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# Why business needs to green the supply chain

Paul Hoskin argues that even in recession, environmentally sound practices are necessary throughout the supply chain in order to reduce greenhouse gas emissions and limit future global climate change. Why should New Zealand businesses care? Because doing so improves economic performance, offers competitive advantage and satisfies customer demands.

According to the London-based Committee on Climate Change (CCC) global greenhouse gas emissions must be reduced to under 50 percent of 2007 levels in order to keep the increase in average temperature within 2°C by 2050. This will require societies worldwide to develop patterns of consumption that emit 50-to-80 percent less $CO_2$ than today. The role of business is central in $CO_2$ emission reduction initiatives and key to the decarbonisation of societal consumption.

Efforts to reduce greenhouse gas emissions, other pollutants, and waste within supply chains have been occurring in earnest since the late 1980s and initiatives by large enterprises such as supermarket chains in the United Kingdom, Wal-Mart and other low-cost retailers in the United States[1] and heavy industries such as automobile manufacturing and aluminum smelting have attracted considerable attention.

Large enterprises have a significant role in the supply chain as they are customers to dozens, if not hundreds, of upstream small and medium enterprises (SMEs). Most, if not all, national economies are dominated by SMEs, and they are responsible for a large proportion of the total pollution. For example, SMEs in Canada may account for as much as 50 percent of that country's pollution[2]. Large enterprises wishing to improve their environmental performance cannot ignore their exposure to poorly performing suppliers. Unsatisfactory environmental performance by suppliers can also impact the reputation of downstream customers who buy their products.

Orchestrating environmental improvement in business requires initiatives across the entire supply chain. SMEs are vital in this effort given their sheer number and participation throughout the supply chain for most products and services. However, globally, most SMEs do not have the resources to genuinely investigate 'greening' practices in their businesses. Nor are they likely to experience the degree of final-customer pressure to improve environmental performance that larger, more visible, enterprises do.

These issues are likely to be equally true for most New Zealand SMEs—although the entire country, including business, has a greater commitment to environmentalism than other nations. Or does it? Perhaps New Zealand's 'clean and green' image belies a lack of real commitment to environmental performance.

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The possibility raises further questions: why might an SME choose to engage, or not engage, in green supply chain management (GSCM)? What are the drivers and barriers to doing so? How are New Zealand SMEs responding to global efforts to improve environmental performance and what are the advantages to doing so?

## The impetus for change

The single most important driver for SME environmental improvement is pressure from a large customer. Some Korean SME suppliers, for example, have improved their environmental performance as a result of just such pressure.[3] And in Southeast Asia a number of suppliers to the automotive and other industries have voluntarily adopted ISO 14001 in order to signal to distant North American and European markets their commitment to the environment and to sustainability. This is in contrast to the United States where, in the 1990s, the country's three largest automobiles companies, General Motors, Ford, and Chrysler, formally requested their

suppliers to gain ISO 14001 certification by 2003. Despite customer pressure, and at the risk of losing business, by July 2003 only 24 percent of North America-based suppliers had adopted the standard.

The poor adoption rate of ISO 14001 by suppliers to the American automakers reveals that other factors beside customer pressure are important in driving or enabling the greening of SMEs. Government legislation is a key external driver, but the legal and regulatory framework is globally highly variable and at best sets a minimum baseline within individual jurisdictions. Without either real punitive options for regulators or government-funded assistance to SMEs, the main driver remains pressure from large customers.[3]

Several important enablers work alongside these drivers to improve environmental performance, including information sharing across links in the supply chain[2] and assistance from large downstream customers. Education of business owners and managers, and their workforce, is also vital, and there is a role for government-funded programs in providing resources from outside the supply chain. Material assistance for SMEs is also important if large customers are serious about greening their supply chains, because SMEs invariably lack resources. One large health-service provider, for example, purchased new packaging material for an upstream SME supplier when it proved unable to comply with a request to introduce biodegradable packaging.

## Barriers to action

Customer support is a powerful enabler for greening the supply chain, but in the absence of support, cost is a major barrier to improved SME environmental performance. For example, the cost of ISO 14001 certification is estimated to be about US$50,000 for small companies and greater than US$1,000,000 for larger ones.[4] On the other hand, there are easily attainable economic benefits to implementing GSCM because improved environmental performance reduces waste and pollution, both of which are forms of inefficiency. Lean production also has been shown to be complementary to improvements in environmental performance.[5] Similarly, SMEs in Halifax, Canada, which were in close proximity and formed part of the same supply chains, were able to reduce costs through production and transportation efficiencies while simultaneously improving environmental performance.[2]

There is, however, a limit to the environmental gains that can be won by cost improvement through lean practices. One study which looked at transportation in the supply chain, acknowledged that quick gains in environmental performance also positively affect the bottom-line of business.[6] This occurs because the gains involve decreasing fuel use by adjusting the volume, distance, and mode of shipping, and using technology to increase the efficiency and effectiveness of shipments. However, the study also found that investment in new environmentally-friendly transportation technologies is the only sustainable way forward.

Green supply chain initiatives lack legitimacy to some managers and are often dismissed as the a ploy to appease customers. This perceived attempt to 'greenwash' supply, while pushing the cost back on to SME suppliers, has left many business owners and managers disengaged about environmental issues. Some researchers have highlighted the role of internal 'environmental champions' in advancing green initiatives within organisations and securing the resources needed to implement them. Yet, SMEs may well be justified at times in their skepticism toward green initiatives. Several large retailers and governments are presently investigating 'green labeling', in which individual products carry information on the environmental impact of supply. It is believed that this would change the consumption habits of customers who would favor products with lower associated $CO_2$ emissions. However, there are two significant issues with green labeling[7]: first, supply-chain carbon auditing is immensely difficult and expensive and could cause 'paralysis by analysis'; and second, there is no evidence that consumers armed with such information would change their purchasing behavior.

## New Zealand business and the green supply chain

There are over 334,000 business enterprises in New Zealand, ninety-seven percent of which have fewer than 19 employees, and they account for 31 percent of the country's employees. These enterprises contribute to pollution and greenhouse gas emissions which over the period 1990-2007 increased by 22 percent to nearly 80 million tonnes of $CO_2$-equivalent.[8]

In the late 2000s, the decision was made to become a 'carbon neutral' country and several Government-funded programs were established to provide advice to organisations, and to certify those that became 'Carbon Zero'. New Zealand's SMEs were in the government's sights.

At present the signals are mixed. The six agencies – including three Ministries – which are core to The Carbon Neutral Public Service, the Government's flagship program for carbon neutrality, are only "…expected to lower their carbon emissions, not reduce them to zero which would have been impractical with the available technology. Agencies did not undertake emissions reductions that lessened their effectiveness."[9] By the end of May 2010, only 45 organisations were certified by the Government's 'carboNZero' program (www.carbonzero.co.nz) and expirations meant that only 17 SMEs were certified as at July 2010. The country has the oldest, dirtiest, and least efficient car fleet in the developed world. There is an almost complete lack of structured research being published on this area in New Zealand and the country's profile in the peer-reviewed business and economic literature on green initiatives is extremely low.

However, there are positive signs. Recent research on the South Island wine industry highlighted sustainable practices and consequent competitive advantage in world markets and a number of vineyards and wineries have adopted ISO 14001. Large enterprise supply chain customers are also developing GSCM practices. The Warehouse, New Zealand's Wal-Mart, claims to have reduced its carbon footprint by 16 percent, largely through transport efficiencies, and to have reduced waste to landfill in recent years by 20 percent. The retailer annually grades the environmental performance of its suppliers and in 2008-2009 carried out on-site grading at 105 factories. It has announced an intention to stop purchasing from suppliers that fail to meet its environmental standards.

The Warehouse is not the only New Zealand supply-chain customer driving suppliers to better environment

performance. Peter Neilson, the Chief Executive of the New Zealand Business Council for Sustainable Development (NZBCSD), reported in February 2010 that 28 percent of New Zealand companies changed suppliers in the preceding 12 months because of poor environmental, social, or ethical behaviour.[10] The NZBCSD also reported that by the end of 2010 nearly one-third of New Zealand business owners would have sustainable procurement policies.

There is much positive 'buzz' around GSCM practices in New Zealand, yet some remain unconvinced of the commitment by the country's SMEs to real environmental improvement. For example, in 2007 New Zealand had just 182 adopters of ISO 14001 which compared with the United Arab Emirates (172) and Estonia (182), but lagged far behind countries such as Egypt (379), South Africa (406), and Iran (780). Moreover, if New Zealand supply chain managers resemble their American counterparts, reducing their company's carbon footprint is well down the priority list behind such things as cost reduction, customer service and speed to market. A comprehensive project is required to research the drivers and barriers to environmental performance improvement by SMEs in New Zealand, and to quantitatively compare its performance internationally.

## Why SMEs should lead the way

International research and anecdotal evidence suggests three key reasons why New Zealand SMEs should care about their environmental management strategies (EMS) and the performance of their supply chain.

- It lifts economic performance. Reducing the carbon footprint and waste of a business increases efficiencies and cuts costs. Small changes add up to significant improvements and if supply-chain partners collaborate on greening initiatives then greater gains are realised and costs reduced across the supply chain.
- It creates competitive advantage. Suppliers that perform well environmentally and have EMSs gain competitive advantage over those that do not. This advantage is won by cost savings during production and supply, and by posing less risk to downstream customers who have a greater exposure to reputation damage. Domestically, sustainable procurement is starting to drive more of the $25 billion the Government spends each year purchasing goods and services, and some large customers are insisting that suppliers meet environmental standards which exceed legislation.

Internationally, advantage may be lost to South East Asian enterprises because New Zealand organizations lag behind in adopting the world's most important international environmental management standard, ISO 14001. On a per capita basis the New Zealand business adoption rate of the standard is half that of Australia, which has nearly 2000 adopters. More widespread adoption may increase opportunities in export markets.

New Zealand companies have considerable competitive advantage for some products because of the widespread international perception of a 'clean and green' country with 'fresh' dairy and fruit products. All businesses, as well as Government, have a role to play in maintaining the nation's collective competitive advantage. This is a country-as-supplier, or New Zealand Inc., view of SME responsibility.

- It is here to stay and customers are serious about it. Efficiency and productivity improvements can be made with EMS in place, but only if business processes are studied and managed. Knowledge of the carbon-cost of business processes will soon become important for another reason – supply chain carbon audits and product-carbon labelling is on the way. High carbon supply chains may become uncompetitive as customers purchase from better-performing suppliers.

In the United Kingdom, global retailer Tesco has made a commitment to carbon label its entire product range of 75,000 SKUs. New Zealand exporters are exposed to these efforts. New Zealand wine and meat products are on Tesco's shelves and will need to be carbon labelled—at the suppliers' expense. If the United Kingdom, Japan and Germany continue to move toward carbon labelling as they are doing even despite the global financial crisis, New Zealand exporters will be forced to carbon audit. This is significant because those countries are among New Zealand's top eight export markets, in 2009 contributing $5,282 million in export earnings to the New Zealand economy.

## End notes


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