CANADIAN SUMMER MARKET OUTLOOK WEBINAR
After the call summary

Direct Energy Business an NRG company

Compiled: June 1, 2023

Important highlights at a glance

We hope that you were able to join the Canadian Market Update webinar. The following summary will give you a quick overview of the most important elements of the presentation.

Weather outlook

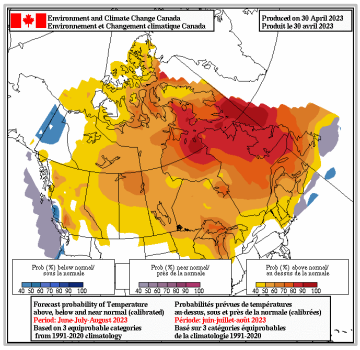
After three full years in La Niña conditions, the ENSO region has seen strong warming trends this spring and has rapidly pushed into neutral-positive territory, with a likelihood of pushing into positive territory and El Niño conditions this summer. In fact, the NOAA ENSO Probabilities show a high chance (>75%) of having El Niño conditions for summer, lingering through the fall and into the winter.

What does this mean for summer weather?

These conditions, which are rather rare for summers, typically favor cooler-than-normal weather leans for parts of the U.S., but broad warmer-than-normal leans for Canada. According to the Oceanic Nino Index (ONI), June-August has been classified as El Niño only eight times since 1982.

Other trends to follow

Since 2000, summers on average have been trending warmer. While not as pronounced or as impactful as the U.S. numbers, the summertime cooling degree day (CDD) trends across major metro areas in Alberta and Ontario have seen a consistent increase since 2000. The latest climate models and official forecast from Environment Canada for summer 2023 show broad warmth and higher anomalies across all of Canada, along with dryer-than-normal conditions.



Regulatory policy

Zeroing in on decarbonization

Federal and provincial policy is pushing toward decarbonization and greening the economy. Federal policy has focused on net zero with a suite of policies to achieve this:

- Carbon tax that increases each year through 2030 (currently $3.327/GJ; moving to $8.70/GJ in 2030).
- Clean electricity regulation: which is set to phase out fossil fuel generation by 2035.
- March budget contains funding instruments to promote clean energy development.

The Alberta election results and what they mean

The UCP came on top but are down 15 seats from 2019, which the NDP gained—the strongest opposition Alberta has had. With the majority, the UCP can still push through legislation without NDP support. Areas of focus for the Alberta government include

- taxpayer reform and protections
- ensuring that federal climate change policies don't negatively impact Albertans

The impact of Enbridge's rate harmonization plan

Enbridge has applied for a rate harmonization plan with Union North and Union South. The plan moves the current 42 rate classes to 16 in 2025, with one rate for each class.

Natural gas fundamentals

Natural gas production/storage L48

The risk premium was high heading into winter on fears of tight storage, early cold weather, and inelastic coal-to-gas switching amidst low coal inventories, railway disruptions, and increased exports to Europe. However:

- We exited winter with 1.83 Tcf in storage, which is 33% higher year over year and 19% higher than the 5-year average. We're entering summer with a 295 Bcf surplus overhang in inventory.
- Production growth was significant, up 4.4 Bcf/day year-over-year in the lower 48.
- Weak demand resulted from moderate winter weather.
- Freeport LNG's return to service (2.3 Bcf/day) was delayed from November to March.

Two levers to balance the well-supplied market: prices falling below coal break-even economics to increase power demand for gas and, if necessary, prices falling below producer break-even costs to shut in production.

Eastern Canada

- While winter 2021/2022 was cooler, on a per degree basis we were very flat Y-o-Y. Summer is expected to be flat Y-o-Y as well.
- Dawn inventories are at 172 Bcf after exiting winter 43% full. End of summer projections are 96% full, up 3% over last year.

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Western Canada

- Wells drilled in Alberta ended 2022 up 19% (+154), while wells drilled in BC were down 27% (-123). Growth here is predominantly from Nova, which reached 14.25 Bcf this April.
- Demand forecasted to come in 150 Mmcf higher summer over summer however, the large growth in renewable penetration is leading to only a 2.2% growth rate in gas demand for 2023 vs. 2022.
- AECO storage is 46% full (vs. 25% last year) — a 52 Bcf surplus to last year — after exiting winter at 35%. End-of-summer is projected to fill and, with average winter '23/'24 production of 13.7 Bcf, we could exit winter 70% full.

Natural gas fundamentals summary

Overall North America looks well-supplied to meet demand for the next year or so — but that shouldn't lead to energy strategy complacency. There is a lot of demand coming down the curve in LNG exports, as early as next year, which will further link North America to higher global pricing. This structural demand growth will need to be met by new production however growing production will come at a higher cost from inflationary pressures and escalating extraction costs.

Power fundamentals

Alberta

AESO prices are currently at an all-time high, which started in Q3 2022 when prices moved up 63% from 2021. One of the reasons for these jumps: Alberta was historically a net importer of power however limited thermal generation buildout led to high prices in MidC and AESO switched to a net exporter. This causes a roughly 1,600 MW impact on AESO reserves. Other factors impacting the market include:

- Carbon costs for generators are incrementally increasing, which impacts real-time market pricing.
- Economic signals from low reserve margins have incented generation buildouts, which are expected to bring 5.5 GW of generation online by the end of 2024.
- Volatility is expected to continue in Alberta due to increased renewable buildout.
- During tight market conditions, generators can influence where hourly prices settle via economic withholding, which causes volatility. New generation and technology types coming into the market are expected to displace more expensive units, which can soften the effectiveness of economic withholding over time but probably not in 2023.

Ontario

The Ontario market is fully contracted with long-term capacity agreements and ample buildout, therefore there is less volatility than Alberta. The market demand typically peaks at about 23 GW and the contracted buildout capacity is 38.4 GW, which also contributes to price stability. Price risk is present however due to the nuclear refurbishment schedule, which takes generators offline for a period of time, and retirements that total 3GW.

Ontario is still in the process of conducting a "Market Renewal," which began in 2016 and is now scheduled for May 2025. The key changes include moving to a nodal market (as opposed to pool price), using a day-ahead market price, adding more tools for real-time grid reliability, and enhancing the capacity market.

Strategy considerations

We're currently seeing a dramatic shift in the shape of the NYMEX curve, as we switched from a backwardated to a contango market. Winter, or lack thereof, has loosened what were extremely tight market conditions going into winter. Current looseness is expected to continue in the near-term, with significant LNG buildout on the horizon being viewed as key to rebalancing the natural gas market.

Volatility persists in natural gas markets. Using the NYMEX futures price, the risk/reward is 2.0 for the remainder of 2023 and 2.6 in 2024. This means that for every dollar of savings potential that you take away by hedging, you've protected yourself from a $2 potential negative impact in a market upswing for 2023.

Given what we currently know about the markets...

- Despite the current bearish natural gas trend, volatility continues.
- Renewables, which are intermittent, are growing, which impacts power supply/demand fundamentals.
- Baseload cost pressures are increasing due to the carbon tax, inflation, and the contango gas curve.

Some key factors to consider for your strategy:

- Determine your tolerance for risk and balance your need for budget certainty vs. your potential for savings.
- Look beyond fixed price only.
- Consult with your Account Executive or Energy Strategist on price/term analyses, changes to curve shape, and sweet spots.
- Have a strategy: both a plan A and plan B.

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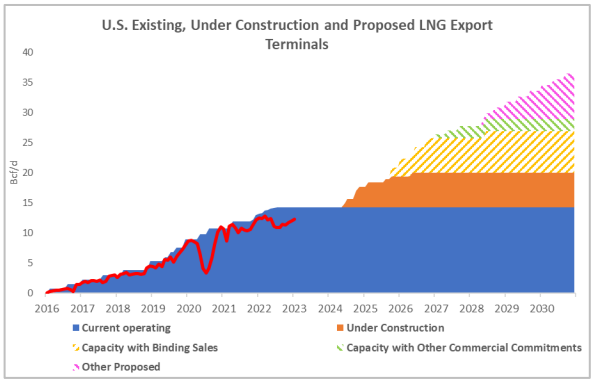
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Q&A

Q: LNG Canada is supposed to be up and running by fall of 2024 or beginning of 2025. Are we seeing any price impact to the 2024/2025 strips now? Any trading concerns with the LNG Kitimat arrival?

A: LNG Canada is expected to come online in 2025 — but there could be some confusion, as the coastal gas link pipeline that will feed this facility is over 80% complete already — well in advance of the terminal. This facility is responsible for some of the contango we see in the AECO market right now: Calendar '24 is about $3, and Cal '25 is $3.78. With all the LNG demand growth in the lower 48 expected to come online during that same timeframe, the North American market is pricing the back end of the curve up.



In terms of trading concerns, LNG Canada is a lot less interconnected with the rest of the market than the gulf facilities are. Where we could see heightened volatility is during disruption events, like facility maintenance, which will try to get as many molecules as it can on the Nova system, or freeze-offs in the winter, which will do the opposite. It looks like there is still limited interconnectivity with the Nova system, as the investors in this project are predominately supplying new field gas and connecting to the Coastal GasLink (CGL).

For phase 1, TCEnergy's latest corporate presentation showed about 350 – 500 Mmcf of capacity at their Willow Valley interconnect. So, it will present some volatility, but not to the extent that LNG is going to try to take 2 Bcf/day away from the Nova system on a random day.

Q: How will the move to ENSO-neutral conditions affect summer weather?

A: As of the most recent updated observations, we've already moved into a weak El Niño. Typically, when we transition from ENSO phase to ENSO phase, there is an atmospheric lag response to the conditions so, in this case, one might see a pattern that is more like what you would expect in a La Niña rather than an El Niño — at least to start the summer. However, for this summer, with the fast move into El Niño, in addition to what we've observed during May, we are already seeing a pattern that is El Niño-like: dry and warm. A refresher on terminology:

El Niño Southern Oscillation (ENSO): is a measure of sea surface water temperatures (SSTs) in the equatorial Pacific. This is a key driver of U.S. weather patterns.

El Niño conditions occur when ENSO is in a positive phase (i.e. sea surface temperatures are above normal) and east winds blow weaker than normal. These conditions typically favor a warm, dry north and a cooler/wet south in the U.S. and fewer Atlantic hurricanes.

La Niña conditions occur when SSTs are in a negative phase and the east winds are stronger. These conditions favor a warm and dry summer across the U.S. with more Atlantic hurricanes.

Q: Fix or float? How do you best manage operating expenses?

A: One of the best ways to manage your energy strategy is to manage your energy strategy — rather than fixing it and forgetting about it. Despite a bearish natural gas market right now, market volatility continues, and varying energy market conditions warrant a varied strategy that combines both fixed and floating elements. This can help balance the need for some level of budget certainty against the risk of volatility and the desire to save over the term of your contract.

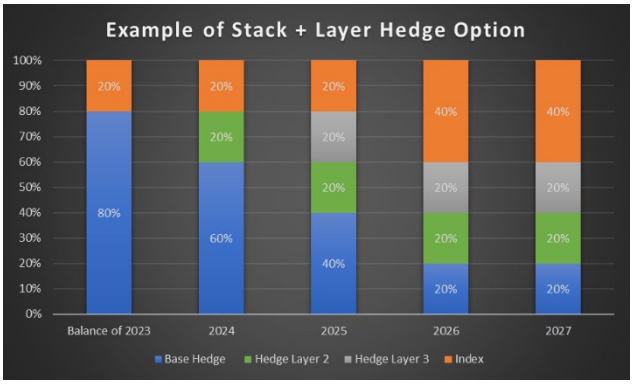
A managed strategy starts with assessing your risk tolerance and energy budget objectives so that your sales representative or energy manager can work with you to develop a strategy that supports your specific targets before you sign or renew your contract. A sample strategy we discussed during the webinar illustrates one purchasing mix that takes into consideration a business' goals and price analyses across a 5-year term.

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<u>80-60-40-20-20 baseload illustration</u>

Base Layer: Transacted at time of contract sign to manage short-term risk.

Layer 2: Required layer for 2024 with set target and time-stop

Layer 3: Required layer for 2025 with set target and time-stop

Index: Potential optional layer with more aggressive target; index participation if not reached

Example strategy only – not a recommendation

Q: This winter we saw the Alberta government step in to put a 13.5 cent/kWh price cap on the regulated rate for three months. How does this price cap work?

A: This rate cap is a "deferral" program, which means that the cost of the program will be recovered from regulated customers over the course of the next year-and-a-half. The recovery equates to approximately 2.5 cents/kWh.

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