Portland Planning and Sustainability Commission

Attention : Mr. Armstrong

## Pembina Phase I Propane Export Terminal 20 Year Statistics

- 803,000 Rail Cars Full and Empty
- 11.3 Billion Gallons of Propane
- 270 Million Barrels of Propane
- 1,200 Ships Full and Empty
- 805,200 Connections by Flexible Hose (2 each rail car and ship)

The attached article by Argus Media on December 12, 2014 describes why Pembina is so interested in the Portland Propane Export Terminal .

Western Canada has an abundance of propane at record low prices and is already committed and building major pipelines, processing complexes, and storage facilities making even more propane available with no place to go.

- Wholesale Market Price for Propane was $1.38 per Gallon One Year ago, $0.65 per Gallon Current , and $0.20 per Gallon in Western Canada
- The sharp decline comes a year after record levels in the US and Canada with a supply shortage driven by logistical constraints
- Seeking to undo the infrastructure bottleneck, Pembina, Keyera, and Williams announced plans for new pipelines , processing complexes and storage facilities
- Record Low Prices make Canadian propane production unviable.
- In 2012 Kinder Morgan announced it would reverse the flow of the Cochin Propane Pipeline from western Canada to Chicago and change to diluent needed for Tar Sand Oil service
- The Kinder Morgan project was completed in the Summer 2014 and abandoned 30,000 to 50,000 BPD of Propane
- A mild winter has also increased inventories with no place to go.
- Canadian Propane Inventories are 58 % above the five year average and 93% above last year average.
- The Canadian Propane surplus stands at 90,000 BPD according to the Canadian consultancy Gas Process Management
- Canada is short of end users of propane
- Petrogas has acquired the Chevron Ferndale Washington Facility and will revamp it for propane export after handling mostly butane in the past.

- Pembina plans a $500 Million Propane Export Facility at Portland Oregon
- Sage Midstream is planning a propane export Terminal at Longview Washington - Project Vetoed by Port of Longview TERMINAL TERMINATED
- Pembina is building a second 73,000 BPD fractionator at Redwater, Alberta
- Pembina is planning to build a third fractionator at Redwater, Alberta and is weighing on the option to build a fourth unit.
- Keyera plans to more than double it NGL Fractionator at Fort Saskatchewan to process up to 65,000 BPD NGLS
- Keyera is building a propane rail terminal at Josephburg, Alberta
- Petrogas will build four salt caverns at Fort Saskatchewan for propane, butane, and ethylene
- Williams is building Canadas first ever propane dehydrogenation unit (PDH) with cheap propane feedstock to make 1 Billion Pounds Per Year of Polymer Grade Propylene.

The Portland Planning and Sustainability Commission can upset a lot of Western Canada and force Canadian Propane to Stay in Canada or stay in the ground.

Portland should be prepared for an immediate Pembina Expansion Project (Phase II) for more propane export

Other Companies will be urgently seeking locations for propane export terminals with feed stock coming by rail on a 125 year old rail infrastructure.

Propane does not belong on the rails and the safest method of transport is and has always been by pipeline.

The difference between the legacy DOT-111 Crude Oil Rail Cars at 7/16 inch Wall Thickness and the DOT-112 LPG Propane Rail Cars at 9/16 inch Wall Thickness is only 1/8 inch of steel.

I will be testifying at the Portland Planning and Sustainability Meeting on Tuesday, April 7th.

I urge the Portland Planning and Sustainability Commission to vote against a extremely dangerous Propane Export Terminal.

We Can Do Better.

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Argus Products

## Canadian propane demand falters: Analysis

12 Dec 2014, 7.56 pm GMT

Houston, 12 December (Argus) — Western Canadian propane is trading below 20¢/USG, touching lows not seen since February 2002 as new midstream projects flood the market with supply even as demand falls.

The sharp price decline comes a year after the heating fuel hit record levels in both the US and Canada amid a supply shortage driven by logistical constraints.

Seeking to undo the infrastructure bottleneck that drove volatility in the market, Canadian midstream operators Pembina Pipeline, Keyera and Williams, announced plans in rapid succession for new pipelines, processing complexes and storage facilities intended to service the growing liquids market.

But record low prices threaten to make Canadian propane production unviable.

This year's slump has caught many producers off guard, as a confluence of bearish influences exacerbated warmer-than-expected weather and sluggish crop-drying demand.

The first catalyst for the recent downturn in propane prices emerged in 2012, when Kinder Morgan announced it would reverse its Cochin pipeline for diluent service. That line, which had been running under capacity, previously transported propane out of western Canada and into the Chicago area. The reversal completed this summer is abandoning 30,000-50,000 b/d of propane in the western Canadian market, according to some industry estimates.

While many in the Canadian market expected rail to fill the void left in the wake of the Cochin reversal, US demand for the heating fuel waned as its own inventories hit record levels in October. Canadian propane exports for the month of September stood at roughly 2.37mn bl (79,000 b/d), according to the Canadian National Energy Board (NEB). That is 16pc under the average for the previous seven years.

While propane exports have fallen, more Canadian producers are focusing their drilling activities on liquids rich areas, such as the Montney and Duvernay shale formations in western Canada. Going forward, Canadian NGL production is slated to climb to 943,000 b/d by 2030, up from 713,000 b/d in 2013, according to the Canadian Energy Research Institute (CERI).

The Canadian propane surplus stands at 90,000 b/d, according to a study by Canadian consultancy Gas Process Management.

Canadian propane inventories stand at roughly 13.9mn bl, which is 58.7pc above the five-year average and 92.9pc above last year average, according to the NEB.

Bearish supply and demand fundamentals come as US crude benchmark WTI prices have fallen to 5-year lows, trading below $60/bl today. A weak global outlook for crude prices has put downward pressure on the US NGL complex, with propane at Mont Belvieu dipping to a an 11-year low in December. In the midcontinent that serves as a basis for Edmonton propane, prices fell to the weakest level since November 2002.

Canada is short end-users for propane, and any new meaningful demand is at least two years away.

Midstream operator Pembina plans to build a $500mn export terminal in Portland, Oregon, but that facility will not come on line until 2018 and will have to rely heavily on rail for supply. Petrogas recently acquired Chevron's Ferndale, Washington, facility. The Ferndale facility will be revamped for propane exports after handling mostly butane in the past.

The only other west coast export facility in the works is Sage Midstream's proposed terminal in Longview, Washington, which is not expected to start operations for another two years. That facility will also rely heavily on rail for supply.

The bottleneck in new takeaway capacity comes as midstream companies in Canada are investing heavily in new pipelines, fractionators and storage. Pembina pipeline is in the process of building a second 73,000 b/d fractionator at its Redwater, Alberta, site. The company will build a third fractionator at Redwater, and is weighing the option to build a fourth.

Pembina in December said it plans to boost its 2015 capital budget by 36pc to $1.9bn, which includes spending planned for an NGL pipeline in British Columbia and NGL, crude and condensate pipeline expansion in western Canada.

Calgary-based Keyera plans to more than double its NGL fractionation capacity at its Fort Saskatchewan facility to process up to 65,000 b/d of NGLs. That project, which is slated for completion in early 2016 comes with a $220mn price tag. That company is also building out a propane rail terminal in Josephburg, Alberta.

Petrogas, in a joint venture with ATCO Energy Solutions, said it will build four salt caverns in Fort Sasktachewan, Alberta, capable of handling propane, butane and ethylene. The first two caverns are expected to start operations in 2016, and the final two are expected to start service the following year.

The big winners may be the Canadian petrochemical companies, which can capitalize on cheap propane to make olefins. Williams Canada is building Canada's first-ever propane dehydrogenation unit(PDH), which will start operations by 2017 and used propane from its off-gas site in Redwater, Alberta, to produce 1bn lb/yr of polymer-grade propylene.

Canadian petrochemical maker Nova Chemicals is also expanding its Joffre, Alberta, facility, to add a third reactor that will produce between 950mn-1.1bn lb/yr of linear low density polyethylene, increasing production at the site by 40pc.

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http://www.argusmedia.com/News/Article?id=963085