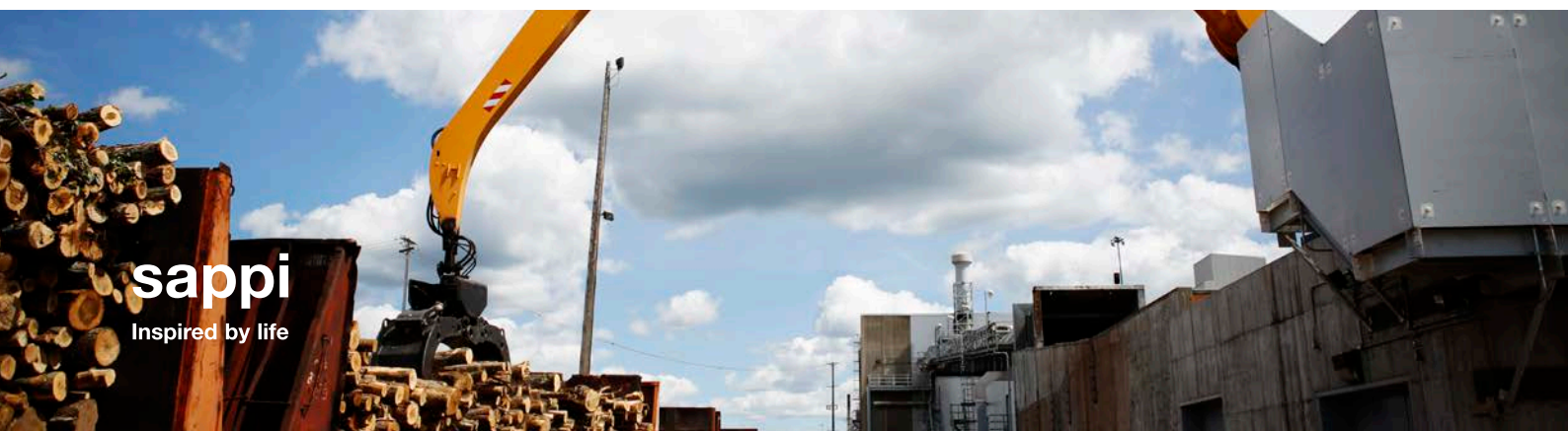


# Sappi Fine Paper North America

2013 Sustainability Report







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## Sappi Fine Paper North America

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Sappi Fine Paper North America has been publicly reporting progress on sustainability initiatives since 2008 as part of a global sustainability report issued annually by Sappi Limited at financial year-end. This is the third consecutive year that each regional division will issue 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 G3.1 framework and disclosing compliance with the UN Global Compact, to which we are a signatory.

This reporting structure maintains our commitment to transparency at the global level while allowing a deeper regional focus that reflects

local markets and issues. Covering fiscal year 2013 (1 October 2012 to 30 September 2013), this report includes environmental performance data for Sappi's three US manufacturing operations in Skowhegan, Maine, where our Somerset Mill is located, Westbrook, Maine, and Cloquet, Minnesota, and historical performance data for Sappi's mill in Muskegon, Michigan, which was closed in 2009. Social responsibility and prosperity metrics are reported for the full region, including our corporate facilities and sales offices.

Copies of reports produced by Sappi Limited can be accessed at [www.sappi.com/investors](http://www.sappi.com/investors), along with online access to sustainability reports from Sappi's regional divisions in Europe and South Africa.



“In 2013, the North American team did an outstanding job in transforming their business. By adapting to changing market conditions in all three businesses, they lowered their cost base, got closer to their customers and better responded to the needs of customers by focusing on products and services which were in high demand. The highlight of 2013 was the very successful conversion of the Cloquet pulp mill to produce Specialised Cellulose, completing the work on time, on budget, and with first grade product now delivered to our customers worldwide. Looking ahead to 2014, while market conditions will remain challenging, the North American team will continue to create sustainable success for future growth through strategic investment, creative customer solutions and improved efficiencies.”

**Ralph Boëttger**  
CEO, Sappi Limited

## Letter from Mark Gardner

“In a year of dynamic change, Sappi has positioned itself well for growth and diversification. With this year now behind us, we are working towards optimizing the investments we have made.”



This past year has been a remarkable period of transition, change, and accomplishment. Looking back, I am especially proud to share with you how Sappi is aligning itself for future success. Most notably, we have completed major capital investments across all three of our business units, enabling us to enter new growth markets while focusing on efficiency and generating higher productivity in our more mature coated business. After a milestone year, we can now take advantage of opportunities in the market and continue reinvesting to build a more diverse, sustainable business.

Reflecting on this year's progress, it is clear that our overarching strategy has been strengthened through increased engagement across all pillars of sustainability. We believe that prioritizing social and environmental responsibility will deliver better economic results for years to come.

### Long-Term Growth Strategy

This past year, we successfully completed a major component of our diversification strategy by converting the pulping operations at our Cloquet Mill to make dissolving wood pulp. After this US\$170 million investment came online, it expanded Sappi's global Specialised Cellulose capacity to over 1.3 million metric tons per year. In addition to investing in the production of this new product, we have made investments in key assets within our existing coated and release businesses.

Throughout the year, despite the additional workload of capital improvements, our mills never lost focus on operational excellence. Our coated business achieved record annual domestic market share by achieving record productivity at both our Somerset and Cloquet mills.

Beyond production assets, we have led a dedicated effort to bring a natural gas pipeline to our Somerset Mill. Access to natural gas will lower our energy cost structures and reduce greenhouse gas emissions by replacing oil.



These combined investments enable us to not only excel today, but continue to diversify, seek growth opportunities, and add value for our customers into the future.

### **Safety Performance**

From top to bottom, leadership in safety performance is essential for our success. This is no more evident than in the impeccable execution of our Specialised Cellulose conversion, which was completed on time, within budget, and most importantly, safely. Our improvements in safety performance can also be noted on a smaller scale through day-to-day practices. Whether coordinating a paper trial, scheduling a maintenance repair, or preparing for a capital upgrade project, every discussion begins and ends with safety.

As we turn the page on a new year, it is important to take a moment and acknowledge the strong overall safety performance we achieved. For 2013, the Lost Time Injury Frequency Rate (LTIFR) for the year was 0.43, which is a 40 percent improvement over 2012 and is the best annual safety record in our company history. While reaching this new benchmark is to be celebrated, we continue to strive for the ultimate goal of zero injuries. It takes everyone to be committed, focused and to believe that it is possible to work injury free.

### **Environmental Responsibility**

In 2013, we were presented with both challenges and opportunities which are outlined in more detail within this report. Significant changes were made in our operations as well as in the markets we serve. We remain dedicated to optimizing these new and existing assets while further developing process improvements to reduce waste, lower greenhouse gas emissions, and increase overall energy efficiency.

Our experienced foresters continue fostering relationships with landowners in the local communities in which we operate. At our core, we are a company that depends on natural resources and we source wood fiber only from sustainably managed forests.

### **Investing in the Future**

Innovation depends on creativity and courage. Sappi recognizes that as we diversify our business, it is our people who will help us to bring new ideas to the table and create solutions that will ultimately take the company to the next level. We are proud to support lifelong learning in both our workforce and in our surrounding communities. As thought leaders in the industry, it is imperative that we continue to collaborate with academic institutions, suppliers, our international Sappi colleagues and our customers.

Innovation is about unlocking the potential of our people, our mills, and our brands. The goals and accomplishments covered in this report reflect our ability to envision the future and our drive to build it. Our sustainability strategy empowers us to create a positive impact on the well-being of our employees, communities, and the environment. In the years that lie ahead, we must remain steadfast, as an organization, to have the commitment to make not only profitable, but environmentally responsible decisions for Sappi and our customers.



**Mark Gardner**  
President & CEO  
Sappi Fine Paper North America

## Overview of SFPNA

Sappi Fine Paper North America (SFPNA), known for innovation and quality, is a preeminent North American producer of coated fine paper, release papers, kraft pulp and dissolving pulp headquartered in Boston, Massachusetts.

### Sappi Limited

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SFPNA is a subsidiary of Sappi Limited, a global company headquartered in Johannesburg, South Africa, with manufacturing operations in seven countries on three continents, sales offices in 35 countries and customers in over 100 countries around the world.

### Pulp

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SFPNA is an integrated pulp and paper producer with state-of-the-art pulp mills. SFPNA produces both kraft pulp (Somerset Synergy) and dissolving pulp (Specialised Cellulose) for sale to other manufacturers. With the 2013 conversion of the pulp mill at Cloquet, the mill now produces 330,000 metric tons of dissolving pulp, bringing Sappi's global Specialised Cellulose capacity to over 1.3 million metric tons per year.

### Coated Papers

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Our coated fine papers, with highly recognized brand names such as McCoy, Opus, Somerset and Flo, are used in premium magazines, catalogs, books and high-end print advertising. Lusterprint is a greaseproof product with an excellent print surface. Used primarily in pet food packaging, Lusterprint is approved by the US Food and Drug Administration for food contact and can also be used in applications such as popcorn bags.

### Release Papers

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The company is also the world's leading supplier of release papers for the automotive, fashion and engineered films industries, including the globally recognized Ultracast brand. SFPNA's release papers 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, flooring and other decorative surfaces.



## SFPNA Locations

- **Headquarters**
- **Sites (3 Mills, 1 Sheeting Facility, 1 Service Center)**
- **Sales Areas (17)**
- **Regional Distribution Centers (3)**

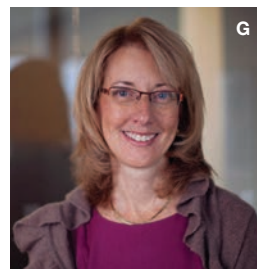
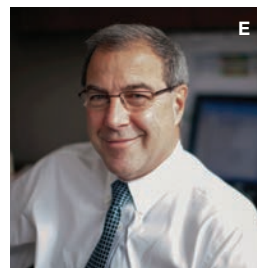
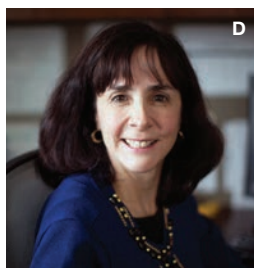
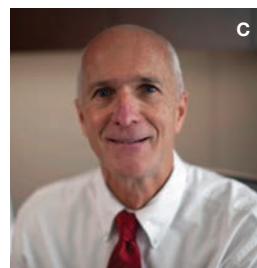
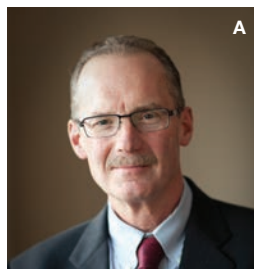
## Corporate Governance

Sustainability is not just a business philosophy at SFPNA. It permeates our corporate structure with formal responsibilities, defined goals and accountability demanded from each of our three business units and every part of our operations.

### Sustainability Steering Committee

Mark Gardner, President and Chief Executive Officer of SFPNA, chairs the Sustainability Steering Committee made up of senior level executives in all three business units and several key functions. The Committee, which meets monthly, is responsible for setting long-term goals, conducting progress reviews of these goals and ensuring that adequate organizational resources are dedicated to achieving sustainability initiatives. Jennifer Miller, Executive Vice President of the Coated Business and Chief Sustainability Officer, is responsible for ensuring that Sappi's sustainability strategy is consistent with overall business goals and objectives, including capital plans and compliance with stated corporate governance standards.

- A – Mark Gardner, President & CEO
- B – Jennifer Miller, EVP, Coated Business & Chief Sustainability Officer
- C – Bob Weeden, VP, Release & Technical Specialties Businesses
- D – Sarah Manchester, VP, Human Resources & General Counsel
- E – John Donahue, VP, Manufacturing
- F – Deece Hannigan, VP, Procurement & Fiber Resources
- G – Annette Luchene, VP & Chief Financial Officer





## Sustainability Council

Laura M. Thompson, PhD, Director of Technical Marketing and Sustainable Development, chairs this Council comprised of representatives from all of SFPNA's business segments, manufacturing facilities and corporate functions. The Council meets twice monthly to review progress against goals and strategic objectives. Dr. Thompson also represents the North American region on Sappi's Global Sustainability Council, which meets regularly to share best practices and maintain the global charter.

**Council members:** Dee Dee Baum, Kevin McCarthy, Micki Meggison, Chuck Qualey, Rob Schilling, and Dale Wibberly

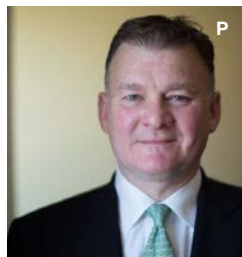
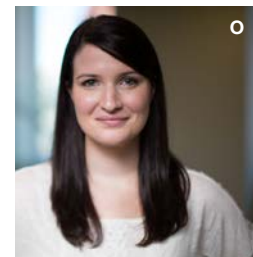
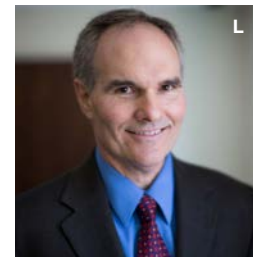
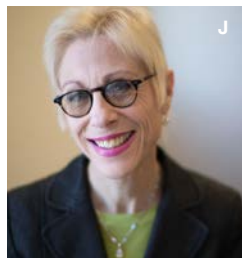
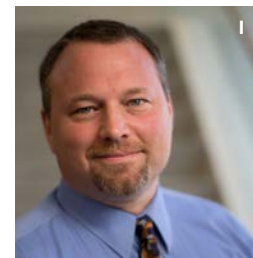


Laura Thompson

## Sustainability Customer Council

The Sustainability Customer Council is made up of eight Sappi customers, representing key customer segments of the coated business, including merchants, printers, publishers, corporate paper buyers and graphic designers. In semiannual meetings, the Council provides valuable input on emerging issues and weighs in on how customer needs will impact SFPNA's sustainability communications plan. In 2014 we will be adding customer representation from the dissolving wood pulp and release papers business units. Kathy Fernstrom, Key Accounts Manager in our Publishing Sales Group, chairs the Council.

**H** – Craig DeRusha, Hearst Enterprises, New York, NY  
**I** – Keith Dunlap, Quad Graphics, Sussex, WI  
**J** – Nan Faessler, xpedx, Los Angeles, CA  
**K** – Katherine Fernstrom\*, Sappi, New York, NY  
**L** – William Gates, Macy's, Cincinnati, OH  
**M** – Charles David Mathieu-Poulin, TC Transcontinental, Montreal, Canada  
**N** – Ralph O'Connor, Graphic Communications, Hudson, OH  
**O** – Katherine Walker, VSA Partners, Chicago, IL  
**P** – Larry Westlake, Sandy Alexander, Clifton, NJ  
 \* Chair



## Sustainability Ambassadors

The SFPNA Sustainability Ambassadors are chartered with supporting communications, training and community outreach events centered on environmental activities. The grassroots work that the Ambassadors do on a local level is critical to the success of Sappi's sustainability commitment. In 2013, we appointed Dee Dee Baum, a Sustainability Council member, to act as the chair of the Ambassador program. Ambassadors meet annually at a company-wide assembly focused on sharing best practices and planning for the upcoming year. Workshops and routine meetings are held throughout the year.

**Lead Ambassadors:** Laura Brosius, Mary Buckelew, Nikki Carlson, Gordon Lane, Kevin Madore, Duncan McFarland, and Lynne Palmer



Dee Dee Baum

## Q&A

Jennifer Miller, EVP—Coated Business, has served as Chief Sustainability Officer since 2009 and is the company officer responsible for aligning sustainability strategy and goals with business plans across the company's business units. She discussed highlights of 2013 performance and the importance of sustainable consumption principles as applied to Sappi's operations and products:

**1. This has clearly been a year of transition for Sappi Fine Paper North America. Could you share a few highlights and what you see on the horizon for 2014?**

What we accomplished in 2013 lays the foundation for transformative growth in 2014 and beyond. With major capital investments in each of our three businesses behind us, we now have the platform to grow and prosper in very different end-uses: graphic communications, textiles, and textured surfaces. The geographic, customer and technology diversification we enjoy under the SFPNA umbrella will be a source of strength, and will provide opportunities for cross-business collaboration and insight.

At the root of any sustainable business strategy are two fundamental questions: what will my customers be demanding next year and the years after? What decisions should we be making now to insure that we can meet those needs? For our dissolving pulp and release paper businesses the answers revolve around product differentiation; new patterns for release and higher purity cellulose for end-uses beyond textiles.

For graphic paper, it is perhaps more about service differentiation, insuring that we have a supply chain that is increasingly nimble and efficient. This includes reducing waste and redundancy in how our product gets to market, and cutting lead times drastically. Our customers are smart consumers, meaning they don't want to pay for costs in production or delivery that don't create value for them. And they certainly don't want to receive product too late or too early. We need to be even more responsive in meeting those expectations.

**2. Could you elaborate more on "smart consumption" and what that means to your organization?**

We have been internally focused on "smart consumption" for many years now. We aim to make and deliver our products with no waste in energy, water, pulp or any other raw material. We look for ways to get our product to our customers with no excess handling or delivery activity. In our supplier relationships we seek partners that help us drive down "cost in use" and improve yield—all of which means we are much more efficient consumers of raw materials. We recognize that the same principles are important to our merchant, printer and end-user customers. We must work with them so that they can be more efficient consumers of our product, which often means lower paper consumption per job.

**3. What are some examples of "smart consumption" of coated paper?**

It starts with matching the purpose of the communication to the chosen media. Market research and the growing field of neuromarketing indicate that people react differently to the tactile experience of print than to electronic communication. Print is better at establishing an emotional connection and recall. So if your aim is mere transmission of data or account information, there may be more efficient ways of communicating than paper. Use of electronic media might be the "smart" choice. But if your aim is to cut through the clutter of email bombardment, and build your brand through a "lean back" experience—then a well designed, beautifully photographed, brilliantly printed piece on great paper is the smart choice.

Our customers are already engaging in so many forms of smart consumption. They use electronic media for billing but still invest in high quality direct mail to acquire new customers. They are using sophisticated list management



to be much more targeted in direct mail campaigns, often using variable content or versioning to insure the brochure's relevance to the targeted customers. Sometimes catalogs are designed with fewer pages, but printed on higher quality paper, to get attention in the mailbox and then to drive the consumer to the internet for ordering detail. With good direct marketing strategies, the percentage of savings in targeted mailings can be 20–30%, while also delivering a higher response rate than mass-mailings. List management software also helps prevent error, remove duplicate addresses and eliminate waste.

All of these activities lead to the smarter use of paper—which we applaud! We recognize that print jobs will continue to get smaller, more highly versioned, and more targeted, to eliminate waste. We support this trend and are working hard to develop better ways of servicing these more complex jobs better, at lower costs.

#### **4. What is Sappi doing to encourage the smarter use of paper?**

Two of our recent advertising campaigns focus on educating our customers on how to use print more effectively, for a higher impact, and less wastefully. Our piece “Print &” celebrates how print, when combined with alternative media in an integrated campaign, drives higher return, higher impact, and better results. “Act Now” provides a primer on how to design and execute effective direct mail campaigns, and includes helpful tips on list management and list hygiene. (See p.46–47)

#### **5. How can sustainable consumption concepts be applied in Sappi's other business units?**

Sappi's release papers are part of a manufacturing process where materials are used to impart texture on coated fabrics and decorative laminates and are then re-wound

and re-used over and over again. Our technology group is constantly working to improve functionality for re-use. For example, customers producing split leather footwear using one of our Ultracast grades have seen as much as a 300% improvement in re-use as a result of product redesigns.

In our Specialised Cellulose business, we are focusing on efficient global delivery systems, and reduction in internal waste as we gain experience in this new manufacturing process. Baselines for two of our five year goals, the raw material waste goal and the energy efficiency goal, have been specifically reset this year to help drive waste and cost out of the dissolving pulp process, similar to our other businesses.

#### **6. Beyond Sappi's gates, what additional opportunities do you see for improved efficiency and smarter consumption in our industry?**

We live in a culture of on-demand customer service, where products show up at your doorstep with the click of a button. To meet this demand, there is an increased awareness of reducing waste throughout the product life cycle, including more organized and efficient logistics. Shipping with full trucks, full rail cars and eliminating the unnecessary use of warehouses whenever possible is a top priority.

There is still more we can do in reducing redundancies for more cost effective and sustainable solutions. Sappi is committed to selecting suppliers who share our values and show transparency in environmental reporting and participate in initiatives like the Carbon Disclosure Project or EPA's Smartway® Transport partnership. Through responsible selection of suppliers and efficient logistics, we can help influence companies along the value chain to adopt more sustainable practices.



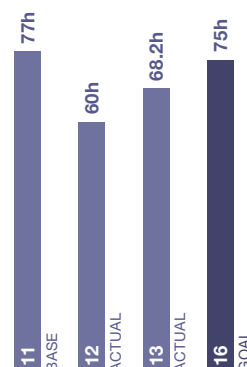
# Five Year Goals

## People

# 75<sub>h</sub>

### Offer Training at an Average of 75 Hours Per Employee Per Year to Enhance Job Performance and Managerial Skills

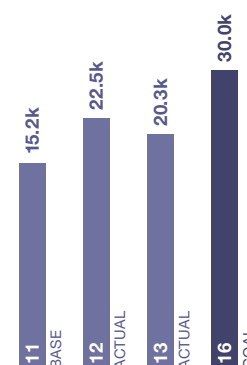
A highly skilled workforce gives us a competitive edge, and effective training contributes toward lowering incident and accident rates. Performance against this goal is measured in terms of total training hours divided by total number of employees, with recognition that some positions require higher levels of training. In 2013 we increased training by an average of eight hours over 2012, reaching an average of 68 hours per employee. There were significant levels of training conducted in connection with our major capital projects, such as the conversion of the pulp mill in Cloquet. Management skills programs offered by our Organizational Development group, including our EDGE program (see p. 40), will help us close the gap on training hours for salaried personnel.



# 30<sub>k</sub>

### Increase Training and Consulting Offered to Customers through the Sappi etc. Program to 30,000 Hours by 2016

Engaging with our customers through educational services creates customer loyalty and preferential purchasing, which ultimately drives revenue and profit growth. Building off a baseline of 15,000 hours in 2011, we established a five-year goal to double the number of hours offered through our etc. program (Education Training and Consulting) by 2016. By achieving 20,300 hours this year we fell short of our target of 24,000 for 2013, but are well on our way to successfully achieving this goal by 2016. A new website launched at the close of 2013 will create more brand awareness of the program. Utilization of online resources such as webinars, training videos and interactive content will allow us to draw more participation in the program.

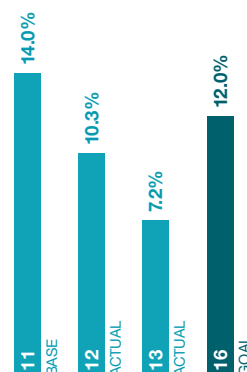


## Prosperity

# 12%

### Achieve or Exceed an Annual 12% Return on Net Operating Assets (RONOA) for SFPNA

Earning the cost of capital is a fundamental economic measure of sustainability as it indicates whether a company's performance warrants reinvestment for the future. In 2013 we completed major capital investments in all three of our business units, including the #3 paper machine rebuild at Somerset, converting the pulp mill at Cloquet to dissolving pulp and a coater rebuild at Westbrook for our release papers business. Totalling US\$184 million, these investments were executed according to plan: safely and on time. Cash outlays and planned production outages, necessary to tie in new equipment, impacted results in FY13. In addition, price erosion in the coated business also negatively impacted results. In 2014 we will take actions to drive growth in all three businesses, building on the investments made in 2013.

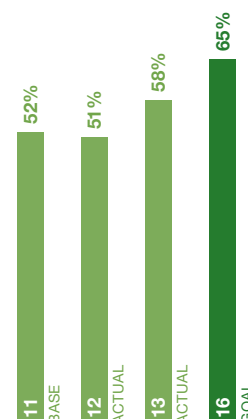


## Planet

# 65%

### Increase the Level of Certified Fiber Across All Operations to 65%

We are committed to sourcing 100 percent of our wood fiber from well managed forests. For many of our customers, the use of third-party certified fiber provides added assurances of responsible sourcing. With less than 10 percent of the world's forests certified to a credible standard, we support and recognize the efforts of multiple programs. Our performance against this goal is measured as a percentage of certified fiber (from both the pulp we produce and that which we buy) in all of our products across all three manufacturing sites and all three business units. We recognize fiber from each of the major third-party forestry certification standards, including the Forest Stewardship Council® (FSC®), the Sustainable Forestry Initiative® (SFI®) and the Programme for the Endorsement of Forest Certification (PEFC). Additionally, we include fiber sourced from Certified Logging Professional and the Maine Master Logger programs. In FY13 we saw a significant improvement in our certified fiber content primarily due to higher levels of certified, purchased pulp. Looking forward, we believe a higher utilization of certified loggers will be a key to achievement of our goal and, more importantly, to improving harvesting practices and bettering the health of the forests.



# 10%

### Reduce the Amount of Total Energy Expended In Making Each Ton of Product by 10%

While less than 20 percent of our energy needs come from fossil fuels, energy remains the third largest operating cost behind wood fiber and chemicals. We aim to reduce overall energy usage regardless of whether it comes from purchased electricity, fossil fuels or renewable energy sources. In accordance with industry standard methodology, energy from purchased electricity is calculated in terms of fuel inputs to account for efficiency losses in generating and transmitting power. In 2013 we modified the pulping process at Cloquet to manufacture Specialised Cellulose, a process that requires more energy and produces a product at a lower yield (fewer tons of output). As such, we have modified our baseline and targets shown here to reflect the new mode of operations. Our overall goal remains a 10 percent reduction of total energy and because we are now using more energy, the net result of successfully achieving this goal will be even greater absolute energy savings.



# 10%

### Reduce Fiber and Papermaking Raw Material Waste by 10%

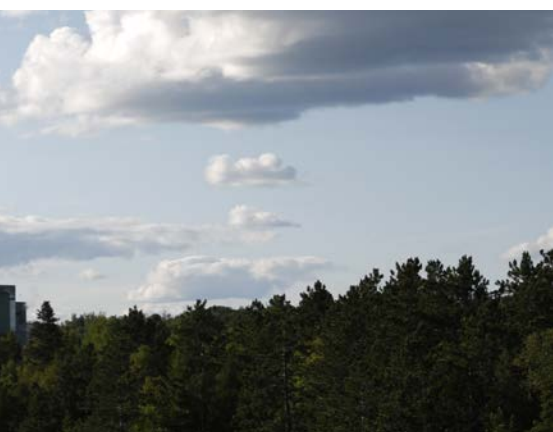
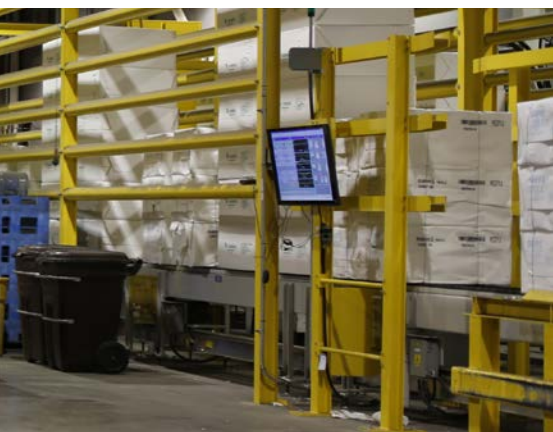
The intent of this goal is to drive a more efficient use of raw materials, resulting in input cost savings as well as reduced costs and environmental impact associated with waste handling. This metric is measured by tracking the amount of waste (primarily fiber, fillers and coating material) in both pulp and paper mill sewers. This year we discovered a problem with the sampling points within the pulp mill complexes and learned that we have been historically over-reporting losses from the pulp mill sewers. We have changed our sampling location and are now collecting data to establish a new baseline for pulp mill fiber losses. Data shown herein reflects only losses from our three paper mills. While we had good performance in reducing losses at both our Westbrook and Cloquet mills, our Somerset mill experienced high losses in the first half of the fiscal year which have since been brought under control. We remain committed to our overall goal of a 10 percent reduction in material waste and will reestablish reporting pulp mill losses in 2014.











# Economic Responsibility

Sappi has long operated three business units in North America and our future depends on the success of all three units—coated papers, release papers and pulp. Through ongoing investments in our people and manufacturing assets, we continue to strengthen our position as leaders in the industry segments we serve.

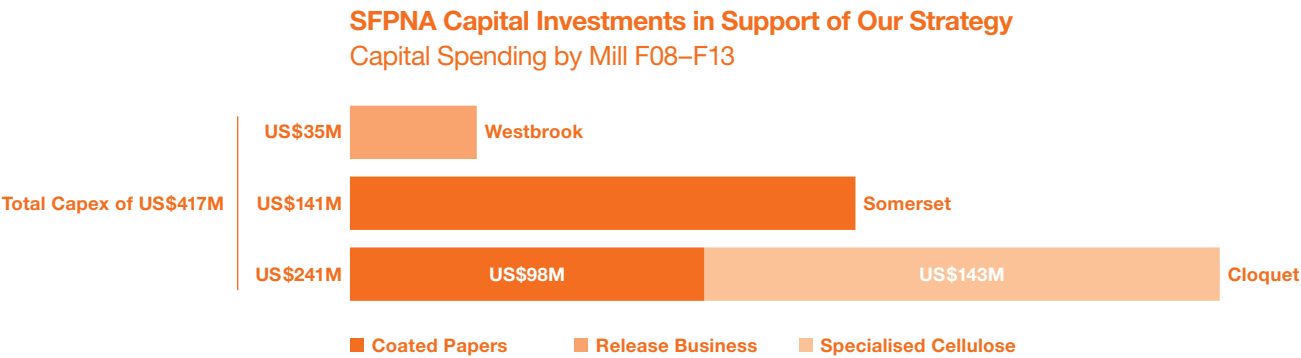
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## 14

Investing in  
Physical Assets

# Investing in Physical Assets

Since 2008, SFPNA has reinvested 84 percent of our operating income in capital expenditures. These investments have resulted in product quality improvements, expanded capacity, increased operating flexibility, energy and material savings, as well as increased renewable energy production. In this past year, we completed major capital projects at each of our three manufacturing facilities in turn supporting all three of our business units. We are now well positioned for strong growth in the years ahead.



## Pulp Mill Conversion

Over US \$150 million dollars was invested in 2013 to modify the Cloquet Mill’s wood yard and pulping operations. The modifications enable the mill to produce dissolving pulp, a unique product that serves as a feedstock to textile and consumer goods (non-woven materials). Many of the changes were necessary to improve screening and cleaning as Sappi’s Specialised Cellulose has a lower tolerance for contaminants, many of which are naturally found in wood. The mill operates batch digesters and as part of the modification, two digesters were constructed (bringing the

total to ten). An acid pre-hydrolysis stage was introduced along with an additional ozone bleaching stage. The pulp drying equipment also had to undergo modifications to accommodate the different fiber properties.

This investment, coupled with a similar conversion at Sappi’s Ngodwana Mill, brings Sappi Limited’s combined production capacity from 800,000 metric tons per year to over 1.3 million metric tons per year. Sappi is the market leader in providing pulp to the viscose staple fiber market segment and there is potential to enter higher value specialty markets in the future.



## Redefining the Future

Sustainability has many connotations. To the public, its most recognizable definition deals with safeguarding natural resources. But in the corporate world, economic sustainability is also a key component of any business model or management decision. With recognition of a decline in the use of printing and writing papers, we have developed an aggressive strategy to transform Sappi into a growing and profitable global company.

Case in point: after the Cloquet mill was modernized by a prior owner in the 1990s, two-thirds of its pulp was sold as paper pulp while a third was used in the paper machines. This approach worked for decades, but with increased global competition for paper pulp, Sappi decided to overhaul the mill's fiber production process and make a strategic US\$170 million investment in the company's future aimed at diversifying its revenue streams.

Instead of making kraft pulp for paper, the conversion now allows the mill to produce dissolving pulp, a high-demand material used in a variety of products, including textiles (i.e. rayon), industrial products, cellophane fibers, and sponges. The biggest adjustments came in the modification of the cooking process to make the pulp into a more pure form of cellulose. The many changes needed weren't cheap, nor is the process of making dissolving pulp, but Greg Elton, a chemical engineer dedicated to the project, notes that the investments allow us to produce a high quality, competitive product, strengthening Sappi's market leadership. "With textile grade pulp, costs to produce the

higher purity fiber are greater, but the higher price for the finished product outweighs the increased production costs," says Elton.

The project was made even more economically viable because it was carried out with such excellence. Thanks to a team that included mill management, Sappi's South African partners, former employees, consultants and customers as well as Elton and a team of engineers, operators and maintenance workers, the project, which was allotted 18 months for completion, amazingly finished within hours of its expected start date.

The changes also reduced environmental impacts on several fronts. The operation now uses significantly fewer sulfur-based chemicals, and modified the air system on the recovery boiler, resulting in reduced SO<sub>2</sub> and NOx emissions. Furthermore, biological oxygen demand in the water discharged from the mill has been cut by around 25 percent. And while more energy is needed to create the dissolving pulp, the mill now generates more renewable energy because more hemi-cellulose, a pulping by-product, is burned in the boiler to make steam and electricity.

Of course, this environmental and economic viability also helps to sustain something else: the community that relies on the mill. "We are one of the biggest employers in Cloquet," Elton says. "By deciding to invest in the mill to grow future business, Sappi is also investing in the future of Cloquet, and that means everything to the people that live here."







## Tapping into Synergies at Somerset

A recent rebuild of the No. 3 paper machine (PM3) represents a classic case of a sustainability “win-win”—a project that renders both environmental and economic benefits to Sappi’s Somerset Mill.

Working with equipment manufacturer Metso and contractor Boldt Construction, a Sappi team of management, operations and engineering personnel were able to team up to redesign, reengineer and rebuild the machine. The project took over two years to conceptualize and prepare for, but when time came to implement the changes they were amazingly finished in barely over twelve days.

Once the project was completed it paid instant dividends as PM3 showed a significant improvement in formation. With the enhanced formation the machine is producing a stronger sheet and can now handle a wider range of product grades, including the top end of Sappi’s product line like 60 and 70 pound Opus web.

Products produced on PM3 also showed huge printed color improvements, especially in the mid-tones. “This is really important in the flesh-type tone that you see in cosmetic ads,” says Rod Guillow, PM3’s paper machine manager. “Skin tones are extremely challenging

and can appear mottled or blotchy—they are now looking very homogeneous and sharper than ever.” This turn of events is crucial to the coated paper business, which serves the high-end fashion and design magazine segments.

PM3 is now also much more efficient. In 2013, it produced 4.9 percent more than the prior year, despite being shut down for nearly two weeks during the construction process. Plus, any time a machine improves productivity, there are benefits in terms of energy efficiency and producing less waste of fiber and expensive additives.

More paper. Better paper. Using less energy, chemicals and wood? Sounds too good to be true, but Guillow says it is just good business: “It’s a classic case of sustainability because we are now making a cost-effective product that is more environmentally friendly. It’s just phenomenal.”





## Coated Fine Paper Investments

We continue to outperform other North American coated paper manufacturers through our continued focus on market leading brands. Our product offerings are supported by strong technical service and ongoing research and development that help maintain low production costs.

The Somerset Mill successfully completed an upgrade to the forming section of our No.3 paper machine (PM3) early in FY13. This US\$13 million investment was implemented to improve formation with controlled drainage on both sides of the web. These improvements increase retention of materials and reduce defects that can cause holes and breaks on the machine. The successful implementation surpassed speed, efficiency and variable cost goals. The improvements also allow for a broader range of products to be made on the machine.

At our Cloquet Mill, Sappi invested US\$14 million in coated papermaking assets, including a dry fiber handling system, as well as new refiners and an upgrade of our No. 4 paper machine (PM4). The rebuild of PM4 allows for all grades and weights to be manufactured with purchased (dry) fiber while maintaining the same base sheet formation and quality as products made with our own made slush fiber. The No.12 paper machine at Cloquet will undergo a similar upgrade in FY14.

## Coater Upgrade at Westbrook

In line with our diversification strategy, Sappi also made a US\$2.5 million investment to rebuild an off-machine coater at our Westbrook Mill. This investment enables the mill to have higher productivity along with improved quality and operational flexibility.

In addition to our investments in physical assets, we continue to make strategic investments in our brands, our people, our business systems and intellectual property.

## Investing in Research & Development

Sappi continues to support Research and Development facilities on three continents. With an annual budget of over US\$30 million, over 25 percent of our R&D spend is dedicated to our “Exciter” program, which focuses on the development of breakthrough technology platforms. The bulk of R&D spend in the US is dedicated to product development efforts, primarily focused on coating materials. Within North America, our Technology Center in Westbrook, Maine, houses pilot coater equipment for two of our key businesses: release papers and coated wood-free papers.

R&D for pulping is centered in Southern Africa; however, with the conversion of our pulp mill in Cloquet, we expanded the technical support for the pulp business and added Specialised Cellulose quality testing lab facilities and staff at the mill.

In addition to our Technology Center, each mill has technical staff (primarily engineers) that focus on continuous improvement related to productivity gains, product enhancements, and resource conservation (energy, water and materials).



Scientists at our Westbrook Technology Center bring a diverse set of skills and a unique depth of knowledge to the organization. Chemists, engineers and physicists along with polymer, environmental and materials scientists are housed together in a facility with two pilot scale coating plants and extensive analytical and testing equipment. Supporting both the Release Papers and Coated Papers business units, their work spans a broad spectrum of near- and long-term projects that are critical to sustaining Sappi's financial success.



**LISA GUBRUD / SENIOR PROJECT MANAGER**

When Lisa Gubrud, SFPNA Senior Project Manager at the Technology Center, first joined Sappi (then S.D. Warren) in 1989 she didn't have a paper background, but knew her technical degree in chemistry was well-suited to the R&D legacy of the company. After over 24 years, her enthusiasm still remains strong. "The type of work I do is very dynamic. One of the things I like about my job is there is no 'average day.' I can be involved in anything from ink-jet development, to evaluating raw materials, organizing pilot coater trials, running mill trials or meeting with suppliers."

While her technical expertise runs the gamut of coating formulation and optics, she works primarily as a Project Manager, making sure work is implemented successfully and in a timely manner. Lisa knows the value of time firsthand as Sappi is one of the few companies in North America with its own dedicated pilot coater—an investment that eliminates costly delays in the product development cycle. "Having the capability to make full-size rolls in-house without having to rely on outside facilities with limited scheduling availability is a unique competitive advantage. There's confidence in our scale-up; if it works on our pilot coater, we can be up and running full-scale machine trials that produce first-quality paper within weeks."

Lisa also regards the close-knit collaboration within her department and direct communication with the mills as one of Sappi's biggest strengths. "R&D does not work in isolation. For every project, there is alignment between R&D, manufacturing, procurement and marketing from the start." Recently her work at the Tech Center is heavily involved in cost reduction improvements. Many of these advancements are twofold: creating solutions that are cost-effective and also better for the environment, like the use of natural binders to substitute petroleum-based materials. "It's not glamorous, but when you look at the savings quarter after quarter, it is very exciting. I am so proud of the results we have been able to deliver via our technology and expertise."



**AMY BLAKELEY / RESEARCH SCIENTIST**

"The only constant is change" is a saying Research Scientist Amy Blakeley can relate to. In an industry that is always changing, researchers must continually seek innovative ways to improve products while meeting the demands of the competition and customer needs.

In her own life, Amy also had a whirlwind past year. She recently completed her PhD from Cornell after studying chemistry at North Dakota State University, gave birth to her first son, moved to Maine and joined Sappi in January of 2013.

Though she has been with the company for less than a year, her inquisitive approach to R&D aligns with the open-ended environment of the Tech Center. "One of the things I enjoy most is the open-door culture of asking questions. We are constantly learning from each other and trying different ways of doing things, like 'what if I could do this...then what?'"

While she never expected to apply her degree to paper, Amy finds her knowledge in materials chemistry, surface chemistry, and biomineralization comes in handy. "By observing how elements interact in nature, like how mollusk shells bind together for example, we have a better understanding of nature's efficiency and are able to apply this knowledge to our products and processes."

Working on both short- and long-term projects, Amy often spends her time studying the way pigments settle on surfaces or making components more efficient—complex research that ultimately contributes to a trio of objectives: cost reduction, improved print quality and consistency. "Everything is rooted in practicality so there is a balance of exploration and application. We are not just trying things in a black box."





**RON VAN GILDER** / RESEARCH FELLOW

“Relationships are one of our greatest assets,” says Ron Van Gilder, Research Fellow at SFPNA. After working with Technology Center as an outside consultant at Dow Chemical for many years, it was the people that ultimately convinced him to make the jump and join Sappi about a decade ago. “Aside from the technology, it’s people who give us the competitive edge.”

In his dynamic role, Ron leads a closely-knit group in early-stage to later-stage development. “We are advancing binder technology to improve the use for our needs in paper-coatings, including the interaction between the coating and commercial inks, looking at how this technology affects the printed surface.” Much of this work is done in collaboration with universities and outside companies.

Sappi is investing in advancing new binder solutions that will reduce costs and improve usage and efficiency. “One of the advantages of using more natural, starch-based binders is that it also reduces dependence on petroleum-based products such as latex, which are more expensive and not as sustainable.”

With over 30 years of experience as a polymer scientist in latex emulsion polymerization and paper-coating applications, Ron has come to value the connections he’s made over the years. “It’s very important for us to reach out to outside resources and bring innovation into Sappi. The benefit is derived from focused collaborative efforts and a lot of back and forth discussion that helps to advance the technology developments.”

Throughout his career, Ron has published more than two dozen research papers, and is an avid connector, forming strategic alliances through his involvement with many committees and industry organizations. “I’m always looking for opportunities to make improvements and recognize the fact that it takes a concerted effort. We cannot do it alone.”



**WAYNE BILODEAU** / RESEARCH FELLOW

Hailing from the historic mill town of Maine’s Livermore Falls, Research Fellow Wayne Bilodeau is a third-generation paper industry veteran. As a student working summers at the “Otis Mill” in Jay, Wayne had his first exposure to applied science. “I knew I wanted to do more with paper and fell in love with coating technology.”

After studying chemistry at Northern Arizona University, Wayne returned to Maine to work in Product Development for 10 years at Otis. “While working with customers, I learned about radiation curing technology and became intrigued by both its simplicity and technical possibilities. I had to be part of that technology!” That led to an opportunity to develop silicone liners and pressure sensitive label adhesives for Avery Dennison in Ohio, where he also received a Masters in Polymer Science from the University of Akron.

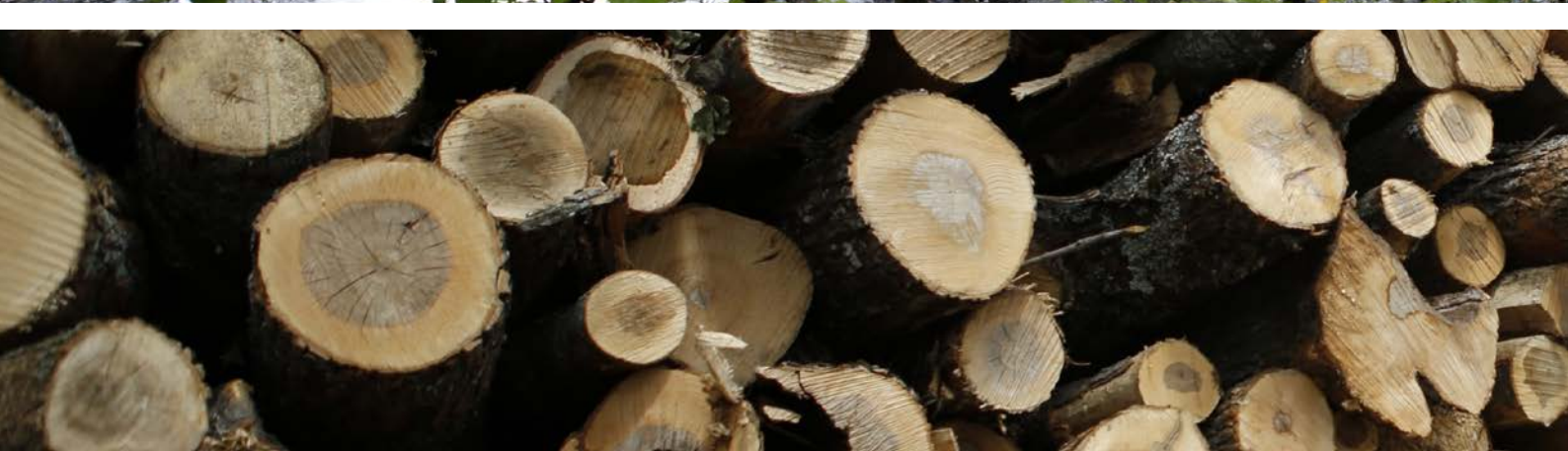
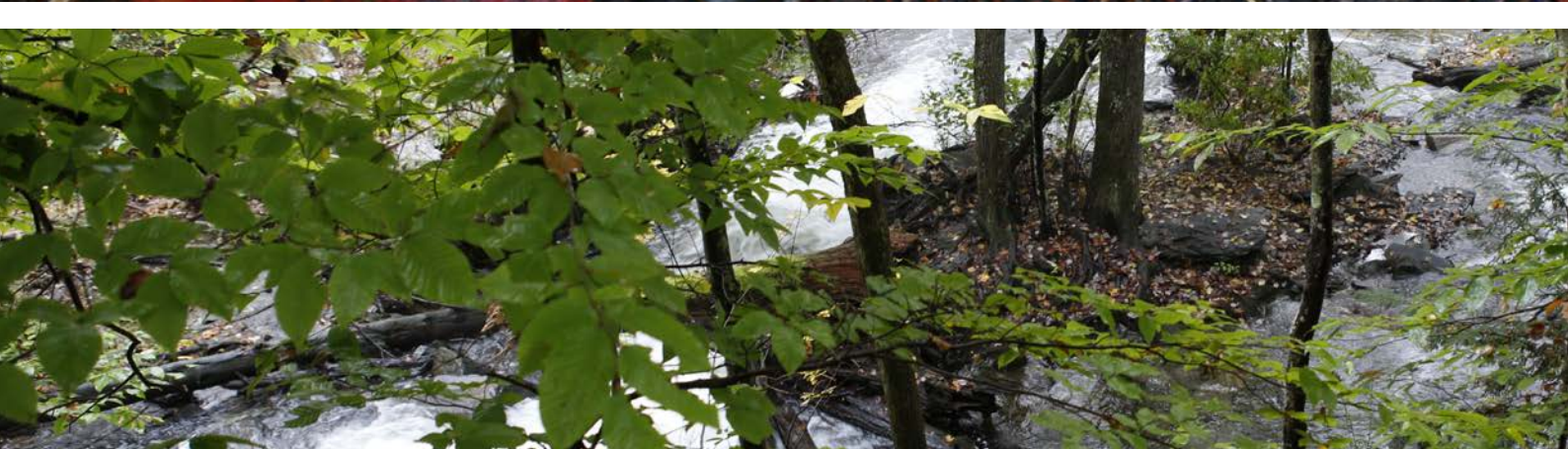
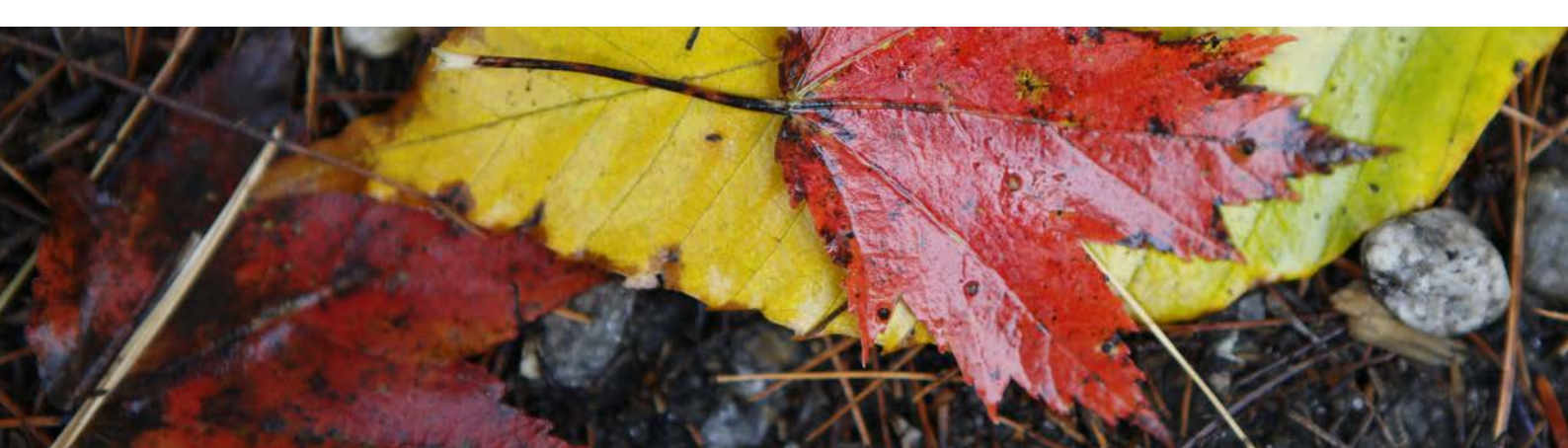
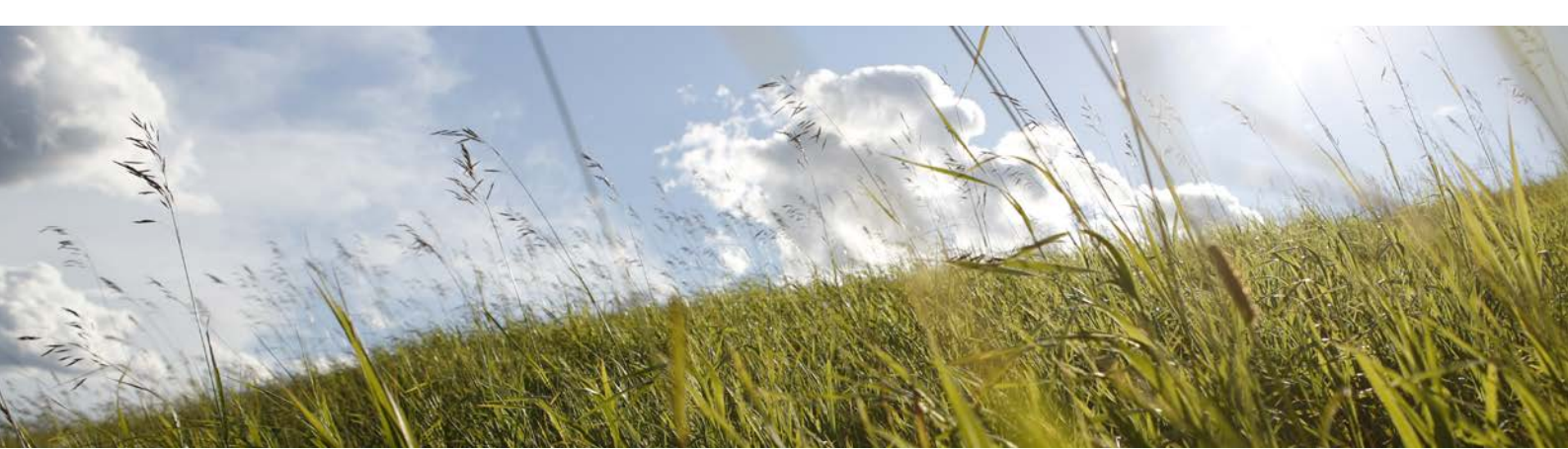
When an opportunity opened up at Sappi in radiation curing for the Release business, Wayne felt it was the right time to move back to Maine. “Paper is unique in that it has been around for a very long time and yet it is still very complex and innovative. Sappi provided an opportunity to continue building on my expertise while developing new and interesting products.”

Radiation curing is a process by which a liquid coating is rapidly converted to a solid using either a UV light or electron beam (EB). It is widely used across industries including DVDs and dentist fillings. Sappi’s EB system is one of the few high-powered systems that can penetrate very thick surfaces, creating various casting release products, decorative products or even scratch-resistant coatings for plastics.

“I am excited that I am working on new chemistry formulations that have never been done before or are rare and used by hi-tech firms.” In over 20 years of his experience, Wayne has been awarded 12 patents.

“Throughout my whole career, I have found that you have to be multifaceted. Whether in physics, chemistry, or optics, you have to be well-read in how things all work.”









# Environmental Responsibility

At Sappi, we approach environmental impact from a holistic perspective grounded in life cycle thinking—from responsible procurement of raw materials and energy, through manufacturing, distribution and use—ultimately with consideration for the end of life of our products. We work collaboratively along the supply chain and seek out solutions across industries to adopt best practices and drive meaningful change.

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## Sustainable Forestry

Responsible manufacturing begins with a commitment to responsible sourcing of raw materials. At Sappi, we source 100 percent of our wood and market kraft pulp from well-managed forests. Sustainable forest management practices integrate reforestation with harvesting of trees while conserving air, soil and water quality along with wildlife and aquatic habitats. Landowners and foresters must work together to balance multiple objectives across a spectrum of environmental, social and economic aspects.



**The Trust to Conserve Northeast Forestlands** (TCNF) is a not-for-profit organization formed by the Professional Logging Contractors of Maine in 2003. The Trust administers the Northeast Master Logger Certification program with the broader goal of “enhancing the health of working forest ecosystems through exceptional accountability” throughout the Northeastern Forest region.

*“To compete successfully in the global marketplace, we believe that Northeastern harvesting companies and other forest professionals must demonstrate that they set a world standard for economic and environmental performance. Our Master Logger certification communicates this performance.”*

Elizabeth Olivier, Executive Director,  
The Trust to Conserve Northeast Forestlands

### Strong Legal Framework

In the US, forest management is governed by a comprehensive system of state and federal laws impacting social and environmental practices. Included in federal legislation are laws that:

- Protect threatened and endangered species
- Regulate activities in forested wetlands
- Regulate chemical use
- Provide for safe harvesting and fair labor practices

At the state level there are additional laws and agencies that work to support sustainable forestry practices. Beyond our legislative framework there are numerous voluntary programs, including certification programs, that help assure wood and paper products are being sourced from sustainably managed forests.

### Logger Certification

At the point of harvest, the logging professional has a direct and immediate impact on how well a forest management plan is executed. There are a host of independent logger certification programs that cover a breadth of training criteria around the core subjects of safety, environmental impact and productivity. Certification requires classroom training as well as field work. Independent audits also evaluate harvesting sites.

When Sappi contracts directly with a professional logger in the state of Maine, we require that the logger is certified by either the Maine Master Logger Program or the Certified Logging Professional program.



## Forest Management Certification

Less than 10 percent of the world's forests are certified to a credible third party forest management standard; however, 53 percent of Maine's and 52 percent of Minnesota's forests are certified. And while these two states have relatively high levels of certification, it remains a challenge to increase our level of certified fiber cost effectively. For example, within the primary procurement zones near our Cloquet mill, we estimate that only 35 percent of the forests are certified. The Minnesota state-owned forests are certified; however, many of the small private landowners and the federal lands are not. We face similar challenges in Maine, where over 90 percent of the land is privately held.

Our goal is to achieve a level of 65 percent certified fiber across all operations by 2016. The percentage of fiber includes the pulp we produce and that which we buy. We recognize each of the major third-party certifications (ATFS, FSC®, SFI® and PEFC) and also include fiber sourced from the Certified Logging Professional and Maine Master Logger programs.

## Avoiding Controversial Sources

The SFI® and FSC® programs both have standards that help keep controversial sources out of the supply chain.

Within the FSC® program, controlled wood certification helps to eliminate the inclusion of unacceptable wood sources including, for example, illegally harvested wood and wood harvested in areas where high conservation values are threatened by management activities, or genetically modified organisms.

As an SFI® program participant, we are required to show that the fiber in our supply chain comes from legal and responsible sources, whether the forests are certified or not. To meet the fiber sourcing requirements, primary producers must be third-party audited and certified to the SFI® Requirements. Program participants who source fiber from uncertified lands in North America must offer outreach and logger training. In other words, SFI® Fiber Sourcing program is about avoiding controversial sources, and also requires additional outreach to help improve practices on uncertified lands.





## Chain of Custody Certification

Chain of custody certification tracks resources along the supply chain; from certified forests through the mill, distribution and ultimately to printers. This process is audited by independent third parties and provides assurances to brand owners about the claims associated with products. The process is also required for labeling of products with the program logos. SFPNA holds chain of custody certificates for all three of the major wood certification programs (FSC®, PEFC and SFI®) and 100 percent of our coated fine papers and pulp products are sold with a chain of custody claim. The Westbrook Mill uses only certified fiber, but does not maintain chain of custody as its supply chain is not certified.

## Active Participation

Beyond our participation as certificate holders, we are economic chamber members of both FSC® US and SFI®. As such we actively engage with these organizations through a variety of working groups and committee activities.

Much of our participation with SFI® is managed through various state-level committees referred to as SICs (SFI® Implementation Committees). These committees create collaborative structures for other participants to join forces and mobilize volunteer efforts at a grassroots level. In 2013 both the Maine and Minnesota state committees were recognized with awards for their achievements.

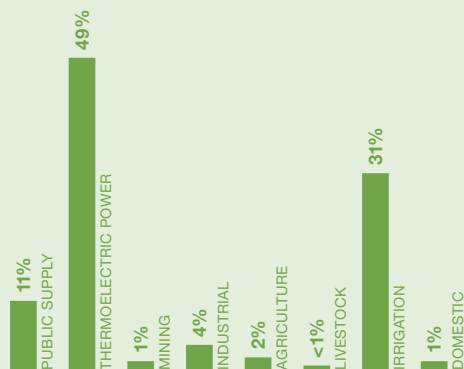
The Maine SFI® Implementation Committee was the leading force in establishing the Fisheries Improvement Network (FIN), a forum for public agencies, family forest owners, conservation groups, and others working together to protect critical habitats for Atlantic salmon and native brook trout. Project work focused on promoting improved stream crossings, fish passage and water quality protection.

Sappi is a founding member of GreenBlue's Forest Products Working Group (FPWG). For its inaugural project, the group designed a set of guidelines to aid the responsible procurement, use and recovery of paper products. Co-chaired by Sappi's Director of Sustainability, Dr. Laura Thompson, project work is also under way with the FPWG to identify and address some of the barriers to expanding the growth of certified forests.





### Summary of Estimated Water Use in the United States



Source: Kenny, Joan F., et al., 2009, Estimated Use of Water in the United States in 2005. U.S. Dept. of the Interior, U.S. Geological Survey Circular 1344. <http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf>

Nearly two-thirds of fresh water in the US originates from forested land. Forests act to filter precipitation into high quality surface waters. Forest management practices can help minimize impacts on water by controlling erosion and promoting regrowth.

## Water

Less than 1 percent of the world's water is easily accessible freshwater and increasing population, urbanization, per capita demand, and pollution damage to supplies will put even greater pressure on these resources. While access to water is an issue of global concern, it is critical to recognize local, site-specific resources. Sappi's US manufacturing operations are located in regions of little or no water scarcity (Maine and Minnesota).

A macro study on the effects of global warming on water supply and demand in the contiguous United States points out that the three categories of water use with the greatest demand are agricultural use, power plant cooling, and public supply. In the United States, industrial water use makes up 4 percent of total water withdrawals (see adjacent chart). Thermoelectric power (49 percent), irrigation (31 percent) and public supply (11 percent) make up a total of 91 percent of the water withdrawals in the US.

Although the manufacture of pulp and paper is water-use intensive relative to most other industries, the amount of water consumed (i.e., evaporated or exported with products or residuals) represents a small fraction of the overall water used. Approximately 90 percent of the water used by the US forest products industry is returned to surface waters following treatment.

An overview of water use in our operations is depicted on the following pages. For more information, readers are encouraged to download our white paper, "Water Use and Treatment in the Pulp and Paper Industry," by visiting [www.na.sappi.com/eQ/insights.html](http://www.na.sappi.com/eQ/insights.html).

## Water Usage in Papermaking

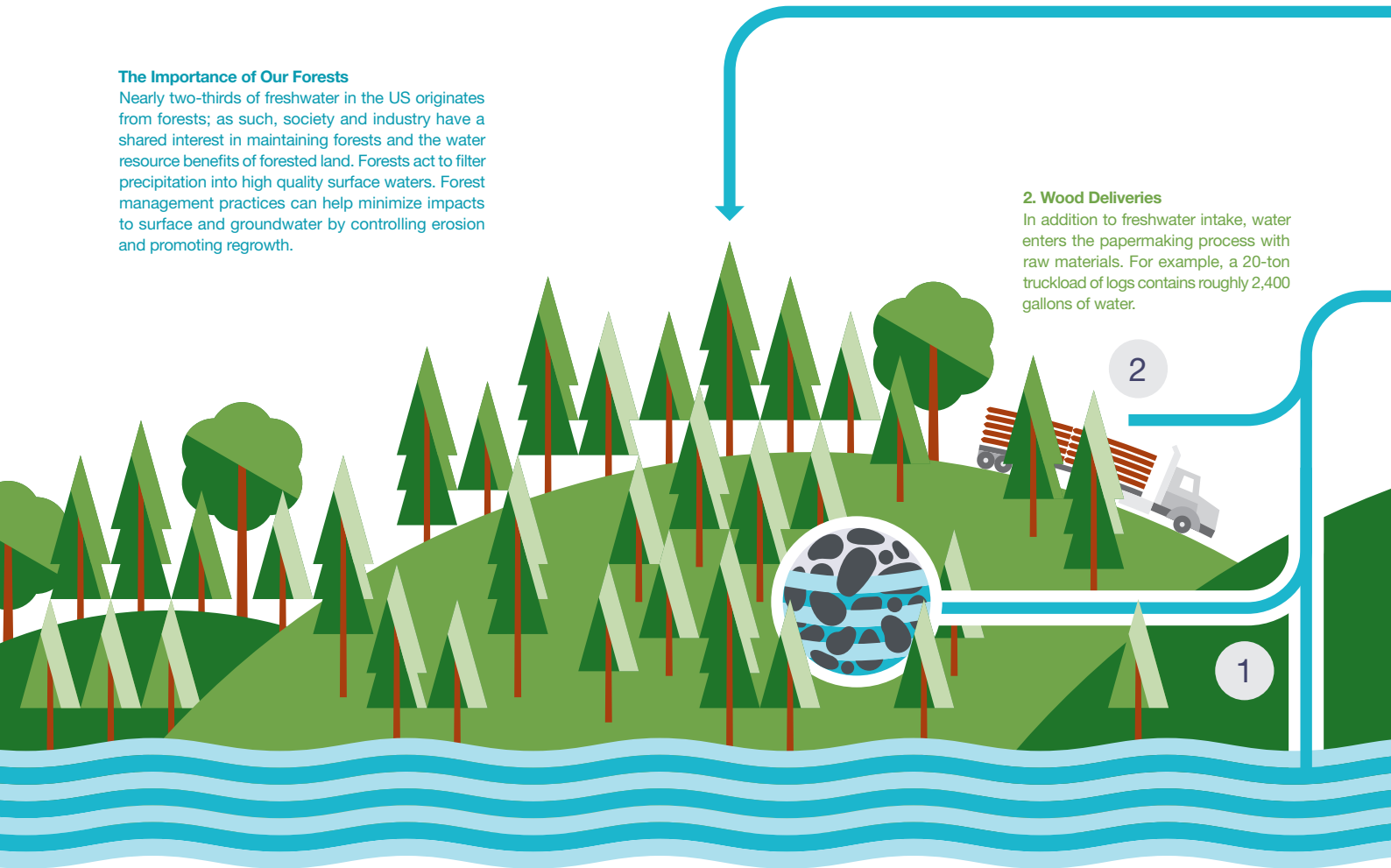
As large industrial users of water, the pulp and paper industry has long managed water in the context of a regulatory environment. While access to water is an issue of global concern, it is critical to recognize local, site-specific resources. At Sappi, we derive 100% of our process water from surface sources and return over 90% of it to the same, or nearby, sources. Water is used in all major manufacturing stages and to generate steam for use in processes and on-site power generation. As with all environmental matters, we also understand that our impact extends beyond our mill gates. Herein we present a holistic view of water usage for papermaking.

### The Importance of Our Forests

Nearly two-thirds of freshwater in the US originates from forests; as such, society and industry have a shared interest in maintaining forests and the water resource benefits of forested land. Forests act to filter precipitation into high quality surface waters. Forest management practices can help minimize impacts to surface and groundwater by controlling erosion and promoting regrowth.

### 2. Wood Deliveries

In addition to freshwater intake, water enters the papermaking process with raw materials. For example, a 20-ton truckload of logs contains roughly 2,400 gallons of water.



### Seasonal Variability

Incoming water quality will vary over the course of the year depending on weather conditions and seasonal changes. For example, in the fall, when leaves are coming off the trees, there is more debris and organic material in the river. In the winter, water contains more dissolved oxygen and fewer contaminants. Water flow tends to be highest in the spring as snow melts in the watershed.

### 1. Sources of Water

Freshwater sources are generally described by two categories: surface water and groundwater sources. Surface water sources include streams, rivers, lakes and reservoirs. By contrast, groundwater is held underground in the soil or in pores and crevices in rock. 100 percent of Sappi's process water is derived from surface sources. The Kennebec River supplies the Somerset Mill, the Presumpscot River supplies water for Westbrook Mill and Lake Superior and the St. Louis River provide water for our Cloquet Mill.

### 3. Water Use

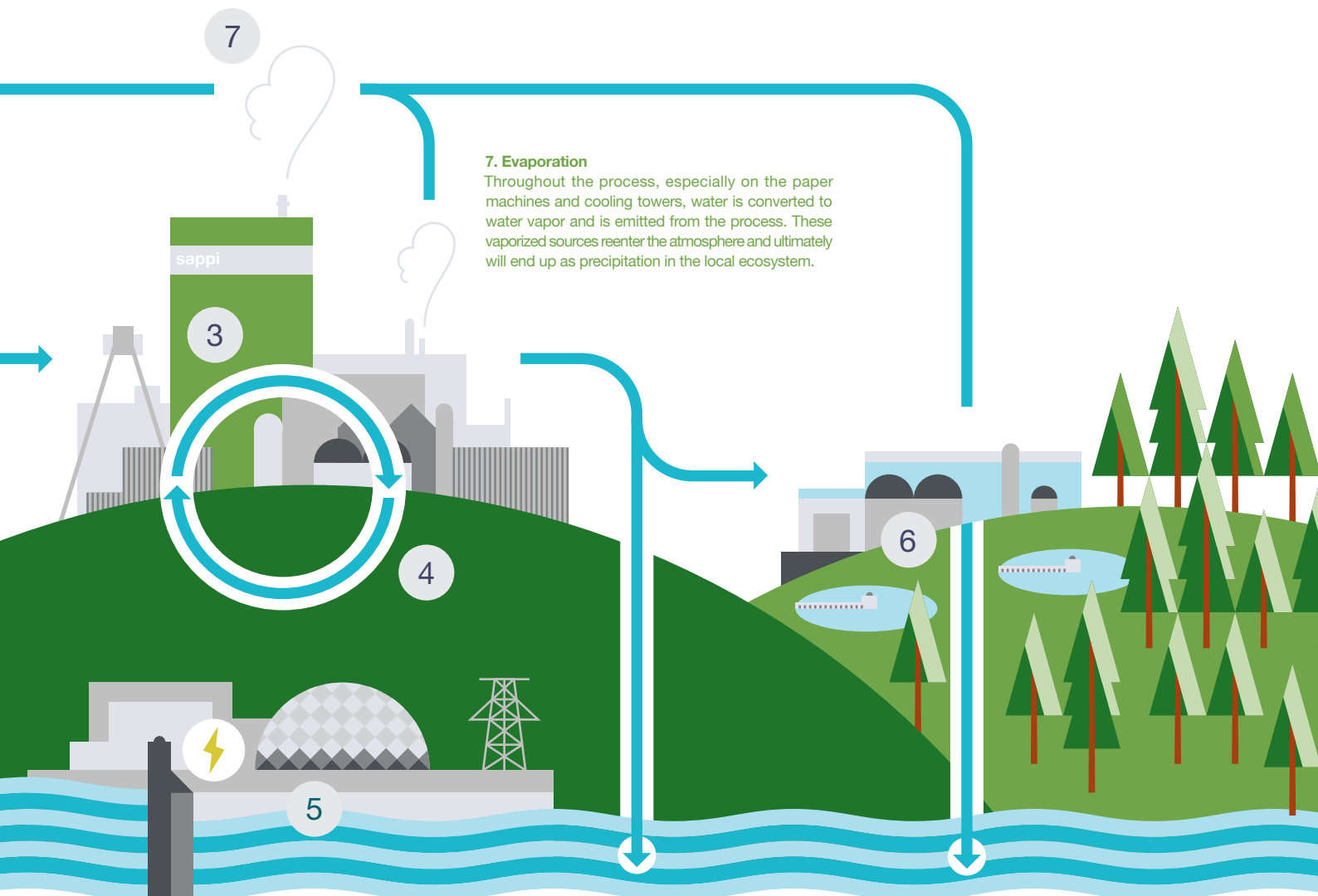
Water is used in all major process stages, including raw materials preparation (e.g., pulping and bleaching) and paper machines (e.g., pulp slurry dilution and fabric showers). Water is also used for cooling, materials transport, equipment cleaning, general facilities operations, and to generate steam for use in both thermal and mechanical processes as well as on-site electricity generation. Overall water intake has been reduced annually through various conservation efforts. Our 2013 water usage was 9.9% less than 2009.

### 4. Water Reuse

Water is reused in various forms throughout the mill and requires different levels of treatment depending on its use. For example, water used in the steam systems (boiler feedwater) must be purified to minimize corrosion. Once steam is condensed it is recaptured and reused in the steam system. By contrast, raw water can be used without any treatment for non-contact cooling systems and can be returned directly to the river as long as it is not too warm.

### Relative Cost of Water

The various water systems within the mill have vastly different costs based on electricity consumed for pumping, energy used for heating and any treatment processes required for either incoming or outgoing streams. A hose left running could cost over US\$30/day and steam leaks can be very costly if not repaired quickly.



### 5. Hydroelectric Power

In addition to providing freshwater, local rivers provide a source of renewable energy for two of our mills. The Cloquet Mill operates four small hydroelectric generators on the St. Louis River with a total generating capacity of 6.5 megawatts (MW). The Westbrook Mill operates six small hydro stations along the Presumpscot River with a total generating capacity of 8 MW.

### 6. Wastewater Treatment

Most of the water used in the pulp and papermaking process requires treatment prior to discharge to any receiving waters. Solid materials collected in the various treatment stages are dewatered and used as a fuel for energy production. Converting waste to energy also reduces the volume of organic materials sent to landfill. At our mills, once the water is used, reused and treated, it is returned to surface water sources. In fact, over 90% of the water intake is returned.



## Energy & Emissions

The pulp and paper industry is an energy intensive industry. In terms of total consumption of energy, pulp and paper is third among industrial sectors; only the refining and chemical industries consume more. However, environmental impact is affected not just by the amount of energy, but also by the type of energy consumed. On average, US pulp and paper mills derive nearly two-thirds of energy needs from renewable sources that are considered carbon neutral. Sappi's mills derive over 80 percent of their energy from renewable resources.

### Carbon Neutrality of Biomass

In reporting greenhouse gas emissions, we do not include carbon dioxide emissions derived from biogenic sources. The carbon neutrality of biogenic fuels (e.g., woody biomass and black liquor) is considered "settled science." This issue has been recognized by an abundance of studies and institutions including the Intergovernmental Panel on Climate Change (IPCC).

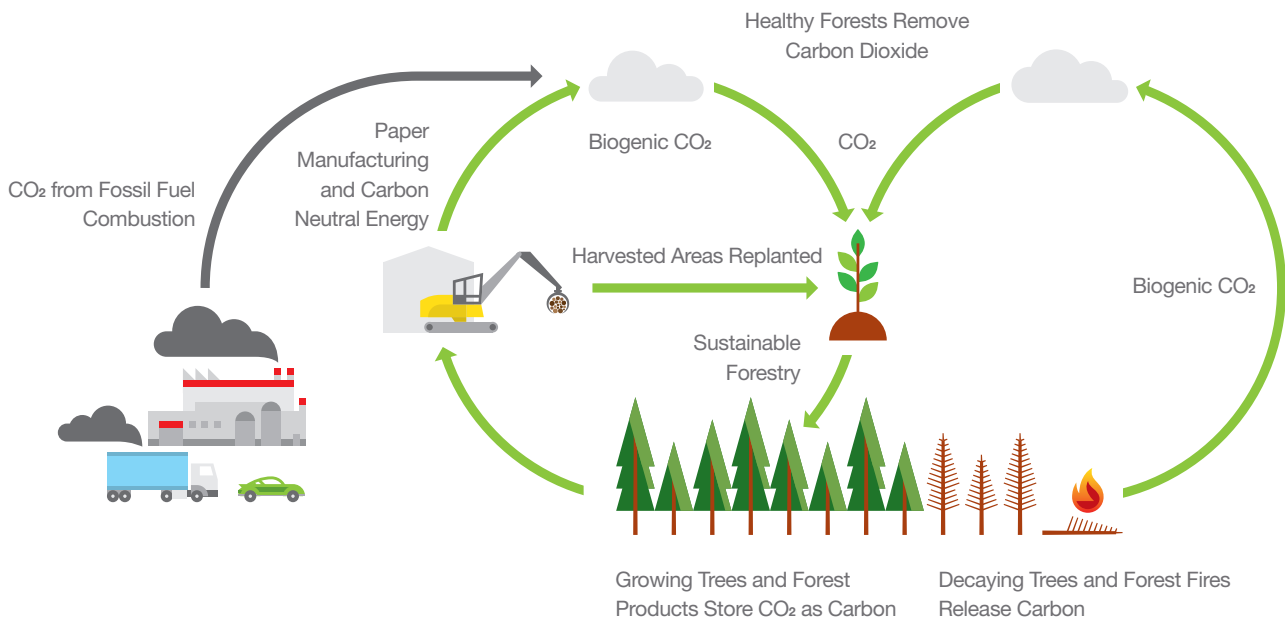
As forests grow, carbon dioxide (CO<sub>2</sub>) is removed from the atmosphere via photosynthesis. This CO<sub>2</sub> is converted into organic carbon compounds (e.g., lignin, hemicellulose and cellulose) stored in woody biomass. The carbon stored in biomass will return to the atmosphere regardless of whether it is burned for energy, allowed to biodegrade, or lost in a forest fire. As biomass carbon is released, the carbon cycle is completed.

Recognition of the carbon neutrality of these sources is also the basis for various pieces of legislation around the world. As governments continue to implement incentives and mandates to increase the use of renewable fuels, these programs are met with concerns regarding the potential

depletion of forest carbon stocks that could upset the carbon balance. Sappi fully supports the American Forest and Paper Association (AF&PA) recommendations to treat forest-derived biomass as carbon neutral where the growth rate of forests is greater than or equal to harvest levels. Accounting frameworks should be regional and consistent with the US Forest Service's robust Forest Inventory and Analysis program. Furthermore, policies should not construct artificial mandates or incentives, which disrupt the nation's existing efficient and balanced forest biomass markets.

The forest products industry is by far the largest producer and user of bioenergy of any industrial sector. SFPNA's mills produce over 80 percent of total energy from renewable sources, resulting in the lowest average carbon footprint of domestic freesheet suppliers.

Climate change is attributed to deforestation and emissions from the combustion of fossil fuels. Biomass is considered carbon neutral when the growth rate of forests is greater than or equal to harvest levels.



## Natural Gas Pipeline

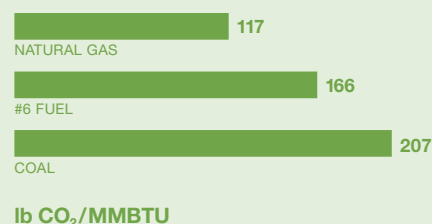
In April of 2013, we announced an agreement with Summit Natural Gas of Maine to establish natural gas service to the Somerset Mill in Skowhegan, Maine. This project is one of the largest distribution projects of its kind in the recent history of Maine.

Summit's investment of roughly US\$350 million in pipeline infrastructure consists of 88 miles of steel pipeline originating in Richmond, Maine, and traveling up through the Kennebec Valley to Madison and Skowhegan.

Additional capital will be required to take full advantage of the new fuel source, with the greatest savings to be had in the pulp mill's lime kiln (an integral element of the chemical recovery process), which currently uses #6 fuel oil. We will also be able to use natural gas in one of our multi-fuel boilers, also referred to as a "hog fuel" boiler. Displacing fuel oil with natural gas reduces the mill's output of greenhouse gas emissions as CO<sub>2</sub> emissions from natural gas are 30 percent lower than #6 fuel oil based on equivalent energy input.

The project also provides benefits to local residents and business owners. In addition to the mill, Summit plans to serve 17 communities in the region, creating the opportunity for significant savings in energy costs and further reductions in greenhouse gas emissions.

**Carbon Dioxide Emissions from Natural Gas are 43% Lower than Coal and 30% Lower than #6 Fuel Oil Based on Equivalent Energy Input**





## Saving Lime and Money

As the key element in Sappi's Somerset mill's chemical recovery system, the lime kiln converts lime mud into re-burned lime, which is used to create pulp. But after the completion of a US\$30 million project designed to expand the capacity of the recovery boiler process it became apparent that the lime kiln was a bottleneck limiting pulp production, and therefore wasting resources.

Enter a team of analysts led by Doug Brooks, a Lean Six Sigma Black Belt tasked with improving overall performance of the mill, who looked to use their DMAICS (Define, Measure, Analyze, Improve, Control, Sustain) system to solve the problem. "To make the kiln run more energy efficiently, we knew we needed to increase the pre-coat solids, basically removing more water from the lime mud before it goes into the lime kiln," Brooks notes. "Doing this increased the production of the lime kiln by more than 6 percent."

The systematic process by which Brooks and his team approached the problem, which included going into the field to observe and work closely with the kiln operators, also allowed them to pinpoint and fix two other issues. First, they made the tests for the re-burned lime coming out of kiln two and a half times more precise, thereby increasing energy efficiency by 10 percent. They also uncovered that the kiln

could take more lime than operators were feeding it but, because of the imprecise tests, there wasn't enough mud to give it. "Using balancing methods we helped the operators manage the mud inventory better so they always had sufficient mud to feed the kiln at the new, higher rates," Brooks says. "Overall, the better throughput has meant we create more pulp to use or sell, we buy less mud, saving us over US\$1.1 million dollars, and we've dumped 80 to 90 percent less mud in local landfills."

There were also secondary benefits of making the lime kiln run more efficiently. "Now less mud sticks to the inside of the kiln," Brooks says. "By avoiding this lime ring buildup, there is less waste and the kiln doesn't need to be shut down and cleaned, a process that costs over a million dollars and halts production." Also, with the mill set for a natural gas conversion, the increased throughput capability of the kiln will offset natural gas' lower BTUs, making the upcoming fuel transition more energy efficient and cost-effective. In the end, Brooks and his crew took a muddy job and, thanks to teamwork and good process, ensured a cleaner future for Sappi and the Somerset community.





## Cogeneration and Integration

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Sappi's primary manufacturing operations are integrated facilities where the pulp mill is located on-site with the paper mill. One of the inherent advantages of integrated facilities is the ability to take advantage of the generation of renewable fuels within the pulp mill (e.g., bark and black liquor) along with the cogeneration of heat and power. These fuels generated as by-products in the pulp mill are used to generate both electricity and steam for use throughout the mill.

With our recent conversion of our pulp mill in Cloquet, we have increased the amount of energy consumed at that site. The dissolving pulp process inherently requires more energy (primarily due to a longer cooking cycle) but also generates more black liquor. We do not yet have a full year of production experience in this mode of operation; however, preliminary data shows our overall consumption of renewable fuels remains the same as prior years of operation.

While we are now purchasing dry fiber to feed the paper machines at Cloquet, the paper mill complex remains fully integrated on the energy side. The EPA estimates that combined heat and power systems typically achieve systems efficiencies in the range of 60–80 percent. By comparison, stand-alone systems achieve only 45–55 percent efficiency. More efficient use of energy results in lower costs and lower greenhouse gas emissions.

Even though our integrated facilities are extremely efficient, we have established a five-year goal to reduce our energy intensity by 10 percent. This goal seeks to reduce overall energy usage regardless of whether that comes from purchased electricity, fossil fuels or renewable energy sources.

## Industrial Boiler MACT Regulation

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The US Environmental Protection Agency (EPA) has recently established new air emission rules for commercial and industrial boilers. The rules rely on Maximum Achievable Control Technology (MACT) standards to achieve more stringent limits for several pollutants including particulate matter, hydrogen chloride, mercury and carbon monoxide. Under the rules, companies have three years from the date of publication in the Federal Register (January 31, 2013) to comply, but individual states have the authority to allow an additional year for compliance.

Sappi's boilers currently meet most limits under the rules due to past capital investments and optimization of fuel mix. Equipment needed for further emissions control at each of our three mills is included in our capital plans as part of annual maintenance spending.

## Waste Minimization

The classic waste minimization hierarchy revolves around “the three Rs” — Reduce, Reuse, Recycle. We fully embrace the concept of waste minimization across the supply chain—from the way we design our products and run our operations to the end of life of products and packaging materials that we deliver to our customers.

### Reduce

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At SFPNA, one of our five-year goals is centered on the efficient use of raw materials. Simply put, we strive to minimize waste within our operations. Reduction of waste not only reduces impact and costs associated with landfills, but also creates savings on material costs. In addition to conserving materials in our own operations, we work across the supply chain to help educate paper buyers about design and paper choices as well as delivery options that can reduce waste.

### Reuse

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In our release papers business, our products are used as part of the manufacturing process to impart textures on decorative surfaces. Many of the processes are roll-to-roll systems where our release paper is unwound, used as a casting surface and then rewound for subsequent use. Much of our Research & Development efforts are targeted at increasing the level of reuse for various systems.





## Recycle

Our newest product offering, dissolving pulp, provides the feedstock for viscose staple fibers which ultimately are converted to textiles. Clothing and other textile products are designed for durability and reuse but at the end of their useful life can be recycled. Unfortunately, there is a general lack of awareness about textile recycling. The US EPA reports that textiles compose roughly 5 percent of municipal solid waste generation and that in 2011 only 15 percent of textiles were recovered for recycling. In 2013, our Cloquet Mill partnered with Goodwill Industries to conduct a clothing drive among employees. Collected goods were sorted for suitable use and either resold or recycled.

While our release papers are made with durable coatings, they can be recycled in some systems. All of our waste product generated on-site at the Westbrook Mill is either pulped and used in tissue and towel grades or processed in a facility with robust cleaning systems (such as a deinking facility).

All of Sappi's coated fine papers are recyclable. However, industry data indicates that the printing and writing segment tends to lag behind other grades in regard to recycling rates. For example AF&PA data for 2012 reports an outstanding 91 percent recovery rate for old corrugated containers while the printing and writing segment captured only 54.5 percent. For this reason, SFPNA is dedicated to recycling outreach and education. From sponsoring local organizations to participating in national initiatives, we strive to reach a broad range of stakeholders. Recycling outreach is a core of our Sustainability Ambassadors' community engagement efforts.

While everyone agrees that recycling is the right thing to do, the use of recycled fiber is not well understood by many stakeholders. How we, as an industry, put fiber to use is not a simple one-size-fits-all solution. As reported in our 2012 Sustainability Report, our own cradle-to-gate life cycle analysis has shown that adding recycled content to our products actually raises the carbon footprint of those products.



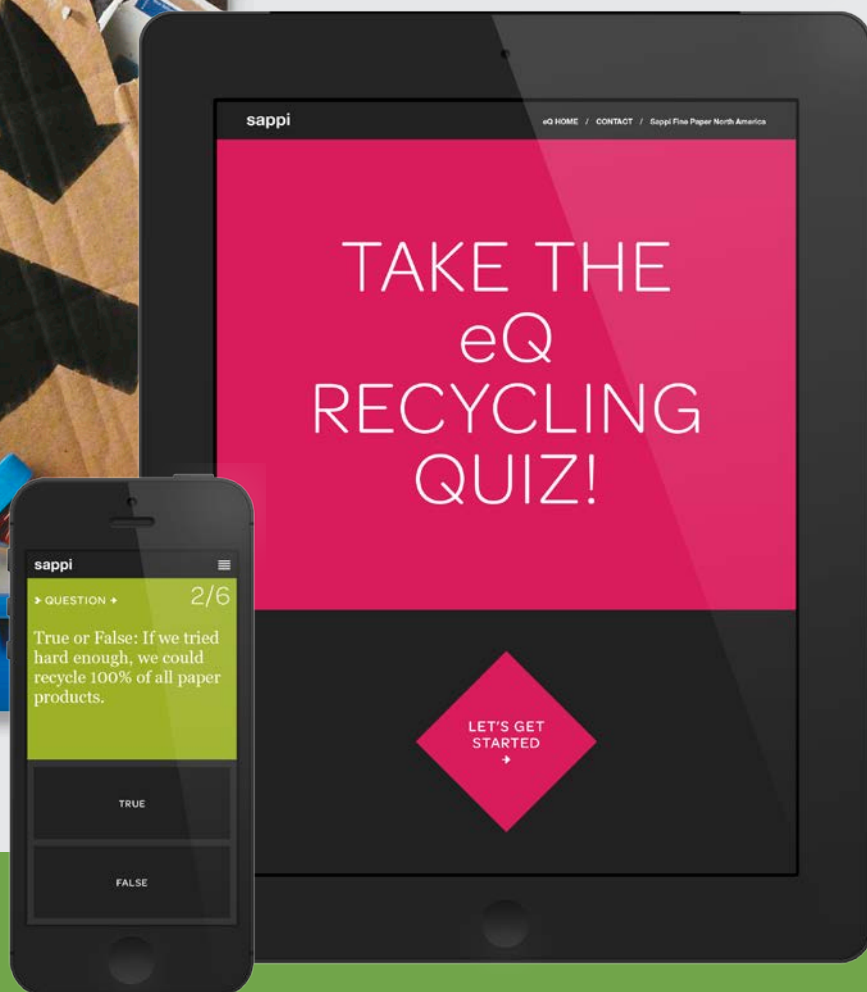
## Waste to Energy

Recovered fiber markets are complex and are not well served by regulations or prescriptive approaches that specify the use of recycled fibers or dictate what type of recovered fiber is used in products. As such, Sappi opposes recycled content mandates or policies that restrict trade flows of recovered paper.

While we currently use only recycled fiber derived from post-consumer sources, the distinction between pre- and post-consumer content is not meaningful from an environmental perspective. Because of the labeling requirements within forest certification programs, we have continued to use post-consumer fiber. We support the notion of modifying standards to eliminate this distinction.

The pulp and paper industry has historically used by-products generated on-site as fuel sources (such as bark and black liquor). However, these energy sources are typically not sufficient to power the entire mill complex and as such most mills still rely on fossil fuels. At Sappi we have reduced our use of traditional fossil fuels by seeking out alternative energy sources including reclaimed oil, construction and demolition wood and tire-derived fuel. These sources are cost-effective for the mills and by converting waste streams to energy, less waste goes to landfill. Since 2009, our consumption of alternative fuels has more than doubled, increasing from 830 to 1,725 terajoules/yr.





## Creativity Matters

People are more apt to engage in a behavior after being prompted to do so. For this reason, Sappi is committed to supporting recycling education and outreach programs.

This year we added to our outreach efforts by developing a brief interactive recycling quiz. We've found that most people think that they understand paper recycling, but quiz results often prove otherwise. The good news is that when people don't perform as well as expected, they will usually seek additional information to understand why.

"I've had numerous people tell me they can't believe they flunked a recycling quiz," says Patti Groh, Director of Sappi's Marketing Communications. "We've been using the quiz at trade shows and when customers see their results, often getting half of the answers wrong, they can't wait to get their hands on our latest *eQ Journal: Rethinking Recycling*."

The *eQ Journal* provides an in-depth look at the paper recycling industry—providing a review of recycled fiber markets, a comprehensive look at single stream recycling and a chance to learn about the trade-offs associated with using recycled fiber in different products.

"We designed the quiz to be fun, but also educational. In just a few questions it really gets people thinking in a fresh perspective and entices people to want to learn more," says Groh. "And the *eQ Journal* provides them with a wealth of information."

In addition to the *Journal* and the quiz, we also developed a recycling logo "library" this year which allows users to pick from a broad collection of logos, available in English, French and Spanish. It's important to use these logos on printed pieces because even the most knowledgeable people need reminders. And while the iconic chasing arrows logo is recognizable, sometimes a spark of creativity will get more attention.









# Social Responsibility

Our social responsibility initiatives are centered on three primary stakeholder groups: our employees, local communities and our customers. Our strategy for engagement continues to evolve and we have made great progress by building on the strength of our Sustainability Ambassador program; a branch of our sustainability governance dedicated to employee and community engagement. We strive to integrate activities with our overall business objectives and find synergies that link our efforts to creating a competitive advantage for Sappi. From creating a stronger social license to operate to establishing customer loyalty and attracting talent, we know that these efforts pay dividends to our company.

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Employees

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Local  
Communities

48

Customers

## Employees

A high-performance work environment relies on healthy, committed, well-trained employees. Greater job satisfaction results in lower turnover and helps create a corporate culture that attracts top talent to the company. An active, engaged workforce is more productive and capable of realizing their fullest potential at work and at home. SFPNA understands that by creating a dynamic and encouraging environment, we are not only supporting our employees' health and well-being, but building a better future as a company.

### We Care for Our Safety

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Safety comes first at Sappi and remains a constant priority in day-to-day operations. This company-wide commitment, however, goes beyond compliance with rules and regulations. Each of the three paper mills in Cloquet, Westbrook and Somerset are all certified to meet the Occupational Health Safety Assessment Series (OHSAS) standards.

All employees and contractors are responsible to work better as teams in order to achieve the ultimate goal of working in an environment free from incidents. Every year, Global Safety Awareness Day serves as a reminder that we can achieve safety goals through teamwork and by looking out for each other. From training demonstrations to workshops and educational support, this annual celebration is observed across sites worldwide as a day that we recommit to safety.

This year's theme, "We care for our safety," highlights the fact that safety is in all of our best interests. We understand it is better to work together and to proactively identify potentially unsafe situations and behaviors. And we've maintained focus on improving our positive track record.

Our steady progress in safety is always an indicator that our overall business is operating with the attention to detail that is needed for success.

#### **Safety First**

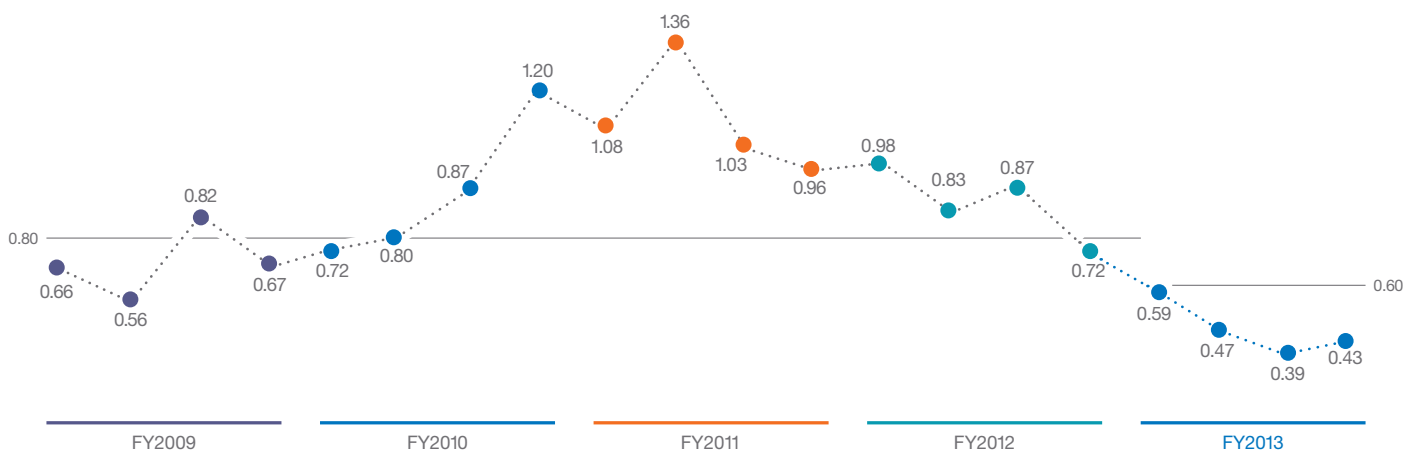
*"Our improvement in safety performance is a reflection of our ongoing commitment to create an accident free workplace. Our teamwork has made a difference; this past year, all three of our mills performed very well. I am proud to be a part of our evolving and advancing culture."*

Ken Fox, Corporate Manager, Safety & Health



## Five-Year Safety Performance

At SFPNA, safety is our top priority. Each data point in the chart below represents the 12-month rolling average of SFPNA's Lost Time Injury Frequency Rate (LTIFR); 0.60 represents the top quartile of industry safety performance in 2013. Prior to 2013, the benchmark was 0.80



## Hiring Veterans

As a supporter of American manufacturing growth, Sappi Fine Paper North America is also a strong proponent of getting veterans back into the workplace. At our mills in Maine and Minnesota, human resource teams have observed the valuable skills veterans gain during service that transfer into a variety of roles in the forest products industry.

To access former military candidates, Sappi works with local veteran's affairs offices and communicates in job postings that military experience qualifies as prior work experience for many of our open mill positions. While being a veteran does not automatically mean that you will be hired for an open position, Sappi considers military experience as a tie-breaker if two candidates are equally qualified for a job.

In 2013, one-third of new hires at our mill in Cloquet were former military personnel. With an increase in veteran workers at Sappi, there is also a sense of increased camaraderie and an infusion of dedication across the workforce. Sappi hopes that our peers in the manufacturing industry will also band together with us in supporting veterans.

### Hiring Veterans

The manufacturing industry is the second largest employer of male veterans behind only the government. —U.S. Bureau of Labor study, 2010

*"Military personnel have a proven history of quality work, craftsmanship, communication skills and leadership characteristics, and any company would be lucky to have such people working for them. I am proud to be a U.S. military veteran and to work for a company that recognizes us for everything we have done."*

—Jeremy Johnson, PM12 Reserve at Sappi's Cloquet Mill

## Health and Wellness

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Sappi is committed to introducing new ways for all employees to improve their well-being. Over the course of the past year, SFPNA invited Cigna's Mobile Learning Lab to literally bring wellness into the workplace. The travelling 18-wheeler truck stopped by multiple sites where employees participated in hands-on wellness stations. Promoting the importance of preventative health and positive lifestyles, the interactive exhibit helped raise awareness of daily decisions that can help create paths to healthy living.

On a regular basis, Sappi also additionally hosts various lectures and webinars exploring a variety of important wellness topics from managing stress to diet and exercise. Registered dietitians and fitness coaches often visit our workplaces so employees can learn helpful tips on healthy eating, stretching, massage, and other preventative health benefits, all while earning training hours. Activities like these are just some of the ways we are supporting and inspiring employees to take charge of their well-being.

## Training for Tomorrow

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Investing in training and education prepares our employees for the challenges and opportunities we face today and tomorrow. With more than half of our employees over the age of 50, our current workforce is highly skewed toward an older age demographic. As such, we must work harder than ever to attract college graduates and retain young professionals to ensure a sustainable workforce as our long-term, seasoned employees start to retire.

In 2013 we announced a new leadership development program entitled Enhancing Development and Growth through Engagement (EDGE). Approximately 100 of our newest employees have been selected to receive this

training. Participants have an opportunity to enhance their self-awareness, acquire valuable coaching skills and learn best practices for project management with the help of our Lean Six Sigma team. Through the EDGE program, Sappi has taken a proactive stance on bringing development opportunities to the newer members of Sappi's salaried team—early on in their careers when they can more readily benefit. Newer employees will also learn from a network of experienced mentors as they grow into their roles.

Skill-building programs like these are the key to success not only for emerging professionals, but for all skill levels. Two years ago, the Organizational Development Department developed a unique curriculum tailored for our salaried workforce called LEADS (Leadership Excellence and Development). The curriculum serves to meet the specific needs of mid-level SFPNA employees who receive in-depth training in everything from prioritizing work effectively to emotional intelligence and understanding how to adapt to personality types on the job.

Since the program's inception, over 90 percent of our salaried employees have attended at least one LEADS session, which has recently expanded to include programs for all salaried employees. Overall, the improvements are tangible. As an example, when our Sales Managers participated in a "Leadership Styles and Climate Feedback" survey for the second time around, the climate data for the entire Sales force showed progress over the prior survey, with the largest improvement in the area of flexibility.



## Job Growth

For years, Sappi has maintained long-standing relationships with many nearby academic institutions, making donations and providing scholarship money for students. Of course, the connection goes beyond financial support, with several Sappi employees serving as lecturers and advisors at local schools and the company sponsoring co-op programs to provide work experience to undergraduates.

Gordon Lane was studying environmental science at the University of Southern Maine when he applied for a co-op position with Sappi's Westbrook hydropower unit. With an interest in river policy and ecology, Lane brought an undeniable passion to his regulatory report writing, data collection analysis and dam safety monitoring. "The opportunity to work in industry on environmental regulations and water quality was interesting to me," Lane says. "Plus, I loved that I was doing real work, not getting coffee and making copies."

Having proved his worth, by December of 2012, Lane, now a USM graduate, was hired full-time as an environmental health and safety specialist. "My main jobs are in the environmental realm with the wastewater treatment process, boiler air emissions and the various manufacturing processes," Lane says. "I also work with the safety

manager on industrial health, safety, and security, potential exposure problems, security plans and managing the emergency operations center."

While he's benefited from working with the experienced personnel at Sappi, Lane also feels that there are opportunities for him to repay that debt by integrating new ideas into the day-to-day operations. "Capturing data and using various information technologies is natural to somebody of my generation," Lane says. "But when you do it and someone says 'I didn't even know that was possible,' it's really exciting."

Along with giving the company a return on its investment, Lane is also giving back to the community. As the lead Ambassador for the Westbrook Mill's sustainability team, he's helping connect Sappi employees to local community groups through various activities. He's also hoping to work with one of his former professor's classes on a Sappi wastewater treatment case study, showing that the newest generation of Sappi employees are already cultivating the next generation.





## Local Communities

We take great pride in the local footprint we have created in the communities in which we operate. Sappi's history within North America dates back to the 1850s and it's no surprise our civic involvement has also been active from the very beginning. Strong collaboration between Sappi and local institutions, organizations and partners reflects Sappi's commitment to support the community. In turn, the community is able to fulfill more needs in areas like research and education, creating a positive cycle of mutual benefits.

### Sustainability Ambassadors

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Over the past several years, we have developed a strong corps of Sustainability Ambassadors throughout the organization. Each manufacturing location, corporate office and the field sales team has a Lead Ambassador to help act as a point person to coordinate activities. The role of the Ambassador has been defined along three elements: supporting sustainability communication efforts, conducting training and fostering community engagement. The grass-roots work that the Ambassadors conduct throughout the year is critical to creating awareness of key environmental and social issues and is seen as a core to the success of the company. Examples of activities include river cleanups and trail maintenance, papermaking demonstrations with local schools and community partners (such as Girl Scouts), recycling and e-waste drives and "theme of the month" sustainability training programs. In 2013 the ambassadors developed *eQ Updates*, a company-wide electronic newsletter, designed to help celebrate the achievements of employees, exchange ideas for communications efforts and future events and cultivate a greater sense of community among Sappi employees.

### Fostering Education

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Our investments in people extend well beyond our existing workforce. In 2013 we announced three strategic initiatives to support Science Engineering, Technology and Math (STEM) and other educational programs at targeted colleges and universities. We pledged a combined total contribution of US\$250,000 for the University of Maine, the University of Southern Maine and the Fond du Lac Tribal Community College in Minnesota.

In addition to direct financial contributions, Sappi has longstanding relationships with other academic institutions. We routinely host tours of the mills for students and support co-op programs to provide work experience to undergraduates. Several of our employees serve as lecturers and advisors for local colleges and universities, and since 2012 Mark Gardner, President and CEO, has served on the Board of Trustees for the University of Maine System.

Many former recipients of pulp and paper scholarship programs work at all levels of leadership across the company, serving in various manufacturing and corporate positions. Targeted recruiting at local community colleges has proven to be very successful, particularly in hiring skilled workers to serve Electrician & Instrumentation roles at the mills.



Local resident Brian Shaw, and his family, enjoy recreational access to the Presumpscot River

Sappi also endeavors to reach students prior to entering college. Over the years, Sappi has backed the University of Maine's Consider Engineering Program, an outreach program designed to attract high school students to engineering. This past year, Sustainability Ambassadors organized a two-day career counseling program for Codman Academy high school students to create awareness of the breadth of career opportunities with a manufacturing company.

Codman Academy is a public charter school located in Dorchester, Massachusetts, with a 100 percent graduation and college acceptance rate. Sappi has supported Codman for over 10 years, sponsoring events and trips, giving lectures and donating resources. Our two day career event offered a special occasion for ten Codman Academy high school juniors to have the chance to meet with our employees and discuss their background, interests and career paths. One-on-one mentoring sessions were held in Boston and the following day students visited the mill and our Technology Center in Westbrook, Maine.

## Recreational Access to the River

Sappi operates six hydroelectric power stations along the Presumpscot River in Maine, providing renewable energy to our Westbrook Mill. The presence of these facilities impacts the local community in a variety of ways. By controlling water flow at dams, we directly manage the level of Sebago Lake and the volume of water in the river, both of which affect recreational activities such as boating and fishing. The lake level controls are mandated through a federal license which includes a plan aimed at addressing multiple stakeholder concerns. We also provide access to the river for activities such as tubing and fishing by providing parking, portage routes and infrastructure such as footbridges and stairways.

In addition to the physical infrastructure, in 2013 we also expanded our communication efforts by developing a blog. The site provides information about lake levels and river flows and also provides a forum to educate the public about general water safety rules and specifically dam safety.

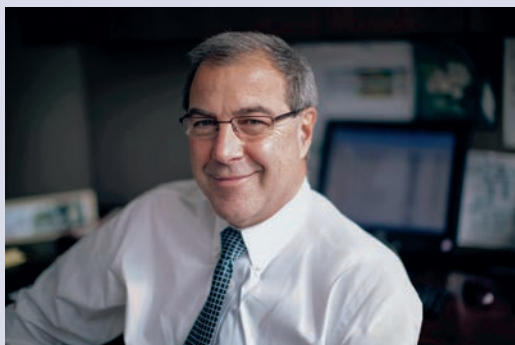
Westbrook Mayor, Colleen Hilton, has clearly identified the river as central to the revitalization of the city. There are numerous efforts underway to get the community on the river; to move beyond a visual focal point and actually using the river for recreational purposes.





Chad Pregracke and the crew from Living Lands and Waters work with countless volunteers to clean up the Mississippi River

### MPPA Service Award



Sappi is proud to have leaders that embody a commitment to the paper industry. In 2013, the Maine Pulp & Paper Association (MPPA) recognized John Donahue, Vice President of Manufacturing, for his dedicated service. John has over 29 years of manufacturing experience and has spent most of his career at Sappi. He has worked in technical, product quality and manufacturing operations at Sappi and his previous roles include serving as the Managing Director of Operations at the Somerset and Westbrook Mills.

Over the past ten years, John served as Vice Chairman of the association and as Chairman twice. Under his leadership, MPPA successfully worked with the state to establish scientifically sound environmental regulations, developed a more positive image of the pulp and paper industry in Maine, and made advancements in the area of human resources to ensure a skilled workforce into the future.

### Corporate Sponsorships

Sappi's corporate sponsorships support partners focused on environmental stewardship and education. Two of our ongoing sponsorships include Living Lands and Waters, a nonprofit dedicated to forest conservation and cleaning up the nation's waterways, and the New England Aquarium, which hosts a number of educational programs on endangered marine life and oceanic research. This year, SFPNA also supported WGBH, a Boston-based, global public broadcasting network. Our sponsored programming of the world-renowned NOVA series featured educational programs like a multi-segment show with science writer David Pogue of *The New York Times*.

For the past two years, Sappi has supported the student program for the Sustainable Forestry Initiative's annual conference. Funding for travel coupled with mentoring provides a unique experience for forestry students to attend a world-class conference, make industry connections, and learn about career opportunities in the wood products industry.





## Open Water / Common Ground

Building strong, positive relationships within the local community is a valuable outcome of corporate social responsibility efforts. In essence, successfully managing reputational risks creates our “social license” to operate. For any given project, collaboration between the private sector, non-profits and public interests can be fraught with roadblocks. Each group involved may have its own desired outcome and concerns as well as its own set of protocols and decision-making processes. The time it takes to coalesce and make progress can be disheartening for everyone participating. Sappi’s Westbrook Mill has been deeply involved in this type of multi-stakeholder engagement for years after the Gambo hydroelectric facility was relicensed in 2003.

Sappi’s license required creating recreational access to the river. The process did not go smoothly until 2009, when Hydro Manager/Utilities Engineer Brad Goulet became a part of the project. Working closely with Richard Curtis, board president for the Presumpscot Regional Land Trust (PRLT), Goulet and Sappi were able to demonstrate their commitment to opening up public access on company property, as well as their willingness to dedicate time and money to the plan.

After convincing Curtis that Sappi’s intention was as much about doing something good for the community as complying with federal regulations, Sappi and the PRLT were able to work together to overcome the legal and logistical hurdles stalling the project, including securing easements on a third-party owned land parcel adjacent to PRLT’s property. “We saw not only a tremendous amount of cooperation but also active involvement from Sappi,” Curtis says. “It’s a refreshing change and is tremendously supportive to the kind of conservation work that we do with the land trust.”

In terms of recreational opportunities, the project created a boat portage downstream from Gambo Pond, established fishing access via the dam property and created nature trails that connect to those on the adjoining PRLT land. “This is fairly pristine water that was inaccessible by the local population,” Curtis says. “Now we can get to and use this stretch of river, and that’s a real treat for the local people.”

The Gambo project is one of many public access initiatives that Sappi has undertaken on the six hydroelectric dams it owns on the Presumpscot River. Now that the issues of the past are water over the dam, Sappi and the local community are looking forward to working together on more programs that will let everyone enjoy this great waterway to the fullest extent possible.



## Customers

Sharing our sustainability performance with our customers is an integral element of our brand promise. Buyers want to know that they are working with reputable suppliers, eliminating risk from their supply chain. In addition to quality products and services, we are delivering peace of mind to pulp and paper buyers.

The Sustainability Customer Council has been a longstanding branch of our sustainability governance. We have relied on the candid feedback of our Council to help us develop our goals, identify emerging issues and shape our communication platform. Since inception, the group has been comprised of members from our various Coated Business customer segments including merchants, printers, publishers, brand owners and graphic designers. This year we decided to include members from our other business units and in 2014 we will be adding representation from our release business as well as our Specialised Cellulose business.

### Investing in our Brands

Sappi's commitment to marketing and educational outreach has been unmatched within our industry. While we recognize that print advertising is a declining market segment, our efforts have allowed us to capture higher market share, keeping our assets full and our product mix optimized for profitability. Targeted, strategic pieces have established Sappi as a unique supply chain partner.

### Print &

As marketing channels expand, we have embraced the evolution and worked to educate marketers about the synergies of print-activated media. Rather than taking a combative stance to defend print, "Print &" highlights persuasive study results showing how print drives return on investment when used in combination with alternative media to create effective integrated campaigns. Through independent research and compelling examples, Print & explores data on demographic preferences, emotional triggers as well as shopping behaviors that show how print creates an interactive, visually intriguing and tactile experience.







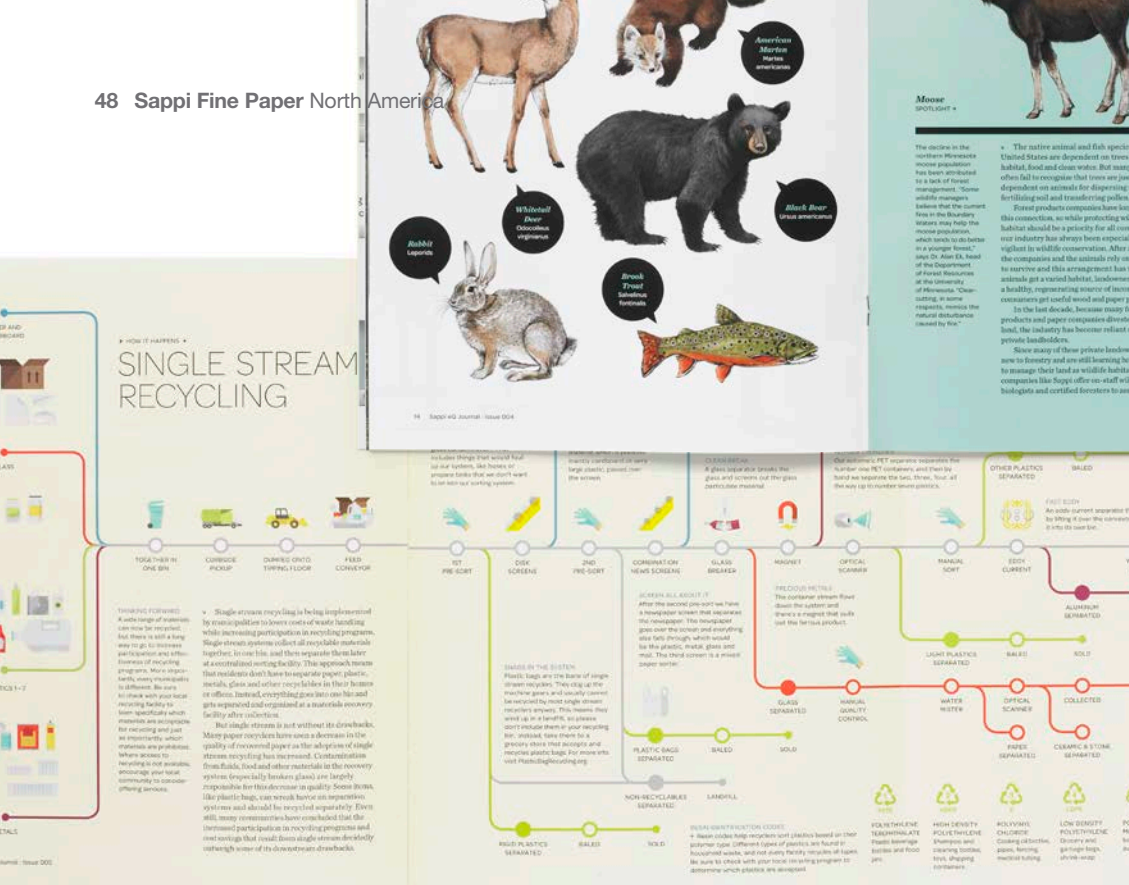
## Act Now!

At the close of 2013, Sappi launched Act Now! A Better Response to Direct Mail, a dynamic, educational resource to guide readers through the essential principles of creating effective mailings that deliver results. Act Now! showcases the strategies and techniques behind how direct mail can strike a uniquely delicate balance: the ability to package a message that will not only pique reader interest, but also ultimately drive consumer response. The resource guide is delivered in a tailored box with a clever opening mechanism. Recipients unzip the package to find the comprehensive guidebook and a summary version as well as samples of real-world mail pieces that serve as unique case studies. From a card campaign for a local butcher that wants to educate its neighbors on sustainable practices, to a dimensional format for Facebook, the samples showcase a variety of options that will inspire and educate direct marketers.

## Trend Books

Sappi's release paper business is centered on providing textured surfaces for coated fabrics and decorative laminates. As a means of inspiration for the design community, we create trend books twice a year. The books are used to highlight product offerings (patterns and finishing techniques) and show how they correspond with emerging color trends coming into fashion each season. It also gives us an opportunity to show our fabric casters and laminate manufacturers how they can better prepare samples for their customers. The release business marketing team recently redesigned the physical format and layout of the trend books which have been extremely well received in the marketplace. Custom-made swatch books have also been created in an effort to drive specification sales for key sporting goods companies based on patterns specific to their brands.





suppliers. "We educate landowners on forestry issues and the benefits of harvesting in terms of maintaining or attracting diverse wildlife," says Gary Erickson, regional manager of wood fiber and forest procurement for Sappi in the Pacific Northwest.

**sappi etc**

**Popular Content**

**Project Dose**  
06/2013  
Ideas That Matter  
A winning 2012 Ideas That Matter project, Project Dose is a program which addresses the issue of...

**eQ Journal - Is**  
02/2013  
eQ  
Recycling paper is a way to reduce our environmental footprint, but how we put that...

**The Standard - Effects**  
04/2013  
The Standard - Effects

## The Environmental Quotient

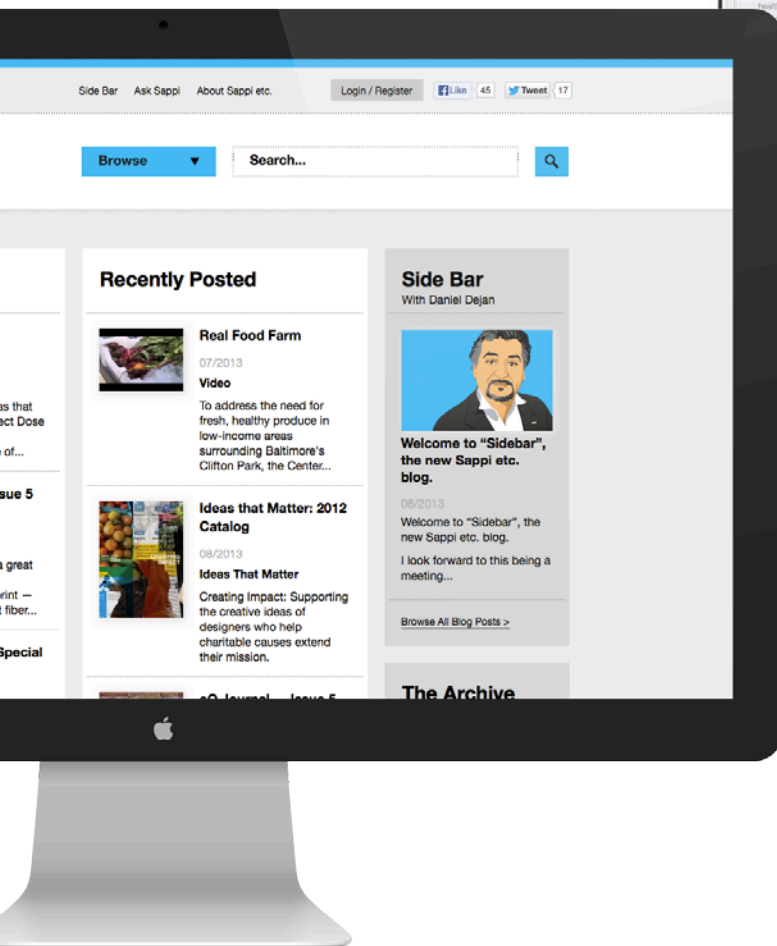
Sappi's Environmental Quotient (eQ) platform is dedicated to providing information grounded in facts and science. Tackling a key issue head on, *Sappi's eQ Journal 005: Rethinking Recycling* distinguishes between the facts and general misconceptions surrounding recycling and the paper life cycle. The edition highlights the benefits of recycling while challenging the common assumption that paper produced with a high percentage of recycled fiber is always better for the environment. With this latest *eQ Journal*, we implore stakeholders to look at the bigger picture of recycling to ensure our industry is putting recycled fiber to its best use, finding the most appropriate options that produce lower emissions and higher production yield. Because deinked pulp is more costly than Sappi's own made virgin pulp, we charge a premium to add recycled fiber to non-standard offerings. It is therefore critical that customers understand the trade-offs associated with using this fiber source for coated papers.

Included in the *Journal* are results of a study of our Somerset Mill which show that adding 10 percent recycled content increases the product's carbon footprint by 16

percent, compared to the same product made with 100 percent virgin fiber. In addition to revealing the trade-offs associated with recycled fiber, the *Journal* also promotes best practices of recycling, raising awareness of practical ways to reduce the environmental impact of using printed materials. Sappi also provides a series of custom-designed recycling logos available for download from our website, inviting everyone—especially corporate marketers and graphic designers—to get creative about promoting recycling.

## Education, Training and Consulting

This year we launched a new Sappi etc. microsite, an online educational platform providing access to more than a century's worth of rare historical documents, detailed case studies and expert technical advice as a part of the company's Education, Training and Consulting (etc.) program. Free and fully searchable, the Sappi etc. site covers everything from paper basics and sustainability resources to advanced print and design techniques, including color management, printer tech tips, special effects, varnishes, folding, and designing for direct mail.



Maria Moss and the Designmatters program at Art Center College of Design received an Ideas that Matter grant in 2012 to partner with the Los Angeles School Systems and middle school health teachers across the city to teach gun violence through unique and engaging curriculum tools.

Can we prevent violence before it starts—in the home, in our schools, in our communities, in our countries?

gun violence

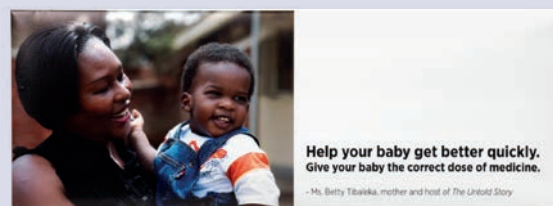
If we cannot end now our differences, at least we can make world safe diversity.



## Ideas that Matter

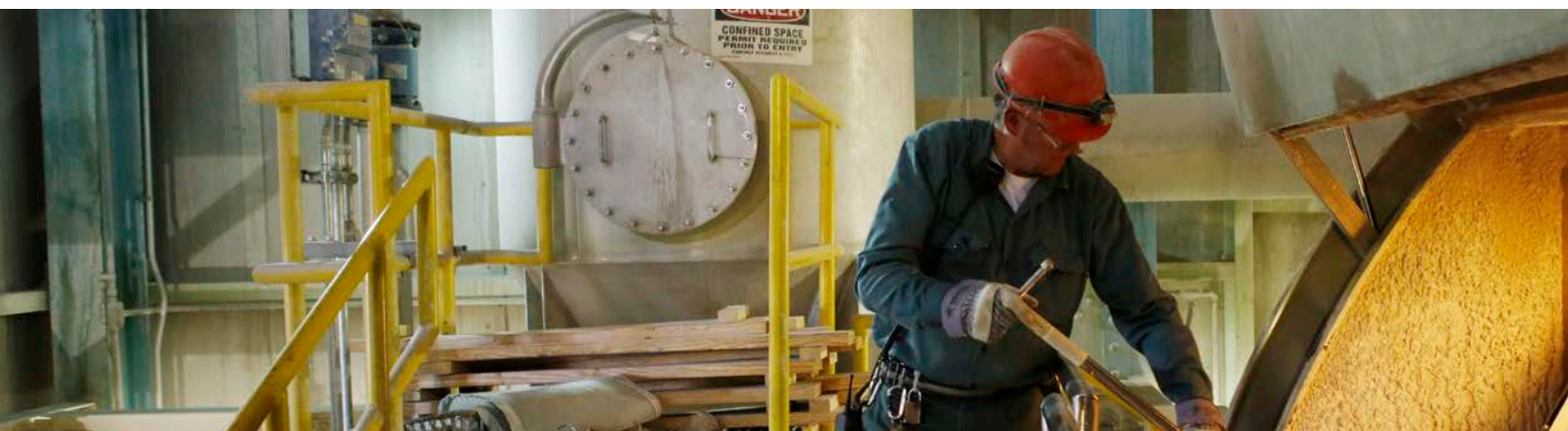
More than a decade ago, Sappi established the Ideas that Matter grant program to recognize and support designers who use their skills and expertise to solve communications problems for a wide range of charitable activities. Since 1999, Sappi has funded over 500 nonprofit projects, contributing over US\$12million worldwide to causes that enhance our lives and our planet. Targeted primarily at the design community, the program is open to individual designers, design firms, agencies, in-house corporate design departments, instructors, individual students and student groups. Through this program we routinely see the power of good print design supporting good causes. Working together with our customers, we aim to make a difference.

**Bao Design Lab was awarded a US\$40,000 Ideas that Matter grant to help implement Project Dose**



In many African hospitals, the high expense of drugs formulated specifically for children can be prohibitive. As a result, doctors often instruct mothers to split adult tablets into smaller portions to give to children. This haphazard practice has led to improper medical treatment. Inspired by a nurse who used a soda bottle to crush tablets in paper envelopes, Bao Design Lab worked with Ugandan partner Technology for Tomorrow to design and prototype a paper-based system that provided more accurate dosage. See the inspiring video by visiting [www.sappi.com/ideasthatmatterNA/videos](http://www.sappi.com/ideasthatmatterNA/videos).









## Key Performance Indicators

Our pulp and paper products are derived from renewable resources, made with high levels of renewable energy, and are designed to be reused or recycled. It is difficult to imagine a more sustainable industry than forest products; but not all paper companies perform equally when it comes to operating safely and sustainably. In the following pages, we offer readers a deeper look at environmental performance data—from fiber procurement and energy usage to our operations' impacts on air, water and solid waste. We have also included a set of social indicators and reaffirm our commitment to uphold the principles of the Universal Declaration of Human Rights.

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Fiber

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Emissions

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Energy

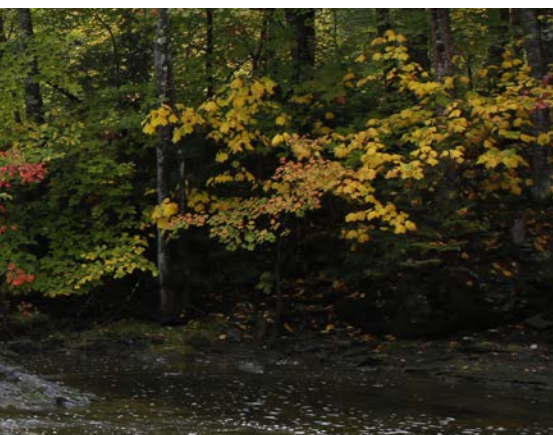
58

Water

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Solid  
Waste

60

Social  
Indicators

# Fiber

One hundred percent of our fiber is procured in accordance with the SFI® Fiber Sourcing standard as well as the FSC® Controlled Wood standard. These third-party certification programs provide assurance that wood-based products have been procured from well-managed forests and are legally harvested. In 2013 we converted our pulp mill at the Cloquet facility to manufacture dissolving pulp; as such, we are purchasing more kraft fiber than in prior years to support the papermaking operations at that mill. All of our purchased pulp was certified by one or more standards, which is reflected in higher FSC® fiber numbers as well as

higher “triple certified” fiber. The Point of Harvest certified fiber refers to wood fiber harvested by certified loggers not otherwise certified to one of the forest management standards (see p.22). Our recycled fiber is derived from post-consumer sources and is also FSC® certified. We do not have a deinking facility in any of our operations. All recycled fiber is purchased within North America and is processed chlorine free (PCF). All kraft pulp is elemental chlorine free (ECF) and is either made on-site or purchased within North America.

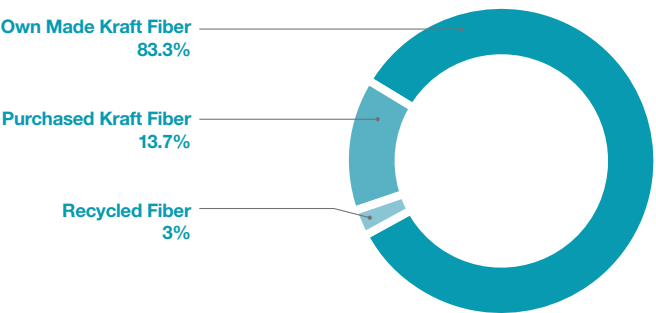
## 2013 Total Fiber Sourcing

100% of our fiber is procured in accordance with the SFI® Fiber Sourcing standard as well as the FSC® Controlled Wood standard.

## 2013 Total Fiber Certifications



## 2013 Types of Fiber

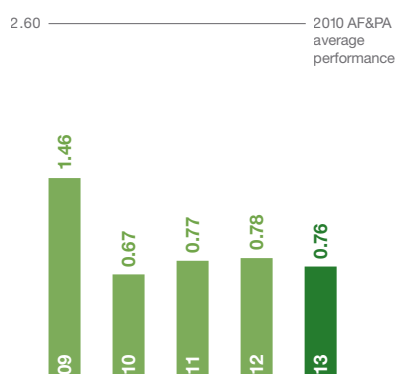


# Emissions

SFPNA has had a major focus on the reduction of fossil fuels and the emissions associated with combustion. We exceeded an aggressive five-year goal of a 40 percent reduction in greenhouse gas (GHG) intensity in just three years. We had the recovery boiler out of service this year at Cloquet due to planned outages for capital improvements. As a result, our greenhouse gas emissions were slightly higher than 2012, but we are still exceeding our goal and well ahead of industry average. We remain well below industry average for SO<sub>2</sub> emissions and have continued to make further reductions. Sappi's boilers currently meet most limits under the recently promulgated Industrial

Boiler MACT rules due to past capital investments and optimization of fuel mix. Equipment needed for further emissions control at each of our three mills is included in our capital plans as part of annual maintenance spending. In 2013, we entered into an agreement with Summit Natural Gas of Maine for the transportation of natural gas to our Somerset mill through a new gas pipeline which Summit is constructing. We are in the process of converting equipment at the mill to burn natural gas and once this project is installed and on line we will see another significant drop in greenhouse gas emissions.

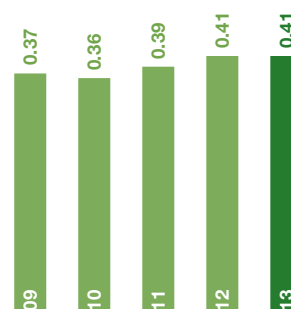
**SO<sub>2</sub> Emissions (kg/admt<sup>a</sup>)**



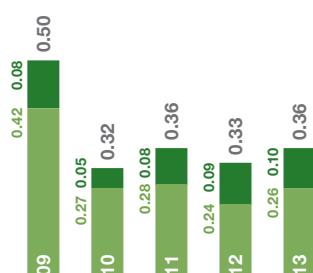
**NOx Emissions (kg/admt<sup>a</sup>)**



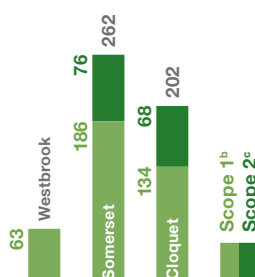
**Particulate Emissions (kg/admt<sup>a</sup>)**



**GHG Emissions (tonne CO<sub>2</sub>/admt<sup>a</sup>)**



**2013 GHG Emissions by Mill (1K tonne CO<sub>2</sub>)**



a Intensity metrics reflect the impact per air-dried metric ton of saleable product (including market pulp).

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

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

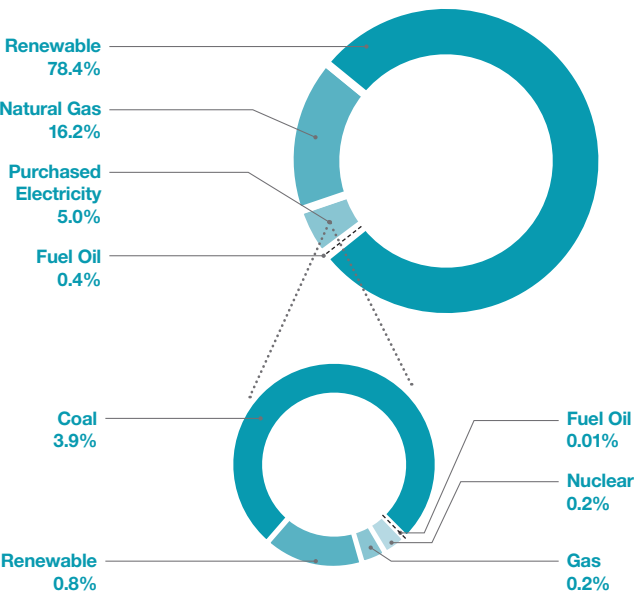


# Energy

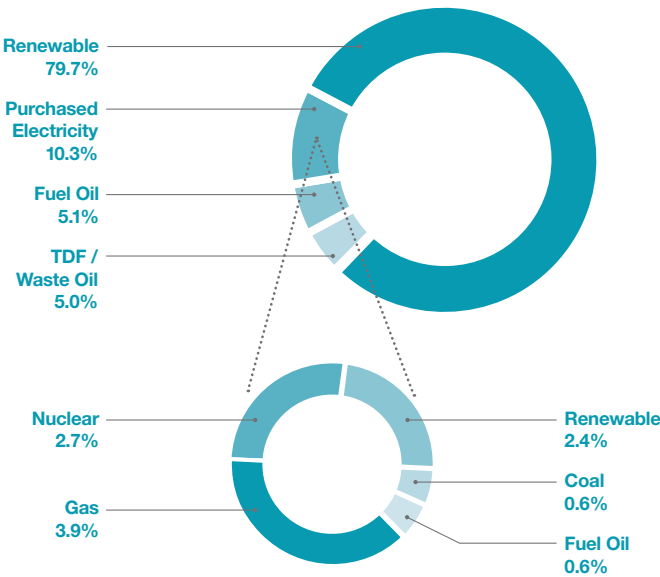
In our 2012 report, we adopted a calculation method that is used by the Department of Energy and the American Forest and Paper Association (AF&PA). In this method, energy consumption from purchased electricity is calculated in terms of fuel inputs to account for efficiency losses in generating and transmitting power. The equivalent energy value is represented in terms of sources as per power supplier provided data. Our Westbrook Mill does not buy power and the mill energy profile reflects sales of Renewable Energy Certificates (RECs). In 2013 we modified the pulping

process at Cloquet to manufacture dissolving wood pulp, a process that requires more energy and produces a product at a lower yield (fewer tons of output). As a result the overall energy intensity at that mill has increased; this change in operations is reflected in our performance data. We remain committed to a 10 percent improvement in energy intensity (see p.11). During the pulp mill conversion, the Cloquet mill utilized higher levels of natural gas than in prior years. With the project now complete, we will see an increase in renewable energy at that location in 2014.

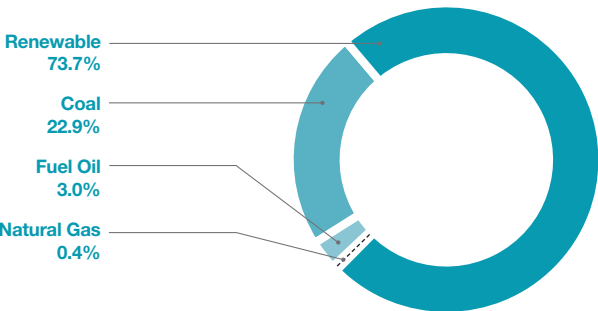
2013 Total Energy / Cloquet Mill



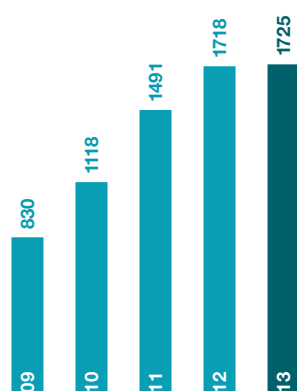
2013 Total Energy / Somerset Mill



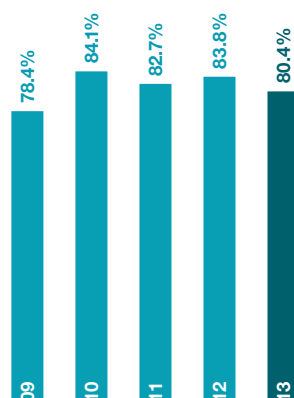
2013 Total Energy / Westbrook Mill



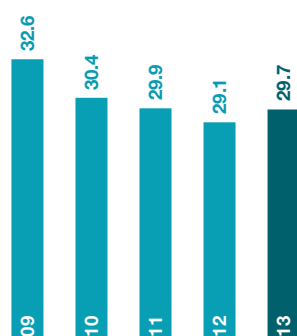
### Consumption of Alternate Fuels (terajoules/yr)



### % of Renewable Energy



### Energy Intensity (GJ/admt<sup>a</sup>)



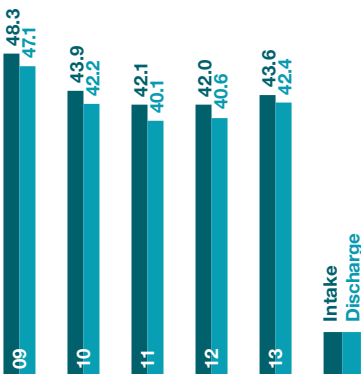
<sup>a</sup> Intensity metrics reflect the impact per air-dried metric ton of saleable product (including market pulp).

# Water

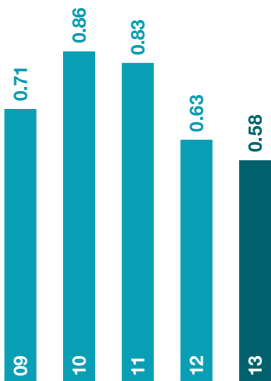
All pulp and paper mills in North America use and treat water in accordance with comprehensive environmental permits. Our North American mills use only surface water sources (rivers and lakes) and return treated water to the same primary source. (At Cloquet we return the water to a publicly owned treatment facility which then returns to Lake Superior.) Our water return is over 90 percent of

intake, creating a minimal water footprint. Water that is “consumed” in our operations is primarily that which is lost through evaporation to the atmosphere. While our water usage was up slightly in 2013, our water quality indicators (BOD and TSS) remained flat or improved as reflected below.

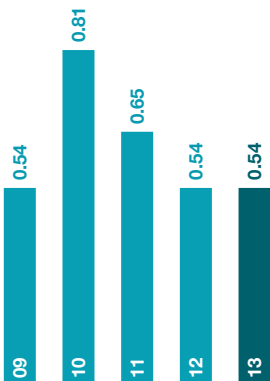
Water Intake/Water Discharge (m<sup>3</sup>/admt<sup>a</sup>)



BOD (kg/admt)



TSS (kg/admt<sup>a</sup>)



<sup>a</sup> Intensity metrics reflect the impact per air-dried metric ton of saleable product (including market pulp).

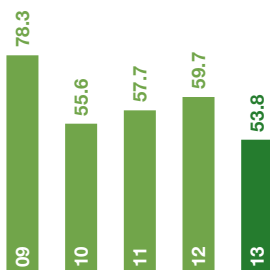


## Solid Waste

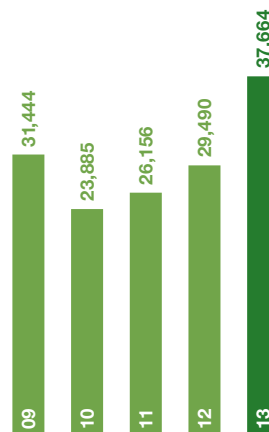
We have continued to make improvements in reducing solid waste to landfill. In 2013 our Somerset mill had a breakthrough in optimizing the lime kiln (see p.30) which resulted in less lime mud waste. In addition, reduced solid fuel rates led to less boiler ash being landfilled. Our mill in Cloquet, Minnesota, has developed a beneficial use program with the local agricultural extension program and

provides boiler ash and lime mud as a soil amendment to local farmers. These materials help farmers raise the pH of soil, creating better growing conditions for certain crops. We continue exploring beneficial use opportunities to find better opportunities as alternatives to landfill.

**Total Solid Waste to Landfill (kg/admt<sup>a</sup>)**



**Beneficial Use of Solid Waste (tonne/yr)**



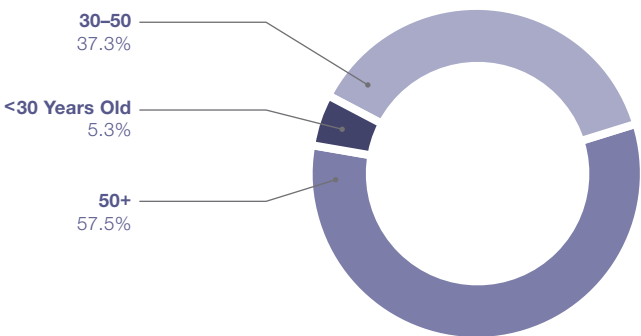
<sup>a</sup> Intensity metrics reflect the impact per air-dried metric ton of saleable product (including market pulp).

# Social Indicators

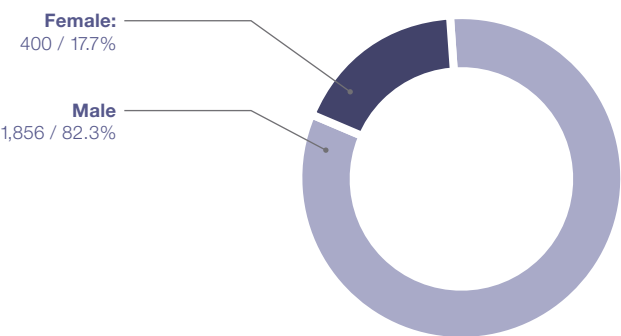
Sappi takes a very active approach to social responsibility, driving key initiatives in support of our three key stakeholder groups: our employees, our customers and the local communities in which we operate. One of the ways in which we improve the lives of people is by promoting freedom of association, nondiscrimination and the abolition of forced and child labor. We also uphold the principles of the Universal Declaration of Human Rights.

Sappi Limited has been a signatory of the United Nations Global Compact (UNGC) since 2008. We submit an annual communication on progress that describes our company’s ongoing efforts to support the social and environmental principles of the UNGC. This report can be found at *sappi.com* under the “Group Sustainability” section. Set forth below are key social performance indicators relative to the North American region in fiscal year 2013.

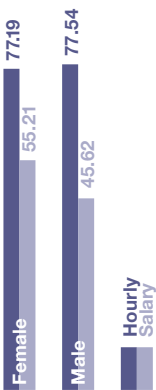
Age Demographic



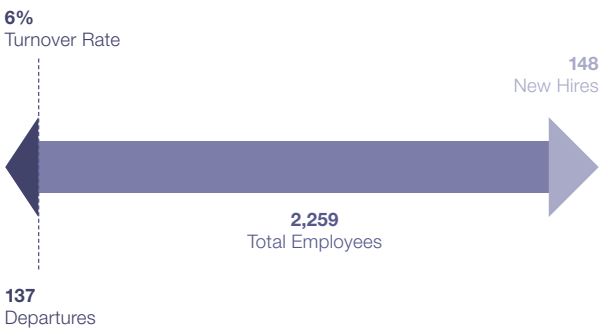
Workforce By Gender



Average Hours of Training Per Year Per Employee by Employee Category



Total Number and Rate of Employee Turnover



## The Ten Principles of The United Nations Global Compact:

### HUMAN RIGHTS

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and  
Principle 2: make sure that they are not complicit in human rights abuses.

### LABOUR

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;  
Principle 4: the elimination of all forms of forced and compulsory labour;  
Principle 5: the effective abolition of child labour; and  
Principle 6: the elimination of discrimination in respect of employment and occupation.

### ENVIRONMENT

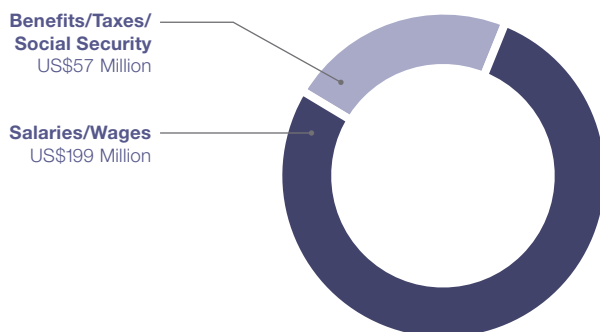
Principle 7: Businesses should support a precautionary approach to environmental challenges;  
Principle 8: undertake initiatives to promote greater environmental responsibility; and  
Principle 9: encourage the development and diffusion of environmentally friendly technologies.

### ANTI-CORRUPTION

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

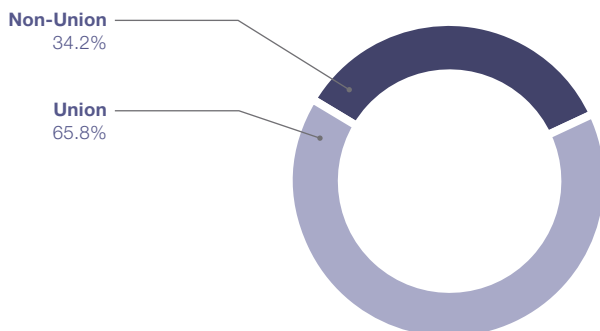
For more information visit [unglobalcompact.org](http://unglobalcompact.org).

## Sappi Contributions

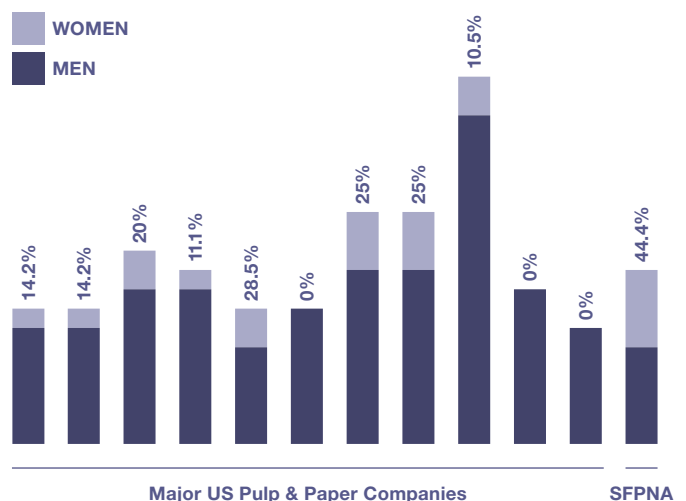


The forest products industry accounts for approximately 4.5 percent of the total US manufacturing Gross Domestic Product (GDP); manufactures nearly US\$200 billion of product a year; and employs nearly 900,000 people. The industry pays approximately US\$50 billion in compensation annually. “Many of the jobs in our industry are in rural communities whose economies depend on the success of the local mills.” — AF&PA President and CEO, Donna Harman.

## Percentage of Employees Covered by Collective Bargaining Agreements



## Percentage of Women in Leadership of Leading North American Pulp & Paper Companies







## Defining Sustainable Development

All too often I hear the word “sustainability” used loosely to represent environmental performance. It bothers me because I believe it is important for people to recognize all three elements of sustainability: environmental, social and economic responsibility. At Sappi we constantly strive to balance these issues while juggling near- and long-term business strategies. When projects come together that have benefits across all three aspects, we know we’re on the right track.

Throughout this report we’ve captured many highlights from 2013—celebrating successful investments in each of our three business units. As an engineer at a manufacturing company, it is always exciting to see investments in new technology. For many of my coworkers, the thrill of papermaking is about making top quality products as fast and efficiently as possible. At our core, we’re a company of people that like to make stuff better than our competitors. So it’s been quite a year—breaking numerous production records, installing new equipment at each of the mills and doing so with the best safety record ever.

For me personally, there is one project from 2013 that stands out as a major sustainability success story—the installation of the natural gas pipeline in Southern Maine. By agreeing to become the anchor tenant at our Somerset mill, we had to make a major financial commitment for a long-term gas contract. We are also committing to additional multimillion dollar capital projects to be able to fully utilize the gas. Indeed, there is clear financial return expected as a result of these investments. And there are also significant environmental and societal benefits.

By replacing #6 fuel oil with natural gas, our greenhouse gas emissions will be further reduced. On top of the clear benefits to the mill and the environment, there


are substantial benefits to the local community. Maine has long suffered from a lack of natural gas infrastructure. Recent census data shows that only 4 percent of homes are heated with natural gas (compared to a national average of 51 percent). The vast majority of Maine residents (80 percent) use fuel oil while others must rely on electricity. As a result of the natural gas project, 17 southern Maine communities will have access to natural gas for cooking and home heating.

In looking ahead, I am confident that Sappi will continue to add value for our shareholders and for our customers. We will continue to make advancements in our environmental performance, creating less waste and further reducing impact on air and water quality. We will find ways to make more with less. And we’ll continue to create mutual benefits to society; from individual outreach projects like recycling demonstrations at local schools, to the creation of recreational access along the Presumpscot River, to projects on the scale of a new pulp mill or the natural gas line—our company is making a difference within our local communities. Uniting the three pillars of sustainability: our people, our planet and prosperity. That is sustainable development. That is why I am proud to work for Sappi.

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Director, Technical Marketing & Sustainable Development

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Twitter: [@eQLauraThompson](https://twitter.com/eQLauraThompson)





### SFPNA Sustainability Report 2013

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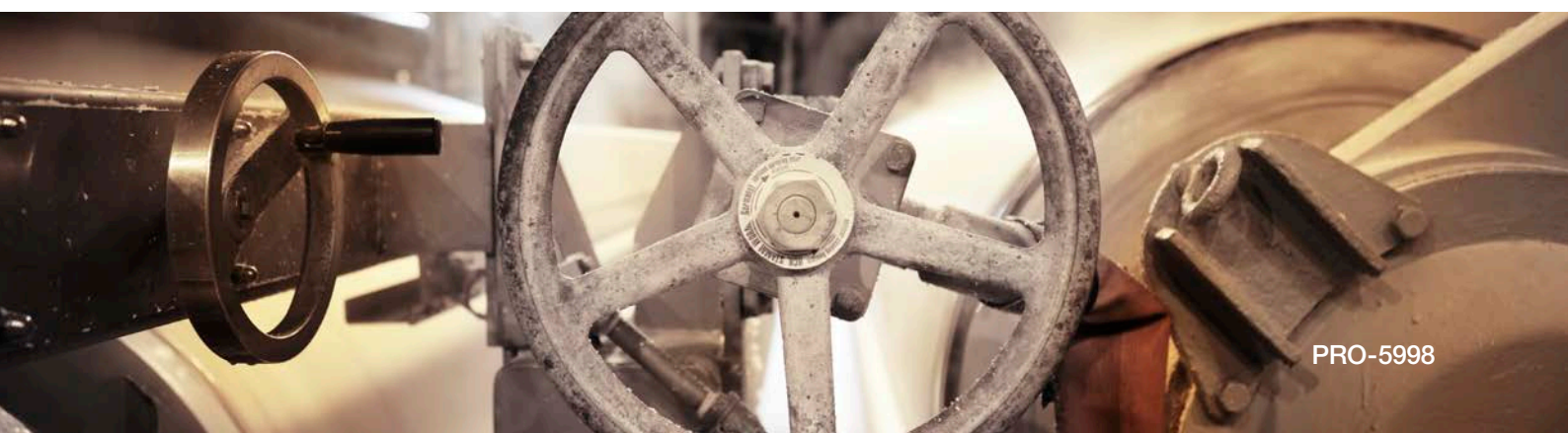




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