



The State of the
Paper Industry

2011

Steps Toward an **Environmental Vision**



Environmental Paper Network



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EPN Steering Committee

Canopy, Climate for Ideas, Conservatree, Dogwood Alliance, Green America, Green Press Initiative, ForestEthics, National Wildlife Federation, Natural Resources Council of Maine and Rainforest Action Network

Mission Statement

The Environmental Paper Network accelerates environmental transformation in the pulp and paper industry through coordination and collaboration of a strong and diverse coalition of non-governmental organizations.

Learn More at

www.environmentalpaper.org

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Executive Summary

The Environmental Paper Network (EPN) publishes the *State of the Industry Report* as a resource for policy-makers, non-governmental organizations (NGOs), the paper industry, large volume paper purchasers and other stakeholders to monitor key indicators of environmental sustainability in the North American pulp and paper industry. This 2011 installment highlights some of the key trends in these indicators over the past decade.

Even in the digital age, the paper industry's global social and environmental footprint is enormous. Rising global consumption and the race to provide cheap paper has resulted in sustained market pressure to push deeper into previously unindustrialized forest landscapes, and to convert high-diversity, carbon-rich natural forests to fast-growing, biologically barren tree plantations. The industry is a driving influence on land use decisions and has profound implications for labor, pollution and climate change.

Paper products are integrated into nearly every aspect of our daily lives. And paper is indisputably important to society. Manufacturing paper will be a major industry for the foreseeable future. However, providing the benefits of paper to people in a way that does not diminish the earth's natural resources or result in inequities and conflict remains one of society's most critical and pressing challenges.

The Environmental Paper Network formed to coordinate the efforts of conservation organizations working to increase corporate social responsibility in paper production and consumption. Members of the Environmental Paper Network work in diverse ways but share a strong connection and a clear, common purpose. They provide solutions and advocate for change to encourage market shifts to more environmentally responsible production and consumption of paper products. EPN is now a network of over 100 organizations working collaboratively to advocate for a cleaner, less destructive paper industry.

In 2007, the Environmental Paper Network published its first *State of the Industry Report: Monitoring the Indicators of Environmental Performance*. The 2007 report continues to serve as a comprehensive reference document containing detailed information about many aspects of the environmental performance of the paper industry. The report can be accessed online at www.environmentalpaper.org. This 2011 Update: *Steps Toward an Environmental Vision* identifies representative trends over the last decade and monitors the progress of the transformation of the industry in North America.

These reports measure progress within the framework of *A Common Vision for the Transformation of the Pulp and Paper Industry*, a call to action first issued at the Environmental Paper

Network's formation in 2002. To achieve this transformation, the *Common Vision* defines four key goals: minimize paper consumption, maximize recycled content, source virgin fiber responsibly, and employ cleaner production practices. These goals provide a broad framework for monitoring performance metrics to track the industry. Several notable statistics relating to these goals are summarized below:

Minimizing Paper Consumption

The first pillar of the *Common Vision* advocates for the responsible use of paper products and the elimination of excessive and wasteful consumption to reduce the many environmental and social impacts associated with paper production and disposal.

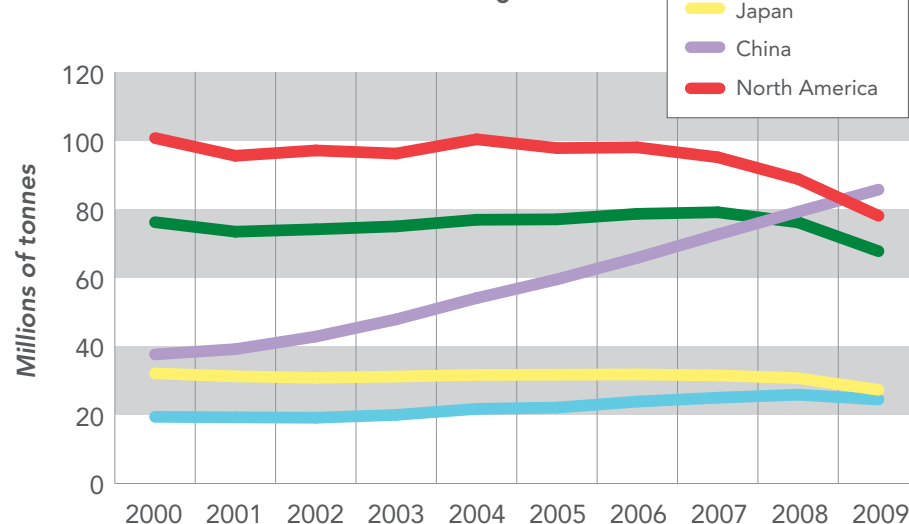
Consumption of paper and paperboard products has experienced significant decline in North America since 2007. This is attributable primarily to the aftermath of the financial crisis in the United States at the end of the decade. The poor economy motivated many companies to perform a close analysis of their paper use and inspired the adoption of innovative and more efficient systems. These new systems will remain in place into the economic recovery and likely have a lasting impact on printing and writing paper consumption. In addition, the shift in the patterns of consumption of news and other media from print to digital formats is also apparently having an irreversible effect in some paper sectors such as newsprint.

Total global consumption of paper is still rising, reaching 371 million tonnes in 2009. However, total paper consumption in North America has declined 24% between 2006 and 2009. Per capita consumption of paper in North America dropped from more than 652 lbs/year in 2005 to 504 lbs/year in 2009.¹

North Americans still, however, consume almost 30 times more paper per capita than the average person in Africa and 6 times

Indicator 1

Total Paper and Paperboard Consumption North America vs. Other Selected Regions



Source: RISI World Pulp Annual Historical Data 2010

more than the average person in Asia. In 2009, total paper consumption in China eclipsed total North American consumption for the first time.¹

Maximizing Recycled Paper Content

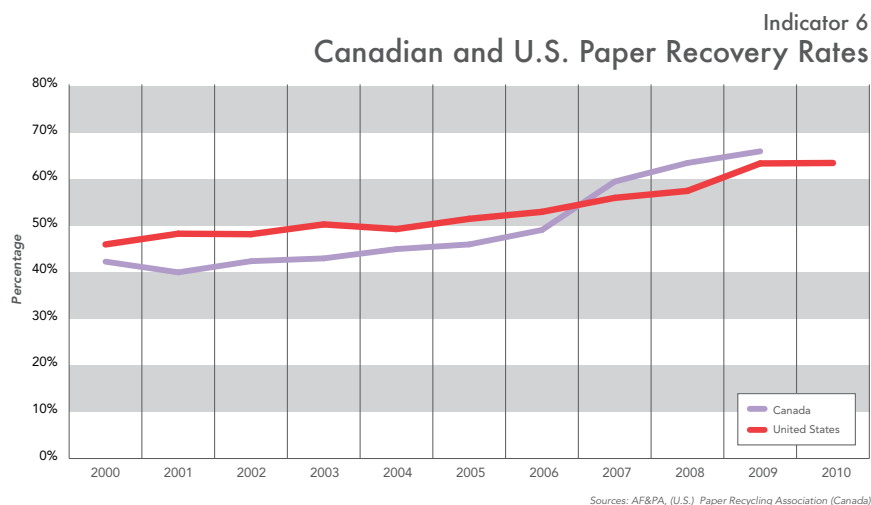
According to industry figures, recovery of paper for recycling continues to grow in North America, diverting it from the high environmental cost of its disposal in landfills. The United States paper recovery rate rose from 46% in 2000 to a record high 63.4% in 2009.² In Canada the reported paper recovery rate in 2009 was 66%.³

Paper is the most commonly recycled product, and yet is still one of the largest single components of landfills in the United States, comprising over 16% of landfill deposits equaling 26 million tons annually.⁴ This is down from 42 million tons in 2005 which represented 25% of the waste stream after recycling that year.⁵

The percentage of total pulp produced in the United States from recycled paper fiber has stayed nearly flat over the decade, at about 36-37% of total pulp production. According to independent research for this report, the operating rates and mill capacity to turn recovered paper into deinked pulp for printing and writing grade papers were stressed by the economic downturn. However, these mills report they have recovered more quickly than virgin mills from the economic crisis; in 2010 they were operating at more than 90% of their capacity and producing about 1.7 million tons of deinked recycled pulp available for printing and writing paper (roughly equivalent to capacity and production in 2006). It is estimated that 35% of that output, or about 370,000 tons, goes to tissue and other sources.⁶

Exports of recovered fiber from the United States to Asia have grown rapidly representing a nearly three-fold increase since 2002. These exports are primarily destined for China. In 2009, approximately 36% of fiber recovered in the United States was exported to Asia.⁷

If current trends hold, paper consumption will continue to decline in North America, demand for recycled paper will grow, and global competition for recovered fiber will intensify. If paper recovery rates do not increase, these dynamics will result in a stress on the supply of recovered fiber available in North America.



Sourcing Virgin Fiber Responsibly

In the past decade there has been rapid growth in the area of land certified worldwide by the Forest Stewardship Council (FSC), the only credible forestry certification scheme identified in the Environmental Paper Network's *Common Vision*. The number of acres certified by FSC in North America has grown by 66 million acres (26.7 million hectares) between January 2007 and January 2011. This represents a doubling of forests managed to the FSC standard and a total 131 million acres (53 million hectares) certified in North America. Globally, FSC has certified almost 328 million acres (132.7 million hectares) as of January 1, 2011.⁸

Leading Environmental Paper Network members cite over 645 environmental paper procurement policies from large purchasers, including 24 Fortune 500 companies that are among the forces driving strong market demand in North America for responsibly sourced virgin fiber and recycled content in printing and writing paper.

Since 2007, millions of acres of Endangered Forests in paper industry sourcing areas have received new legal protections by the Canadian government. And several new collaboration agreements between the forest and paper industry and environmental NGOs have laid the foundation for unprecedented conservation achievements, such as the Canadian Boreal Forest Agreement. The Canadian Boreal Forest Agreement, announced by conservation groups and Forest Products Association of Canada (FPAC) companies in May 2010, places a moratorium on all logging across more than 70 million acres (~28.3 million hectares) of rich Boreal Forest, as key parties begin long-term conservation planning for over 175 million acres (~70.8 million hectares) in the Boreal. But this agreement still must be implemented effectively for this progress to be secured.

As of January 2011, the EPN/Canopy Eco-Paper database shows that there are currently 121 different printing and writing papers available in North America rated “Environmentally Superior” by the Paper Steps, a rating system that designates leading environmental papers across multiple features.⁹ This represents approximately twice the number of similar products available in 2007. There are also more than 770 papers available in North America that are FSC-certified.¹⁰

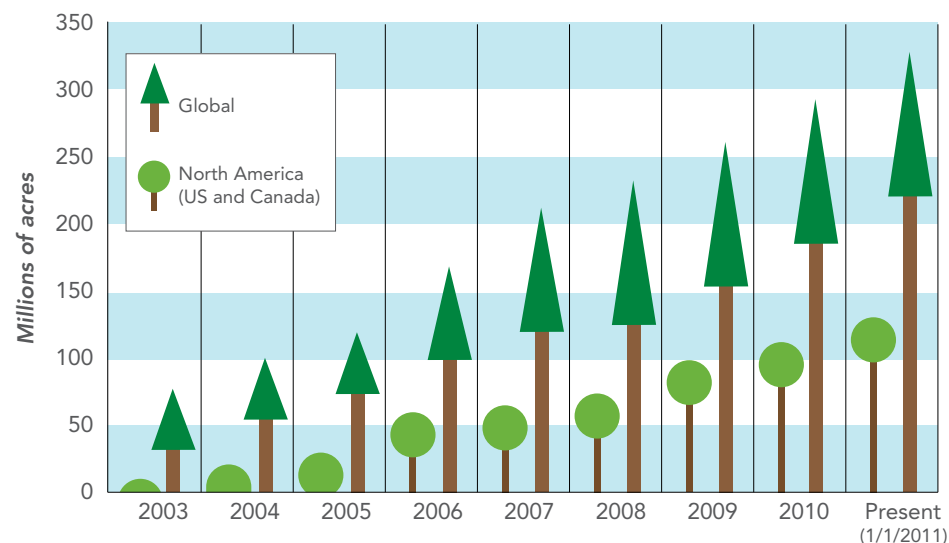
Since 2007, imports of illegally harvested wood products to the United States, including paper, are estimated by Chatham House to have decreased by 24%.¹¹ This reversal of a trend towards increasing imports or illegally harvested wood products is in part due to the United States Lacey Act which was amended in 2008 and prohibits the importation of illegally harvested forest products. While the trend is encouraging, the challenge globally to curtail illegal logging and its devastating consequences for forests, communities and wildlife remains enormous.

Cleaner Production of Paper

According to industry data, fossil fuel greenhouse gas emissions for the manufacture of pulp and paper in the United States and Canada decreased approximately 33% from 2000 to 2008.¹² The paper industry attributes this apparent reduction to a rising proportion of energy from wood fuel and black liquor. Black liquor is a sludge of chemicals and lignin that is a byproduct of the pulping process. Emissions from these sources are currently excluded from measurements of greenhouse gases. However, this practice is extremely controversial and is currently being reviewed by the U.S. Environmental Protection Agency and others.

The American Forest & Paper Association (AF&PA) reports that from 2002 to 2008 wood fuel and black liquor rose from 56% to 63% of the total energy consumed for manufacturing pulp and paper.^{12, 13} The industry claims that all biomass fuel sources are 100%

Indicator 12 Total Area under FSC Certification



Source: Forest Stewardship Council - U.S.

“renewable” and “carbon-neutral.” However, a growing volume of recent scientific studies demonstrates that this assumption is incorrect, and is in fact a dangerous oversimplification. Ignoring the serious air pollution impacts from the combustion of these fuels hinders comprehensive progress towards sustainability.

An important environmental indicator for gauging progress in energy efficiency in the industry is “Total Energy Use Per Ton of Product.” According to aggregated data reported by AF&PA member companies, there was no improvement on this measure over the last decade. In 2008, producing a ton of paper required on average approximately 24.5 Million BTUs per Ton.¹⁴ Not all pulp and paper mills are equal, however. Manufacturing recycled paper uses significantly less total energy per ton. Virgin fiber mills which use enhanced bleaching technologies that are totally chlorine free (TCF) or that substitute ozone or hydrogen peroxide for chlorine or chlorine dioxide as a brightening agent in the initial stages of the bleaching process (EECF), use comparatively less energy as well.

There has been essentially no improvement in average paper industry water pollution between 2000 and 2008. *Indicator 21* shows that for three critical indicators of water pollution – total suspended solids (TSS), biochemical oxygen demand (BOD) and wastewater discharge per ton of product produced – the discharge levels were virtually unchanged in this time period.¹²

Air emissions in the form of sulfur dioxide and nitrogen dioxide have been reduced significantly since the mid 1970's. During the scope of this report's monitoring, AF&PA member companies report that since 2000, average sulfur dioxide emissions per ton of product have continued to decline but at a much slower pace. Average emissions of nitrogen dioxide per ton of product have also been reduced slightly over this period.¹²

Despite some significant challenges, there are **encouraging signs of transformation and opportunities for further progress in the paper industry in the immediate future, including:**

- Many more environmentally responsible printing and writing papers are available than there were even a few years ago;
- A significant and growing number of large end users are committed to responsible paper procurement;
- Marketplace driven campaign efforts have led to government action to secure legal protections for millions of acres in Canada's Great Bear Rainforest, Inland Temperate Rainforest and Canada's Northern Boreal Forest;
- Several major, unprecedented agreements have recently been reached between NGOs and the paper industry for working together on increased protection for forests in North America;
- Rapid growth in the market demand for Forest Stewardship Council certified products continues and millions of additional acres have been certified under this standard;



- There is increasing innovation and investment in agricultural residue papers; and,
- There is strong demand for recycled content paper and continuing growth in waste paper recovery.

However, further progress is essential, including:

- Reducing paper consumption in North America by ending wasteful practices and inefficiency;
- Increasing the utilization of recycled fiber in printing and writing papers, where the greatest demand on the environment occurs;
- Halting the conversion and loss of natural forests to monoculture plantations;
- Preventing illegal and controversial fiber from controversial sources outside North America from entering the supply chain;
- Accurately measuring and reducing the greenhouse gas emissions from using forests for bio-energy;
- Accurately measuring and reducing the greenhouse gas emissions from loss of above ground and soil based carbon stocks entailed in harvesting natural forests and converting natural forests to plantations;
- Eliminating all discharges of dioxin from the paper industry to the environment;

- Optimizing the paper recycling system for growth in domestic manufacturing of recycled pulp; including resolving the challenges created by single stream collection programs that drive up the cost of recovered paper fiber and increase contamination;
- Increasing capital investment in energy efficiency and recycled paper production; and,
- Resisting the spread of genetically engineered trees into commercial production.

This report focuses primarily on the forests and the paper product marketplace in the United States and Canada, referred to in the report collectively as “North America.” However, industrial-scale paper production in the 21st century is multinational, and the supply chain is interconnected around the globe. Areas such as Indonesia, South America, southern Africa, and the Russian Far East are experiencing unique social and environmental challenges from paper industry fiber sourcing expansion, and fiber sourcing in these areas is often having negative impacts on biodiversity, ecological integrity, community rights and livelihoods and is directly influencing the stability of the earth’s climate. In China, production and consumption are expanding, leading to sourcing of controversial fiber from controversial sources from the aforementioned regions.

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Thank you for reading the *2011 State of the Industry Report* from the Environmental Paper Network. Thank you to the individuals, organizations, and companies that have provided the leadership necessary to achieve this progress. And thank you to those that are ready to work together to continue this transformation through the next decade.



Reducing Paper Consumption

Maximizing Recycled Content

Responsible Fiber Sourcing

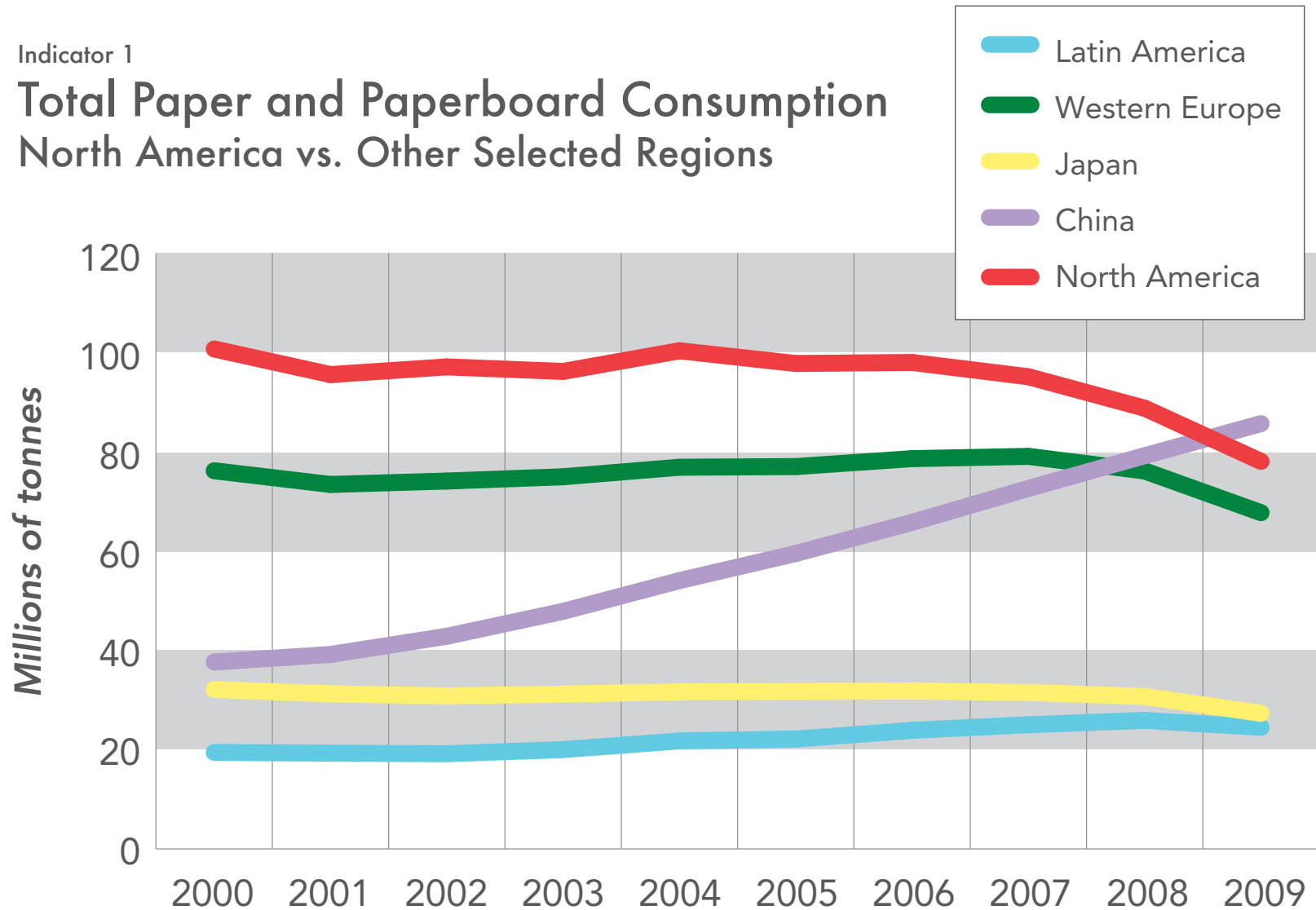
Cleaner Production

The first pillar of the *Common Vision* advocates for the responsible use of paper products and the elimination of excessive and wasteful paper consumption to reduce the many environmental impacts associated with paper production and disposal. The information presented in this section of the report provides some insight into paper consumption trends within North America in comparison to other regions of the world.

From 2006 to 2009, total North American consumption of paper and paperboard **declined by 24%**. In 2009, total paper consumption in China eclipsed total North American consumption for the first time.¹

Indicator 1

Total Paper and Paperboard Consumption North America vs. Other Selected Regions



Source: RISI World Pulp Annual Historical Data 2010

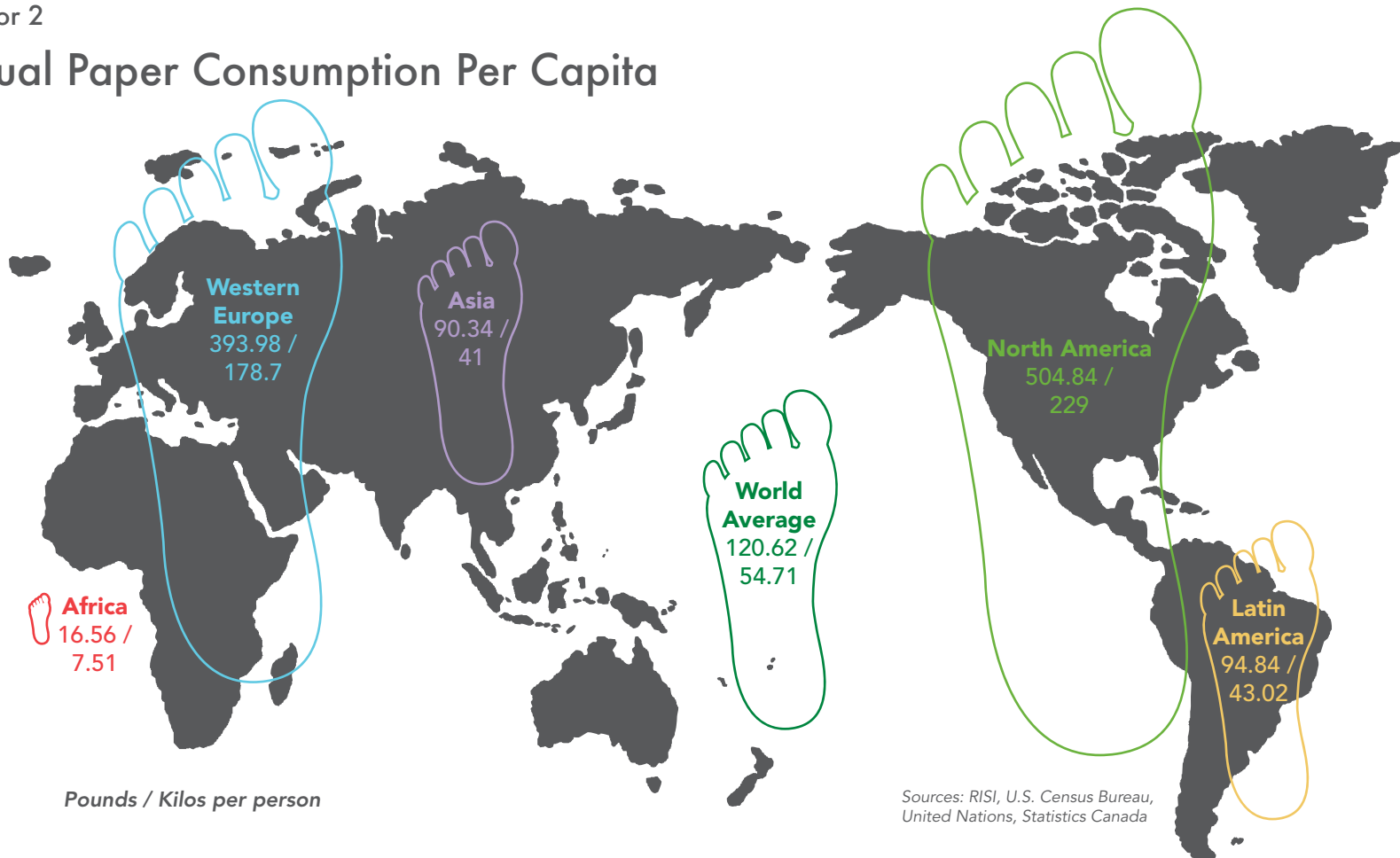
In 2009

the average North American consumed almost **5 times as much paper as the world average**, 30 times as much paper as a person living in Africa, and almost 6 times as much as a person living in Asia.^{1, 3, 4, 5}

And in 2009, the United States and Canada together comprised about **5%** of the global population and consumed **17%** of the world's paper.^{1, 3, 4, 5}

Indicator 2

Annual Paper Consumption Per Capita

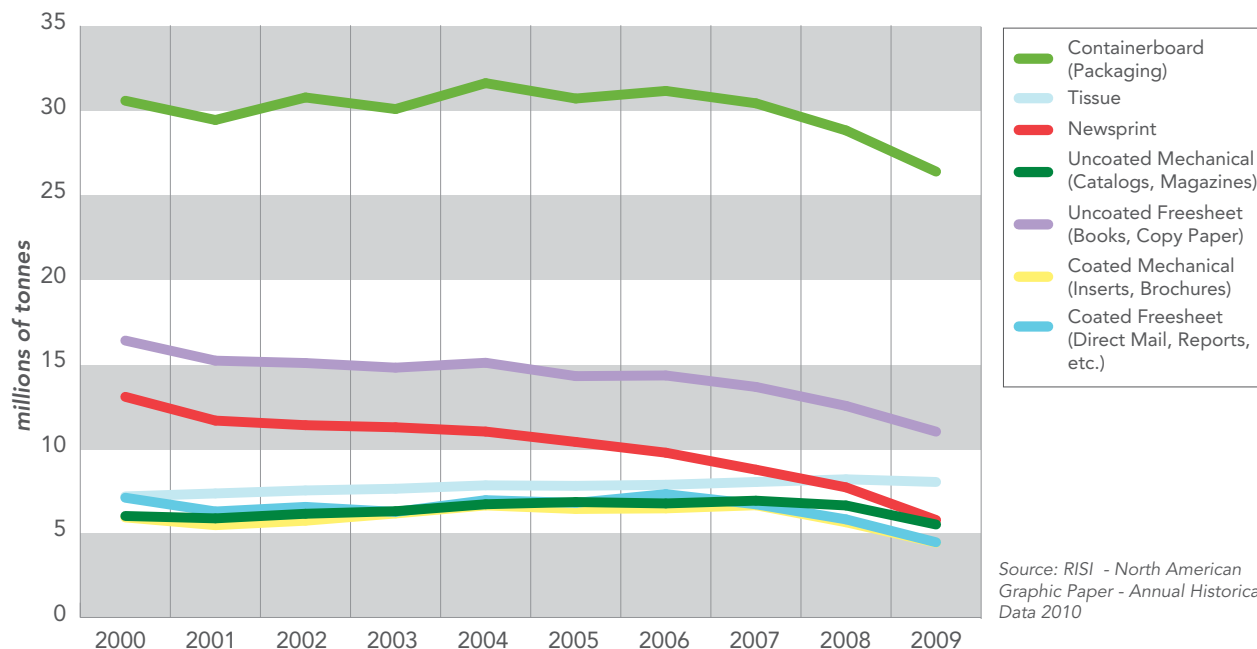


Indicator 3

Total Paper Consumption, by Paper Grade North America (2000-2009)

In 2009 newsprint consumption

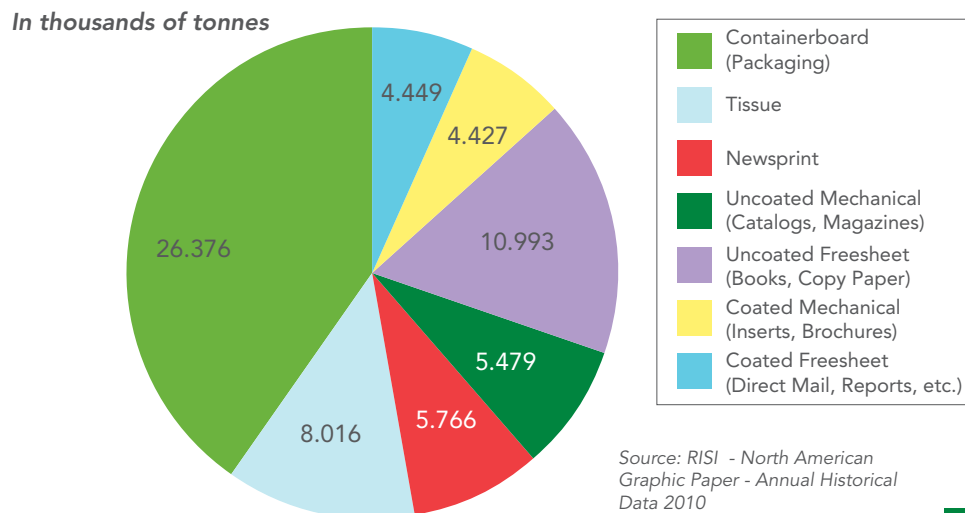
in the United States and Canada was approximately half the amount that was consumed in 2004, yet newsprint remains one of the largest paper grades by volume in North America.⁵



Indicator 4

Total Paper Consumption, by Paper Grade North America (2009)

In 2009, **containerboard** comprised the largest share of all paper grades consumed in North America, followed by uncoated freesheet, followed by tissue.⁵

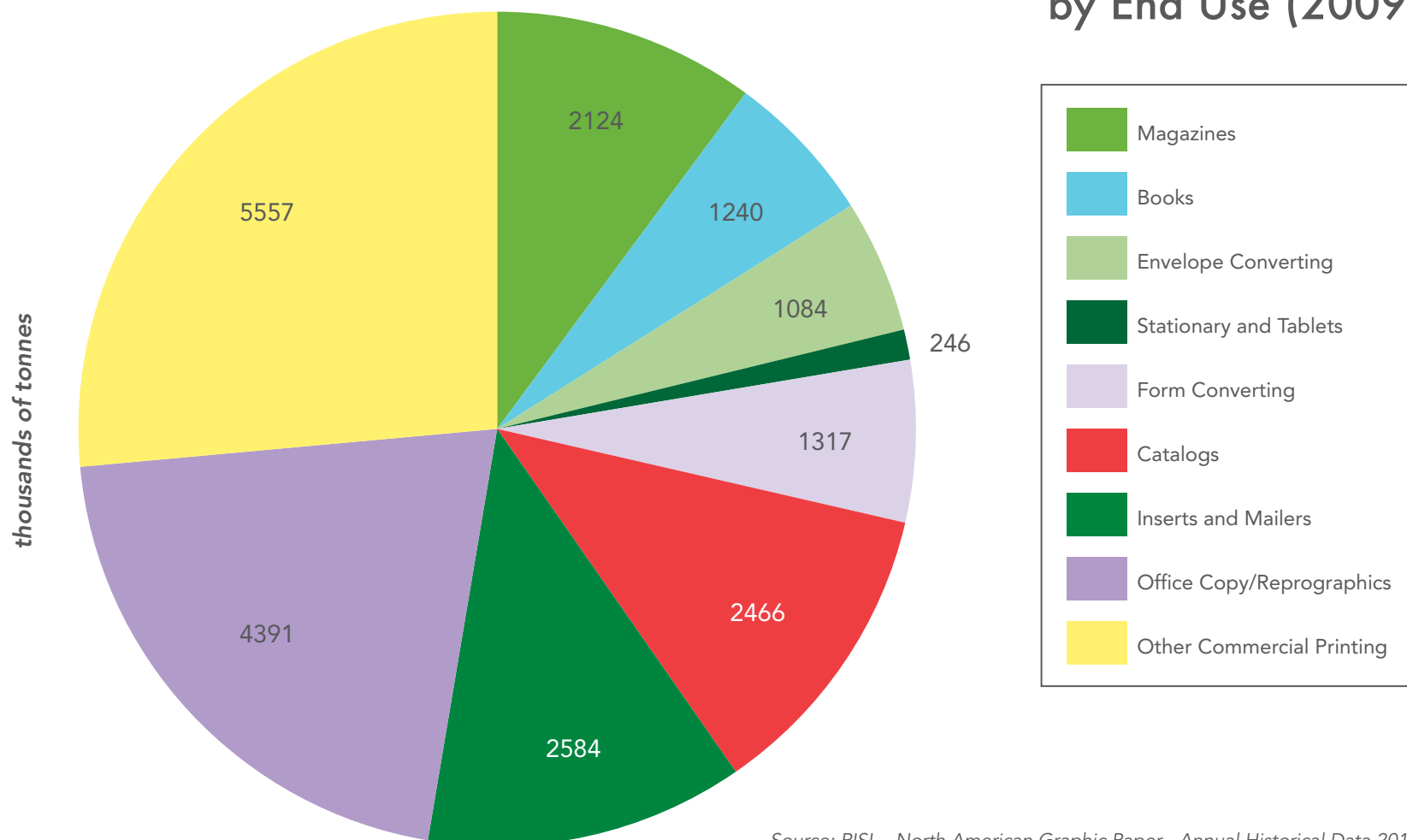




In the **printing and writing sector**, commercial printing applications consumed the most paper by volume, followed by office copy/reprographic paper and paper for mailers and inserts.⁵

Indicator 5

United States Printing and Writing Paper Consumption, by End Use (2009)



Source: RISI - North American Graphic Paper - Annual Historical Data 2010



Maximizing Recycled Paper Content

Reducing Paper Consumption

Responsible Fiber Sourcing

Cleaner Production

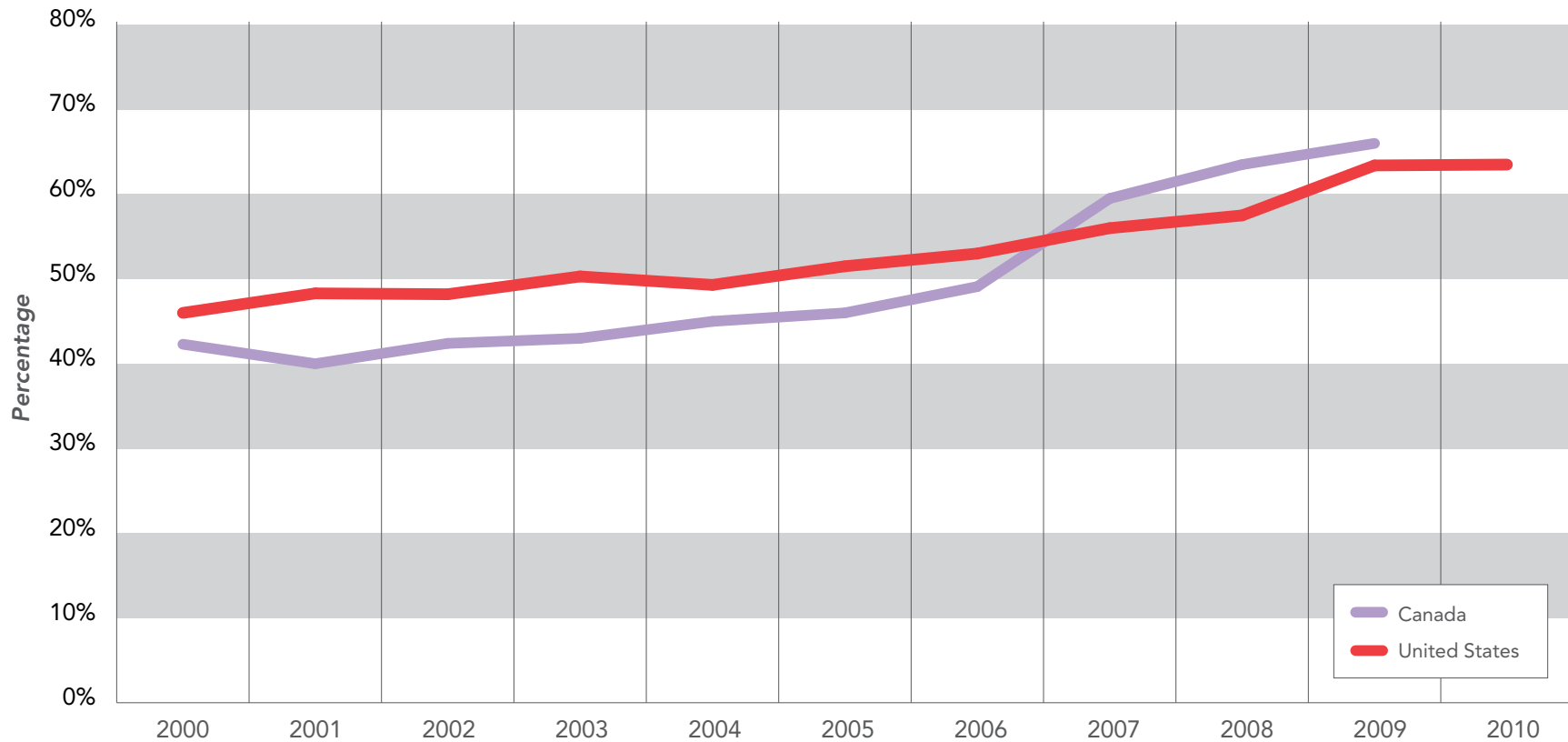
The second pillar of the *Common Vision* is to maximize recycled content in pulp and paper products. The information presented in this section of the report reveals that despite a challenging economic environment, recycled paper production has performed strongly and demand is projected to increase for recycled content.

According to industry figures, recovery of paper continues to grow in North America, helping to reduce the high environmental costs of disposing of paper in landfills.

The U.S. paper recovery rate rose from 46% in 2000 to a record high 63.4% in 2009.⁷ In Canada, the reported paper recovery rate in 2009 was 66%.⁸ In 2009, Europe recovered 72.2% of its paper.¹⁴

Indicator 6

Canadian and U.S. Paper Recovery Rates

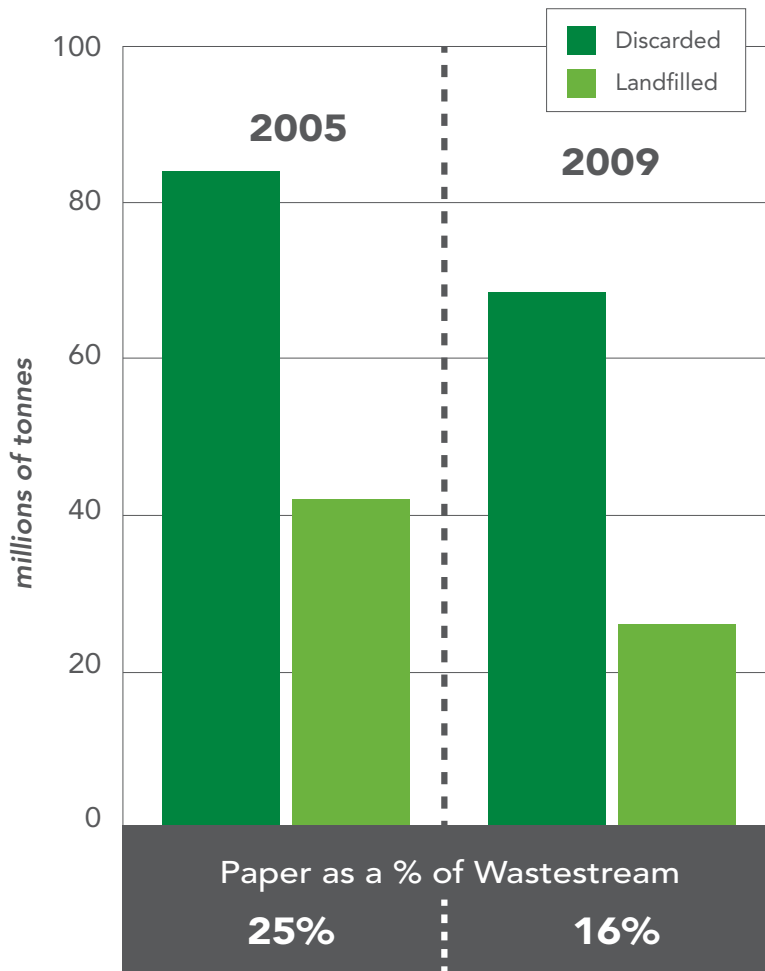


Sources: AF&PA, (U.S.) Paper Recycling Association (Canada)

Paper is the most commonly recycled product, and yet is still one of the largest single components of landfills in the US, **comprising over 16% of landfill deposits** equaling 26 million tons in 2009.⁹ This is down from 42 million tons in 2005 which represented 25% of the waste stream after recycling in that year.

Indicator 7

Paper in United States Landfills

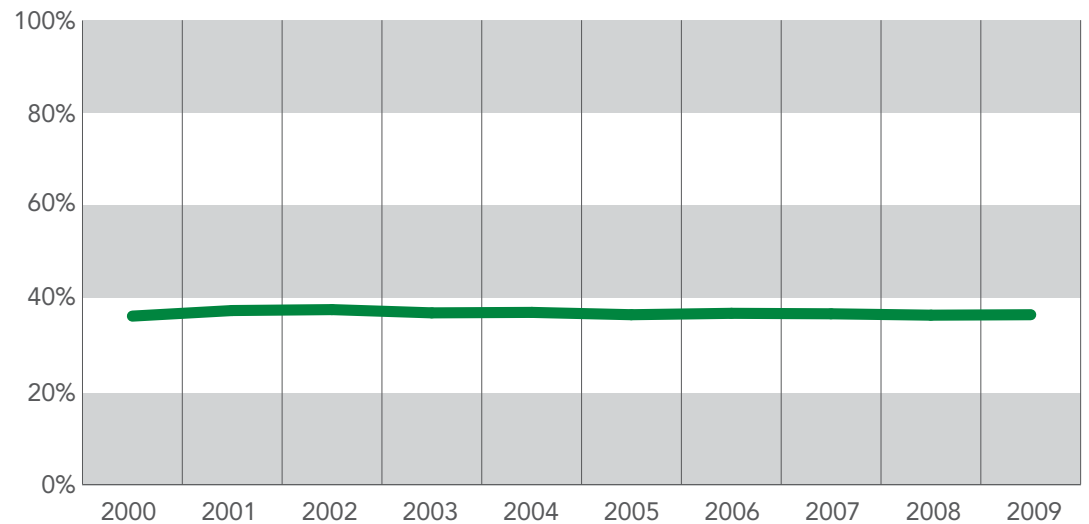


Source: U.S. Environmental Protection Agency

The percentage of total pulp produced in the United States from recycled paper fiber has stayed nearly flat over the decade, at about **36-37%** of total pulp production.⁶

Indicator 8

Percent of Pulp Produced from Recovered Fiber United States



Source: AF&PA

In 2010, Conservatree completed an update to its periodic review of **deinked pulp capacity** in North America by surveying suppliers to determine the volume of available deinked pulp to producers of printing and writing paper grades. Their findings are summarized below.

**Table 1
Deinked Pulp Production & Mill List 2006 vs 2010**

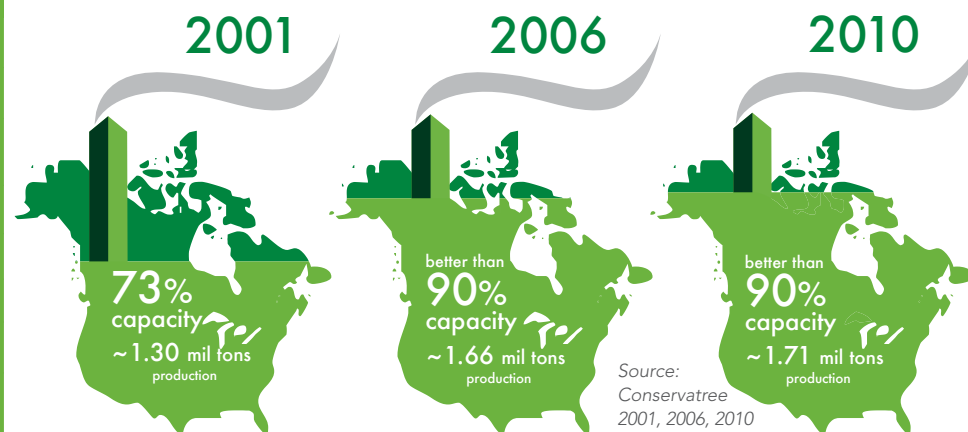
Company	Location	TPY 2006	TPY 2010	Integrated	Type
Boise Inc	Jackson AL	85,000	90,000	YES	Kraft
International Paper (Riverdale)	Selma AL	120,000	120,000	YES	Kraft
FutureMark	Alsip IL	70,000	70,000	YES	Mechancial
Cascades Auburn Fiber	Auburn ME	75,000	75,000	Non Integrated	Kraft
SFK Pulp Recycling USA	Menominee MI	165,000	165,000	Non Integrated	Kraft
Manistique Paper	Manistique MI	180,000	180,000	YES	Mechancial
NewPage (Duluth Recycled Pulp)	Duluth MN	110,000	121,000	Non Integrated	Kraft**
Mississippi River Pulp LLC	Natchez MS	160,000	144,000	Non Integrated	Kraft
Ohio Pulp Mills	Cincinnati OH	18,000	25,000	Non Integrated	Kraft
Appleton	W. Carrolton OH	63,000	63,000	YES	Kraft
Georgia Pacific	Halsey OR	0*	125,000	Non Integrated	Kraft
American Eagle Paper	Tyrone PA	70,000	70,000	YES	Kraft
International Paper (Franklin)	Franklin VA	115,000	closed		Kraft
SFK Pulp Recycling USA	Fairmont WV	220,000	215,000	Non Integrated	Kraft
Flambeau River Paper	Park Falls WI	25,000	54,000	YES	Kraft
Fox River Fiber	De Pere WI	120,000	135,000	Non Integrated	Kraft
Cascades Fine Paper	Breakeyville QUE	60,000	56,000	Non Integrated	Kraft
TOTAL		1,656,000	1,708,000		

** mixed

Source: Conservatree 2006, 2010

*in 2006 Georgia Pacific Halsey Oregon was not shipping pulp for fine paper production.

**Indicator 9
North American Recovered Fiber Deinking Capacity
Suitable for Printing and Writing Papers**



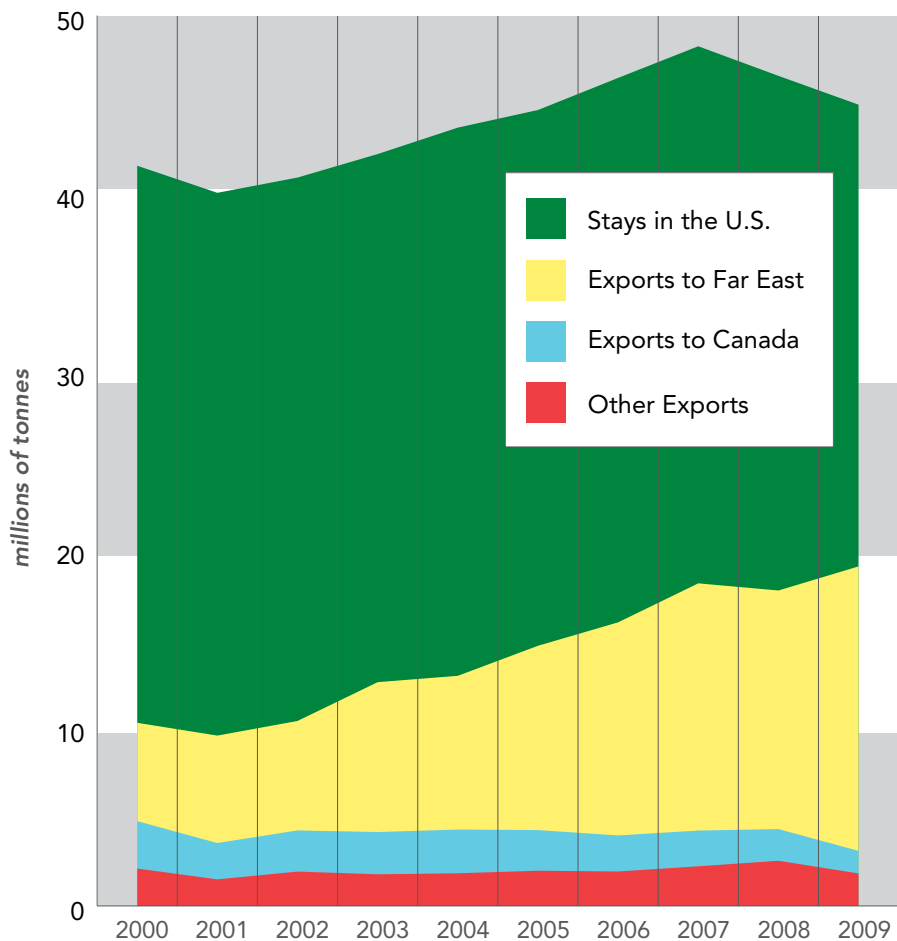
Deinked pulp for production of recycled content printing and writing papers is currently running at nearly full capacity in North America at approximately the same level that was established in 2006. While the overall paper market has suffered during the recent economic downturn, there has been consistent demand for deinked pulp. Overall North American production of fine paper has dropped, however there is a continued steady production of deinked pulp in North America. Consequently, there is a rising trend in the percentage of recycled pulp incorporated in printing and writing paper production.⁷

2010 production of deinked pulp suitable for fine paper production in North America was about 1.7 million short tons per year with most deinked pulp mills reported to be running at better than 90% capacity. This is the same level of output as reported in a capacity survey in 2006.¹¹ It is estimated that 35% of that output, or about 370,000 tons, goes to tissue and other sources. However, as with the all sectors of the North American pulp and paper industry, with the exception of the tissue sector, no new construction of deinking capacity is expected. Although the market for deinked pulp continues to be robust, without new investment in deinking infrastructure it appears the capacity to produce deinked pulp for fine paper in North America is near its limit.



Exports of **recovered fiber** from the United States to Asia, primarily destined for China, have **grown nearly three-fold** since 2002. In 2009, approximately 36% of fiber recovered in the United States was exported to Asia.¹²

Indicator 10
Destination of Paper Recovered in the United States



Source: RISI World Pulp Annual Historical Data 2010

fact

Using 100% recycled copy paper in lieu of copy paper made from virgin tree fiber, on average, reduces net energy consumption by 31.3%, reduces net greenhouse gas emissions by 43.6%, reduces wastewater by 53.3%, reduces solid waste by 39.1% and reduces wood use by 100%.¹³

Paper Calculator

presented by environmental paper network

go to www.papercalculator.org

The **Paper Calculator** is the premier, independent resource for calculating and reporting the environmental savings of your choices to switch to purchasing environmentally responsible paper, based on research by **Environmental Defense Fund** and other members of the Paper Task Force.

resource



Responsible Virgin Fiber Sourcing

Reducing Paper Consumption

Maximizing Recycled Content

Cleaner Production

The third pillar of the *Common Vision* is the responsible sourcing of all virgin fiber. The paper industry supply chain has impacts on forests in every corner of the world, including some of the most threatened and endangered. In North America, the paper industry has maintained a major presence and influence on the health of forests; the U.S. South produces more paper than any other region in the world. However, significant change has occurred in the industry in the patterns of ownership of large tracts of forests in the United States. Vertically integrated paper companies have shed their vast forest landholdings, primarily to large timber investment management organizations.

Indicator 11

Marketplace-driven achievements towards conservation of Endangered Forests

Transformation in the marketplace has been a driving force behind meaningful progress towards forest conservation goals in North America. In British Columbia's Great Bear Rainforest, 5 million acres have been protected and transition to FSC certification in the region has begun. Several new collaboration agreements between the forest and paper industry and environmental NGOs, including the world's largest conservation initiative the Canadian Boreal Forest Agreement, are laying the foundation for unprecedented conservation achievements across North America.

Even with the progress that has been achieved, today the conversion of diverse, natural forests to plantations, the logging of old-growth temperate rainforests and the harvesting of intact carbon rich Boreal Forest remain immediate threats to forests and their biodiversity and carbon-storage capacity.

There are high-stakes for North America's forests and the paper industry in the coming years. These historic agreements must be implemented successfully to achieve their full potential. Meanwhile, ongoing challenges remain from major companies

that continue to practice business-as-usual and have not matched leadership commitments.

This report focuses primarily on the forests and the paper product marketplace of the United States and Canada, referred to in the report collectively as "North America." However, industrial-scale paper production in the 21st century is multinational, and the supply chain is interconnected around the globe. Areas such as Indonesia, South America, southern Africa, and the Russian Far East are experiencing adverse social and environmental impacts from paper industry fiber sourcing expansion, and fiber sourcing in these areas directly influences the stability of the earth's climate. In China, production and consumption are expanding, leading to sourcing of controversial fiber from controversial sources from the aforementioned regions. In addition, pulp and paper from these controversial sources is still coming directly into North American markets as well as being imported from China and other third party producers. This demand is helping drive deforestation and biodiversity loss, social conflict and climate pollution as well as undermining efforts to establish parallel environmental and social standards and a level playing field that enables industry improvement and reform.

Indicator 11

Great Bear Rainforest, Canada

[More Info](#)

The March 2009 agreement by the British Columbia government, First Nations, the logging industry, and three environmental organizations included full legislation of 5 million acres (~2 million hectares) protected from logging and new, transitional logging regulations that put another 1.7 million acres (~688,000 hectares) off limits. As of early 2011, fifty percent of the Great Bear Rainforest is now off-limits to logging, with the percentage expected to increase in the future. Ecosystem based management is being put in place in the entire forest area.

Northern Boreal Forest, Canada

[More Info](#)

The Canadian Boreal Forest Agreement, announced by conservation groups and Forest Products Association of Canada (FPAC) companies in May 2010, places a moratorium on all logging across more than 70 million acres (~28.3 million hectares) of rich Boreal Forest where endangered woodland caribou thrive. All parties must now begin long-term conservation planning for over 175 million acres.

In August 2009, Kimberly-Clark, the world's largest tissue product manufacturer, announced one of the strongest pulp and paper policies in the industry and agreed to stop purchasing pulp from the approximately 7.4 million acre (three million hectare) Kenogami and Ogoki Forests in northern Ontario until strict ecological criteria are met. Now more than 65% of Kimberly-Clark pulp is made from either FSC-certified or recycled fiber.

[More Info](#)

Southeastern United States

[More Info](#)

In November 2010, Georgia-Pacific (GP) announced it will not purchase trees from Endangered Forests and Special Areas, or from new pine plantations established at the expense of natural hardwood forests, throughout all of its operations. As a first step towards implementing this policy GP worked with environmental groups and scientists to identify 11 Endangered Forests and Special Areas totaling 600,000 acres (~243,000 hectares) in the Mid-Atlantic Coastal Eco-Region, as well as 90 million acres (~36.4 million hectares) of natural hardwood forests in the Southern region.

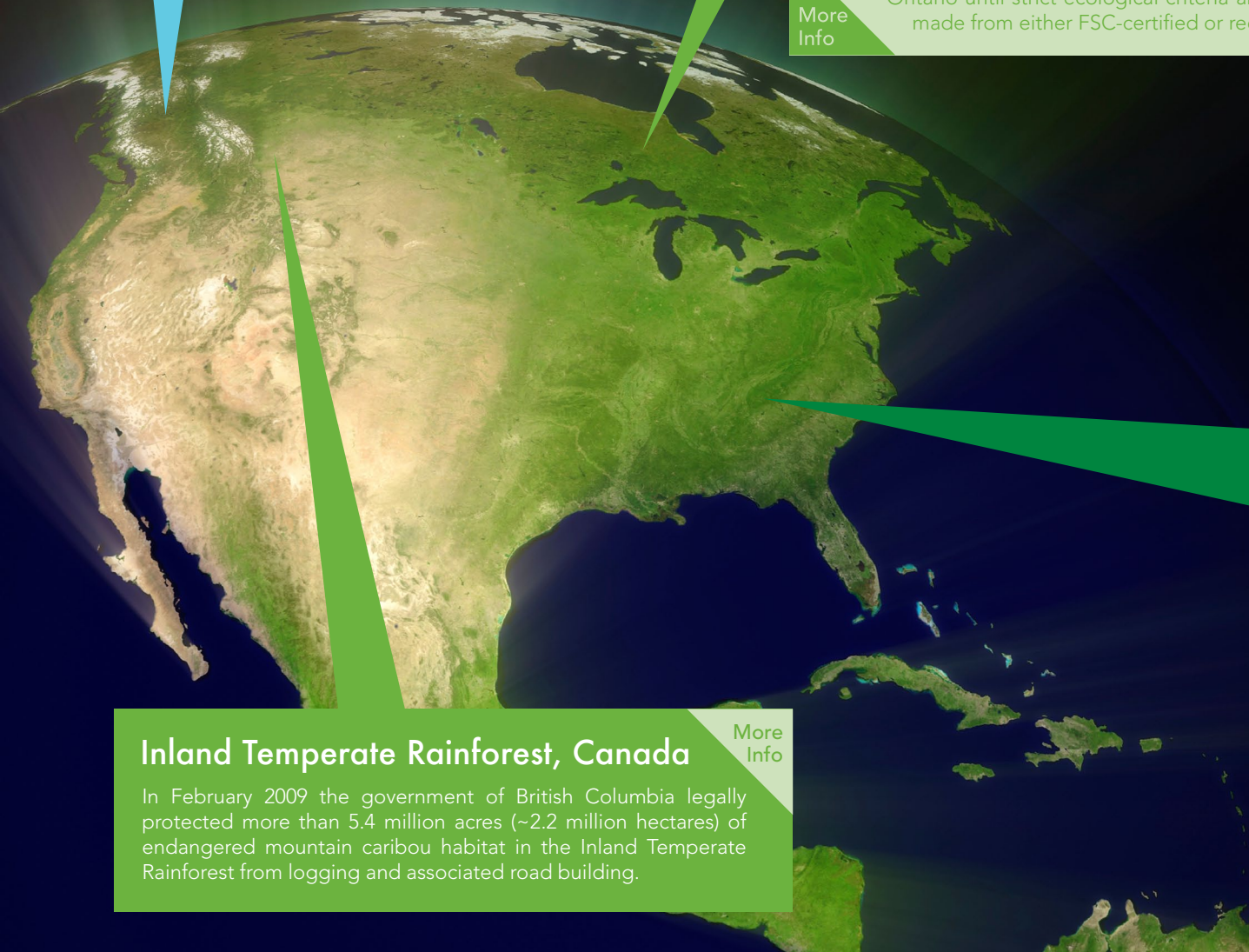
In June 2005, Bowater, Inc. (now AbitibiBowater), the largest newsprint manufacturer in North America, agreed to end the conversion of hardwood forests to single-species pine plantations on its land on the Cumberland Plateau and across the Southern U.S., and stop purchasing fiber from plantations established at the expense of natural hardwood forests. The company also agreed to limits on aerial spraying and to protect ephemeral ponds, critical habitat for salamanders and other freshwater species.

[More Info](#)

Inland Temperate Rainforest, Canada

[More Info](#)

In February 2009 the government of British Columbia legally protected more than 5.4 million acres (~2.2 million hectares) of endangered mountain caribou habitat in the Inland Temperate Rainforest from logging and associated road building.



Marketplace Leadership by Large Paper Purchasers

According to a January 2011 survey of members of the Environmental Paper Network there were at least 645 large paper purchasers, including 24 Fortune 500 companies based in North America, with paper procurement policies or other environmental paper commitments that include one or more of the following important elements: protecting High Conservation Value Forests or Endangered Forests, maximizing high percentage post-consumer recycled content, giving preference to FSC-certified wood fiber, incorporating agricultural residues, or eliminating controversial sources or fiber from natural forest conversion in their supply chain.

Many other large end users are also moving to more responsible paper, taking recognized steps without formal policies. For example, EPN member organization the Natural Resources Defense Council reports that it has been successful in helping to increase procurement of post-consumer recycled content paper products for organizations and events such as the Academy Awards, the GRAMMY Awards, the U.S Open (United States Tennis Association), Major League Baseball and its All-Star game, the National Basketball Association, and numerous franchises within each sport.

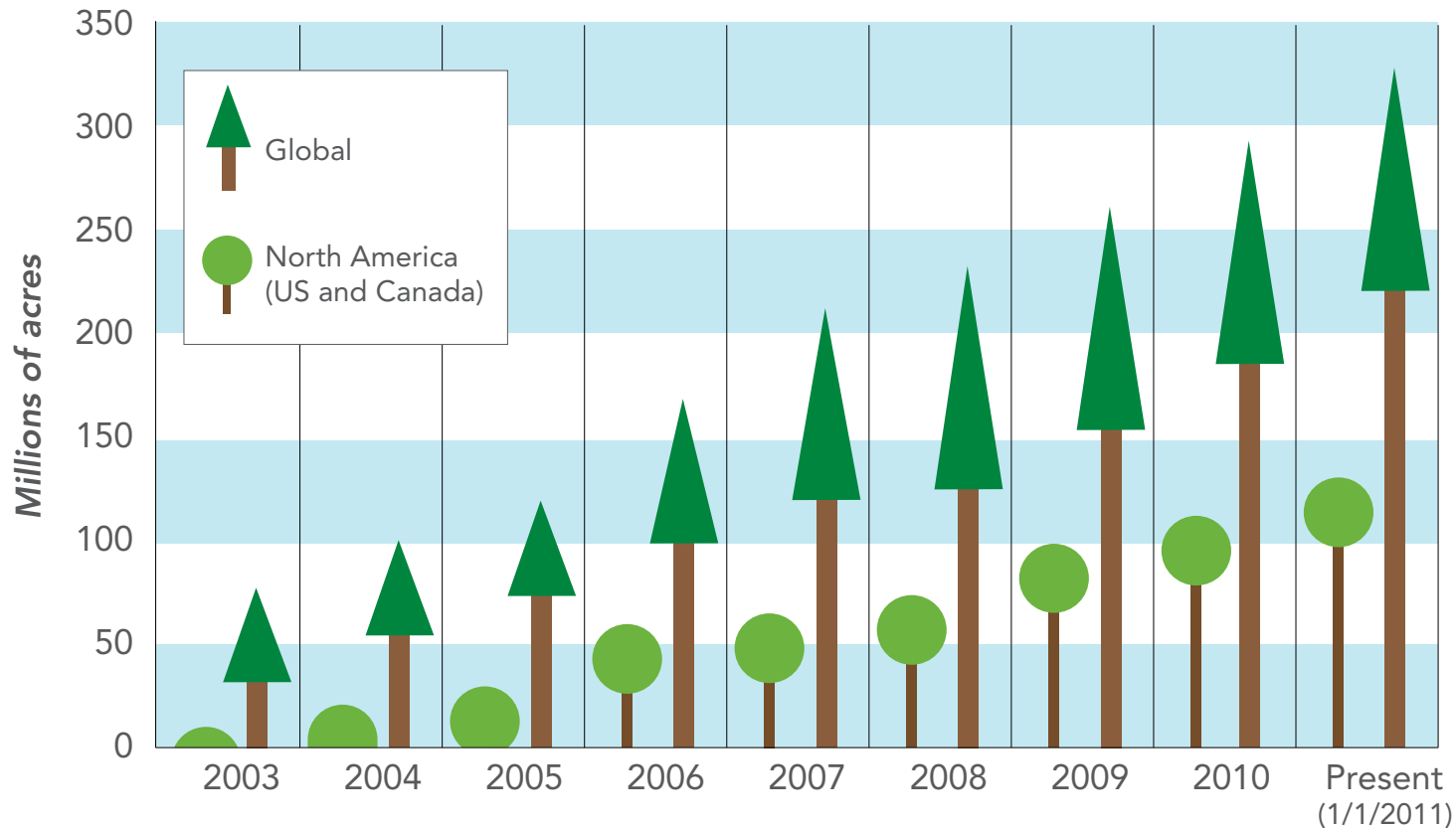
In addition, leadership companies have begun to support specific on the ground conservation efforts in collaboration with environmental NGOs and their wood fiber suppliers that leads directly to improved sourcing in their supply chains. For example, Staples is a co-founder of a conservation project called Carbon Canopy along with EPN member organizations Dogwood Alliance and Green Press Initiative. The project is working with landowners and forest products companies to develop high quality forest carbon offsets based on conservation and improved forest management with FSC certification in the heart of their fiber basket in the Southern Appalachian region of the United States. Likewise, Office Depot is working with NGOs to improve forest management and increase FSC certification of private landowners supplying a mill in Tennessee which produces Office Depot's high-volume FSC-certified office paper.

Companies working with EPN member organization Canopy have helped drive an increase of 53.7 million acres (21.7 million hectares) in Canadian FSC tenures, a 127% increase, from 2007 to 2011. Notably, Transcontinental, North America's 4th largest printer and the largest printer in Canada used their purchasing power to encourage 21 forest companies to sign on to the Canadian Boreal Forest Agreement.

There has been rapid growth in the area of land certified by the Forest Stewardship Council (FSC). The number of acres certified by FSC in North America has grown by 66 million (26.7 million hectares) between January 2007 and January 2011. This represents a **doubling of forests certified** as well-managed by FSC for a total of 131 million acres (53 million hectares) certified in North America. Globally, FSC has certified almost 328 million acres (132.7 million hectares) as of January 1, 2011.¹⁶

Indicator 12

Total Area under FSC Certification

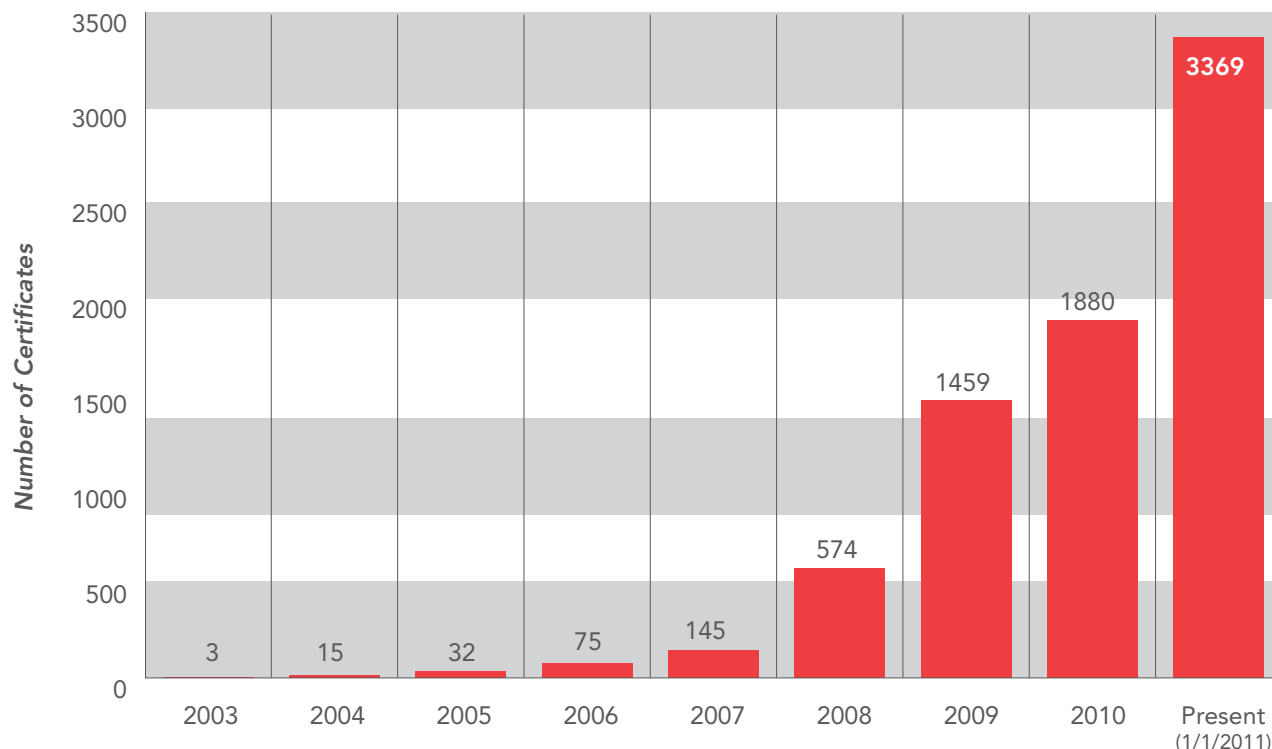


Source: Forest Stewardship Council - U.S.

The number of paper-related **FSC Chain of Custody** certificates has grown rapidly as well, reaching 3,369 certificates in January, 2011.¹⁶ An FSC Chain of Custody certificate is an important indicator of marketplace trends and a critical first step for mills to be able to sell FSC-certified products.

As of early 2011, there were more than **770** FSC-certified papers available in North America.¹⁸ For a complete list see: <http://www.fscscanada.org/docs/fscpaperlist.pdf>.

Indicator 13
Total FSC Paper Related Chain of Custody Certificates in the United States



* This includes paper manufacturers, paper merchants and printers

Source: Forest Stewardship Council, US, 2011

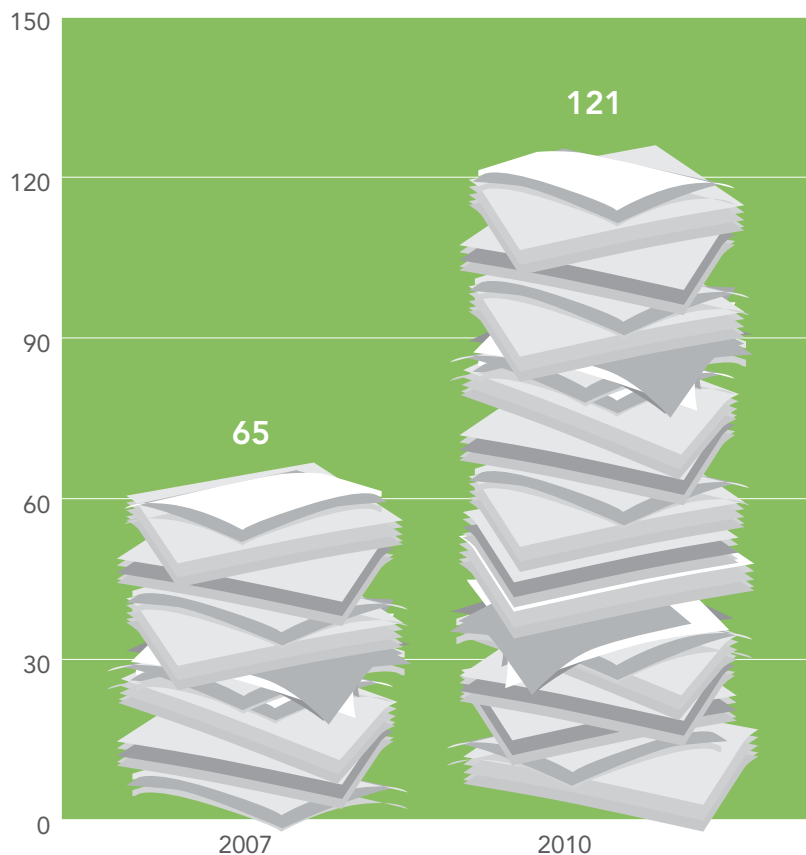
caution

Purchasers can become confused that this chain of custody certificate means they will be assured to receive FSC-certified products. A chain-of-custody certificate only means a facility has a third-party verified ability to track the origin of all fiber in any FSC certified products. By itself, it does not mean that all fiber in all products, or any fiber in any particular products, is certified FSC fiber. Purchasers must ask their vendor for FSC-certified paper and ask that products bear the FSC label in order to ensure the products are FSC-certified.

The EPN/Canopy Eco-Paper Database shows that as of January 2011 there were **121 papers** available in North America rated “Environmentally Superior” by the Paper Steps, a rating system that designates leading environmental papers across multiple features. This represents approximately twice the number of similar products in 2007.¹⁷

Indicator 14

Printing & Writing and Newsprint Papers Available in North America and Designated “Superior” by the EPN’s hierarchy of environmental papers, The Paper Steps, or equivalent.



Canopy and Environmental Paper Network, 2010



The Paper Steps

presented by environmental paper network

go to www.papersteps.org

The **Paper Steps** is a one page guide and a method to identify environmental leadership in paper products. Leadership papers are designated in the Eco Paper Database using this method.

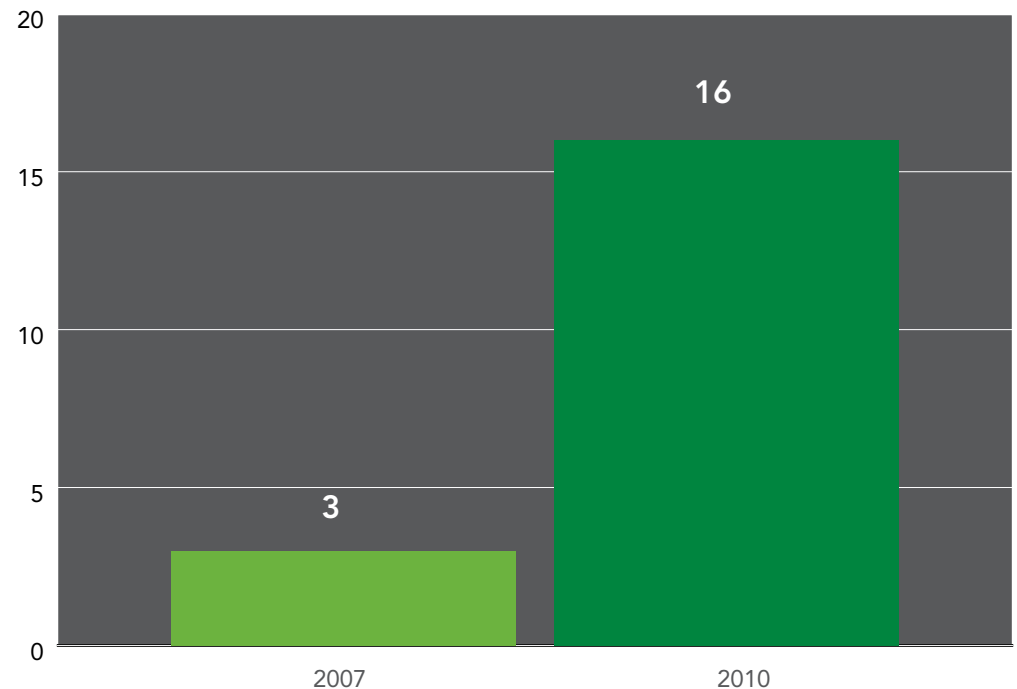
resource

***Note:** To be designated “Superior,” 100% of a paper’s fiber must have environmental attributes, which include pre-consumer recycled content, post consumer recycled content, FSC-certified pure virgin fiber free of controversy, and/or agricultural residues. A minimum of 50% of that fiber must be post-consumer recycled content, and the paper must be bleached Processed Chlorine Free or Totally Chlorine Free. Learn more at WhatsInYourPaper.com*

The choice and quality in **agricultural residue papers** available in North America is trending upward as well. Agricultural residues are non-wood fibers derived from waste left over after harvest from an existing agricultural land use. When a crop is purposely grown for the material otherwise defined as “residue” (e.g., if hemp is grown for the fiber), it is considered an intentional or “on-purpose” crop and does not qualify as an agricultural residue. Agricultural residues include: cereal straws like wheat straw, rice straw, seed flax straw, corn stalks, sorghum stalks, sugar cane bagasse, and rye seed grass straw.

Indicator 15

Agricultural Residue Papers Available in North America*



*Does not include papers from cotton residues

Canopy and Environmental Paper Network, 2010

resource

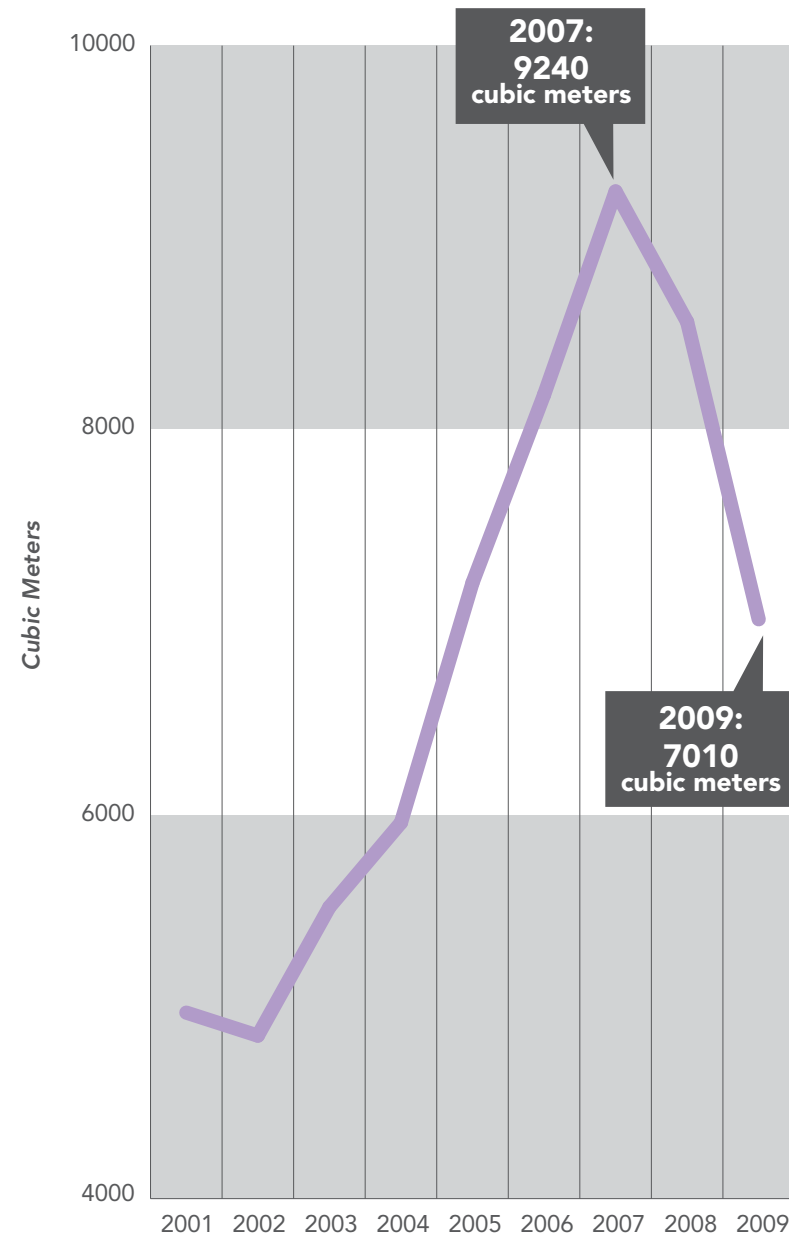


PulpWatch.org is a Google maps based resource for large volume paper buyers to learn more about where the pulp to make their paper comes from, and get independent ratings on the social and environmental performance of those pulp mills according to criteria consistent with the Environmental Paper Network’s Common Vision. Go to www.pulpwatch.org.

Since 2007, **imports of illegally harvested** wood products to the United States, including paper, are estimated by Chatham House to have decreased by 24%.¹⁹ This reversal of a trend towards increasing imports or illegally harvested wood products is in part due to the United States Lacey Act which was amended in 2008 and prohibits the importation of illegally harvested forest products. While the trend is encouraging, the challenge globally to curtail illegal logging and its devastating consequences for forests, communities and wildlife remains enormous. In many regions with poor governance and weak rule of law, declarations of legality and certifications are difficult to verify and subject to deep uncertainty. Additionally, in many regions even pulp and papers that may be considered legal are highly controversial and driving adverse environmental and social impacts. They constitute a significant reputational risk for investors, manufacturers and customers.

Indicator 16

Estimated Illegally Harvested Timber Entering the United States



Source: Chatham House, *Illegal Logging and Related Trade: Indicators of the Global Response*. July, 2010

Genetically engineered trees are a fast growing threat to native forests and biodiversity. The United States Department of Agriculture (USDA) has approved test plots at 28 secret sites across seven southern U.S states for 260,000 eucalyptus trees that have been genetically engineered to be more tolerant of cold temperatures in order to survive the local winters.²⁰ This experiment is currently delayed by legal challenges from conservation organizations.

Indicator 17

Number of North American field trials allowing flowering of genetically engineered trees for forest products or bioenergy

2000-2009

0



2010

260,000 cold tolerant eucalyptus trees at

28

secret sites across seven southern U.S. states have been approved by USDA but face legal challenges.



Cleaner Production

Reducing Paper Consumption

Maximizing Recycled Content

Responsible Fiber Sourcing

The fourth pillar of the *Common Vision* is cleaner production in the paper industry. Pulp and paper manufacturing is chemically intensive and the paper industry is one of the largest industrial consumers of energy and freshwater in North America.

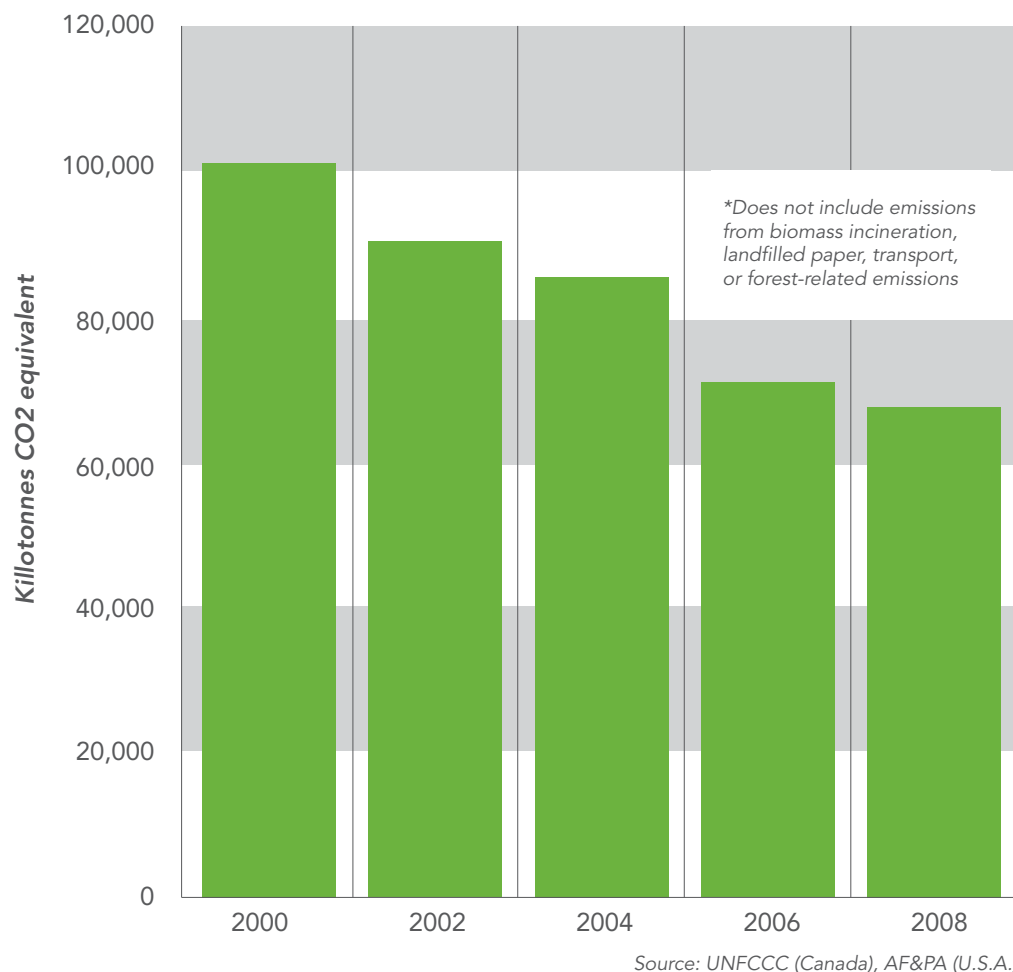
According to industry data,

fossil fuel greenhouse gas emissions for the manufacture of pulp and paper in the United States and Canada **decreased approximately 33% from 2000 to 2008.**

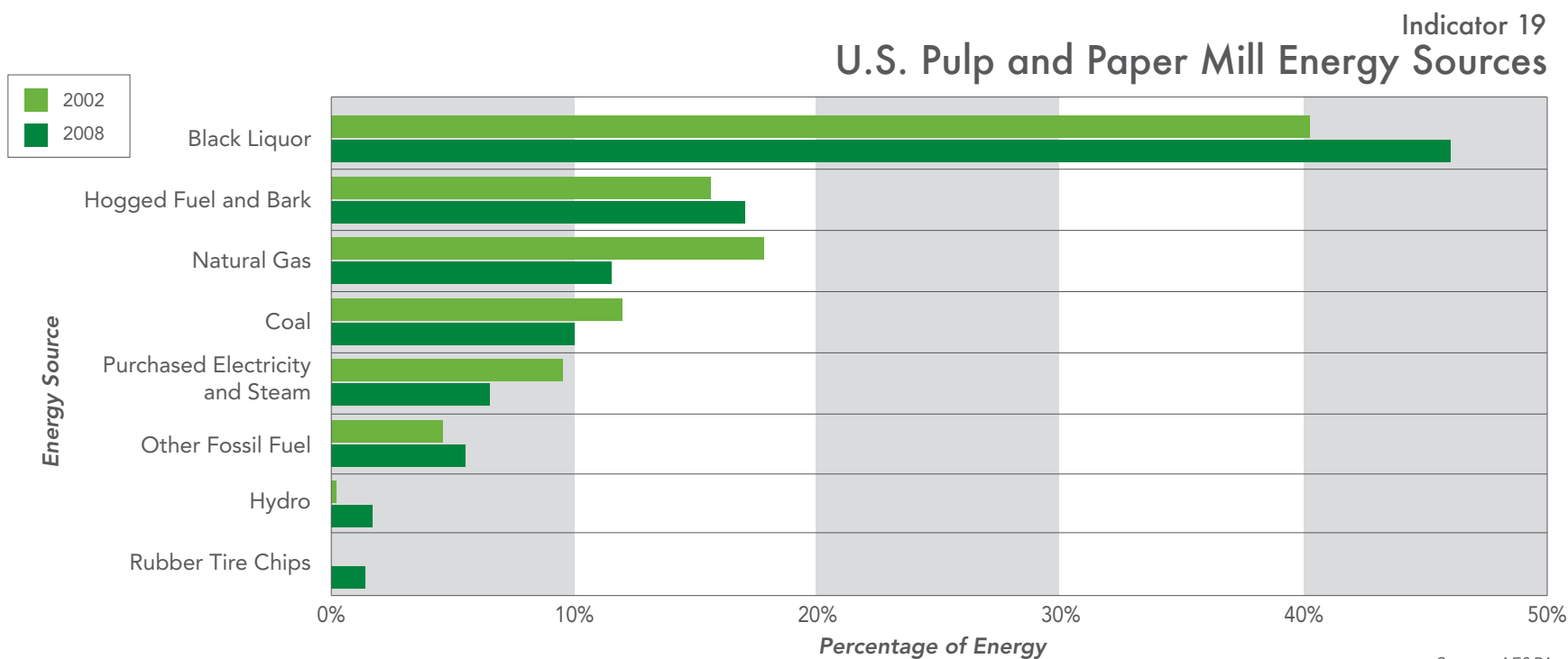
The paper industry attributes this apparent reduction to a rising proportion of energy from wood fuel and black liquor, a sludge of chemicals and lignin that is a byproduct of the pulping process. Emissions from the combustion of wood fuel and black liquor are excluded in these figures.

This is not because there are no emissions, but rather because the industry calculates these emissions as carbon neutral. This assumption is misleading and inaccurate. However because a scientifically accurate methodology for accounting for these emissions has yet to be agreed, the industry has been able to maintain its assertions.²⁰

Indicator 18 North American Pulp and Paper Industry Greenhouse Gas Emissions from Use of Fossil Fuels

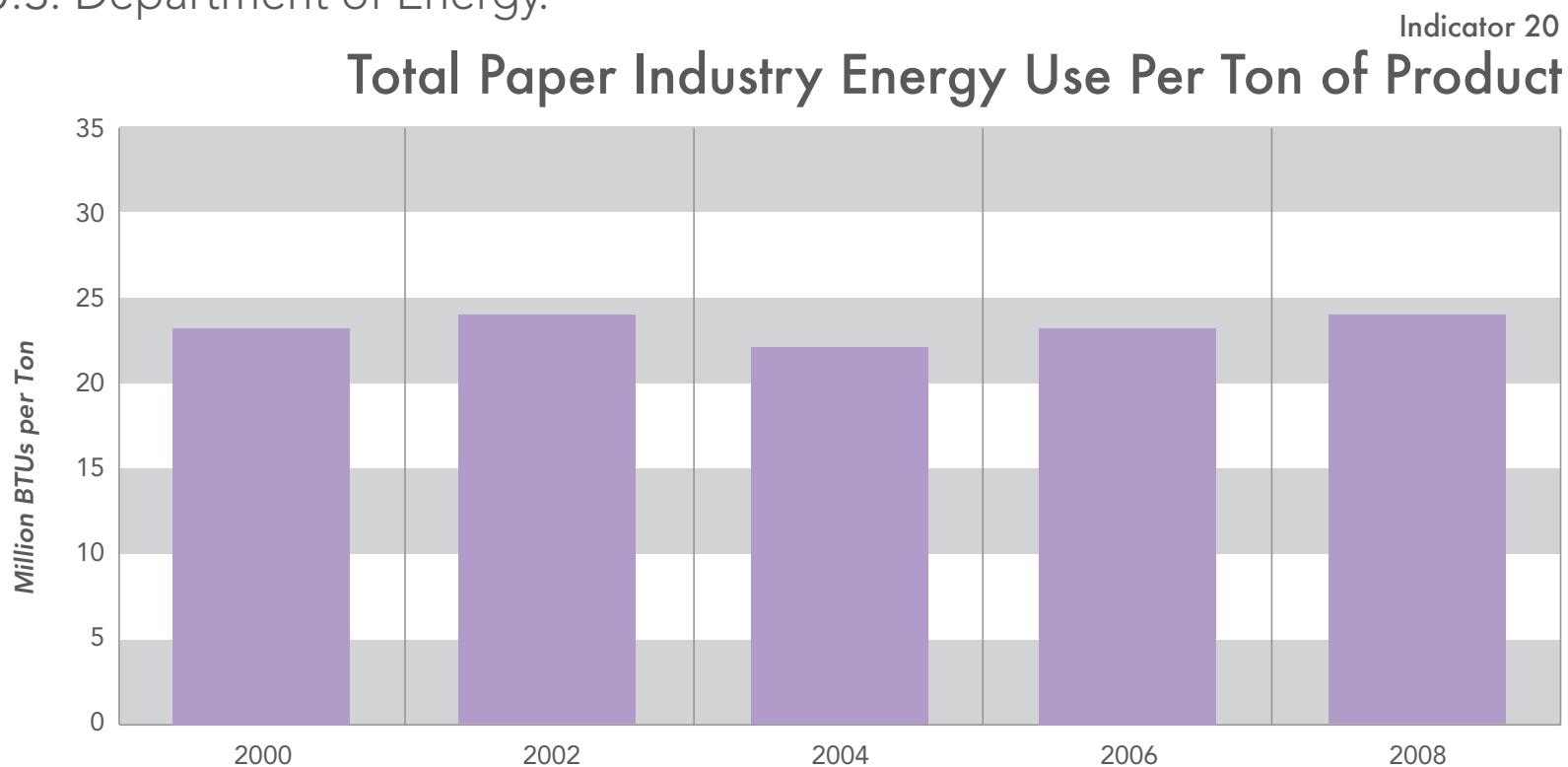


The American Forest & Paper Association reports that from 2002 to 2008, wood fuel and black liquor rose from 56% to 63% of the total energy consumed for manufacturing pulp and paper. The industry claims that all biomass fuel sources are 100% “renewable” and “carbon-neutral.”^{25,26}



However, a growing volume of recent scientific studies demonstrates that this assumption is incorrect, and is in fact a **a dangerous oversimplification**. Ignoring the serious air pollution impacts from the combustion of these fuels hinders comprehensive progress towards sustainability by stakeholders. A landmark study published in the journal *Science* warns that failing to correct this false assumption in national carbon accounting systems would likely lead to massive deforestation and accelerated climate change.²¹ This accounting error is similarly replicated in the industries’ failure to include loss of carbon stocks from soil and above ground carbon resulting from timber harvesting in their emissions calculations.

Until this accounting error is rectified, a good environmental indicator for gauging progress in energy efficiency in the industry is “Total Energy Use Per Ton of Product.” According to aggregated data reported by AF&PA member companies, there was **no improvement on this measure over the last decade**. In 2008, producing a ton of paper required on average approximately 24.5 million BTUs per Ton.²⁷ The data shown combines virgin tree fiber and recycled production data, and does not reflect that recycled paper production utilizes significantly less total energy than virgin fiber production per ton of product.¹³ The paper industry is the third largest industrial consumer of energy in the United States according to the U.S. Department of Energy.

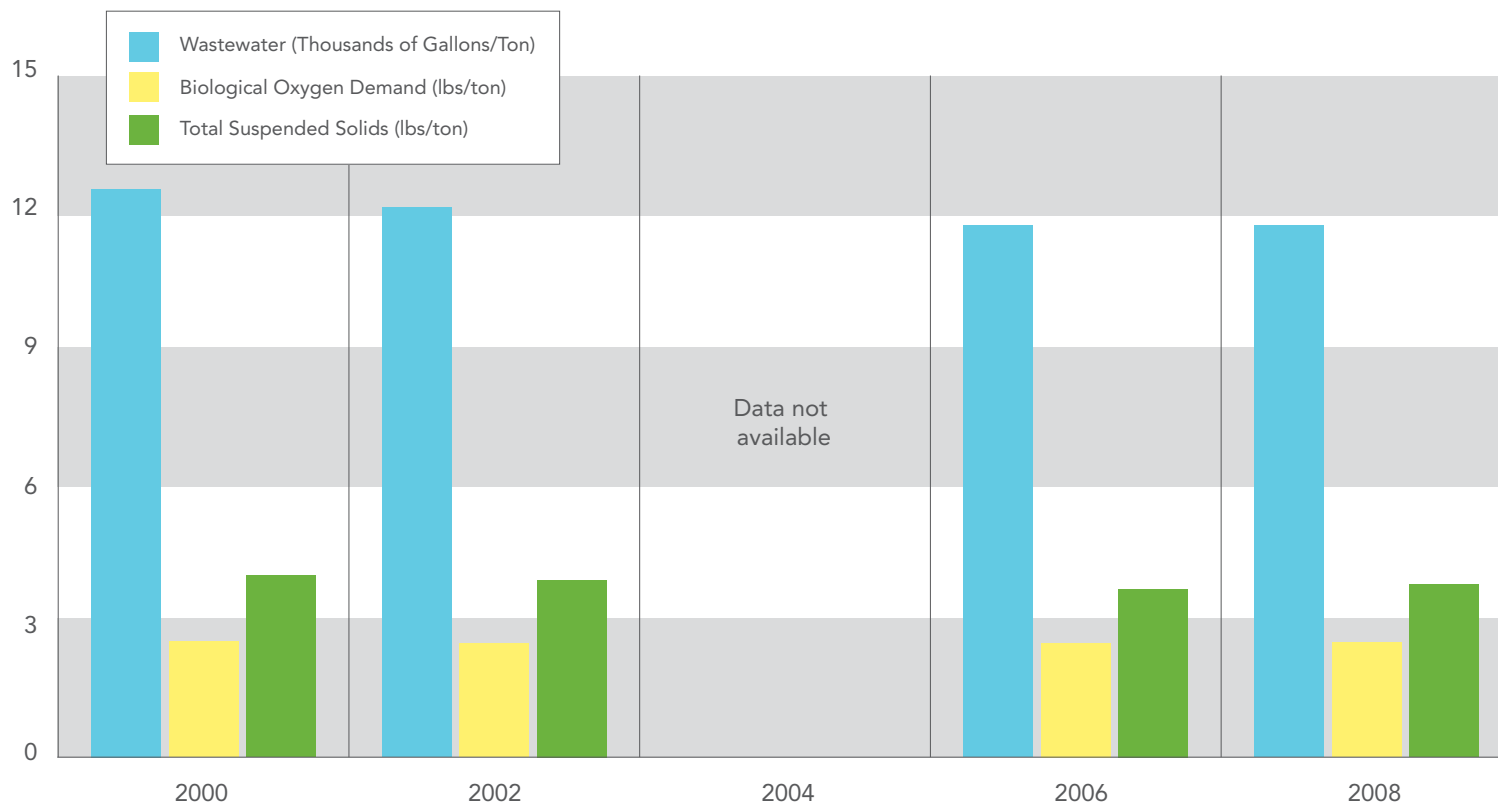


Source: AF&PA

There has been essentially **no reduction** in paper industry water pollution between 2000 and 2008. For three critical indicators of water pollution – total suspended solids (TSS), biochemical oxygen demand (BOD) and wastewater discharge per ton of product produced – the discharge levels are virtually unchanged in this time period.²³ Again, the data shown is combined virgin tree fiber and recycled production data, and does not reflect that recycled paper production emits less of these pollutants than virgin fiber production per ton of product.¹³

Indicator 21

United States Pulp and Paper Mill Wastewater, BOD, and TSS Discharges



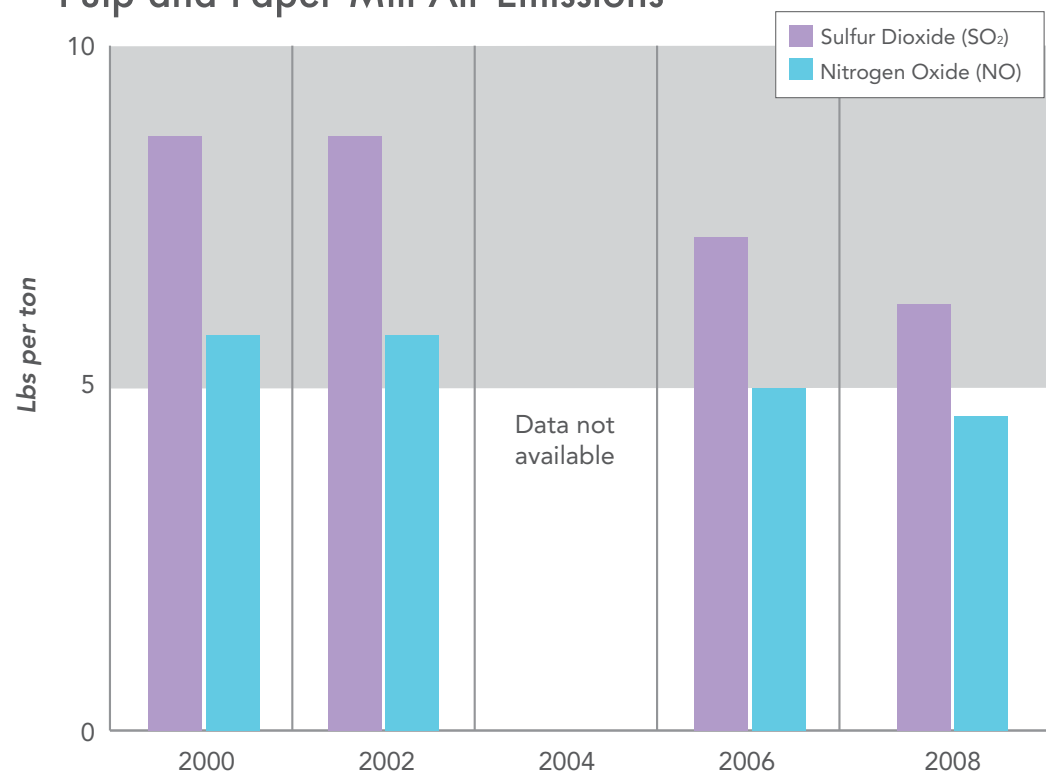
Source: AF&PA

Emissions

of sulfur dioxide & nitrogen oxide to the air have been reduced significantly since the mid 1970's. Aggregated data reported by AF&PA member companies shows that since 2000, sulfur dioxide emissions per ton of product **have continued to decline but more slowly.** Between 2006 and 2008, these releases decreased by 14.6%.²³ Emissions of nitrogen oxide per ton of product have also been reduced slightly over this period.²⁰

In the course of writing this section, it became clear that it is very difficult to assess pollution trends in the paper industry. AF&PA combines data in ways that make it difficult to interpret, such as combining pollution discharge statistics from mechanical pulp mills, kraft pulp mills, and deinking mills. These types of facilities produce very different quantities of waste per ton of product, so combining statistics for them makes it difficult to determine what improvements have or have not occurred. When asked to provide data on individual mills or by mill type, or how many mills had adopted new clean production technology, such as oxygen delignification, AF&PA refuses. Greater transparency from the industry in North America is critical to advancing cleaner production technologies and reducing climate, air and water pollution.

Indicator 22
Pulp and Paper Mill Air Emissions



Source: AF & PA



In Closing

The Environmental Paper Network's *2011 State of the Industry Report* has highlighted noteworthy progress that has been achieved and the significant remaining challenges in the mission to advance more sustainable and ethical patterns of production and consumption in the North American pulp and paper industry.

The organizations of the Environmental Paper Network are continuing to work in a coordinated manner to advance the goals of the Common Vision, drive leadership in the marketplace and seek further

progress in these indicators of transformation. Their hard-earned individual achievements have led collectively to a remarkable wave of change for one of the world's largest industries.

Please visit www.environmentalpaper.org to connect with these organizations individually and learn more about the specific public health and environmental conservation challenges they are working to address.



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[Indicator 22] – United States Pulp and Paper Mill Air Emissions, SO_x and NO_x

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