Company Profile

Catalyst Paper is the fourth largest producer of mechanical printing paper in North America and the largest in Western NA, operating three pulp and paper mills in British Columbia with an annual production capacity of 1.5 million tonnes. In 2012, the company had sales of $1,058.2 million and employed over 1,600 people. Major product lines are specialty printing papers, newsprint and market pulp, delivered to customers that include retailers, publishers and commercial printers. The main geographic markets are the US, Asia & Australasia, Canada and Latin America. Headquartered in Richmond, BC, the company has earned a reputation for environmental stewardship based on its commitment to certified fibre sourcing, manufacturing efficiency, and verified chain of custody. Catalyst was ranked by Corporate Knights magazine as one of the 50 Best Corporate Citizens in Canada.

Sustainability at Catalyst

Sustainability is a key component of Catalyst’s value proposition. Catalyst purchases wood fibre from forestry firms and has responded to environmental concerns about forestry practices through sustainable sourcing from certified forestry companies and chain of custody verification. Catalyst implemented programs to reduce energy and water use, being among the first to act on the greenhouse gas challenge decisively. The firm began measuring carbon emissions in 1993 and in 2011, reported its full CO₂ footprint according to the Greenhouse Gas (GHG) Protocol as part of the company’s participation in the Climate Disclosure Project (CDP).

Catalyst recognized that the long-standing concern about the environmental impacts of manufacturing and related industrial processes had shifted, broadened and become more concrete. Consumers, who want to make a difference through their own choices, were increasingly seeking assurances that specific products contain responsibly sourced raw materials and have additional sustainability attributes embedded in them. In the forest products context, this translated into a desire for certainty that wood fibre came from well-managed forests or other sustainable sources, and such assurances are commonly formalized through...
independent certification programs. There was also growing interest, as there was across all forms of consumption, in the carbon footprint of paper. Catalyst saw that effective responses to these imperatives as not only a requirement of doing business with many customers, but also as a key opportunity to competitively differentiate what would otherwise be inter-changeable commodities. Catalyst Paper thus shifted gears to identify business and market opportunities – including access to new customer segments and cost-savings – it could leverage through a sustainability discipline.

This philosophy was behind Catalyst partnership with WWF’s Climate Savers program which reinforced the company’s commitment to environmental sustainability and gain expertise that could translate into distinct brand positioning. Catalyst’s partnership with WWF and its Climate Savers commitment helped the company develop a unique brand position and value proposition through its low-GHG footprint products.

Catalyst Paper treats sustainability as a business discipline – one that addresses a broad scope of risks and opportunities. Catalyst Paper identifies, accounts for, reports, manages and considers sustainability risks and opportunities along the entire business value chain from inputs to manufacturing to transportation.

Catalyst’s Supply Chain

The pulp and paper supply chain begins in the forests of coastal British Columbia where trees are felled and transported to sawmill by truck and marine. Catalyst is the single largest purchaser of forest fibre from British Columbia sawmills receiving wood chips at its 3 paper mills. Catalyst also sources electricity, oil and natural gas, chemicals and machinery globally. The pulp and paper mills produce high grade paper, newsprint and commercial pulp. Paper is shipped to Catalyst’s Surrey Distribution Centre (SDC) by barge and by truck via barge while pulp is shipped direct from the mill via breakbulk vessels. At the SDC, for hire rail, marine and truck are used to transport the product to customers around the world with the US being the single largest market. Rail boxcar transport accounts for almost 47 percent of the tonnage transported, truck and marine for about 25% each and the remainder on intermodal. Catalyst manages a boxcar fleet of 580 cars.

Sustainable Distribution and Transportation Initiatives

Transportation is a significant source of carbon emissions in the paper supply chain. A study quantified carbon emissions per tonne of finished product across the whole supply chain for Catalyst Cooled™ manufactured carbon neutral paper which was sold to Werner Media for use in Rolling Stone magazine¹. Transportation to print facility was estimated to be 127 kg CO₂e per tonne paper accounting for 28% of the carbon footprint, second only to the CO₂ contributed by the manufacturing process. This underscored the importance of comprehensive carbon management. Consistent with this finding, Catalyst in 2009 focused on reducing the impacts of its product distribution, mainly through improved efficiency of outbound shipments, employing multiple strategies to improve efficiencies in outbound shipments.

Catalyst has always sought operational excellence to be competitive. In transportation, this has been achieved through many initiatives including:

- Use of Efficient Transport Modes
- Equipment Size
- Full load planning
- Route planning & trip scheduling
- Alternative Fuels
- Carrier Sourcing

**Use of Efficient Transport Modes**

Using fuel efficient transport modes results in economic efficiencies that go hand-in-hand with reduced environmental impacts. Rail box car is always the preferred transport mode for surface transport due to cost. Truck is utilized when service requirements rule out rail box car. As intermodal rail service quality improved, Catalyst has increasingly looked to intermodal rail. The company developed intermodal options to eastern Canada and U.S. as intermodal became more reliable. Similarly when seaborne options are available, Catalyst will examine if a seaborne alternative is beneficial.

The use of sea and rail shipping produces the lightest GHG footprint, but results in slower delivery times compared to road shipping which may be resisted by the customer. Catalyst has been actively communicating with its customers to explain the importance of a lighter footprint in its supply chain and educates customers on the benefits of low-GHG transportation. This is also true on the inbound, supplier side. In 2010, a change in delivery arrangements for latex, allowed the rerouting of latex to go directly from rail to barge and is no longer moved by truck through Metro Vancouver.

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<th>Indexed Comparisons</th>
<th>Rail (@ 1 unit)</th>
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**Equipment Size**

Catalyst worked with road carriers to put 3-axle tractors with special equipment into service between its Port Alberni mill and the SDC. These trailers increase carrying capacity from 28 to 34 tons, reducing the number of trips needed to move a given volume of Catalyst product. On the marine side, one tug-one barge routes are converted to one tug-two/three barge routes to minimize the number of trips carrying fibre to the mills and finished product to the SDC. These initiatives increase vehicle size, resulting in fewer trips.
Full Load Planning

Maximum utilization of transport equipment reduces the number of trips needed. The logistics support teams plan shipments from Catalyst’s mills and distribution centre to customers to optimize capacity utilization. Delivery planners are trained and educated on the importance of maximizing loads and utilize software tools such as Load Expert to maximize loads in each vehicle or container.

Improved utilization also is the result of internal collaboration with the sales group and external collaboration with customers, to modify orders. For example a change in paper roll sizes delivered to overseas customers, increased the utilization of the cube capacity of containers.

The result of these and other practices has been continuous improvement in the efficient use of available capacity or yield rates for rail and maritime containers at the Surrey Distribution Centre since 2008 and for truck from 2008 to 2010. Record yield rates for rail and maritime containers were achieved at the Surrey Distribution Centre in 2012. Truck yields decreased after 2011 as the volume shipped by tandem trucks increased due to road restrictions in various jurisdictions.

Effective routing reduces vehicle miles, empty and under loaded vehicle miles and freight handling. Catalyst takes advantage of the deep sea port at Crofton, whenever possible, to serve markets in Latin America and Asia, bypassing the SDC. In the reverse direction, the SDC diversified its activities by handling more incoming supplies for its mills, and by handling outgoing products for other manufacturers (third-party shipments). These changes make better use of the backhaul capacity of shipping units used to move Catalyst products to market.

Catalyst tends to align with motor carriers that have substantial front hauls to Canada, particularly along the Pacific coast, as Catalyst’s freight movements fill the backhaul for these carriers, reducing one way trips for carriers.

Catalyst also collaborates with the CN Railroad to route and divert Catalyst’s boxcars returning from eastern market deliveries to the Asia Pulp and Paper (APP) mill in Meadowlake, SK. The APP mill ships most of its product to Asia providing backhaul for CNR and reducing empty car movements by CN, improving car utilization for CNR and ultimately reducing CO2.

Carrier management indirectly reduces empty transport miles. During quarterly and annual performance reviews, Catalyst and its carrier suppliers discuss capacity issues such as where the carrier has empty or underutilized traffic lanes. This helps Catalyst identify empty back haul lanes where marketing and sales can then “develop” new customers in these markets and have their product delivered at minimum added cost and minimum impact on the environment.

Alternative Fuels

Catalyst is examining the economics of alternative fuels for material handling equipment at the SDC and delivery vehicles from its Port Alberni mill. Improvements in natural gas engines have increased engine torque and power that can move heavy loads over the hilly terrain between Port Alberni and the SDC.
Carrier Sourcing and SmartWay

Sourcing fuel efficient carrier suppliers and managing these suppliers is important to Catalyst. Fuel costs are embedded in the pricing of transport services. Fuel costs are also passed on in part to Catalyst through fuel surcharges. Any reduction in fuel usage reduces fuel surcharges and overall rates charged by carriers.

Catalyst was introduced to SmartWay during a quarterly performance review meeting with one of its motor carrier suppliers. Catalyst and SmartWay seem like a natural fit and Catalyst registered as a shipper partner in the program in 2009\(^2\). SmartWay participation was added as a selection criterion for new carriers though cost and service remained the primary considerations in carrier selection. By 2010 all of Catalyst's rail shippers and most of its truck shippers were SmartWay-certified. Registration was a preferred criterion for new carriers, and all those who qualified in 2010 met this standard. In 2012, Catalyst worked with smaller carrier suppliers with whom it contracted to encourage them to pursue SmartWay registration. That policy continues today with the majority of Catalyst's carriers having SmartWay registration, and it remains a preferred criterion for carrier suppliers. The company uses SmartWay partners for the majority of its freight shipping, ensuring maximum energy efficiency, and reducing energy costs and GHG emissions.

SmartWay provides the transparency that Catalyst can utilize to examine carrier supplier performance with respect to GHG emissions prior to quarterly and annual performance reviews. Included in the carrier scorecard, if a significant decline in relevant SmartWay performance metric is observed, emissions would be discussed and goals set for review in future performance reviews. Catalyst does not monitor carrier initiatives to reduce fuel consumption and emissions reduction, but at these meetings Catalyst is always interested in what carriers are doing to reduce fuel consumption and subsequently the fuel surcharges that Catalyst pays. SmartWay carriers know where they rank in performance relative to competing carriers from the publically available SmartWay database.

Catalyst has been exemplary in tracking Scope 1 emissions generated by its manufacturing operations and Scope 2 emissions associated with its purchased electricity and steam consumption. However it has not fully measured its Scope 3 emissions generated by purchased inputs including transportation services. CO\(_2\) emissions for transportation were not directly measured prior to joining SmartWay. With SmartWay, the transportation group is able to provide emissions data generated by SmartWay to the corporate level for carbon reporting.

Catalyst feels that SmartWay has help reduce fuel consumption and its CO\(_2\) footprint in its supply chain. However the most important benefit of SmartWay has been as a marketing tool.

Towards Sustainable Products and Product Differentiation

The company's commitment to the environment is reflected in “Our cost reduction practices are not an either-or proposition. We always have two objectives in mind: one, reduce costs; and two, improve our value proposition in a marketplace that is leaning greener. Zero-sum trade-offs are not effective; instead we strive for an “and” business discipline around sustainability. Our finance and accounting experts help us embed sustainability considerations throughout the business rather than isolating them in a department so that we are all mindful of the costs and the opportunities that lie within our reach.” (Lyn Brown, Former Vice President, Corporate Relations and Social Responsibility)
Catalyst believes that customer buying behavior and recognition of Catalyst has changed. SmartWay is one component of many certifications and partnerships that support the branding of Catalyst as an industry leader in all dimensions of sustainability.

Catalyst produces sustainable products with the Sage product line being an example of Catalyst’s integration of sustainable operations initiatives with marketing and product development. But currently, it can only claim that its products are “manufactured carbon neutral” rather than “carbon neutral”. This is because Catalyst does “… not account for greenhouse gas emissions beyond our control, such as those associated with sourcing and transporting raw materials to the mill, transporting paper to customers or printing finished products.” With SmartWay, a significant step is being taken to exert control and measure those emissions in purchased transportation.

Sustainability at Catalyst is driven by the need to be competitive. Catalyst produces what is regarded as a commodity product in a chronically over supplied mature market. Sustainability is a strategy that has differentiated the brand and products, developed trust and reputation, improved public relations and met the concerns of consumers. By increasing supply chain efficiency and decreasing expenditure on fuel, Catalyst simultaneously gains financial ROI.

**Moving Forward**

Catalyst believes all future commerce will eventually include GHG costs. Climate change is an environmental issue that has heightened consumer awareness. Regulatory, policy, and advertiser demands will enforce or reward reduced footprints. By addressing climate change concerns early through fuel-switching, energy efficiency, recycling, and its product offerings, Catalyst has positioned itself to compete in a GHG-constrained market. As GHG regulations become stricter and consumer demand heightens for greener products, Catalyst’s low–GHG products are expected to increase in competitive appeal.

As Catalyst moves forward, reducing GHG emissions across the supply chain is necessary. On the procurement side, supply chain studies for Catalyst have shown that there is a great deal of unseen GHG in procurement and shipping practices. Catalyst will continue to review the GHG footprint of products consumed, including footprints created to deliver consumable products.

Catalyst has been calculating its GHG emissions since 1993. In 2010, it adopted the WCI protocol in keeping with British Columbia legislation. Catalyst follows recognized standards to estimate its emissions of scope 1, scope 2, and scope 3 GHGs. All of the company’s facilities have passed their GHG audits since they began in 2011. The company is still improving its scope 3 accounting by working further up the supply chain in an attempt to include more of its purchased goods. SmartWay membership has contributed to Catalyst’s sustainability goals by enabling measurement of its carrier supplier emissions performance, supporting branding that is perceived to have value to corporation, and meeting customer demand for carbon footprint transparency. By achieving significant internal GHG emission reductions and focusing on supply chain emissions, Catalyst sets an example as a sustainability leader.
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This document, prepared through a case analysis provides insight on how shippers can be more sustainable and how participation in the SmartWay® Partner Program can support that goal.

This case study is made possible with financial support from Natural Resources Canada.

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