

PRODUCT UPDATE AND TECHNICAL RESEARCH



Toward a Common Cause: the Embrace of Carbon Along a Supply Chain

In 2007, Catalyst Paper Corporation approached Wenner Media Group, publisher of Rolling Stone, with a proposal to print the magazine on paper that adds no carbon dioxide to the atmosphere through the manufacturing process.

After conducting its own research and working with WWF Canada and other parties to examine the benefits of the new product, Wenner agreed.

Interested in the link between forest products and climate change, Forestry Innovation Investment and Forest Products Association of Canada commissioned the University of British Columbia's Forest Resources Management Department and WWF's Global Forest Program to measure carbon emissions along its supply chain – from harvesting the fibre to printing the magazine as well as how the companies along this particular supply chain were addressing the issue of carbon s– and the potential this has to reshape business today.

The data showed that 41% of the total carbon emissions came from the actual paper manufacturing process. The rest is associated with harvesting the fibre on northern Vancouver Island and moving it to the sawmill (12 %); sawmilling (10%); trucking the chips to the paper mill in Port Alberni (2%); transporting the paper to the print facility in California (28%), and printing the magazine (8%).

Senior managers in the six companies along this supply chain were interviewed – and found agreement that carbon is a cost, a potential risk and an opportunity.

Carbon and the Supply Chain

Carbon has emerged as a convergence point in sustainability, in business operations and in supply chain collaboration. Unlike any other measure, carbon exists in all three realms of sustainability. It is synonymous with the cost of energy so it can be economically sustainable. It has a direct impact on climate change so it can be environmentally sustainable. Its increasing value gives forest users another choice in land-use decisions so it can be socially sustainable.

There are two ways carbon efficiency may manifest along supply chains – companies that are energy efficient may become preferred suppliers, and supply chains themselves may reorient around minimizing carbon emissions. Both were seen with the Catalyst case study.

Wenner chose Catalyst Cooled paper because of its environmental attributes. Catalyst was able to offer a manufactured carbon neutral paper because it has done a lot to lighten its environmental footprint – since 1990, it has reduced its greenhouse gas emissions by 70%.

The other companies along the supply chain clearly saw opportunities for their own businesses. Washington Marine Group began carbon management planning when it learned Catalyst – its largest customer – was exploring carbon-light products. It recognizes the potential strength of sea-based shipping, and is looking for ways to reduce its emissions such as lowering vessel speeds to burn less fuel.

The same is true for Burlington Northern Santa Fe. It has close to 50,000 kms of track in the United States, and sees a low-carbon economy as a prime opportunity to enhance its share of the shipping business – a tonne of freight shipped by rail uses 1/10th as much fuel as a truck.

Adapting to Carbon Markets

As companies start to consider the carbon implications along their entire supply chain, a change may be seen in practices. Emphasis may shift from delivery time and delivery costs to carbon-efficient delivery – there may be fewer instances where the benefits of a carbon-light product are lost because of inefficient shipping practices.

Also, location considerations differ. Here's an example: A customer who wants to reduce the carbon footprint associated with printing a book can choose between a facility powered by hydroelectric power that is far from key markets or one powered by coal that is near key markets. Since the printing uses less energy than the transportation, the coal-powered facility's total carbon footprint is lighter and it represents the preferred choice.

In the end, the question of who pays for carbon will depend on the universality of regulations and the willingness of consumers to pay more. Although carbon efficient generally means energy efficient, policy and the marketplace have not yet adapted to making carbon cost efficient.



As carbon management along the supply chain grows, third-party auditing and verification may become widespread. This additional layer of measurement and monitoring may be costly at first but it will add value both in building stronger relationships between supply chain collaborators and in identifying areas where further improvements can be made.

Carbon, given its current prevalence, could emerge as criteria in market access and consumer choice. A jurisdiction could introduce a trade policy that places a levy on products requiring carbon-intensive energy, such as coal, or require disclosure of the carbon footprint. Consumers may show a preference for goods that have lower environmental and social impacts, as well as being cost competitive.

Trends in regulatory, financial and marketplace risk could reshape supply chains. Businesses that disclose their carbon emissions and have stated policies on how they intended to achieve reductions may achieve preferred supplier status. Businesses that hide their footprint may find it difficult to remain competitive, either in finding supply chain collaborators or gaining access to markets.

Finding Common Ground

The common cause of carbon is apparent. Less clear is how this will induce change – in purchasing decisions, in the design of supply chains and in the definition of sustainability. The interviews helped to show how the sustainability agenda – which often has conflicting environmental, economic and social goals – has found common ground in carbon.

Businesses have identified carbon as a means for progress in balancing short-term costs, long-term profitability and the maintenance of a corporate brand. Supply chains have aligned corporate strategies around it. Some prioritize operational excellence, others anticipate the need for regulatory compliance, others respond to consumer demand. All are able to use efforts to manage and reduce their carbon emissions to further these goals.

Trade-offs between depletion of natural capital, water use, energy intensity and energy type should be considered – and understanding the supply chain sheds light on these complications.

Carbon may change the structure of businesses in fundamental ways. Even today, when carbon is without a price, companies are finding that reducing their carbon footprint reduces their fuel costs, offering significant savings. As carbon gains a price, these companies will derive multiple benefits from their advances – both fuel and emissions will cost less.

Businesses already market their products on the basis of the carbon footprint; this trend is expected to continue. New opportunities, new markets and new collaborators may emerge. Evolving businesses inexorably lead to evolving supply chains.

There is tremendous potential for a jurisdiction like British Columbia that can bring together diverse resources, renewable energy and access to key North American and Asian markets through carbon-efficient modes of shipping such as rail, freighters and barges.

Current trends in carbon management, such as reducing employee travel, offer limited returns. More sophisticated policies are needed that look at suppliers, logistics and operations – in other words, the supply chain.

If carbon changes the cost structures, operating environments and resilience of businesses, supply chain collaborators will be aware of how others are adapting to a low-carbon economy. Progressive business, tackling the challenge of emissions reductions, will cluster together.

Financial institutions, keen to mitigate the long-term costs of climate change adaptation, will favour investments that are carbon-light.

To be slow on carbon is risky business these days. Its role in climate change is having a direct impact on performance, profitability, regulatory compliance and market access. It has the potential to transform the supply chain, making it stronger and more resilient.

A complete copy of the University of British Columbia's Forest Resources Management Department and WWF's Global Forest Programme report *Toward a Common Cause: the Embrace of Carbon Along a Supply Chain* is available. Please contact Forestry Innovation Investment at info@naturallywood.com to request a copy.

Forestry Innovation Investment is an agency of the British Columbia government responsible for developing world markets for forestry products and promoting B.C.'s sustainable forest practices internationally.

For more information contact:

Corinne Stavness
Manager, Market Affairs
FII Vancouver:
Email: corinne.stavness@bcfii.ca
Tel: (604) 685-7507

