Calgary

Spring 2022

Calgary and Region **Economic Outlook** 2022-2027

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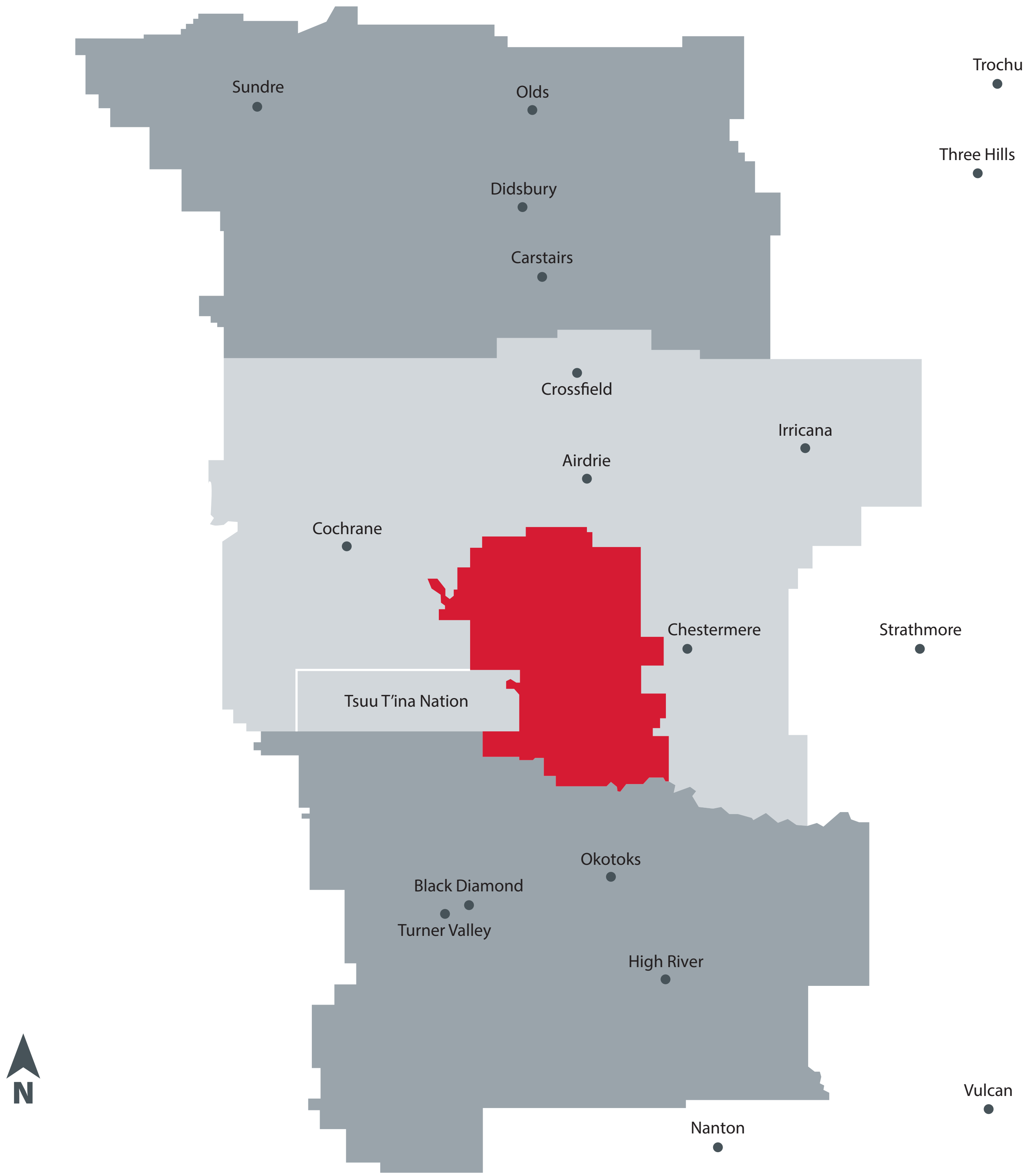
Calgary Economic Region Map



Legend

- Calgary Economic Region (CER)
- Calgary Census Metropolitan Area (CMA)
- City of Calgary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Introduction

Preamble

The City of Calgary tracks economic indicators throughout the year to develop insights into the impacts of external events on the local economy. The results from this process are published semi-annually (one in the spring and one in the fall) as the Calgary and Region Economic Outlook (the Outlook).

The Outlook presents forecasts for a selected number of economic variables. It provides an analysis of those factors that are considered most likely to have a significant effect on the local economy over the forecast period.

Purpose

We create and publish this outlook to assist The City of Calgary in the financial and physical planning of the city. The forecast enables the municipal government to take into consideration the current economic conditions and po-tential economic outlook to prudently and responsibly plan the financial path forward while understanding risks and opportunities.

The Outlook presents a comprehensive economic analysis of Calgary's local economy, which most other economic reports exclude. Unlike most research institutions' reports, which restrict their analyses to the national or provincial economy and a few urban areas within the provinces, this Outlook answers the following key questions:

- What is the overall forecast for the rate of growth of Calgary's local economy?
- What are the drivers of Calgary's local economy?
- How many jobs is the Calgary Economic Region (CER) expected to create?
- What is the forecast for population growth in the City of Calgary and the CER?
- What is the expected consumer price inflation in the Calgary Census Metropolitan Area?
- What are the implications of the forecast, and how will it impact municipal finance?

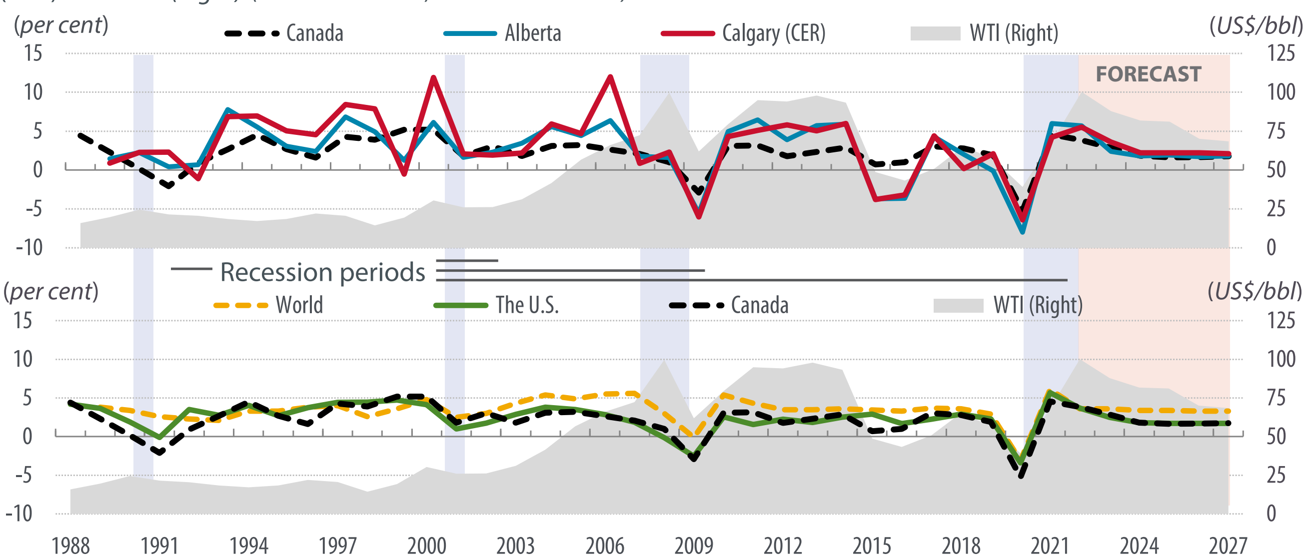
Calgary as a small open economy

Calgary is a small open economy, and therefore is affected by changes outside its borders. The growth of Calgary's local economy is driven by its participation in international trade, especially the exports of Alberta's crude oil and other commodities to the outside markets. Compared to their trade partners, Calgary and Alberta are small players and cannot influence global commodity prices. The volatility of crude oil prices in the world market affects Calgary's economic growth and job market condition relative to the rest of Canada.

Our forecast is also dependent on the economic and market conditions outside the CER over the forecast period. The critical external forces are as follows:

1. 1. Forces driving change in world economic expansion or contraction, such as the duration of the COVID-19 pandemic and the Russia-Ukraine war.
2. 2. Change to the rate of economic growth and job creation in the rest of Canada over the forecast period.

Calgary's Growth Drivers: Gross Domestic Product (GDP) Growth *(Left)* vs. West Texas Intermediate (WTI) Oil Prices *(Right)* *(1988-2021 Actual, 2022-2027 Forecast)*

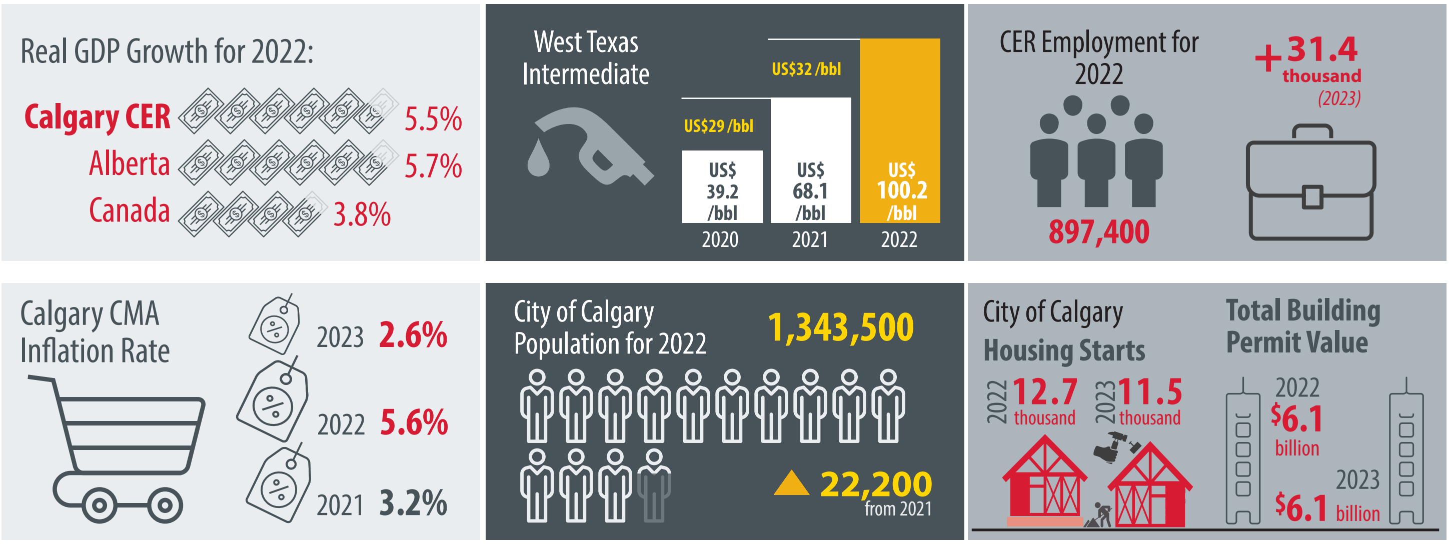


Executive Summary

Canada, Alberta, and Calgary started economic recovery in 2021. Economic growth is expected to continue into 2022 against the backdrop of high inflation, elevated energy prices, increased vaccination against COVID-19 and variants across the globe, and an ongoing war between Russia and Ukraine. The Bank of Canada has commenced a more aggressive monetary stance to rein in inflation and the implications are still unfolding. Lower hospitalization rates and higher vaccination uptake across the globe have prompted a relaxation of most public health-related measures. The public health relaxations in some regions have contributed to more robust regional demand as business activities return to some degree of normalcy. Though global supply chain constraints persist due to varying degrees of pandemic-variant disruptions, among others, the advent of the Russia-Ukraine war has contributed to increasing uncertainty surrounding the global supply chain.

Canada is expected to see growth in real GDP of 3.8 per cent in 2022, as a sizable portion of the services-producing sector (such as food and accommodation) returns to more normal operations after the pandemic health-related measures disproportionately impacted their industry. In Alberta and Calgary, real GDP growth is expected to reach 5.7 per cent and 5.5 per cent, respectively, aided by elevated energy prices in 2022 and the larger presence of the resource sector. Employment is expected to grow at a rate above the pre-pandemic five-year historical average growth rate in Alberta and Calgary over the forecast horizon. The average annual West Texas Intermediate oil price increased by US$29 per barrel in 2021 from 2020 as pandemic health-related measures eased. It is expected to rise by as much as US$32 per barrel more in 2022. The ongoing conflict between Russia and Ukraine, which began in late February 2022, will also add upward pressure on energy commodities and food prices and dampen global growth prospects.

We expect to see employment in the Calgary Economic Region finally exceed the pre-pandemic 2019 employment level in 2022, growing by as much as 4.1 per cent or 36,000 persons above the 2021 annual employment level. Inflation in Calgary is expected to remain elevated into 2022, increasing from 3.2 per cent in 2021 to 5.6 per cent this year as supply disruptions persist and some semblance of demand of the pre-pandemic era returns. However, inflation should wane as the Bank of Canada's monetary policy stance in 2022 wrestles inflation to 2.6 per cent by 2023. The City of Calgary's population is expected to grow by 1.7 per cent, or over 22,000 persons, in 2022, as prospects for employment opportunities strengthen. The City's population is then expected to increase by an average of 22,000 persons per year over the forecast horizon 2023-2027. The total new houses started in the city are expected to mimic 2021 levels of about 12,700 units in 2022 and normalize at about 11,000 houses started per year over the forecast horizon. Total building construction investments in the city are expected to be over $6 billion in 2022, on the back of expected higher population growth, sustained housing demand and expected stronger employment growth in 2022. The challenges of new COVID-19 variants emerging and the ongoing war between Russia and Ukraine will exacerbate risks to the current forecast. The economic challenges across regions will vary as the policy prescription and success of vaccinations against COVID-19 have varied across countries, coupled with export disruptions caused by the war and economic sanctions against Russia.



Executive Summary

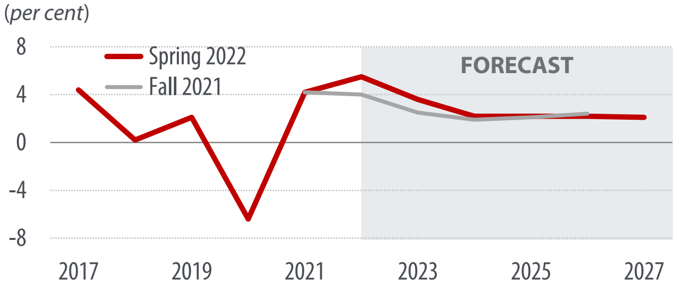
Forecast Table: Selected Key Indicators

	Actual	Estimate	Forecast				
	2021	**2022**	2023	2024	2025	2026	2027
World: GDP (%)	6.1	**3.6**	3.6	3.4	3.4	3.3	3.3
The U.S.: GDP(%)	5.7	**3.7**	2.5	1.8	1.7	1.7	1.7
Canada: GDP (%)	4.6	**3.8**	2.9	1.8	1.6	1.7	1.8
Alberta: GDP (%)	6.0	**5.7**	2.4	1.8	1.9	1.7	1.8
Calgary Economic Region: GDP (%)	4.2	**5.5**	3.6	2.2	2.2	2.2	2.1
Calgary Economic Region: Unemployment Rate (%)	9.1	**7.7**	6.9	6.4	5.9	5.5	5.2
Calgary Census Metropolitan Area: CPI (%)	3.2	**5.6**	2.6	1.8	2.0	2.0	2.2
City of Calgary: Total Building Permits ($billion)	5.7	**6.1**	6.1	5.9	6.0	6.2	6.3
City of Calgary: Total Population ('000 persons)	1,321.3*	**1,343.5***	1,366.2	1,388.9	1,409.7	1,431.5	1,454.4
City of Calgary: Housing Starts ('000 units)	12.7	**12.7**	11.5	10.5	10.4	10.6	10.6

* Estimates from Corporate Economics' Population Model.

Calgary Economic Region: Real GDP Growth

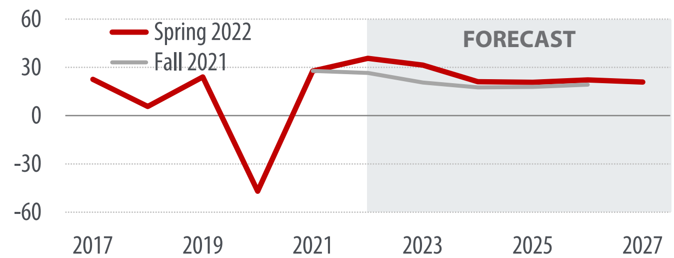
(per cent)



Source: Statistics Canada, Corporate Economics.

Calgary Economic Region: Employment Growth

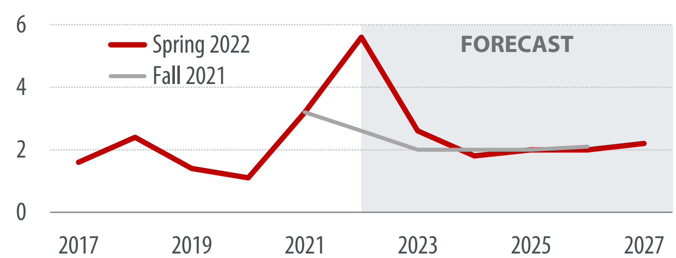
(thousands of persons)



Source: Statistics Canada, Corporate Economics.

Calgary CMA: Inflation Rate

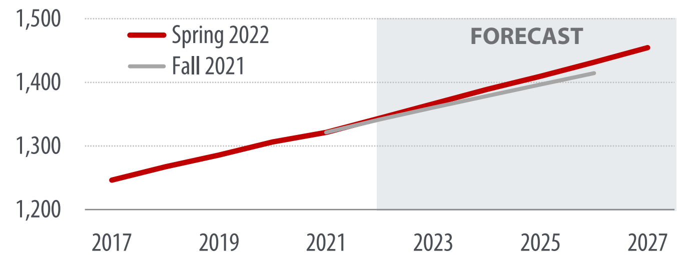
(per cent)



Source: Statistics Canada, Corporate Economics.

City of Calgary: Population

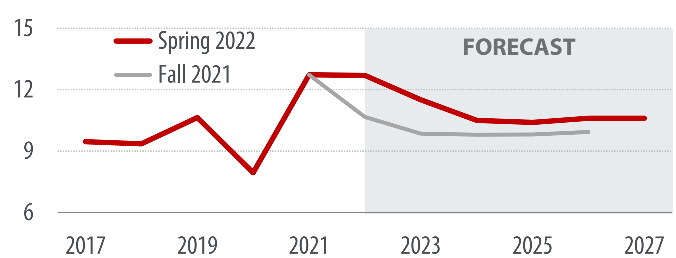
(thousands of persons)



Source: The City of Calgary, Corporate Economics.

City of Calgary: Housing Starts

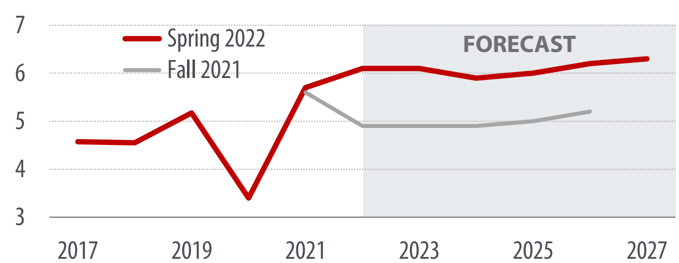
(thousands of units)



Source: CMHC, Corporate Economics.

City of Calgary: Total Building Permit Value

(billions of dollars)



Source: Statistics Canada, Corporate Economics.

Forecast Implications

Averages: Current (2019 to 2022) vis-à-vis Forecast (2023 to 2026) Budget Cycle

Economic Indicator	Current Service Plans and Budget Cycle 2019-2022 Average	Next Service Plans and Budget Cycle 2023-2026 Average	Forecast Implications
Assumptions			
World			
Real Gross Domestic Product Growth (%)	2.4	3.4	Higher global growth also highlights the staggered global COVID-19 response recovery from the different regions. The expected growing global demand pressures are positive attributes to supporting growth in Canada, however, Canada's exposure to global trade is currently significantly tied to the United States, Canada's biggest trading partner. The growth in global GDP and corresponding slow down in the United States GDP will have a push and pull effect on Canada.
The United States			
Real Gross Domestic Product Growth (%)	2.1	1.9	Reduction in demand for Canadian exports in next budget cycle as U.S. economic growth slows down. Canada's energy exports however expected to remain stable.
Canada			
Real Gross Domestic Product Growth (%)	1.3	2.0	With the effects of the COVID-19 pandemic fading away, the average rate of economic growth in Canada will be higher in the next budget cycle, supporting interprovincial trade.
Prime Business Loan Rate (%)	3.0	4.1	After dropping to record lows in 2020 and 2021, interest rates will rise to more typical levels during the next budget cycle, increasing The City's borrowing costs.
Exchange Rate (US$ for 1C$)	0.77	0.79	A mild increase in the value of the Canadian dollar in the next budget cycle will help to limit increases in the cost of imported goods.
Alberta			
Real Gross Domestic Product Growth (%)	0.9	2.0	The City's next budget cycle will be supported by the recovery in the oil and gas sector, as the province is expected to benefit from higher oil and gas prices.
Total Employment Growth (%)	0.8	1.9	The demand for City services will increase in the next budget cycle as pace of job growth increases.
Unemployment Rate (%)	8.6	6.0	Reduced demand for social assistance programs from The City as the number of unemployed persons reduces.
Housing Starts ('000 Units)	29.7	29.9	Relative stability in housing between current and next budget cycle, as relative affordability and international migration keeps demand steady.
Inflation Rate (%)	2.8	2.1	Despite persistent inflation in the current cycle due to pent-up demand and volatile energy markets, monetary policies by the Bank of Canada is expected to slow down consumer price growth in the next cycle . This is expected to reduce pressure on City revenue sources as the risks of insufficient revenue reduces.
West Texas Intermediate - WTI (US$/bbl)	66.1	79.5	Oil prices are expected to remain significantly elevated in the next budget cycle in comparison to the current cycle. This is due to a ramp-up in energy demand, compounded by geopolitical tensions that have led to volatile energy supply globally.
Western Canadian Select - WCS (US$/bbl)	52.2	63.2	Quality preferences and limited market access expected to be a contributing factor to slightly elevated WCS discount over the next cycle.
Alberta Natural Gas Price - AECO/NIT ($/GJ)	3.0	3.4	An increase in natural gas prices likely to increase operational costs for businesses, cost of living for households and increase in city franchise fees.
Industrial Product Price Index (%)	5.3	0.6	Price growth for finished products will be lower than the previous budget cycle, as inflation and production costs subside after 2022, reducing inflationary pressure in The City.
Raw Materials Price Index (%)	9.2	-0.5	Raw material prices are expected to decline after 2022 an into the next budget cycle as global supply chains stabilize and inflationary pressures die down within the region.
Alberta Average Annual Wage Rate Growth (%)	0.9	1.8	Higher wage growth in the next budget cycle will raise incomes as well as the cost of labour, contributing to inflationary pressure within the province and The City.

Forecast Implications

Averages: Current (2019 to 2022) vis-à-vis Forecast (2023 to 2026) Budget Cycle

Economic Indicator	Current Service Plans and Budget Cycle 2019-2022 Average	Next Service Plans and Budget Cycle 2023-2026 Average	Forecast Implications
Forecast			
Calgary Economic Region			
Real Gross Domestic Product Growth (%)	1.4	2.6	While the pandemic-driven recession has created significant economic challenges in the current budget cycle, stable growth is expected for the region in the coming budget cycle, supporting recovery in the non-residential tax base.
Total Employment ('000 persons)	868.6	960.5	An increasing employed population will bring an increased consumer base and increase demand for housing and services in the region.
Total Employment Growth (%)	1.2	2.6	Compared to the current budget cycle, which was impacted by the COVID-19 pandemic, the rate of employment growth will increase the rate of demand for City services and infrastructure in the upcoming budget cycle.
Unemployment Rate (%)	8.9	6.2	A falling unemployment rate in the next budget cycle will increase the competition for skilled workers and reduce demand for social services that support the unemployed.
Calgary Census Metropolitan Area (CMA)			
Housing Starts ('000 units)	12.8	13.3	Housing investments in the Calgary area are expected to increase slightly in the coming budget cycle as growth in Calgary's neighbouring municipalities continues.
Inflation Rate (%)	2.8	2.1	Following the high inflation of 2021-2022, increases in consumer prices will moderate in the coming cycle. More stability in the cost of goods and services helps limit the risks of cost overruns and budget adjustments.
Non-Residential Building Construction Inflation (%)	2.8	2.4	Costs are expected to rise every year in the forecast, yet average a lower non-residential escalation in the next budget cycle. Previously, cost escalation would generally skip a year or more.
City of Calgary			
Demography			
Total Population ('000 Persons) *at the end of the cycle*	1,314.2	1,399.1	Larger total population means demand for municipal services would be higher and the residential property tax base would increase.
Total Population Growth (%)	1.5	1.6	Calgary population continues to grow, from births as well as in migration. When the pandemic finally ends the City may find itself having to do a lot of catch-up to provide services to its larger population.
Net Migration ('000 Persons)	10.4	13.5	Following disruptions due to the COVID-19 pandemic in the current budget cycle, net migration to Calgary is expected to pick up in the upcoming cycle, supporting demand for housing.
Household Formation ('000 Units)	7.0	8.6	The higher household formation in the next budget cycle supports the narrative of a larger residential tax base and increased demand for City infrastructure and services.
Real Estate			
Residential Market			
Housing Starts ('000 units)	11.0	10.7	Stable residential construction activity in the next business cycle will support increases in the residential tax base, development and building permit activity, and demand for the continued expansion of City infrastructure.
Average Residential MLS Sale Price (% change)	3.4	3.1	Home affordability in Calgary will remain challenging for new housing market entrants in the upcoming cycle as price growth remains stronger than inflation.
Building Permits (city) ($billions)	5.1	6.1	Led by stable growth in residential and non-residential construction, as well as increases in the price of real estate, higher building permit values in the next budget cycle will lead to increased revenues and demand for services.

Context

Two years later, the COVID-19 recovery remains challenging, even as severity wanes and immunity improves

After two years of grappling with COVID-19, the world finally seems to be turning the corner. The rise in new cases and deaths globally has slowed significantly since the fourth pandemic wave towards the end of 2021. In particular, while new COVID-19 cases rose by 11 per cent in the first quarter of 2022, new COVID-related deaths in the first quarter of 2022 have declined by 24 per cent. In addition, the percentage of fully vaccinated persons globally crossed the 50 percent mark in 2022. Using data from the University of Oxford, by March 31, 2022, 58 per cent of the global population was fully vaccinated, marking an 8.5 percentage point increase from 2021. Despite the current pandemic wave in China and the subsequent restrictions imposed in hot spots as a result, there appears to be a more optimistic long-term outlook on how successful nations will be in containing the spread of the virus.

Despite the current pandemic wave in China and the subsequent restrictions in hot spots as a result, there appears to be a more optimistic long-term outlook on how successful nations will be in containing the spread of the virus.

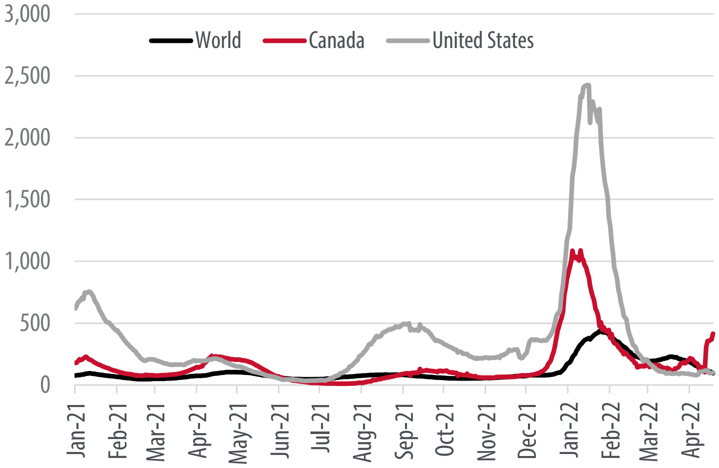
On February 8, 2022, Alberta dropped its vaccine passport mandates due to declining COVID-19 hospitalizations. On March 1, 2022, Alberta Premier Jason Kenney announced the lifting of most public health measures, including indoor masking mandates and capacity limits. In the absence of the discovery of new COVID-19 variants, the economic risks associated with new public health measures seem to outweigh the potential benefits.

The post-COVID-19 pandemic recovery, however, faces several challenges. Due to a significant relaxation in measures, the rapid rise in demand for goods and services has contributed to many countries grappling with persistent inflation, tight labour markets and global supply shocks.

Geopolitical tensions, specifically conflicts between Russia and Ukraine, have furthered the economic challenges within the post-COVID-19 era.

Context

New COVID-19 Cases per Million, 7-day Moving Average (as of April 18, 2022)
(*cases per million population*)

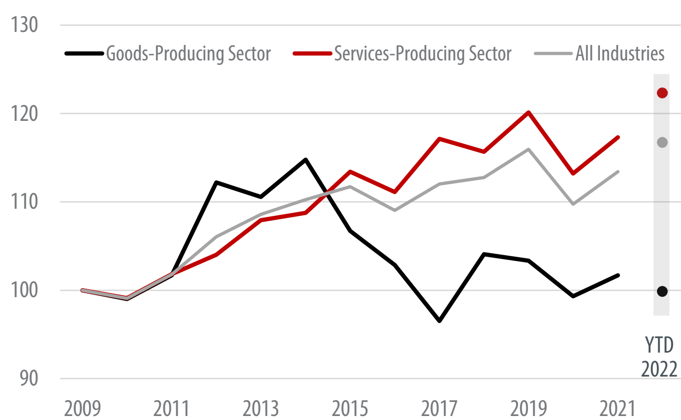


Source: Our World in Data, Corporate Economics.

The Economic Recovery of the Contact-Intensive Services-Producing Sector in 2022

When public health measures were in place in 2020 and in 2021, many businesses could not operate at full capacity or open at all, primarily in the services-producing sector. The most severely impacted industries were those most reliant on close human contact, such as food and accommodation or arts and recreation. In the Calgary Economic Region (CER), total employment in services-producing industries fell by 5.8 per cent in 2020 and remained 2.3 per cent below 2019 levels in 2021.

Calgary Economic Region: Indexed Employment by Sector (2009 - YTD 2022)
(*index 2009=100*)



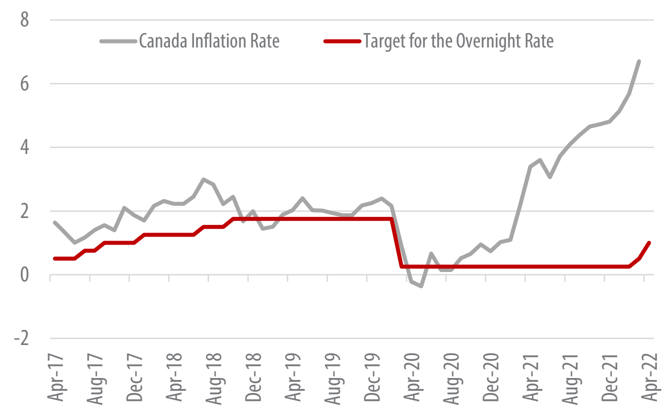
Source: Statistics Canada, Corporate Economics.

In 2022, the extreme challenges faced by contact-intensive services-producing businesses are subsiding. When nearly all public health restrictions in Alberta were lifted on March 1, 2022, contact-intensive businesses could again operate at full capacity. So far in 2022, significant recovery in the CER as a result of relaxed restrictions can already be seen, with services-producing employment in Q1 2022 6.1 per cent higher than in Q1 2019. This recovery of employment in the services-producing sector is expected to continue through 2022.

Tightening Monetary Policy as Inflation Poses Challenges

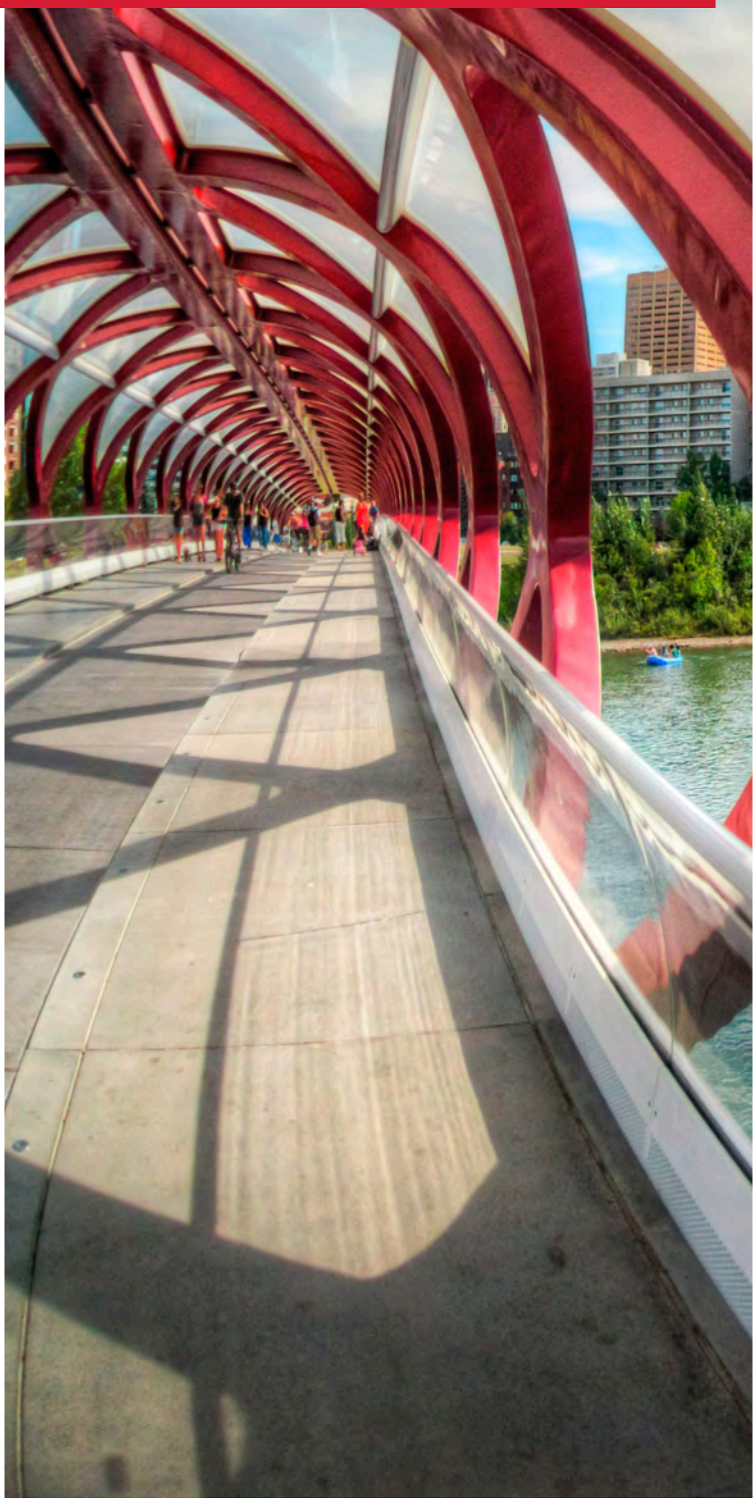
Following the onset of the COVID-19 pandemic, the Bank of Canada reduced interest rates to record lows to support the struggling economy. However, as the economy began to recover, higher demand, high energy prices and supply chain disruptions led to increasing inflation in 2021. In 2022, the conflict in Ukraine and related sanctions on Russia have only added to inflationary pressures. In response, the Bank of Canada began to raise the overnight interest rate target on March 2, 2022, with a second, larger increase of half a percentage point on April 13. Continued incremental rate hikes are expected this year and next. Higher interest rates will help to combat inflation but may pose challenges to highly indebted households and reduce incentives for business investment.

Canada: Bank of Canada's Target for the Overnight Rate and CPI Inflation (April 2017 - April 2022)
(*per cent*)



Source: Bank of Canada, Corporate Economics.

Assumptions and Risks



Forecast Assumptions

Coexisting with COVID-19 and Variants Moving Forward

- The lifting of pandemic health-related restrictions across many countries as the severity of the current pandemic impact wanes is assumed to continue as we go forward. We expect vaccinations, therapies and approaching regional herd immunity should prevent potential widespread economic lockdowns that were experienced in previous years. As a result, the economic impacts of regional health policy reactions are expected to be minimized. Over the last two years of COVID-19 and its variants, the world has become better equipped to adapt to pandemic-related economic disruptions.
- Oil prices are expected to remain high in 2022 as global demand maintains strength due to pandemic-related health policy relaxations worldwide. The strength in global demand is partly due to increased commuting as workers return to offices, increasing local and international travel, and increased production.
- The United States and Canada's other major trading partners are expected to see strong economic growth in 2022 and increase demand for Canadian goods and services exports.
- The Bank of Canada is expected to increase the overnight policy rate significantly in 2022 to tackle persistent high inflation, a reverse in monetary stance from a year ago. The Bank of Canada has also ended quantitative easing as of April 25, 2022, further tightening the monetary policy stance.
- Global GDP growth is expected to remain strong in 2022 despite the war in Ukraine.
- It is assumed that the war between Russia and Ukraine will be short-lived (year-end), however, some economic sanctions against Russia will remain in place after the war.

Assumptions and Risks

Forecast Risks

Upside Risks:

- The world has been building up immunity against COVID-19 and its variants since 2020. The availability of vaccines, therapies, and regional approaches to herd immunity have enabled the relaxation of public health-related restrictions in Canada and worldwide. If the health severity of other variants of COVID-19 remains low, we should expect to see the correction of some supply chain limitation challenges created by the pandemic and previous public health-related measures.
- The actions of the Bank of Canada and other Central Banks to quickly rein in inflation are successful, and the supply chain bottlenecks are correspondingly resolved. It would stem the power purchasing erosion for households and businesses from inflation faster than expected.
- The war in Ukraine pushes the European Union to seek permanent access to energy from alternative sources other than Russia. In this case, Canada can potentially fill this need long-term.

Downside Risks:

- The discovery of new COVID-19 variants proves to be more severe and there is a return to health-related public policy measures. This would add further challenges to the current supply chain limitations and result in slower or delayed economic growth.
- The high inflation persists despite a tighter monetary policy stance, implying that cost-push factors persist, leading to over-dampened household demand as wages fail to keep pace with inflation.
- The war in Ukraine is prolonged. It would cause food instability in different regions of the world. In addition, it would lead to higher energy prices impacting non-energy producing countries more significantly and further speed up geopolitical unrest.

Risk Scenarios

Given the uncertainty surrounding how the conflict in Ukraine will play out, we have considered three potential scenarios. These scenarios are defined primarily by the impact of the conflict on global oil prices.

- **Base case**

  The forecast assumptions listed earlier apply to the base case scenario. In this scenario, the Russia-Ukraine conflict has a significant impact on oil prices and other commodity prices this year. The conflict reaches a resolution by the end of 2022 and the global effects of the conflict wane in 2023.

- **Escalated Scenario**

  In the escalated scenario, the impact of the conflict on commodity prices is more extreme. Nations' sanctions against Russia are tightened and other oil-producing countries do not increase oil production to fill the gap. In addition, the conflict is longer than expected and its effects continue through 2023.

- **De-escalated Scenario**

  In the de-escalated scenario, the conflict is more short-lived, coming to a resolution in mid-2022. Sanctions against Russia are less severe than in the other scenarios, and other oil-producing nations increase output and bring down global oil prices.

The escalated scenario represents a worst-case scenario among the three for the world, leading to a slowdown in economic growth, high inflation, and the death and destruction associated with a continued conflict. However, Alberta and Calgary's oil and gas sector would benefit from high energy prices. As a result of this benefit, better economic outcomes for Alberta and Calgary would develop under the escalated scenario.

The potential impacts of these three scenarios on key indicators of Calgary's economy are illustrated below. Despite the challenges of predicting the outcomes of major geopolitical conflicts, the base case scenario is considered the most likely outcome. For this reason, only the base case assumptions are considered for the remainder of this document.

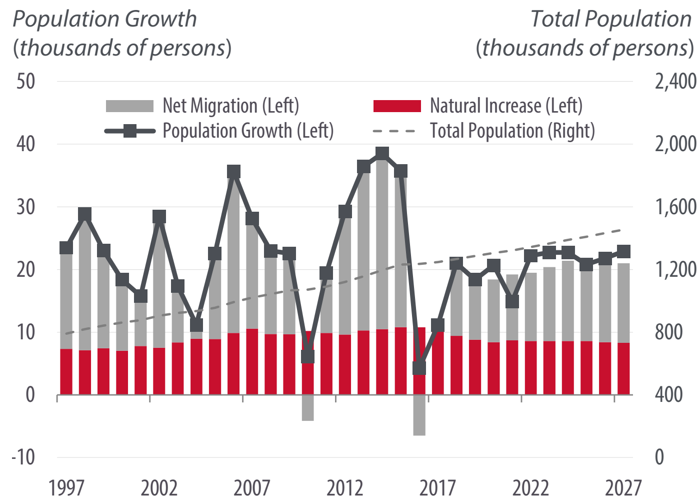
		De-escalated Scenario	Deviation from Base Case: Per cent or percentage points	Deviation from Base Case: Cumulative Change in level	Base Case	Escalated Scenario	Deviation from Base Case: Per cent or percentage points	Deviation from Base Case: Cumulative Change in level
WTI Oil Price ($US/bbl)	2022	84	▼ -16.0%		100	120	▲ +19.8%	
	2023	72	▼ -18.3%		88	121	▲ +37.4%	
CER GDP Growth (%)	2022	4.4	▼ -1.1 pp	-1.2 billion, 2012$	5.5	6.6	▲ +1.1 pp	+1.2 billion, 2012$
	2023	3.4	▼ -0.2 pp	-1.5 billion, 2012$	3.6	4.5	▲ +0.9 pp	+2.3 billion, 2012$
CER Employment Growth (%)	2022	3.8	▼ -0.3 pp	-2.7 thousand	4.1	4.4	▲ +0.3 pp	+2.5 thousand
	2023	3.4	▼ -0.1 pp	-3.3 thousand	3.5	3.7	▲ +0.2 pp	+4.0 thousand
CER Unemployment Rate (%)	2022	8.0	▲ +0.3 pp		7.7	7.3	▼ -0.4 pp	
	2023	7.2	▲ +0.3 pp		6.9	6.4	▼ -0.5 pp	
CMA CPI Inflation (%)	2022	5.2	▼ -0.4 pp		5.6	6.7	▲ +1.1 pp	
	2023	2.5	▼ -0.1 pp		2.6	2.9	▲ +0.3 pp	
City of Calgary Population Growth (%)	2022	1.6			1.6	1.6		
	2023	1.6	▼ -0.1 pp	-1.5 thousand	1.7	1.8	▲ +0.1 pp	+1.4 thousand
City of Calgary Housing Starts (thousands of units)	2022	12.4	▼ -2.4%		12.7	13.2	▲ 3.9%	
	2023	11.3	▼ -1.7%		11.5	11.9	▲ 3.5%	
City of Calgary Total Building Permits ($billion)	2022	5.9	▼ -3.3%		6.1	6.3	▲ 3.3%	
	2023	6.0	▼ -1.6%		6.1	6.3	▲ 3.3%	

Forecast

City of Calgary

Population

Population Growth in Calgary by Components



Source: The City of Calgary, Corporate Economics.

The City of Calgary's population as of April 1, 2021, is estimated at 1,321,255 persons. Amid the COVID-19 pandemic, Calgary's 2021 population growth rate of 1.1 per cent remained well below Calgary's average growth rate of two per cent over the previous 10 years. 2021's relatively low net migration of about 6,100 was largely to blame for the low population growth, as the Calgary region faced high unemployment and the COVID-19 pandemic led to a slowdown in international migration.

By April 1, 2022, Calgary's population is estimated to have increased to 1,343,502 persons, growing by about 22,300 persons (1.7 per cent) since 2021. Due to the dropping of pandemic-related barriers to immigration, net migration improved for 2022. It reached an estimated 13,700 persons, despite Calgary's high unemployment rate relative to other Canadian cities.

As international immigration continues and Calgary's job market slowly improves relative to the rest of Canada, net migration is expected to average at 13,700 persons over the 2023-2027 period. By 2027, Calgary's population is forecast to reach 1,454,400 persons, growing by 110,900 persons compared to 2022. Of this growth over the next five years, 61.7 per cent is expected to be attributable to net migration. Natural increase (births minus deaths) accounts for the remaining 38.3 per cent of population growth by 2027.

Textbox 1. Why The City Population Estimate differs from the Federal Census

The 2021 Federal Census population count for Calgary was released on February 9, 2022. In that census, Statistics Canada estimated the population of Calgary at 1,306,784 persons. This is approximately 20,000 persons less than we were expecting.

Our expectations of the 2021 Federal Census came from our calculations using previously available data. Using the 2011 Federal census and data from Statistics Canada's Alberta Components of Growth by Quarter, we projected the 2016 Federal Census count at 1,235,900 which differed by only 3,300 persons from the 2016 Calgary Municipal Census. With the same approach, we used the 2016 Federal Census data and Alberta Components of Growth by Quarter data and estimated the 2021 Calgary population at 1,328,250. A difference of 21,500 from what was released in the 2021 Federal Census.

The difference may come from the timing of the Federal Census and the ongoing COVID-19 pandemic. Although the official reference date of the 2016 Federal Census was in May, Albertans were polled in February and March, when post-secondary students were present for classes. During the 2021 Federal Census, the official census date for Alberta was May 11, after post-secondary students had completed their winter semester and many had departed Calgary for summer employment or returned to their home towns.

Additionally, during May 2021 the province of Alberta was under mandatory Work From Home measures (May 4, 2021 to July 1, 2021) which allowed some people to work from other locations. Some subjective reports suggested that some people who have vacation properties relocated to those locations and remoted into the office from there. Under usual circumstances the Federal Census would assign people to their "ordinary residence", but the Work From Home orders were not usual circumstances. It is likely that some of these individuals slipped through the cracks as this was an event that had never impacted a federal census before.

At the time of this writing (early April 2022) we anticipate that when detailed population demographic information is released on April 27 by Statistics Canada it should show a decline in the population of 18–24-year-old residents of Calgary (post-secondary students) as well as a slight decrease in individuals in the 45–55-year cohort (remote workers more likely to own vacation properties). Although that accurately represents the population of Calgary on May 11, the unusual events of the day represent a significant departure from previous federal and municipal census counts.

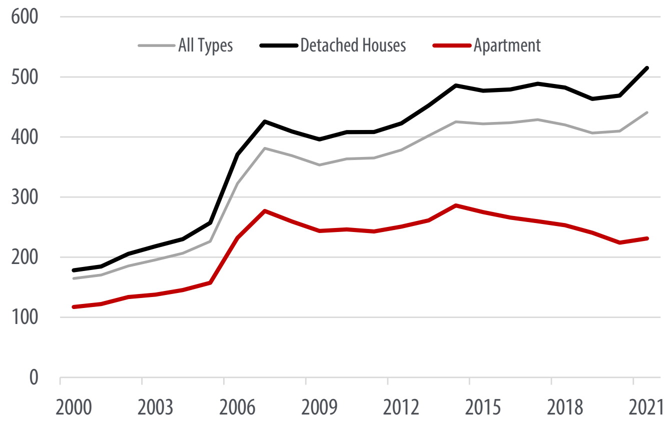
We have prepared our estimate of Calgary's population and this year's population forecast based upon a reference date of April 1, 2021. This is consistent with previous municipal census dates and the 2016 Federal Census, when post-secondary students were in session and mandatory Work From Home orders were not in place.

Forecast

Residential Real Estate Market

Price Signals

City of Calgary: MLS Resale Market Median Prices
(2000-2021)
(*thousands of dollars*)



Source: Calgary Real Estate Board (CREB), Corporate Economics.

After six years of underperformance since the oil price collapse in 2014, the residential resale market in the city of Calgary strengthened in 2021. The MLS median price for all types of resale homes in the city of Calgary increased by eight per cent over a year, from $409,825 in 2020 to $440,628 in 2021. The resale price appreciation last year was higher than the five per cent annual average growth rate in the past twenty years.

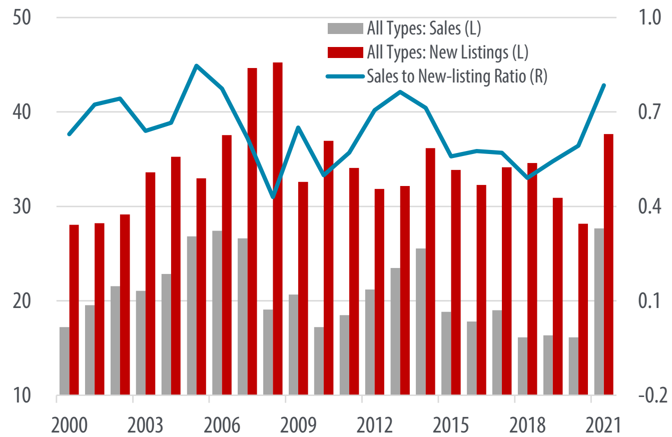
The median price for detached houses increased by 10 per cent, from $468,933 in 2020 to $514,833 in 2021. The price appreciation in the detached housing market was well above the 6 per cent average annual growth rate seen between 2001 and 2021.

The median price for apartments in Calgary declined continuously for six years starting in 2014, with the accumulated price depreciation reaching 22 per cent between 2015 and 2020. It means an apartment unit sold at $285,960 in 2014 would have sold at $224,121 in 2020. The weaker demand in the apartment market finally turned in 2021, as other types of houses were becoming less affordable. The median price for apartments in Calgary increased by three per cent, from $224,121 in 2020 to $231,146 in 2021.

With the Bank of Canada expected to raise interest rates multiple times this year, we expect the housing market in Calgary may be likely to cool down in the next few years. Our model forecasts the average MLS price for all types of resale homes in Calgary to increase by as much as 10.2 per cent in 2022 and 5.0 per cent in 2023, trending down to 2.6 per cent per year over the 2024 to 2027 period.

Resale Market Activities

City of Calgary: MLS Resale Market Activities
(2000-2021)
(*thousands of units*) (*ratio*)



Source: Calgary Real Estate Board (CREB), Corporate Economics.

The resale housing market in Calgary was red hot in 2021, fueled by historically low mortgage rates and pent-up household demand caused by pandemic health-related restrictions. The total MLS sales for all types of existing homes in the city jumped dramatically, up by 71 per cent from 16,149 units in 2020 to 27,685 units in 2021.

In response to the higher demand and higher prices, MLS new listings also increased. The total MLS new listings increased from 28,165 units in 2020 to 37,670 units in 2021, up by 34 per cent over a year. The faster sales than new listings resulted in a drawdown in the city's already lower resale housing inventory. The MLS resale home inventory dropped to 5,297 units in 2021, down by seven per cent from 5,720 units in 2020 or by 20 per cent from 6,663 units in 2019.

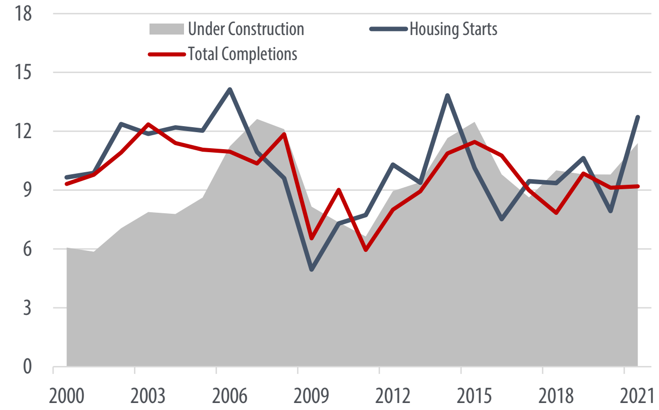
Calgary's housing market last year was a strong seller's market, with the sales to new listing ratio up from 0.59 in 2020 to 0.78 in 2021. Bidding wars occurred more often, with selling prices being greater than asking prices for resale properties.

With the interest rates rising and home prices increasing, the housing market is expected to cool down over the forecast horizon.

Forecast

New Home Market Activities

City of Calgary: Residential Construction Activities
(2000-2021)
(units)



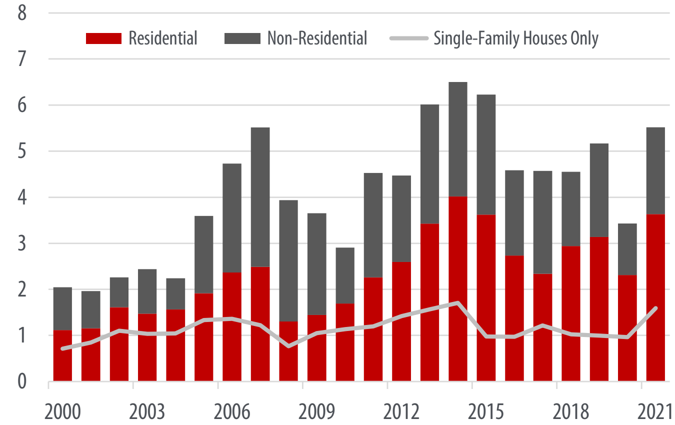
Source: Canada Mortgage And Housing Corporation (CMHC), Corporate Economics.

2021 was a great year for Calgary's residential construction industry. Total housing starts in the city jumped from 7,939 units in 2020 to 12,722 units in 2021, up by 60 per cent year over year. Single-family housing starts were up by 52 per cent, from 2,716 units in 2020 to 4,140 units in 2021. After a 40 per cent decline in 2020, apartment housing starts increased by 88 per cent to 6,065 units in 2021, from 3,228 units in 2020.

While housing starts increased sharply in 2021, labour shortages in the construction industry caused less impressive completions in all types of residential construction. The total completions in the city only increased marginally at 1 per cent, while housing units under construction increased by 16 per cent between 2020 and 2021. The larger number of under-construction housing units should keep the home builders busy for 2022, softening the impact of higher interest rates on the future demand for the industry.

Building Permits

City of Calgary: Building Permit Value by Type
(2000-2021)
(billions of dollars)



Source: The City of Calgary, Corporate Economics.

The total value of building permits in the City of Calgary increased to $5.7 billion in 2021, up by 66 per cent from $3.4 billion in 2020. The higher building permit value was driven by higher construction intention in both the residential and non-residential markets. The building permit value for residential construction was $3.7 billion in 2021, up by 59 per cent from $2.3 billion in 2020. The building permit value for non-residential construction was $2.0 billion in 2021, up by 81 per cent from $1.1 billion in 2020.

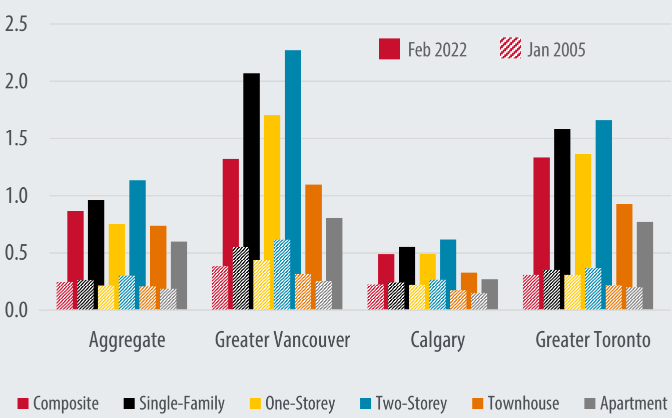
With rising interest rates and cost escalation for building materials, we forecast the total value of building permits should increase by 6.6 per cent in 2022 and by 0.4 per cent in 2023. The total building permit values are expected to average $6.1 billion per year over the 2024 to 2027 period. The increase in building permit value this year will be driven by the non-residential sector, expected to grow by as much as 8.0 per cent. In comparison, growth in the residential sector is estimated to increase by 5.9 per cent.

Forecast

Textbox 2. Is there a housing affordability problem on the horizon for the city? A historical supply-side review

The Canadian real estate market has been red hot for more than a year since the country came out of COVID-19 lockdowns. With the pent-up demand contributing to higher prices, housing affordability is becoming an issue or even a crisis in many urban centers across Canada. It raises an important question for Calgary: is there a housing affordability problem on the horizon for the city?

Chart 1. CREA Benchmark Prices by Type
(Seasonally Adjusted, Jan 2005 vs. Feb 2022)
(*millions of dollars*)



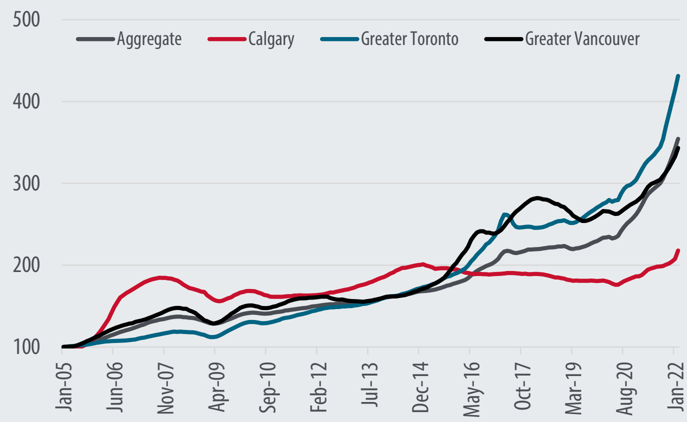
Source: The City of Calgary, Corporate Economics.

A review of housing price history shows that Calgary has one of the lowest housing prices across major Canadian cities, and the price appreciation is also slower in the city. The Canadian Real Estate Association (CREA) publishes monthly MLS housing price index (HPI) data detailing benchmark prices by various housing types for more than fifty Canadian cities.

In January 2005, the aggregate benchmark price for all cities was $245,100 for all dwelling types (composite)[1,2], It was $263,200 for single-family houses and $188,800 for apartments. Compared to Vancouver and Toronto, Calgary had the lowest benchmark prices in all housing categories. For example, the benchmark price for single-family houses was $242,100 in Calgary, compared to $351,800 in Toronto and $552,500 in Vancouver. The benchmark price for apartment units was $148,800 in Calgary, compared to $200,200 in Toronto and $252,700 in Vancouver.

Seventeen years later, in February 2022, the benchmark price for the composite housing category increased to $868,400 for all Canadian cities, while it was $487,700 in Calgary, $1,321,200 in Vancouver, and $1,333,000 in Toronto. While the benchmark price for single-family houses more than doubled from $242,100 in January 2005 to $553,000 in February 2022 in Calgary, it tripled in Vancouver to $2,068,800 and quadrupled in Toronto to $1,584,100 over the same period. Even an apartment unit would cost more than a half-million in Vancouver and Toronto now, while the benchmark price was $268,500 in Calgary (Chart 1).

Chart 2. MLS Home Price Index (HPI): Calgary vs. Other Cities (January 2005 - February 2022)
(*index January 2005=100*)



Source: CREA, Corporate Economics.

Between January 2005 and February 2022, the MLS housing price appreciation was the lowest in Calgary, compared to all cities (aggregate), especially Vancouver and Toronto (Chart 2). Part of the reason was the oil price collapse in late 2014, which threw Calgary and Alberta into recession while the rest of Canada enjoyed stable growth until the COVID-19 pandemic hit. However, in the past seventeen years, the pop-

1 Aggregate Benchmark prices for areas in the base (reference) period of January 2005 are based on the weighted contribution of sales activity in constituent sub-areas for each Benchmark category (1-storey single family, 2-storey single family, townhouse/row unit, and apartment unit).

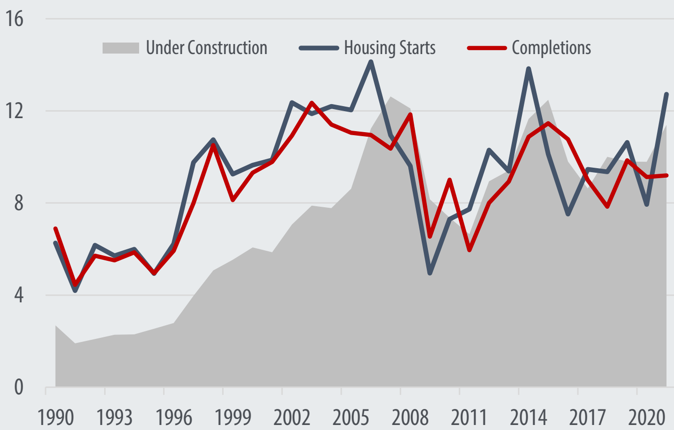
2 Composite category represents all homes used in estimate models, including one- and two-story single-family homes, townhouses, and apartments.

(continued...)

Textbox 2. Is there a housing affordability problem on the horizon for the city? A historical supply-side review

ulation growth in Calgary surpassed that in Vancouver and Toronto. The latest Statistics Canada estimates show that the total population in the Calgary Census Metropolitan Area (CMA) grew by 44 per cent from 2005 to 2021, compared to the growth of 25 per cent in the Toronto CMA and 28 per cent in the Vancouver CMA.

Chart 3. New Housing Market Activity in the City of Calgary (1990-2021)
(*thousands of units*)



Source: CMHC, Corporate Economics.

In response to the fast-growing population, the residential building industry in Calgary has been working hard to provide a sufficient supply to the local market with various options. Housing starts in the city of Calgary increased from below 6,000 units a year in the early 1990s to above 12,000 units during the 2004-2005 housing boom. Housing starts in Calgary returned to this boom-era level with 12,722 units in 2021.

Over the past three decades, housing options have changed significantly in Calgary, with the share of single-family houses declining and the share of apartment units increasing. In 1990, single-family houses accounted for 85 per cent of the total housing starts. The ratio declined to 61 per cent in 2005 and 31 per cent in 2021. In the meantime, apartment units accounted for four per cent in 1990, 26 per cent in 2005 and up to 44 per cent in 2021. The shifting housing starts from single-family houses to apartment units in Calgary followed the trends in other big cities like Vancouver and Toronto. In 1990, single-family houses accounted for 35 per cent of the total housing starts in Vancouver and 38 per cent in Toronto. In 2021, the share declined to 12 per cent in Vancouver and 17 per cent in Toronto. The share of apartment unit housing starts was up from 45 per cent in 1990 to 75 per cent in 2021 in Vancouver. It was up from 51 per cent in 1990 to 72 per cent in 2021 in Toronto.

Over the past three decades, Calgary's residential construction industry completed 280,448 units of all types of houses or 96 per cent of the total housing starts in the city. The completion ratio was the highest in single-family houses at 100 per cent but was much lower in apartment units at 88 per cent. The reason behind this was mainly the difference in construction times. Most single-family houses can be completed within a year, but apartment buildings, especially those high-rise buildings, may take several years.

The total inventory of housing units under construction in the city of Calgary was 11,399 in 2021, with 2,218 single-family houses and 3,889 apartment units. Before 2006, the average under-construction inventory was lower than the annual housing starts. Since then, the under-construction inventory has been higher than housing starts, suggesting the longer construction phases for more apartment buildings and an industry running at its full capacity.

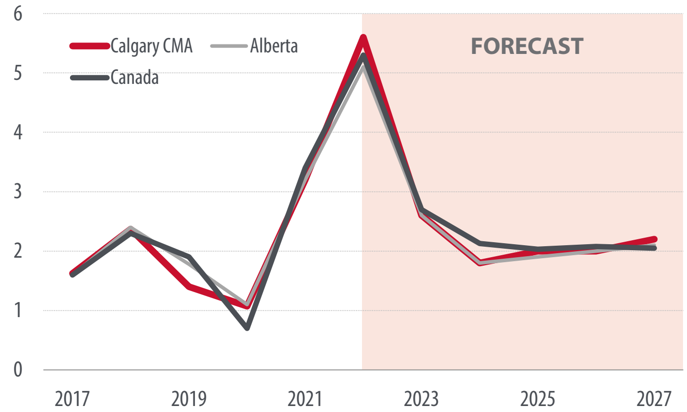
Rising interest rates may impede housing affordability in many Canadian urban centers, but with relatively lower housing prices and higher employment incomes, affordability would be less acute in the city of Calgary. A higher interest rate environment should dampen demand for housing and provide the home building industry with a chance to catch up with the construction backlogs.

Forecast

Calgary Census Metropolitan Area (CMA)

Consumer Price Index (CPI) Inflation

CPI Inflation: Calgary CMA vs. Alberta and Canada
(*per cent*)



Source: Statistics Canada, Corporate Economics.

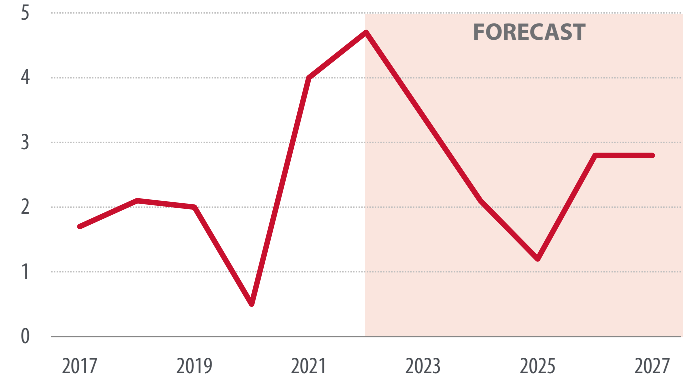
As Calgary's economy began to recover in 2021, it also faced increasingly high price inflation, driven by local and global factors. The annual Consumer Price Index (CPI) in the Calgary CMA increased by 3.2 per cent in 2021, the highest annual inflation rate since 2007. Soaring global energy prices led to increased transportation costs and higher utility bills for households. A series of global supply chain disruptions impacted the production and transport of internationally traded inputs such as computer chips for electronics and new vehicles, as well as finished goods. An increase in demand for these types of products as the economy recovered from the pandemic only exacerbated the inflationary impacts of these supply chain challenges.

Closer to home, drought conditions in Western Canada in the summer of 2021 contributed to increases in local food prices, which were also impacted by higher transportation costs. In addition, rock-bottom interest rates, increased demand for living space following the pandemic, and pent-up demand caused a significant house price increase in 2021. The combination of all these global and local effects created a substantial increase in the cost of living in 2021.

In 2022, rather than subsiding, inflationary pressures are set to increase. While the contributing factors to inflation in 2021 are still at play, the conflict in Ukraine and corresponding sanctions against Russia by many countries have worsened global supply challenges. Many global commodity prices—including prices for oil, agricultural products, and various metals and other raw materials for use in manufacturing—have now massively trended upward and remain volatile. With these additional pressures, the CPI inflation rate for the Calgary CMA in 2022 is forecast to reach 5.6 per cent, despite the Bank of Canada beginning to increase its policy interest rate in 2022. As interest rates climb further and global commodity markets stabilize, inflationary pressures are forecast to ease in 2023 and beyond. In the Calgary CMA, inflation is expected to soften to 2.6 per cent in 2023, then average at the standard target rate of 2.0 per cent per year from 2024 to 2027.

Non-residential Building Price Inflation

Calgary CMA: Non-residential Building Construction Inflation
(*per cent*)



Source: Statistics Canada, Corporate Economics.

Wages in construction are starting to slowly trend upwards, particularly in residential construction markets, which now represent about 75 per cent of construction projects. Shortages for some trades in residential construction are being felt. Some larger builders are now considering importing crews from other jurisdictions to keep house construction on schedule and on budget. That will lessen the pressure on some trades and limit wage increases to non-residential trades.

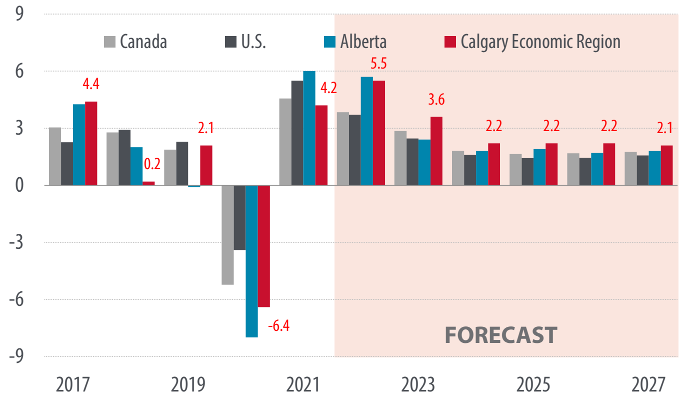
Still, energy and material prices have increased significantly this year, and these should filter into non-residential construction costs quickly. We anticipate some project delays as material deliveries are negatively impacted by ongoing transportation issues, including unexpected protests that disrupted road networks. Also, the primary risk of continued high oil prices could lead to significant investment in oil and gas projects, tightening labour markets and pushing construction costs higher than we currently forecast.

Forecast

Calgary Economic Region (CER)

Real GDP Growth in the CER

Real GDP Growth: CER vs. its Major Trading Partners
(*per cent*)



Source: Statistics Canada, U.S. Bureau of Economic Analysis, Corporate Economics.

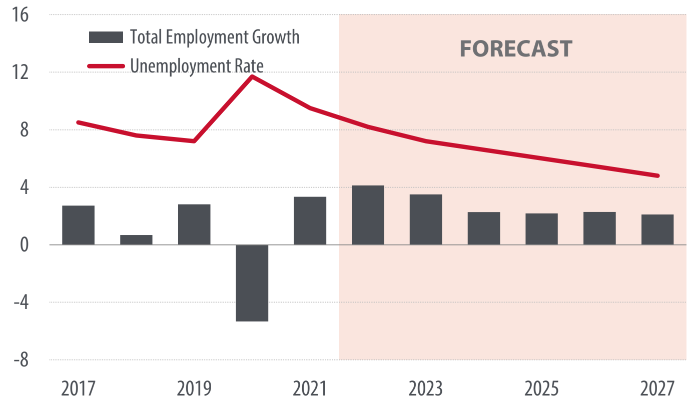
In 2020, the dual effects of the COVID-19 pandemic and a collapse in global oil prices had a massive negative effect on the Calgary economy. Economic activity in the region, as measured by real GDP, fell by 6.4 per cent in 2020. In 2021, the tide turned for the better for the local economy. Despite additional waves of COVID-19 infections and public health restrictions throughout 2021, the distribution of vaccines and continued adaptation to the pandemic allowed the economy to begin to recover. In addition, recovering oil prices lent support to Calgary's energy industry. These effects led to real GDP growth of 4.2 per cent in the CER in 2021.

The CER's real GDP growth in 2021 was not as strong as in Alberta or Canada, and it was not enough to return to pre-pandemic levels. However, in 2022, the economic recovery in the CER is expected to be stronger. On March 1, 2022, nearly all remaining public health restrictions related to COVID-19 were removed. Exceptionally high oil prices in 2022 will also contribute to greater strength in Calgary's economy. Through these developments, real GDP in the CER is expected to grow by 5.5 per cent in 2022, only slightly behind Alberta's pace of GDP growth.

Following growth of 3.6 per cent in 2023, real GDP growth in the CER is expected to stabilize at a more moderate rate, with yearly increases averaging at 2.2 per cent from 2024 to 2027.

CER's Labour Market

CER Employment Growth and Unemployment Rate
(*per cent*)



Source: Statistics Canada, Corporate Economics.

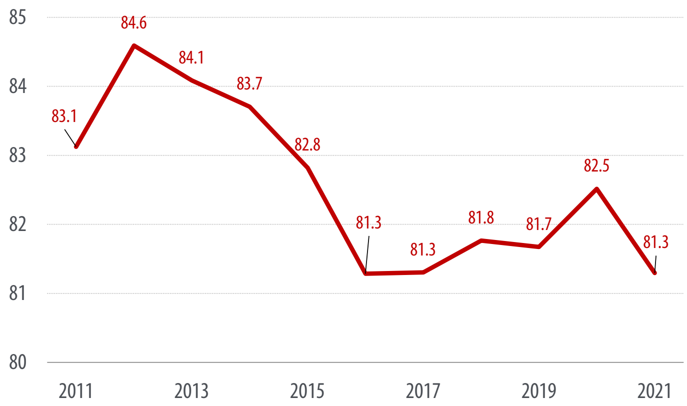
Like GDP, the CER's labour market also started recovery in 2021. After a loss of 47,000 jobs in 2020, a 5.3 per cent drop in total employment, 27,800 jobs were added in the CER in 2021. Representing a 3.3 per cent increase in total employment, the CER's employment recovery in 2021 was a positive step but trailed Alberta's employment growth. Employment in the CER remained 2.2 per cent below the pre-pandemic levels of 2019, while Alberta's 2021 employment sat only 1.8 per cent below 2019.

The increase in employment led the CER's unemployment rate to fall in 2021. After reaching 11.7 per cent in 2020, the average unemployment rate through 2021 was 9.1 per cent. Despite the improvement, the CER's unemployment rate in 2021 remained the highest among the economic regions of all major Canadian cities.

Examining the number of full-time versus part-time jobs in the CER in 2021 reveals some remaining challenges hidden behind the growth in employment. While 67 per cent of all jobs lost in the CER in 2020 were full-time positions, only 45 per cent of the recovered employment in 2021 was full-time. Of the jobs gained in 2021, 55 per cent were part-time positions. As a result, the share of employment with full-time hours in the CER decreased from 81.7 per cent in 2019 to 81.3 per cent in 2021.

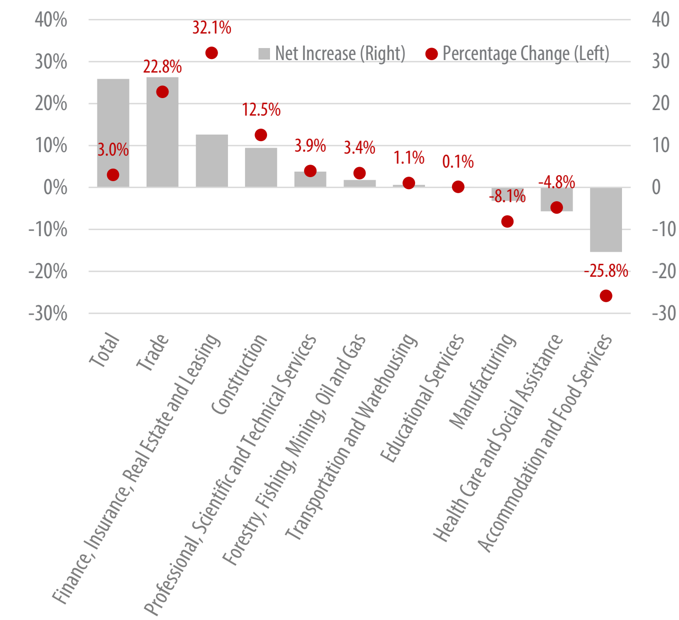
Forecast

Full-time share of Total Employment in the CER
(*per cent*)



Source: Statistics Canada, Corporate Economics.

Calgary Economic Region: Employment Change in Selected Industries (Feb 2020-Feb 2022)
(*per cent*) (*thousand of persons*)



Source: Statistics Canada, Corporate Economics.

While average employment for 2021 remained below pre-pandemic levels, more recent monthly data shows a more positive picture for 2022.[3] By February 2022, total employment in the CER reached a level 3.0 per cent above the employment recorded in February 2020, immediately before the pandemic in Calgary. Over this timeframe, goods-producing industries performed slightly better, with employment increasing by 3.3 per cent over 24 months, while services-producing industries experienced only a 2.9 per cent increase.

Among specific industries, the most significant employment growth rates between February 2020 and February 2022 were seen in finance, insurance, real estate and leasing (+32.1 per cent), trade (+22.8 per cent), and construction (+12.5 per cent). Industries that saw a decline in employment over these 24 months, include accommodation and food services (-25.8 per cent) and manufacturing (-8.1 per cent).

Strong employment growth is forecast for the CER for the rest of 2022. Annual employment is forecast to grow by 35,600 to reach a total employment figure of 897,400, representing a 4.1 per cent annual increase. For 2023, there is a 3.5 per cent employment growth forecast, with growth averaging at 2.2 per cent between 2024 and 2027.

Corresponding to the strong employment growth, the unemployment rate in the CER is forecast to fall to 7.7 per cent in 2022 and 6.9 per cent in 2023 and decline steadily until 2027.

3 The monthly data reported in this section represents three-month moving averages.

Textbox 3. Calgary's Budding Technology (Tech) Sector Holds Promise

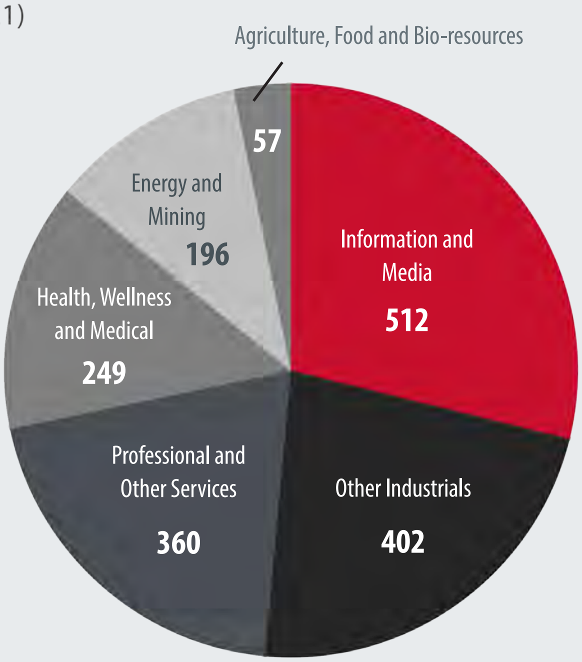
Much has been said in recent years about Calgary's potential as a technology (tech) hub as the local economy begins to diversify away from an oil and gas predominance. But what even is the tech sector, and how does it fit into Calgary's economic landscape? Rather than a specific industry, the tech sector is a loosely defined collection of subindustries related to the production or use of advanced technology. While software and information technology (IT) companies may be the first to come to mind, Calgary's tech sector also reaches areas as diverse as robotics, carbon capture, utilization and storage (CCUS), and plant-based natural products. Many tech companies also bridge the gap between traditional industries and digital technologies, in areas such as agritech, fintech, or healthtech.

The increasing speed of digital transformation experienced around the world has led to a rise in the global importance of the tech sector. The increasing demand for high-tech solutions presents an attractive opportunity for Calgary to transform itself into a hub for innovation and entrepreneurship in the technology space. Calgary's history as an oil and gas city means that it has many highly educated workers who could be able to branch out into the tech sector as the city expands its economy. Post-secondary educational institutions in Calgary have begun to expand their offerings in digital education, and incubator and accelerator organizations have been established to assist startups to grow into successful businesses. Calgary also offers an attractive quality of life and housing affordability to stand out from the countless other cities in the world hoping to benefit from the digital transformation and attract tech investment.

Recent investment activity reported by the tech investment tracker briefed.in demonstrates the tech growth already seen in Calgary. In 2021, Calgary attracted $322.2 million across 55 tech investment deals, with the total value of investments up seven per cent from 2020 and up 96 per cent from 2019.[4]

In April 2021, the Alberta Enterprise Corporation released a study showing that Calgary was home to 1,776 tech companies in 2021, up from 767 in their 2018 study.[5] These companies represented several industries. Information and Media made up the largest share at 28.8 per cent, including software and data processing companies. The range of industries represented is another positive sign for the growth of a tech environment in Calgary.

Tech Companies in Calgary by Industry (2021)



Source: https://www.alberta-enterprise.ca/wp-content/uploads/2021/04/AEC-Deal-Flow-Report-2021-April-21.pdf

The tech sector holds promise as an avenue for future economic growth in Calgary, but there are still challenges to be overcome. Reskilling oil and gas workers into the tech sector takes time, and Calgary must be able to attract and keep medium to large tech companies as well as producing startups. If Calgary can address these challenges successfully, the tech sector may become a big part of Calgary's future economy.

4 briefed.in, 2021 Q4 Calgary Tech Ecosystem Report.

5 Alberta Enterprise, "2021 Alberta Technology Deal Flow Study".

Forecast

Commodity Price Inflation Rates

Shocks and Shortages

Supply chains continue to be impacted by current events affecting productivity in key industries like semiconductors globally. As a result, the global shortage of microchips continues to impact the availability of final products, especially motor vehicles.

In the past year, new issues have come about to impact supply chains, particularly in Canada. Wildfires last summer impacted trade routes into and out of British Columbia (BC) with severe impacts on domestic industries like lumber. As those issues were cleared up and backlogs began decreasing, protesters, particularly those ordinarily engaged in long-haul transportation, began random and targeted blockades. These protests resulted in severe limitations on international trade at some border crossings, which created significant backlogs in trade. Unfortunately, random and organized targeted protests in business zones across Canada have adverse effects. Early in 2022, it was not uncommon for a few large transportation vehicles to form a blockade at key highway routes and streets, such as in Alberta, British Columbia or Ontario, and this forced British Columbia lumber mills to reduce operating hours to three days a week. Although prices increased in response, available supply has not been able to get to market, which has made inflation in Canada worse.

The war that has recently broken out between Russia and Ukraine has worsened the global shocks. The international community is using sanctions to attempt to limit the war. However, a continued war will drive international customers to find alternative suppliers. Some supply from alternative sources is already coming to replace Russian sources (oil). In some cases, supply cannot be replaced quickly, such as natural gas supplies to Europe and global supplies of some commodities like aluminum. Normally, the impact on global trade of losing supplies from Russia and Ukraine would be limited to short-term disruptions in oil and wheat markets. However, today global supply chains are negatively affected by pandemic limitations and are further impacted in Canada by ongoing protests. It is worth mentioning that China's zero-tolerance COVID-19 policy continues to negatively impact the global supply chain of semiconductors among many other intermediate and final goods.

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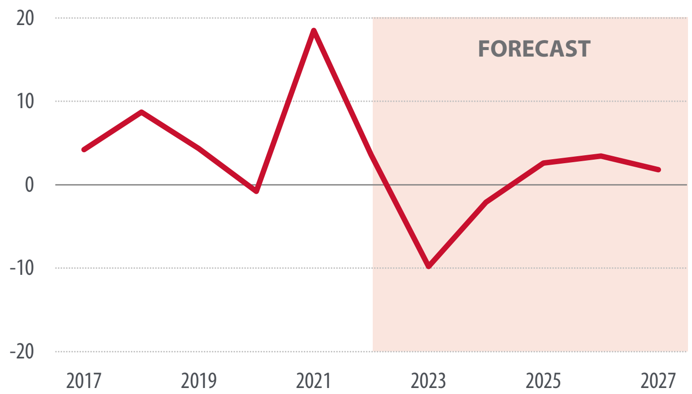
Construction Commodity Price Inflation

Iron and Steel

Iron and Steel Price Inflation
(*per cent*)

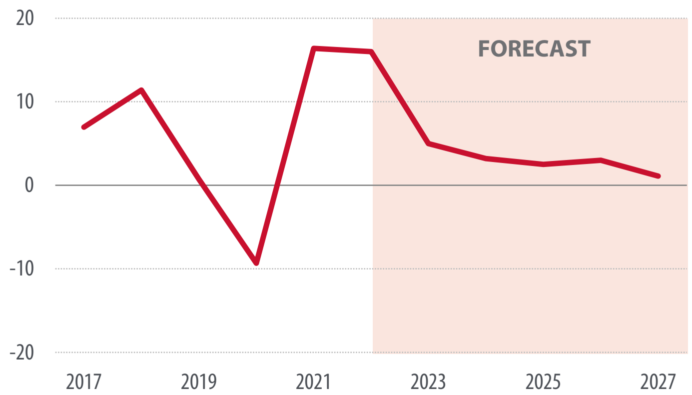


Source: Statistics Canada, Corporate Economics.

Steel prices spiked up last year in response to the pandemic and the roller coaster ride caused by frequent changes to the tariff regime. Prices dropped considerably in October 2021 but have been slowly climbing ever since. Rising energy costs are impacting production costs. The Russia-Ukraine war is cutting off 10 per cent of global supply right now. Global demand is expected to grow significantly this year as China is expected to engage in another round of spending and tax cuts to boost its domestic economy. The outlook is for continued but more even increases as the tariff regime stability returns.

Aluminum products

Aluminum Price Inflation
(*per cent*)



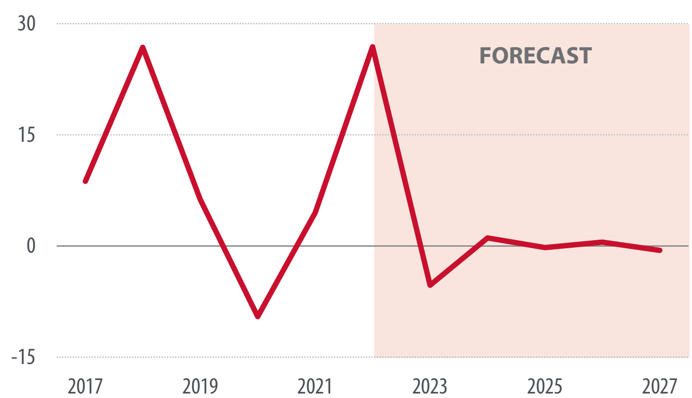
Source: Statistics Canada, Corporate Economics.

Forecast

Aluminum prices rose to all-time highs in response to the Russian invasion of Ukraine. Russia is the second-largest supplier of aluminum to global markets, supplying 11 per cent of global demand. The biggest factory outside China is the Russian-owned Nikolaev refinery near Odesa in Ukraine, which supplies six per cent of global aluminum. The plant closed in early 2022 due to the war. Hostilities were active near the plant, putting both the plant and its electricity supplies in danger. If the plant or its electrical supplies receive physical damage, prices could significantly increase for an extended period. It would greatly impact the price and availability of vehicles, already experiencing production issues due to microchip shortages, which rely increasingly on aluminum to achieve efficiency targets.

Asphalt

Asphalt Price Inflation
(*per cent*)

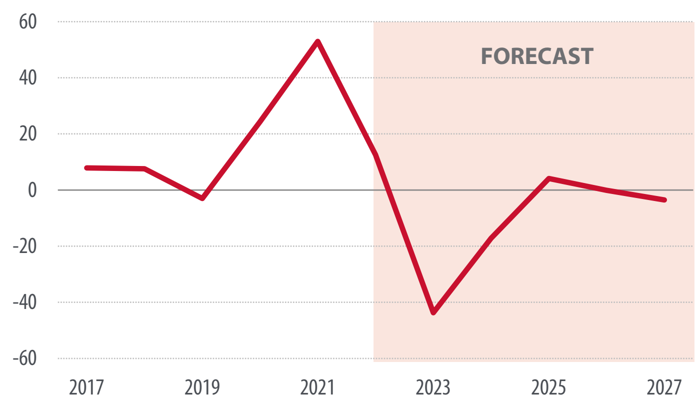


Source: Statistics Canada, Corporate Economics.

Oil prices rose significantly over the past year, impacting the price of asphalt. The Russia-Ukraine war has further driven the price of oil up. Asphalt markets typically sleep over the winter and wake up in the spring when roofing and road projects begin. Last summer's storms caused a quick rise in demand for asphalt shingles in Canada. Meanwhile, many municipalities enjoyed reduced demand for road maintenance during work-from-home orders due to lesser wear and tear. Now that people are returning to the office, roads require more maintenance than in the previous two years. This is usually when purchasing contracts for asphalt are made, and input prices have suddenly risen. Prices are expected to top out in 2022, mostly due to the recent increase in the price of oil. As energy prices ease, we anticipate asphalt prices should decrease slowly.

Wood

Wood Price Inflation
(*per cent*)



Source: Statistics Canada, Corporate Economics.

Canadian lumber markets have experienced significant disruptions. The pandemic caused plants to shut down, resulting in short-term price increases. As prices decreased, another wave of the pandemic caused more plant shutdowns. Protests in Canada have caused transportation issues that have limited the production plants' ability to get the product to market. Plants have responded by slowing production, particularly in BC. Production in Alberta is minimally affected by the transportation issues, but there are limited opportunities to increase production to meet demand. Meanwhile, demand for houses in Canada has risen greatly this past year. Cost increases in materials, particularly wood and finishing materials like plumbing fixtures, have driven the cost to build detached dwellings up by 18 percent in Alberta over the past two years.

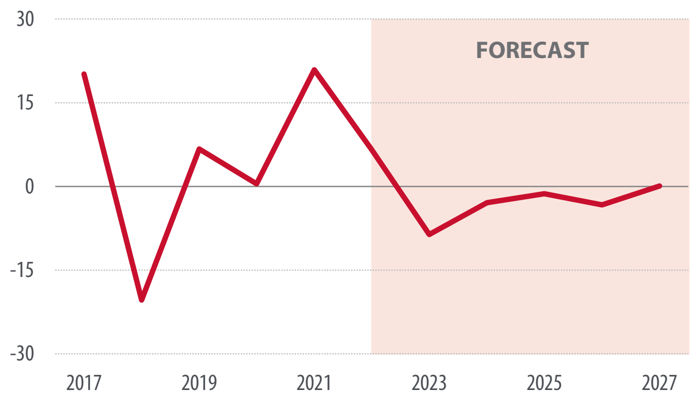
Operational Commodity Price Inflation

Rubber

Rubber prices were rising because of the disruption of labour caused by the pandemic. However, global oil price sudden increases should add to rubber price growth. Demand for rubber is also expected to increase as the Chinese government is expected to increase spending and cut taxes to boost the economy while also trying to control the ongoing COVID-19 pandemic. We anticipate that the zero-tolerance of COVID-19 in China should result in short-term volatility in rubber prices as factory shutdowns or slowdowns continue. However, we do expect rubber price stability to come in the future.

Forecast

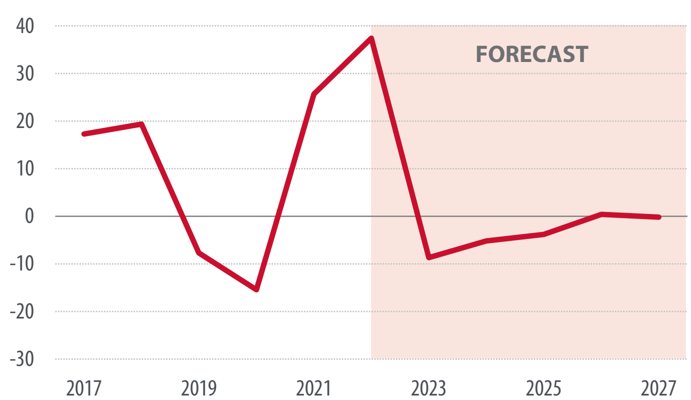
Rubber Price Inflation
(per cent)



Source: Statistics Canada, Corporate Economics.

Diesel Oil

Diesel Oil Price Inflation
(per cent)

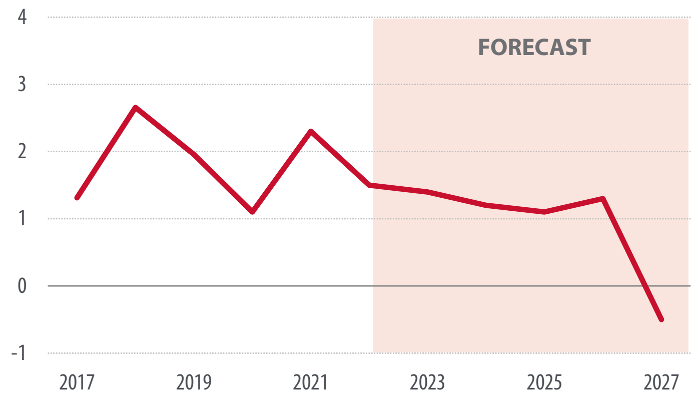


Source: Statistics Canada, Corporate Economics.

Recently, diesel markets experienced risks from hurricanes and tornadoes and their impacts on refineries. The impact of the Russian invasion of Ukraine has added another layer of risk. The United States restricted the import of Russian oil, which created a 700,000 barrels per day shortfall in domestic needs in the United States. Prices for diesel and gasoline spiked in response. The news was sudden and not completely expected, and global suppliers were physically unable to increase production to meet the displaced Russian oil immediately. There is sufficient global supply to meet that demand, but the physical delivery of materials takes time. Indeed, just using existing railway transportation capacity, Alberta could supply 400,000 barrels per day of that demand. However, loading and transportation logistics take time to sort out. Another potential supplier is Saudi Arabia, but they have hinted that they do not want to increase production. Over a longer time, supplies could be sorted out from Alberta by improving existing pipelines and building new ones, but those projects take years.

Automotive Parts

Vehicle Parts Price Inflation
(per cent)

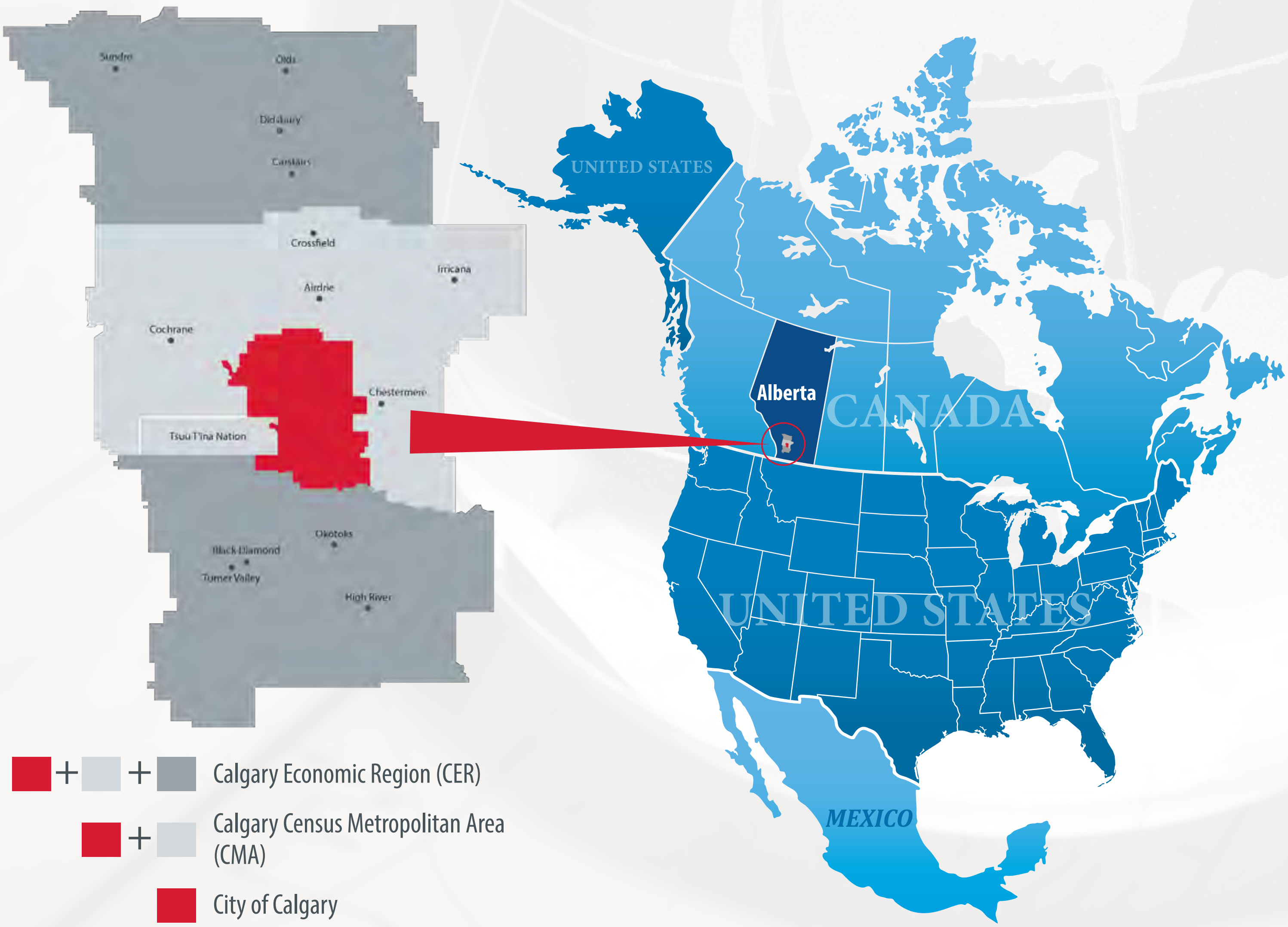


Source: Statistics Canada, Corporate Economics.

Availability and input material inflation are key drivers of vehicle part prices in Canada over the next few years. Materials prices are increasing, particularly for aluminum, with general producer price increases in the order of 10 per cent so far this year. Availability was the issue last year but input price increases are the issues facing parts industries in 2022.

The global shortage of microprocessors made life difficult for auto manufacturers, limiting the supply of new vehicles. This is placing increased pressure on vehicle owners to maintain their existing vehicles. Indeed, in some cases, prices being paid for used vehicles are greater than their original purchase price as shortages in vehicle markets continue. This is pushing up demand for automotive parts beyond normal levels.

Calgary Economic Region Map



\+ \+ Calgary Economic Region (CER)

\+ Calgary Census Metropolitan Area (CMA)

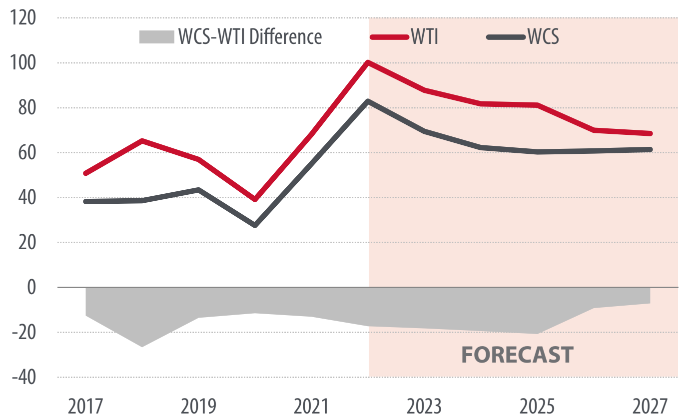
City of Calgary

Economic and Market Conditions Outside Calgary

Energy Markets

World Crude Oil Market

WTI and WCS Crude Oil Price
(US$/bbl)



Source: U.S. Energy Information Administration, Bloomberg, Consensus Economics, Corporate Economics.

Following the crude oil price collapse in 2020, which saw annual West Texas Intermediate (WTI) prices briefly drop as low as US$39 per barrel, oil prices recovered significantly in 2021. WTI prices grew by 74 per cent in 2021 from US$39 per barrel in 2020 to US$68 per barrel in 2021. For the first quarter of 2022, WTI prices have averaged US$95 per barrel, well up from last year's average.

The Russia-Ukraine war has impacted an already volatile energy market. Prior to its start, crude oil prices in 2022 were already projected to see significant growth from 2021 due to growing demand. The combination of import sanctions on Russia and other supply disruptions in oil markets is further providing upside support to crude oil prices. The United Kingdom, in March 2022, announced plans to ban all imports of Russian oil and refined products over the rest of 2022.[6] The United States also announced an import ban on Russian oil, natural gas, and coal in response to the invasion of Ukraine. The European Commission announced a plan to reduce the dependence of Europe on fossil fuels from Russia by 2030, as well as its reliance on Russian natural gas by two-thirds. Despite not being heavily dependent on Russian oil, Canada announced a ban on Russian oil imports. The stabilization of oil prices partly remains dependent on the duration of the Russia-Ukraine war.

A return to "normal" in energy market volatility will depend mainly on a boost in oil production from the Organization of the Petroleum Exporting Countries (OPEC) and other oil-producing countries such as Canada. OPEC is responsible for approximately 40 per cent of total oil production and, as a result, has a significant influence on oil market movements.[7] However, there are no indications from OPEC on plans to ramp up oil production. While Canada has some capacity to increase oil production, it remains unlikely this will be enough to replace oil imports from Russia going into the United States. A few factors account for Canada's lack of ability to increase oil production sufficiently in the short term. Several maintenance projects among Canadian oil sands producers have been scheduled for the spring of 2022, which should likely slow down production growth in the short term. In addition, there is the possibility that the oilsands producers may be focused on reducing their debts and paying out dividends in 2022 to boost investor confidence. As a result, new, previously unplanned capital expenditure projects are unlikely.

Oil prices are likely to remain elevated in 2022, driven by increasing global demand and, more recently, oil import sanctions from Europe, the United States and Canada on Russia, creating supply issues. WTI prices are forecast to rise to US$100 per barrel in 2022, a 47.1 per cent growth from its price of US$68 per barrel in 2021. It is expected to decline to US$88 per barrel in 2023 as geopolitical conditions slowly improve and average US$75 per barrel between 2024 and 2027. Western Canadian Select (WCS) prices are expected to follow a similar pattern, increasing to US$83 in 2022 from the previous level of US$55 per barrel in 2021. This is expected to drop off to US$70 per barrel in 2023, averaging US$61 per barrel between 2024 and 2027. While increasing oil production in the short term appears unlikely in Canada, it is expected to improve in the long term due to additional capital projects. Alberta is pushing for re-opening discussions on the Keystone oil pipeline project, previously rejected due to environmental concerns. In addition, the Trans Mountain Expansion (estimated at $21.6 billion), which is expected to be completed late in 2023, is expected to increase pipeline delivery capacity from 300,000 barrels per day to 890,0000 barrels per day. Price differentials between WTI and WCS are expected to remain in line with pipeline transportation costs and quality differentials.

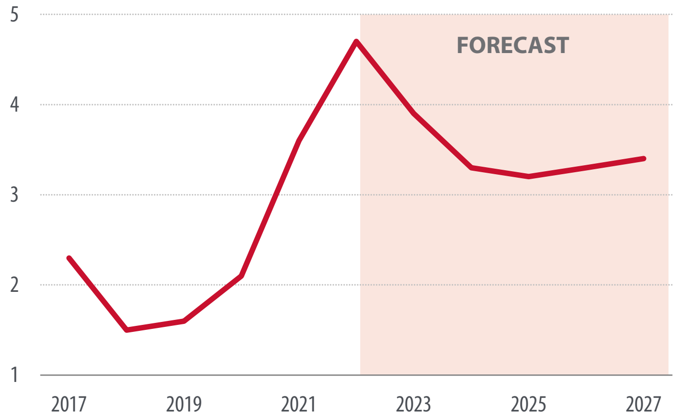
6 Source: Bloomberg; Ban does not apply to natural gas.

7 Source: U.S. Energy information Administration.

Economic and Market Conditions Outside Calgary

North American Natural Gas Market

AECO-C Natural Gas Price
(C$/GJ)



Source: Intercontinental Exchange Inc, Corporate Economics.

Natural gas prices followed a similar trend to the crude oil market. However, in contrast to crude oil, 2022 would be the third year of rapid price growth, not the second year. AECO-C increased to $2.1 per gigajoule in 2020, marking a 31.2 per cent growth over 2019. It was partly due to low gas inventories within the province of Alberta.[8] AECO-C natural gas prices then rose to $3.6 per gigajoule in 2021, marking a 66.6 per cent growth.

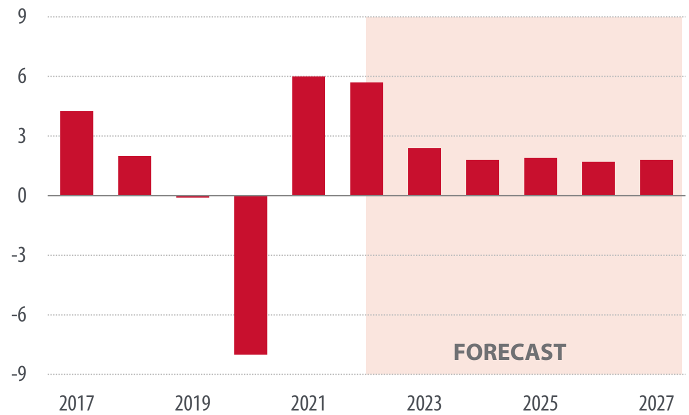
Henry Hub natural gas prices also increased to US$3.9 (per Million Btu) in 2021, marking a 91 per cent growth rate over the previous year. Price increases in 2021, like crude oil prices, resulted from an increase in demand as the effects of the COVID-19 pandemic gradually waned. Henry Hub natural gas prices averaged US$4.7 (per Million Btu) during the fourth quarter of 2021, the highest experienced in the last six years. The price differential between AECO-C and Henry Hub natural gas prices rose in 2021 after narrowing in 2020.

AECO-C natural gas prices are expected to rise to $4.7 per gigajoule in 2022, dropping to $3.9 per gigajoule in 2023 and averaging about $3.3 per gigajoule between 2024 and 2027. In its 2022 budget, the Government of Alberta announced a natural gas rebate on monthly energy bills beginning in October this year if prices jump to $6.5 per gigajoule, providing some relief for energy consumers in the event of extreme price increases. However, natural gas production is only projected to increase slightly looking ahead, even though there are calls for increased production to expand its role as a stable source of fossil fuels. Additionally, climate change concerns and its growing impact will limit how much expansion can take place to provide relief to the global energy situation. Canada is racing to reduce carbon emissions by 40 per cent below 2005 levels in 2030. Furthermore, the increase in natural gas production will require additional capital investment in transportation capacity, which is impossible in the short term. As a result, natural gas prices are expected to remain elevated for at least the medium term.

Alberta

Economic Recovery in Alberta

Alberta: Gross Domestic Product Growth Rate
(per cent)



Source: Statistics Canada, Corporate Economics.

The province of Alberta experienced a significant recovery in 2021 after a difficult year before. The recovery experienced in 2021 was primarily driven by a recovery in crude oil prices and a significant increase in the percentage of fully vaccinated Albertans, which contributed to the boost in business activity. At the end of 2021, 72.7 per cent of Albertans were vaccinated.[9] In addition to the energy market rally, a high COVID-19 vaccination rate boosted economic activity and the recovery experienced in 2021.

The rise in crude oil prices has continued into the first quarter of 2022, with WTI rising as high as US$123.6 per barrel on March 8, 2022. A major contributing factor to the sustained oil push this quarter has been the Russia-Ukraine war. With Russia recognized as one of the world's largest crude oil producers and the second-largest natural gas producer, this conflict is expected to affect the energy markets globally.

In 2022, official data on the number of active COVID-19 cases peaked at 71,420 on January 16 and then started declining. On

8 Source: Alberta Energy Regulator.

9 Source: COVID-19 Alberta.

Economic and Market Conditions Outside Calgary

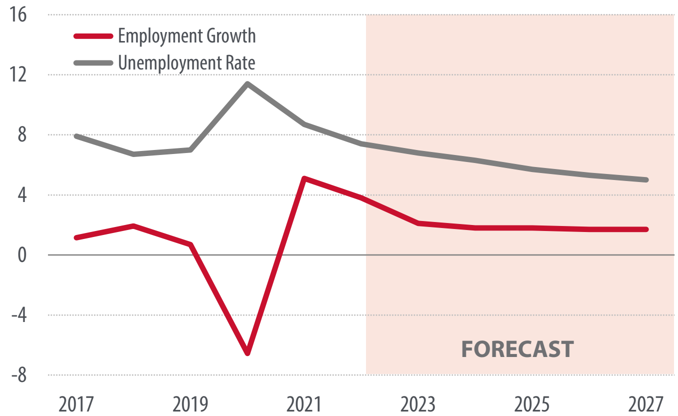
February 8, 2022, Alberta Premier Jason Kenney announced that the province's COVID-19 vaccine passport program had ended. The reasoning for this decision was the province moving past the Omicron wave. The province also noted that the threat of COVID-19 no longer outweighed the negative impact of health measures on society. On March 2, the provincial government lifted three restrictions – the mask mandate, work-from-home requirements, and restrictions on social gatherings.

Looking forward, the public health policy restrictions and volatility within energy markets will be critical drivers in the growth of Alberta's economy. Alberta's real GDP is expected to grow by 5.7 per cent. This is expected to slow down significantly in the years ahead. While a short-term boost in oil production to take advantage of crude oil prices remains unlikely due to capacity constraints and the unwillingness of oil companies to significantly expand operations this year, future completion of pipeline projects is expected to support higher oil production in the coming years. In its 2022 budget, the government of Alberta announced a budget surplus for the 2022-23 fiscal year supported by strong resource revenue growth. Approximately $20 billion is also expected to be invested in capital projects over the next three years. The province is expected to maintain a surplus till at least 2025, on the foundation of a robust energy environment, increased capital spending and continued recovery of close-contact sectors and businesses due to the removal of public health measures.

Alberta's Labour Market

Alberta: Labour Market

(*per cent*)



Source: Statistics Canada, Corporate Economics.

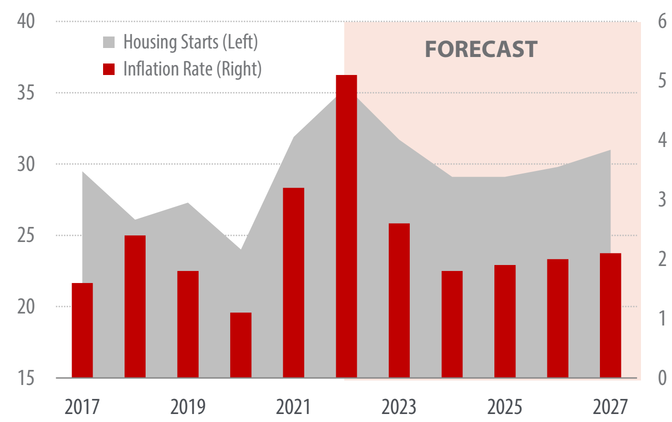
Despite the second, third and fourth pandemic waves last year in January, June, and September, respectively, the labour market experienced significant improvements. Total employment registered a 5.1 per cent growth rate in 2021. The combined progress in Alberta's labour force numbers and employment numbers contributed to a 2.7 percentage point annual decline in the unemployment rate. Employment gains in 2021 were driven by wholesale and retail trade (+28,700), professional, scientific and technical services (+22,300), accommodation and food services (+21,000), construction (+12,600) and educational services (+10,300). However, these gains were offset by manufacturing (-8,100) and agriculture (-6,000) losses.

Looking forward, we expect the employment recovery and an improvement in labour force participation rates to continue. The employment recovery will be driven by close-contact services such as accommodation and food services due to the removal of public health restrictions and energy sector recovery and expansion efforts outlined in the 2022 budget. Recovery in manufacturing and agriculture is still expected to remain uneven due to ongoing supply chain challenges.

Residential Investment in Alberta

Alberta: Housing Starts and Inflation Rate

(*thousand of units*) (*per cent*)



Source: Statistics Canada, Corporate Economics.

Residential real estate market activity should remain strong despite the Bank of Canada's interest rate hikes. It would be driven by better housing affordability relative to other provinces and pent-up demand for housing.

Alberta Summary

2021	vs.	2022 and Beyond
6.0% Driven by the oil market rally.	Real GDP Growth	2022: 5.7% · 2023: 2.4% · 2024-2027: 1.8%
0.5%	Population Growth	1.4% 2022
5.1%	Employment Growth	3.8% 2022 · 2.1% 2023 · 1.8% 2024-2027
Alberta's unemployment rate declined to 8.7 %	Unemploy-ment Rate	7.4% 2022 · 6.8% 2023 · 5.6% 2024-2027 · Supported by positive net migration and population growth
Alberta's inflation rate grew to 3.2%	CPI Inflation	5.1% 2022 · 2.6% 2023 · 2.0% 2024-2027
31.9 thousand	Housing Starts *(thousands of units)*	2022: 35.4 thousand · 2023: 31.7 thousand · 2024-2027: 29.8 thousand

JOB

Crude Oil Prices

	2021
West Texas Intermediate (WTI) *[$US/bbl]*	68.1
Western Canadian Select (WCS) *[$US/bbl]*	55.0

	2022	2023	2024-2027
West Texas Intermediate (WTI) *[$US/bbl]*	100.2	87.6	74.8
Western Canadian Select (WCS) *[$US/bbl]*	82.9	69.5	61.2

Budget

BUDGET

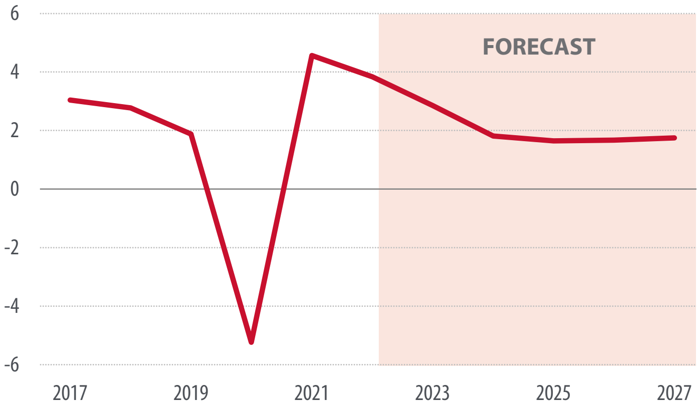
In its 2022 budget, the Government of Alberta announced a surplus of **$511 million** for the 2022-2023 fiscal year.

Economic and Market Conditions Outside Calgary

Canada

Real GDP Growth

Canada Real GDP Growth
(*per cent*)



Source: Statistics Canada, Corporate Economics.

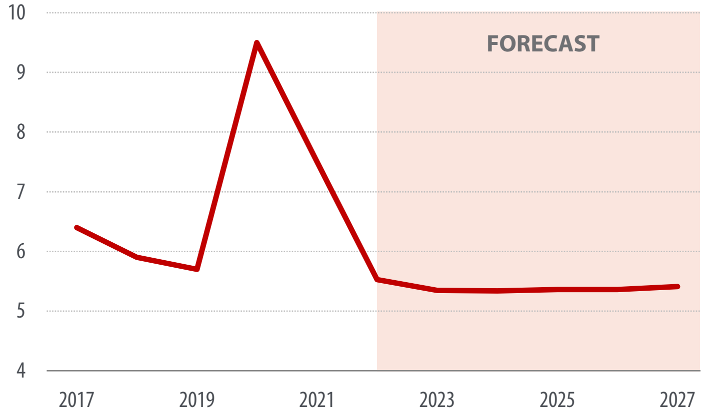
Despite the ongoing challenges of the COVID-19 pandemic in 2021, Canada's economic recovery started in 2021. After falling by 5.2 per cent in 2020, Canada's annual GDP increased by 4.6 per cent in 2021. By Q4 2021, quarterly real GDP had exceeded the pre-pandemic GDP recorded in Q4 2019.

Investment activity showed especially strong growth in 2021, with total capital formation increasing by 7.2 per cent. Surging demand for housing in 2021 led the residential component of annual investment in Canada to grow by 15.4 per cent.

Canada's annual GDP growth rate in 2022 is expected to be 3.8 per cent. In 2023, the rate is expected to fall to 2.9 per cent before stabilizing at an average of 1.7 per cent between 2024 and 2027. While the risks due to the COVID-19 pandemic are diminishing, new risks have risen due to the current conflict in Ukraine. Higher oil prices will hurt rather than help the non-oil-producing provinces of Canada. The federal government also announced economic sanctions on Russia in response to its invasion of Ukraine, restricting trade and financial interactions with Russia. Transactions with many Russian individuals and organizations are not allowed, a 35 per cent tariff now applies to imports from Russia, and imports of oil and oil products are banned altogether. However, since trade with Russia accounted for only 0.3 per cent of Canada's international imports and 0.1 per cent of Canada's international exports in 2021, the direct effects of these sanctions on Canada's economy are expected to be mild.

Labour Market

Canada Unemployment Rate
(*per cent*)



Source: Statistics Canada, Corporate Economics.

Canada's labour market also improved significantly in 2021. The annual unemployment rate in Canada fell to 7.5 per cent in 2021 after averaging at 9.5 per cent in 2020. By March 2022, the monthly, seasonally adjusted unemployment rate had fallen to 5.3 per cent, Canada's lowest unemployment rate on record, dating back to 1976.

In 2021, Canada's annual total employment level grew by 866,000 (a 4.8 per cent increase) to reach 18.9 million, just below the 2019 annual employment figure. Most of this growth occurred in services-producing industries, which saw employment growth of 5.3 per cent and added a net 752,000 jobs.

In 2022, as the effects of the COVID-19 pandemic wane, Canada's unemployment rate is forecast to fall to an annual average of 5.5 per cent. Canada's unemployment rate is expected to remain stable thereafter, averaging 5.4 per cent between 2024 and 2027.

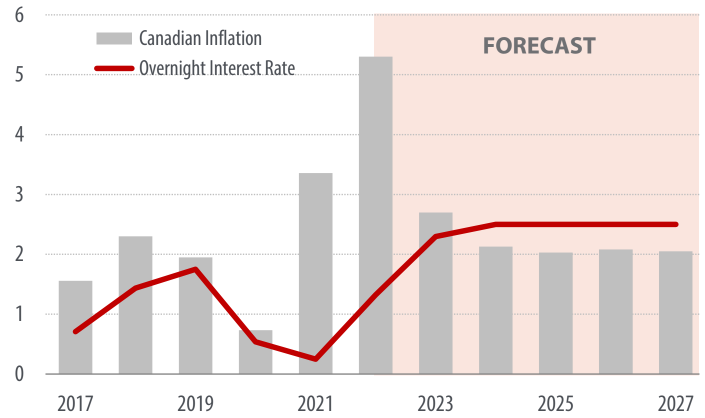
Monetary Policy and Inflation Rate

Demand for goods and services in Canada surged as the economy bounced back in 2021, while a series of major disruptions affected global supply chains and energy prices increased. The result of this combination was a significant increase in consumer prices, with Canada's annual inflation rate reaching 3.4 per cent, its highest since 1991. These challenges are only expected to intensify this year, with additional pressures resulting from the Russian invasion of Ukraine. This contributes to, the national annual inflation rate being forecast to reach 5.3 per cent in 2022 before moderating to 2.7 per cent in 2023.

Economic and Market Conditions Outside Calgary

Bank of Canada Policy Rate vs. Inflation Rate

(*per cent*)



Source: Statistics Canada, Corporate Economics.

The Bank of Canada has started monetary policy tightening given such high inflation. Following the onset of the pandemic in March 2020, the Bank of Canada dropped the target for the overnight rate to the effective lower bound of 0.25 per cent. It was an effort to at least minimize or eliminate the adverse economic impacts of the pandemic. Record-low interest rates remained throughout 2020 and 2021 until March 2, 2022, when the Bank of Canada announced an increase of 0.25 percentage points to the overnight rate target. On April 13, the Bank of Canada raised the rate further by 0.5 percentage points. To further combat high inflation, the Bank of Canada is expected to continue with more interest rate hikes this year and next, despite lingering economic uncertainties. The Bank of Canada also began quantitative tightening in late April of this year, further tightening the money supply in addition to increasing the cost of borrowing in Canada.

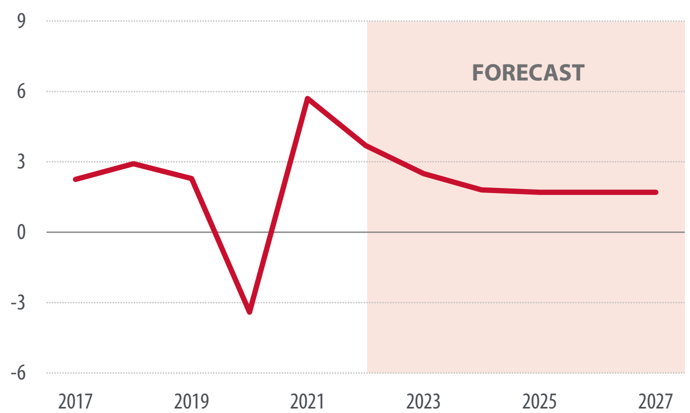
The U.S.

Real GDP Growth

Last year saw real GDP in the United States grow by 5.7 per cent, compared to a decline in 2020 (-3.4 per cent), as economies gradually reopened and fiscal support from the government was sustained. Real GDP growth in 2021 was the highest growth rate recorded since 1984, when a real GDP growth rate of 7.2 per cent was recorded. Growth in 2021 was primarily driven by both residential investment (9.6 per cent) and consumption in services (5.8 per cent), which suffered a decline the year before. Americans typically spend significantly more on services than on goods. As a result, when public health restrictions on movement were put in place in 2020, the decline in consumption was primarily driven by a decline in services consumption (-7.5 per cent), as consumers substituted services for goods. The growth in services consumption is not surprising, given that consumers have begun going back to their normal consumption patterns as the economy reopened.

U.S. Real GDP Growth

(*per cent*)



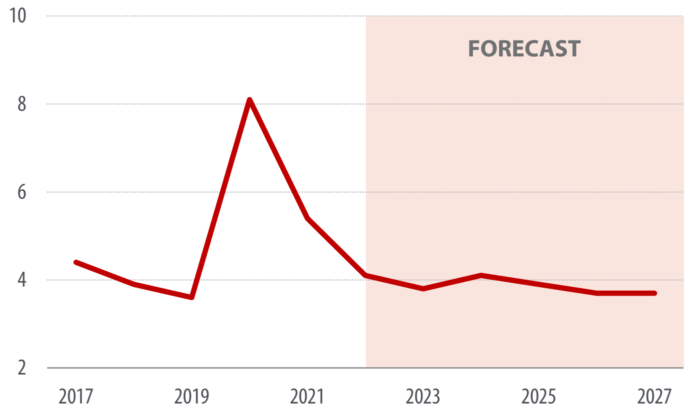
Source: Federal Reserve Bank of St. Louis, Corporate Economics.

The United States real GDP growth is expected to decelerate to 3.7 per cent in 2022, driven by consumption in services as households continue to go back to pre-pandemic consumption patterns. Government spending is also expected to drive growth in 2022 because of the Infrastructure Bill passed in 2021 to improve and modernize public infrastructure. Employer preferences for a remote-friendly work environment and a potential downsizing of business spaces has dampened the demand for office space. The non-residential investment in office space should trail other non-residential investment growth. GDP growth is expected to decline to 2.5 per cent in 2023 and average 1.7 per cent between 2024 and 2027.

Economic and Market Conditions Outside Calgary

Labour Market

U.S. Unemployment Rate
(per cent)



Source: Federal Reserve Bank of St. Louis, Corporate Economics.

Employment in the United States was recorded at 152.6 million in 2021, marking a year-over-year gain of 4.8 million, representing a 3.2 per cent growth rate. The unemployment rate also declined to 5.4 per cent in 2021, marking a year-over-year decline of 2.7 percentage points. The recovery of the U.S labour market was driven by the reopening of the economy, as health restrictions loosened. Employment gains were also driven by the services sectors as labour demand increased, particularly within close-contact sectors.

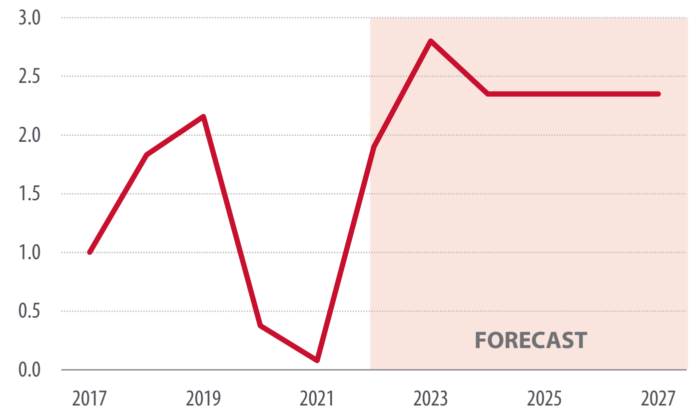
Following the recovery experienced in 2021, the labour market has moved very quickly to a tightening phase. The labour force participation rate is trailing, as the participation rate declined slightly from 61.8 per cent in 2020 to 61.7 per cent in 2021. Job vacancies remain high, as employers find it difficult to secure suitable hires. Job openings and quits declined slightly to start the year but remain at historic highs. Job openings to start the year fell to 11.3 million from December 2021 levels of 11.4 million, while quit rates dropped from 3.0 per cent to 2.8 per cent. Despite the expiration of unemployment benefit top-ups, labour force participation remains subdued.

The unemployment rate is expected to decline to 4.1 per cent in 2022, stay stable at 3.8 per cent in 2023 and average 4.0 per cent between 2024 and 2027. Average wages are also expected to remain elevated as employers look to attract workers, which should help boost participation rates.

Monetary Policy Measures

Despite forecasts last year predicting a cooling of inflation in 2022, the year has not begun as expected, partly due to a sudden increase in COVID-19 cases from the Omicron variant and rising energy prices. In addition, the Russia-Ukraine conflict and subsequent sanctions have worsened an already volatile energy market. In the United States, the CPI in February for urban consumers rose 7.9 per cent year-over-year, driven by energy prices (25.6 per cent) and food (7.9 per cent). The combination of rising energy prices, wages and supply chain disruptions, which do not appear to be easing in the short-term, is set to keep inflation above the U.S. Federal Reserve's target of 2.0 per cent.

U.S. Federal Funds Rate
(per cent)



Source: Federal Reserve Bank of St. Louis, Corporate Economics.

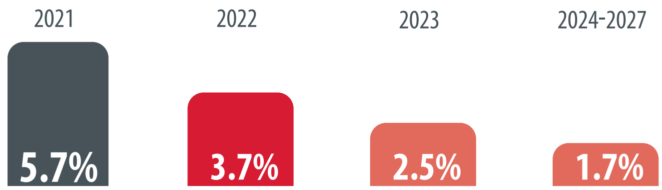
The Federal Reserve is expected to act with a series of rate hikes this year, starting with a 25-percentage point hike in March, with further hikes and a gradual reduction in its balance sheet for the remainder of the year to cool off inflation. However, there is also the risk that high interest rates combined with continued high inflation could cause a recession. The stress from geopolitical tensions could limit growth, and any premature hikes in interest rates might worsen the situation. As a result, it is expected that the Federal Reserve will move cautiously in its monetary policy application. Overall, the Federal Funds Rate is expected to average 1.9 per cent in 2022 and increase to 2.8 per cent by 2023.

Economic and Market Conditions Outside Calgary

The U.S. Summary

Real GDP Growth

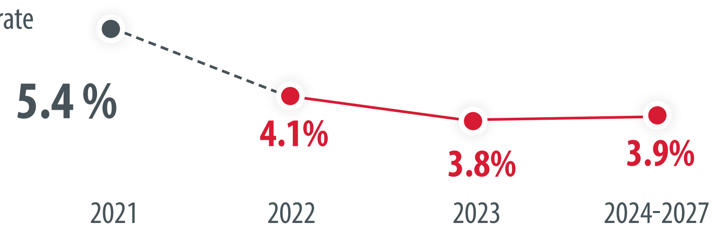
Driven by household services consumption and residential investment



U.S. real GDP growth is expected to slow down in 2022, driven by consumption in services as households continue to revert to pre-pandemic consumption patterns.

Labour Market

U.S. unemployment rate in 2021 declined to



Average Wages

2022 and beyond...

Average wages are expected to remain elevated as employers look to attract workers, which will help boost participation rates.

Monetary Policy

2022 and beyond...

The Federal Reserve is expected to act with a series of rate hikes this year, and a gradual reduction in its balance sheet for the remainder of the year in a bid to cool off inflation. It is expected the Federal Reserve will move cautiously in its monetary

CPI Inflation

In 2021...

The U.S. inflation rate grew to

4.7%

Population Growth

In 2021...

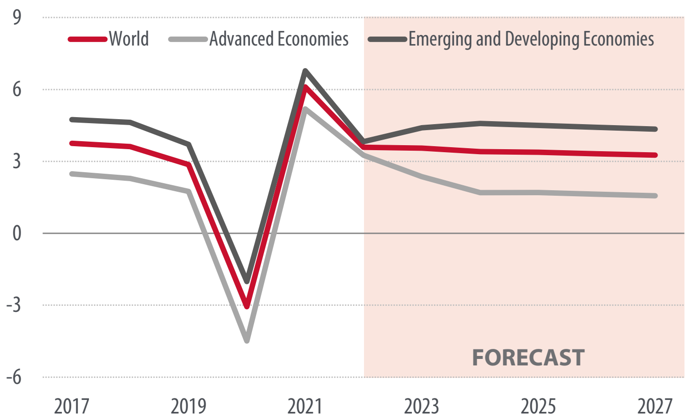
0.1%

Economic and Market Conditions Outside Calgary

The World

Real GDP Growth

World: Real GDP Growth Rates
(*per cent*)



Source: International Monetary Fund, Corporate Economics.

The International Monetary Fund (IMF) released its 2022 world economic outlook on April 19. It indicated that global economic activity bounced back in 2021 with a 6.1 per cent growth rate. The growth rate was 5.2 per cent for the advanced economies (AEs) and 6.8 per cent in the emerging market and developing economies (EMs).

The real GDP growth was forecast to be 3.6 per cent in 2022 and 2023. It is a significant downward revision from the fall 2021 IMF economic outlook. The downward adjustment was due to five emerging forces: (1) the War in Ukraine, (2) the prevalence of monetary tightening, (3) the fiscal withdrawal by governments, especially in advanced economies in 2022, (4) China's slowdown due to the lockdowns associated with a zero-COVID strategy, and (5) the expectation that the current vaccination rate in the world would reduce the adverse impact of COVID-19 on activity in the future.

China is in the middle of another COVID-19 pandemic wave. Strict lockdowns have been imposed on the city of Shanghai and other areas, causing factories to shut down and limiting consumer spending starting March 2022. However, the country's zero-COVID strategy is a work-in-progress. New cases in the first week of April alone grew by approximately 84 per cent. On April 5 alone, the country reported about 20,000 new cases. China is essential for global aggregate supply because it is currently ranked as one of the top three countries for the global manufacturing output. The latest outbreak in China will further prolong the global supply chain issues as public health-related measures hamper manufacturing and shipping between the second-largest economy and its major trading partners.

Trade Volume Changes

In the IMF 2022 outlook, the global trade volume (measured by total imports of goods and services) was estimated to have increased by 10.3 per cent in 2021, after contracting by 8.4 per cent in 2020.

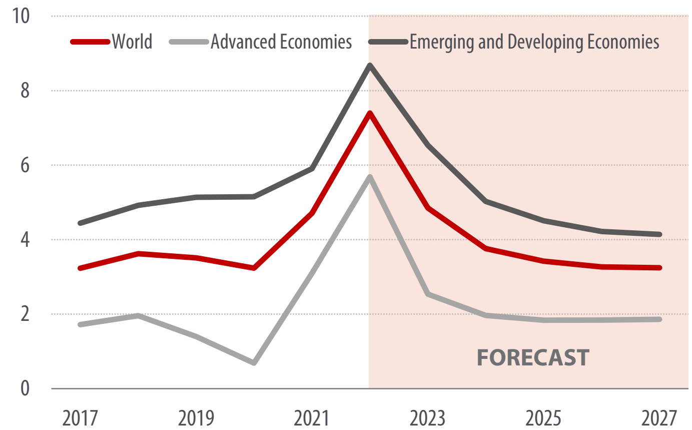
The Russian invasion of Ukraine has brought severe negative impacts on the world economy through global commodity markets and trade linkages. The sanctions on Russia, including trade restrictions, will inevitably reduce the trade volumes on energy and food commodities, contributing to lower trade growth in 2022 and 2023. Also, China's recurrent lockdowns in industrial cities like Shanghai have added to supply chain disruptions. As a result, global trade growth has been revised down to 5.3 per cent in 2022, from 9.1 per cent projected in last spring's outlook.

CPI Inflation

The latest estimate of the world CPI inflation of 4.7 per cent in 2021 was higher than expected, with 3.1 per cent in AEs and 5.9 per cent in EMs. The IMF 2022 outlook projected the global inflation rates to be 7.4 per cent in 2022, much higher than the 3.2 per cent prediction a year ago. Over the next two years, inflation is expected to decline to 4.8 per cent in 2023 and 3.8 per cent in 2024.

The longer than previously expected period of high inflation is due to the impact of the Russia-Ukraine war pushing up energy and food prices dramatically. In addition, the strict zero-tolerance COVID-19 policy imposed in certain hot spots in China to combat the latest pandemic wave and economic sanctions stemming from the Russia-Ukraine war has exacerbated existing supply chain problems.

World: Inflation Rates
(*per cent*)



Source: International Monetary Fund, Corporate Economics.

Forecast Tables

Table 1 - Selected Economic Indicators

Rest of the World, United States, Canada, Alberta, Calgary Economic Region (CER) & Calgary Census Metropolitan Area (CMA)

FORECAST COMPLETED: March 2022						FORECAST					
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ASSUMPTIONS											
World											
Real Gross Domestic Product Growth (%)	3.7	3.6	2.9	-3.1	6.1	3.6	3.6	3.4	3.4	3.3	3.3
The United States											
Real Gross Domestic Product Growth (%)	2.3	2.9	2.3	-3.4	5.7	3.7	2.5	1.8	1.7	1.7	1.7
Canada											
Real Gross Domestic Product Growth (%)	3.0	2.8	1.9	-5.2	4.6	3.8	2.9	1.8	1.6	1.7	1.8
Prime Business Loan Rate (%)	2.9	3.6	4.0	2.7	2.5	2.9	3.9	4.0	4.2	4.2	4.3
Exchange Rate (US$ for 1C$)	0.77	0.77	0.75	0.75	0.80	0.79	0.79	0.78	0.79	0.78	0.78
Alberta											
Real Gross Domestic Product Growth (%)	4.3	2.0	-0.1	-8.0	6.0	5.7	2.4	1.8	1.9	1.7	1.8
Total Employment Growth (%)	1.1	1.9	0.7	-6.6	5.1	3.8	2.1	1.8	1.8	1.7	1.7
Unemployment Rate (%)	7.9	6.7	7.0	11.4	8.7	7.4	6.8	6.3	5.7	5.3	5.0
Housing Starts ('000 Units)	29.5	26.1	27.3	24.0	31.9	35.4	31.7	29.1	29.1	29.8	31.0
Inflation Rate - CPI (%)	1.6	2.4	1.8	1.1	3.2	5.1	2.6	1.8	1.9	2.0	2.1
Crude Oil Price - WTI (US$/bbl)	50.8	65.2	57.0	39.2	68.1	100.2	87.6	80.9	79.6	70.0	68.6
Western Canadian Select - WCS (US$/bbl)	38.2	38.6	43.4	27.6	55.0	82.9	69.5	62.3	60.3	60.8	61.4
Alberta Natural Gas Price - AECO/NIT ($/GJ)	2.3	1.5	1.6	2.1	3.6	4.7	3.9	3.3	3.2	3.3	3.4
Industrial Product Price Index (%)	3.1	3.9	-0.1	-0.4	13.9	7.6	-1.5	1.0	1.5	1.5	1.5
Raw Materials Price Index (%)	11.0	9.2	-2.5	-8.2	32.4	15.2	-2.3	-0.6	0.5	0.6	0.6
Alberta Average Annual Wage Rate Growth (%)	1.9	0.8	1.3	0.2	1.0	1.1	1.5	1.9	2.0	1.7	1.7
FORECAST											
Calgary Economic Region (CER)											
Real Gross Domestic Product Growth (%)*	4.4	0.2	2.1	-6.4	4.2	5.5	3.6	2.2	2.2	2.2	2.1
Total Employment ('000 persons)	851.2	856.9	881.0	834.0	861.8	897.4	928.8	949.9	970.6	992.8	1,013.7
Total Employment Growth (%)	2.7	0.7	2.8	-5.3	3.3	4.1	3.5	2.3	2.2	2.3	2.1
Unemployment Rate (%)	8.5	7.6	7.2	11.7	9.1	7.7	6.9	6.4	5.9	5.5	5.2
Calgary Census Metropolitan Area (CMA)											
Housing Starts ('000 units)	11.5	11.0	11.9	9.2	15.0	14.9	14.0	13.1	12.9	13.1	13.1
Inflation Rate - CPI (%)	1.6	2.4	1.4	1.1	3.2	5.6	2.6	1.8	2.0	2.0	2.2
Non-Residential Building Construction Inflation (%)	1.7	2.1	2.0	0.5	4.0	4.7	3.4	2.1	1.2	2.8	2.8

Numbers may not add up due to rounding.
* Source: Corporate Economics.

Table 2 - Selected Real Estate Indicators for City of Calgary

City of Calgary

						FORECAST					
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Demography [FORECAST COMPLETED: April 2022]											
Total Population ('000 persons)	1,246.3	1,267.3	1,285.7	1,306.4	1,321.3	1,343.5	1,366.2	1,388.9	1,409.7	1,431.5	1,454.4
Total Population Growth (%)	0.9	1.7	1.4	1.6	1.1	1.7	1.7	1.7	1.5	1.5	1.6
Net Migration ('000 persons)	1.1	11.7	9.6	12.3	6.1	13.7	14.1	14.1	12.3	13.4	14.7
Household Formation ('000 units)	7.5	11.6	6.3	7.7	5.6	8.5	8.8	8.8	8.1	8.5	9.0
Real Estate [FORECAST COMPLETED: March 2022]											
Housing Starts ('000 units)	9.5	9.4	10.6	7.9	12.7	12.7	11.5	10.5	10.4	10.6	10.6
Calgary Average Residential MLS Sale Price (%)*	0.5	-1.1	-3.9	-0.6	7.9	10.2	5.0	2.6	2.3	2.6	2.8
Total Building Permits ($billions)	4.6	4.6	5.2	3.4	5.7	6.1	6.1	5.9	6.0	6.2	6.3

Numbers may not add up due to rounding.
*Source: CREB, Corporate Economics.

Table 3 - Selected Commodity Prices

City of Calgary

FORECAST COMPLETED: March 2022						FORECAST					
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
CONSTRUCTION COMMODITIES											
Iron and steel products	4.2	8.7	4.3	-0.8	18.5	3.6	-9.8	-2.1	2.6	3.5	1.8
Aluminum products	7.0	11.4	0.8	-9.3	16.4	16.0	5.0	3.2	2.5	3.0	1.1
Wood*	7.9	7.6	-3.0	24.3	53.0	12.6	-43.7	-17.2	4.1	-0.1	-3.5
Asphalt**	8.7	26.8	6.3	-9.5	4.5	26.9	-5.3	1.1	-0.2	0.5	-0.6
OPERATIONAL COMMODITIES											
Rubber	20.1	-20.3	6.7	0.5	20.9	6.6	-8.6	-2.9	-1.3	-3.3	0.1
Diesel oil	17.3	19.4	-7.7	-15.4	25.7	37.4	-8.7	-5.2	-3.8	0.4	-0.2
Vehicle parts	1.3	2.7	2.0	1.1	2.3	1.5	1.4	1.2	1.1	1.3	-0.5

Numbers may not add up due to rounding.
* Prevous reports based on raw material prices, now we are reporting on prices of finished board feet
** Based on Ontario Ministry of Transportation Asphalt Price Index

Forecast Tables

Table 4 - City of Calgary Population Projection

City of Calgary *(thousands of persons)*

FORECAST COMPLETED: April 2022					Estimate		FORECAST				
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Population *(as of April)*	1,246.3	1,267.3	1,285.7	1,306.4	1,321.3	1,343.5	1,366.2	1,388.9	1,409.7	1,431.5	1,454.4
Total Population Growth Rate (%) *(April-March)*	0.9	1.7	1.4	1.6	1.1	1.7	1.7	1.7	1.5	1.5	1.6
Total Net Migration *(April-March)*	1.1	11.7	9.6	12.3	6.1	13.7	14.1	14.1	12.3	13.4	14.7
Total Births *(April-March)*	16.3	15.9	15.3	15.6	15.8	15.8	16.1	16.3	16.4	16.5	16.6
Total Deaths *(April-March)*	6.2	6.6	6.5	7.2	7.1	7.3	7.5	7.7	7.9	8.1	8.3
Total Natural Increase *(April-March)*	10.1	9.3	8.8	8.4	8.7	8.6	8.6	8.6	8.6	8.4	8.3
Total Households *(as of April)*	471.2	482.7	489.1	496.7	502.4	510.8	519.7	528.5	536.6	545.1	554.1
Total Household Formation *(April-March)*	7.5	11.6	6.3	7.7	5.6	8.5	8.8	8.8	8.1	8.5	9.0

Population by Cohort	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
0-4	78.7	79.2	79.7	79.6	79.0	78.8	79.3	79.5	80.0	80.4	81.1
5-9	79.1	80.2	80.0	79.3	81.5	80.9	79.8	79.5	79.1	78.7	78.6
10-14	69.2	71.9	74.6	77.0	77.8	79.2	80.6	81.7	82.1	82.2	81.7
15-19	68.7	69.6	70.9	70.8	72.6	73.7	74.9	75.8	77.8	80.0	81.4
20-24	77.5	77.0	78.2	78.9	79.7	80.2	81.1	82.1	82.1	81.9	83.2
25-29	102.5	100.1	98.1	97.4	97.3	98.1	97.6	98.0	98.0	99.0	100.0
30-34	114.3	114.0	113.0	113.8	114.3	115.1	116.6	116.2	115.4	115.6	116.6
35-39	104.6	107.8	110.8	115.8	114.8	119.0	122.2	125.6	128.0	128.7	129.6
40-44	95.3	96.6	98.2	101.8	102.8	106.7	111.2	116.1	120.2	125.1	129.4
45-49	87.7	90.1	91.3	93.2	93.9	96.0	98.8	100.8	103.7	107.1	111.1
50-54	86.4	85.2	83.9	84.0	86.4	87.2	88.0	90.6	93.1	95.1	97.2
55-59	81.6	82.6	83.2	83.1	83.9	83.2	82.4	81.4	81.6	82.1	82.8
60-64	65.0	69.1	72.1	73.9	74.9	75.9	77.0	77.6	77.1	76.5	75.7
65-69	48.2	50.2	52.5	55.2	56.4	59.6	62.0	64.6	67.2	69.3	70.3
70-74	31.4	34.7	37.8	40.1	41.2	42.7	45.2	48.1	49.7	51.5	54.4
75-79	22.2	23.5	24.9	25.8	26.8	28.4	30.1	30.9	33.4	35.7	37.1
80-84	16.9	17.4	17.6	17.7	18.4	19.0	19.2	19.9	20.5	21.4	22.6
85-89	11.1	11.6	11.8	11.8	12.2	12.3	12.2	12.4	12.7	12.6	13.0
90-99	5.9	6.3	6.8	7.0	7.1	7.2	7.4	7.6	7.8	8.1	8.2
100+	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4
Total	**1,246.3**	**1,267.3**	**1,285.7**	**1,306.4**	**1,321.3**	**1,343.5**	**1,366.2**	**1,388.9**	**1,409.7**	**1,431.5**	**1,454.4**
Youth (12-18)	81.5	83.4	85.1	86.7	89.1	90.6	93.1	95.5	97.0	98.1	99.2
Primary School Age 6-17	173.3	177.7	180.7	182.9	186.2	188.3	190.5	192.0	192.8	193.5	194.3
Working Age 15-65	883.4	892.2	899.7	912.7	920.5	935.1	949.8	964.2	976.9	991.1	1,007.0
Seniors 65+	136.0	143.9	151.6	157.9	162.5	169.5	176.6	184.0	191.6	199.0	206.0
Super Seniors 85+	17.2	18.1	18.9	19.1	19.6	19.9	20.1	20.4	20.9	21.1	21.6
Female Super Seniors 85+	11.0	11.5	12.0	12.1	12.5	12.6	12.8	13.0	13.2	13.4	13.8
Average Age	**37.0**	**37.2**	**37.5**	**37.6**	**37.7**	**37.9**	**38.1**	**38.3**	**38.5**	**38.7**	**38.8**

Numbers may not add up due to rounding.

Forecast Tables

Table 5 - Calgary Census Metropolitan Area (CMA) Population Projection

Calgary Metropolitan Area (CMA) *(thousands of persons)*

FORECAST COMPLETED: April 2022						FORECAST					
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Population *(as of July)*	1,458.3	1,483.5	1,514.5	1,544.9	1,559.4	1,591.4	1,619.4	1,647.3	1,673.7	1,700.6	1,728.2
Total Population Growth Rate (%) *(July-June)*	1.4	1.7	2.1	2.0	0.9	2.1	1.8	1.7	1.6	1.6	1.6
Total Net Migration *(July-June)*	11.6	17.3	20.9	21.2	6.9	19.9	20.1	20.1	18.9	19.6	20.5
Net Migration 18-24 *(July-June)*	3.6	4.5	5.4	5.0	2.4	4.8	4.9	4.9	4.6	4.8	5.0
Net Migration 28-40 *(July-June)*	2.5	4.8	5.6	6.7	2.8	5.3	5.3	5.3	5.0	5.2	5.4
Total Births *(July-June)*	18.3	18.0	17.4	17.3	17.8	17.6	17.7	17.7	17.8	17.8	17.9
Total Deaths *(July-June)*	6.9	7.3	7.3	7.5	8.3	8.6	9.7	9.9	10.2	10.5	10.8
Total Natural Increase *(July-June)*	11.4	10.7	10.1	9.7	9.5	9.1	8.0	7.8	7.5	7.3	7.1

Population by Cohort	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
0-4	91.4	91.2	90.9	90.0	86.9	87.3	87.8	88.8	90.0	91.7	92.0
5-9	93.4	93.7	93.9	94.2	94.6	95.5	96.2	96.3	95.6	94.0	94.4
10-14	84.2	87.6	90.9	94.1	95.8	97.8	98.9	99.6	100.2	101.7	102.7
15-19	82.2	83.3	84.9	86.6	87.1	90.9	95.3	99.3	103.1	106.2	108.3
20-24	91.5	91.7	93.5	94.8	94.4	95.3	96.5	98.4	100.2	102.5	106.4
25-29	115.4	114.0	112.4	110.5	107.6	107.7	108.4	109.8	111.3	112.8	113.8
30-34	129.6	129.2	129.7	131.2	129.6	128.3	127.3	124.7	121.9	120.6	120.8
35-39	122.7	126.9	131.2	134.8	136.7	137.9	137.9	138.1	138.5	137.9	136.7
40-44	110.7	113.0	116.4	120.4	124.0	128.2	132.6	136.8	139.8	142.2	143.4
45-49	103.3	105.3	107.2	109.4	110.6	112.6	115.0	118.1	121.5	125.2	129.4
50-54	97.5	96.4	96.0	96.8	99.1	101.6	103.9	105.6	107.6	109.0	111.0
55-59	94.9	96.0	97.0	97.3	96.0	94.8	93.8	93.3	93.9	96.4	98.9
60-64	79.2	83.0	86.7	89.4	91.0	92.3	93.6	94.4	94.5	93.5	92.4
65-69	57.6	60.5	64.8	69.0	73.2	77.8	81.5	84.7	87.3	89.2	90.4
70-74	39.7	43.5	47.1	51.0	54.2	56.4	59.1	62.9	66.7	71.0	75.3
75-79	26.2	28.0	30.0	32.0	34.1	37.7	41.2	44.2	47.7	50.7	52.4
80-84	19.1	19.7	20.4	21.1	22.0	23.1	24.4	25.9	27.3	29.1	32.3
85-89	12.7	13.0	13.3	13.6	13.9	14.2	14.5	14.9	15.2	15.8	16.6
90+	7.2	7.6	8.2	8.6	8.8	12.2	11.8	11.4	11.4	11.4	11.3
Total	**1,458.3**	**1,483.5**	**1,514.5**	**1,544.9**	**1,559.4**	**1,591.4**	**1,619.4**	**1,647.3**	**1,673.7**	**1,700.6**	**1,728.2**

Average Age	**37.0**	**37.3**	**37.6**	**37.8**	**38.2**	**38.5**	**38.6**	**38.8**	**39.0**	**39.2**	**39.4**

Numbers may not add up due to rounding.

Forecast Tables

Table 6 - Calgary Economic Region (CER) Population Projection

Calgary Economic Region (CER) *(thousands of persons)*

FORECAST COMPLETED: April 2022						FORECAST					
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Population *(as of July)*	1,567.8	1,593.2	1,624.9	1,655.9	1,670.5	1,700.3	1,729.4	1,758.6	1,786.4	1,815.0	1,844.6
Total Population Growth Rate (%) *(July-June)*	1.3	1.6	2.0	1.9	0.9	1.8	1.7	1.7	1.6	1.6	1.6
Total Net Migration *(July-June)*	9.2	14.7	21.5	21.6	7.1	21.3	21.1	21.4	20.4	21.6	23.0
Total Births *(July-June)*	19.1	18.8	18.3	17.9	17.2	18.9	19.0	19.0	19.0	19.1	19.2
Total Deaths *(July-June)*	7.6	8.1	8.0	8.5	11.5	10.6	10.9	11.3	11.7	12.1	12.6
Total Natural Increase *(July-June)*	11.5	10.6	10.3	9.4	5.7	8.3	8.0	7.7	7.3	6.9	6.6

Population by Cohort	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
0-4	97.4	97.0	96.6	95.7	92.3	92.6	93.3	94.5	96.0	98.2	98.6
5-9	100.8	100.9	100.9	101.2	101.6	102.1	102.3	102.0	100.8	98.5	99.0
10-14	91.8	95.4	98.9	102.2	103.9	105.3	105.7	105.8	105.9	107.0	107.6
15-19	89.2	90.4	92.2	93.9	94.6	98.3	102.3	105.7	109.1	111.6	113.2
20-24	97.3	97.4	99.3	100.7	100.2	101.4	103.0	105.0	106.8	109.2	113.2
25-29	120.8	119.4	118.0	116.1	113.1	113.4	114.2	115.9	117.8	119.6	121.1
30-34	135.8	135.2	135.6	137.1	135.5	135.2	134.9	133.3	130.9	130.1	130.6
35-39	129.8	133.9	138.1	141.4	143.1	144.4	144.6	145.1	146.2	146.3	146.1
40-44	118.0	120.3	123.5	127.4	131.0	135.3	139.8	144.1	147.2	149.7	151.1
45-49	111.0	113.0	114.7	116.7	117.8	119.8	122.4	125.7	129.5	133.4	137.8
50-54	105.4	104.1	103.5	104.4	106.7	109.4	111.6	113.3	115.1	116.5	118.5
55-59	103.3	104.4	105.4	105.5	103.9	102.6	101.6	101.1	101.9	104.4	107.1
60-64	86.8	90.8	94.6	97.4	99.0	100.3	101.6	102.6	102.5	101.5	100.2
65-69	63.8	66.9	71.5	76.0	80.4	85.3	89.2	92.5	95.2	97.2	98.5
70-74	44.4	48.6	52.6	56.7	60.2	62.4	65.2	69.1	73.2	77.6	82.1
75-79	29.2	31.2	33.5	35.7	38.0	41.8	45.5	48.7	52.1	55.4	57.3
80-84	21.1	21.7	22.5	23.4	24.4	25.3	26.7	28.3	29.8	31.6	34.8
85-89	13.9	14.2	14.6	15.0	15.2	15.4	15.6	15.9	16.2	16.7	17.4
90+	7.9	8.3	9.0	9.4	9.6	9.8	10.0	10.1	10.3	10.5	10.6
Total	**1,567.8**	**1,593.2**	**1,624.9**	**1,655.9**	**1,670.5**	**1,700.3**	**1,729.4**	**1,758.6**	**1,786.4**	**1,815.0**	**1,844.6**

Average Age	**37.2**	**37.5**	**37.8**	**38.0**	**38.4**	**38.6**	**38.8**	**39.0**	**39.2**	**39.4**	**39.6**

Numbers may not add up due to rounding.

Glossary

Advanced economies

Since October 2021 the IMF has recognized 40 developed countries as advanced economies: Andorra, Australia, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong SAR, Iceland, Ireland, Israel, Italy, Japan, (Republic of) Korea, Latvia, Lithuania, Luxembourg, Macao SAR, Malta, Netherlands, New Zealand, Norway, Portugal, Puerto Rico, San Marino, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan, United Kingdom and the United States.

AECO-C

Is the central natural gas spot market price for Alberta, measured in Canadian dollar per gigajoule. Joule is the international measure of energy. One gigajoule corresponds to one billion joules.

Apartment

Within the context of this report and Calgary's Civic Census, an apartment is a structure originally designed and built to contain at least three dwelling units on three or more levels. The dwelling units share outside entrances. Apartments include rental units and those that are owner-occupied.

Attached housing

A property with one floor above ground that shares at least one wall (or a part of a wall) with another home.

Calgary Economic Region (CER)

Is an Alberta economic region that covers the city of Calgary and its surrounding twenty cities, towns, villages, and Indian reserves including: Beiseker (Village), Black Diamond (Town), Carstairs (Town), Chestermere (City), Cochrane (Town), Cremona (Village), Crossfield (Town), Didsbury (Town), Eden Valley 216 (Indian reserve), Foothills No. 31 (Municipal district), High River (Town), Irricana (Town), Longview (Village), Mountain View County (Municipal district), Okotoks (Town), Olds (Town), Rocky View County (Municipal district), Sundre (Town), Tsuu T'ina Nation 145 (Sarcee 145) (Indian reserve), Turner Valley (Town).

Census metropolitan area (CMA)

Urban Census metropolitan area (CMA) is an area consisting of one or more neighbouring municipalities located around a major urban core. A CMA must have a total population of at least 100,000 of which 50,000 or more live in the urban core.

Commodities

Commodities are tangible goods that can be bought and sold in spot or futures markets. Commodities are goods that are usually produced and/or sold by many different companies. A commodity is uniform in quality between companies that produce/sell it in the sense that we cannot tell the difference between one firm's product and another. Examples of commodities include oil, electricity, metals, cement and agricultural products, such as wheat, corn, and rice.

Consumer price index (CPI)

The Consumer Price Index (CPI) is an indicator of the consumer prices encountered by consumers. It is obtained by calculating, on a monthly basis, the cost of a fixed "basket" of goods purchased by a typical consumer during a given month. The basket contains products from various categories, including shelter, food, entertainment, fuel and transportation. Since the contents of the basket remain constant in terms of quantity and quality, the changes in the index reflect price changes. The CPI is a widely used indicator of inflation (or deflation) and indicates the changing purchasing power of money in Canada.

Contact-intensive

According to the U.S. Department of Labor, a contact-intensive industry is one where the job requires the worker to perform job tasks in close physical proximity to other people. Examples of contact-intensive occupations include barbers, physical therapists, personal care aides, nurses, flight attendants, grade school teachers, and food/beverage servers.

Detached housing

Independent structures that are typically built on land that exceeds the footprint of the building on each of its sides.

Economic region

An economic region (ER) is a grouping of complete census divisions (CDs) created as a standard geographic unit for analysis of regional economic activity.

Economy

The term economy refers to the institutional structures, rules and arrangements by which people and society choose to employ scarce productive resources that have alternative uses in order to produce various goods over time and to distribute them for consumption, now and in the future, among various people and groups in society. In a free market economy like Canada's the laws of supply and demand determine what, how and where goods and services should be produced, who should consume them and when. A "strong' or "healthy" economy is usually one that is growing at a good pace.

Glossary

Emerging and developing economies

This group of countries include developing economies that are low- and middle-income countries, and emerging economies that are in transition from developing economies to developed countries. Some of the largest countries in the world like China, India, Brazil and Russia are emerging economies.

Employment rate

The number of employed persons expressed as a percentage of the working age population.

Fiscal policy

Also called budgetary policy, the overall program for directing government spending and taxation for the purpose of keeping the actual Gross Domestic Product (GDP) close to the potential full employment GDP, but without overreaching that potential and causing inflation.

Federal Reserve

The Federal Reserve System is the central bank of the United States tasked to provide monetary and fiscal stability to the economy.

Goods-producing sector

Includes agriculture, forestry, fishing, mining, oil and gas extraction, utilities (electric, gas and power), construction and manufacturing.

Great Depression

The Great Depression was a severe worldwide economic depression that took place mostly during the 1930s, beginning in the United States. The timing of the Great Depression varied across the world; in most countries, it started in 1929 and lasted until the late 1930s. Based on the IMF, at the period between 1929 and 1932, for advanced economies, the contraction was around 16 per cent. It was the longest, deepest, and most widespread depression of the 20th century.

Great Recession (2008-2009)

The Great Recession was a widespread period of economic decline during the late 2000s where most of the world's economies, particularly those of North America, Europe and Japan, fell into a recession. For Canada and the United States, the recession was most acute in 2008 and 2009. Both countries experienced multiple quarters of consecutive negative GDP growth. In response to the Great Recession, many governments around the world introduced multi-billion dollars economic stimulus plans and engaged in numerous interest rate cuts.

Gross domestic product (GDP)

GDP is a measure of the value of all goods and services produced by the economy. Unlike Gross National Product (GNP), GDP only includes the values of goods and services earned by a region or nation within its boundaries.

Henry Hub

Henry Hub is a natural gas pipeline in Louisiana that serves as the pricing and delivery location of natural gas futures on the New York Mercantile Exchange (NYMEX).

Household formation

The number of new households that will be formed over the long term. Based on projections of population by age cohort and age-specific headship rates, household formation is the underlying driver of long-term demand for new housing and thus new home construction.

Housing markets

Consists of two markets: new house and re-sale markets referred to as MLS (Multiple Listing Service). Each is described by different measures and followed closely by different statistical bodies: the Planning and Building Department with The City of Calgary and Statistics Canada for new houses, and The Canadian Real Estate Association for the re-sale market.

Housing units

A general term that refers to single-family houses, townhouses, mobile homes and/or condominiums.

Housing starts

A housing start is defined as the beginning of construction work on a building, usually when the concrete has been poured for the whole of the footing around the structure, or an equivalent stage where a basement will not be part of the structure.

IMF

The International Monetary Fund (IMF) is an organization created in 1945, governed by and accountable to the 189 countries that make up its near-global membership. The IMF's primary purpose is to ensure the stability of the international monetary system—the system of exchange rates and international payments that enables countries (and their citizens) to transact with each other.

Index

An economic tool that allows for data comparison over time. An index number is used to indicate change in magnitude (cost or price) as compared with the magnitude at some specified time.

Glossary

Inflation rate

A measure of the percentage change in the Consumer Price Index for a specific period of time.

Labour force

The working age population (aged 15+) who are actively involved in the labour market, which includes those employed and unemployed people. It does not include people who are at their working age but not working or looking for work.

MLS

The Multiple Listing Service, or MLS, is a local or regional service that compiles available real estate for sale submitted by member brokers and agents, along with detailed information that brokers and agents can access online.

Monetary policy

Refers to government measures undertaken to affect financial markets and credit conditions with the ultimate objective of influencing the overall behaviour of the economy. Monetary policy is usually the responsibility of the central banks, such as the Bank of Canada.

OPEC

The Organization of Petroleum Exporting Countries (OPEC) is an organization of 13 oil producing countries (Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, and Venezuela) that seeks to actively manage oil production in its member countries by setting production targets. OPEC member countries typically produce 40 to 50 per cent of the world's crude oil, and Saudi Arabia is OPEC's largest producer. OPEC is described by most market observers as a cartel whose actions, particularly those by Saudi Arabia, serve as a major influence on global oil production and price.

OPEC+

OPEC+ was established in 2016 amid a global economic slowdown and strong production from U.S. shale producers to stabilize oil prices by jointly cutting production among its members. OPEC+ describes the 13 members of OPEC plus 10 oil exporting non-OPEC countries (Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan). Russia is the largest and most influential oil producing member of OPEC+ who is not a formal member of OPEC.

Overnight Rate

The overnight interest rate is the rate for overnight (between business days) lending among major banks in Canada. It is typically the lowest of all types of interest rates and influences other interest rates. The Bank of Canada sets the target for the overnight rate as one way to conduct monetary policy. Major banks can deposit money overnight with the Bank of Canada and receive an interest rate equal to the target rate (the "deposit rate") or borrow money from the Bank of Canada at a rate one-quarter of a percentage point higher (the "bank rate").

Quantitative Tightening

A contractionary monetary policy implemented by central banks in order to reduce liquidity or reduce money supply. This is usually done by the central bank reducing its assets on the balance sheets.

Recession

A period in which the economy experiences two consecutive quarters of gross domestic product decreases. During this temporary period there is a decline in industrial production and trade.

Unemployment Rate

In Canada, the unemployment rate measures unemployment and is expressed as a percentage of the total labour force, which is the total number of people who are 15 years of age and over who are either employed or unemployed.

WCS

Western Canadian Select (WCS) is the benchmark for emerging heavy, high TAN (acidic) crudes, one of many petroleum products from the Western Canadian Sedimentary Basin oil sands.

Working age population

Describes persons aged 15 to 64.

WTI

West Texas Intermediate (WTI) crude oil is the underlying commodity of the New York Mercantile Exchange's oil futures contracts. Light, sweet crude oil is commonly referred to as "oil" in the Western world.

Who We Are

Corporate Economics provides services in four areas: forecasting, information provision, policy analysis and consulting. We also monitor the current economic trends which allows us to develop unique insights on how external events are impacting the local economy and the Municipal government. We are experienced at researching different economic topics and have developed reliable methods of forecasting and analysis.

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Sources:
Bank of Canada, CMHC, Conference Board of Canada, CREA, CREB, Government of Alberta, Government of Canada, International Monetary Fund (IMF), Statistics Canada, Stokes Economics, The City of Calgary, U.S. Energy Information Administration (EIA), Federal Reserve Bank of St. Louis (FRED), World Health Organization (WHO), and others.