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Get Me Out of Here – Expanding Outlets for Western Canadian Gas Supply

The Outlook for Gas Supply, Demand and Pipeline Egress



- Since hitting a low in 2012, Western Canada natural gas production has climbed 2.4 Bcf/d, running head-on into rising U.S. gas supplies in traditional export markets.
- Combined with insufficient export pipeline capacity, the resulting constraints have led to extremely weak benchmark Canadian natural gas prices since 2017.
- With Western Canada gas supplies from unconventional plays expected to rise a further 20% by 2023, new export pipeline capacity expansions are being developed to alleviate throughput constraints.
- After allowing for rising gas demand in Alberta, the additional export pipeline capacity expected by the end of 2023 may still be insufficient for dealing with rising supplies, creating the potential for more overhead price resistance for benchmark Canadian gas prices.

1. Introduction

Canada's natural gas prices and exports have been under increasing pressure from rising gas supplies in the U.S., forcing a deepening discount for Canada's primary gas price benchmark, AECO, versus U.S. benchmark gas prices. This situation is being made more complicated by homegrown developments in the form of increasing unconventional gas supplies from the Montney and related plays in Western Canada and a lack of sufficient pipeline takeaway capacity from this major producing region.

The erosion in Canada's gas exports to its southern neighbor, driven by rising U.S. supplies, formed the first pressure point on Western Canadian natural gas. In the U.S. Northeast, the gas export battle has been largely won by Marcellus/Utica gas supplies, which have not only pushed back Canadian gas exports, but also made the Northeast a net exporter of natural gas to Canada for most days and months of the year — the exception being when extremely cold weather necessitates an export boost from Canada to cover demand needs on the U.S. side of the border.

Canadian gas market share and exports to the U.S. Midwest region are eroding thanks to the expanding pipeline footprint that is bringing increasing volumes of Marcellus/Utica gas to the Midwest. Rising supplies of associated gas from the Bakken also have contributed to limiting

Canadian gas exports to the region. Canadian net gas exports into the Midwest still have the upper hand for now, but that grip is slipping as U.S. supply continues to increase.

Lastly, Canadian gas exports to the U.S. West have been growing, helping to keep Canada’s total net gas exports relatively stable in the past few years. But this long-term trend may also be at risk, as rising Marcellus/Utica/Bakken supplies are forcing more U.S. Rockies-sourced supplies that previously moved east to the Midwest to stay closer to home and instead compete for market share in the West.

If U.S. gas supply growth has made life difficult for Canadian gas producers, things have been made even worse by the second pressure point — intra-provincial congestion out of the Western Canadian Sedimentary Basin (WCSB), which is the source of nearly all of Canada’s natural gas production. This second pressure point is itself a two-fold problem in the form of rising production and diminishing pipeline capacity available for moving the volumes out of the region.

First, as shown in Figure 1, WCSB gas production has been climbing steadily, from an annual average of about 13.7 Bcf/d in 2012 to about 16.1 Bcf/d in 2018, with the 2019-to-date average being a little lower at 15.8 Bcf/d, according to data from the Canada Energy Regulator (CER). This growth has been led primarily by increased oil- and liquids-focused drilling activity in the Montney and related unconventional plays, such as the nearby Duvernay.

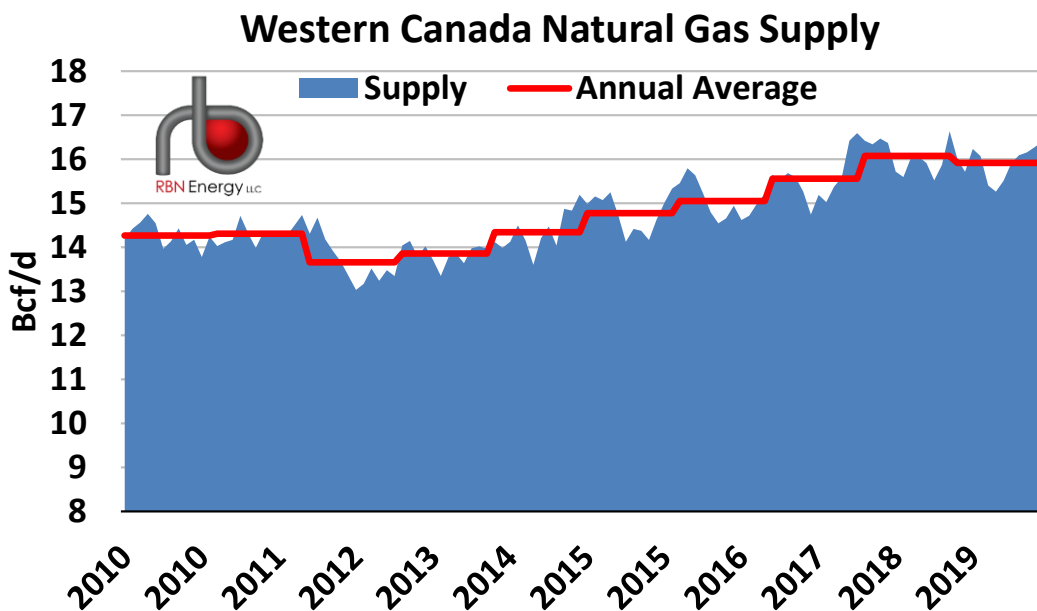


Figure 1 - Western Canada Natural Gas Supply; Source: CER

Although supplies are a little lower this year, this is not for a lack of effort by Canada’s natural gas producers. Rather, it is almost exclusively a function of the second culprit — the lack of available pipeline takeaway capacity to accommodate additional supplies.

This can be seen more clearly in Figure 2, where average gas flows at the major export points exiting Alberta and British Columbia (green area) fell from 11.8 Bcf/d in 2006 to a trough of 8.7 Bcf/d in 2012, before stabilizing in 2013 and 2014 at 9.7 Bcf/d. These have changed little since, averaging 9.7 Bcf/d in 2018 and 9.5 Bcf/d to date in 2019. At the same time, total pipeline design capacity for leaving the production basin (purple line) declined from 13.6 Bcf/d in the 2006-10 period, to 12.9 Bcf/d in 2011-13, and further to about 10.1 Bcf/d in 2014, where it has more or less

stayed over the past five years. What is abundantly clear from the disappearing gap between the green area and the purple line in recent years is that, since 2014, export capacity and export volumes have been much more closely aligned, especially since 2016, underscoring the much tighter situation between the rising production volumes of Figure 1 and how much of those volumes can be exported against fixed export capacity.

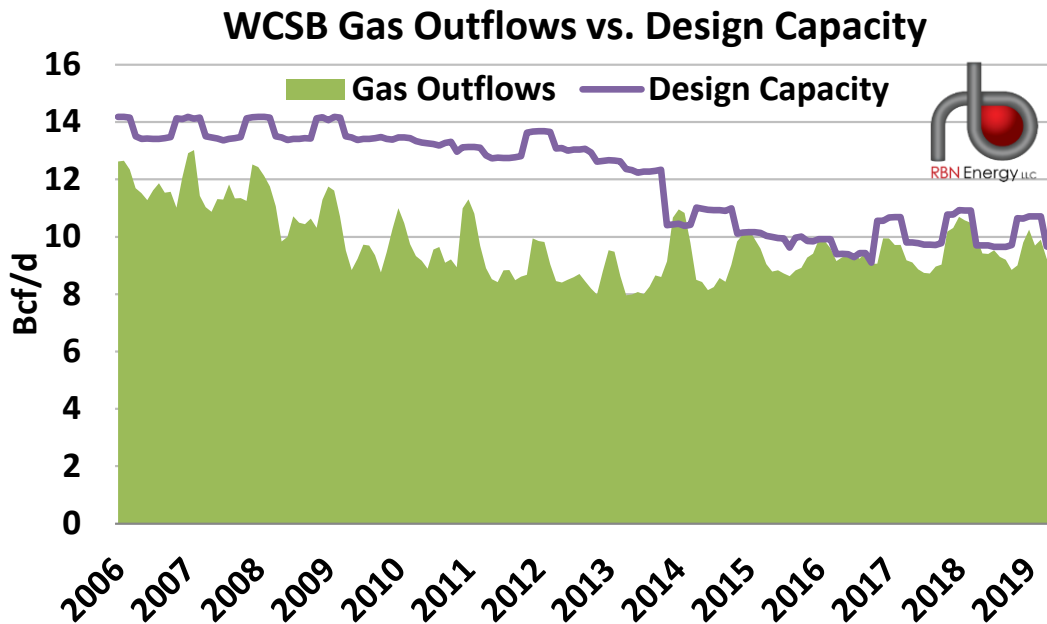


Figure 2 - WCSB Gas Outflows vs. Design Capacity; Source: CER

The three major pipeline operators in Western Canada — NOVA Gas Transmission Ltd. (NGTL; TC Energy's Alberta system), Westcoast Energy and Alliance Pipeline — have proposed a number of expansions to combat this congestion. However, keeping up with the growth in gas supply has proven difficult and costly, especially when measured in terms of the prices realized by producers for Canadian natural gas.

In this Drill Down report, we will more closely examine the relationship between pipeline takeaway capacity and weak AECO prices by starting with the drivers of the recent resurgence in supply growth, despite what has been very poor pricing in the past few years. Next, we will consider localized prospects for soaking up some of that gas supply growth in the form of gas demand in Alberta, Canada's sole growing market for natural gas. Beyond local demand, how all that gas supply is able to exit the WCSB, now and in the future, is then tallied up by considering current and future takeaway pipeline capacity additions for each of the major gas pipelines mentioned above that provide egress from Western Canada. We wrap up the analysis by pulling together RBN's assessments of future unconventional gas supply growth, Alberta demand growth, and the full spectrum of pipeline takeaway capacity expansions, and considering what this could all mean for future gas prices in Western Canada.

You can keep up with these evolving dynamics in our weekly [**Canadian NATGAS Billboard**](#) report.

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