

# Paper & Paper-Based Packaging

## Busting The Environmental Myths!

### United States

Paper is one of the few products on earth that already has an environmentally sustainable, circular life cycle. It is made from an infinitely renewable natural resource – trees that are purpose-grown, harvested and regrown in sustainably managed forests. It is manufactured using mostly renewable, carbon neutral bioenergy in a process that uses a lot water, but consumes very little of it. And paper products are recycled more than any other material.

**The Myth:** The production and use of paper is destroying U.S. forests.

**The Fact:** U.S. forests are a renewable natural resource that is continuously replenished through sustainable forest management and natural regeneration.



#### The state of U.S. forests

Sustainable forest management is a dynamic and evolving concept which aims to maintain and enhance the economic, social and environmental values of all types of forests for the benefit of present and future generations.<sup>1</sup> Sustainable forestry practices integrate management of the entire forest ecosystem, including trees and other plants, wildlife and habitat, soil and water. Sustainable forestry also helps protect forests from wildfire, pests and diseases, and preserves forests that are unique or special. Strong market demand for sustainably sourced paper products provides a powerful financial incentive for landowners to continue to manage their land responsibly and keep it forested instead of converting or selling it for non-forest uses.

U.S. forests are a renewable natural resource and are not shrinking. Net forest area in the United States increased by approximately 18 million acres between 1990 and 2020.<sup>1</sup> This is an area equivalent to approximately 1,200 NFL football fields every day.

U.S. forestland totals around 766 million acres. The total live-tree volume on U.S. forestland exceeds 1 trillion cubic feet. This translates to nearly 9 billion stacked cords of wood.<sup>2</sup>

Each year, U.S. forests grow approximately two times more tree volume than is harvested, with a net average annual increase in growing stock of about 25 billion cubic feet.<sup>3</sup>

While 67% of U.S. forestland is legally available for harvesting, tree cutting and removal occurs on less than 2% of forestland each year. This contrasts to the nearly 3% disturbed annually by natural events like insects, disease, and fire. Of the 2% that is harvested annually, only 38% is used for paper products.<sup>2</sup>

#### Deforestation

Deforestation is the permanent conversion of forest to other land uses, including urban development (the leading cause in the United States), agriculture, pastures, water reservoirs and mining. The definition of deforestation specifically excludes areas where the trees have been harvested or logged, and where the forest will regenerate naturally or with the aid of sustainable forestry measures.<sup>4</sup>

Areas of the world with the least wood consumption have the greatest levels of deforestation.<sup>1</sup>

## Carbon sequestration

Sustainable forestry practices [such as those implemented by the U.S. paper industry] can increase the ability of forests to sequester atmospheric carbon while enhancing other ecosystem services, such as improved soil and water quality. Planting new trees and improving forest health through thinning and prescribed burning are some of the ways to increase forest carbon in the long run. The perpetual cycle of harvesting and regenerating forests can also result in net carbon sequestration in wood products and new forest growth.<sup>5</sup>

## Forest ownership

More than half (58%) of the forestland in the U.S. is privately owned and managed. Approximately 11 million families, individuals, trusts, and estates, collectively referred to as family forest owners, control 36% of private forestland, more than any other group. About 89% of wood harvested in the U.S. comes from these private forests, which provide most of the wood for domestically produced wood and paper products.<sup>2</sup> The demand for sustainably sourced paper products provides a powerful economic incentive for landowners to keep their land forested and sustainably managed.

## Forest certification

Forest certification is a voluntary process whereby an independent third party assesses the quality of forest management and production against a set of requirements (standards) predetermined by a public or private certification organization. Certification standards in the United States include those of the Sustainable Forestry Initiative® (SFI®), the Forest Stewardship Council® (FSC®), the Programme for the Endorsement of Forest Certification™ (PEFC™), and the American Tree Farm System (ATFS). Forest certification and associated labelling is a way of informing consumers about the sustainability of the forests from which wood and other forest products were produced.<sup>6</sup>

Third party certification is based on onsite comprehensive assessments performed by an accredited auditing firm. At completion of the assessment, the auditing firms submit a certification report, which includes a recommendation on whether the landowner is ready to become certified. An affirmative recommendation for certification is often accompanied by requests for changes in management practices to better conform to the certification standard. A summary of certification audit findings is made publicly available.<sup>6</sup>

Approximately 11% of the world's forestland is certified – about 1 billion acres (426 billion hectares). This is net certified area, owing to the fact that some forest land is certified to more than one standard. The majority of certified forest area is in North America and Europe. Canada has by far the most at 413 million acres (167 million hectares), followed by the Russian Federation at 133 million acres (54 million hectares) and the United States at 94 million acres (38 million hectares). These three countries together account for more than 60% of the world's certified forest area.<sup>1</sup>

American Forest and Paper Association (AF&PA) member companies produce approximately 87% of U.S. pulp and paper products. In 2020, AF&PA members procured 99.2% of the total wood fiber from forests used for products through a certified fiber sourcing program and sourced 27.1% of wood fiber from third-party certified forestlands.<sup>7</sup>

As a condition of membership, the few member companies of the American Forest and Paper Association (AF&PA) that own forestland conform to credible forest management program standards such as the Sustainable Forestry initiative (SFI), Forest Stewardship Council (FSC), American Tree Farm System (ATFS) and Programme for the Endorsement of Forest Certification.<sup>7</sup>

**The Myth:** Paper manufacturing is major cause of greenhouse gas emissions that contribute to climate change.

**The Fact:** The pulp and paper industry contributes less than 1% of total U.S. greenhouse gas emissions.



Carbon neutrality is an inherent property of biomass reflecting the fact that the carbon residing inside it was only recently removed from the atmosphere, so returning it to the atmosphere has no net effect on atmospheric CO<sub>2</sub>. This inherent property exists whether or not trees are regrown. The overall benefits of biomass fuels depend on how efficiently we use biomass to displace fossil fuels.<sup>8</sup>

In 2020, renewable, carbon-neutral biomass supplied, on average, about 64% of the energy needs at U.S. pulp and paper mills.<sup>7</sup>

The U.S. paper industry was among the first to take voluntary action to reduce greenhouse gas (GHG) emissions. In 2020, U.S. paper companies had reduced GHG emissions (CO<sub>2</sub> eq) per ton of product by 24.1% from a 2005 baseline. This reduction is attributed to the predominant use of carbon-neutral biomass fuel, the switch from coal and oil to less carbon-intensive fossil fuels such as natural gas, and equipment and process enhancements that improved energy efficiency.<sup>7</sup>

In 2021, the U.S. pulp and paper industry was responsible for less than 0.6% of total U.S. greenhouse gas emissions.<sup>9,10</sup>

Recycling avoids the release of greenhouse gases when paper decomposes in landfills, and paper and paperboard are recycled more than any other material in the United States. By reducing the amount of paper and paperboard products going to landfills through recycling, greenhouse gases in the U.S. were lowered by 155 million metric tons of CO<sub>2</sub>e in 2018. This is equivalent to taking over 33 million cars off the road for an entire year.<sup>11</sup>

**The Myth:** Paper manufacturing uses excessive amounts of water.

**The Fact:** While papermaking requires large amounts of water, very little water is actually consumed in the production process.



In a typical U.S. paper mill, process water is recycled 10 times or more, then it is cleaned to meet strict U.S. water quality standards and approximately 90% is returned to its source.<sup>12</sup> About 1% remains in the manufactured products, and the rest evaporates back into the environment.

U.S. pulp and paper mills have decreased water use per ton of product by 8.3% since 2005,<sup>7</sup> and by more than 50% since 1975.<sup>12</sup>

**The Myth:** Using paper products is wasteful.

**The Fact:** Paper recycling extends the supply of a valuable natural resource (wood fiber from sustainably managed forests), saves landfill space, and avoids greenhouse gas emissions (methane) that result when paper decomposes in landfills.



In 2022, 68% of paper and paper-based packaging in the U.S. was recovered for recycling. The recycling rate for cardboard, what the industry calls corrugated, was 93.6%. About 80% of U.S. mills use recycled fiber.<sup>13</sup>

According to the most recent government data available, paper and paper packaging is recycled more than any other material in the U.S. solid waste stream, including plastics (8.7%), glass (25%) and metals (34.1%).<sup>14</sup>

In 2022, 40.5% of the paper collected for recycling in the United States was used to produce containerboard (i.e. corrugated boxes), 12.7% to produce boxboard (folding boxes like cereal or medicine boxes, and gypsum wallboard, i.e. drywall/ facings.), 7.8% for tissue and 5.3% for other paper grades. Net exports accounted for 33.7%, the same as in 2021.<sup>13</sup>

61% of U.S. consumers surveyed believe only recycled paper should be used to make new paper products.<sup>15</sup> However, this is not possible because fresh wood fiber from sustainably managed forests is essential to sustain a viable paper industry. Recycled fiber would not exist without harvesting fresh fiber.<sup>16</sup>



94% of Americans have access to community paper recycling programs, and 79% of Americans have access to residential-curb-side recycling programs.<sup>17</sup>

The U.S. paper industry has completed or announced nearly \$7 billion in manufacturing investments from 2019-2025 that will use more than 9 million additional tons of recovered fiber.<sup>18</sup>

**The Myth:** Only recycled paper should be used to make new paper products.

**The Fact:** The continuous input of wood fiber from sustainably managed forests is essential to the paper production cycle.



Every time paper is recycled, the fibers get shorter and weaker. After being recycled 5 to 7 times, the fibers become too short and weak to bond into new paper.<sup>19</sup>

Fresh fiber from sustainably managed forests is constantly needed to compensate for the retirement of degraded fiber, archival storage of paper (books, records, etc.), and loss of fiber through normal use and disposal of certain non-recyclable paper products, such as personal hygiene and tissue products.<sup>20</sup>

Mills producing fresh fiber use different processes than mills using recycled fiber. As a result, the releases to the environment differ. Recycled fiber production can result in higher or lower releases to the environment than fresh fiber production depending on the type of release, the product being manufactured and the fuel being used.<sup>21</sup>

**The Myth:** Paper is a dying industry.

**The Fact:** The U.S. paper industry makes products essential for everyday life.



The U.S. forest products industry is a major national employer, and is among the top 10 manufacturing employers in 43 states. The industry directly employs around 925,000 people and supports more than 2 million additional jobs throughout the supply chain. The forest products industry is a major contributor to the U.S. economy, representing approximately 5% of manufacturing GDP.<sup>22</sup>

## Sources

1. UN Food and Agriculture Organization (FAO), 2020
2. USDA Forest Service, 2020
3. U.S. Forest Service, 2022
4. UN FAO, 2020
5. U.S. Forest Service, 2022
6. UN FAO, 2022
7. American Forest and Paper Association, 2022
8. National Council for Air and Stream Improvement (NCASI), 2007
9. U.S. Environmental Protection Agency (EPA), 2023
10. U.S. EPA, 2023
11. U.S. EPA, 2022
12. NCASI, 2018
13. AF&PA, 2023
14. U.S. Environmental Protection Agency (EPA), 2020
15. Toluna and Two Sides North America, 2023
16. World Business Council for Sustainable Development (WBCSD), 2015
17. AF&PA, 2021
18. AF&PA, 2023
19. U.S. EPA Archive
20. WBCSD, 2015
21. WBCSD, 2015
22. AF&PA, 2022

August 2023

937-999-7729

@TwoSidesNorthAmerica

www.twosidesna.org

@TwoSidesNA

info@twosidesna.org

/company/TwoSidesNorthAmerica

Print, Paper and  
Paper Packaging  
have a great  
environmental  
story to tell

