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about Canadian pulp,
paper, and wood

improvements in mill performance

As concern about their environmental footprint grows, consumers want to know they are making well-informed buying choices, and living in a way that puts less pressure on the Earth.

Canada's forest sector makes sure its wood, pulp and paper products are the result of responsible forest and production practices. Harvested areas are regenerated promptly, and Canada's tough forest regulations met. Companies welcome outside scrutiny of practices, participate in recovery and recycling, and promote carbon neutrality across the value chain. Buyers can be confident that today's quality products from Canada won't come at the expense of tomorrow's forests.

Looking for suppliers who commit to and deliver on these principles is an easy and effective way to choose responsible wood, pulp and paper products.

environmental improvements

Canada's forest products industry has made tremendous advancements in addressing air and water quality, and reducing greenhouse gas emissions. It is committed to continual improvement based on sound science and the use of modern technologies.



In the last 20 years, forest products companies in Canada have upgraded equipment and implemented leading-edge technology to improve their environmental performance.



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improving air and water quality

Since 1990, Canada's pulp and paper sector has made environmental improvements for water and air – with dramatic results, including:

- a 93 per cent reduction in harmful toxins and 62 per cent reduction in particulate emissions from mills
- decreases of 75 per cent of total particulate matter and 65 per cent of total reduced sulphur released per tonne of output (between 1999 and 2009)

The sector has virtually eliminated dioxins in effluents, and installed biological effluent treatment systems at mills. Oxygen-demanding substances and suspended solids have been reduced by more than 90 per cent and 70 per cent, respectively.

Total Reduced Sulphur (as hydrogen sulphide) (pulp and paper facilities) (kg/tonne)

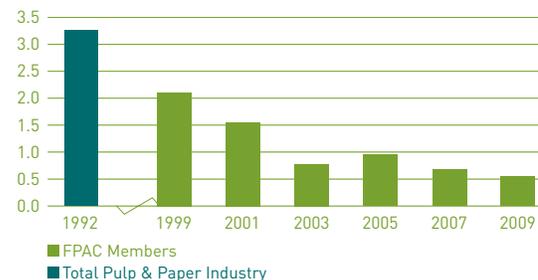
*TRS for 2005, 2007 and 2009 has been calculated as kg per unbleached tonne of kraft pulp production to harmonize calculation methods with the U.S. forest sector. Prior to 2005, TRS was calculated as kg per tonne of pulp production.

Source: FPAC Member Survey.



Total Particulate Matter (pulp and paper facilities) (kg/tonne)

Source: FPAC Member Survey.



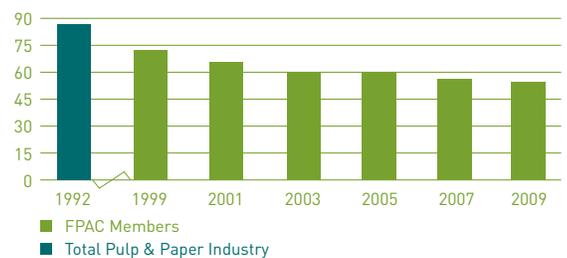
reducing water consumption

Thanks to investments in water-efficient technologies, water-use intensity at Canada's pulp and paper mills has dropped nearly 20 per cent since 1999.

Water Use (pulp and paper facilities)

(m³/tonne)

Source: FPAC Member Survey.



bleaching – ECF or TCF?

Most of Canada's pulp production uses Elemental Chlorine-Free (ECF) bleaching. There are negligible environmental risks to aquatic ecosystems and no toxicological difference between wastewaters generated from ECF-based or Totally Chlorine-Free (TCF)-based bleaching. TCF bleaching can be used for some products but it tends to produce bleached fibre with somewhat reduced strength properties.

reducing greenhouse gas emissions

The release of greenhouse gases such as carbon dioxide is a major contributor to climate change. Canada's forest products industry has long recognized the importance of reducing greenhouse gas emissions, and is a leader in addressing this issue.

From 1990 to 2009, it reduced emissions from mills by almost 73 per cent – which is the equivalent of removing as many as 300,000 cars from the road annually.

Since 1990, Canadian pulp and paper mills have reduced total greenhouse gas emissions by more than 10 times Canada's Kyoto target reduction of six per cent. A tonne of pulp or paper produced in Canada results in 66 per cent fewer greenhouse gas emissions now than in 1990.

The Forest Products Association of Canada (FPAC) has partnered with WWF-Canada to make positive changes across the forest sector – including finding ways to reduce greenhouse gas emissions by using renewable energy. FPAC also initiated the CO2 Neutral Alliance to encourage progressive action on climate change through the entire forest products value chain.

biomass: clean energy

Canada's forest sector is converting more harvested fibre into useful products and energy – almost 90 per cent today, up from 61 per cent in 1970. With the right technologies, more and more of this biomass can be converted to other products and clean, renewable energy, which means less is sent to landfills.

Canada's pulp and paper facilities have reduced their reliance on purchased fossil fuels to the point where forest biomass now constitutes nearly 68 per cent of the total energy used by the forest industry.

Except for hydroelectric power, forest biomass is Canada's largest source of electricity from renewable sources – bigger than wind, solar and tidal combined. Renewable sources in pulp and paper mills generate enough electricity to replace three nuclear reactors or to power the City of Vancouver.

Bioenergy is an environmentally friendly and sustainable alternative to fossil fuel because the carbon dioxide produced was only recently removed from the atmosphere and is part of a natural cycle, to be re-absorbed by regeneration of the forest.

The Transformative Technologies Program – funded by Natural Resources Canada and led by Canada's forest research institute FPIInnovations – is developing technologies to realize the potential of biomass. Research includes gasification to convert biomass into a gaseous fuel for equipment that cannot burn solids and a process to remove lignin from black liquor – a byproduct of the pulping process – so it can be used as a substitute for resins in wood panels and for carbon black in tires. FPIInnovations is also examining ways to extract hemicellulose, another pulp residue, so it can be used in applications such as fermentation products and polymers.





green transformation program

Through its Pulp and Paper Green Transformation Program, the Canadian government is making capital investments so pulp and paper mills in Canada can reduce greenhouse gas emissions and remain a leader in the production of renewable energy from forest biomass. Qualified pulp and paper companies receive credits based on their 2009 production levels of black liquor, a liquid byproduct of the pulping process used to generate heat and power.

summary

With responsibility for 10 per cent of the world's total forest cover, Canada manages its diverse lands and produces quality forest products in a way that meets the highest environmental standards.

Choosing wood products from Canada means using an environmentally sustainable product that is better for the environment than steel, plastic or concrete. Choosing pulp and paper from Canada means using products from one of the most environmentally responsible sources in the world. Canada's forest products industry is poised to continue to contribute significantly to the greening of society.

Forest Products Association of Canada

Sustainability Report 2009
www.fpac.ca/index.php/publications/publication-viewer/373/

Canadian Forest Service

Biomass
<http://canadaforests.nrcan.gc.ca/article/biomass>

Pulp and Paper Green Transformation Program
<http://cfs.nrcan.gc.ca/subsite/pulp-paper-green-transformation>

Transformative Technologies
<http://canadaforests.nrcan.gc.ca/article/transformativetechnologies#tb1>

WWF Canada Conservation

http://wwf.ca/conservation/global_warming/fpac.cfm

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