Paper & Paper-Based Packaging

# Busting The Environmental Myths!

## Canada

**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 of 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 Canadian forests.

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

**The state of Canadian 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.[1] 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.

According to laws, regulations and policies in place across Canada, all areas harvested on public land must be reforested, either by replanting or through natural regeneration, so virtually all harvested lands will continue to be regenerated. About 90% of Canada's forests are on public land.[2]

Canada is home to 9% of the world's forests, making it the third most forested country in the world after Russia and Brazil. Canada's total forest area was quite stable between 1990 and 2020 at around 362 million hectares (895 million acres). The estimate of Canada's forest area was revised upward in 2021 to reflect improvements and updates to data sources and forest inventory techniques over the last 10 years. Forests dominate many Canadian landscapes, but cover only 40% of Canada's land base.[3]

Seventy-five percent of Canada's forests and woodlands are in the boreal zone. The boreal forest is not "ancient" wilderness. Canada's boreal forest is often portrayed as one vast tract of ancient, pristine wilderness but this isn't the case. Although the boreal region itself is ancient, the boreal forest: is made up mostly of trees that are relatively young compared with many that grow in more temperate climates; is regularly affected by forest fire, insects and other natural disturbances; and continually renews itself through these natural disturbances.[4]

Canada's renewable forests play an essential role - they absorb tremendous amounts of carbon dioxide ($CO_2$), and by doing so help regulate the world's climate systems for the benefit of the entire planet. This critical role of storing carbon continues in the increasing array of products made from wood fiber and is further prolonged through the recovery and recycling of forest products, including paper.[5]

In 2020, Canada's managed forests and the wood products harvested from them removed about 5.3 Mt $CO_2e$ from the atmosphere.[3]

In 2020, only 0.01% of Canada's forestland was deforested. This compares to 4.91% that was affected by insects and 1.2% that was affected by fire. Agricultural expansion continues to be the main driver of deforestation in Canada. While Canada has 9% of the world's forests, it accounts for only 0.37% of the total global deforestation that has occurred since 1990.[3]

Between 2009 and 2019, insects and wildfires affected nearly 18 million hectares of forests in Canada annually.[6] By killing trees, natural disturbances increase light penetration and disturb the soil to varying degrees, depending on the type of disturbance and its severity. These changes, in turn, allow new trees to sprout, grow and start a new forest succession – how whole forests grow back.

The area of forest harvested each year is only 0.2% of Canada's total forestland. By law, all forests harvested on public lands must be regenerated. Successful regeneration, either through natural or artificial means, contributes to maintaining or restoring ecosystem services.[3]

In 2020, 600 million seedlings were planted on 417,000 hectares of provincial forest lands in Canada.[3]

The best available scientific research and information are used to plan and implement sustainable forest management practices in Canada. The Montréal Process set out indicators for measuring sustainability of forest management practices. Criterion 1 of the Montréal Process is to conserve biological diversity. To meet this criterion, sustainable forest management must consider forest diversity at the genetic, species, and landscape scales. Numerous laws and regulations across Canada also require forest managers to conserve biodiversity, including species at risk.[3]

**Deforestation**

Deforestation is the permanent conversion of forest to other land uses, including urban development, agriculture, pastures, water reservoirs and mining. The term 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.[7]

Areas of the world with the least wood consumption have the greatest levels of deforestation.[1]

**Forest certification**

Third-party forest management certification complements Canada's comprehensive and rigorous forest management laws and regulations. It provides added assurance that a forest products company is operating legally, sustainably and in compliance with world-recognized standards for sustainable forest management.[8]

The three independent certification programs used in Canada – Canadian Standards Association (CSA), the Forest Stewardship Council® (FSC®) and the Sustainable Forestry Initiative® (SFI®) all set high thresholds above and beyond Canada's tough regulatory requirements.[9]

Canada leads the world in third-party sustainable forest certification. As of 2021 end of year, 178 million hectares were certified to the three sustainable forest management certification programs in use in Canada.[9]

Just 11% of the world's forests are independently certified, and 35% of these certified lands are in Canada. Canada's certified lands would cover an area the size of Germany, Spain and Sweden combined.[9]

About 70% of Canada's certified lands are in the boreal region – it has two times more boreal forest certified than any other country.[9]

**Carbon sequestration**

The entire world is grappling with the urgent need to address climate change and cut carbon emissions. As Canada faces the challenge of reducing greenhouse gas emissions, healthy Canadian forests and forest products obtained from them will have a vital role to play in the transition to a greener low carbon economy.[5]

Over the past four decades, forests have moderated climate change by absorbing about one-quarter of the carbon emitted by human activities such as the burning of fossil fuels and the changing of land uses. Carbon uptake by forests reduces the rate at which carbon accumulates in the atmosphere and thus reduces the rate at which climate change occurs.[10]

For the past century, Canada's managed forests have been a significant carbon sink, steadily adding carbon to that already stored. In recent decades, however, the situation has reversed in some years. Several factors have contributed to this shift. The annual total

area burned by wildland fires has increased substantially. Unprecedented insect outbreaks have occurred. And annual harvest rates have shifted dramatically in response to economic demand, increasing in the 1990s and decreasing sharply with the global economic recession. The combination of these events and activities has resulted in Canada's managed forest acting as a net carbon source in years when large areas are burned.[10]

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

**The Fact:** Most of the energy used at Canadian pulp and paper mills is generated using renewable, carbon-neutral biomass.

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 $CO_2$. 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.[11]

Since the early 1990s, the Canadian forest products sector has reduced its greenhouse gas emissions by nearly 70%.[12]

**The Myth:** Paper is a wasteful product.

**The Fact:** Paper has a high recycling rate and is diverted from Canadian landfills more than any other material.

Of the total amount of Canadian waste diverted from the landfills through recycling or composting (9.8 million tons) in 2018, the majority was paper (36%). Less than 4% was plastic.[13]

The average recycled content of Canada's three major packaging grades – containerboard (used to make corrugated boxes), boxboard (used to make boxboard cartons), and kraft paper (used to make paper bags) – was 81.7% in 2020, up from 73.5% in 2018. The average has steadily increased from 47% in 1990.[14]

Virtually 100% of all Canadians now have access to the convenient recycling of corrugated boxes, paperboard or boxboard cartons, and kraft paper bags. The actual access numbers, calculated by independent consulting firm CM Consulting, are 96% for corrugated and kraft paper and 94% for boxboard.[15]

**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.[16]

Fresh fiber 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.[17]

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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.[18]

**The Myth:** The Canadian paper and forest products industry has a poor environmental record.

**The Fact:** The Canadian paper and forest products industry has demonstrated solid and continuous environmental improvement.

The Canadian forest products industry harvests less than 1% of available timber per year and replants every single tree, between 400 million and 600 million seedlings annually.[12]

Since the early 1990s, the Canadian forest sector has reduced its greenhouse gas emissions by nearly 70%.[12]

Canada's pulp and paper effluent regulations govern the discharge of harmful substances from pulp and paper mills into water frequented by fish. Since 1985, the quality of pulp and paper effluent (wastewater) released directly to the environment, as set out in the regulations, has improved considerably. Effluent tests met regulatory standards 25% of the time in 1985 and 97.4% of the time in 2020. Tests for biochemical oxygen demand and total suspended solids met regulatory standards 68% and 60% of the time, respectively, in 1985. Both tests met the standards 99.9% of the time in 2020.[19]

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

**The Fact:** The Canadian forest products industry supports hundreds of thousands of jobs and adds billions of dollars to the country's GDP.

In 2021, Canada's forest sector directly employed 205,365 people, a 10% increase from 2020.[3]

Canada's forest sector contributed $34.8 billion to Canada's nominal GDP in 2021, a 33% increase from 2020.[3]

**Sources**


1. UN Food and Agriculture Organization (FAO), 2020
2. Natural Resources Canada (NRCan), 2022
3. NRCan, 2022
4. NRCan, 2022
5. Forest Products Association of Canada, 2016
6. NRCan, 2022
7. UN FAO, 2020
8. NRCan, 2022
9. Certification Canada, 2022
10. NRCan, 2022
11. National Council for Air and Stream Improvement (NCASI), 2007
12. Forest Products Association of Canada, 2022
13. NRCan, 2022
14. Paper and Paperboard Packaging Environmental Council (PPEC), 2022
15. Paper and Paperboard Packaging Environmental Council, 2022
16. U.S. EPA Archive
17. WBCSD, 2015
18. WBCSD, 2015
19. NRCan, 2022


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