Prospects for Canadian ports' cold cargo heat up

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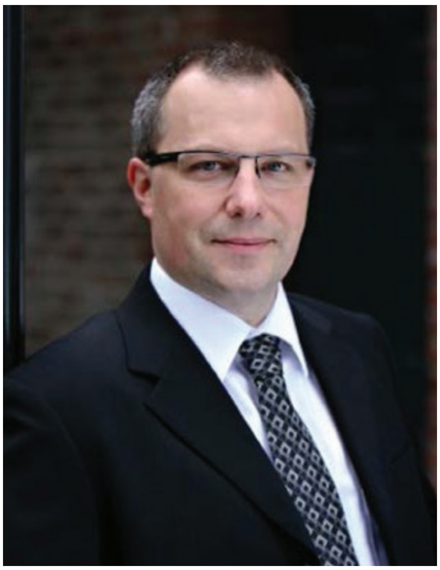
...with a capacity-restricted dedicated fleet, there is no alternative but for cargo to be shipped by reefer container ship — a trend that is accelerating...

As a visit to Granville Island Market demonstrates, the world's hunger for fresh fruit, meat and perishable foods has resulted in complex global supply chains as maritime transport of refrigerated cargoes is increasingly used to satisfy consumer demand. This article explores the state of the international vessel market and land-based transportation and logistics services that support the flow of refrigerated cargoes in Canada. It will conclude with some observations on the importance of trade agreements impacting the flow of refrigerated cargo in the year ahead.

International vessel market

One feature of global refrigerated shipping over the past 10 years has been that the fleet of breakbulk reefer vessels continues to shrink and shows no signs of reversing. Conventional refer vessels are still active in South America, Central America, the eastern Mediterranean, New Zealand and parts of Africa. However, the container ship reefer fleet is set to grow 20 per cent by 2018, according to Drewry's latest Reefer Shipping Market Annual Review & Forecast.

The top five container shipping lines regarding their reefer capacity are Maersk, MSC, CMA CGM, Hamburg Süd, and COSCO. Most of the largest vessels being built (i.e., the 18,000 TEUs) have about 1,000 reefer plugs; some in north-south trades, such as Maersk and Hamburg Süd, have specially designed shallow draft 7-9,000 TEU ships, with large reefer capacity (upwards of 1,600-1,700 plugs), to reflect the volume of reefer products moving in those trades.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Canadian ports and cargoes

Vancouver, Montreal and Halifax dominate Canada's marine reefer cargo export market. Regarding imports, Vancouver handles the largest share, followed by Montreal and then Halifax.

The total Canadian seaborne reefer market in 2011 (the last year for which Stats Can data is available) is estimated at 2.2 million tonnes. Exports are estimated at 1.6 million tonnes while imports are almost 700,000 tonnes.

The dominant export cargoes include frozen meat, frozen vegetables, seafood (frozen and live), as well as some fruit. Canadian reefer imports feature fresh fruit, frozen fish, meat and vegetables. A considerable volume of central Canadian reefer imports moves through the ports of New York, Philadelphia and Wilmington, mainly in the north-south trades from South America, Central America, Australia and New Zealand. Cargo, such as bananas, meat, wine and grapes, originates in places like Costa Rica, Guatemala, Ecuador, Argentina, Chile, Australia and New Zealand.

Port Metro Vancouver (PMV) data indicates that meat, fish, poultry and prepared food products account for about 95 per cent of all reefer exports. Produce, meat, fish and poultry account for 92 per cent of all reefer imports. While the concepts embedded in the 100-mile diet are no doubt worthy, the international trade data suggests a global supply exists regarding the flow of refrigerated cargoes. PMV data indicates that in the course of a single year, their facilities now handle about 537,000 tonnes of meat, fish and poultry exports and 350,000 tonnes of produce imports. Dairy and other prepared food products also use temperature-controlled containers.

Eastern Canada

Two main ports in Atlantic Canada handle reefer cargo: Halifax and Saint John. Argentia handles reefer cargo for Eimskip and so does the terminal in St. John's for Oceanex. The Atlantic region boasts some of the largest refrigerated cargo shippers in the country, including Clearwater Seafoods, Oxford Frozen Foods and McCain, which allows its ports to "punch above their weight" in attracting carriers. Halifax is served by the G6, O3 and one-half of the 2M alliance (Maersk), as well as Zim, ACL and Eimskip; while Saint John has Tropical Shipping and MSC, all of which offer reefer service.

Major export commodities handled at Halifax are dominated by seafood, frozen vegetables and fruit as well as some poultry. Given the port's proximity to the natural resource and producers of seafood, blueberries and French fries, this is not surprising.

Reefer cargo handled at Canadian ports, 2011

Handling port	Containerized exports (tonnes)	Market share	Containerized imports (tonnes)	Market share
Vancouver	744,390	47%	498,307	71%
Halifax	397,079	25%	70,587	10%
Montreal	245,573	16%	119,600	17%
Saint John	159,320	10%	698	0%
Others	26,676	2%	8,986	1%
Grand Total	1,573,038	100%	698,178	100%

Source: Statistics Canada/MariNova Consulting Ltd.

Regarding destinations, major export markets for Halifax are Jamaica (likely for Caribbean transshipment), Germany, the Netherlands, China and Israel, followed by Singapore, Japan and Hong Kong. Major import commodities handled at Halifax include fish and seafood (for local processing), frozen meat and fresh vegetables.

Most of Saint John's market has been the Caribbean. However, the port added an MSC feeder service to Freeport and Caucedo in 2012, connecting with its worldwide network of some 315 ports. Major export commodities handled at Saint John include frozen vegetables (likely McCain and Cavendish Foods French fries) and fresh potatoes from both New Brunswick and PEI. Imports handled at Saint John include poultry, frozen fish and fruit from Puerto Rico; the US Virgin Islands; the U.S.; and Netherlands Antilles.

Halifax and Saint John have recognized the importance of reefer cargo to shipping lines serving the port and the linkages to the regional economy. Several key industries and dozens of businesses in the Atlantic region depend on competitive shipping services to access export markets. Since 2008, the Halifax Port Authority has invested $250 million in a variety of projects including additional reefer plugs at

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both of its container terminals, bringing the total to the port to 1,000 (500 at each terminal). It has also invested in terminal expansions and deepening berths to 55 feet. Saint John has plans to rebuild the Rodney Container Terminal at a cost of $205 million to enable it to handle larger vessels.

Reefer cargo is a big revenue generator, not only for the shipping lines but also the terminals. The biggest strength of both ports is their proximity to natural resource industries in Atlantic Canada which produce reefer cargo, including seafood, berries and potatoes. These shippers are located within a one-day drive of each port and there are shipping lines eager to carry the cargo.

There are at least six cold storage facilities that are critical pieces of the Halifax Gateway reefer infrastructure. These include Nova Cold (three facilities), Versacold (two facilities), and Orion. Cold storage facilities in New Brunswick are located near fish processing facilities on the Northumberland shore and at large potato processing facilities in the St. John River valley.

The newest facility is Nova Cold, a $9.5-million, state-of-the-art, 60,000-square-foot facility which recently opened in September 2013 in the Atlantic Gateway Logistics Park in Halifax and purchased by Brookfield Asset Management. It has enough space to store 5,500 pallets, equivalent to 250 containers. Nova Cold handles higher-end products such as lobster, shrimp and crab, and some berries. The facility also handles export transload, as the trailer and container doors can be sealed while this takes place.

Western Canada

The BC Seafood Alliance reports that over 90 per cent of seafood produced in B.C. is exported. British Columbia's seafood products were shipped to approximately 70 countries.

The report "*Reefers in North American Cold Chain Logistics: Evidence from Western Canadian Supply Chains*" prepared for the Calgary-based Van Horne Institute in 2014 provides some important insights on how export products move through the supply chain.

There are three export channels for reefers. The first channel comprises a domestic reefer haul that is trucked to a transloading facility in the vicinity of a port. The contents are then loaded in a maritime reefer container and delivered to the port for export. The second channel involves an empty container that is brought to the exporter to be source loaded and then brought to a port terminal. Trucking dominates this channel. The third channel is the repositioning haul, which is much less common. An import reefer is available locally or regionally and then repositioned to an exporter to be source loaded.

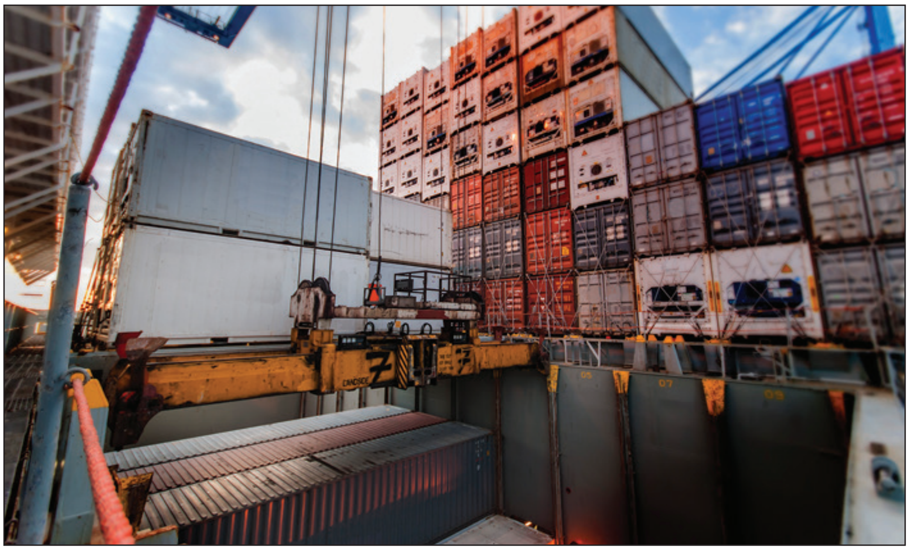
Because Vancouver has a long distance national reefer trade function, about half of all imported reefers are shipped by rail to Eastern Canada (mostly to the Toronto market).

There are two main import channels for reefers. The first involves transloading near the port facility where the contents of refrigerated containers are placed into domestic refrigerated containers and then brought by truck or rail to the inland destination. The second is a direct road or rail transit to the inland destination. Then, the empty reefer will be brought back to the terminal and on some rarer occasions transferred directly to an exporter.

While the two major railways (Canadian National and Canadian Pacific) both handle reefers, CN has a larger market share than CP. On June 1, 2015, CN announced a C$20-million investment in the expansion of its cold supply chain capacity to help producers and distributors of chilled or frozen foods grow their businesses in North American and overseas markets.

JJ Ruest, Executive Vice-President and Chief Marketing Officer, said: "We are now adding capacity to grow and help Canada's food processing industry gain and maintain access to new domestic and international markets. CN's cold supply chain service offers producers who are pursuing overseas opportunities a great tool to expand market share. CN is growing with its customers, aiming to help them compete more effectively in their markets."

To accommodate growth, CN acquired 200 more domestic, 53-foot temperature-controlled containers. CN also purchased 32 electrical generators



Reefer containers being loaded for transport.

to move 40-foot international marine reefers to and from CN-served ports on CN intermodal trains. The power packs provide economies of scale by connecting up to 17 international marine reefers at a time.

Trade agreements drive trade volume

The importance of international trade agreements in the cool cargo sector cannot be overstated. On December 31, 2015, Canadian beef products were once again able to flow to South Korea following that country's lifting of a temporary suspension imposed in February 2015.

Canadian Cattlemen's Association (CCA) President Dave Solverson said the resumption of access to South Korea was important for Canada's beef producers. "South Korea holds huge potential for beef and especially cuts and offals that are underutilized here at home." With the implementation of the Canada-Korea Free Trade Agreement in late 2014, the CCA believes Canadian beef exports to Korea have the potential to exceed $50 million per year.

The Canada-European Union Comprehensive Economic and Trade Agreement (CETA) is perceived as having enormous potential for Halifax in particular, as Saint John does not have direct service to Europe (only transshipment via Freeport). At the minimum, CETA will result in significant increases in pork and beef exports to the EU, and dairy imports from the EU. These products will likely originate in western Canada while products like cheese will be destined for Central Canada, where Halifax and Montreal will compete.

The Port of Montreal has also gone on record as eagerly anticipating the ratification of CETA. The port's CEO, Sylvie Vachon, has been quoted as saying, CETA is "made to measure for the Port of Montreal. We already are the leading port on the North American east coast for trade between Northern Europe and North America's industrial heartland. With our strategic location between the world's two largest economic blocs, the EU and NAFTA, the Port of Montreal is the natural gateway to Europe."

The Canadian Pork Council report, *Potential Implications of a Trans-Pacific Partnership for the Canadian Pork Industry,* determined that if Canada were not part of a major TPP agreement in which the U.S. and Japan were signatories on pork, Canada could lose at least $330 million in export sales. The loss of $330 million in sales represents about a billion dollars in total economic activity in Canada and would put about 4,500 jobs in jeopardy. Without the ability to compete in the most lucrative overseas market, Canada's processors/exporters would not be able to sustain the competitive pressure from the U.S. and would ultimately face shutdowns. The presence of international trade agreements and the growing reliability of cold chain technology confers opportunities to ship greater volumes of temperature-controlled products and expand markets through economies of scale.

Conclusion

This article demonstrates that the free flow of refrigerated cargoes through Canadian ports accounts for significant economic activity and many jobs with consumers in Canada living beyond the immediate port area dependent on this trade.

To ensure that container ship operators remain competitive — where super-slow and ultra-slow steaming has become commonplace — many companies are focusing on reefer services. While the Canadian refrigerated cargo marketplace has benefited from this development, there are supply chain consequences. For example, lengthy voyage times and the use of transshipment services. In Western Canada, with longer distances between ports and markets, slow steaming has placed additional pressure on our land-based transportation and logistics service providers for this often-time sensitive cargo. With cold cargo prospects heating up, due to expanded trade agreements, Canadian port investment will need to keep pace. Port Metro Vancouver's Terminal 2 development and Prince Rupert Port Authority's Fairview Container Terminal expansion, and the start of service by Maersk and MSC (under the 2M Alliance) and CMA CGM at Prince Rupert bode well for the cool cargo sector.

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