make a distinction going forward between pulp and wood. Our rolled-up goal is 55 percent, but to be fully transparent we have a target of greater than 47 percent certified wood and 100 percent certified purchased pulp.

The above goals most align with **SDG7** (affordable and clean energy), **SDG12** (responsible consumption and production), **SDG13** (climate action), **SDG15** (life on land), and **SDG17** (partnerships for the goals). SDG17 is applicable to all three sustainability pillars, and at this time no specific goals have been linked to it.

In June 2020, Sappi also committed to setting science-based emission reduction targets in collaboration with the Science Based Targets initiative. We seek to have these targets approved in 2021.

SDG 7

RENEWABLE AND CLEAN ENERGY

Increase share of renewable and clean energy **Within 5% of baseline (81.7%) or higher**

Decrease specific total energy **5%**

SDG 12

RESPONSIBLE CONSUMPTION AND PRODUCTION

Reduce specific landfilled solid waste **10%**

SDG 13

CLIMATE ACTION

Decrease specific GHG (Scope 1 + 2) emissions **5%**

SDG 15

LIFE ON LAND

Increase share of certified fiber **100% CoC purchased pulp >47% CoC wood**

SDG 17

PARTNERSHIPS FOR THE GOALS

Build and activate mutually beneficial partnerships **Ongoing**





Sappi Somerset Mill in Skowhegan, Maine

SNA receives 2020 AF&PA Leadership in Sustainability Award

Sappi was named a recipient of the Leadership in Sustainability – Water Award from the American Forest & Paper Association (AF&PA) as part of its “Better Practices, Better Planet 2020” Sustainability Awards program. Sappi was recognized for its “Caustic Reclaim and Reuse” project at its Somerset Mill in Skowhegan, Maine.

The project aimed to reduce the volume of purchased chemicals required to meet the mill’s boiler flue-gas desulfurization (FGD) environmental goals, as well as to offset other chemical usage in its on-site waste treatment plant. The Somerset Mill operates a large steam plant and uses demineralized water as a main makeup water source for its recovery boiler and two multifuel power boilers. This project repurposes a large source of spent caustic from the demineralizer regeneration operation to meet flue-gas desulfurization goals, and it offsets purchased chemical usage in its on-site wastewater treatment plant.

“Sustainability remains Sappi’s priority and is critical to our strategy,” says Sean Wallace, Managing Director, Sappi Somerset Mill. “At the Somerset Mill, we strive to challenge industry standards and ourselves to create innovative methods to better our environment. Receiving this recognition from AF&PA is an honor, and we look forward to being a part of the industry’s step toward the association’s ‘Better Practices, Better Planet 2020’ sustainability goals.”

The project is expected to significantly reduce overall caustic purchases as well as chemical usage for effluent treatment. The reclaimed caustic concentration to the wet industrial scrubber is significantly lower than the concentration of fresh caustic. So, not only is the spent caustic reclaimed from the sewer, but so is the water that dilutes it to the lower concentration. This added reclaimed water in turn reduces the fresh water demand by 12,000 gallons per day. By implementing a similar process, other mills can reduce chemical demand by reusing demineralized regeneration caustics and benefiting the mill’s overall fiscal position.

Responsible procurement is the key to responsible manufacturing

Sappi is committed to responsible manufacturing and holistic sustainability, which begins with responsible procurement. Wood provides cellulose for dissolving pulp, graphic and speciality papers, packaging products, and biorefinery solutions, as well as renewable energy for mills. Healthy and abundant forests are critical to the long-term viability of our business and life on earth.

Healthy, robust, well-managed forests support community wellbeing, provide a haven for wildlife, protect watersheds, and play a critical role in carbon sequestration. Responsible sourcing creates value in standing forests to deter conversion to nonforest uses. One hundred percent of the wood fiber SNA uses originates from well-managed forests at low risk of controversial sources, in compliance with all applicable laws and requirements of the FSC Controlled Wood and SFI Fiber Sourcing (in the US)¹ Standards.

We're proud of our approach to responsible sourcing and commitment to maintaining triple SFI, FSC, and PEFC CoC certifications. Sappi promotes the increased use of certified fiber throughout our supply and value chains. North America contains over one-third of the FSC-certified land and over half of the PEFC-certified land globally. Yet even this achievement is relative. After over 25 years of evolution in certification, only approximately 20 percent of US timberlands and 11 percent of the world's forests are certified. Since 2010, SFI is the only system that has experienced consistent growth in acres certified across North America.

Due to the restricted availability of certified fiber, certification systems developed separate requirements for fiber from uncertified lands.

FSC's Controlled Wood Standard requires certified companies to incorporate the results of National Risk Assessments (NRAs), which assess the frequency of occurrence and risk severity of controversial sources. Where specified risk is identified, certificate holders must implement control measures.

- Within the US, our fiber is sourced from areas considered low risk across all five risk categories; therefore, no additional control measures are necessary.
- In Canada, we source from areas with a mix of low and specified risk. Accordingly, control measures are in place to avoid and mitigate the risk of controversial sources during our operations and those of our suppliers.

SFI's Fiber Sourcing Standard goes beyond avoidance of controversial sources and requires landowner outreach, use of qualified resource/logging professionals, investments in forest research, conservation of biodiversity, and adherence to best management practices during harvesting operations.

Because SNA does not own any forestland, we depend on suppliers. Our rigorous due-diligence system and tracing practices to confirm the origin of wood involve gathering information, assessing risk, and mitigating risk. Our approach exceeds the expanded due-diligence system requirements in the revised PEFC CoC standard.

Sappi is fortunate to work in regions with a well-developed legal framework and strongly ingrained conservation mindset governing ethical natural resource management. Landowners, foresters, biologists, loggers, wood-procuring mills, local communities, and society at large are equally committed to sustainability, showcased by responsible forestry practices instilled across many generations.



Rebecca Barnard

Forestry Certification Manager

Rebecca leads SNA's fiber certification program and offers training and strategic direction on certification matters.

¹ The SFI Fiber Sourcing Standard applies only to the wood/chips SNA procures for our US mills.

Harvesting to maximize long-term carbon benefits through active forest management

While it may seem counterintuitive, selectively removing trees from the forest through harvesting is often the best way to maximize the benefits that forests provide for mitigating climate change.

Forest carbon sequestration rates and storage levels change as forests naturally evolve. Young, fast-growing forests have the highest carbon sequestration rates, while older, mature forests have higher levels of carbon storage. In decaying forests, both carbon sequestration and storage are reduced until regeneration restarts the carbon cycle.¹

Careful harvesting maximizes carbon sequestration by promoting new growth and boosts carbon storage by retaining older trees. Active forest management can also decrease the risk of forest disturbance from catastrophic events such as wildfire, drought, and pests.^{2,3} These events, which release vast amounts of forest carbon, are predicted to increase with climate change.^{4,5} This is not only problematic for mitigating climate change but also for communities that live close to these forests, as evidenced by recent wildfires in the western United States.

Managing aspen in Minnesota

Gary Erickson, Region Manager for Wood Fiber and Fuel Procurement, says that Minnesota's aspen forests, which cover approximately 30 percent of the total timberland in the state,⁶ demonstrate the benefits of active forest management for carbon sequestration and storage.

"Aspen is a pioneer species that is fast growing and relatively short-lived," Gary explains. "It thrives in changing forest landscapes. Natural change events like wildfires, insect infestations, and windstorms have historically provided the forests in Minnesota a perfect environment for aspen growth. Human activity can also be a change event."

"There is an aspen stand near Cloquet, Minnesota, that completely burned in 1918. In the 1960s it was again a mature forest and was harvested. A young logger who had worked on that job returned 50 years later to harvest the mature aspen forest again in 2014," Gary says. "This forest has been able to completely regenerate—once after a natural disturbance, again after a careful harvest—and it is now once again a young forest sequestering carbon."

"Active forest management results in healthy forests that support economic opportunities as well as mitigate climate change," Gary continues. He shares a photo of aspen trees harvested after their prime with their cores rotted. "Without harvesting, the trees in this forest would have continued to rot and decay, losing any economic benefit and diminishing the forest's carbon sequestration and storage."

"Mills like Cloquet provide land managers the opportunity to practice good forestry, and good forestry works," Gary says.



1 Catanzaro, P. and D'Amato, A.D., 2019. Forest Carbon: An essential natural solution for climate change, UMass Amherst and the University of Vermont.

2 Krofcheck, D., et al., 2019. Optimizing Forest Management Stabilizes Carbon Under Projected Climate and Wildfires. *Journal of Geophysical Research: Biogeosciences*, 124(10): p. 3075-3087.

3 Hashida, Y. and D.J. Lewis, 2019. The intersection between climate adaptation, mitigation, and natural resources: An empirical analysis of forest management. *Journal of the Association of Environmental and Resource Economists*, 6(5): p. 893-926.

4 Seidl, R., et al., 2017. Forest disturbances under climate change. *Nature climate change*, 7(6): p. 395-402.

5 Frelich, L. E. & Reich, P. B., 2010. Will environmental changes reinforce the impact of global warming on the prairie-forest border of central North America? *Frontiers in Ecology and the Environment*, 8(7), 371-378.

6 Minnesota Division of Forestry, 2019. Minnesota's forest resources 2017. St. Paul, MN: Minnesota Department of Natural Resources. Retrieved from <http://files.dnr.state.mn.us/forestry/um/forest-resources-report-2017.pdf>

Virgin or recycled? Which is better?

The role our forests play in mitigating climate change is gaining greater attention. There has been a push to preserve our forests and use more recycled content in paper or packages. While it can be complicated to decide which is better—using virgin fiber or recycled fiber—there is an answer. It comes down to how that fiber will be used. And yes—in some cases, more recycled fiber means more GHG emissions.

The properties of wood fiber vary depending on whether it has been used, and how many times. A virgin wood fiber is longer and stronger than a recycled fiber. Each time fiber is recycled, it becomes shorter and weaker. For this reason, we always need to introduce some virgin fiber into paper products to maintain the strength and quality demanded of products by customers. A wood fiber can be used five to seven times to make pulp before reaching the end of its life.¹

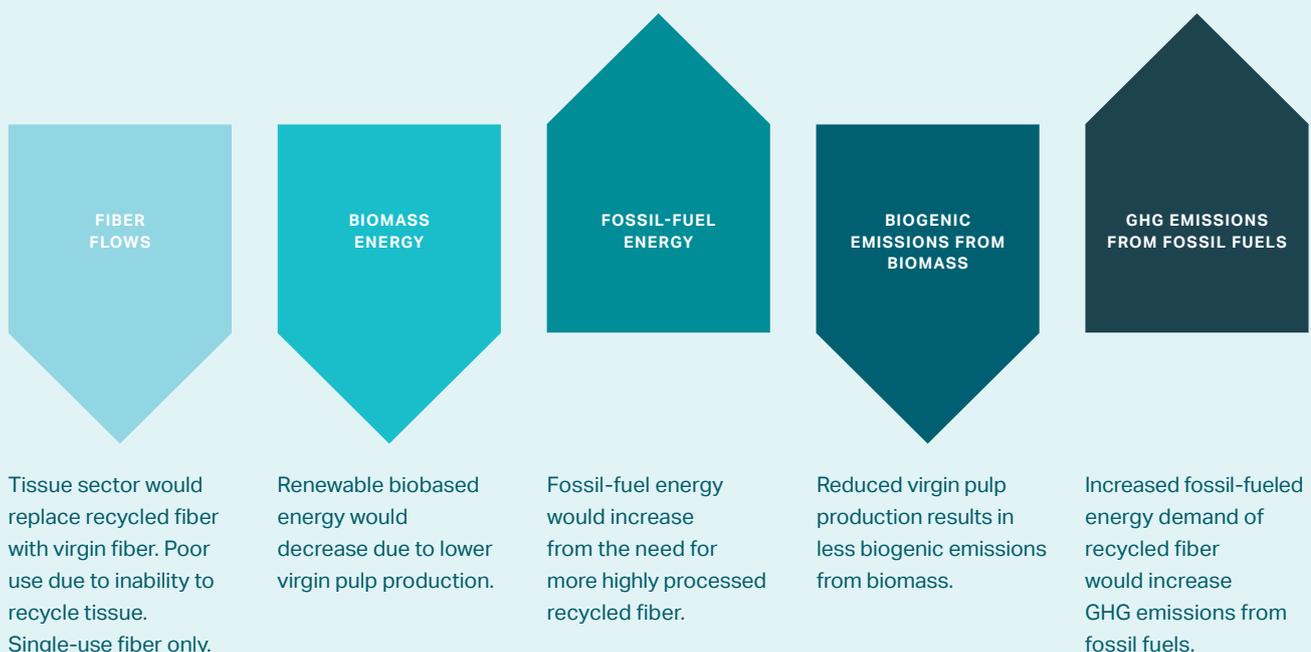
Paper application matters

Optimizing the life of recovered fibers requires use in the most efficient applications. For instance, higher-quality paper products requiring brightness and low contamination should run more efficiently when using virgin fiber. Using recycled fibers for these applications drives more processing with adverse impacts on emissions, waste generation, and recovered fiber yield.

This concept isn't new. In 2013, Sappi published an article detailing our internal analysis of the Somerset Mill and the impact on GHG emissions when using recycled fiber. More recently, Massachusetts Institute of Technology (MIT) conducted research into the circular flow of fiber across several paper sectors, and the result may surprise you.

MIT dynamic fiber flows model results summary

Scenario: Increase recycled fiber from 7.8 percent to 15.0 percent in printing and writing grades. This change will increase the GHG emissions from our sector.



MIT's case study

The MIT Dynamic Fiber Flow model combines systems dynamics with lifecycle assessment to understand the systemic effects of changes to paper recovery and recovered paper utilization across the value chain. This complex model was used to quantify system responses based on industry technology and data, using market conditions in 2017 as the baseline period.²

In the case study most applicable to fine paper, MIT found that increasing the recycled content of printing and writing freesheet paper to 15 percent, freesheet producers would require 1.1 million tons more recovered paper.² This presents a challenge because sources of high-grade pulp substitutes and high-grade deinked pulp are limited. This is driven by the closure of roughly 82 percent of deinking facilities in North America over the last 20 years. Although fiber moves through the paper industry, it cannot be infinitely recycled and virgin fiber must enter the cycle in order to produce recovered fiber. Nearly 90 percent of recovered paper is used in grades like newsprint, containerboard, tissue, or certain packaging and board grades.³ If we divert from these uses to printing and writing freesheets, we begin to impact the wider paper industry.

In this case, the study predicted that the recovered fiber needed to move from 7.8 percent to 15 percent recovered content in printing and writing papers would be pulled from the tissue manufacturing stream. This would tip the tissue sector more toward virgin pulp. Tissue products are not typically recovered or recycled.² Thus, virgin fiber would bypass the recycling process entirely and enter the waste stream after only one use. The loss here is twofold: the waste of harvested fiber after one use and the loss of its remaining usable life.

The immediate implication of this scenario is simple—more virgin fiber would be required for the tissue sector. Less obvious is the increase in greenhouse gas emissions (GHG). According to MIT's model, increasing recycled content in printing and writing grades would, due to fiber flow shifts throughout the economy, reduce carbon-neutral biomass energy consumption by approximately 30 million gigajoules. In addition, it would increase the use of fossil fuel-based energy consumption by approximately 32 million gigajoules, thereby increasing overall GHG emissions.²

Conserve, recover, reuse

It's critically important that we conserve, recover, and reuse our natural resources as much as possible. While most processes will require some virgin fiber to meet specifications, we can sustainably integrate recovered fiber at key points to maximize its reuse and minimize environmental impact. Recovered fiber is best used in products that don't require significant brightening and cleaning; those processes result in a larger manufacturing environmental footprint. Shifting to higher recycled content across the board is not the best way to use our natural resources. We get to choose how we use our resources, and our choices impact not only our lives, but our planet. We must choose wisely.

1 EPA FAQ Can a piece of paper be recycled indefinitely? <https://archive.epa.gov/wastes/conservation/materials/paper/web/html/faqs.html#states>

2 Dynamic Fiber Flows Model research sponsored by the American Forest & Paper Association at Massachusetts Institute of Technology's Department of Materials Science & Engineering, November 2020.

3 Sustainable Use of Recycled Fiber. Sappi Fine Paper North America, eQ Insights 2011

Managing forests with climate change in mind

When Chris Martland analyzes a landowner's forest to develop a management plan, he has a number of issues to consider—the landowner's goals, what's best for long-term forest health, how he can improve biodiversity and wildlife habitat, market conditions, and climate change.

Chris is the manager of Sappi's private Lake States Forestry program. He helps timber owners in Minnesota, Wisconsin, and Michigan manage their forests.

He recently took a course, Adaptive Silviculture for Climate Change, through the Northern Institute of Applied Climate Science (NIACS). The NIACS program has been designed as a collaborative effort among the US Forest Service, universities, conservation organizations, and the forest industry to provide information on managing forests for climate change adaptation and enhanced carbon sequestration. Chris was the first participant from the industry side.

Chris says that he took the course because climate change is one of the hot topics in forestry, and there's increased concern regarding climate change from landowners and concerned stakeholders:

“The biggest takeaway for me was that as a forester we need to start and understand what this forest might look like in 100 years. Because of climate change, are we going to see major or minor changes to the surrounding environment?

All research points to change, which I believe. But I don't think that it's going to be the worst-case scenario that some models predict. Many of our species are going to be able to adjust to the changing climate. Some have more immediate threats. Our ash stands will likely be hurt more by the emerald ash borer rather than a changing climate, although climate change may allow the insects to spread more quickly.

Sustainability is the key. Forestry is a long game. We have to stay informed and learn all we can so we can use our best judgment to overcome the hurdles that we need to get over to succeed.”

It's about biodiversity, too: sustainable forestry in the Umbagog Refuge

While climate change is getting much-needed attention, an equally important topic is biodiversity.

The Umbagog National Wildlife Refuge was established in 1992 with the primary purposes of protecting wetlands and wetland-associated wildlife as well as migratory birds. Now, the refuge spans over 30,000 acres of forests that serve as important breeding grounds for migrating landbirds. It straddles the border between New Hampshire and Maine, and it has often been called a national treasure. SNA was extremely proud to be selected by the US Fish and Wildlife Service to lead their timber harvest in this biodiversity-rich area. Fostering biodiversity and climate adaptation are important aspects of the forestry program at the refuge.

Sustainable timber harvesting is essential for maintaining and restoring resilient and sustainable forests. When planned and supervised by qualified foresters, responsible timber harvesting supports—and can enhance—fish and wildlife habitats, improved water quality, reliable water supplies, and recreation.

The timber harvest in the Umbagog Refuge is designed to promote the US government's long-term goal of multi-aged, mixed-species, closed-canopy forests (more than 70 percent) that provide breeding habitat for the black-throated green and blackburnian warblers. This management will also benefit a variety of wildlife, such as white-tailed deer, moose, and black bears, as well as promote plant, lichen, amphibian, and other late-successional biota that contribute to biological diversity.

Sappi will assist with the first in a series of harvests scheduled to occur in 15-year increments. Our harvesting procedures will create age diversity by promoting and releasing red spruce, sugar maple, white ash, and yellow birch regeneration. A variety of forest products will be produced. Harvest trees include red maple, white birch, sugar maple, and American beech. Revenue from the harvest will contribute to the local economy, support logging and trucking companies, and provide an important source of income for local and state governments.

Circularity in action at Matane

The Matane Mill produces its own biogas from raw process wastewater using anaerobic reactor technology. In this process, anaerobic biomass transforms organics in the raw wastewater (mainly sugars) into methane gas.

Environmental benefits

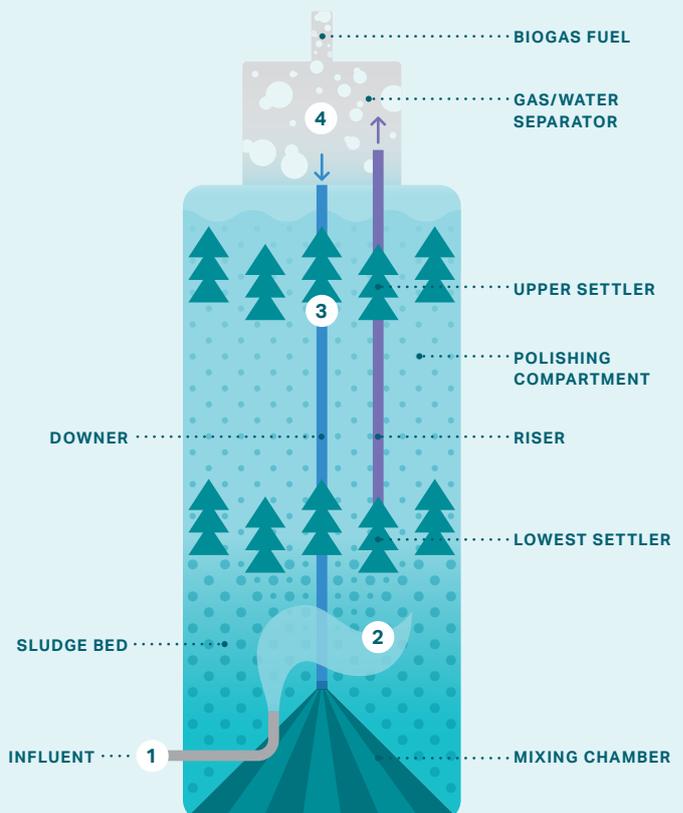
This biogas fuel is then consumed to dry bleached chemi-thermomechanical pulp (BCTMP) in the final stage of production. The process displaces the light oil previously used, thereby reducing fossil fuel consumption by 87 percent and also reducing greenhouse gas emissions to the environment as well as solid waste to landfill by 24 percent. Biogas fuel currently accounts for 79.5 percent of the Matane Mill's on-site fuel consumption.

Economic benefits

In addition, installing the anaerobic reactor plant debottlenecked the capacity limitations of the wastewater treatment facility, presenting the opportunity for increased market pulp production.

Anaerobic Digester

- 1 Wastewater containing soluble sugars enters at the bottom of the reactor.
- 2 Anaerobic acidifier bacteria transform sugars in acetic acid, and anaerobic methanogenic bacteria transform acetic acid in methane (biogas).
- 3 Biogas and some of the water are kept in the settler and rise to the gas/water separator.
- 4 Biogas goes to the distribution system, and water returns to the bottom of the reactor.



Cloquet Mill's Higg sustainability self-assessment results exceed expectations

Sappi's Cloquet Mill recently completed the Higg FEM sustainability self-assessment for Verve, Sappi's dissolving pulp brand, with the results exceeding internal expectations. The results position the operation as a leader in sustainable practices, evidenced by a low environmental footprint.

The Higg FEM self-assessment tool is part of the Higg Index suite of tools developed by the Sustainable Apparel Coalition (SAC) to measure the apparel industry's sustainability performance and drive supply chain transparency and decision making. The Higg Index enables suppliers, manufacturers, brands, and retailers to evaluate materials, products, facilities, and processes based on environmental performance, social labor practices, and product design choices.

Unfortunately, COVID-19 restrictions have prevented an on-site verification process from taking place. However, Sappi has invited members of the SAC to connect via the Higg portal to view the results and engage with us further in this regard.

Sappi joined the SAC in February 2019 and remains a committed member of the organization, participating in many SAC events and engaging in discussions on how to enhance the available tools.



Ultracast Viva® sets new standard for sustainable, solvent-free casting systems

In April 2020, Sappi launched Ultracast Viva®, a textured release paper line that embodies Sappi's forward-looking sustainability practices to align with global goals for environmentally friendly manufacturing. Through the innovative technology and chemistry of Ultracast Viva, Sappi has proactively created the industry's first premium high-fidelity casting paper compatible with solvent-free systems.

Ultracast Viva is the new standard for high-fidelity polyvinyl chloride (PVC), polyurethane (PU), semi-PU, and solvent-free casting systems. Ultracast Viva provides improved flexibility and reduced curl, and it exhibits easier release for more efficient casting and improved operator satisfaction. Viva supports sustainable production practices and is compatible with green chemistry systems.

“Sappi is wholeheartedly committed to sustainability, so the launch of Ultracast Viva is a natural next step as we pursue ways to improve environmentally sustainable manufacturing through innovation. We continue to evolve our business to meet global demands, and this product line is the perfect example. We're proud that Sappi sets the standard for high-fidelity textures with a reduced environmental impact.”

Mark Hittie

Director of Release Strategy, Sappi
Casting and Release

Sappi's forward-looking products and textures continue to leverage state-of-the-art technology from its Westbrook Mill in Maine. Sappi has been at the forefront of technological innovation and evolution for the release paper industry with nearly 80 years of experience creating textures. In 2016 the company brought the first microtextures to market, and now it introduces Ultracast Viva to its permanent line of products.

Sharing innovations to accelerate meaningful change

Sappi exists to build a thriving world by unlocking the power of renewable resources to benefit people, communities, and the planet. A clear embodiment of this mantra is unfolding with developments from the Sappi Biotech division. These biomaterials' development aims to extract more value from each tree harvested and to provide lower-carbon alternatives to plastic materials commonly used today.

Beth Cormier, Vice President of Research, Development, and Sustainability for SNA, highlighted some Sappi innovations at the November 9 Plastic Free World Virtual Summit 2020. This conference allowed people worldwide to share the latest innovations and in-depth industry knowledge to tackle the rising issue of plastic waste in the environment.

Annually, 8.3 million tons of plastic are lost to the environment worldwide, and floating plastic is the most abundant marine litter.¹ Many plastics are difficult to recycle; the US Environmental Protection Agency reports that in 2018, 68.2 percent of paper and paperboard products were recycled in the US compared to 8.7 percent of plastics.²

Products derived from wood offer many sustainability benefits over the petrochemicals they can replace by offering more renewable, recyclable, and compostable alternatives.

Cellulose, which is the main component of plant stems, leaves, and roots, is the most abundant natural polymer on earth. Sappi is now transforming cellulose in ways that make this polymer compatible with plastics and drive strength and other performance properties important to customers.

Symbio

Sappi has developed a technique to use modified cellulose fibers to produce a partly biobased plastic, marketed as Symbio, which combines wood's best qualities and plastic's designability for optimized product properties. Symbio has a wood fiber content of up to 40 percent and can be employed in a variety of applications, including loudspeaker enclosures, parts for car interiors, consumer electronics, and furniture.

Valida

Modifying fiber even further to a smaller size produces a material with remarkable properties. Marketed as Valida, these fibers are roughly 1,000 times smaller than a typical pulp fiber. Valida can be used to improve the properties of a wide range of industrial and everyday products with which it is combined—for example, thickening water-based products, such as coatings, adhesives, and concrete. Valida is also effective in suspending and stabilizing particles and pigments used in paints and cosmetic products.

Valida is a potential replacement for plastic films in packaging due to its low oxygen and grease permeability. Food wrap bags that currently incorporate a plastic window are made much more recyclable when the entire product is derived from wood cellulose, and Sappi is working with the FDA for approval to use Valida in food products. Beth Cormier is excited for the future and eager to find even better ways to fully utilize the potential of wood. “We can manipulate and use cellulose and other materials from trees in so many ways that are good for our planet, while providing consumer products with remarkable characteristics,” she says.

¹ NCASI Fact Sheet - Paper and Plastic in Marine Environments, August 2020.

² US EPA, National Overview: Facts and Figures on Materials, Wastes and Recycling, 2020, <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials#Recycling/Composting>

GHG/Scope 3—added transparency and partnerships

Sappi has been hard at work to assess its Scope 3 emissions. We are following the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (also referred to as the Scope 3 Standard) to determine indirect emissions resulting from value chain activities. Calculating Scope 3 emissions will allow Sappi to make business decisions that include suppliers’ environmental performance. Integrated and nonintegrated mills will also be more comparable when the total Scope 1, 2, and 3 emissions are considered.

The GHG Protocol divides Scope 3 emissions into 15 categories, and it is up to the reporting entity to determine which are significant for its operation. These categories fall into two main streams—upstream (1–8) and downstream (9–15). In this case, “upstream” refers to emissions that occur before customers take ownership of Sappi’s products, whereas “downstream” includes emissions resulting from customers processing Sappi products and the final end-of-life treatment of the goods that Sappi’s customers produce. In general, Scopes 1, 2, and upstream 3 are how our customers view and evaluate Sappi, whereas the combination of Scopes 1, 2, and 3—both upstream and downstream—is how the world evaluates the entire value chain.

This year, Sappi has added downstream emissions to its Scope 3 reporting for the first time to give a view of the entire value chain. Much of the Scope 3 data is based on standard secondary emission factors from publicly available databases, primarily from the UK Department for Environment, Food and Rural Affairs (DEFRA), the US Environmental Protection Agency, and ecoinvent. Ecoinvent is a nonprofit association that provides process data for products. Primary emission factors were used for pulp suppliers. The accuracy of Scope 3 emissions increases by using more primary data and by collecting emission factors directly from suppliers and customers.

The three most significant upstream categories for Sappi are purchased goods (category 1), fuel- and energy-related activities (category 3), and upstream transport (category 4), which comprise approximately 97 percent of Scope 3 upstream emissions, based on data collected for fiscal 2020.

Scope 3 Categories

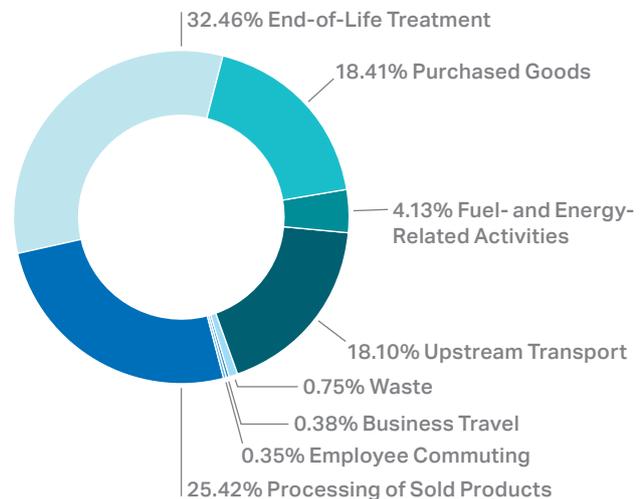
UPSTREAM EMISSIONS

1. Purchased goods and services
2. Capital goods
3. Fuel- and energy-related activities (not included in Scope 1 or Scope 2)
4. Upstream transportation and distribution
5. Waste generated in operations
6. Business travel
7. Employee commuting
8. Upstream leased assets

DOWNSTREAM EMISSIONS

9. Downstream transportation and distribution
10. Processing of sold products
11. Use of sold products
12. End-of-life treatment of sold products
13. Downstream leased assets
14. Franchises
15. Investments

GHG/Scope 3





Key performance indicators

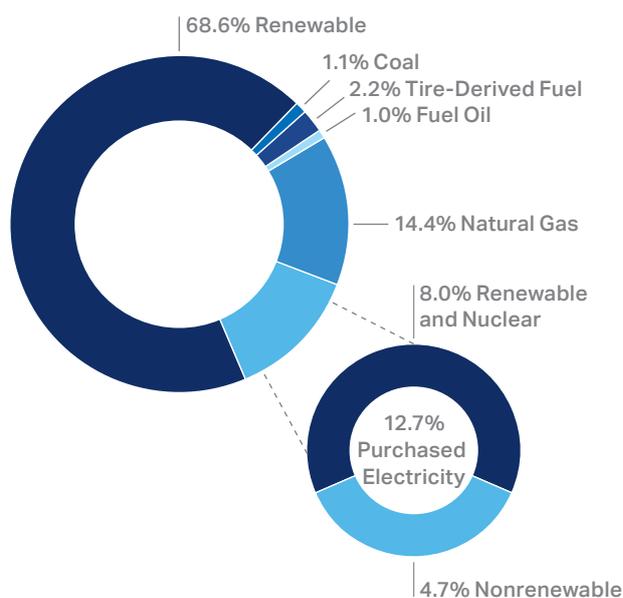
Each year we survey our performance in important areas of environmental and social responsibility by monitoring key metrics for fiber, emissions, energy usage, and the impact of our operations on air, water, and solid waste.

Energy

This year we included Matane in our KPI metrics. Renewable energy is the dominant source of energy at our four SNA mills, as indicated in this pie chart and the following ones. Matane has the highest renewable contribution at approximately 97 percent. In total, nearly 77 percent of our power was generated by renewable resources after accounting for sales of renewable energy certificates (RECs). In 2020, our total on-site renewable energy use consisted of black liquor at 63.6 percent, biomass at 33.9 percent, sludge at 1.1 percent, hydro at 0.6 percent, and bioliquid and/or biogas at 0.8 percent. 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 renewable energy bar chart provides a historical perspective of the percentage of renewable energy we used over the last five years. The contribution has been relatively consistent in the past three years.

2020 Sappi North America total energy



SNA SUSTAINABILITY COUNCIL MILL LEADS



Fred Gagnon
Technical Superintendent
Matane Mill



Micki Meggison
Continuous Improvement
Black Belt
Westbrook Mill

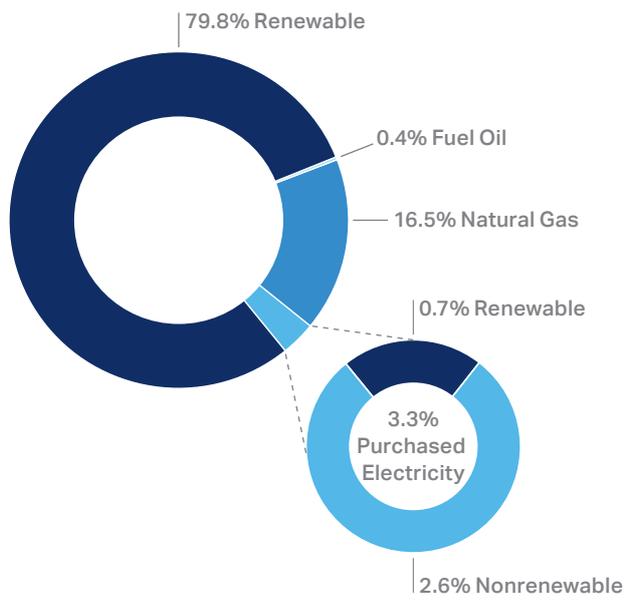


Rob Schilling
Environmental Manager
Cloquet Mill

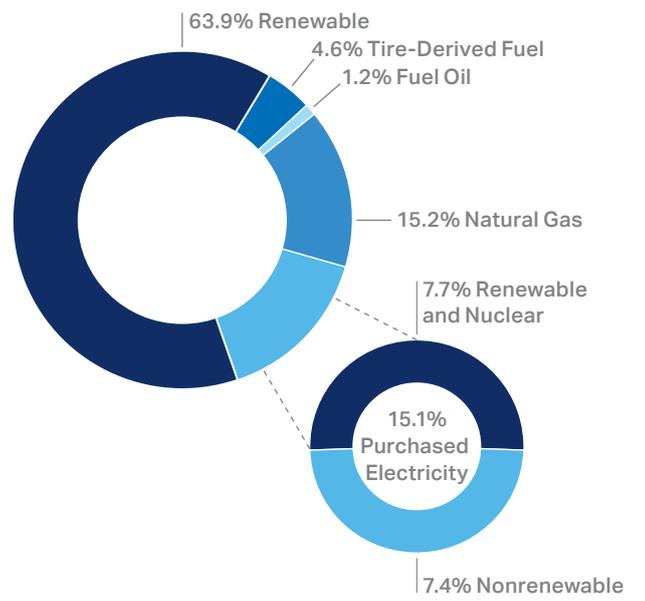


Chuck Qualey
Senior Engineer
Somerset Mill

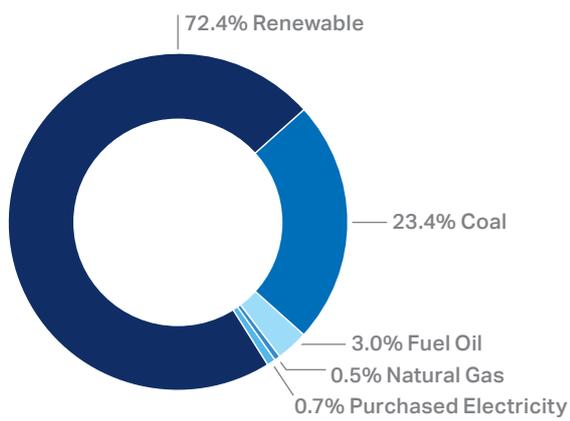
2020 Cloquet Mill total energy



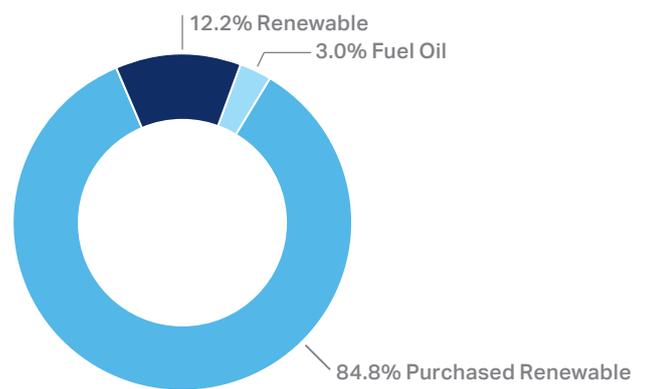
2020 Somerset Mill total energy



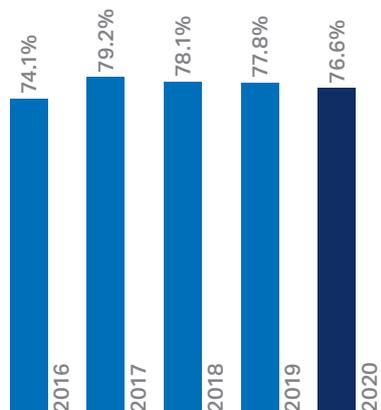
2020 Westbrook Mill total energy



2020 Matane Mill total energy



Percent of renewable energy

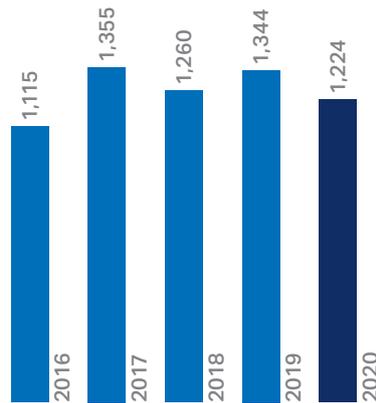


Emissions

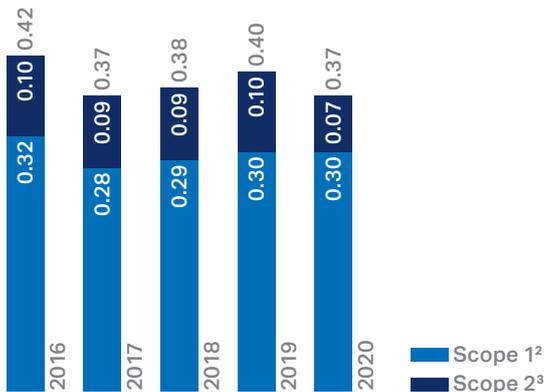
Other sources of energy we use are composed of alternative fuels and fossil fuels. Both are noted on the pie charts. Alternative fuels (waste that is repurposed instead of disposed of or landfilled) are also noted on the pie graph and include tire-derived fuel, waste oil, and construction and demolition debris. Fossil fuels predominantly include the use of natural gas, but also some coal and fuel oil. With the retirement of Paper Machine 9 and the majority of the energy complex at the Westbrook Mill, we will no longer use coal at any SNA location.

GHG emissions, measured as intensity value (tons CO₂e/mt), are lower in 2020 compared to 2019; see cumulative bar graph below. This is because of the addition of the Matane Mill. The bar graph depicting emissions by mill makes this clear. Without the addition of Matane, we would have seen an increase in overall GHG emissions intensity due to the production impacts from COVID-19. In addition, Somerset used less biomass this past year, and less black liquor was available at Cloquet.

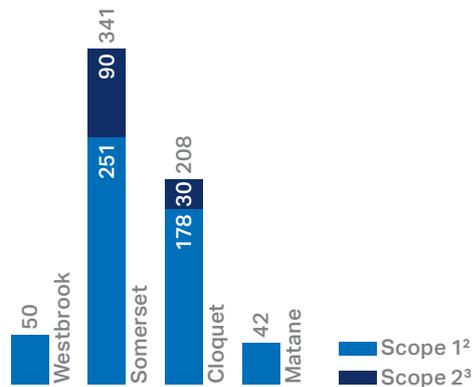
Consumption of alternate fuels (TJ/yr)



GHG emissions intensity (ton CO₂e/mt¹)



2020 GHG emissions by mill (1K ton CO₂e)



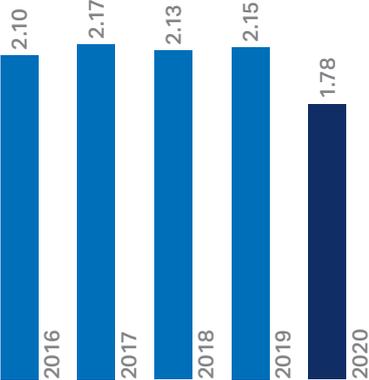
¹ Intensity metrics reflect the impact per metric ton of saleable product (including market pulp).

² Direct GHG emissions—emissions from sources that the company owns or controls.

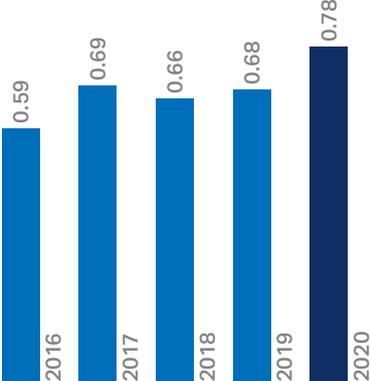
³ Indirect GHG emissions from purchased electricity, steam or heat—emissions associated with the generation of electricity, steam, or heat.

Like the energy data, the following data also includes the Matane Mill this year. NOx emissions were positively influenced by Matane’s extremely low emissions as well as an increase in natural gas use over biomass at Somerset. Again, Matane’s data helped with SO₂ emissions, but not enough to offset the increase as a result of downtime on the noncondensable gas incinerator at Cloquet. The improvement seen in particulate emissions were influenced by Matane, which has extremely low particulate emissions.

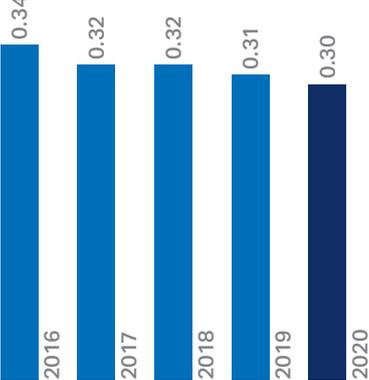
NO_x emissions (kg/mt¹)



SO₂ emissions (kg/mt¹)



Particulate emissions (kg/mt¹)



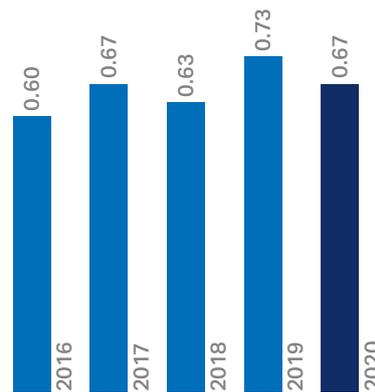
Water

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. The Matane Mill is now included in this data set.

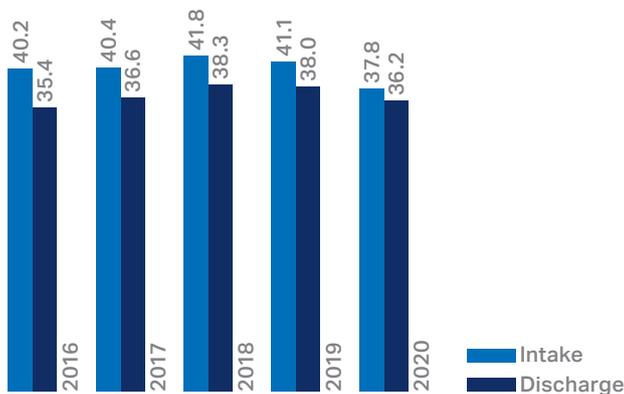
Our specific water intake and discharge dropped compared with last year. This is because of the addition of Matane to the data. Matane does not make paper—only pulp—and therefore its water use is lower.

Biological oxygen demand was down compared with 2019, partly the result of Matane having a comparatively lower value. Total suspended solids notably increased compared with previous years (see bar charts). This was not a result of the addition of Matane to the data and more because of mill curtailments resulting from COVID-19, causing more frequent paper machine startups and shutdowns and impacting the management of these process streams. The data is also reported on a specific basis, so the lower production also has a negative impact on the results.

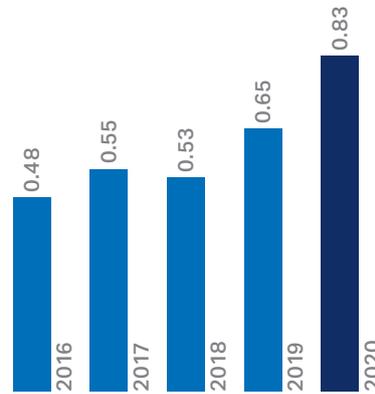
Biological oxygen demand (kg/mt¹)



Water intake and discharge (m³/mt¹)



Total suspended solids (kg/mt¹)

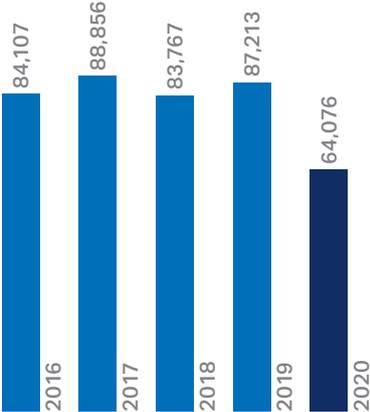


¹ Intensity metrics reflect the impact per metric ton of saleable product (including market pulp).

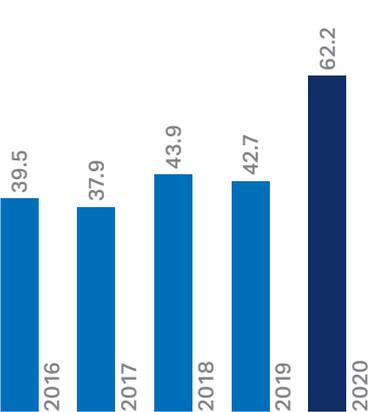
Solid waste

Managing our solid waste and finding ways to minimize landfill waste remain a focus at all of Sappi's North American mills. We continue to search for beneficial uses of our byproducts. The Cloquet Mill continues to work with local farmers who use boiler ash and lime mud as soil amendments for managing soil pH, which improves growing conditions for certain crops. Somerset landfill rates were down in 2020 as more gas fuel burning produced less boiler ash and Westbrook had less ash due to downtime. Matane is included in the data this year. Matane has a higher landfilling percentage than the other SNA mills, thus notably influencing this metric compared to previous years. Matane is in the process of assessing and reducing its waste to landfill contribution.

Beneficial use of solid waste (mt/yr)



Total solid waste to landfill (kg/mt¹)



¹ Intensity metrics reflect the impact per metric ton of saleable product (including market pulp).

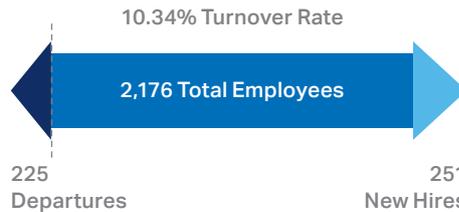
Social indicators

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 piloting a management training program and a global leadership program.

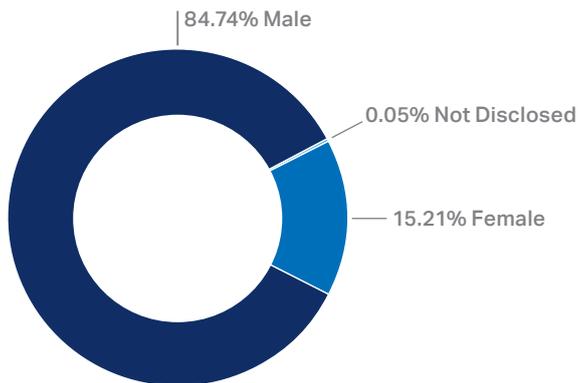


Melissa Johnson
 Manager, Compensation
 and Employment

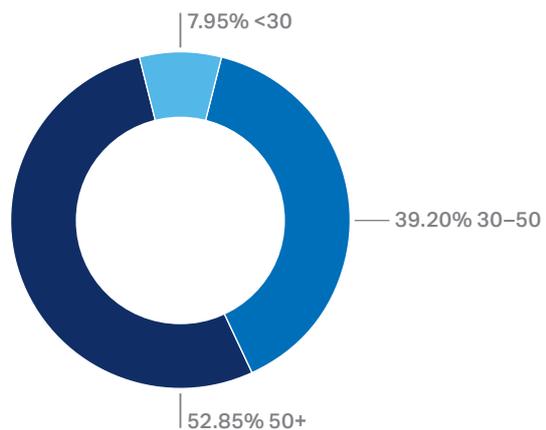
Total number and rate of employee turnover



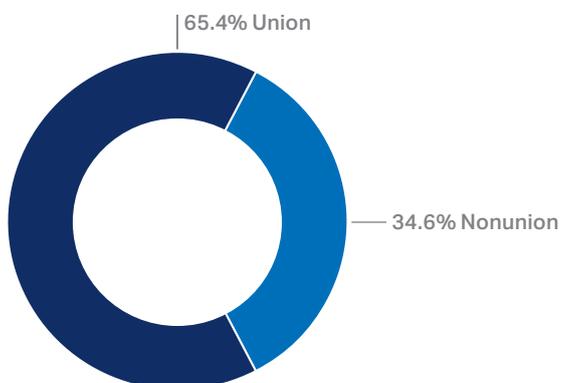
Sappi North America workforce by gender



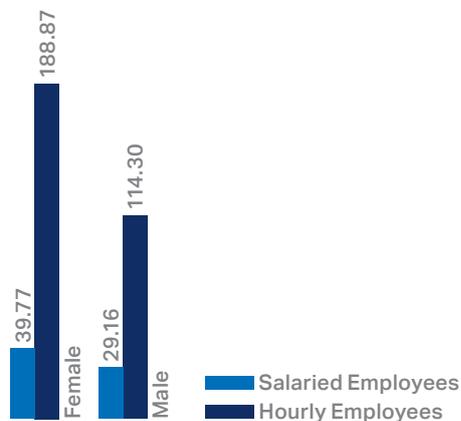
Sappi North America age demographics



Percentage of employees covered by collective bargaining agreements



Average hours of training per year per employee by employee category



A letter from Beth Cormier

Being the newly appointed Vice President of Research, Development, and Sustainability, I find myself very grateful for past efforts that enhanced our sustainability culture and the significant commitment Sappi demonstrates every day toward building a better company.



I am impressed by the relentless nature of our fiber sourcing team toward ensuring our procured fiber comes from sustainably managed forests. I am also pleased with the ongoing work by our manufacturing sites to make business-smart choices that reduce emissions and the drive to get our suppliers involved in conversations about their supply chain. Reflecting on our 2020 Sustainability Report, I feel proud of the many highlighted accomplishments and the exciting stories that showcase our commitments. Although we did not hit all of our 2020 targets, much progress was made.

With all the challenges that the pandemic brought this year, our commitment to further integrating sustainability into our business processes and decisions does not slow. Key to this was the passion and drive our Director of Sustainability, Sandy Taft, brought to building more employee and customer engagement into our sustainability efforts. This year, we rechartered business process working groups covering fiber and material sourcing, mill operations, logistics, and communications. Our customer council, representing several markets, was equally impactful this year, providing insightful guidance on our goals and initiatives. In September, we held a sustainability ambassador assembly that showcased the excellent work being done within every function to support our sustainability goals: advocate and educate. All these groups are so vital to executing on our sustainability promises to our employees, customers, and communities, and I look forward to our continued work.

With the close of the 2016–2020 five-year period, we established our next set of ambitious sustainability goals for 2021–2025. These goals continue with a focus on people, planet, and prosperity, but also expand on this framework with alignment to the United Nations Sustainable Development Goals (UNSDGs). In addition, the global commitment Sappi has made to the Science Based Target initiative (SBTi) accentuates our sustainability focus, and we are excited to further benchmark our progress against these decarbonization targets. Coming from a research and development background, I am familiar with and very excited about Sappi's prospects for utilizing our innovative spirit and strong competency in renewable resources to provide unique nonfossil-based solutions to the market.

Lastly, in support of the new 2025 sustainability goals, we have worked with SNA leaders to establish sustainability strategies by business, covering the graphics, dissolving pulp, packaging and speciality papers businesses. These strategies outline a significant commitment to employee wellbeing, communities, and customers, and I am so pleased to be a part of it.

Beth A. Cormier

Vice President

Research, Development, and Sustainability
Sappi North America

Connect with Sandy Taft

“The words that first come to my mind when I reflect on the past year would be ‘interconnectedness’ and ‘adaptability.’ The profound impact of the pandemic has touched so many different aspects of our lives—the ways we live, work, and connect with each other seemed to change overnight—all with the single goal of mitigating unnecessary damage and suffering. Much like pandemic prevention, sustainability is a global group effort. Our collective success depends on each one of us thinking about our long-term impact when making decisions today.

As we move forward on these different fronts, innovation, collaboration, and transparency will continue to be essential, and everyone plays an important role in the solution. I invite you to connect with me on social media to share your ideas. Let’s keep the conversation going and help contribute to making a better, healthier, safer, and more sustainable place, not just for ourselves—not just for Sappi—but for the whole world.”



Sandy Taft

Director, Sustainability

Sappi North America

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Sappi North America certifications

MILL	FSC COC	PEFC COC	SFI COC	SFI CERTIFIED SOURCING	ISO 9001: 2015	ISO 14001: 2015	ISO 22000: 2018	ISO 45001: 2018	OHSAS 18001 2007
Cloquet	•	•	•	•	•	•		•	
Matane	•	•							
Somerset	•	•	•	•	•	•	•		•
Westbrook	•	•	•		•	•			•
Allentown	•	•	•						

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Sappi North America's Business Units



Pulp



**Graphic
papers**



**Packaging and
specialities**