

**ENERGY PRICES AND MARKETS**

**Natural Gas**

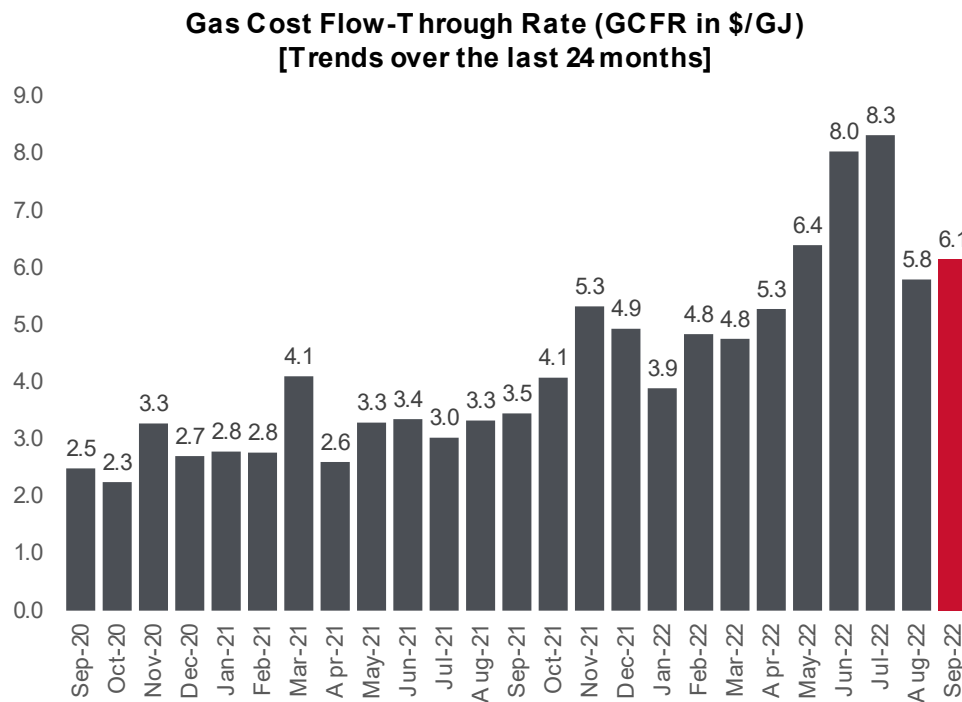
In Alberta, our regulated rate for natural gas is called the Gas Cost Flow-Through Rate. It fluctuates each month due to several factors. Notable ones include supply and demand and weather changes.

The 2022 September Gas Cost Flow-Through Rate was \$6.15 per gigajoule. Prices remain high this month (Figure 1). As a result, it puts upward pressure on energy costs for The City of Calgary and the Calgary community.

Natural gas prices in Alberta have climbed as geopolitical issues in Europe have helped fuel commodity inflation across the globe. Closer to home, below-average inventories and high liquefied natural gas export demand have also placed upward pressure on natural gas prices.

The market remains volatile. However, the generally accepted natural gas industry price forecast has prices trending down as the space heating season begins.

*Figure 1: 24-Month Price Trend for the Monthly Gas Cost Flow-Through Rate(or GCFR)*



**Electricity**

A safety net ensures a baseline price for businesses and residents to fall back on in the case of high retail electricity rates or other unanticipated problems. Any business or residence that uses less than 250,000 kilowatt-hours per year can choose to pay the regulated rate.<sup>1</sup> This regulated

<sup>1</sup> The average home in Alberta uses about 7,200 kWh per year. See <https://gas.atco.com/en-ca/products-services-rates/rates-billing-energy-savings-tips/energy-101.html>

electricity rate is the Regulated Rate Option. The Alberta Utilities Commission determines the Regulated Rate Option rate, which is highly influenced by the spot price for electricity and its volatility. The ENMAX regulated rate option price for 2022 September was 15.70 cents per kilowatt-hour (Figure 2).

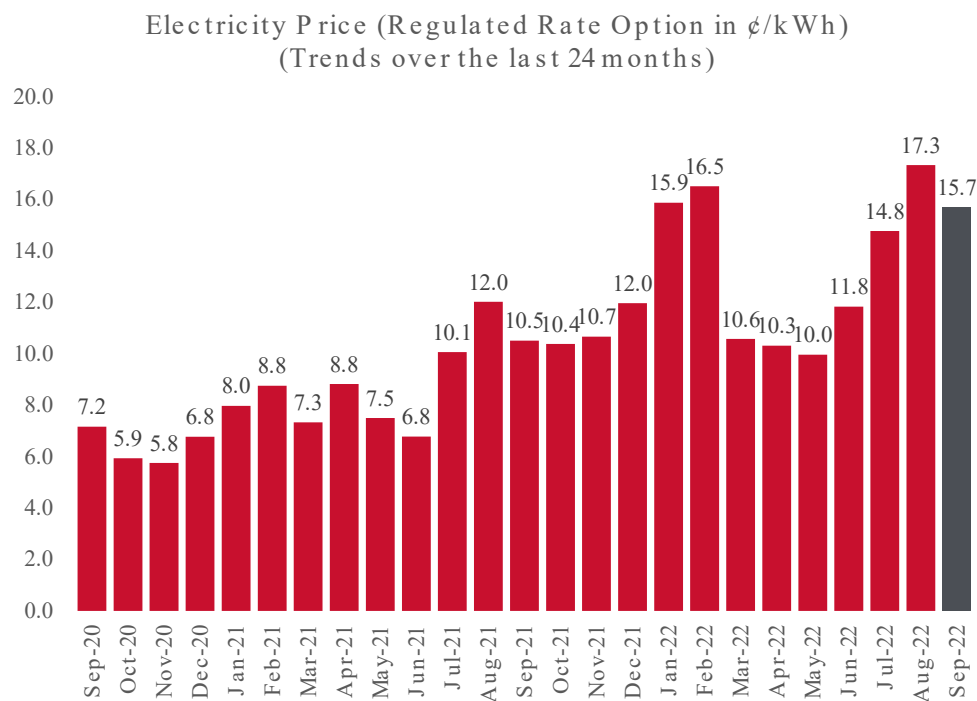
The 2022 August rate was the highest since the provincial government restructured the regulated rate option in 2006. This exceptionally high regulated rate option price reflected, in part, abnormal strength and volatility in Alberta wholesale electricity prices from 2021 December to 2022 September.

The higher electricity prices in Alberta from 2021 December to 2022 September were driven by:

- Increased demand;
- Additional baseload generator outages;
- Unseasonable cold weather in Alberta in 2021 December;
- A more aggressive price for carbon;
- Higher generator offer prices; and
- Firmer natural gas prices.

The monthly average wholesale price in 2022 August was 23 cents per kilowatt-hour. The difference between what customers pay from the wholesale price is due to the specific monthly approvals from the Alberta Utilities Commission. Each retailer submits detailed Regulated Rate Option monthly price applications, which are reviewed for their correlation to the wholesale market. The generally accepted power industry price forecast has prices remaining high for the rest of the year, averaging 14.62 cents per kilowatt-hour.

Figure 2: 24-Month Price Trend for the Regulated Rate Option (or RRO)



**UTILITIES AND INDUSTRY DEVELOPMENTS**

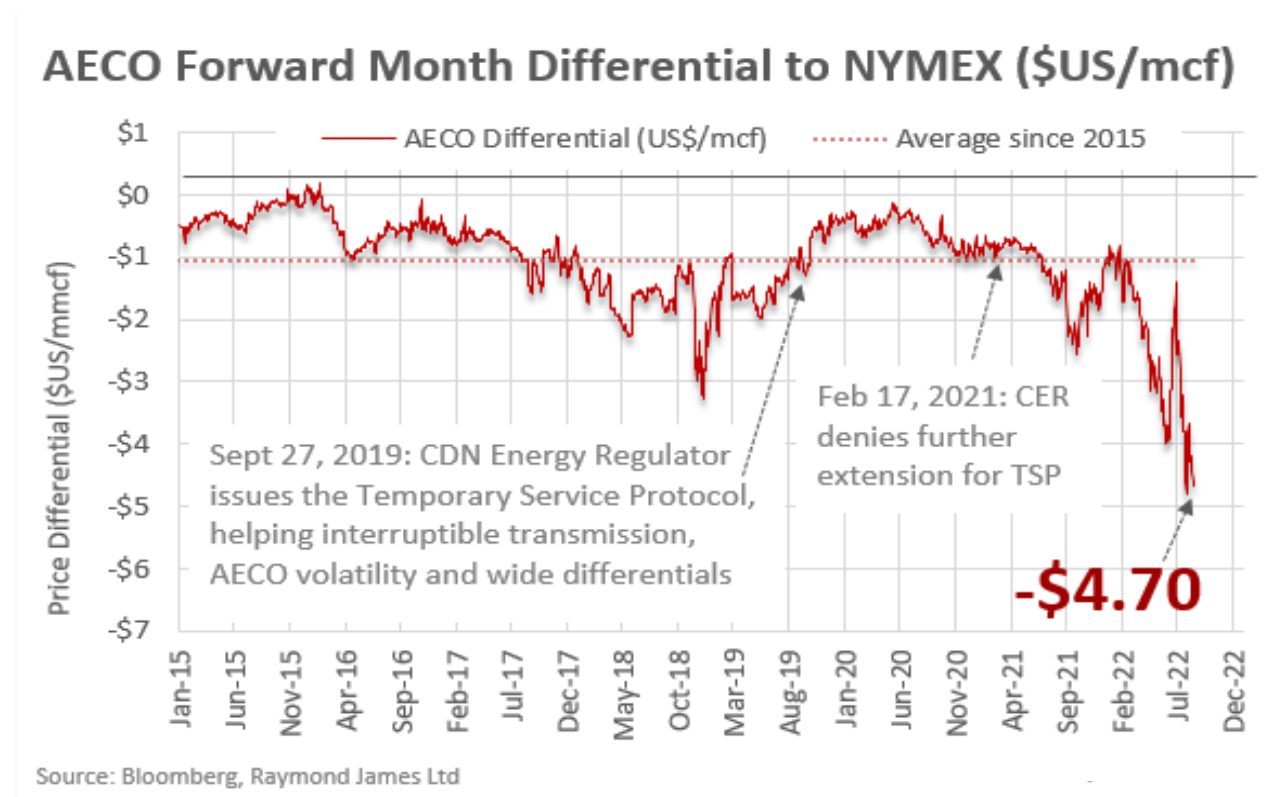
**Natural Gas – Alberta natural gas producers face significant discounts reducing their profits**

Global natural gas prices have increased by a great deal this year. The economic rebound as government restrictions eased and the situation in Ukraine, have both played a role in the worldwide price increase. The energy crisis in Europe and the surging demand for liquefied natural gas (LNG) have also helped propel markets higher.

Natural gas prices in Europe have been near record levels for most of 2022 August. Natural gas prices in the United States are up 150 per cent this year compared to prices at the same time last year. In Western Canada, gas prices were also high earlier this year, with the Alberta spot price (AECO-C) above \$8 per gigajoule in early May.

However, the discount between spot prices in Alberta and the United States have widened in recent weeks, from US\$1.50 per gigajoule in early 2022 July to nearly US\$5 in 2022 August. The price differential is typically between 75 cents and \$1 per gigajoule to account for transportation costs to ship Alberta gas to the U.S. Gulf Coast. Figure 3 below shows the major price discount producers currently receive for selling natural gas in Alberta.

Figure 3: AECO Forward Month Differential to NYMEX (\$US/mcf)



Natural gas production in Western Canada has been climbing this year, averaging about 17.4 billion cubic feet per day in August. This equals a one billion cubic feet per day increase from one year earlier. The surge in supply is putting pressure on the existing pipeline network. The result

is more supply than the market can handle, so prices are falling. Some gas producers have become frustrated with Alberta natural gas pricing volatility in recent years and have increased their transportation options by shipping gas to other markets.

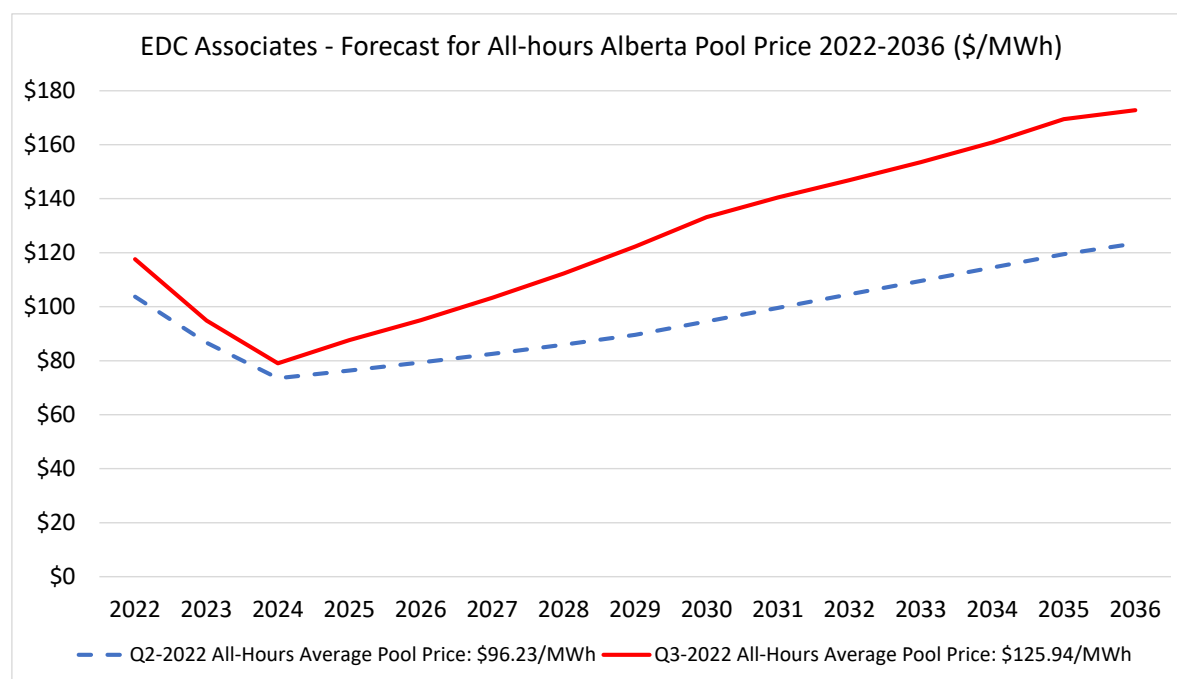
This deep discount also impacts the Government of Alberta as royalties are based on the sale price of the commodity in Alberta. Conservative estimates put the lost industry revenue because of these wide discounts at more than \$1 billion per month for 2022 July and 2022 August. Any solution to this dilemma would need to include all parties (the Alberta government, regulators, pipeline firms and gas producers) finding a way to increase market access in the near term.

**Electricity – New federal electricity regulations to support greenhouse gas emissions reduction would increase electricity prices significantly**

On 2022 July 26, the federal government released its proposed framework for its Clean Electricity Regulations (CERs). The CERs call for a linear decline in greenhouse gas emission intensity to zero by 2035. Coal and natural gas generation that does not conform to the CERs (through some form of technological abatement retrofit) could be forced by the federal government to retire as early as January 2035. This could result in many stranded capital assets. Alberta ratepayers may be responsible for paying the remaining un-depreciated costs of these stranded power generation assets.

The forward market has taken this new regulation into account. As a result, EDC Associated has significantly increased its 2022 Q3 electricity price forecast relative to its 2022 Q2 forecast, especially for 2025 and beyond. Power prices are forecast to go substantially higher to support new fuels such as hydrogen and the capital costs needed to implement carbon capture and storage. Figure 4 below highlights the difference between the 2022 Q2 and 2022 Q3 power price forecasts.

Figure 4: Alberta’s electricity price forecast before and after the federal Clean Electricity Regulations (CERs)



\*Source – EDC associates Q3-2022 Forecast Update, page 25

The expected increase in cost to the Alberta electric industry consumer from this substantial change in policy and regulations is estimated at \$45 billion between 2022 and 2036 or an average increase of \$30/MWh from last quarter. The Supreme Court has ruled that the federal government has over-arching control of Canadian carbon policy, making changes unlikely. As a result, once CERs come into force, power prices will likely remain very high for Alberta ratepayers.

### **Telecommunications – Rogers Communications outage disables telecommunication services in large parts of Canada.**

On 2022 July 8 at 02:45 AM Mountain Time, the Rogers Communications telecommunications system went down, triggering several adverse events nationwide:

- Around 25 per cent of Canada lost internet connectivity.
- Interac (debit) was taken offline by the outage. Most prominently, it prevented all businesses nationwide (regardless of their internet service provider) from being able to accept debit card transactions. Many stores temporarily closed.
- The outage inhibited the ability to use 9-1-1 services from mobile phones on the Rogers network.
- The outage affected some Canadian government services, such as Service Canada, Canada Revenue Agency, and passport offices.
- The Canadian Federation of Independent Business (CFIB) reported that small businesses lost anywhere from a few hundred to several thousand dollars.
- There were more outages in the City of Toronto because it relied solely on the Rogers network. One-quarter of all traffic signals relied on their cellular network for signal timing changes. Public parking payments and public bike services were also unavailable. Rogers Communication was also the sole provider of cable TV for the city.

This outage lasted until mid-day on 2022 July 9 for most customers. Rogers Communications has pledged to provide customers rebates, costing up to \$70 million.

The outage was due to a maintenance upgrade that caused routers to malfunction. Rogers Communications stated that the deletion of a routing filter on its distribution routers caused all possible routes to the internet to pass through the routers, exceeding the capacity of the routers on its core network. The deletion occurred during the sixth phase of a seven-phase update to its core network. Rogers Communications' internal systems were also compromised. For example, internal access to systems, such as the company's access to its core network nodes, was disabled. This hindered the ability of the company's employees to mobilize a team and identify the issue. Some employees could connect on alternate telecom networks due to a practice established through reciprocal agreements made in 2015.

The fallout from this outage is still unfolding. It could impact the proposed Rogers Communications takeover of Shaw Communications, which the Competition Bureau has taken to the courts.