ENERGY PRICES AND MARKETS

Natural Gas

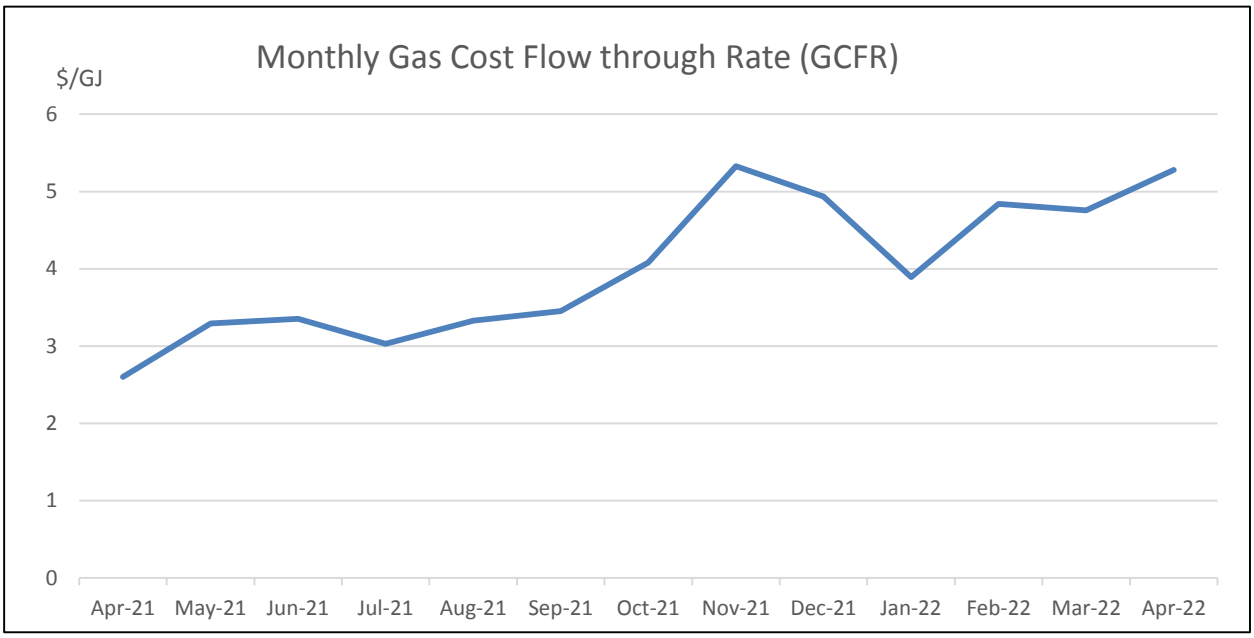
In Alberta, our regulated rate for natural gas is called the Gas Cost Flow-Through Rate. It fluctuates each month due to several factors. Notable ones include supply and demand and weather changes.

The 2022 April Gas Cost Flow-Through Rate was $5.28 per gigajoule. Prices are unusually high for April (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 elevated liquefied natural gas export demand have also placed upward pressure on natural gas prices.

The generally accepted natural gas industry price forecast has prices dropping around the $3 per gigajoule range through the spring and summer of 2022.

Figure 1 – Monthly Gas Cost Flow through Rate ($/Gigajoule)



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.[1] This regulated 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

[1] 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

volatility. The ENMAX regulated rate option price for 2022 April was 10.32 cents per kilowatt-hour. It represents a significant change from earlier in the year (figure 2).

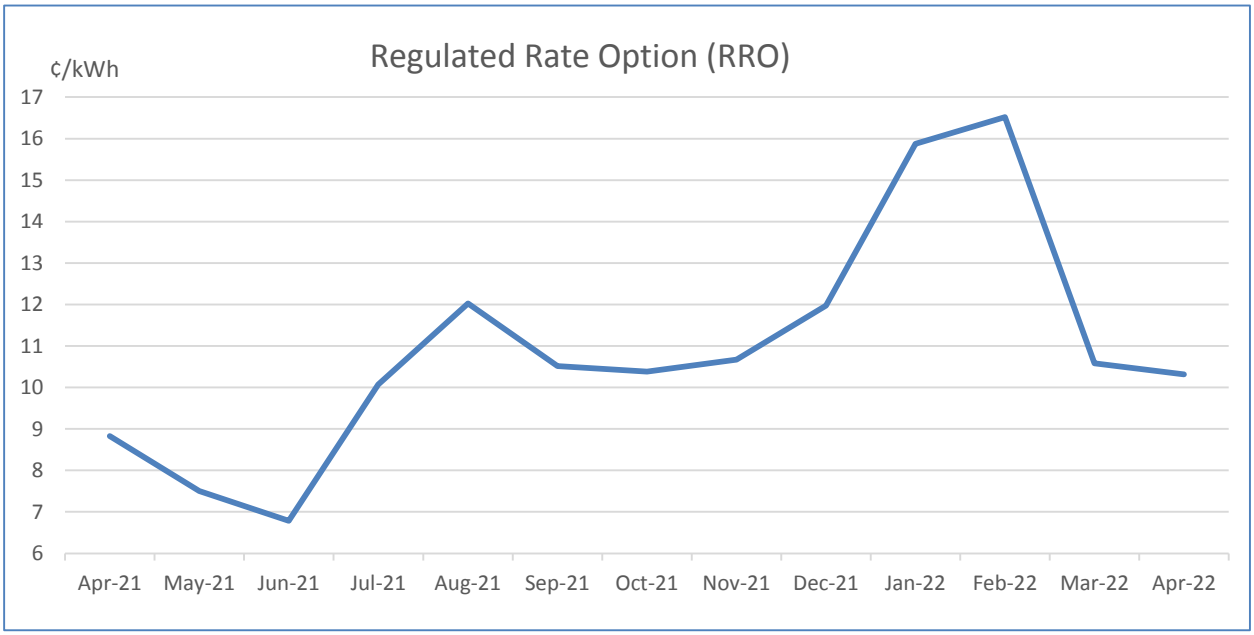
In 2022 February, the ENMAX residential regulated rate option price (16.52 cents per kilowatt-hour) was at its highest level since the provincial government restructured the regulated rate option in 2006. This exceptionally high regulated rate option price reflected, in part, abnormal strength and volatility in Alberta wholesale electricity prices from 2021 December to 2022 February.

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

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

The monthly average wholesale price fell from $105.22 per megawatt-hour in 2022 February to $75.38 per megawatt-hour in 2022 March, as seasonal electricity demand eased. The generally accepted power industry price forecast has prices declining slightly in 2022 Q2 and averaging 8.9 cents per kilowatt-hour for the 2022 calendar year.

Figure 2 – Regulated Rate Option (¢/kWh)



UTILITIES AND INDUSTRY DEVELOPMENTS

Natural Gas – Hydrogen Blending in Natural Gas Distribution Systems

On 2021 November 5, the Government of Alberta released its *Hydrogen Roadmap*, outlining the provincial government's approach to developing hydrogen use and production in Alberta. This document identified Alberta as well-positioned to participate in the evolving global hydrogen economy. The *Hydrogen Roadmap* further recognized that the adoption of clean hydrogen has the potential to significantly reduce greenhouse gas emissions by 2030, with the province enabling hydrogen blending into natural gas distribution systems as one method to reduce greenhouse gas emissions.

In its 2023 cost-of-service application (filed on 2021 December 15), ATCO Gas included a business case for hydrogen funding, drawing heavily on the Government of Alberta's *Hydrogen Roadmap*. As part of its application, ATCO Gas sought a 2023 capital funding of $28.2 million for its hydrogen initiative. On 2022 February 28, the Alberta Utilities Commission announced that it would not be considering costs connected with introducing hydrogen into natural gas distribution systems in the 2023 cost-of-service review.[2]

On 2022 March 25, the Alberta Utilities Commission issued Bulletin 2022-05, announcing that it is opening an inquiry on matters relating to hydrogen blending in natural gas distribution systems. It follows a 2022 March 23 order-in-council from the Government of Alberta directing the Alberta Utilities Commission to inquire into and report to the Minister of Energy on matters relating to hydrogen blending into natural gas distribution systems.

The Alberta Utilities Commission has announced that in its inquiry, it will be gathering information and making findings on issues such as:

- The role of natural gas distribution systems for hydrogen blending;
- The impacts of blended hydrogen (including rate impacts and impacts on delivery); and
- Safely and reliably incorporating blended hydrogen.

The Alberta Utilities Commission has invited feedback from interested parties in 2022 April. It has a deadline of 2022 June 30, to report back to the Alberta Minister of Energy.

Electricity – Recent Developments in Renewables

As of 2022 April 1, there are only three coal-fired generating units (Capital Power's Genesee units 1/2/3) still operating in the province. Following eight coal unit retirements and refirings using alternative fuel sources in 2021,[3] the total remaining coal-fired capacity in Alberta is only 1,266 megawatts.

Conversely, the largest renewable unit in Alberta, Travers, brought an additional 465 megawatts of solar capacity online in 2021 December. Similarly, the commissioning of several large-scale Alberta wind farms occurred in 2021. They include Windrise (207 megawatts), Whitla Phase 2 (151 megawatts), and Rattlesnake Ridge (130 megawatts).

[2] Alberta Utilities Commission Proceeding 26616, Exhibit 26616-X0102, *Preliminary jurisdictional issues – hydrogen projects*, February 28, 2022, paragraph 5.
[3] These Alberta coal units retired and/or converted to natural gas in 2021 included Battle River units 4 and 5, Sheerness units 1 and 2, Sundance units 4 and 6, and Keephills units 2 and 3.

As of 2022 April 1, gas-fired generators were the dominant generation type in Alberta (in terms of installed capacity), and electricity powered by wind energy was second. Wind surpassed coal in 2021.

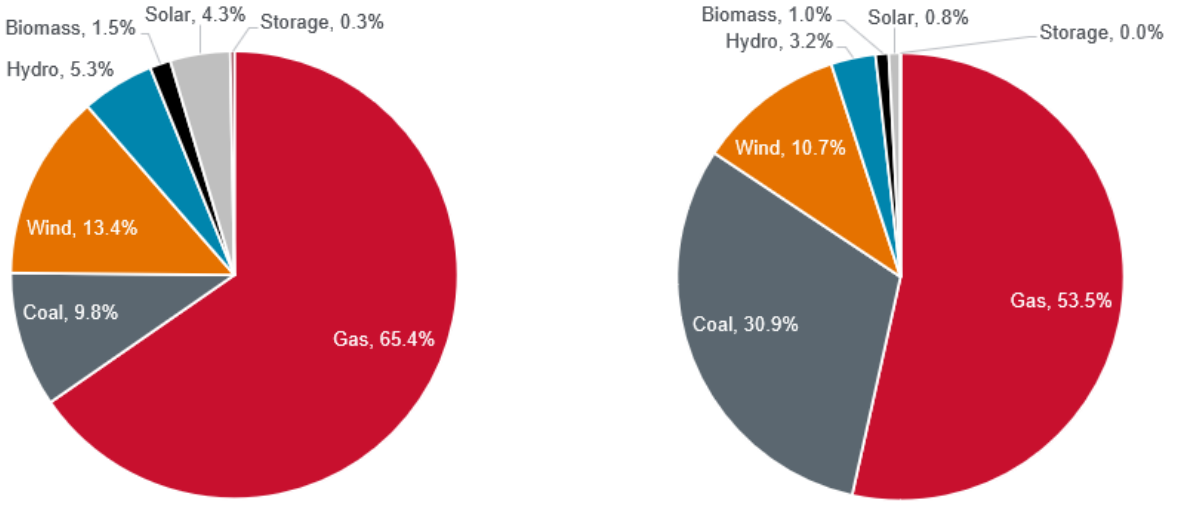
Figure 3: Sources and Maximum Capability (MC) for Alberta's Electricity Generation (April 1, 2022)

Energy Source	Maximum Capability (MC)	
	Actual MC	Share of MC
Gas	10,782	65%
Wind	2,269	14%
Coal	1,266	8%
Hydro	894	5%
Solar	869	5%
Other	424	3%
Energy Storage	50	0%
Total	**16,554**	**100%**

Source: Alberta Electric System Operator, Current Supply Demand Report. Retrieved 2022 April 1.

However, not all energy sources contribute equally to electricity generated by installed capacity. Coal and certain gas-fired technologies (e.g., cogeneration and combined cycle) have high capacity factors (i.e., run more frequently during all hours). Other technology types, including wind and solar, are intermittent with lower capacity factors. Figures 4 and 5 below show the share of 2021 installed capacity by source (left) vis-à-vis 2021 generation by source (right).

Figures 4 and 5: 2021 Installed Alberta Electric Generation Capacity (left) and 2021 Alberta Electric Generation by Fuel Source (right)



This result is unsurprising. For coal and gas-fired technologies, baseload units tend to only go fully offline for maintenance. Therefore, they traditionally have capacity factors in the 70 to 80 per cent range. On the contrary, many renewable sources – wind (30 to 40 per cent) and solar (5 to 25 per cent) – typically have much lower capacity factors. However, technological advancements in the renewable space have enhanced capacity factors over time (e.g., a decade ago, typical wind capacity factors were right around 30 per cent).

Telecommunications – Acquisition of Shaw Communications by Rogers Communications

On 2022 March 24, the Canadian Radio-television and Telecommunications Commission released its decision concerning the acquisition of Shaw Communications by Rogers Communications. The Canadian Radio-television and Telecommunications Commission approved Shaw's $26 billion acquisition by Rogers, subject to conditions and modifications.

In its decision, the Canadian Radio-television and Telecommunications Commission said that the proposed merger would be in the public interest, would not impact the competitive landscape and would not diminish the diversity of voices in Canada. Among its conditions, the Canadian Radio-television and Telecommunications Commission requires Rogers to:

- Contribute $27 million to various media and local news initiatives and funds;
- Create an Indigenous news team with journalists in all provinces; and
- Report annually on its commitments to increase its support for local news.

The proposed acquisition of Shaw by Rogers still requires the approval of Innovation, Science and Economic Development Canada and the Competition Bureau. Rogers and Shaw have publicly stated that they expect the acquisition to be completed by the end of 2022 June.