



American
Forest & Paper
Association



BETTER PRACTICES
BETTER PLANET **2020**
Continuing AF&PA's Commitment to Sustainability

2020 AF&PA SUSTAINABILITY REPORT

Advancing the sustainability
of an essential industry

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DATA METHODOLOGY

American Forest & Paper Association (AF&PA) member companies have been required to adhere to and report biennially on a set of Environmental, Health and Safety (EHS) principles (since they were adopted in 1998) and Sustainable Procurement principles. The information in this report on member performance has been generated through our 2018 EHS performance verification survey of members. Other data is from other AF&PA or government agency sources, where indicated. New requirements were adopted in 2019, applicable to 2020 member performance.

WELCOME

On behalf of the American Forest & Paper Association (AF&PA) and its members, we are honored to present our industry's achievements for the *Better Practices, Better Planet 2020* sustainability initiative.

Nearly a decade ago, AF&PA members introduced a set of sustainability goals that continue to demonstrate a commitment to improving the environment.

Today, we have many reasons to be proud. We achieved most of our goals, including progress toward a safety vision of zero injuries. Since 2006, we have improved our incidence rate by 38.4 percent.

The paper and wood products industry also was among the first to take voluntary action to reduce greenhouse gas (GHG) emissions. In 2011, we publicly announced the adoption of a GHG sustainability goal to be achieved by the end of the decade. The original GHG sustainability goal was to reduce the intensity of the industry's emissions by at least 15 percent. When members surpassed that goal, we again raised the bar, increasing it to 20 percent, which we have now successfully achieved with a 23.2 percent reduction.

And this year, our industry rose to an unexpected challenge — the coronavirus (COVID-19) pandemic. While we focused first on the safety of our employees, we also navigated supply chain disruption as we successfully met the needs of customers who depend on us for essential products.

AF&PA and our supply chain partners worked with federal and state officials to obtain an "essential" status for the industry as COVID-19 emerged. To this day, our mission remains critically important, grounded in a core set of principles and values, including sustainability and workplace safety.

The pandemic has reinforced the role our industry plays in producing essential products for safe and healthy living. Our employees maintain an essential position, manufacturing items of critical need. And our member companies remain an essential part of our nation's economy. They also are helping to respond and support others, donating supplies to communities greatly affected by COVID-19.

Together, we continue to rise to every occasion — whether it is a goal we set for ourselves or challenges we face in the global marketplace. Our members are constantly striving to reach new limits of possibility.

We both have the privilege to lead AF&PA at such a defining moment. And, while we celebrate the progress made as an industry, we see a greater purpose in our collective commitment to work that strengthens our resilience and impact for a brighter future.

We look forward to continuing this meaningful work ahead.

The signature of Heidi Brock, written in a cursive black font.

Heidi Brock
AF&PA President & CEO

The signature of Mark Sutton, written in a cursive black font.

Mark Sutton
AF&PA Board Chair
President & CEO, International Paper

PAPER AND WOOD PRODUCTS INDUSTRY & THE CIRCULAR ECONOMY

The paper and wood products industry is an important part of the broader circular economy, interacting with other industries, entities and individuals at all levels of society. Increasing circularity in our economy builds resilience, generates new business opportunities and provides economic, environmental and social benefits.

The paper and wood products industry is inherently circular in its supply chain from the regeneration of renewable resources (trees) that supply fiber and enhance the environment to recycling paper and packaging that is recovered and turned into new products. Our industry's manufacturing practices do more with less by maximizing efficient use of resources including fiber, reusing water and pulping chemicals multiple times, utilizing manufacturing residuals and byproducts to produce carbon-neutral biomass energy and optimizing the use of non-renewable resources.

On average, about 65.2% of members' energy demand is met through carbon-neutral biomass energy



Innovative product design helps reduce waste and ensure that more paper and wood products are reused and accepted for recycling. The paper and wood products industry also supports improved recycling and reuse infrastructure and encourages best practices so that our industry can reuse paper that is recovered for recycling and repurpose recovered wood to make new products.

Sustainable practices — forest management, efficient manufacturing, energy generation and conservation and fiber recovery — are critical to the circular economy and define the paper and wood products industry's dedication to protecting our environment and meeting our economic and societal commitments. Our existing *Better Practices*, *Better Planet 2020* goals, and development of new goals for 2030, show our continued commitment to increasing the circularity of our industry.



THE PAPER & WOOD PRODUCTS INDUSTRY IS CIRCULAR BY NATURE

Products made from a renewable resource

Manufacturing emphasizes energy conservation and reuse of inputs and materials including fiber, chemicals and water

Many of the industry's innovative and essential products are reusable and/or readily recyclable

Recycled fiber is an integral part of manufacturing and can be reused at least seven times



2019 AF&PA SUSTAINABILITY AWARD WINNER

Grease-resistant paperboard opens new curbside recycling horizons

WestRock's EnShield® Natural Kraft (ENK™) is an innovative, completely recyclable paperboard that has the same level of oil and grease resistance as plastic and plastic-lined alternatives. Manufactured at WestRock's Mahrt, Alabama paper mill, ENK's proprietary coating is achieved on the paper machine, eliminating the need for additional manufacturing steps. ENK has the natural aesthetics that match consumers' environmental preferences; meets the requirements for takeout food, bakery and frozen food packaging; and allows WestRock customers to improve their sustainability profiles without sacrificing performance.

PROGRESS TOWARD SUSTAINABILITY GOALS

The *Better Practices, Better Planet 2020* sustainability initiative is one of the most extensive sets of sustainability goals established for a U.S. manufacturing industry. This initiative recognizes the three essential pillars of sustainability — economic, environmental and social — interdependent factors that collectively support long-term viability, growth and improvement. AF&PA members subscribe to the sustainability concepts recognized by a number of international forums, and we have noted where our goals align with the objectives of the United Nations Sustainable Development Goals (U.N. SDG).



BETTER PRACTICES 2020 BETTER PLANET

Continuing AF&PA's Commitment to Sustainability

Since our goals were established in 2011, AF&PA has reported member progress in a biennial report. The current report reflects data from 2018 and progress achieved from the 2005 baseline, except where noted. Annually, AF&PA recognizes member companies for achievement in the various goal categories and presents an award for innovation. Member companies submit projects for consideration and the winners are selected by a third-party judging panel of sustainability experts from NGOs, academic institutions, government organizations, trade associations and other organizations. Award winners for 2018 and 2019 are featured throughout this report.

Our final progress report on *Better Practices, Better Planet 2020* is expected in 2021, along with the release of our 2030 sustainability goals. Explore AF&PA's *Better Practices, Better Planet 2020* sustainability goals online at sustainability.afandpa.org.



2018 AF&PA Sustainability Award Winners

Alignment with the United Nations' sustainability goals

The United Nations Sustainable Development Goals were adopted by all member states in 2015 as part of the organization's *2030 Agenda for Sustainable Development*. Of the seventeen goals, eight align significantly with the paper and wood products industry's sustainability efforts:

- | | |
|--|---|
| | Quality Education |
| | Clean Water and Sanitation |
| | Affordable and Clean Energy |
| | Decent Work and Economic Growth |
| | Sustainable Cities and Communities |
| | Responsible Consumption and Production |
| | Climate Action |
| | Life on Land |

PROGRESS BY THE NUMBERS

AF&PA Sustainability Goal	2018 Performance*	Baseline (2005*)	Progress from baseline year
 Improve safety incidence rate by 25%, while working to achieve zero injuries	1.617 recordable cases per 200,000 hours worked	2.625 recordable cases per 200,000 hours worked (2006)	38.4% improvement in recordable incidence rate GOAL SURPASSED
 Increase wood fiber procurement from certified forestlands and certified fiber sourcing programs; decrease illegal logging	99% from certified fiber sourcing programs; 28.1% from certified forestlands	87% from certified fiber sourcing programs; 23% from certified forestlands	12 percentage point improvement from certified sourcing programs; 5.1 percentage point improvement from certified forestlands GOAL ACHIEVED
 Improve purchased energy efficiency by at least 10%	11.21 million BTUs per ton of product	12.94 million BTUs per ton of product	13.3% decrease in purchased energy GOAL SURPASSED
 Reduce greenhouse gas emissions by at least 20%	0.636 ton CO ₂ eq per ton of product	0.828 ton CO ₂ eq per ton of product	23.2% decrease in GHG emissions GOAL SURPASSED
 Reduce pulp and paper mill water use by at least 12%	10,503 gallons per ton of product	11,281 gallons per ton of product	6.9% reduction in water use
 Exceed 70% paper recovery for recycling	66.2% (2019)	51.5%	14.7 percentage point increase in paper recycling rate

* unless otherwise indicated





WORKER SAFETY



2018 AF&PA SUSTAINABILITY AWARD WINNER

Implementing a proactive approach to workplace safety

Resolute Forest Products introduced a safety audit process focused on individual accountability. Employees are held accountable for working safely so as not to endanger their own health and safety or that of their co-workers. Individual accountability is achieved through the implementation of three components: pre-task risk analysis, proactive near-miss reports and safety committee meetings. This project led 26 of the company's operations to finish 2017 without a single recordable injury.



AF&PA WORKER SAFETY GOAL HIGHLIGHT

38.4% improvement
in recordable incidence rate

(from 2006 baseline)

2019 AF&PA SUSTAINABILITY AWARD WINNER

Shielding workers from potential danger

WestRock's Kraft containerboard mill in Hopewell, Virginia developed a safety shield to cover the recovery boiler ports and eliminate risk of burn injuries to boiler operators and bystanders. Mill workers made the shields in-house out of durable, lightweight aluminum and applied complementary safety controls, such as signage and a safe pedestrian walkway. The safety shields can be implemented at any Kraft paperboard or containerboard mill and are helping WestRock to achieve their company-wide goal to eliminate serious injuries and fatalities.

2018 AF&PA SUSTAINABILITY AWARD WINNER

Shifting to a culture of safety

American Eagle Paper Mills designated safety as their main area of focus for 2017. At their Tyrone, Pennsylvania mill, the company identified issues and inadequacies with their equipment guards, increased communication across all levels and empowered employees to stop individuals who are creating potential safety incidents. In January 2018, they completed 365 days without a lost-time injury — a record achievement in the history of the mill.



PROGRESS TOWARD SUSTAINABILITY GOALS *GOAL SURPASSED*

WORKER SAFETY GOAL

A vision for the industry of zero injuries and measuring progress toward that aspirational goal by further improving our incidence rate by 25 percent from 2006 to 2020

Safety excellence is a top priority for AF&PA and our member companies. “Goal Zero” is more than a target — it is a mindset. Every day our employees are working hard to make products that play an essential role in the health and safety of Americans.

In 2018, the member company recordable incidence rate was 38.4 percent lower than the 2006 baseline of 2.625 recordable cases per 200,000 hours worked. In 2018, there were 1.617 recordable cases per 200,000 hours worked, which represents the total number of hours that 100 employees would log in 50 weeks, based on a 40-hour work week.

AF&PA members have made continuous progress in improving worker safety while striving for the zero-injury goal and have implemented innovative methods to improve safety in their facilities. In 2018, AF&PA members provided safety training for 100 percent of their new employees. They also provided useful and timely safety updates and invested in programs to promote the well-being of their employees and the communities where they operate. As part of this ongoing effort to help our members reduce serious injuries and fatalities (SIFs), AF&PA convened safety workshops aimed at discussing how to identify and remediate SIF precursors; developed survey instruments for collecting SIF-related data from member companies; compiled a compendium of publicly available workplace health and safety information; and organized safety webinars.

In 2020, the paper and wood products industry was faced with unique challenges as a result of COVID-19. Our long-standing commitment to safety as a priority gave our industry an excellent foundation upon which to address COVID-19 safety needs for our people. See page 22 to find out how AF&PA and member companies responded.

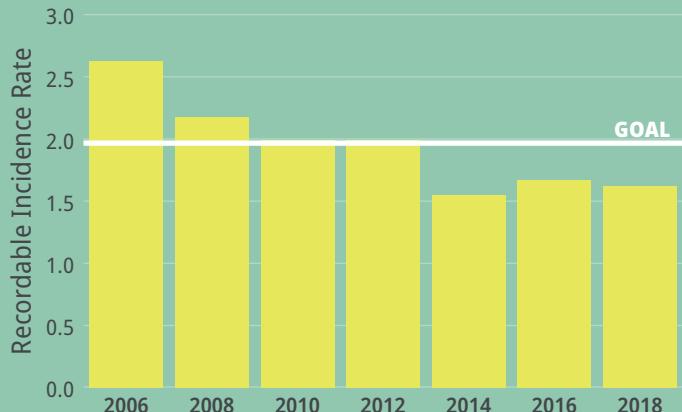
2006 Baseline:

2.625 recordable cases per 200,000 hours worked

2018 Performance:

1.617 recordable cases per 200,000 hours worked

Worker Safety



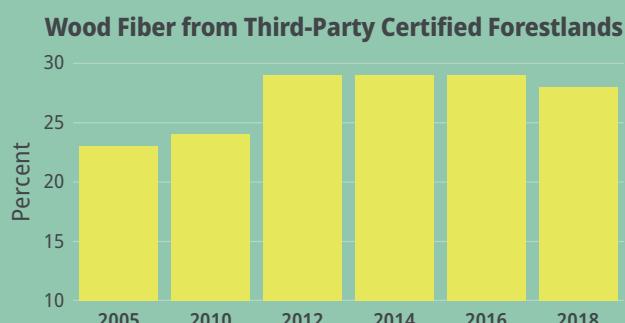
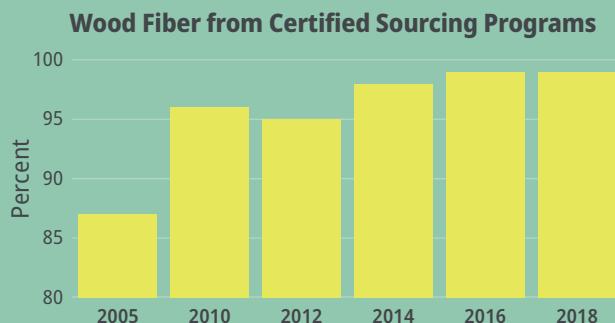
PROGRESS TOWARD SUSTAINABILITY GOALS **GOAL ACHIEVED**



SUSTAINABLE FORESTRY GOAL

Increase the amount of fiber procured from certified forestlands and through certified fiber sourcing programs in the United States from 2005 to 2020 and work to decrease illegal logging¹

Forests are an economic resource, providing the renewable materials needed to make recyclable and compostable paper and packaging products, as well as energy efficient wood products that store carbon. A healthy paper and wood products industry is complementary to and promotes healthy forests.



Wood fiber that members sourced from third-party certified forestlands increased from 23 percent in 2005 to 28.1 percent in 2018.

2005 Baseline:

87% from certified fiber sourcing programs

23% from certified forestlands

2018 Performance:

99% from certified fiber sourcing programs

28.1% from certified forestlands



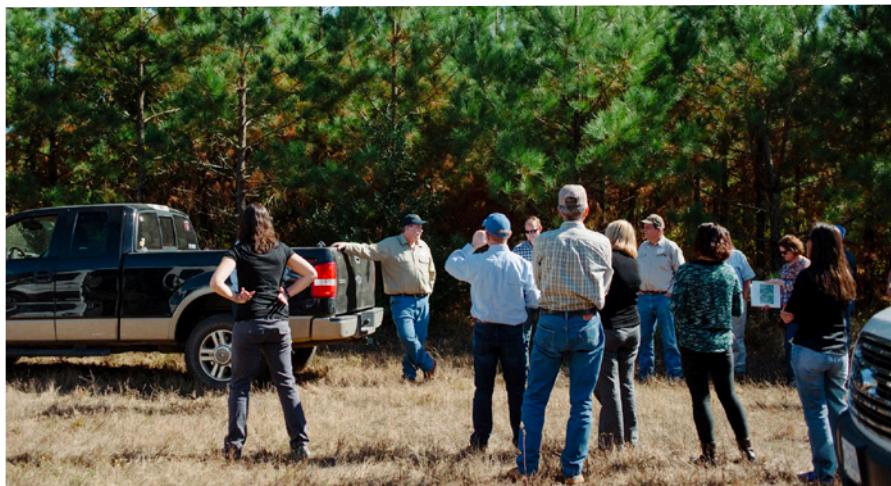


SUSTAINABLE FORESTRY

Over the past decade, paper and wood products companies extensively divested their forestlands. As a result, AF&PA membership operates mostly manufacturing facilities. As a condition of membership, the few AF&PA members that owned foresland in 2018 conformed to credible forest management program standards, such as the Sustainable Forestry Initiative®, the Forest Stewardship Council® program, the American Tree Farm System™ or the Programme for the Endorsement of Forest Certification.

Members safeguard against fiber procurement from illegally-logged sources by documenting fiber sources, requiring supplier procurement agreements and using third-party certification of chain-of-custody systems.

To further prevent illegal logging and stop importation of illegally harvested forest products, AF&PA advocates for Lacey Act funding and the United States Department of Agriculture Forest Service International Programs. AF&PA also advocated for sustainable forest management provisions in the new U.S.-Mexico-Canada Agreement (USMCA), including language acknowledging the importance of combatting illegal logging and a commitment to promote trade in legally-harvested forest products.



2019 AF&PA SUSTAINABILITY AWARD WINNER

Promoting sustainable forest management for landowners

Domtar addresses certification challenges for small landowners in their southern U.S. wood procurement region, ensuring a greater supply of certified fiber to their pulp and paper mills to meet growing consumer demand. As a founder and supporter of the Appalachian Woodlands Alliance, the company engages hundreds of small landowners in Kentucky, North Carolina, Tennessee and Virginia in responsible management of their woodlands. Domtar also helped 220 landowners across Arkansas, Louisiana, Oklahoma and Texas achieve certification for 628,000 acres of woodland through the Four States Timberland Owners Association.

AF&PA SUSTAINABLE FORESTRY GOAL HIGHLIGHT



**12 percentage point increase
from certified fiber sourcing programs**

**5.1 percentage point increase
from certified forestlands**

(both from 2005 baseline)



ENERGY EFFICIENCY

2018 AF&PA SUSTAINABILITY
AWARD WINNER

New systems yield energy savings

Clearwater Paper replaced an old Kraft batch digester system at their Lewiston, Idaho pulp mill with a continuous digester that significantly reduced the mill's reliance on fossil fuels. The company saved more than 100,000 pounds per hour of steam compared to the previous batch process — an estimated reduction of 150,000 tons of greenhouse gas (GHG) emissions per year. Their reduced energy needs are expected to avoid the same amount of GHG emissions per year going forward.



2019 AF&PA SUSTAINABILITY AWARD WINNER

Shedding light on reduced energy use

Seaman Paper reduced their electricity consumption by over 1.2 million kilowatt hours per year by switching a significant portion of their lighting to LED. The lightweight papers and decorative packaging supplier used energy conservation incentives provided by their utility to replace existing lighting with LED or specify LED lighting in their converting plants and warehouses in north central Massachusetts. Cost savings from the project offset payment to the utility and are now accrued by Seaman Paper. In addition, the project improved lighting in the facilities, promoting safety.

AF&PA ENERGY EFFICIENCY
GOAL HIGHLIGHT



13.3%
decrease
in purchased energy
(from 2005 baseline)



PROGRESS TOWARD SUSTAINABILITY GOALS *GOAL SURPASSED*

ENERGY EFFICIENCY GOAL

At least a 10 percent improvement in members' purchased energy efficiency from 2005 to 2020⁴

Purchased energy represents the third largest manufacturing cost for the paper and wood products industry.⁵ Increasing energy efficiency is a fundamental energy management objective of AF&PA members.

In 2018, member purchased energy use per ton of product was 13.3 percent lower than the 2005 baseline year. Purchased energy used by AF&PA member facilities is the total of all purchased fuels (fossil and renewable biomass), as well as electricity and steam purchased from other providers.

AF&PA members have continuously invested in improving the energy efficiency of manufacturing operations, upgrading press sections, drying sections, coaters and pulp digesters, to name a few. These investments played a key role in surpassing the goal. Additionally, AF&PA members have been replacing old energy equipment with new efficient ones that use cleaner fuel sources like natural gas, further contributing to the accomplishment.

In 2018, AF&PA member pulp and paper mills self-generated 55 percent of the electricity needed to power their mills, most of which was renewable using carbon-neutral biomass manufacturing residuals. Thirty-eight percent of member mills generated more than half of their needed electricity and twenty-one percent also sold excess power — much of it renewable — to the grid.

In 2018, 98.9 percent of electricity generated in the U.S. paper and wood products industry was produced using combined heat and power (CHP).⁶ The paper and wood products industry is the second largest industrial sector producer of CHP electricity after the chemical industry.⁷ CHP produces electricity and steam. Total system efficiencies typically range from 60 to 80 percent,⁸ compared to non-CHP electrical stations, which are only about 33 percent efficient.⁹

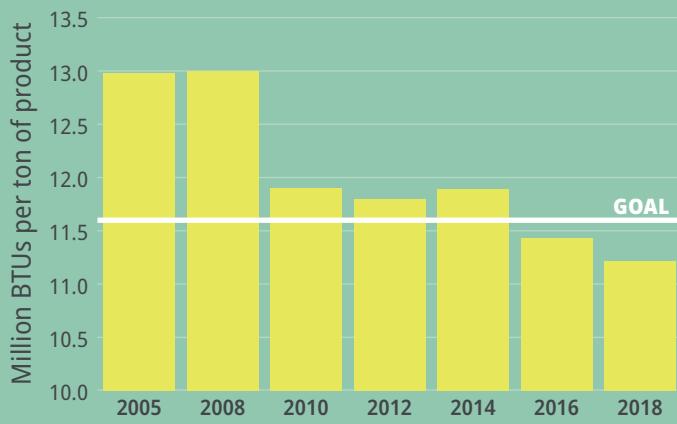
2005 Baseline:

12.94 million BTUs per ton of product

2018 Performance:

11.21 million BTUs per ton of product

Purchased Energy Use



PROGRESS TOWARD SUSTAINABILITY GOALS **GOAL SURPASSED**



GREENHOUSE GAS EMISSIONS GOAL

At least a 20 percent reduction of our members' greenhouse gas emissions from 2005 to 2020¹⁰

The paper and wood products industry was among the first to take voluntary action to reduce greenhouse gas (GHG) emissions. In 2011, AF&PA publicly announced the adoption of energy efficiency and GHG sustainability goals to be achieved by the year 2020. The original GHG sustainability goal was to reduce the intensity of the industry's emissions by at least 15 percent from 2005. When members surpassed the original goal, they raised the bar, increasing the goal to 20 percent.

In 2018, members surpassed the new goal, reducing GHG emissions — measured in carbon dioxide equivalents (CO_2eq) per ton of product — by 23.2 percent from the 2005 baseline. The goal includes Scope 1 emissions, which are those generated on-site, and Scope 2 emissions, which are those associated with the generation of purchased electricity and steam.

Members' success in surpassing the GHG emissions goal can be attributed to their switching to much less carbon-intensive fuels, adoption of energy efficient manufacturing methods and the continued use of carbon-neutral biomass fuel.



GHG emissions from natural gas per unit of energy are substantially less than that of coal and residual fuel oil. Since 2005, members reduced use of coal and residual fuel oil by 77.5 percent and 92.5 percent, respectively, and increased use of natural gas by 84 percent. These reductions in the use of coal and residual fuel have helped accelerate progress on AF&PA's GHG sustainability goal. Further, manufacturing efficiency improvements resulted in reduced total energy demand leading to additional reductions in GHG emissions.

In 2018, carbon-neutral biomass and renewable fuels provided, on average, about 65.2 percent of member facility energy needs.

2005 Baseline:

**0.828 ton CO_2eq per ton
of product**

2018 Performance:

**0.636 ton CO_2eq per ton
of product**





GREENHOUSE GAS EMISSIONS



2019 AF&PA SUSTAINABILITY AWARD WINNER

Improved energy efficiency contributes to significant emissions reductions

Resolute Forest Products took concrete action to reduce greenhouse gas (GHG) emissions at their pulp, paper, tissue and wood products mills across the United States and Canada by improving the energy efficiency of their operations, producing renewable energy and managing water efficiently, as well as reducing waste and reliance on fossil fuels. These actions have allowed Resolute to reduce their absolute GHG emissions (Scope 1 and 2) by 81 percent relative to 2000 levels, benefiting both the environment and their bottom line.

PAPER & WOOD PRODUCTS ARE A SUSTAINABLE CHOICE

Paper and wood products are sustainable materials, made from renewable resources, using mostly renewable energy including biomass and hydroelectricity. According to the U.S. Environmental Protection Agency (EPA), the U.S. pulp and paper industry was responsible for about 0.5 percent of the total U.S. CO₂ emissions in 2016.

Forests provide an important ecosystem service by sequestering carbon and growing trees that release oxygen, supporting life on our planet. Wood stores carbon indefinitely, even as a finished product, reducing the effects of greenhouse gas emissions over the long term. Paper and wood products mills use biomass residuals to produce bioenergy for manufacturing.

AF&PA GREENHOUSE GAS EMISSIONS GOAL HIGHLIGHT



23.2% reduction

in greenhouse gas emissions

(from 2005 baseline)



WATER USE



2018 AF&PA SUSTAINABILITY AWARD WINNER

Small steps lead to significant water savings

Domtar's mill in Hawesville, Kentucky made 17 upgrades, repairs and process changes that conserved vital water resources for their operations and the mill's surrounding ecosystem. These small, relatively inexpensive projects amounted to collective water savings of nearly 2,200 gallons per minute or 3.2 million gallons per day. The mill's total water intake decreased 34 percent, contributing to cost savings to pump, treat and heat process water, boiler feed water and effluent.

2019 AF&PA SUSTAINABILITY
AWARD WINNER

New technologies, new techniques cut water consumption

Green Bay Packaging's 100-percent recycled linerboard and medium mill in Green Bay, Wisconsin initiated water reuse practices, equipment investments, technology installations and chemistry changes that resulted in water efficiencies and reductions. Between 2005 and 2018, the mill achieved a 15 percent reduction in overall water use and an 18 percent reduction in water use per ton of paper production, while increasing production by 10 percent. Improving water reuse and recycling also reduced energy use and related greenhouse gas emissions and provided resource savings to the community.

AF&PA WATER USE
GOAL HIGHLIGHT



6.9%
reduction
in water use
(from 2005 baseline)



PROGRESS TOWARD SUSTAINABILITY GOALS

WATER USE GOAL

A 12 percent reduction in member pulp and paper mill water use from 2005 to 2020¹¹

Water is an essential part of the pulp and papermaking process. Therefore, water stewardship is critical. While the industry is a large user of fresh water, the paper and wood products industry consumes comparatively little of the water it uses. AF&PA members are constantly striving to find new ways to reduce, reuse and recycle the water they use in their manufacturing process.

Improved technology and innovation allow water to be reused 10 times or more throughout the pulp and paper mill process before it is discharged.¹² Eighty-eight percent of water used for production of paper and wood products is treated in a wastewater system and returned to the environment.¹³ The remaining 12 percent is consumed either through evaporation during the manufacturing process or is sequestered in the products themselves.

AF&PA members made significant early progress in reducing water use, but additional progress has been challenging. In 2018, AF&PA member pulp and paper mill water use per ton of product decreased by 6.9 percent from the 2005 baseline year, largely unchanged from recent years.

Members' increasing focus on water stewardship has resulted in greater water use reduction when those reductions are beneficial in the context of a mill's location. Specifically, when adjusted to provide greater weight to reductions occurring at mills in water-stressed areas, AF&PA members reduced their process water use by 13.1 percent.¹⁴

While we have not achieved our ambitious goal, our progress has shown significant effort to improve water resource management.

2005 Baseline:

11,281 gallons per ton of product

2018 Performance:

10,503 gallons per ton of product

Water Use



PROGRESS TOWARD SUSTAINABILITY GOALS



PAPER RECOVERY FOR RECYCLING GOAL

Exceed 70 percent rate of paper recovery for recycling by 2020¹⁵

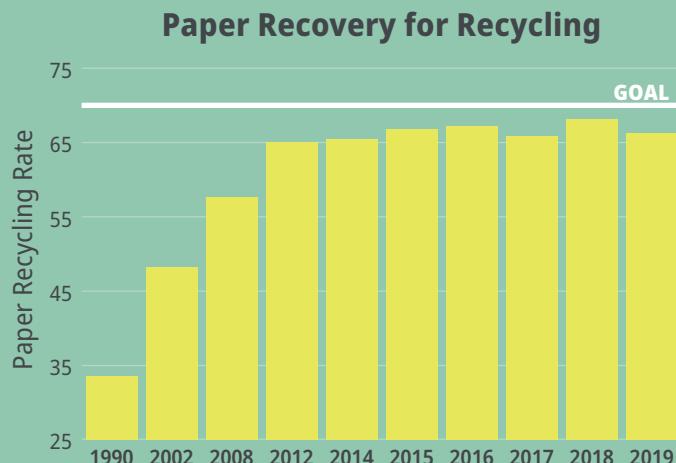
Approximately 80 percent of all U.S. paper mills use some recovered fiber to make everything from paper-based packaging to tissue products to office paper and newspaper. Fibers can be reused at least seven times to make new and innovative products.¹⁶

In 2019, the paper recycling rate was 66.2 percent. This reflects the amount of recovered fiber that was used to manufacture new products in mills in the U.S. or exported to manufacture new products around the world.

Paper recycling is an environmental and economic success story. The recycling rate has nearly doubled since 1990, thanks to voluntary industry efforts to build the commercial paper recovery infrastructure and to the commitment of millions of Americans who choose to recycle at home, work and school every day.

Our success with this goal is rooted in AF&PA's strong advocacy and outreach to policymakers and consumers. We collaborate with The Recycling Partnership to build communities' capacity to improve recycling across the United States and participate in the U.S. EPA's America Recycles Workgroup to take action with others to address the challenges and opportunities facing the U.S. recycling system. We also provide resources for stakeholders and the public

to improve the quantity and quality of recycled paper and packaging through our online platforms including paperrecycles.org.



2005 Performance:

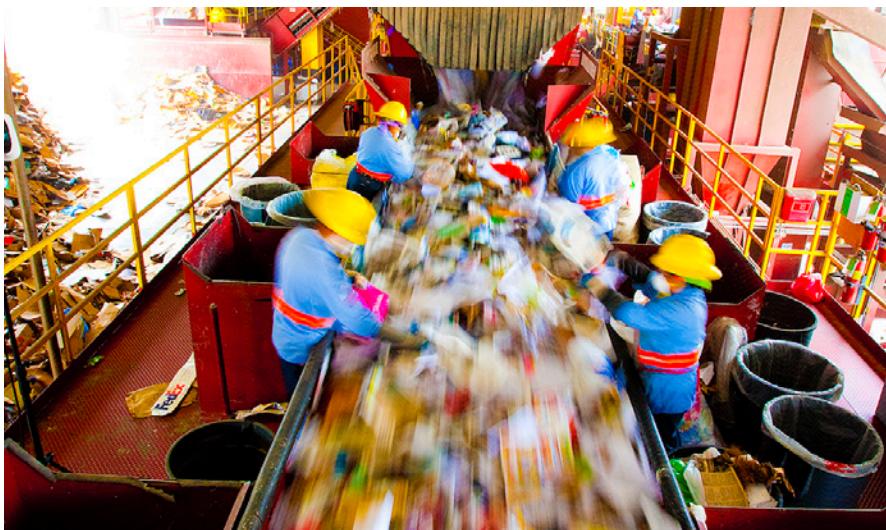
51.5% paper recycling rate

2019 Performance:

66.2% paper recycling rate



PAPER RECOVERY FOR RECYCLING



2018 AF&PA SUSTAINABILITY AWARD WINNER

Paper-based foodservice packaging feeds opportunities for recycling growth

WestRock increased consumer access to and recovery of paper-based food-service packaging. First, the company demonstrated technical recyclability of polycoated foodservice packaging via a trial at their St. Paul, Minnesota mill. Second, their Chattanooga Recycling Facility partnered with the Foodservice Packaging Institute and the City of Chattanooga to add food service packaging to the residential curbside collection. Proving that foodservice packaging is recyclable prevents customers from switching to plastic alternatives and reduces the likelihood of it being subject to extended producer responsibility measures.

PAPER RECYCLING: AN ENVIRONMENTAL SUCCESS STORY

Over the last decade, the U.S. paper industry has achieved a consistently high recycling rate, meeting or exceeding 63 percent since 2009 — a rate that has nearly doubled since 1990, when the industry first set a paper recycling goal. More than twice as much paper is recycled than is sent to landfills, saving an average of 3.3 cubic yards of landfill space for each ton of paper recycled.¹⁷ New manufacturing capacity that will use recovered paper as a feedstock is coming online in the U.S. this year.¹⁸ Technological advances and innovations in product design are continuously allowing our industry to access and recycle more paper-based products.

AF&PA PAPER RECOVERY FOR RECYCLING GOAL HIGHLIGHT



**14.7 percentage point increase
in paper recycling rate**
(from 2005 baseline)

CONTRIBUTIONS TO THE ECONOMY

The forest products industry is among the top 10 manufacturing sector employers in 45 U.S. states.¹⁹ In 2019, the forest products industry (paper, wood and logging) directly employed about 945,000 people — 96,500 people were employed at pulp, paper and paperboard mills, 268,800 at paper and paperboard converting plants, 50,800 in logging operations, 409,000 at lumber and wood panel facilities, and 119,900 at wood kitchen cabinet plants²⁰ — and supports more than twice that many derivative jobs in supplier industries and local communities.²¹

In 2018, employee compensation paid by the forest products industry totaled \$56.5 billion, according to government data — \$30.9 billion for the paper industry, \$23.5 billion for the wood products industry and \$2.2 billion for the logging industry.²²

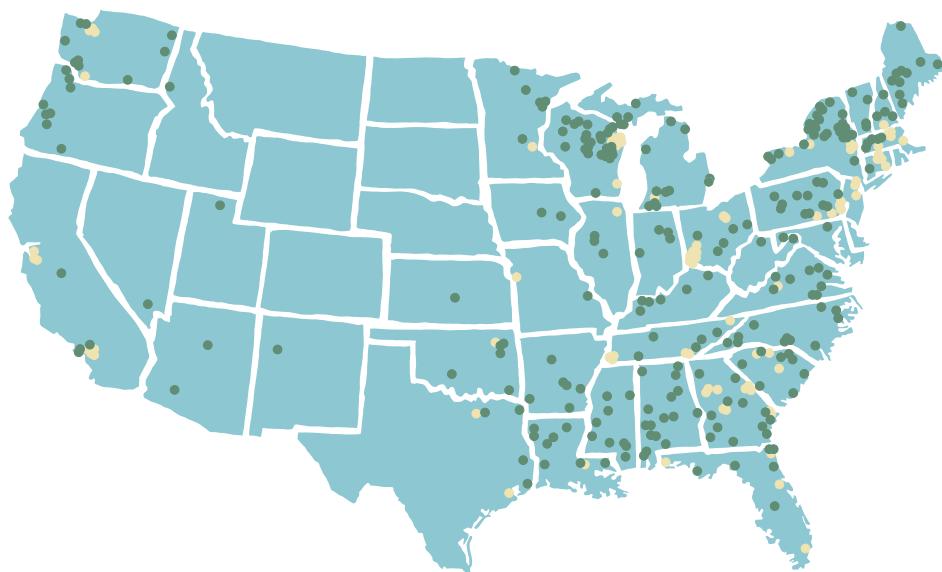
Data compiled by the Bureau of Economic Analysis indicate that earnings of paper industry employees averaged \$69,000 in 2018, which was 19 percent above the national average earnings of all non-farm private sector employees. In the Southeast, which is the leading U.S. region for paper production, paper industry employees earned 41 percent more than their private sector counterparts.

EFFECT ON LOCAL COMMUNITIES²³

To help modernize plants, and in some cases, add capacity, the paper and wood products industry spent \$16.1 billion on capital expenditures in 2018, up from \$12.9 billion in 2017, according to U.S. Census Bureau data. A low point occurred during the Great Recession when the industry's capital spending fell to \$6.2 billion in 2009. In 2018, capital spending was \$10.8 billion in the paper industry and \$5.4 billion in the wood products industry.



PULP AND PAPER MILLS SUSTAIN RURAL ECONOMIES



More than 75 percent of all U.S. pulp and paper mills are in counties that are more than 80 percent rural.²⁴ AF&PA member facilities are often located in rural communities where they frequently serve as the largest employer. As a result, local economies can be highly dependent on the economic viability of these facilities.

■ 80% or more rural

■ Less than 80% rural

In addition to the \$56.5 billion spent on employee compensation and \$16.1 billion invested in capital expenditures, the paper and wood products industry also spent \$152 billion on materials and parts, \$4.9 billion on purchased electricity and \$4.1 billion on purchased fuels in 2018.²⁵

CONTRIBUTIONS TO GDP

In 2019, the paper and wood products industry contributed \$99.6 billion to the total U.S. manufacturing Gross Domestic Product (GDP), of which the pulp and paper sector accounted for \$58.2 billion and the wood products sector provided \$41.4 billion.²⁶ That translates to 4.2 percent of the U.S. manufacturing GDP.

PROFITS

Paper and wood products industry operating profits totaled about \$17.7 billion in 2019, the second highest on record after \$19.4 billion in 2018, according to U.S. Census Bureau data. The paper segment of the industry recorded 2019 operating profits of \$10.7 billion, while the wood side of the industry netted \$7 billion.

RESEARCH & DEVELOPMENT (R&D) EXPENDITURES

The paper and wood products industry devotes significant resources to the research and development (R&D) of new and improved products. Globally, paper and wood products companies with U.S. operations spent \$1.8 billion on R&D in 2017, the vast majority of which (\$1.5 billion) was spent domestically.²⁷



AF&PA MEMBER HIGHLIGHT

Engaging veterans on a new mission

Domtar employs more than 7,500 people in more than two dozen locations. They are also a leading employer of former military personnel, employing about 550 veterans — nearly 8 percent of its workforce. The company was featured on Lifetime's "Military Makeover" series which features veterans who are making the transition from the military to civilian life.

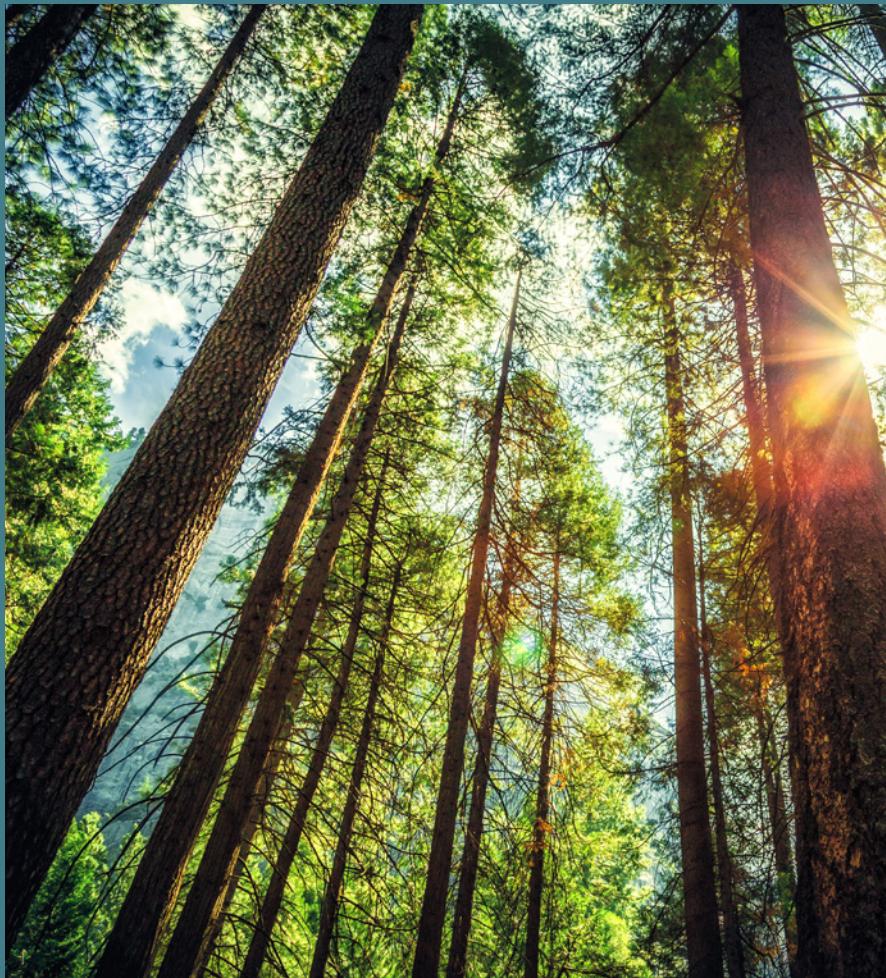
CONTRIBUTIONS TO THE ENVIRONMENT

Better Practices, Better Planet 2020 was founded with a strong emphasis on environmental sustainability. Our members rely on natural resources to manufacture essential products for everyday living. Five of our six goals demonstrate AF&PA members' commitment to environmental stewardship across the entire value chain from the raw, renewable wood fiber that is harvested to the energy and water used in the manufacturing process to the recovery of paper and paper-based packaging that is used to make new products.

A HEALTHY PAPER AND WOOD PRODUCTS INDUSTRY IS COMPLEMENTARY TO HEALTHY FORESTS

Well-managed forests provide a multitude of economic, environmental and social benefits to thousands of American communities. Forests help mitigate climate change through carbon sequestration and promote biodiversity.

The U.S. grows more wood than it harvests. In fact, there are 20 percent more trees in the U.S. than there were in 1970.²⁸ In 2016, U.S. forests and wood products captured and stored an estimated 12.6 percent of all carbon dioxide emitted by fossil fuel consumption in the United States.²⁹



BEST UTILIZATION OF RESOURCES & INNOVATING THROUGH DESIGN

The paper and wood products industry already has demonstrated significant progress towards improving the environment. Not only are our members' products derived from sustainable forests, the industry is striving to increase their contribution to a circular economy, making more with less whenever possible and creating innovative new products that maximize efficient use of resources. Bio-based materials enhance existing products and reduce or replace non-renewable fossil fuel-derived materials.

Innovative product design is also helping to ensure that more paper and paper-based packaging products are accepted for recycling. And technology improvements and innovations in recycling processes allow our mills to recover more fiber from paper and paper-based packaging to make new products.



2018 AF&PA SUSTAINABILITY AWARD WINNER

Cutting the weight, keeping the strength

Through a proprietary lamination process, **WestRock's** TechniFlute™ uses multiple lightweight papers to produce a corrugating medium with high unit strength. The strength enhancement of combined corrugated board can vary depending on the liner grades that are used in conjunction with the TechniFlute™ medium. Since corrugating medium is only one component in a corrugated box, this strength enhancement can translate to a 20 to 40 percent fiber savings.



RESPONSIBLE MANUFACTURING ENSURES NO PART OF THE TREE GOES TO WASTE

The paper and wood products industry uses every part of the tree responsibly to make essential and innovative products for everyday life. There are four primary quality categories for harvested trees, with the highest quality wood located at the base of the trunk and the quality decreasing further up the tree. Tops and branches are of the lowest quality. Paper and wood products are made from different parts of the tree, depending on the quality needed and other required characteristics.

Byproducts from the production process — chips, bark and liquid biomass, for example — are used to generate bioenergy to power our mills. After being used, paper and wood products can be recycled or reused, turning them into new products. Recovered paper fibers can be reused at least seven times.

In short, paper and wood products keep lands forested, store carbon, are biodegradable and support our nation's recycling system.

AF&PA MEMBER HIGHLIGHT

Rising to the ENERGY STAR challenge

Georgia-Pacific's Naheola mill located in Alabama recently completed a project titled Coal Boiler Upgrade to Biomass and was chosen by the ENERGY STAR® Industrial Partners as a Top Project for 2019. Naheola, which produces consumer products such as bath tissue and paper towels, replaced two legacy boilers and created a strategy to produce energy more efficiently. The mill eliminated the use of coal on site, reduced water consumption, emissions and particulate matter and enhanced the beneficial use of boiler ash.

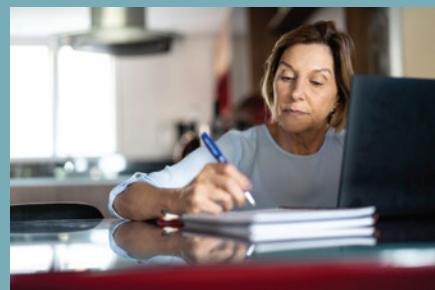
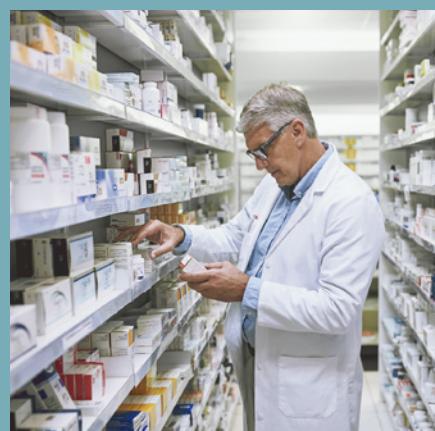
CONTRIBUTIONS TO SOCIETY

People are at the heart of the paper and wood products industry. The health and safety of workers is a top priority in our industry. So is making a positive contribution to the lives of our employees and the communities that surround our manufacturing facilities.

COVID-19

The U.S. Department of Homeland Security identified the forest products industry as an “essential critical infrastructure workforce” in the nation’s response to the coronavirus (COVID-19) pandemic. This designation demonstrated the essential nature of the forest products industry workforce, although no sector is immune from job losses resulting from COVID-19’s shock to the economy. AF&PA created a public COVID-19 webpage and organized a conference call to facilitate the sharing of information and insights on how to reduce the risks of COVID-19 in our operating mills and workplaces to keep our workers and customers safe. There is no more important priority for our industry.

Visit afandpa.org/covid-19 to access resources and information related to the paper and wood products industry.



HEALTH AND OCCUPATIONAL SAFETY

Occupational safety is a top priority for AF&PA members, highlighted by our aspirational goal to achieve zero workplace injuries, as healthy workers are essential for a strong industry. But safety is not just a goal AF&PA members work toward, it is a culture they embody and promote through training and investment. AF&PA member companies provide numerous opportunities for workers to improve their health and wellness, including employee health risk assessments, health promotion programs, on-site health fairs and education on issues such as diet and weight management, high blood pressure and cholesterol, smoking cessation, stress management and substance abuse.



PROFESSIONAL DEVELOPMENT

In addition to improving the health and wellness of workers, our members are dedicated to helping their employees achieve their full potential. Sixty-nine percent of AF&PA member companies offer support for continuing education and career development through reimbursement of college tuition or external programs, in-house training or sabbaticals.³⁰

In 2019, the median age of a U.S. pulp and paper mill employee was 46.4 years.³¹ To educate and train a new generation of paper manufacturers, 63 percent of AF&PA member companies offer apprenticeships or internships to college, university and technical institute students. Fifty-one percent work with colleges, universities or technical institutes to develop curricula that will produce trained graduates.

ENGAGING LOCAL COMMUNITIES

Paper and wood products manufacturers are often the largest employers in their communities. As a result, local economies can be highly dependent on the economic viability of these facilities. AF&PA members give back in many ways. Sixty-nine percent of AF&PA member companies either have a charitable giving program or a corporate foundation that promote philanthropic activities.



AF&PA MEMBER HIGHLIGHT

Reforesting communities

International Paper helped plant nearly 48,000 trees in 2019 through the Arbor Day Foundation's Community Tree Recovery program — a public and private partnership aimed at distributing free trees to residents in communities affected by natural disaster. In 2019, employee volunteers distributed more than 1,000 trees to residents of Panama City, Florida, who were affected by Hurricane Michael and more than 1,500 trees in Orange, Texas, where many of IP's own employees felt the impact of 2017's Hurricane Harvey.

AF&PA MEMBER HIGHLIGHT

Industry rises to serve communities during pandemic

AF&PA members made an overwhelming response to serve communities during the COVID-19 pandemic. **Procter & Gamble** is one of those companies, stepping up to provide much-needed product donations and financial support. P&G's Bounty also partnered with Feeding America to provide 10 million meals to people in need and donated an additional \$1 million to Feeding America's COVID-19 Response Fund. Charmin donated \$2 million to Direct Relief to assist frontline workers. These efforts, and the efforts of many others demonstrate the industry's commitment to serving the community — be it in the places we work and live or across the globe.

LOOKING AHEAD TO 2030

In 2021, AF&PA will announce a new set of sustainability goals for 2030. Our new goals will build on the progress we have made and push the industry to remain a leader in sustainability. As we look forward, we consider how the paper and wood products industry contributes to the United Nations Sustainable Development Goals and the broader circular economy, interacting with other industries, entities and individuals at all levels of society. Our role in the circular economy is driven by our essential nature to provide products needed for everyday living.

AF&PA members rely on forests, which are a renewable resource and one that has expanded over the past 40 years due to the continued demand for paper and wood products. The industry has made great strides to do more with less. Manufacturers make efficient use of raw materials to improve fiber yield, produce carbon-neutral biomass, utilize renewable energy and reuse and recycle water in the manufacturing process. They also support improved recycling infrastructure to increase the amount of recovered fiber to create new products.

The process to develop the goals for 2030 began in 2018 and has included extensive input from AF&PA members and a wide variety of stakeholders, including customers, environmental non-governmental organizations and government agencies. Several goals will look familiar while others will be new, raising the bar on efforts to improve the sustainability of the industry.

We are proud of our achievements and leadership in sustainability and look forward to setting new standards for the decade to come.



ENDNOTES

- 1 Aligns with U.N. SDG #15: Life on Land
- 2 Conservation International, "Climate Change & the Role of Forests: A Community Manual"
- 3 National Alliance of Forest Owners
- 4 Aligns with U.N. SDG #7: Affordable and Clean Energy
- 5 U.S. Census Bureau
- 6 U.S. Energy Information Administration
- 7 U.S. Energy Information Administration
- 8 U.S. Environmental Protection Agency (EPA)
- 9 U.S. Environmental Protection Agency (EPA)
- 10 Aligns with U.N. SDG #13: Climate Action
- 11 Aligns with U.N. SDG #6: Clean Water and Sanitation
- 12 National Council for Air and Stream Improvement (NCASI)
- 13 National Council for Air and Stream Improvement (NCASI)
- 14 NCASI categorized AF&PA member mills as to whether they are located in regions designated as "water-stressed" pursuant to the World Resources Institute (WRI) Aqueduct Water Risk Atlas. If a mill is located in a "water-stressed" region, its water use reductions are more heavily weighted than reductions from other mills. Specifically, the WRI Overall Water Risk factor, which increases in more "water-stressed" regions, was multiplied by mill-specific water use, effectively giving more weight to reductions in water stressed regions when calculating an association-wide average.
- 15 Aligns with U.N. SDG #12: Responsible Consumption and Production
- 16 Fibre Box Association
- 17 AF&PA, paperrecycles.org/about/fun-facts
- 18 Northeast Recycling Council, April 2019
- 19 Aligns with U.N. SDG #8: Decent Work and Economic Growth
- 20 U.S. Bureau of Labor Statistics
- 21 Economic Policy Institute
- 22 Bureau of Economic Analysis and U.S. Bureau of Labor Statistics
- 23 Aligns with U.N. SDG #11: Sustainable Cities and Communities
- 24 U.S. Census Bureau
- 25 U.S. Census Bureau
- 26 U.S. Department of Commerce
- 27 National Science Foundation
- 28 USDA Forest Service, 2012
- 29 Calculated using data from "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016" (EPA, April 2018)
- 30 Aligns with U.N. SDG #4: Quality Education
- 31 U.S. Bureau of Labor Statistics



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