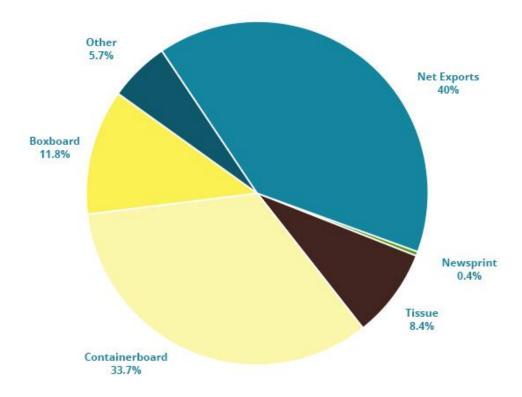


Paper Production and Consumption Facts

Global and U.S. Paper Production and Consumption Statistics

- Demand for wood products such as paper, furniture and construction materials is a major cause of damage to tropical forests—and that demand is projected to increase over the next half-century (Elias & Boucher "Planting for the Future", 2014).
- The most notable increases in projected wood product consumption by 2060 will be in pulp and paper (Elias & Boucher "Planting for the Future", 2014, p. 14).
- 40% of the world's industrial logging goes into making paper, and this is expected to reach 50% in the near future (The Paperless Project, 2014)
- The U.S. uses approximately 68 million trees each year to produce paper and paper products (<u>The Paperless Project, 2014</u>).
- Worldwide consumption of paper has risen by 400% in the last 40 years with 35% of harvested trees being used for paper manufacture (The Paperless Project, 2014).
- In the last 20 years, the usage of paper products has increased from 92 million tons to 208 million, which is a growth of 126% (The Paperless Project, 2014).
- The pulp and paper industry is the fourth largest industrial user of energy, consuming 6.4 EJ in 2005, and a significant emitter of greenhouse gas (source EIA report, 2008).
- Worldwide the pulp and paper industry is the fifth largest consumer of energy, accounting for 4% of all the world's energy use (The Paperless Project, 2014).

US Paper and Paperboard Production, 2016 (AF&.PA)



Printing and Writing Grade and End Use Snapshots USA

U.S. Statistics. Source: AF&PA, 2000

Printing & Writing Paper Snapshot	Tons (000)	End Use Uncoated Free-sheet Snapshot	Tons (000)
Uncoated free-sheet	13,898	Office Reprographics	4,656
Coated Paper	9,615	Commercial Printing	3,297
Uncoated Groundwood	1,832	Business Forms	1,892
Printing & Writing Total	26,935	Envelopes	1,430
		Books	626

World's Top 30 Producing and Consuming Countries

Pulp and Paper International, 2014

	(All data in metric tons – 000)		
Country	Paper & Paperboard Production	Pulp Production	Paper & Paperboard Consumption
Brazil		16,831	
Canada	11,102	17,686	5,337
Chile		5,209	
China	108,750	10,369	106,004
Finland	104,008	10,471	
France	8,191		8,793
Germany	22,540		20,274
Italy	8,648		101,530
Indonesia		6,677	
Japan	26,477	9,058	27,099
Korea	11,653		9,312
Russia		7,503	
Spain			6,912
Sweden	10,419	11,531	
USA	73,093	47,803	71,050
United Kingdom			9,310

Paper Impacts on Forests: Global and Regional Statistics

U.S. Southeast

- The Southern forest region of the U.S. contains some of the most biologically rich ecosystems in North America. It is home to hundreds of forest and aquatic species -- especially amphibians, reptiles, snails and trees -- that are found nowhere else on earth (Dogwood Alliance, 2015).
- A single large pulp and paper mill can consume over 3.5 million tons of wood in a year. In 2011, there were 81 mills drawing wood from the region and industry was producing over

122,000 tons of pulp per day (Dogwood Alliance, 2015)

- One key threat to Southern forests is poor forest management. In 2012, over five million acres were logged across the region, an area larger than the state of Delaware (<u>Dogwood</u> <u>Alliance</u>, 2015).
- There are 24 operating and 27 proposed pellet mills in the region, with some areas showing particularly high concentrations of facilities (NRDC, 2015, p.13).
- The majority of the nation's wetland forests are located in the Southern United States.
 These forests span 35 million acres across fourteen states. A majority of wetland forests have been lost due to logging as well as agricultural and development conversion in the last 300 years (Wetland Forest Initiative, 2017).

British Columbia, Canada

- The Pacific Temperate Rainforests are amongst the richest and most diverse temperate forests on earth. They are one of only 7 temperate rain forest ecosystems, and the only one in North America (World Wildlife Fund).
- Intensive commercial logging has destroyed more than 90% of the native forests of this
 ecoregion. The immense size of the mighty redwood trees, and the beauty of their
 wood, has made them a target for loggers for more than a century (World Wildlife
 Fund).
- Over 1,900 species found in BC are "at risk", and in many instances, it's because of the continued logging of their wild forest habitat (Wilderness Committee, 2012).
- 90% of the logging in British Columbia (BC) occurs in ancient forests (BC Ministry of Forests).
- Near the rain-drenched Pacific coast of BC, unlogged valley bottoms are home to giant rainforest trees such as Sitka spruce and Douglas-fir that can sometimes reach over 80 metres in height. Red cedar trees can be as much as 18 metres in girth, and live well over 1,000 years. Unfortunately, on Vancouver Island, over 90% of these valley bottom ancient forests have already been logged (Wilderness Committee, 2012).
- The dry rainshadow wild forests of Ponderosa pine in the south Okanagan are some of

the rarest wild forests in BC. Yet less than 5% of this forest type has any kind of protection from logging or development (Wilderness Committee, 2012).

- Most of Canada's forests are replanted or directly seeded with native species. In 2012, approximately 594,000 hectares were harvested, 347,000 hectares were planted, and 10,000 hectares seeded (Pulp & Paper Sourcing Country Profile: Canada, 2016, p. 3).
- Canada saw a net loss of approximately 16 million hectares of forest land from 2001 to 2012 (approximately 4% of forestland), these figures also include tree cover losses due to forest fires and forest harvesting in areas that will be planted or naturally regenerate as forest (Pulp & Paper Sourcing Country Profile: Canada, 2016 p. 4).

Indonesia

- Oil palm and wood fiber plantations, mainly for pulp and paper industries, are the two
 largest contributors to forest loss in Indonesia. Nearly 1.6 million hectares (4 million
 acres) and 1.5 million hectares (3.7 million acres) of primary forests—an area larger than
 Switzerland -- were converted to oil palm and wood fiber plantations respectively
 (World Resource Institute, 2017).
- From February 20 through March 11, Global Forest Watch detected 3,101 "high confidence" fire alerts on the island of Sumatra using NASA's Active Fire Data. That exceeds the 2,643 high-confidence fire alerts detected from June 13 June 30, at the peak of the previous fires and haze crisis (World Resource Institute, 2014).
- Half of the fires are burning on land managed by pulpwood, palm oil, and logging companies. Global Forest Watch shows that some of the largest fires are on fully developed plantations, despite the fact that many of these companies are committed to eliminating fire in their management practices (World Resource Institute, 2014).

Environmental Benefits of Recycled Paper

(see Environmental Defense's Q & A)

 Switching from virgin to recycled content paper results in many benefits. Research by the Alliance for Environmental Innovation has shown that each ton of recycled fiber that displaces a ton of virgin fiber used in coated groundwood paper (stock used in magazines):

- Reduces total energy consumption by 27%;
- Reduces net greenhouse gas emission by 47% and reduces particulate emissions by 28%;
- Reduces wastewater by 33%;
- Reduces solid waste by 54%;
- and reduces wood use by 100%

30% Postconsumer Copy Paper

One ton (40 cases) saves the equivalent of:

- 7.2 trees [forty feet in height and 6-8 inches in diameter] (Conservatree, www.conservatree.org)
- 2,100 gallons of water, 1,230 kw hours of electricity, and 18 pounds of air pollution (Californians Against Waste, www.cawrecycles.org)

100% Postconsumer Copy Paper

One ton (40 cases) saves the equivalent of:

- 24 trees (forty feet in height and 6-8 inches in diameter) (Conservatree)
- 7,000 gallons of water, 4,100 kilowatt hours of electricity, and 60 pounds of air pollution (Californians Against Waste)

Other Resources

Endangered Forest Definitions (PDF)— A July 2005 report, Ecological Components of Endangered Forests, by ForestEthics, Greenpeace, Natural Resources Defense Council, and Rainforest Action Network that thoroughly defines the concepts and science behind identifying forests as "endangered."

Paper Cuts – an excellent primer on global paper production industry and the environmental impacts of the world's increasing consumption; from our colleagues at the World Watch Institute

Bronx Ecology: Blueprint for a New Environmentalism – The story of Dr. Allen Hershkowitz's

(unfortunately, failed) attempt to create the Bronx Community Paper Company. Its purpose: to build a state-of-the-art paper recycling plant in the heart of the Bronx, where it could recycle a major portion of New York City's wastepaper and produce environmentally beneficial jobs in the process.

FSC certified paper – The Forest Stewardship Council (FSC) now certifies the virgin pulp component of paper, just like other forest products that it certifies. In order to use the FSC logo as an "environmental claim" on paper, the product must have flowed through the FSC "chain-of-custody" from the FSC-certified forest, to a paper manufacturer, merchant, and finally printer who have FSC chain-of-custody certification.

Watershed Media – Watershed Media produces action-oriented, visually dynamic, communication projects to influence the transition to a green society.