Shifting tailwinds propel Canada's energy trade

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Three important political initiatives occurred in the first quarter of 2012: Prime Minister Stephen Harper led trade missions to Asia, the Province of British Columbia released their Liquefied Natural Gas strategy and the Province of Alberta announced that they were seeking an expert on Canada-Asia energy trade.

B.C.'s shipping community can be forgiven for not knowing whether this recent bevy of policy initiatives represents genuine political statesmanship on important international trade files or more accurately reflects the folk wisdom that bad news comes in threes. To help answer this question this article will explore the shifting tailwinds that are propelling Canada's maritime trade prospects in coal, natural gas, oil and renewable energy.

Canada's current energy production & trade

Canada is endowed with abundant energy resources sufficient to meet both domestic and export requirements. Statistics Canada's *Energy Supply and Demand* reports that in 2010, Canada exported 55 per cent of its coal, 61 per cent of its natural gas, 63 per cent of its crude oil, and 20 per cent of refined petroleum products. Energy exports were valued at $94 billion — 23 per cent of our country's total merchandise export value, or six per cent of Canada's GDP. Historically, pipelines, railways and transmission lines have been used to transport the vast majority of our exports to the United States, the world's largest energy market.

The strongest driver of change is the geographic location of energy consumption.

With only one primary energy export market, readers could be asking whether there are any tailwinds at all behind Canada's maritime sector since international shipping plays a comparatively modest role in terms of energy exports. The answer is yes, because the international trade in energy products is not remaining static.

The strongest driver of change is the geographic location of energy consumption. The International Energy Agency reports in their 2011 '*World Energy Outlook*' that countries outside of the Organization for Economic Co-operation and Development (OECD) membership are increasingly determining the dynamics of energy markets. Non-OEDC countries will account for 90 per cent of the population growth, 70 per cent of the increase in economic output and 90 per cent of energy demand growth by 2035. By 2035 China will have consolidated its position as the world's largest energy consumer: it will consume nearly 70 per cent more energy than the United States, the second-largest consumer. The rates of growth in energy consumption in India and Indonesia are even faster than in China.

The 2011 report *The Prospects for Transpacific Energy Trade* notes that the importance of energy trade to the Asia-Pacific economies is demonstrated by the fact that coal imports account for 15 per cent of total coal use, natural gas imports are fairly significant accounting for 37 per cent of total natural gas use, while 94 per cent of the region's oil needs are met by imports. Aggregating across all three fuels (coal, natural gas, oil), 41 per cent of fossil fuel needs of the Asian economies are met from imports.

We will now review whether the winds of change that have begun to

blow are being felt on British Columbia's shores by looking at the coal, natural gas, oil and wood pellet sectors.

Coal

The International Energy Agency reports that coal won the energy race in the first decade of the 21st century. It has met almost half of the increase in global energy demand. China's emergence as a net coal importer in 2009 led to rising prices and new investments in exporting countries. The *BP Energy Outlook 2030* predicts that China's rapid growth in coal consumption ends after 2020. However, China will still account for 67 per cent of global coal growth through to 2030. It will remain the largest coal consumer, increasing its share of global consumption from 48 to 53 per cent. India will account for 33 per cent of global coal growth, and its share of global coal consumption climbs from today's eight per cent to 14 per cent by 2030. Since both China and India face challenges in their growing import requirements, this will drive further expansion and integration of the global coal trade in the Pacific.

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In 2011, Canada produced 55.99 M tonnes of coal and exported 49 per cent of our total production. Coal used for metallurgical processes accounted for 86 per cent of our export total with 14 per cent of coal products exported being thermal and used in a generating capacity. In British Columbia, there are five mines in southeast B.C. and four in northeast B.C. that produce mainly metallurgical coal, while the single mine on Vancouver Island produces thermal coal. The B.C. government forecasted total output of the B.C. coal industry in 2011 at over 28 M tonnes of product coal, or about 50 per cent of the Canadian total. There are numerous mine expansion projects underway and British Columbia's coal export terminals at Port Metro Vancouver and the Port of Prince Rupert have also been expanding to meet increased export demands.

For Port Metro Vancouver there have been two coal export expansion projects. In 2000, Westshore Terminals coal mix was 90 per cent metallurgical and 10 per cent for energy use. By 2010 it had shifted significantly to 70 per cent metallurgical and 30 per cent thermal. Total volume in 2000 was 22.5 Mt and 24.7 Mt in 2010. The shift in volume of thermal coal started to rise in 2008 just before China became a net coal importer in 2009. In 2011 the leading export destinations for coal

shipments were Korea, Japan, Europe, China, South America and Taiwan. In response to increasing coal export demand, Westshore Terminals initiated a $100 million upgrade in 2007 with completion targeted for 2012. This includes equipment upgrades, new twin dumpers, three train indexers, enhanced transfer stations and improvements to stacker reclaimers. In 2011 Neptune Bulk Terminals announced they were investing $63.5 million in new equipment to improve the terminal's handling capacity primarily benefiting the export metallurgical coal shipped for Tech.

At the Port of Prince Rupert, Ridley Terminals Inc. (RTI) has historically served coalmines in northern British Columbia, Alberta and Saskatchewan. The markets of Japan, China and South Korea account for 90 per cent of RTI's export shipments. In 2010 RTI entered into a service agreement to receive product from the Southeast region of British Columbia. In early 2011 RTI completed additional commercial negotiations to receive coal destined for export markets from customers in the U.S. However, most notably from an energy trade perspective, in October 2011 RTI signed an agreement with CoalSpur to secure a 14-year port allocation for up to 8.5 Mt per annum of coal from the Vistas Coal Project (Canada's largest thermal coal export) mine near Hinton, Alberta. In response to increasing export demand RTI started their Modifications Project in 2011. It is a $180 to $200 million capital plan to increase the expected total marine terminal throughput capacity to 24 to 25 million tonnes by the end of 2014. By that time, thermal coal exports from the RTI could rival Westshore's 30 per cent of export volume.

Natural Gas

The International Energy Agency's 2011 '*World Energy Outlook*' reports that both the supply and demand side point to a bright future — even a golden age — for natural gas; this view is shared by the *BP Energy Outlook 2030*. BP reports that non-OEDC counties will account for 80 per cent of global gas demand growth and China will account for 23 per cent of this increased gas demand. BP also reports that Liquefied Natural Gas (LNG) will represent a growing share of gas supply. Global LNG supply is projected to grow over four per cent per year to 2030, more than twice as fast as total global gas production. LNG will contribute 25 per cent of global supply growth between 2010 and 2030, compared to 19 per cent for the period between 1990 and 2010.

In 2011 researchers from the Energy Studies Institute, National University of Singapore observed that at the present time North and South America are effectively "gas islands" isolated from the rest of the world, with few significant transpacific or transatlantic gas flows. However, these researchers concluded that recent developments in both gas demand and supply have led to a scenario where significant growth in LNG export from North America to Asia has become a distinct possibility.

The international trade tailwinds are perhaps blowing strongest on B.C.'s North Coast. The Ports of Kitimat and Prince Rupert appear to be at the epicenter of an emerging $18 billion LNG export industry. In Prince Rupert, BG Group PLC announced that the port was short listed for an LNG plan. Two projects — Kitimat LNG project and the Douglas Channel LNG/BC LNG Export Co-operative received the necessary National Energy Board (NEB) export permit approvals in October 2011 and February 2012 respectively. Petrinas/Progress Energy and Royal Dutch Shell are all advancing LNG

Photo credit: Ray Dykes, PR Plus

A $100 million upgrade means Westshore Terminals is ready to meet the growing demand for coal exports.

export projects. In October 2011, Royal Dutch Shell purchased the marine dock facilities and the former Methanex plant in Kitimat and is presently used to import hydrocarbons by tanker from Cenovus Energy Corp.

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A key commercial decision for Canadian oil producers is between exporting oil south into the U.S. and west to Asia. The *BP Statistical Review of World Energy, June 2011* observed that currently, Canada is almost entirely reliant on the U.S. market for selling its oil, with exports to the U.S. accounting for close to 98 per cent of overall exports. Many energy experts have noted that exporting oil to Asia would provide Canada with the benefits of diversification and reduce reliance on a single market for oil. There are also purely economic reasons favouring export of oil from Canada to Asia. The Singapore Energy Institute noted that that under present market conditions, the cost of transporting oil to China, Japan, South Korea and Chinese Taipei (via pipeline and tanker) are lower than the costs of transporting oil to the U.S. (via pipeline).

From a B.C. shipping perspective, February 2012 may go down in the history books as the point in time when tailwinds began to strengthen on Canada's transpacific oil trade. Cenovus Energy Inc. sold its first oil cargo directly to China. The oilsands company sold 250,000 barrels of heavy oil from its Pelican Lake operation to an undisclosed Chinese customer. This is the first time Cenovus shipped oil directly to a Chinese buyer (noting that the company's crude has reached this overseas market before thanks to intermediaries). It now plans to strike more export deals with Asian buyers. Kinder Morgan CEO, Mr. Ian Anderson, speaking at the recent Chamber of Shipping British Columbia Annual General Meeting, noted that "Cenovus was able to do this transaction because it struck firm shipping contracts to use their Trans Mountain pipeline" which reaches the B.C. coast at Port Metro Vancouver. The growth prospects for further Canadian transpacific oil trade will largely be determined by the current National Energy Board/Canadian Environmental Review Process of the Enbridge Gateway proposal at the Port of Kitimat and by any further capital investment decisions by Kinder Morgan to expand their Trans Mountain pipeline and Westridge Marine Terminal at Port Metro Vancouver.

Renewable Energy

B.C. wood pellet production and exports have grown rapidly. The current major market for B.C. pellet exports is the European Union, where environmental initiatives aimed at reducing CO2 emissions from coal-fired power plants are expected to generate substantial market growth over the next 10 years. B.C. pellets are currently transported by rail to the Fibreco terminal in North Vancouver where they are loaded on vessels bound for European and Asian markets. Fibreco began handling wood pellet exports in 2005 and since January 2011 has handled all of the pellet exports from Port Metro Vancouver. In 2011 Fibreco was working to expand their storage capacity for pellets from 27,000 tonnes to 45,000 tonnes. This would enable them to load a full vessel from storage; currently they load from storage and co-ordinate the arrival of 200 railcars on a direct hit for loading to vessel. Fibreco estimates total capacity following completion of the expansion will be one million tonnes of woodchips plus two million tonnes of pellets per year. Due to difficulties in shipping through Ridley Terminals in Prince Rupert, Fibreco's pellet traffic grew to approximately 900,000 tonnes in 2011 out of a total of 1.25 million tonnes of B.C. exports. To address the needs for increased pellet production, Pinnacle Renewable Energy Group proposed a major new $30 million pellet export marine facility in Prince Rupert in September 2011.

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Conclusion

Presently transpacific trade is relatively modest in terms of global coal trade, accounting for 4.6 per cent overall. Transpacific oil and natural gas trades are particularly limited in their scale, respectively accounting for only 1.2 per cent of global oil trade and 0.3 per cent of global natural gas trade in 2010 according to the *BP Statistical Review of World Energy, June 2011*. Aggregating across all three fuels, transpacific energy trade accounts for 1.4 per cent of global energy trade, more than two-thirds of which is from North America to Asia. Nevertheless this brief summary demonstrates that the winds of change in international energy trade have reached B.C.'s shores. Time will truly tell whether the recent Canadian political initiatives are belated efforts trying to catch up with shifting economic drivers and how they will accelerate the prospects of our transpacific energy trade. B.C.'s port community and Canada's energy producers can also play a role by providing support and leadership for international trade policies such as a *Canada-Japan Free Trade Agreement* and Canada's belated efforts to join the *Transpacific Partnership Negotiations* since improved market access and infrastructure investments are both required for global competitiveness.

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