EXPENSE MANAGEMENT

ENERGY UPDATE

Published May 2022

THE MOST UP TO DATE ENERGY INFORMATION TO HELP WITH YOUR BUSINESS DECISIONS.

HEADLINES:

- ✓ **Electricity prices remain high in 2021 and into 2022 but have stabilized the last 2 quarters. Average floating price were $0.102/kWh for calendar 2021 and $0.091/kWh for Q1 2022.**
- ✓ **Forward electricity prices remain high for 2022 and 2023 but look to soften in years 2024 and beyond.**
- ✓ **Natural gas prices have increased significantly through late 2021 and into 2022. Average floating prices were $3.43/GJ for calendar 2021 and $4.49/GJ for Q1 2022. More price uncertainty to come.**
- ✓ **Carbon tax increased to $2.63/GJ effective April 1/22.**
- ✓ **Alberta government announces electricity rebate and natural gas price cap.**

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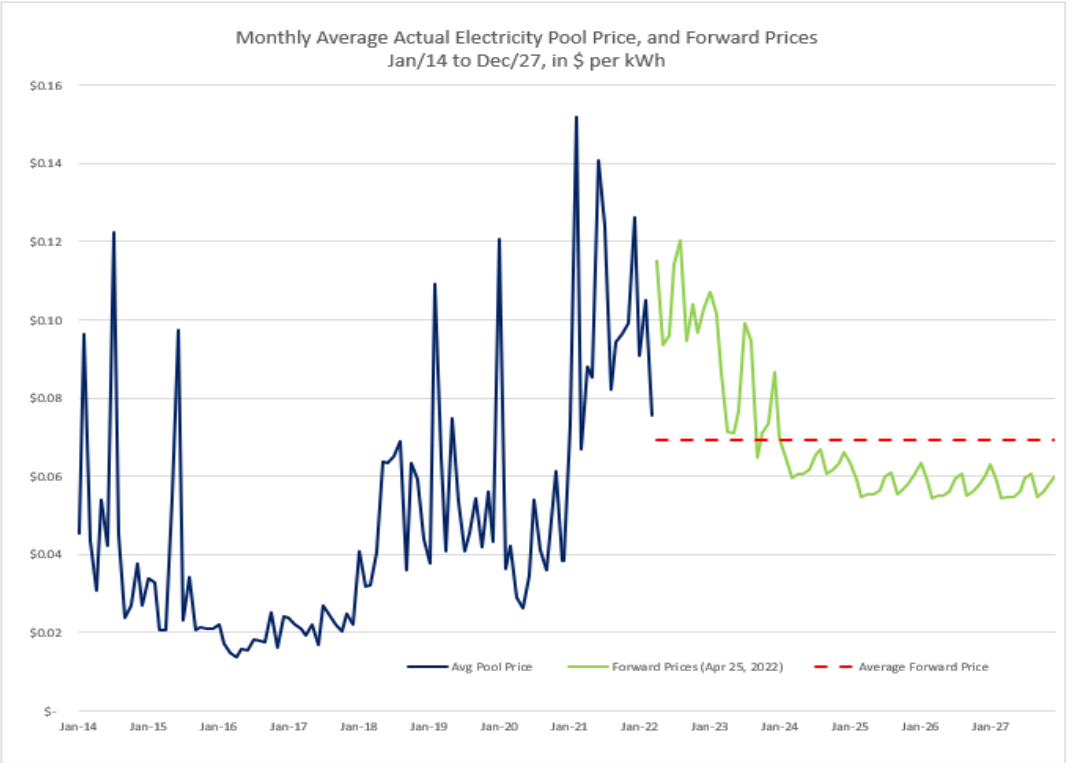

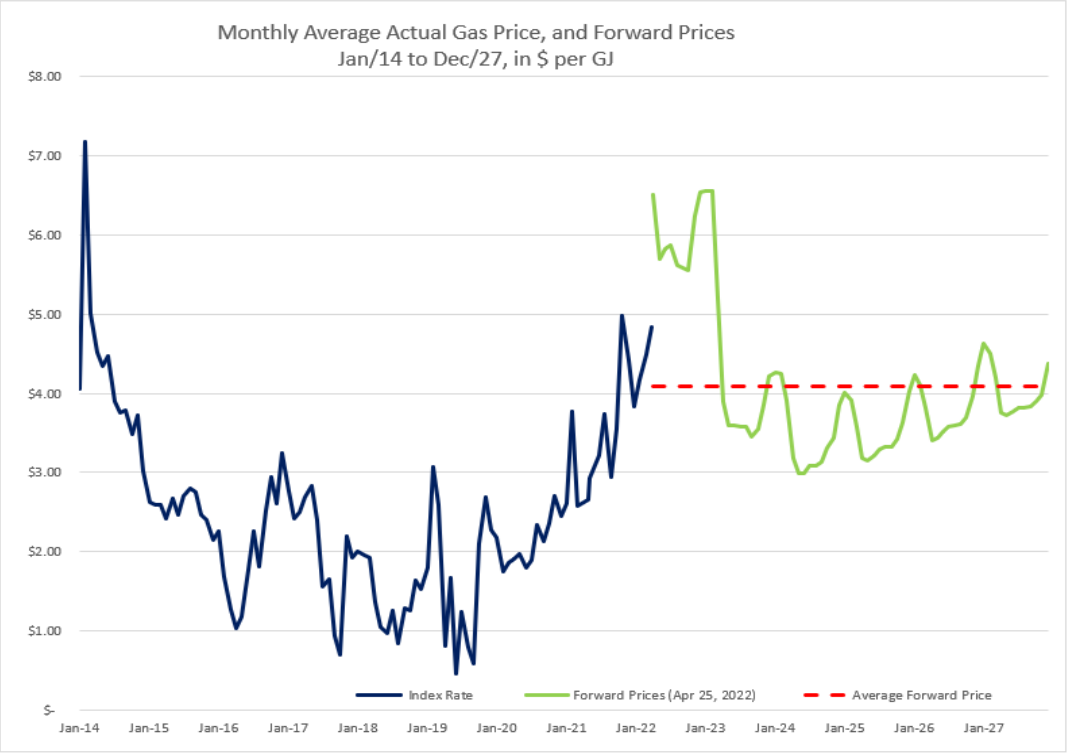

COMMENTARY

General Overview

Our September 2021 report did an in-depth review of the reasons for the large increases in both electricity and natural gas prices experienced through 2021.

In recent years, a large focus of these quarterly reports has been on electricity markets and resulting pricing/strategy considerations. For the first time ever, this report is going to lead off with natural gas commentary as it currently is the more volatile/challenging market to navigate.

Natural Gas

Current Price Environment:

We highlighted in our last report a number of reasons for the increasing trend in gas prices through 2020 and 2021, including 1) lower drilling levels for both oil and gas impacting supply 2) extreme weather events (Texas cold snap in February 2021 and the Alberta/North American "heat dome" in June/July 2021) 3) lower gas storage levels 4) increasing amounts of natural gas-fired electricity generation, and 5) strong demand for liquefied natural gas (LNG) exports out of North America to Asian, Europe and even South American markets.

Low gas storage levels leading into the winter resulted in higher natural gas prices in Q4 2021, averaging $4.41/GJ for October to December. A somewhat warmer early winter than originally expected helped mitigate what otherwise could have been much higher prices for that quarter. With the higher prices in Q4, calendar 2021 average price ended up at $3.43/GJ. This was the highest calendar year gas price since 2014.

These same general factors continued to impact the market into 2022, with a significant new influence emerging. The Russian invasion of Ukraine in February 2022 has delivered a significant shock to global energy markets and has generally sent all energy prices sky-rocketing with significant daily and weekly volatility. The North American gas market, including Alberta, has not been immune to this as many countries, particularly in Europe, are seeking alternative energy supplies to reduce dependence on Russian oil and gas.

Consequently, Q1 2022 gas prices averaged $4.49/GJ. April 2022 gas prices settled at $6.61/GJ, in what is typically a non-noteworthy "shoulder season" month for gas. This price was the highest single monthly average price in over eight years with the last higher month being February 2014.

Forward prices:

Forward prices have also significantly jumped, as evident from the price graph on page 1 above. Gas forwards are currently in the $6 to $7/GJ range for winter 2022/2023 and in the $4/GJ range for the 2023 to 2027 periods. For winter 2022/2023, forwards have been varying between $5 to $7/GJ in recent weeks.

Gas storage levels are significantly below normal at this time of year which will impact price projections. The ongoing Russia/Ukraine situation, and the degree to which gas storage levels may or may not get built up during the summer/early fall months, will be the key variables driving gas prices for next winter.

8760 Recommendations:

As in previous reports, the two primary strategies for managing natural gas costs are (1) to float the market and accept an average monthly index price; or (2) to enter fixed price contracts for part/all of your consumption for a variety of different terms. The ultimate strategy decision comes down to your organization's risk tolerance, need for budget certainty and/or its financial capacity to handle large changes in total costs and large month-over-month variations.

At the present time, we suggest that a fully floating natural gas strategy is no longer a prudent strategy in the near-term for most customers. There were significant price risks leading into winter 2021/22, much of which materialized, and there is an increased level of the same risks leading into winter 2022/23.

Furthermore, we also suggest a fully fixed price natural gas strategy is also not prudent at this time. There is ample evidence that the market fundamentals for natural gas are shifting upwards, with natural gas prices likely settling into the $4.00/GJ range and becoming a "new normal" for the near to medium term. We do not see prices returning to the $2.00-$3.00/GJ range anytime soon.

While we do anticipate prices increasing over the near to medium term, reasonable argument can be made that natural gas prices at this time "may" have a degree of undue fear and volatility premiums built into them, and there is a potential risk of "buying too high".

We suggest the best strategy currently is to take a blended approach and use a block product whereby a portion of your consumption is at a fixed price while the remaining volumes float at the market price. Typical hedges are a 50% block with 50% floating, or a more conservative option would be 75% fixed with 25% floating. There are other variations of this strategy, in percentage hedges or timing, that could be pursued for more complicated customers that consume larger volumes of gas. The beauty of a blended approach is if prices continue to increase, you win on the portion of your consumption that is already fixed ("averaging up"), and if prices decrease you win on the portion of your volume that is floating with the market ("averaging down"). With a partial block strategy, additional volumes can be contracted at a fixed price at a later time.

We suggest that at least half of your exposure for this coming winter be eliminated by contracting for a fixed price. Contracting some volumes at the same time for the lower priced years 2024-2027, can help average the high 2022 and 2023 prices down.

If you already have full/partial hedge gas arrangements in place out to 2026 or 2027, given the current market run-up we suggest at this time there are no material drivers to consider extending gas for longer-terms.

Final Gas Recommendations:

BUY/CAUTION partially fixed for shorter-term contracts (2022-2023)

BUY partially fixed for medium terms (2022-2026/27)

CAUTION for longer-term contracts (2027-2028)

Electricity

Current Price Environment:

We highlighted in our last report several reasons for increasing electricity prices in 2021, including 1) an improving economy as we emerge from COVID and the oil price crash 2) more aggressive dispatch and pricing strategies for the former Power Purchase Arrangement units effective Jan.1, 2021 3) the impacts of extreme weather events (extended cold snap in February 2021, heat dome in June/July 2021) 4) limited contributions from renewable resources during these events, and 5) the general effect of increasing natural gas prices impacting the cost of natural gas-fired generation 6) retirements and re-powering efforts on the coal-fired generation fleet have also created tighter supply conditions which is also contributing to increased prices.

The above factors continued through Q4 of 2021, with a cold snap in very late December creating a final surge in prices. Electricity prices averaged $0.107/kWh for Q4 2021, and the full year price for 2021 ended up at $0.102/kWh. This was the highest calendar year price since electricity deregulation began in 2001.

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These same factors have also continued through Q1 of 2022, with some modest price reductions generally resulting from less extreme winter cold snaps compared to the last few years.

Electricity prices averaged $0.091/kWh for Q1 2022. April 2022 prices settled at $0.117/kWh, making April 2022 YTD average prices equal to $0.097/kWh.

Forward Prices:

Forward electricity prices have been relatively stable for the last six months. As evident from page 1 graph above, forward prices are in the $0.10 to $0.12/kWh range for the balance of 2022, in the $0.08 to $0.10/kWh range for 2023, and then prices start to stabilize in the $0.06/kWh range for 2024 and beyond. Large additions in generation supply from gas-fired units and wind/solar renewable projects are expected to come on-line from late 2022 into earlier 2024, providing some additional supply cushion which should help moderate prices.

8760 Recommendations:

As in previous reports, and similar to gas, the two primary strategies for managing electricity costs are (1) to float the market and accept an average monthly index price; or (2) to enter into fixed price contracts for a variety of different terms. For electricity, fixed price strategies generally involve hedging all of your consumption with an allowance for variation due to weather (called a "100% load following" product). Partial hedging of electricity using a fixed block strategy generally only makes sense in specialized situations.

With the recent high price levels and significant volatility in hourly prices, we suggest a floating price is generally not appropriate for the majority of customers.

For most customers, we generally recommend contracting a fixed price for electricity. Forward prices are currently very high for 2022 and 2023 but contracting a fixed price at the same time for the lower-priced years 2024 to 2027 does average down the overall price for the entire term. It depends on products and the load profile, and the exact term, but generally contracting on a fixed price basis with a start date in 2022/2023 and end date in 2026/2027, leads to a retail electricity price in the lower-to-mid $0.07/kWh range. Terms with a start date in 2024/2025 and end dates in 2026/2027/2028 can end up with a retail price into the $0.065/kWh range. While this is high relative to price levels experienced in the last several years, as noted in our last report, this is still reasonable value when looked at from a long-term historical perspective and also considering the all-in cost of new natural gas generating capacity.

A final observation is that forward electricity prices have remained relatively stable the last six months despite the rapid and large increase in natural gas prices during that same timeframe, as discussed above. Movement in electricity and natural gas prices in Alberta do not always correlate perfectly, but there is some degree of correlation which should strengthen over time with the increasing amount of natural-gas fired generation supply in Alberta. In our view, the lack of electricity forward price increases despite increases in the price of gas adds further credence that current forward electricity prices in the 2024 to 2027 period represent good value. We believe there is risk that 2024 to 2027 prices will drift upwards over the next few quarters. Customers should act now if they want to take advantage of these longer-term prices.

Final Recommendations:

BUY/CAUTION for shorter-term terms (2022-2023)

BUY fixed for medium to longer-terms (2022-2027)

STRONG BUY for longer-terms (2024-2027)

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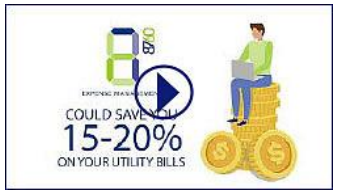

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Carbon Tax

The Federal Carbon Tax increased to $2.63/GJ effective April 1, 2022 (based on an underlying price of $50/tonne of carbon dioxide emissions or "CO2e"). It will increase to $3.42/GJ effective April 1, 2023 (based on $65/tonne of CO2e), with further annual increases in the CO2e price of $15/tonne until it reaches $170/tonne by 2030.

If/when the federal carbon tax reaches $170/tonne, and assuming no Alberta replacement plan overrides it, the federal carbon tax on natural gas would be approximately a shocking $9/GJ.

The federal government published its 2030 Emissions Reduction Plan in March 2022. In that plan, it did indicate the carbon price "…will start rising by $15/year until it reaches $170 per tonne in 2030" [emphasis added]. A 2020 version of a similar plan indicated "…[t]he Government is proposing to increase the carbon price by $15 per year…"[emphasis added]. The subtle language difference appears to be increasing the likelihood of the higher carbon price levels being reached.

Whether the carbon price ever reaches these levels is fundamentally a political call based on which federal government will be in power. We believe the world-wide reality is that a carbon price will be here to stay in one form or another, no matter the party in power. In our view the only question is what level that carbon price will get to and by when.

Government Response to Rising Utility Costs

The Federal government has been silent on the issue of providing any financial relief to rising energy prices. Its general position is that carbon tax rebates help offset the incremental costs caused by the carbon tax.

The provincial government has announced some relief measures, due to the financial windfalls it is now receiving from recent high oil and natural gas prices and one could argue there are political motivations underlying this as well given the pending election in 2023. Two main initiatives have been announced to date, which only apply to residential and small business customers (those that consume less than 250,000 kWh and 2,500 GJ per year):

1. An electricity rebate of $50/month will be provided to residential and small business customers, to help offset high electricity costs for January 2022 to March 2022.
2. For residential and small business customers, a natural gas price cap of $6.50/GJ will be in place for the period October 2022 to March 2023.

There has been some recent speculation that the natural gas price cap may commence applying earlier than October, due to the large run-up in prices this spring. Implementation details are scarce, but our current understanding is the electricity rebates will be credited sometime in late Q2 or into Q3.

For commercial customers, the best solution to avoid extreme volatility in utilities costs is to avoid floating rates and to consider hedging some/all of your consumption using the strategies suggested above.

Please contact your 8760 account executive at 1-888-988-8760 if you would like to discuss your specific situation.

We are here to help.

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Pool prices attained from AESO system reports.

Forward prices provided by NE2 Group