



American Forest & Paper Association

**Written Testimony of Brian Hawkinson
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Before the United States Senate
Committee on Environment and Public Works
Hearing on “The Circular Economy as a Concept for Creating a More Sustainable Future”
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Chairman Carper, Ranking Member Capito and distinguished members of the Committee, thank you for the opportunity to speak today. I am pleased to share some thoughts on the pulp, paper and paper packaging industry’s commitment to sustainable practices and share an example of an innovative technology that is increasing the use of recovered paper in manufacturing new products.

My name is Brian Hawkinson, and I serve as Executive Director, Recovered Fiber, at the American Forest & Paper Association (AF&PA). AF&PA serves to advance U.S. paper and wood products manufacturers through fact-based public policy and marketplace advocacy.

The forest products industry is circular by nature. AF&PA member companies make essential products from renewable and recycle resources, generate renewable bioenergy and are committed to continuous improvement through the industry’s sustainability initiative — [Better Practices, Better Planet 2030: Sustainable Products for a Sustainable Future.](#)

The forest products industry is a major economic force for U.S. manufacturing. Employing approximately 950,000 people, the industry is among the top 10 manufacturing sector employers in 45 states, supporting family-wage jobs and manufacturing nearly \$300 billion in products annually.

AF&PA’s Sustainability Initiative

AF&PA’s sustainability initiative — *Better Practices, Better Planet 2030: Sustainable Products for a Sustainable Future* — comprises one of the most extensive quantifiable sets of sustainability goals for a U.S. manufacturing industry. It is the latest example of our members’ proactive commitment to the long-term success of our industry, our communities and our environment.

We have long been responsible stewards of our planet’s resources. AF&PA members met or surpassed many of the goals outlined in our previous sustainability initiative, *Better Practices, Better Planet 2020*, including a 23.2 percent reduction in GHG emissions; 13.3 percent improvement in purchased energy efficiency; 38.4 percent reduction in workplace injuries; and 12 percentage point increase in wood fiber procurement from certified forestlands.

Our Industry is Essential and Circular

Paper – and recycled paper – are made from a renewable resource and used in a wide range of products with endless everyday applications in homes, schools, and businesses, from newspapers to note pads, tissues to paper towels, coffee cups to milk cartons, and diapers to cardboard boxes.

The paper and wood products industry maximizes the use of our renewable resources by using every part of the tree to develop products and support the industry’s manufacturing processes.

- Various parts of the tree are used to make everything from wood used for building lumber, flooring and furniture to paper products like writing paper, paper bags, cardboard boxes and paper towels.
- Leftover materials, like tree bark and liquid bioenergy extracted during the pulping process, are used to generate renewable bioenergy that powers our mills. ¹

Paper Recycling Works

Paper products are easily recyclable via curbside recycling bins or drop-off programs.

Thanks to improved consumer education and the widespread availability of curbside recycling for paper products, the paper and wood products industry recycles nearly twice as much paper today as it did 35 years ago².

- Nearly [66 percent](#) of paper used in the U.S. was recycled in 2020, including nearly 89 percent of all cardboard boxes and corrugated containers. ³
- Two-thirds of the paper used in the U.S., about 47 million tons each year, is recycled⁴ and used to make new sustainable paper products people use every day.
- Recycled paper and packaging fibers can be reused five to seven times to make new products⁵.
- Approximately [80 percent](#) of U.S. paper mills use some recycled paper fiber to make products like packaging, office paper, newspaper, toilet paper, napkins and paper towels.⁶

The industry aims to advance a circular value chain and continue to improve the sustainability of our products to meet evolving consumer needs. This includes innovating manufacturing processes, products and packaging. And increasing the utilization of recycled fiber and wood residuals in manufacturing across the industry to 50 percent by 2030.

¹ The sustainable use of residual, leftover material from the manufacturing process as renewable bioenergy to power paper mills prevents about 181 million metric tons of carbon dioxide equivalent annually from entering the atmosphere – the same as removing 35 million cars from the road.

² AF&PA

³ More paper is [recycled](#) by weight from municipal waste streams than plastic, glass, steel and aluminum combined.

⁴ AF&PA Annual Statistical Summary of Recovered paper Utilization, 35th Edition, June 2021.

⁵ TAPPI, How is Paper Recycled? (Paper U, Earth Answers: 2001). <https://tappi.org>

⁶ Currently, the use of recycled paper fiber already [prevents](#) 20 million metric tons of additional greenhouse gas emissions.

It also means continuing to make investments. The industry has announced approximately \$5 billion in manufacturing infrastructure investments by 2023 to continue the best use of recycled paper in our products. That is nearly \$2.5 million per day. Those investments will enable the industry to use an additional 8 million tons of recovered fiber in manufacturing annually.

Georgia-Pacific Juno Overview

Today, I will share an example of an innovative new technology, called Juno, that enables one of our members – Georgia-Pacific – to recover paper that would otherwise go to landfills and use it to manufacture new products.

More than 10 years ago, a team at paper products producer Georgia-Pacific found that approximately 25 million tons/year of paper ends up in U.S. landfills. The team started looking for a way to capture some of that fiber for reuse.

The initial focus was on paper cups, which have traditionally been harder to recycle because of the poly lining that keeps them from leaking. The team was able to successfully recover paper fiber from the used paper cups but realized there are supply chain challenges to collecting only paper cups.

The scope of the project expanded to all waste from fast food restaurants and amusement parks – cups, napkins, food wrappers, etc. – and found a viable solution. A pilot plant was built in Savannah, Georgia in 2013. That plant has successfully processed waste generated in fast food restaurants, airports, office buildings, as well as amusement parks. From there, the team designed and engineered a commercial scale unit and secured permits to build the first processing unit in Toledo, Oregon. The Toledo facility began start-up operations this past May and is currently processing waste from the region.

How the Juno Technology Works

The Juno technology process starts with collecting waste from the kinds of commercial sources that typically have the highest concentration of paper-based material – fast-food restaurants, airports, office buildings, etc. It is important to note that no current recycling is diverted. Juno takes material from waste streams that is otherwise destined for landfills or incinerators.

The material is baled for transport and fed into the Juno processing unit. The unit is an autoclave that uses steam and pressure to sanitize material. It is the same technology that is commonly used in the medical industry. The proprietary Juno process sanitizes the waste and separates the paper fiber.

The fiber recovered through the Juno process is currently used to make paper for corrugated boxes at Georgia-Pacific's Toledo containerboard mill and has been used in manufacturing paper towels and napkins. Other recyclable materials processed can go back into their respective recycling markets. Anything that cannot be recycled then goes to the landfill. Based

on work so far, Georgia-Pacific expects about 90 percent of what is processed can be diverted from landfills.

Initial Results and Path Forward

As you would expect with a new technology, the team has planned a slow start-up to allow for adjustments from operating a small pilot plant to a large commercial unit that will process 100,000 tons/year. Early in the phased start-up, the diversion rate (in July 2021) for locally sourced waste tripled – from 18 percent to 54 percent. These results are early estimates and are in the process of being audited.

The first commercial-scale unit in Toledo is expected to be fully operational by the end of the year. Conversations are underway for licensing other units in the U.S. and globally.

Georgia-Pacific and the industry are excited about this new technology's ability to recover more paper from waste streams for use in manufacturing new paper and paper-based packaging.

AF&PA Members Believe

- Free markets unleash the forces of innovation that drive improvements in sustainable manufacturing processes, products and packaging and are best positioned to ensure that recovered paper is put to its highest value end use.
- Consumer education is a critical tool to increasing the quantity and quality of paper in the recycling stream. AF&PA supports the RECYCLE Act which authorizes a new grant program at the Environmental Protection Agency to provide recycling education to consumers and we applaud its inclusion in the Senate-passed bipartisan infrastructure package.
- For recovered paper, where end markets are mature and recycling is driven by robust private sector investment, recycled content mandates and extended producer responsibility are not only unnecessary, but they could also have unintended negative consequences on our current recycling successes.
- Government incentives or directives should not be used to divert commonly recycled paper away from reuse in manufacturing products.

Thank you again for the opportunity to share AF&PA's perspectives with the committee. I look forward to the discussion.