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Special Edition on the Keystone XL Pipeline

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On September 22 in Washington, DC, The Woodrow Wilson Center held a one day conference, **Is the Proposed Keystone XL Pipeline in the US National Interest?** This conference could not have happened at a more appropriate time as debate over the pipeline had been intensifying for months. On the one side, TransCanada Pipelines, the company looking to build the pipeline, had realized that State Department approval for the project was less and less of a sure thing as the government continued to deliberate; TCPL and other interested parties had therefore intensified their lobbying and public relations campaigns to try to ensure a favourable outcome. On the other side, environmental groups and other concerned citizens were keeping up their pressure on the government to cancel the project, choosing civil disobedience in the form of a late-summer sit-in outside the White House; over 1000 people had been arrested by the end of September, with Bill McKibben, Naomi Klein, and other high-profile activists among them. On the day of the conference, the Administration was still weeks away from reaching its decision to postpone final approval. The conference room was packed with media, activists, and oil industry representatives.

North America's Strategic Loss

Keystone XL Pipeline and the High Cost of the American Regulatory Regime

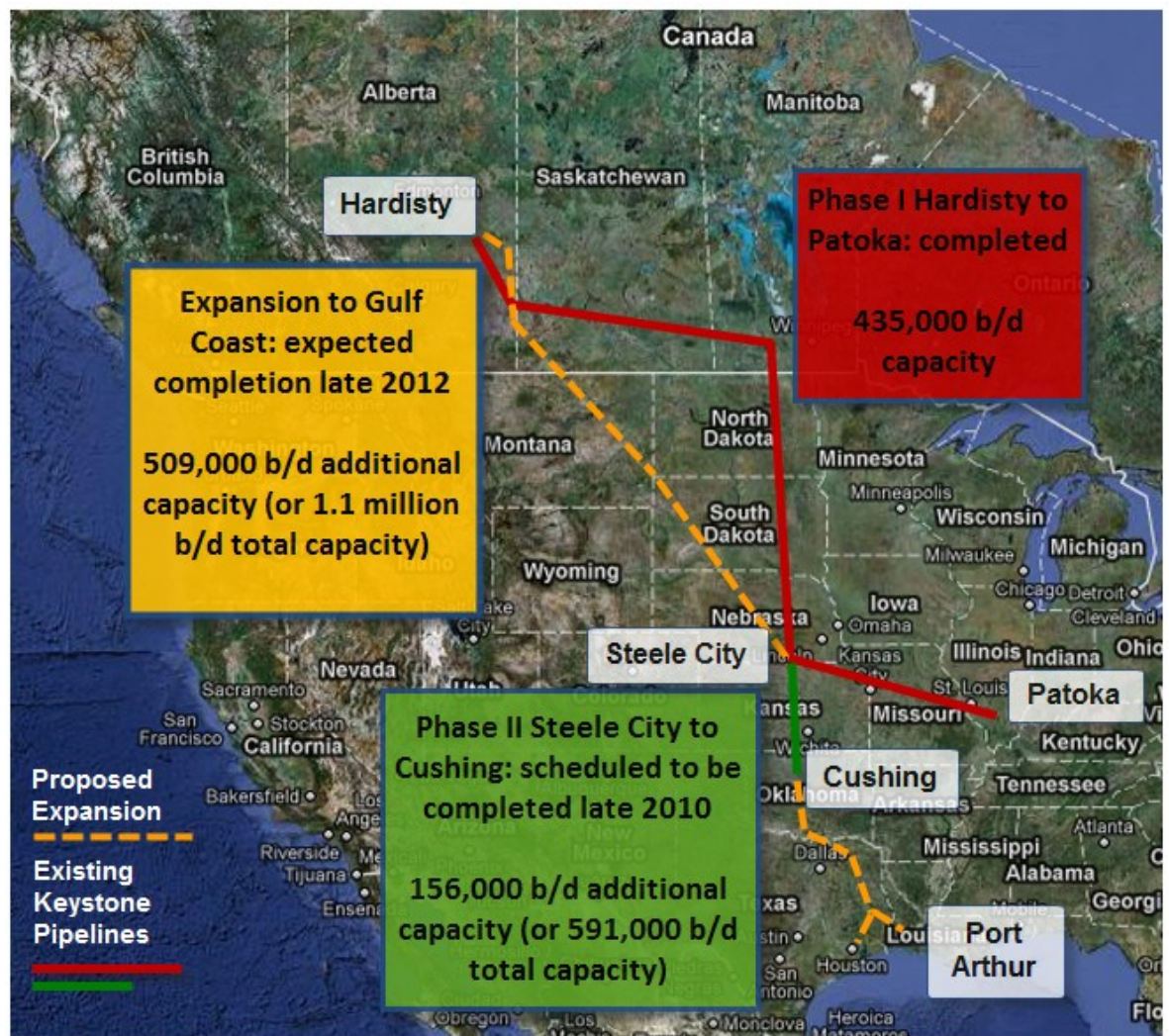
By Lucian Pugliaresi*

Introduction

In response to a 2009 request from US Secretary of Energy Steven Chu, the National Petroleum Council (NPC) issued an extensive report on the North American potential to expand oil production.¹ The report's authors, an authoritative group of experts from in and outside the petroleum industry, concluded that North America could raise petroleum liquids output from approximately 10 million barrels/day (mb/d) in 2010 to over 20 mb/d by 2035. The majority of the new supply would come from four sources: tight oil, shale oil, natural gas liquids, and oil sands. The NPC identified Canadian oil sands as having the potential to increase North American supply by 3 to 4 mb/d by 2035.

Although the US currently imports more than 2.5 mb/d of Canadian crude and petroleum products through an extensive pipeline network,² planned increases in Canadian output will require more crude transportation capacity. To meet this potential, TransCanada has proposed building the Keystone XL pipeline, along the route shown in Figure 1.

Figure 1. TransCanada's Keystone Expansion Pipeline



Source: EPRINC Design, using Google Maps, and TransCanada information

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The proposed pipeline is an expansion of TransCanada's current Keystone pipeline network and will include sufficient capacity to carry both Canadian oil sands production and up to 100,000 b/d of crude oil from the surging production now taking place in North Dakota (and Montana to a lesser extent), largely from the Bakken formation. Since 2008, production from North Dakota has risen from 100,000 b/d to well over 450,000 b/d today. By increasing transport efficiency and allowing Bakken producers to access new refinery markets, the Keystone XL project will have the added benefit of improving wellhead values for oil production from the Bakken formation. The project is an essential piece of new petroleum infrastructure as the mid-continent region of the United States no longer has any water borne imports; i.e., refiners in the mid-continent of the US are processing only US and Canadian feedstock and running at full capacity. New Canadian and mid-continent crude production will have to be shipped to coastal refining centers in the US.

US law requires that any cross border pipeline receive a presidential permit and this authority is delegated to the State Department.³ Under the North American Free Trade Agreement (NAFTA), no permits are required for shipment of Canadian crude to US destinations by rail, ocean tanker, or even incremental volumes through existing cross-border pipelines. The open border in energy trade between Canada and the United States provides substantial benefits to both countries and has led to highly integrated cross border energy and investment flows.

Technical and environmental reviews of the project have been underway in Canada and the US since 2008. The project required an environmental assessment under a federal law called the National Environmental Policy Act (NEPA). Although NEPA required the federal government to declare national and environmental goals and the establishment of the Council on Environmental Quality (CEQ), the centerpiece of the legislation is the requirement of an extensive environmental assessment of any federal action with a major effect on the human environment. As a result, vetting of the Keystone XL pipeline route has been extensive. During the review process, TransCanada agreed to 57 project-specific requirements, exceeding all US pipeline safety standards, including satellite-linked computerized leak-detection systems and puncture-resistant steel pipe.

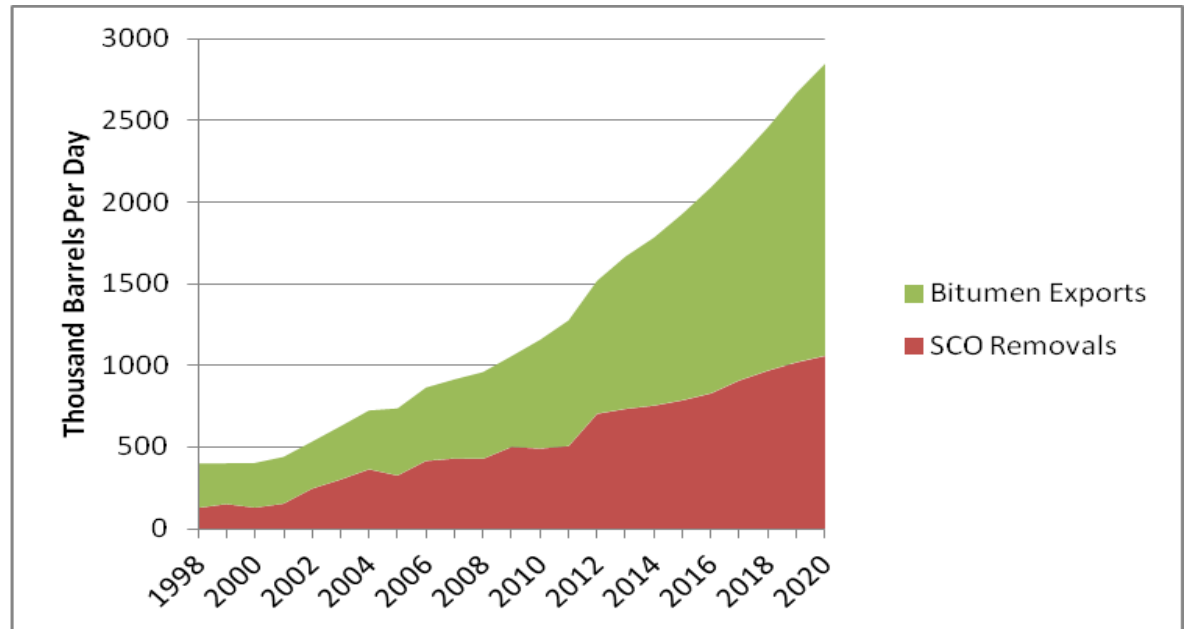
Given the established history on US-Canadian energy trade, TransCanada had no real reason to doubt ultimate approval of the project as all previous cross border pipelines had been approved. TransCanada spent more than \$2 billion for steel and related facilities under expectations that the historical relationship in cross-border energy trade would be sustained.⁴ Towards the second half of 2011, objections to the route were raised by officials in Nebraska over concern that the pipeline crossed "ecologically sensitive terrain" above an important aquifer.⁵ Instead of approving the project and letting the legal process play out in Nebraska, the Obama Administration in early November 2011 announced a decision that granting the cross-border permit would be postponed so that further study of a new route could be undertaken.

Putting aside the merits of an alternative route after three years of exhaustive environmental review,⁶ the federal decision process makes such mid- and late-course corrections costly in both time and money. In the case of the Keystone XL project, the change in its route through Nebraska triggers a new NEPA review which will take at least 12 months to complete.⁷ Even if the new route solves both imaginary and substantive environmental concerns, it comes with a high cost—a delay of at least one year in initiating construction and project cost escalation of up to \$1 billion.⁸

The one exception to NEPA is for national security considerations. Here the president could have called for a 60 day review of the new route and exempted the review from NEPA and subsequent court challenges. Given the importance of the project and its wider implications for US-Canadian energy trade, it would not be difficult to make a case that the project offered substantial national security benefits. The Obama Administration did not view the project as sufficiently valuable to merit a national security exemption and its start date is now postponed until 2013, at the earliest, if a permit is granted.

Although installed cross-border pipeline capacity currently exists to ship additional volumes of Canadian crude oil to the US, projected oil sands production growth will eventually overwhelm existing transport capacity.⁹ The Keystone XL pipeline will add 500,000 barrels/day of new capacity to move Canadian oil sands production to US refiners with some flexibility to increase volumes over time.¹⁰ Given the high likelihood of continued growth in oil sands production, access to the US market will eventually require a substantial increase in pipeline export capacity. Without Keystone XL or alternative transportation capacity solutions, Canadian producers and government authorities may view full reliance on the US market as too risky and seek alternative destinations.

Figure 2. Projected Oil Sands Production



Source: Government of Alberta, EPRINC Calculations

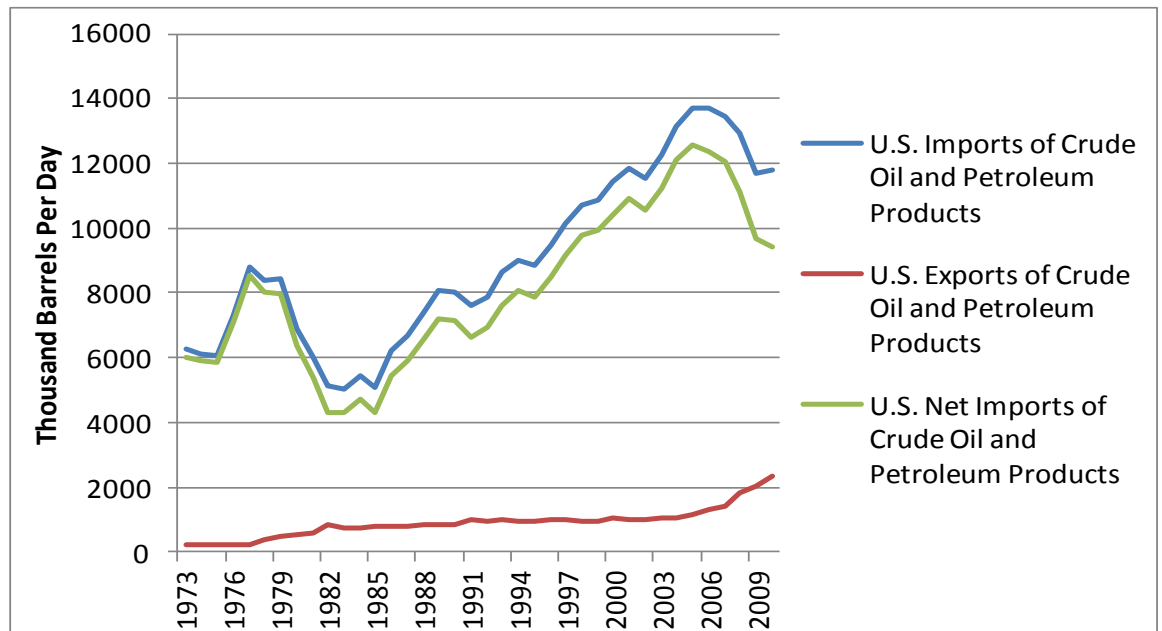
One alternative is to build a pipeline to the Canadian west coast and ship the blended bitumen¹¹ to the Far East. Assuming Canada manages to export crude to Asian markets, oil sands development will carry on unimpeded and the US would import the same volume of crude oil and refined products as it would if the Keystone XL pipeline were not built. The world oil market is extremely fungible. As supplies of a given supply of crude oil shift to a new location, other supplies in the market will move to fill the newfound void. As long as Canada continues to expand oil sands output, the US would benefit from expanded world oil supplies but would forego many of the infra-marginal economic benefits such as construction activity and improved refinery operations in the US.

Although Canada would gain some risk-diversification by opening up sales to markets outside of the US, on balance, both the US and Canada would lose an opportunity for expanded trade between two stable and reliable allies in which long-term supply arrangements are assured. Such trade arrangements provide a strong foundation for deploying long-term cost saving capital projects, such as pipelines and refinery upgrades. A movement away from pipeline shipments also will bring about an increase in global tanker traffic and a somewhat higher risk for oil spills (shipping point to point in a pipeline is inherently less risky than tanker shipments). Diverting Canadian oil sands output to Asia would likely harm US refining efficiency as the blended bitumen is well matched to the complex refineries on the Gulf coast which have invested billions of dollars in refinery upgrades.

Critics of the Keystone XL pipeline have argued that US consumers should use this opportunity to limit oil sands shipments to the US and instead reduce domestic reliance upon

petroleum use. This strategy fails to understand the fundamentals of US petroleum use and supply disposition. As shown in Figure 3, the US continues to import large volumes of petroleum and even after accounting for exports of petroleum products, net imports into the national economy remain over 8 mb/d and forecasts by the Energy Information Administration (EIA) indicate that the US will remain a large net importer of crude oil even under the most optimistic scenario of conservation and use of alternative fuels.

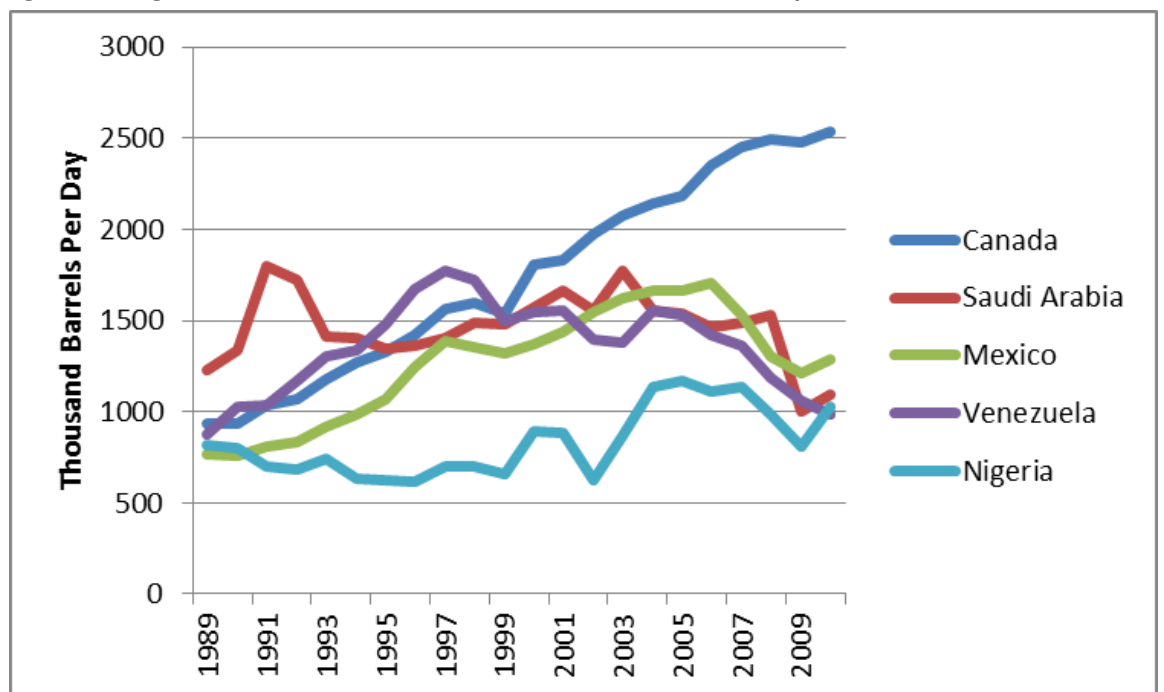
Figure 3. US Imports, Exports and Net Imports of Petroleum and Petroleum Products



Source: EIA Data with EPRINC Calculations

As shown in Figure 4, rising volumes of Canadian imports of blended bitumen are timely as they can replace falling volumes of similar gravity crudes from Mexico and Venezuela.¹² Reduced volumes of imports from Mexico and Venezuela reflect falling output levels in both countries, while the reduction in imports from Saudi Arabia reflect a reallocation of Saudi sales to Asian markets manifesting transportation savings and rising demand in the Far East.

Figure 4. Largest Sources of Crude Oil and Petroleum Products Imported to the US



Source: EIA Data

Importance of Sustaining US Investment and Energy Trade

The benefits of the Keystone XL project extend beyond the direct cost savings from the improved transportation economics of shipping blended bitumen from Canada to the United States. US-Canadian trade is a major component of economic activity in both countries. Canada's imports of US goods support millions of US jobs and trade between the two countries reflects highly integrated ownership patterns and joint economic benefits not prevalent from other suppliers of crude oil to the US. In 2010, trade between the US and Canada totaled \$525 billion and over twenty thousand jobs in the United States are directly dependent on current oil sands development alone.¹³

The new pipeline would ensure a stable supply of crude for at least the next 20 years, roughly the length of time to which buyers must commit to ship crude oil via Keystone XL.¹⁴ Given the expected growth in oil sands production, which is likely to rise by anywhere from 2-4 mb/d over current levels, half of US crude oil imports could be sourced from North America in the coming years. Much of the money spent on crude oil purchases from Canada would be reinvested in the United States and contribute to economic growth in both countries.

Strategic Loss from the Keystone Delay

North America is in the early stages of sustained and large increases in domestic crude oil output from the same hydraulic fracturing technology that set off the shale gas revolution. New crude supplies, combined with the current surge in natural gas production, offer the promise of a renaissance in long-moribund petrochemical processing and petroleum refining industries. The capital now sitting on the sidelines is available and willing to fund profitable projects. However, it will not be deployed if political risk cannot be contained.

The construction of the Keystone XL pipeline would send a clear signal to Canadian and US producers that a critical piece of the North American petroleum transportation infrastructure is underway. It would inform investors in Canada, the US, and abroad (including OPEC) that North America is putting into place a key building block for the emerging petroleum renaissance. The Obama Administration's postponement of a decision on whether to allow the project to proceed to explore an alternative route has consequences beyond the more narrow concerns of increased construction costs and reduced efficiency in US refining operations. It represents a failure to understand the important strategic nature of the U.S-Canadian trade and security relationship. It undermines confidence that historic and predictable energy trade will be free of political concerns and burdensome regulations. The announced delay in approval of the project is not trivial, and the time involved to evaluate new alternatives may very well undermine the fundamental economic value of the project.

The policy failure on Keystone XL is not a technical miscalculation in weighing environmental risks versus economic benefits. The Keystone XL pipeline is an important piece of the essential infrastructure for moving higher volume shipments of both Canadian oil sands and North American crude oil to coastal refineries. The policy failure may reflect placing politics above the national interest, but the failure also reflects a fundamental misunderstanding of the critical role petroleum will continue to play in both the American and Canadian national economies. The US enjoys a highly beneficial strategic partnership with Canada, and petroleum trade is its strongest link. The consequences of harming that relationship will impose high costs on both American security (and the national economy) for years to come.

Endnotes

¹See "Prudent Development – Realizing the Potential of North America's Abundant Natural Gas and Oil Resources," National Petroleum Council, September 15, 2011. <http://www.npc.org/>

²The US currently imports around 1,000,000 barrels of oil sands each day, 55% of this is in the form of blended bitumen.

³The US Department of State (DOS) receives and considers applications for Presidential Permits for oil pipeline border crossings and associated facilities through authorities delegated by the President through an Executive Order. The President's constitutional authority over foreign relations is the basis for the executive branch's responsibility to decide whether or not TransCanada will be permitted to proceed with

the project. As part of DOS' responsibility, the department manages the inter-agency review process, provides environmental assessments, consults with local and state governments, and has provided for both public hearings and a public record for comments on the project.

⁴Bloomberg Businessweek. <http://www.businessweek.com/news/2011-11-18/transcanada-to-fund-keystone-xl-pipeline-with-cash-after-delay.html>

⁵The Ogallala Aquifer spans across eight states and encompasses the majority of Nebraska.

⁶With multiple Environmental Impact Statements (EIS) and subsequent comment periods

⁷TransCanada notes in a recent Bloomberg Businessweek article that they are working with officials to find a new route in the next 6-9 months. The Dept. of State has said earlier approval would be 2013. <http://www.businessweek.com/news/2011-11-18/transcanada-to-fund-keystone-xl-pipeline-with-cash-after-delay.html>

⁸<http://www.pennenergy.com/index/petroleum/display/0752275721/articles/pennenergy/petroleum/pipelines/2011/11/analysts-predict.html>

⁹Clearly some "work arounds" are possible and Enbridge's recent expansions to bring in Bakken crude from North Dakota and re-export it back to the US on existing Enbridge lines is a case in point.

¹⁰See EPRINC's "The Value of the Canadian Oil Sands to the United States" and a "Primer on Canadian Oil Sands" for more detail and analysis regarding the project.

¹¹Oil sands viscosity is too high to ship via pipeline and must be mixed with a fluid that has much lower viscosity. Oil sands production can be diluted with condensate and shipped via pipeline, and is called blended bitumen or dilbit. The condensate can be removed and /or refined along with the oil sands crude oil at the refinery destination,

¹²Gravity refers to the API gravity of crude indicating whether it is a lighter or heavier crude. Both Mexican and Venezuelan crude imports are heavy crudes and thus have a higher gravity.

¹³Congressional Testimony: Significance of Canada's Oil Sands Jim Burkhard, IHS CERA Managing Director

¹⁴Pipelines, unlike other forms of crude oil transportation, require long-term contracts.