

Making the Most of Forests' Harvest *Maximizing the Paper Fibre Cycle*

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Forest Products
Association of Canada
fpac.ca



Association des produits
forestiers du Canada
fpac.ca

Making the Most of Forests' Harvest: Maximizing the Paper Fibre Cycle

Eliminating waste is a growing preoccupation of consumers and industries anxious to reduce their environmental footprint on the planet. So, when individuals or companies purchase paper and wood products, they want assurance that the goods they buy have been produced by environmentally responsible suppliers who employ sustainable practices.

Waste in forest products manufacturing is quickly approaching zero in Canada. Today, 87 per cent of the wood fibre used to make paper comes from a blend of sawmill residues (59 per cent) and recycled paper (28 per cent). A number of mills use recovered paper for all or part of their fibre requirements to make printing papers, packaging, tissue papers and newsprint. That's nearly three times the industry's recycling rate two decades ago. Over half of the paper consumed in Canada annually is recovered for use in recycling programs.

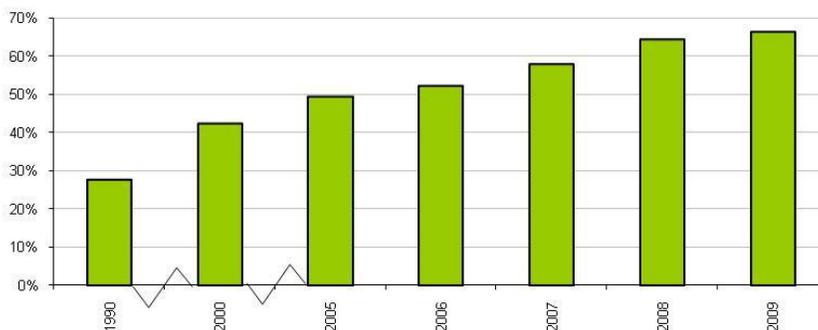
Canadian forest products are among the most environmentally friendly choices that buyers around the world can make. Members of the Forest Products Association of Canada (FPAC) recognize that leadership carries a responsibility for the environment and, in particular, conserving the world's natural resources. Every effort is made to utilize every last fibre from Canada's forest harvest to ensure no wood goes to waste. Canadian forestry firms use 96 per cent of each harvested tree – whether it is turned into wood, pulp, paper and other products or used as fuel. Additionally, Canada's forest products industry plants 650 million seedlings annually to regenerate harvested areas and areas lost to fire and insects to sustain the forests' long-term health. This represents 45 per cent of all new trees grown, with the remainder resulting from natural regeneration (53 per cent) or direct seeding (2 per cent).

An equal emphasis is placed on ensuring that first-generation products are recycled repeatedly to make optimal use of the forest's bounty.

In 2003, Canada's recovery rate was 49.1 per cent. By 2009, it reached 66.3 per cent and work is ongoing to increase the proportion. The forest

products industry continually strives to improve its performance, understanding that much more must be done to eliminate waste and reduce the environmental impacts of product development.

Canada's Paper Recovery Rate



Source: Pulp and Paper Products Council.

Making the Most of Forests' Harvest Recovered Paper – Maximizing the Paper Fibre Cycle

Recoverable Fibre: The Realities of Paper-Making

In an ideal world, nothing would ever go to waste. All consumer and business needs could be filled using only recovered material and all products would be recycled infinitely.

Unfortunately, even renewable resources have a limited lifespan. For example, paper fibre derived from recycling can be reused only four to nine times, depending on the quality of the new paper being created. Weak fibres are removed during the process of turning recovered paper into pulp as they are simply too fragile and worn to be recycled any longer. As well, some paper is unsuitable for reuse, such as sanitary products or documents used as archival records. Libraries would be barren if all books and publications were recycled.

All available recovered fibre is currently being used in the global marketplace. Recovered paper is sold to the highest bidder and shipped all around the world. In fact, many Canadian companies backhaul waste paper from the United States in the same trucks that deliver new paper to their American customers.

Since 100 per cent recovery isn't feasible, fresh wood fibre is required to supplement recycled content when making new paper. Without continually adding fresh fibre, it would not be possible to maintain the wide variety of paper products consumers rely on today. If recycled paper were the only source to make different grades of paper, the fibre needed for some products would run out in a matter of weeks or a few months.

Determining the mix of fibres required for paper products depends on the demands of consumers who use them for everything from cleaning and drying to packaging and storing other goods such as food and beverages, and to reading, communicating and record keeping. Different types of fibres are blended together to produce papers of varying strength, brightness, absorbency and insulating ability.

The recycled content is driven by market demand for these characteristics, along with the availability of supply and the costs/benefits of transporting recovered paper. Due to haul distances in sparsely populated areas, sometimes composting makes better sense.

Since recycled fibre is a scarce and valuable resource, it is essential to use it wisely and direct it to products most suited to its brightness and strength requirements. The need to maximize fibre used in paper making, and to advance the work being done on paper and environment issues overall, led FPAC members to give the Association a mandate in early 2004 to facilitate business to business communications and actions on paper and environmental issues.

Paper products are primarily hemp and other alternative fibres made from wood-based sources. There are three main fibre sources:

Sawmills – salvageable materials are created by sawmilling raw logs into lumber

Tree harvests – some trees that are not well suited to making lumber are harvested specifically to make paper

Recovered Paper – discarded paper and packaging is collected and resold for recycling so reusable fibre can be made into new paper products

Making the Most of Forests' Harvest: Maximizing the Paper Fibre Cycle

Joining Forces to Continually Improve the Sustainability of Paper

To carry out this work, FPAC partnered with Metafore, a non-profit organization that collaborates with businesses to implement innovations in the evaluation, selection and manufacturing of environmentally preferable wood and paper products.

One of Metafore's first steps in fulfilling the mandate was to create the Corporate Forum on Paper and the Environment, which comprises FPAC member companies and 13 major North American based corporate buyers of pulp and paper.¹ The Forum's first objective was to encourage paper makers and purchasers to identify and candidly discuss current environmental and paper challenges, and the best ways to improve the environmental performance of paper production and consumption. Based on these insights, the Forum's second objective is to undertake projects that are mutually beneficial to suppliers and buyers, helping them respond to common environmental issues. The **Paper Fibre Life Cycle Project**² is a perfect example.

The Forest Products Association of Canada joined forces with the American Forest & Paper Association, Metafore and the Corporate Forum on Paper and the Environment to raise awareness of the factors affecting the paper fibre life cycle and to encourage actions to optimize use of this valuable resource. Modelled on the lifecycle assessment approach, the **Paper Fibre Life Cycle Project**'s aim was to quantify the environmental impacts at various stages of a paper product's life – as it is manufactured, used, recovered and recycled, and in some cases discarded – to identify opportunities for improvement. The project examined how the paper fibre life cycle operates in North America, comparing Canada and the U.S. It identified opportunities to increase recovered paper as well as the limitations of recycled fibre.

The report concluded there is a large pool of untapped fibre to make paper:

- The lifespan of various grades of fibre could be doubled and, in some cases, more than tripled compared to current rates if recycling were maximized
- Boxboard and construction products have some of the highest yields of all recycled grades – possibly exceeding 95 per cent
- Fresh fibre can also be recycled and reused, extending its lifecycle as long as possible

¹ For a complete list of companies participating in the Corporate Forum on Paper and the Environment, see:
http://www.metafore.org/index.php?p=Corporate_Forum_on_Paper_and_the_Environment&s=264

² To view the complete fibre cycle report, visit:
http://www.metafore.org/downloads/metafore_reports_fiber_cycle.pdf

Making the Most of Forests' Harvest Recovered Paper – Maximizing the Paper Fibre Cycle

Increasing Understanding of the Paper Fibre Life Cycle

The Corporate Forum on Paper and the Environment launched the **Paper Fibre Life Cycle Project** to identify practices that promote responsible forestry, paper recovery and efficient paper use.

The starting point for this research was to first define the fibre cycle as *the interaction of fresh and recycled fibre in making, using, reusing and disposing of paper*. With this established, the project sought to describe how this cycle works, why fresh fibre must always be introduced into the system, how much recovered paper is used and how it is being used to make new paper.

To answer these questions, Metafore explored how forests are currently being managed, how much paper gets recycled and what more can be done to enhance recycling, recovery and the efficient use of the forest resources. It examined various aspects along the supply chain, including:

- *Forests* - why forest certification is important
- *Paper production* - what type and how much energy is used in manufacturing and how much processing is needed to convert waste paper into recycled content
- *Paper use* – how much paper is used every year and what products are the best use of recovered and fresh fibre
- *Paper recovery* - how much paper is recovered each year and how can that volume be increased
- *Landfill* – what happens when paper is disposed of and how much paper ends up in landfill
- *Export* – how much paper fibre is exported for recycling programs in other parts of the world and the resulting global economic and environmental considerations

Investigators discovered that:

- Technology is enabling greater use of recycled fibre to make new paper products and recycling rates are better than ever before – there has been steady improvement since 1990
- Even with maximum recycling, without the contribution of fresh fibre into the paper-making process, North American consumers would run out of paper in less than a year
- Roughly 29 per cent of all paper products are removed from the fibre cycle:
 - Over half of this material (15 per cent) is lost as it is used for books or files stored for long periods or because it can only be used a single time (e.g. tissues, diapers, sanitary products, medical supplies, etc.); this lost fibre must be replaced with fresh fibre
 - The remainder of recovered paper (14 per cent) is exported, primarily to Asian countries, which have rising paper demand and limited forest resources; much of this recovered fibre returns to North America after it has been remade into packaging for imported goods
- Despite significant progress in recovering and recycling fibre, every year, 37 million tons of reusable paper is thrown away and sent to landfills
- Recycled paper can only be produced if paper is recovered after it has been used; virtually all recovered paper in North America is recycled into new paper products
- Individuals, businesses and governments can make a difference by making more recovered paper available for industry to recycle

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Recycling is One Part of the Solution: Innovation is Another

While recycling is extremely important to reducing pressures on the natural environment, action is required in other equally important areas. Ensuring no good paper goes to landfills is part of the Canadian forest products industry's commitment to sustainability at every step in the development of wood-based products.

FPAC members integrate sustainable principles and practices throughout their operations and contribute to continual improvements. The majority of the Canadian forest products industry welcome outside scrutiny of their practices, making their commitments to sustainability public. Their progress in achieving their environmental, social and economic objectives is documented in a biennial report on the industry's performance.

The Canadian forest products industry is also constantly innovating – seeking ways to eliminate waste by maximizing the use of wood fibre from every tree harvested while reducing environmental impacts. One such innovative product is high-yield pulp (HYP), which typically extracts 80-90 per cent of fibre from harvested trees. That means extra value from every tree used.

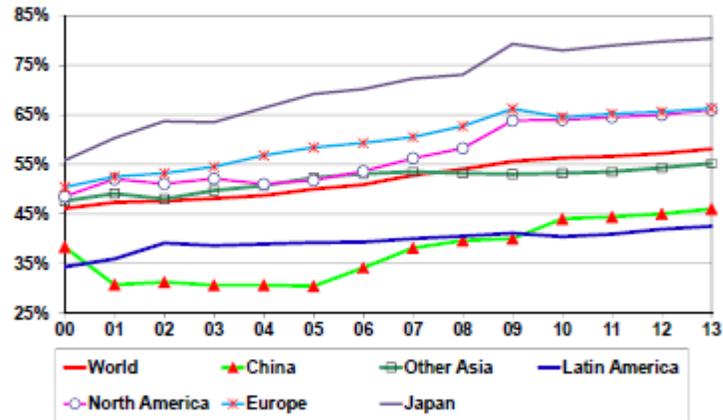
FPAC Sustainability Statement

The Canadian forest products industry contributes to society's well-being through its products and activities – from forest to market. FPAC members are committed to a sustainable development path built on a profitable and competitive industry, and to grow business and the industry's share of the global markets in a manner that meets the growing demand for sustainably produced products.

Our members pride themselves on regenerating harvested areas, a commitment to legal logging and the enforcement of tough regulations, welcoming outside scrutiny of their practices, participating in recovery and recycling, and promoting carbon neutrality across the value chain. FPAC members operate in a manner which is environmentally responsible, socially desirable and economically viable.

The public's shift from print to online continues to present a great challenge to the pulp and paper industry, particularly for newsprint producers. The Newspaper Association of America and the Conference Board of Canada found that U.S. advertising spending on newspaper print declined by two-thirds from 2003 to 2010, while spending on newspaper online advertising almost tripled. Recent data from the Pulp and Paper Products Council show that North American newsprint demand declined by 59 per cent between 1990 and 2010. North American printing and writing paper demand has also declined – by 24 per cent since 2000. These changes are projected to continue and accelerate, and will further reduce the supply of paper available for recycling.

Collection Rates: Driven to Higher Levels by Strong Demand and Limited Supply



Source: RISI: Outlook for Global Recovered Paper Market, 2012

Some economic projections of the global recovered paper market predict upward pressure on the pricing of recycled paper, as well as ever higher paper collection rates that will push up recycled paper collection costs, along with rising **transportation and labour cost. The resulting global recovered paper crunch will** call for a change in fibre composition in products, and HYP delivers one such option. HYP is a leading innovative, sustainable product and the best alternative to recycled content pulp, which is becoming a limited commodity.

“By teaming with brand-name businesses, the power of their market influence can be mobilized to encourage better stewardship of the global environment.”

Metafore, a non-profit group that works with businesses to implement innovations in evaluating, selecting and manufacturing environmentally preferable wood and paper products

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Reducing Environmental Footprint a Collective Responsibility

While Canada's forest products industry, working with its partners, has clearly demonstrated its determination to make a difference, effecting all the necessary changes to protect the environment is not the purview of producers alone.

Ultimately, the success of efforts to recycle and reduce waste depends on the commitment and cooperation of paper purchasers and users – individuals, businesses and governments.

At a time when the Canadian forest products industry is obliged to import waste paper to meet its recycling objectives, it is clear that more must be done. And, as the **Paper Fibre Life Cycle Project** underscores, there are tremendous opportunities to increase the amount of recovered paper products that can be recycled and reused in the production of paper.

Paper recovery enables recycling, so the onus is on individuals, businesses and governments to increase their contributions – whether by putting more paper in the green or blue box at the curb, making recycling a routine part of the way companies operate, or by establishing policies and providing incentives that motivate more people to do more for the sake of the environment.

Consumers can support recycling in their community and place of work and by making wise choices, supporting environmentally and socially responsible paper suppliers. Businesses can collaborate with suppliers, municipalities and other businesses to increase the availability and efficiency of recovery to the benefit of both the environment and the bottom line. Governments can lead by example, acting as role models within their own organizations as well making it easier to everyone committed to protecting the planet to do their part.

Canada's forest products companies adhere to five sustainability principles:

- Harvest legally
- Regenerate promptly
- Reduce waste and promote recycling
- Reduce greenhouse gases emissions through the supply chain
- Welcome independent scrutiny of forest management practices

The Bottom Line – Feel Good About Canada's Forest Products

When making purchasing decisions, consumers and industrial buyers should look for wood and paper that come from responsible sources that respect five key principles of sustainability.

Paper users can take comfort from knowing that using products made from both recycled and fresh fibre is about going green and protecting the environment – as long as those products are made in a way that employs sustainability principles and practices.

Learn more

Visit:

<http://www.fpac.ca/index.php/en/sustainable-solutions/>

http://www.metafore.org/index.php?p=Metafore_Paper_Fiber_Life_Cycle&s=570