

# Let's Be Reasonable: Alberta Electricity Prices in Context



*Comparisons of electricity prices across regions often lack context, which can lead to misleading or inaccurate conclusions. Focusing solely on end user bills overlooks critical underlying factors. This article breaks down the main factors underpinning power production and delivery costs in Alberta to provide much needed background and dispel surface-level narratives.*

*Alberta has faced challenges other Canadian provinces haven't, including rapid technological change and turnover in its electricity generation fleet, decarbonization, and the highest rates of population and industrial load growth in Canada. While Alberta's electricity prices have not been the cheapest in the country, prices reflect investments in reliability, innovation, and growth and have been reasonable when considered in context.*

## Provinces Have Different Underlying Price Systems

The delivered cost of electricity consists of three main components: (1) power production costs; (2) power delivery costs; and (3) costs to administer the system. Because each of these cost components is shaped by region-specific factors, electricity prices cannot be fairly compared across jurisdictions using simple metrics – context is essential.

- **Costs to Produce Power:** This includes the costs to build, finance, operate, and maintain power plants. These costs are heavily influenced by a region's generation mix and regulatory structure. A region's generation mix typically reflects its available and cost-effective natural resources like hydro or natural gas.
- **Costs to Deliver Power:** This includes the cost of transmitting power over high-voltage lines and distributing it at safe voltages to homes and businesses. These rates cover operating expenses, returns on infrastructure investment, and recovery of capital costs over time. Delivery charges increase in growing regions, or where significant modernization efforts are underway.
- **Administration Costs:** This includes expenses related to regulatory oversight, market operations, municipal franchise fees, and the general administration of the electricity system.

## What Makes Electricity Prices Reasonable?

What is “reasonable” in electricity pricing depends on how you define it and what outcomes you are looking to achieve. Economists typically view a reasonable price as one that reflects the true cost of generating and delivering electricity, plus a fair return on investment. Others emphasize affordability, arguing that as an essential service, electricity must be accessible to all.<sup>1</sup> From a practical perspective, reasonable prices can be those that are demonstrably justified, competitive, and proportionate. In the rest of this article, we unpack the factors behind Alberta electricity prices. Since bill charges are shaped by specific factors, understanding them is essential to fully assess whether prices are reasonable.

<sup>1</sup> Simone Pront-van Bommel (2016), A Reasonable Price for Electricity, Journal of Consumer Policy, vol 39, issue 2, 141-158, available at: <https://link.springer.com/article/10.1007/s10603-015-9300-x?ut>.

# Alberta

## Regulatory Structure

Alberta has a deregulated market for generation. Transmission and distribution services are regulated by the Alberta Utilities Commission.

Private investment drives growth and innovation in generation. Prices are more volatile because they are shaped by real-time supply and demand dynamics in the wholesale electricity market. Price volatility isn't a flaw, but a feature – price swings send investment and demand signals. Prices should be high enough to cover generation costs and attract investment to ensure reliability. Short-term inefficiencies are tolerated if they drive long-term gains like innovation or new capacity. Over time, prices do not stay high if there is sufficient investment in new supply.

Transmission is regulated under a cost-of-service model. Transmission facility owners are allowed to recover their prudently incurred costs, plus a regulated return on investment. This ensures stable and predictable funding for the high-voltage equipment needed to move electricity across the province.

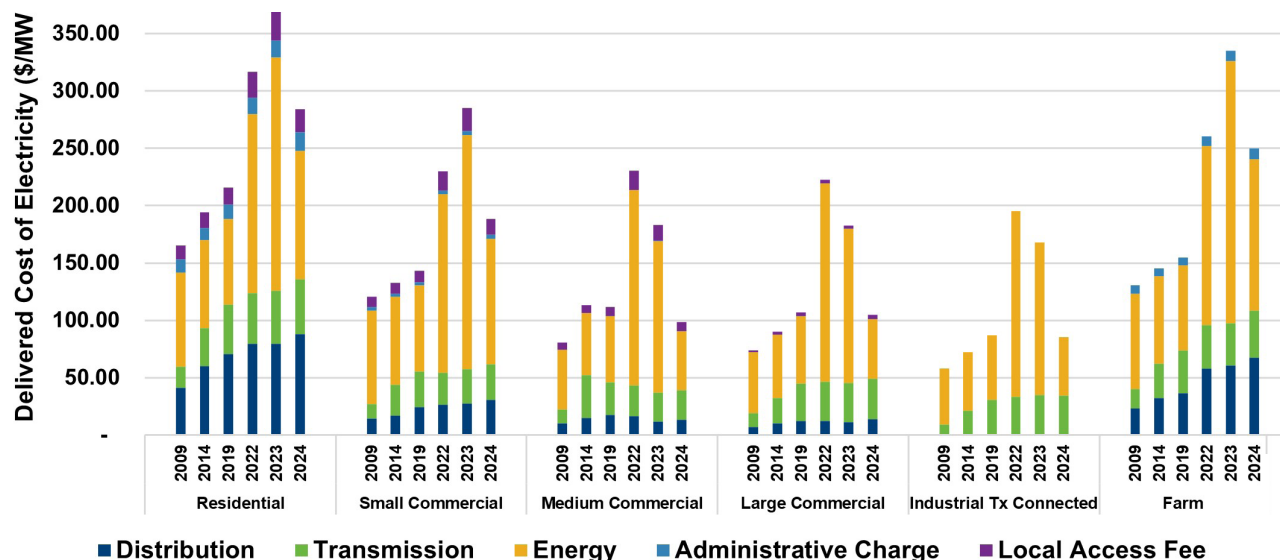
Distribution is subject to performance-based regulation (“PBR”). PBR sets utility revenues based on a formula rather than actual costs, encouraging companies to operate more efficiently while maintaining service quality.

## Bill Components

Electricity bill components in Alberta differ based on customer rate class. Historically, energy charges have made up the largest portion of bills. Unlike other provinces, the Alberta government does not direct generation builds, which contributes to the market-driven fluctuations in energy pricing.

More recently, transmission and distribution costs have steadily increased (while energy prices have remained low) and those infrastructure costs now account for a greater share. Administrative and local access fees (set by service providers and municipalities, respectively) vary by location but represent a small portion of total cost.

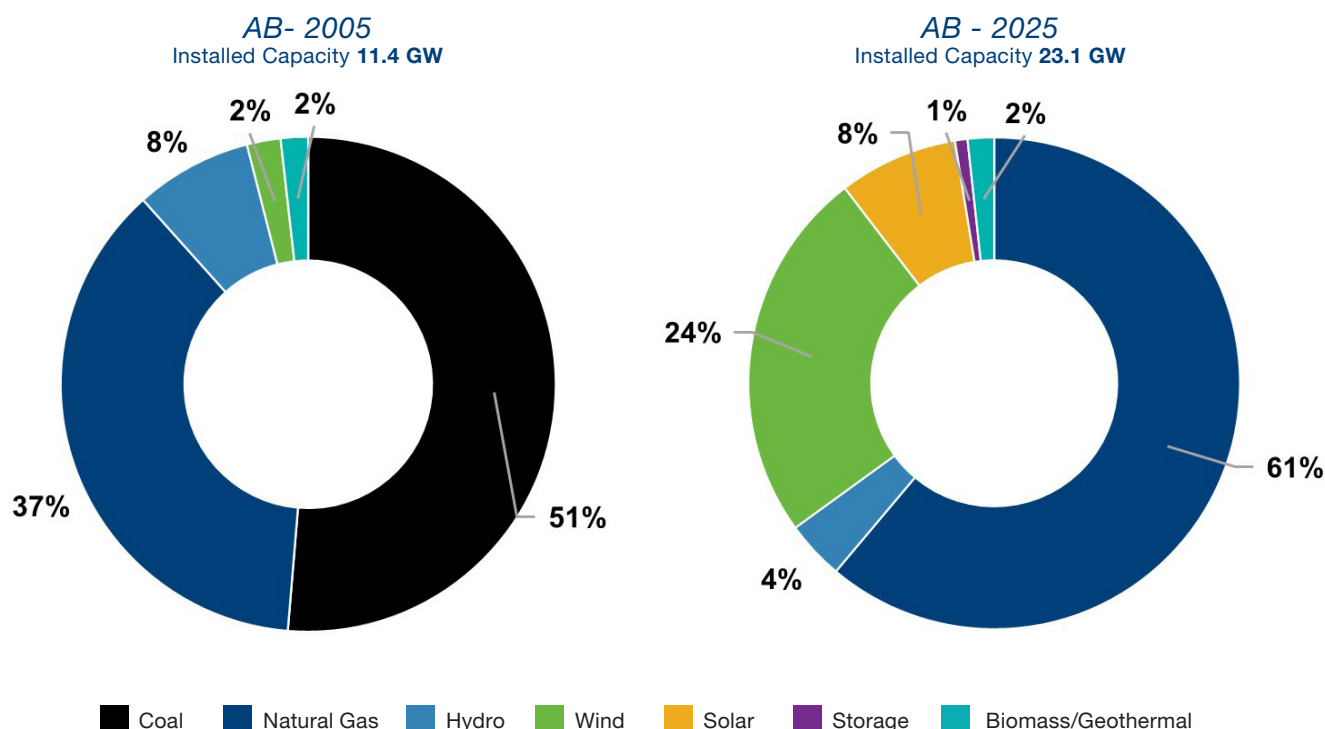
Average Delivered Cost of Electricity by Customer Classes in Alberta



## Energy Charges: The Cost to Produce Power in Alberta

Alberta does not have the luxury of massive, low-cost hydropower like some other provinces. Nor has Alberta shifted electricity costs from ratepayers to the provincial tax base. Instead, Alberta has relied on private investment and its own natural resource endowments to build a diversified generation portfolio.

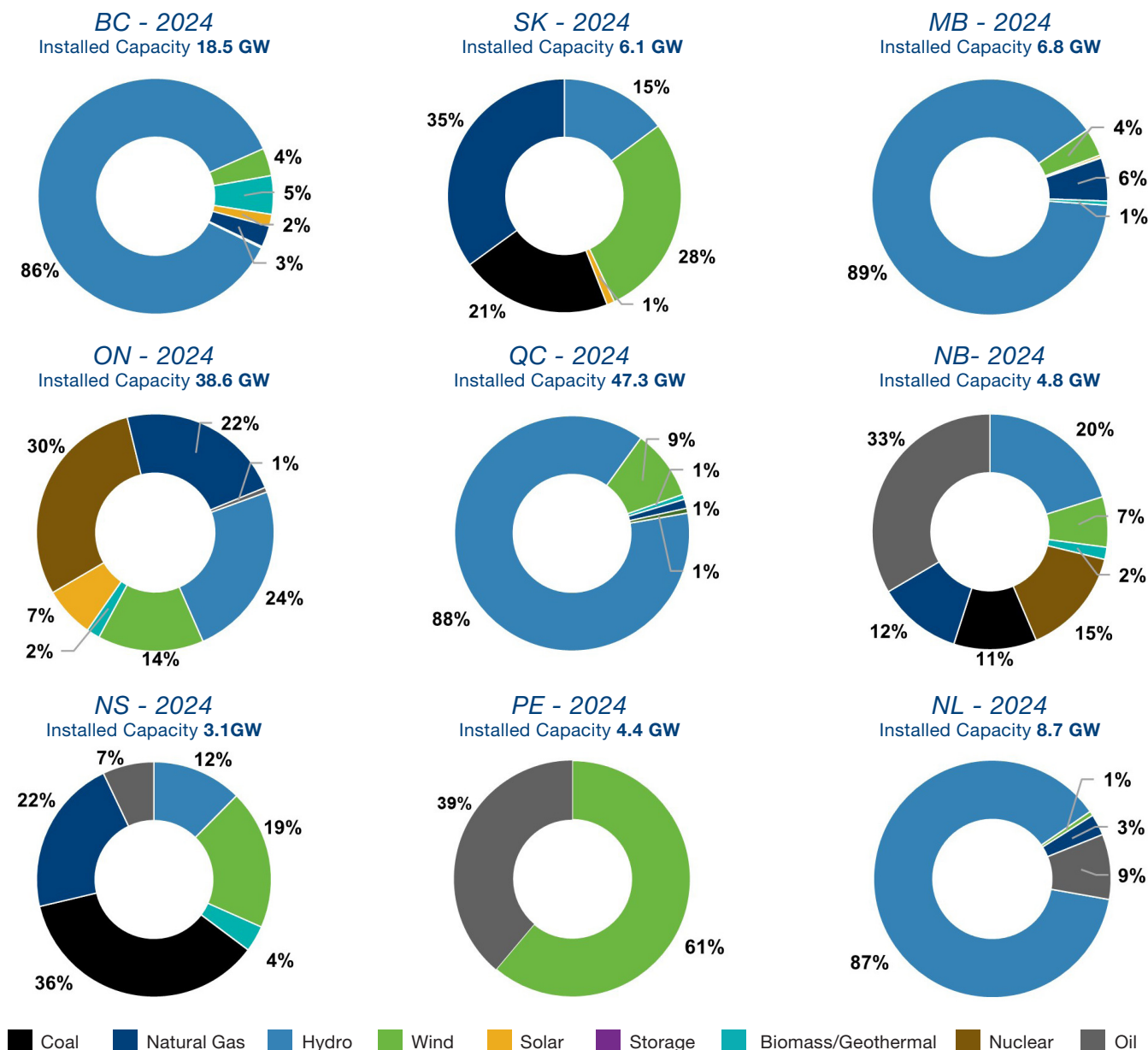
Alberta's market-driven approach has allowed the electrical system to adapt to changing input costs, technological innovation, and evolving environmental priorities. Over the past two decades, Alberta's generation mix has transitioned from one historically dominated by coal to a more diversified supply of dispatchable natural gas and renewables,<sup>2</sup> and the risks of that shift have been borne by private investors, not customers.



When coal dominated Alberta's generation mix, electricity prices were more consistent. Coal plants provided baseload power at relatively predictable costs, which helped insulate the market from short-term fluctuations.

Today, Alberta's energy price volatility is driven largely by fluctuations in wind and solar output. While natural gas prices do influence power production costs, it is the intermittent nature of wind and solar generation that plays a more dominant role. When wind and solar resources are available, they significantly lower energy prices. When wind or solar output drops, the system relies on higher-cost generation to meet demand, which increases price.

<sup>2</sup> For Alberta installed generation capacity, see AESO 2013 Annual Market Statistics (pp. 10) & AESO 2024 Annual Market Statistics (pp. 12), available at: <https://www.aeso.ca/market/market-and-system-reporting/annual-market-statistic-reports>. For other provincial installed generation capacity, see Canada Energy Regulator, Canada's Energy Future Data Appendices, available at: <https://doi.org/10.35002/zjr8-8x75>



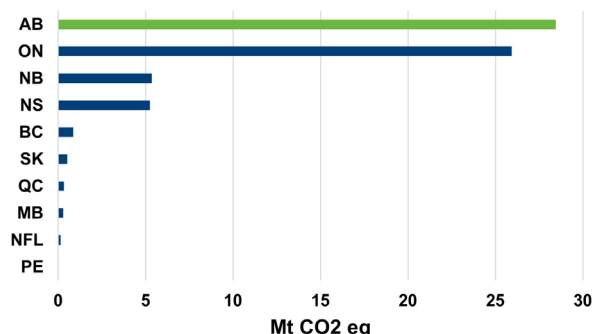
**Decarbonization Success:** Despite price trade-offs, the transition away from coal and integration of wind and solar positioned Alberta as a national leader in electricity sector decarbonization. The retirement of coal resulted in over 29 million tonnes of CO<sub>2</sub> emissions avoided and accounted for 40% of Canada's total electricity emission reductions between 2005 and 2023.<sup>3</sup> Between 2018 and 2024, the province added more than 6,000 MW of wind and solar capacity, bringing renewables to 38% of total installed generation.<sup>4</sup> In 2023, Alberta led the country by contributing over 92% of Canada's overall growth in wind and solar and energy storage.<sup>5</sup>

<sup>3</sup> Environment and Climate Change Canada. Canada's Official Greenhouse Gas Inventory, Annex 12 – Provincial and Territorial Greenhouse Gas Emission Tables by Canadian Economic Sector, 1990-2023, available at: <https://data-donnees.az.ec.gc.ca/data/substances/monitor/canada-s-official-greenhouse-gas-inventory/B-Economic-Sector?lang=en>

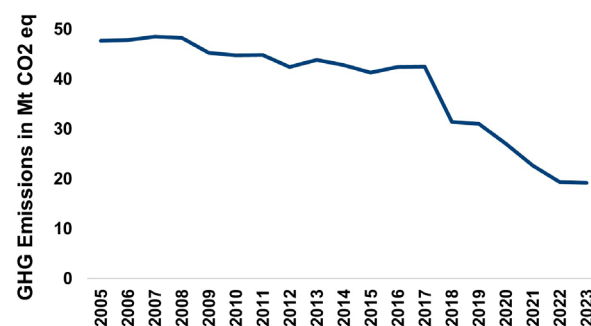
<sup>4</sup> AESO 2018 Annual Market Statistics (pp. 9) & AESO 2024 Annual Market Statistics (pp. 12), available at: <https://www.aeso.ca/market/market-and-system-reporting/annual-market-statistic-reports>

<sup>5</sup> Canadian Renewable Energy Association (January 31, 2024), NEWS RELEASE: New 2023 data shows 11.2% growth for wind, solar & energy storage, available at: <https://renewablesassociation.ca/news-release-new-2023-data-shows-11-2-growth-for-wind-solar-energy-storage/>

**Total GHG Emissions Avoided (2005-2023)**



**AB Electricity GHG Emissions Reduction Trajectory (2005-2023)**

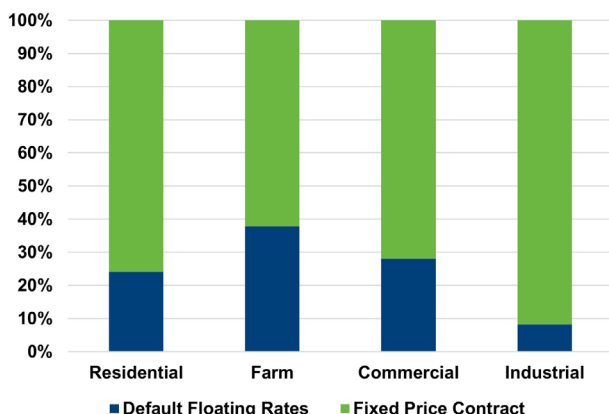


**Tools to Manage Price Risk:** To deal with price volatility, Alberta's deregulated electricity market gives consumers the ability to manage their risk through hedging tools like fixed-rate contracts. Residential and commercial customers can reduce exposure to price swings by choosing fixed-rate contracts from competitive retailers. These plans lock in a stable price for a defined term (typically one to five years) offering protection from the fluctuating wholesale market. In contrast, floating rates vary with market conditions and are more sensitive to short-term volatility.<sup>6</sup> Industrial and large commercial customers may also use more advanced hedging tools, such as financial derivatives or long-term power purchase agreements, to manage their price exposure risk.

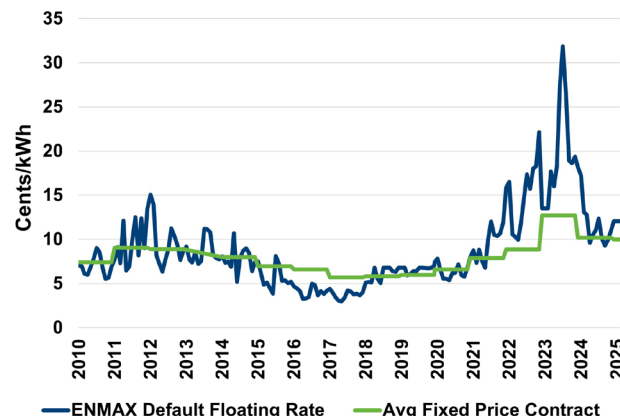
In most provinces, energy rates are set by regulators, leaving customers with little choice. Albertans have the optionality to shop around, compare offers, and take some control over how much they pay for energy. This flexibility became especially important during the 2022-2023 energy price surge, which was driven by a combination of global and local factors. Many retail customers turned to fixed-rate plans in response to the volatility. Those who locked in fixed rate contracts years earlier were shielded from the increase and paid less than the wholesale market rate for electricity.

The addition of 2,000 MW of new generation capacity in 2024 put downward pressure on energy prices, but the ability to hedge remains a key advantage of Alberta's market design. According to Market Surveillance Administrator data, approximately 75% of Alberta retail customers are on competitive fixed rate plans.<sup>7</sup>

**Distribution default floating rates and competitive rates of customer classes (2024)**



**ENMAX default floating rates vs. Average Fixed Contract**



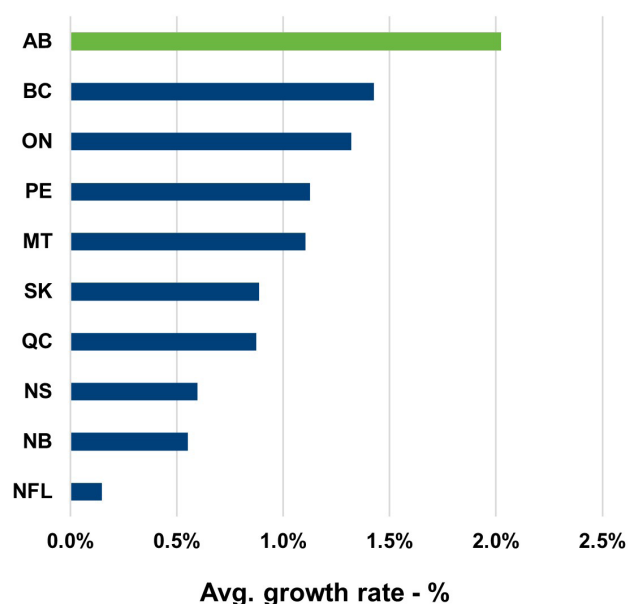
<sup>6</sup> See for example, Utilities Consumer Advocate Historic Rates page, available at: <https://ucahelps.alberta.ca/your-utilities/rates/historic-rates/>

<sup>7</sup> Market Surveillance Administrator, Retail Statistics – Summary Snapshot Mar 2025, available at: <https://www.albertamsa.ca/assets/Documents/MSA-Retail-Statistics.xlsx>

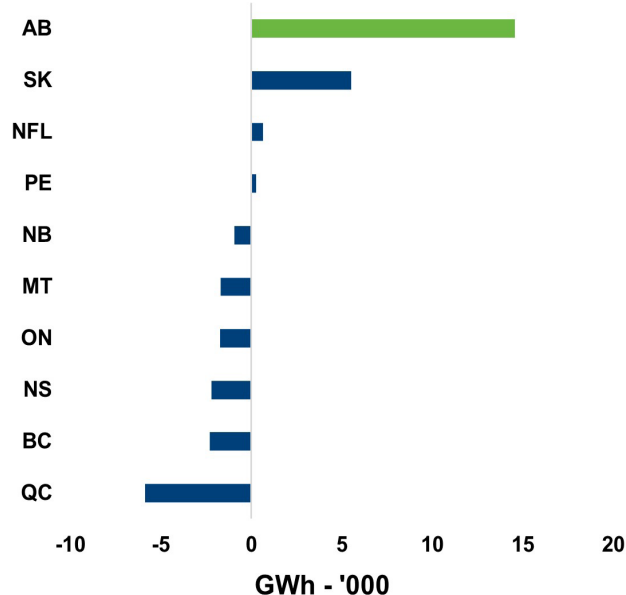
## Transmission & Distribution Charges: The Cost to Deliver Power in Alberta

**Enabling Growth:** Over the past two decades, Alberta has led the country in population<sup>8</sup> and industrial electricity demand growth.<sup>9</sup>

Average Y-o-Y Population Growth (2005 - Q1 2025)



Industrial Electricity Demand Growth (2005 - 2024)



To keep pace, Alberta invested approximately \$11 billion in strategic transmission infrastructure.<sup>10</sup> This build-out was essential to integrate new load and generation, enhance reliability across regions, and unlock economic potential – from powering the oil and gas industry in the north to connecting wind and solar projects in the south. Transmission rates began rising in 2010, driven by the cost of major projects like the 500 kV backbone.<sup>11</sup>

Distribution costs have also climbed steadily over the past two decades on average.<sup>12</sup> Regulatory studies show that costs are driven by increasing investment in infrastructure to support population growth, EV adoption, residential solar, and system reliability.<sup>13</sup>

<sup>8</sup> Statistics Canada. Table 17-10-0009-01 Population estimates, quarterly, available at: <https://doi.org/10.25318/1710000901-eng>

<sup>9</sup> Canada Energy Regulator, End Use Demand – Industrial (Electricity), <https://apps.cer-rec.gc.ca/ftprpndc/dflt.aspx?GoCTemplateCulture=en-CA>

<sup>10</sup> AESO Transmission costs, available at: final, <https://public.tableau.com/app/profile/transmissioncost/viz/FinalCostReport/FinalCost>.

<sup>11</sup> For example, the Fort McMurray West Transmission Line, Eastern Alberta Transmission Line, Western Alberta Transmission Line, and Keephills - Ellerslie – Genesee.

<sup>12</sup> See for example: Utilities Consumer Advocate, Residential Electricity Delivery Charges, available at: Utilities Consumer Advocate: Residential Electricity Delivery Charges

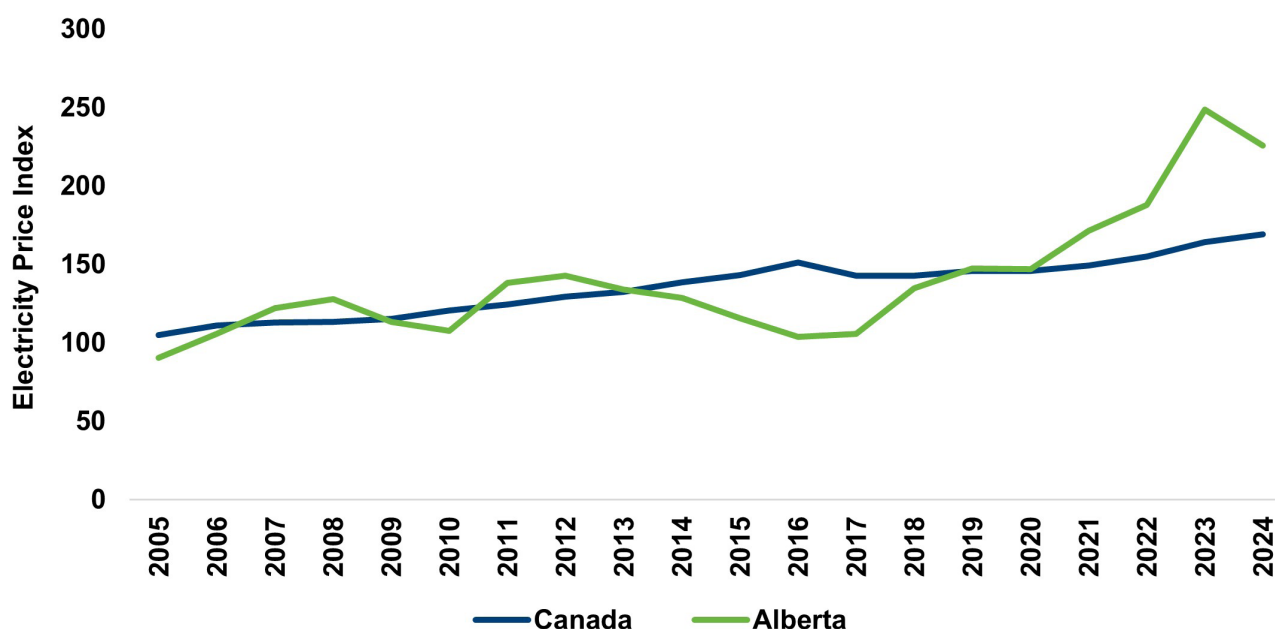
<sup>13</sup> See for example: Guidehouse (January 22, 2024) Net-Zero Analysis of Alberta's Electricity Distribution System, available at: Net-zero analysis of Alberta's electricity distribution system - AUC



## Conclusion

Comparing Alberta's electricity price index to the national Electricity Price Index produced by Statistics Canada highlights that the rate of Alberta's electricity price change has remained relatively on par with the Canadian national average index over the past two decades, even as the province underwent rapid growth and change.<sup>14</sup>

Comparison of Average Electricity Price Indices - Alberta vs Canada (2005-2024)



Over the past two decades, Alberta's electricity prices, while volatile, have been reasonable within the context of its market design and broader macro-economic trends:

- Prices have reflected real-time supply and demand conditions, which encouraged efficient investment in new generation and new companies to enter the market.
- Higher energy prices have aligned with the capital needed at the time, helping to attract and secure additional supply through market mechanisms.
- Consumers have had tools to manage price risk, including access to fixed-rate contracts.
- Increases in transmission and distribution costs tracked closely with Alberta's population growth and increasing industrial demand.

Comparisons of Alberta to other jurisdictions with different regulatory models, supply mixes, and investment needs often overlook these critical differences. Going forward, let's be reasonable and put prices in full context.

<sup>14</sup> Statistics Canada. Table 18-10-0004-01 Consumer Price Index, monthly, not seasonally adjusted, available at: <https://doi.org/10.25318/1810000401-eng>. Statistics Canada utilizes sample sets to measure the average change in retail prices encountered by all consumers in Canada. The price index represents a sample set of the total, actual, monthly bill price of all consumers, regardless of fixed or variable rate selection.