Item for Info 0406

SUMMARY

The Alberta power market's third quarter 2019 was softer than Q3 2018, with the average power price settling at $46.95/MWh. This represents a 14 per cent decrease over the settled price of $54.46/MWh for Q3 2018.

The summer months of July through September usually bring hotter weather, which has the double effect of increased demand due to air conditioning, as well as reducing output of the large natural gas fleet in Alberta. High temperatures are also synonymous with low wind generation. The net result is that hot weather brings higher power prices. Summer 2019 temperatures were slightly below average resulting in lower pricing.

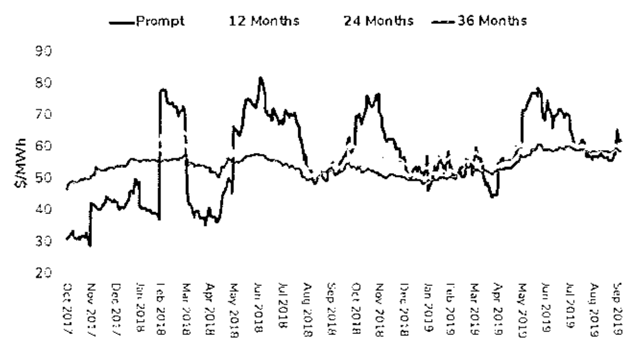
Alberta natural gas prices for Q3 2019 were down year-over-year averaging $0.85/GJ for the quarter. Daily gas prices settled as low as negative -$0.18/GJ and as high as $2.62/GJ. The average gas price was $0.32 lower than Q3 2018. The dramatic drop was largely due to transport issues within Nova Gas Transmission (NGTL).

Looking ahead, the market forwards for power are in the $62/MWh range for November-December 2019 and $61/MWh range for Q1 of 2020. The power forwards for these periods have increased slightly over the last few months.

Market forwards for natural gas are in the $2.50/GJ range for November-December 2019 and $2.30/GJ range for Q1 2020. This is a marked increase from Q3 2019 due to the implementation of the Temporary Service Protocol (TSP) on NGTL. This policy change created additional demand, as it allowed for increased access to natural gas storage deliveries.

Figure 1: 7x24 Forward Curve

Source: ENMAX



Average electricity demand for Q3 2019 was down year-over-year to 9,363 MW, compared to 9,499 MW in Q3 2018 (a 1.4 per cent drop). Alberta peak demand for the quarter occurred in August at 10,822 MW, a 3.1 per cent drop from Q3 2018 August peak demand of 11,169 MW. As noted, cooler temperatures were a factor in the decreased demand.

On July 24, 2019, The Alberta government announced its decision to scrap the Capacity Market and continue on with the Energy Only Market. This had the immediate effect of increasing forward prices an average of $2.50/MWh annually starting in 2022. The cancellation of the Renewable Electricity Program (REP) auctions has also supported forward prices. Carbon pricing will continue to prop up power prices as 2020 looks to be $30/tonne under both Alberta's Technology Innovation and Emissions Reduction Implementation Act (TIER) program as well as the federal government's backstop carbon pricing mechanism.

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REVIEW OF Q3 2019

Q3 2019 power prices settled at

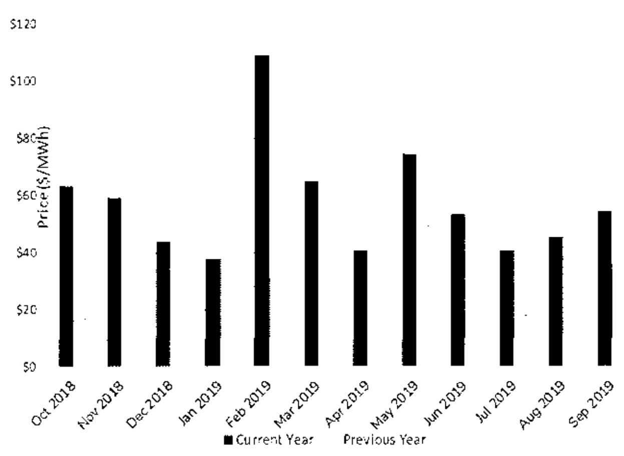
Hot summer temperatures failed to materialize in Q3 of 2019, causing both lower demand and price compared to Q3 2018. Short-term price spikes that did occur were supply related, the result of coal outages and low wind. Similar conditions in the Pacific Northwest U.S. Mid-Columbia (Mid-C) as well as a 10-day outage on the BC intertie kept both imports and exports to a minimum.

The average power price for Q3 2019 settled at $46.95 /MWh which is 14 per cent softer than the settled price of $54.46/MWh for Q3 2018. Looking at Figure 2 and comparing the monthly settled prices, we see that both July and August of 2019 settled below 2018 by an average of approximately $20/MWh. September 2019 saw prices settle slightly more than $18 stronger than September 2018.

Hourly prices for the quarter peaked at $856.17/MWh on September 16, 2019, Hour Ending (HE) 17, helping that day reach $188.33/MWh, the highest daily settle in the quarter. Additionally in Q3 2019, 340 hours (just over 15 per cent) settled above $50/MWh compared to Q3 2018, which had 270 hours where prices were above $50/MWh.

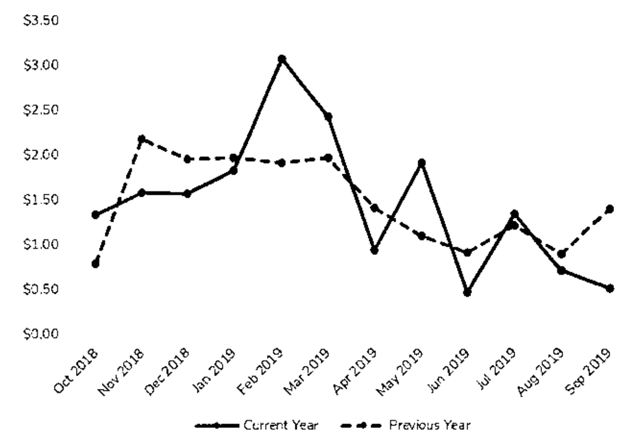
While Q3 2019 had more hours above $50/MWh than Q3 2018, the average price during these hours in Q3 2019 ($126.53/MWh) was significantly less than in Q3 2018 ($203.29/MWh).

Figure 2: Power Prices Current Year vs. Previous Year
Sources: ENMAX, AESO



Alberta natural gas prices for Q3 2019 were down year-over-year averaging $0.85/GJ for the quarter. Daily natural gas prices settled as low as -$0.18/GJ and as high as $2.62/GJ. The average gas price was $0.32 lower than Q3 2018. Overall, lower seasonal demand combined with over-supply and pipeline capacity constraints resulted in weak natural gas prices in both spot markets and throughout the forward curve.

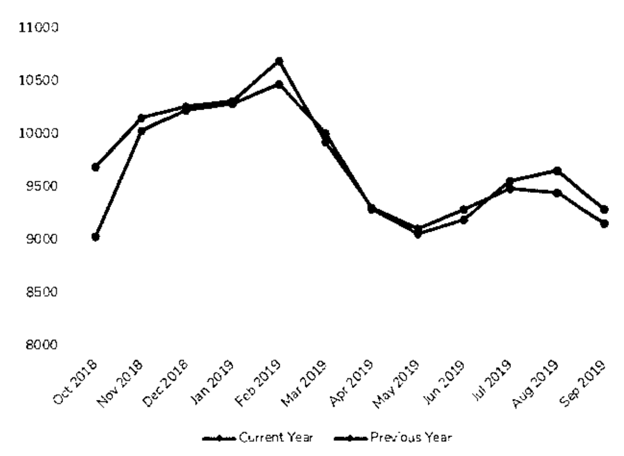
Figure 3: Gas Prices Current Year vs. Previous Year
Sources ENMAX, AESO



Average demand for Q3 2019 was down year-over-year averaging 9,363 MW, compared to 9,649 MW in Q3 2018 or a 1.4 per cent drop over the previous year. Alberta peak demand for the quarter occurred in August with a peak demand of 10,822 MW, down from Q3 2018's August peak of 11,169 MW. Figure 5 shows that demand over the last eight months is close to the demand for the same period last year.

Following on a busy Q2 2019, several government and industry announcements that were made in Q3 2019 will shape the provincial power grid over the long term.

Figure 4: Demand Current Year vs. Previous Year
Sources: ENMAX, AESO



Perhaps the most noteworthy event was the Alberta government's July 24, 2019 announcement to cancel the Capacity Market and maintain an energy-only market, citing simplicity, a proven track record of the energy-only market and a desire for a stable and established market to restore investor confidence.

The Alberta government has also requested AESO to recommend any changes that may be required in the energy-only market, in order to ensure adequate investment and to mitigate concerns of the exercise of market power. Potential outcomes could be changes to the price floor (currently $0.00/MWh) and the price ceiling (currently $1000/MWh), as well as potential shortage pricing schemes. Market power mitigation recommendations are expected to be announced by the end of November 2019.

The Alberta government has also tabled Bill 19, the Technology Innovation and Emissions Reduction Implementation Act, providing additional details on carbon pricing and intensity measurements. The existing Carbon Competitiveness Incentive Regulation (CCIR) will continue to apply to large emitters until January 2020 when it will be replaced by TIER.

TIER is a carbon pricing mechanism that will manage Alberta's large industries which includes electricity generation. Carbon cost for 2020 will match the federal program's carbon cost of $30 per tonne. Under TIER, all existing generating units, including coal, will be measured against a good-as-best gas unit's intensity, similar to CCIR.

Whether or not TIER will meet the federal government's equivalency test remains to be seen. If it does not, Alberta may backstop to the federal Output-Based Pricing System (OBPS). TIER carbon prices do not increase annually, while the OBPS pricing increases to $50 per tonne by 2022. Alberta may be forced to follow federal pricing, either through equivalency negotiations or via an OBPS backstop.

There have been several other industry announcements that will have an effect on the future generation landscape in Alberta.

In late August, Greengate Power Corporation announced it intends to go ahead with its 400MW Travers Solar project, the largest of its type in Canada. Construction is expected to begin in 2020.

Suncor announced in September that it intends to replace the company's three petroleum coke-fired boilers at its base plant with two cogeneration units. In addition to generating up to 800MW, Suncor expects cogeneration will reduce greenhouse gas emissions associated with steam production at the base plant by approximately 25 per cent.

In October Berkshire Hathaway Energy Canada announced the green-lighting of its 118MW Rattlesnake Ridge Wind project near Medicine Hat. The project is expected to be completed by the end of 2021.

Q3 2019 also saw several project cancellations, including ATCO Power's 400MW Heartland Generating Station, NextEra's 201MW Heritage Wind Farm and BowArk's natural gas fired 94MW Queenstown Power Plant peaking unit.

On the resource front, the Alberta government announced that production limits will increase by 10,000 barrels per day in November and December. Compared to the October limit of 3.79 million barrels per day, the overall production limit will be 3.80 million barrels per day in November, followed by 3.81 million barrels per day in December. While small, the increases will help to sustain resource-based industrial electricity demand.

In summary, cooler than normal temperatures in Q3 2019 prevented demand from reaching typical peaks associated with summer air conditioning demand. Oversupply, low seasonal demand and pipeline maintenance resulted in extremely low natural gas prices compared to Q3 2018. The combination of lower demand and low gas prices resulted in lower than expected power prices in Q3 2019.

OUTLOOK

Moving towards the end of 2019 and the beginning of 2020, the market forwards for power are in the $60/MWh range for the balance of 2019 and $60/MWh range for Q1 2020. The power forwards for these periods have been somewhat volatile over the last few months.

Market Forwards ($/MWh)

Q3 2019: | Q4 2019:

The low gas prices we saw in 2019 are not likely to return. The implementation of the Temporary Service Protocol (TSP) has changed how curtailments on the system are managed; prioritizing demand service while degrading supply in order to maintain appropriate pressures and flows on the system during maintenance periods.

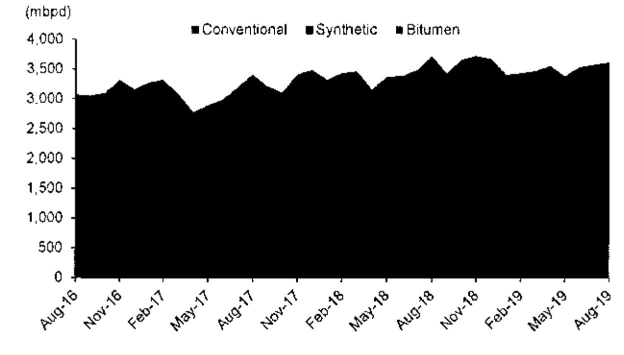
This policy change allowed for increased access to natural gas storage deliveries, and with Alberta's total storage inventories sitting at historically low levels, will lead to significant price volatility going into the winter months. The cash and forward markets quickly reacted to the policy change, with cash prices going from below $1.00/GJ to trading over $2.75/GJ. This change in protocol then rippled through the forward prices. The outlook is for continued stable pricing given the TSP is going to be in place for the summer 2020 time period (April-October), and will continue to drive strong prices in the market. This higher demand, low storage, lower than expected supply and cold winter expectations will put more upward pressure on gas prices as the year ends and winter plays out.

Current forward prices are in the $2.45/GJ range for Balance of Year 2019 and $2.25/GJ range for Q1 2020. One factor to watch for is extreme winter weather and the potential for upward pressure on gas prices.

Economically, Alberta struggles to maintain momentum. Drilling activity, while up slightly from Q2 2019, remains weak and is well below 2018 rig count and utilization levels.

Figure 5: Alberta Oil Production in million barrels per day

Sources: Finance Alberta



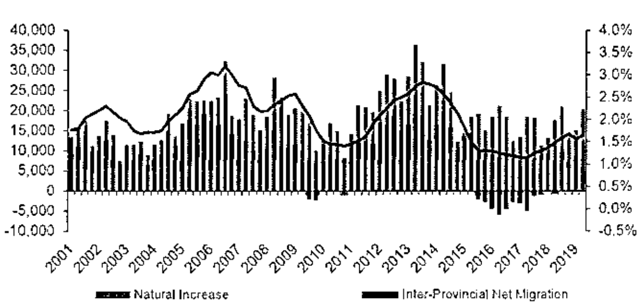
Conventional activity continues to be affected by limited market access. Oil production growth has been slowly recovering as the Alberta government has been gradually easing the government-mandated production curtailment quotas. Oil prices have held steady as production limits have eased, resulting in a small uptick in overall production levels.

Manufacturing shipments remained flat while Alberta goods exports dropped over the period. Both indicators are down from 2018. The labour market is holding steady, with modest gains over the summer in the services sector. The unemployment rate also held steady at 6.6 per cent. The participation rate dropped 0.5 percentage points to 71 per cent.

Alberta's population grew in July 2019 to 4,371,316, a 1.6 per cent increase year over year. The increase was mostly a result of net international migration.

Figure 6: Alberta Annual Population Growth and Migration

Sources: Statistics Canada, Finance Alberta



Despite the subdued electricity demand of Q3 2019, modest growth in demand is expected in 2020 and onwards. Alberta's economy, while not in full recovery mode is holding steady, and population continues to grow. New sources of demand such as electric vehicle adoption, warehouse agriculture and cryptocurrency mining will help to offset slower traditional growth.

The cancellation of the Capacity Market has brought with it a general sense of stability. Since the decision in July, several generation projects have been announced, from new wind and solar to coal-to-gas re-firing and repowering. While the rash of project announcements should alleviate any reliability concerns over the short term, the Alberta government has requested AESO to recommend what changes, if needed, are required to the Energy Only market to ensure sufficient incentive for future generation investment. This could include raising the wholesale hourly price cap (currently set at $1000/MWh), lowering the price floor (currently set at $0.00/MWh), and implementing an administrative shortage pricing scheme. A status update from AESO is due to the government by February 1, 2020.

The Alberta government is also concerned about the exercise of market power in both the Energy Only and ancillary services markets. The issue becomes increasingly critical as the Power Purchase Arrangements (PPAs) for several coal plants are set to expire at the end of 2020. AESO is currently consulting with stakeholders on this subject and will report back to Alberta Energy by the end of November 2019.

Despite clarification on Alberta's Carbon policy, there is still uncertainty around which carbon tax regime will ultimately apply to Alberta's electricity market in 2020: Alberta's TIER program, or the Federal OBPS program. The Alberta Government has released additional details surrounding TIER with pricing set at $30 per tonne, the same price as the Federal program. The emission intensity measures for the electricity sector, however, are more punitive under TIER for coal-fired units. While the carbon price will likely be $30 per tonne, expect to see some additional posturing and negotiations from Alberta prior to year end.

As we head into winter, expect electricity prices to increase slightly from Q3 2019 due to cooler seasonal temperatures. We can also expect far fewer market structure changes, as the majority of decisions and announcements are behind us. The biggest unknown to be resolved is around carbon pricing and intensity for 2020 and beyond.

Contact your ENMAX Account Manager for alternatives to manage the expectation of increasing electricity prices.