

# Peyto Exploration & Development Corp. President's Monthly Report

February 2020

From the desk of Darren Gee, President & CEO

The next descent on the Polar Coaster is coming up this week and into mid February. So far, most of the US has seen a pretty mild winter and it's only in Western Canada where we've seen any kind of deep freeze plunge where natural gas demand rockets and supply freezes off (we saw 10% offline for a week in mid-Jan). Mid-range forecasts are suggesting Canada could see another steep drop in temps but we'll need to see it drift further south into the US for it to have much impact on North American natural gas demand. The ol' Farmers Almanac predicted several of these patterns before the winter is out, but to date this has been a pretty tame roller coaster of a winter, hardly worthy of a theme park. The January one did hit our production though (as well as the Christmas break shut down), and interrupted our ability to get slick-water fracs off. With WCSB frac spreads fully booked for Q1, any interruption has a severe trickle down effect on the industry.

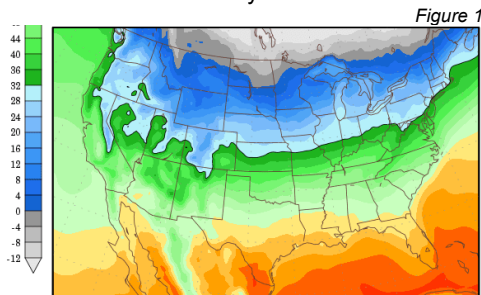


Figure 1

Tue, 11 FEB 2020 at 00Z  
-to-  
Wed, 19 FEB 2020 at 00Z

Source: <http://wxmaps.org/pix/temp1>

As in the past, this report includes an estimate of monthly capital spending as well as our field estimate of production for the most recent month (see Capital Investment and Production tables below).

## Capital Summary (millions\$ CND)\*

	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	Q3 19	Oct	Nov	Dec	Q4 19	2019
Acq/Disp	4	-4	0	0	2	-2	1	0	0	0	0	0	0	1
Land & Seismic	17	1	1	5	2	8	3	2	1	1	1	0	2	7
Drilling	256	14	7	37	57	116	24	11	14	12	10	15	36	86
Completions	134	17	1	18	36	72	20	14	10	4	9	8	21	65
Tie ins	53	4	1	6	11	21	10	3	3	3	3	4	9	26
Facilities	57	4	5	5	4	18	4	5	8	2	2	1	5	21
<b>Total</b>	<b>521</b>	<b>35</b>	<b>15</b>	<b>70</b>	<b>112</b>	<b>232</b>	<b>62</b>	<b>34</b>	<b>37</b>	<b>22</b>	<b>25</b>	<b>27</b>	<b>73</b>	<b>206</b>

## Production ('000 boe/d)\*

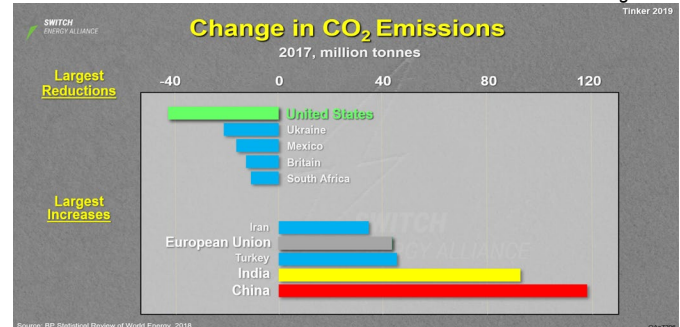
	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	Q3 19	Oct	Nov	Dec	Q4 19	2019	Jan
Sundance	56	50	49	50	51	50	49	47	47	48	49	48	49	49
Ansell	20	18	16	16	18	18	15	14	13	14	16	14	15	15
Brazeau	24	19	16	15	19	15	13	12	11	11	11	11	13	11
Kakwa	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Other	3	2	2	3	3	3	2	2	2	3	3	3	2	3
<b>Total</b>	<b>105</b>	<b>92</b>	<b>85</b>	<b>87</b>	<b>92</b>	<b>88</b>	<b>82</b>	<b>77</b>	<b>75</b>	<b>78</b>	<b>81</b>	<b>78</b>	<b>81</b>	<b>79</b>
Deferral		2	0				1	2						
Capability	105	94	86	87	92	88	83	78	75	78	81	78	81	79
Liquids %	10%	10%	11%	12%	10%	12%	14%	14%	14%	15%	15%	15%	14%	15%

\*This estimate is based on real field data, not a forecast, and actual numbers will vary from the estimate due to accruals and adjustments. Such variance may be material. Tables may not add due to rounding.

## How Many Peytos?

I recently attended a presentation by Scott Tinker of [Switch Energy Alliance](#), hosted by Enerplus Resources, where he gave a very pragmatic and balanced talk on global energy supply and demand. In it, he reminded me of the huge strides made by the United States in reducing its GHG emissions.

Figure 2



Source: Switch Energy Alliance

As I've [discussed in the past](#), the US has lowered its GHG emissions more than any other nation on the planet by replacing coal with natural gas. So, it makes sense that Canada could and should do the same. But that also means we'd need to have the natural gas supply to make it happen. So, what would it take? How many Peyto's, for example, would it take to replace all the coal in Canada with natural gas on a sustainable basis for, let's say, the next 30 years? Not that 30 years is a "sustainable" amount of time, but it's about the same as my entire career in the energy industry, so it feels like a long enough time.

To start, let's look at Canada's coal fired power. [Canada](#) is the 12<sup>th</sup> largest coal producer in the world (62 million tonnes in 2018) and exports more than half of that production. Our production (85% from AB & BC) is split about 50% metallurgical coal (used in steel manufacturing) and 50% thermal coal used for electricity and heat. We tend to export the metallurgical coal (97% of it) and keep the thermal coal. So, of the 62 Mt of coal produced, we consume 33 Mt annually, mostly for electricity generation. That amount of thermal coal can generate around 9.3 GW of electricity at 0.1 MW/tonne (2,460 kWh/tonne). (Sorry to burst your bubble, but if you drive a Tesla in Alberta, 1/3 to 1/2 of your electricity is generated by coal).

In order to replace all that coal fired electricity generation with natural gas would require about 1.25 BCF/d of gas production. This assumes that we replace the existing coal fired power plants and their current efficiencies with brand new, combined cycle, natural gas fired ones. These would be similar to the Shepard power plant east of Calgary, or the new Cascade power plant proposed for west of Edson that will receive some of its fuel from Peyto (Cascade is a 900 MW plant that will consume 140,000 GJ/d of natural gas and, I know, I'm not even

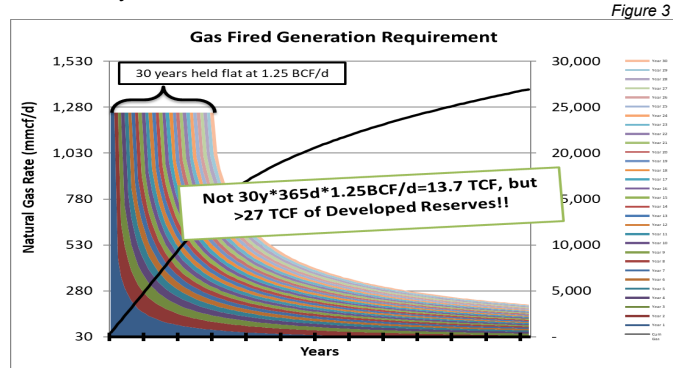
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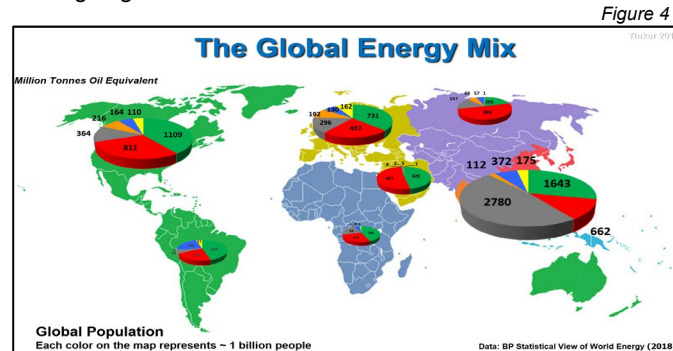
considering the capital cost of those new plants or the cost and practicality of any new transmission system required). But, if we want 30 years worth of supply, we'd need around 1.25 BCF/d of gas production to last that long. Unfortunately, that doesn't mean just a 30 year reserve life at 1.25 BCF/d. That means in the 30<sup>th</sup> year, we'd still have to be producing at 1.25 BCF/d, which requires significantly more reserves.

If we were to plot out the decline profiles, using typical Peyto Deep Basin declines, of each year of gas supply, it would look like the following chart. The proved producing reserves associated with this supply would need to be over 27 TCF. Considering Peyto has around 1.5 TCF of remainin producing reserves, that equates to 18 Peytos. 18 Peytos just to take Canada off coal for the next 30 years and achieve the same type of gains in GHG emissions that the US is achieving. That's a lot of Peytos!



Source: Peyto

Of course, that is still just a drop in the bucket when it comes to global emissions. Scott shared the following graphic which shows the amount of coal (grey) currently being used by SE Asia as compared to North America. These energy-mix pie charts are sized for proportionate volume consumed. The enormity of displacing Asia's coal use with alternative forms of energy is an extremely daunting task. Maybe it's a good thing that Russia and the Middle East have yet to apply horizontal multi-stage fracture technology to their source rocks because we're going to need all those reserves!



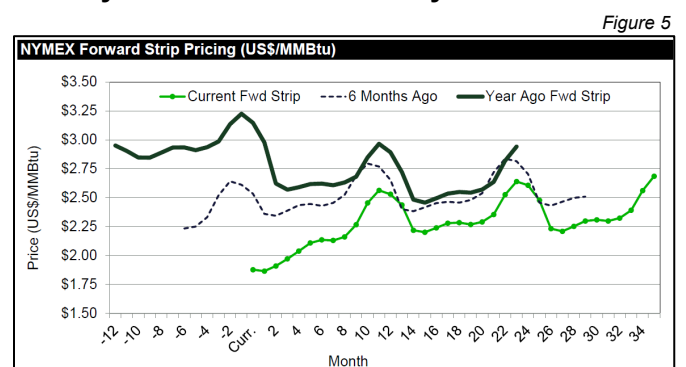
Source: Switch Energy Alliance

Perhaps Dr. Richard Muller, Author of Physics for Future Presidents who was featured in Scott's "Switch" [documentary](#) (I highly recommend you offer up your email to watch it) summed it up best:

*"The US will soon be a minor player in carbon emissions, most will be coming from China, India and the developing world. While we will develop carbon sequestration technologies, they won't adopt it because it will be too expensive and assuming the calculations are right, we'll have several degrees of global warming that we'll have to learn to live with because there will be no alternative. And we cannot afford to subsidize these huge growing nations whose economies will soon be so much larger than our own."*

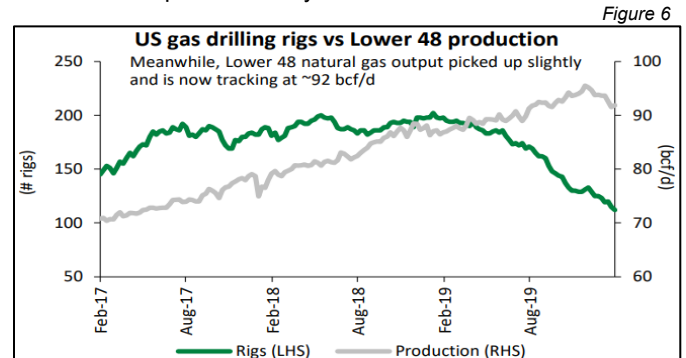
On the flip side, a few degrees of global warming will make Canada a much more comfortable place to live, especially in winter. But we're still going to need all the gas we can find.

## Activity Levels and Commodity Prices



Source: TD

The current NYMEX forward strip has collapsed over the last year from persistent production growth outstripping demand (especially with no winter in the US so far) to a level that is now below most US basin supply costs (\$2.50). The result of this collapse appears to be a slow down in activity and a supply response that is just now showing up. Let's hope this trend lasts until we see a price recovery.



Source: Desjardins

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### Forward Looking Statements

Certain information set forth in this monthly report, including management's expectation of future natural gas prices and the reasons therefore and management's estimate of monthly capital spending, field estimate of production, production decline rates and forecast 2018 netback, contains forward-looking statements. By their nature, forward-looking statements are subject to numerous risks and uncertainties, some of which are beyond Peyto's control, including the impact of general economic conditions, industry conditions, volatility of commodity prices, currency fluctuations, imprecision of reserve estimates, environmental risks, competition from other industry participants, the lack of availability of qualified personnel or management, stock market volatility and ability to access sufficient capital from internal and external sources. Readers are cautioned that the assumptions used in the preparation of such information, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statements. Peyto's actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements and, accordingly, no assurance can be given that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do so, what benefits that Peyto will derive there from. The forward-looking statements contained in this monthly report are made as of the date of this monthly report. Except as required by applicable securities law, we assume no obligation to update publicly or otherwise revise any forward-looking statements or the foregoing risks and assumptions affecting such forward-looking statements, whether as a result of new information, future events or otherwise.

All references are to Canadian dollars unless otherwise indicated. Natural gas liquids and oil volumes are recorded in barrels of oil (bbl) and are converted to a thousand cubic feet equivalent (mcf) using a ratio of six (6) thousand cubic feet to one (1) barrel of oil (bbl). Natural gas volumes recorded in thousand cubic feet (mcf) are converted to barrels of oil equivalent (boe) using the ratio of six (6) thousand cubic feet to one (1) barrel of oil (bbl). Boe may be misleading, particularly if used in isolation. A boe conversion ratio of 6 mcf:1 bbl is based in an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. In addition, given that the value ratio based on the current price of oil as compared with natural gas is significantly different from the energy equivalent of six to one, utilizing a boe conversion ratio of 6 mcf:1 bbl may be misleading as an indication of value.

Certain measures in this monthly report do not have any standardized meaning as prescribed by International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. These measures may not be comparable to similar measures presented by other issuers. Non-IFRS measures are commonly used in the oil and gas industry and by Peyto to provide potential investors with additional information regarding Peyto's liquidity and its ability to generate funds to conduct its business. Non-IFRS measures used herein include netback and funds from operations.

Netbacks are a non-IFRS measure that represents the profit margin associated with the production and sale of petroleum and natural gas. Netbacks are per unit of production measures used to assess Peyto's performance and efficiency. The primary factors that produce Peyto's

strong netbacks and high margins are a low cost structure and the high heat content of its natural gas that results in higher commodity prices. Funds from operations is a non-IFRS measure which represents cash flows from operating activities before changes in non-cash operating working capital and provision for future performance based compensation. Management considers funds from operations and per share calculations of funds from operations to be key measures as they demonstrate Peyto's ability to generate the cash necessary to pay dividends, repay debt and make capital investments. Management believes that by excluding the temporary impact of changes in non-cash operating working capital, funds from operations provides a useful measure of Peyto's ability to generate cash that is not subject to short-term movements in operating working capital. The most directly comparable IFRS measure is cash flows from operating activities.