



Outlook for Construction Industry – Ontario & Ottawa

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Sources of Data

Only use reliable data sourced from:

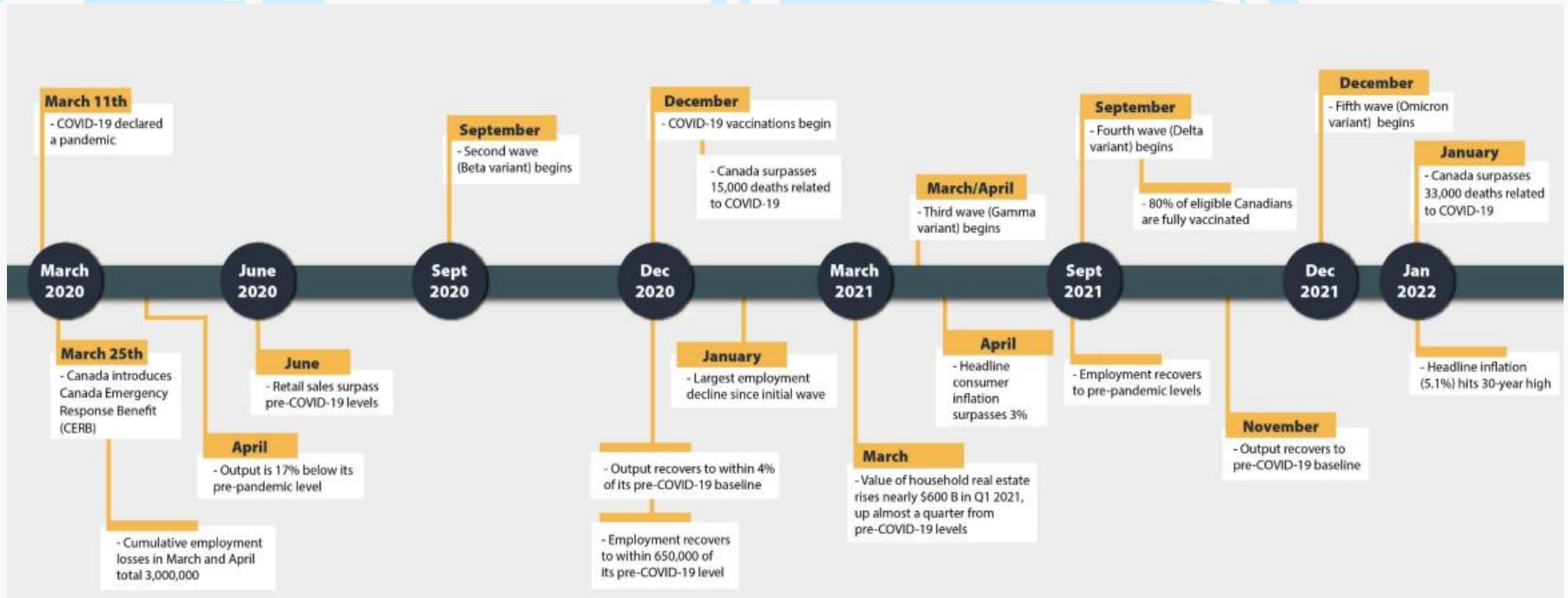
- ❑ Stats Can, NR Canada
- ❑ Govt of Ontario
- ❑ NR Canada & US Dept of Energy
- ❑ Bloomberg
- ❑ BuildForce



The COVID Pandemic: March 2020 – March 2022

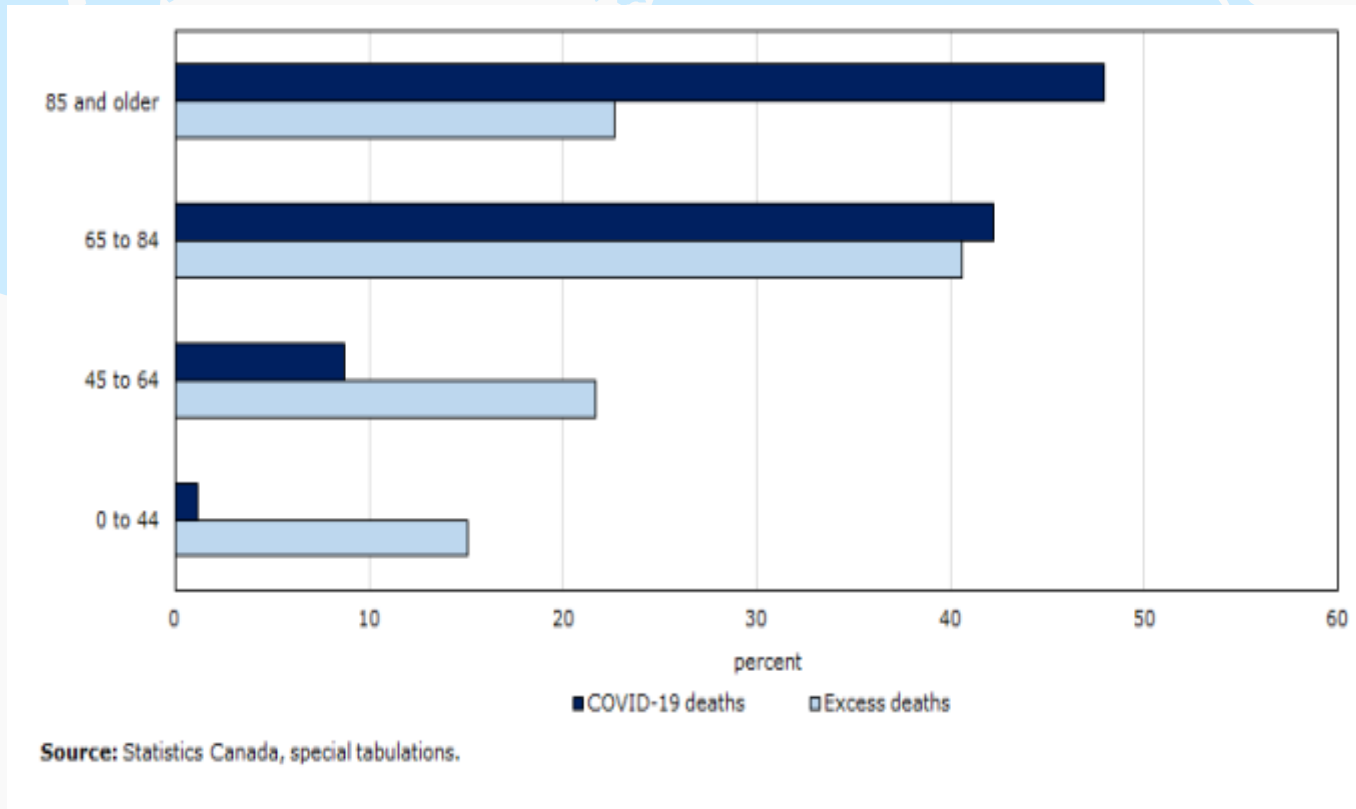
What happened?

Stats Can, Economic & social impacts of COVID timeline



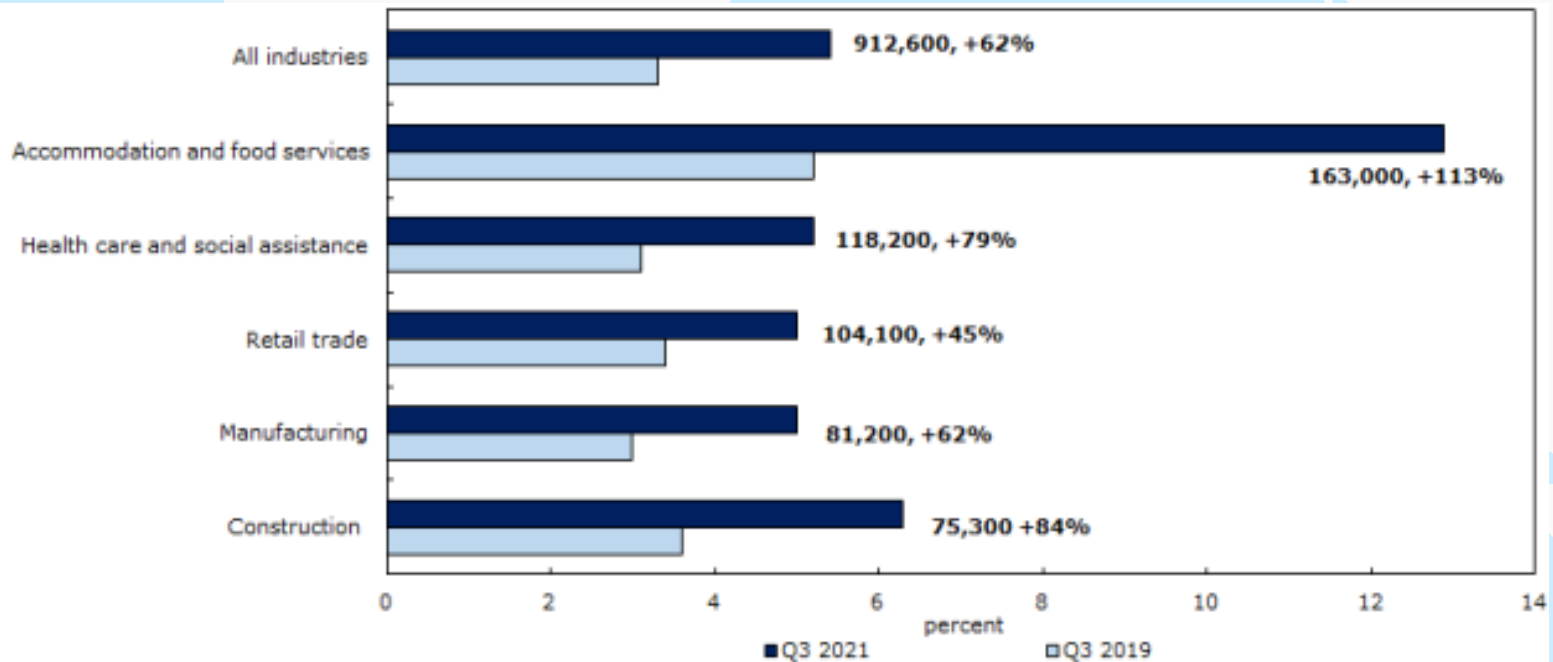
COVID pandemic is over from economic POV

Stats Can, Estimate of excess & COVID deaths, by age group, March 2020 to Oct. 2021



Over 65 years far more vulnerable to COVID

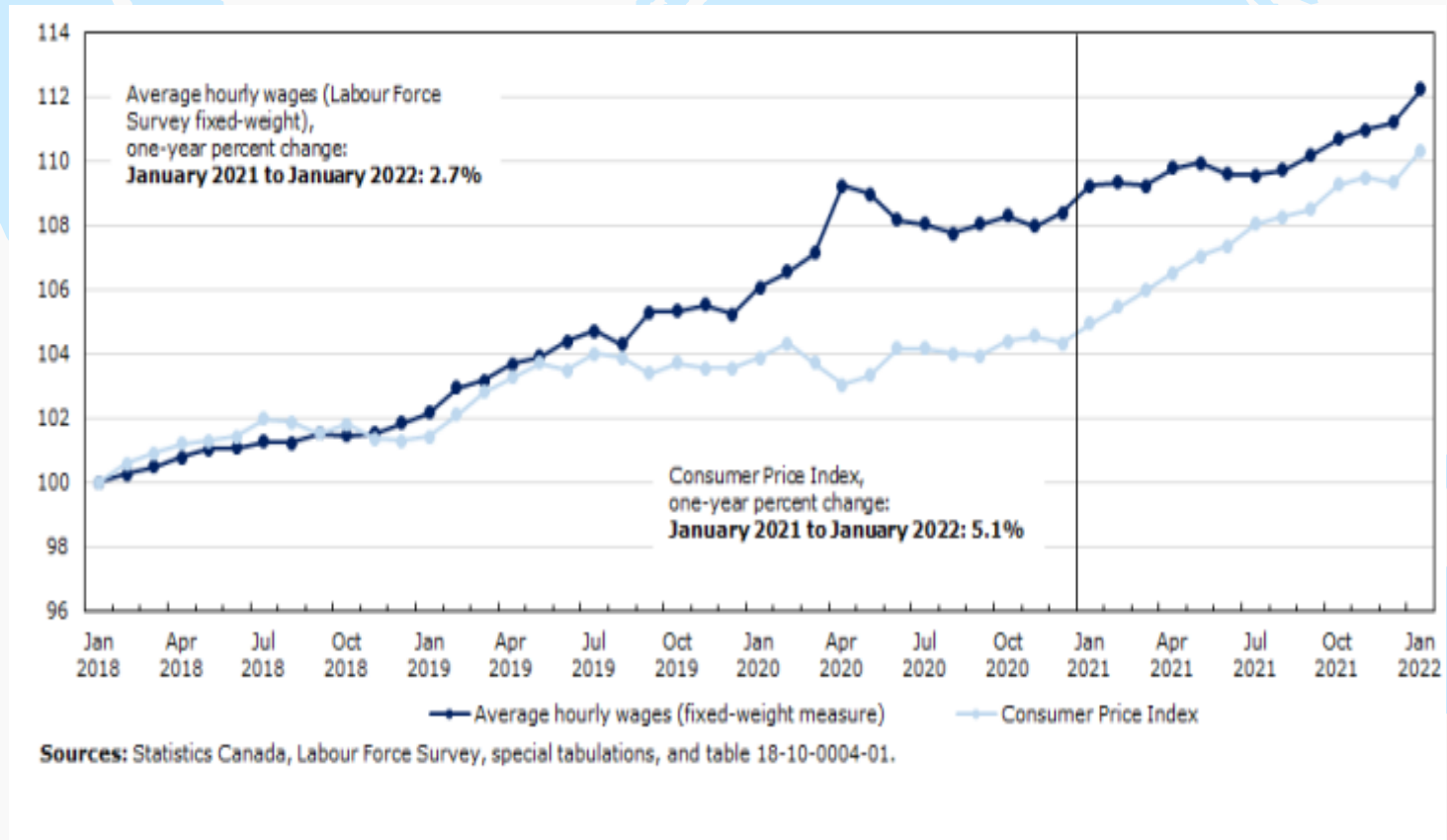
Stats Can, Job vacancy rates, 2019 Q3 vs 2021 Q3



Note: The numbers in bold are the number of reported job vacancies in Q3 2021 and the percentage increase since Q3 2019.
Source: Statistic Canada, table 14-10-0326-01.

Job vacancies became worse with COVID

Stats Can, Avg hourly wages & consumer prices, Jan. 2021 – Jan. 2022



Throughout 2021, average wage increases higher than CPI

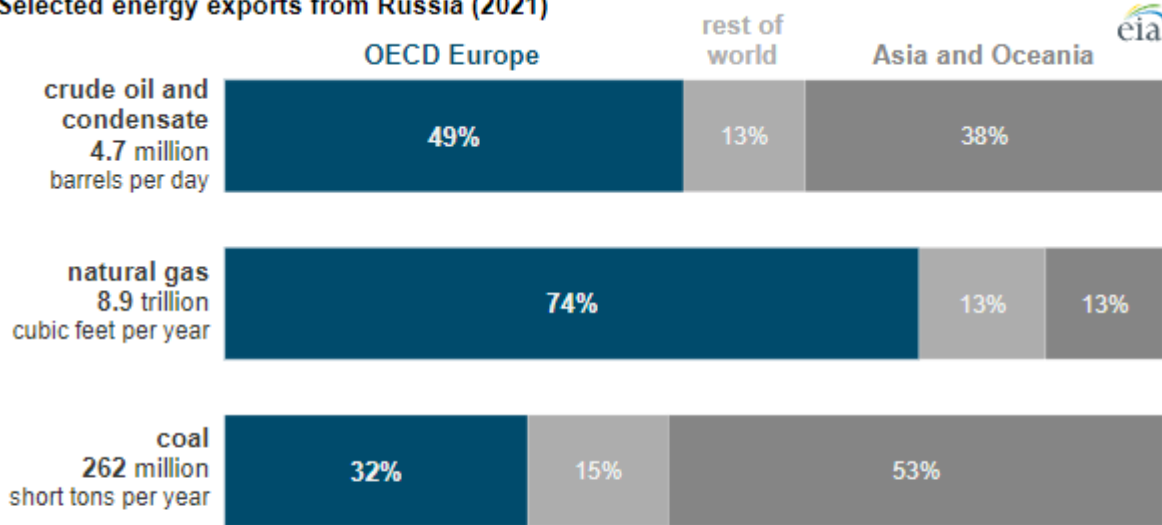


Construction commodity prices outlook

2022 and beyond

US EIA, EU is key destination for Russia's energy exports

Selected energy exports from Russia (2021)



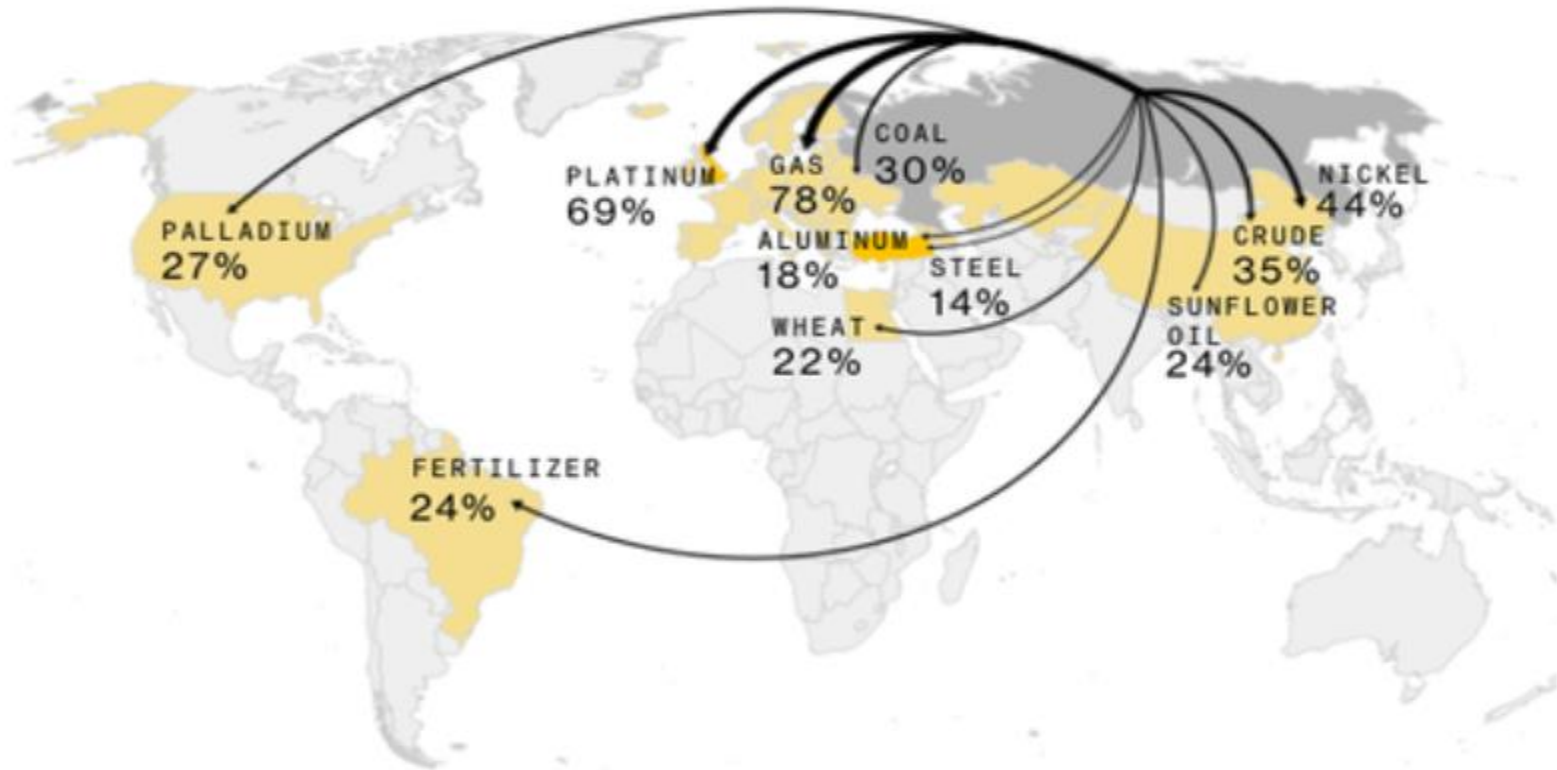
Source: Graph by the U.S. Energy Information Administration, based on Russia's export statistics and partner country import statistics published by Global Trade Tracker

[Figure data](#)

In 2021, Russia was the largest natural gas-exporting country in the world, the second-largest crude oil and condensates-exporting country after Saudi Arabia, and the third-largest coal-exporting country behind Indonesia and Australia. Although OECD Europe received most of Russia's crude oil and natural gas exports last year, countries in Asia and the Oceania region received most of Russia's coal exports.

<https://www.eia.gov/todayinenergy/>

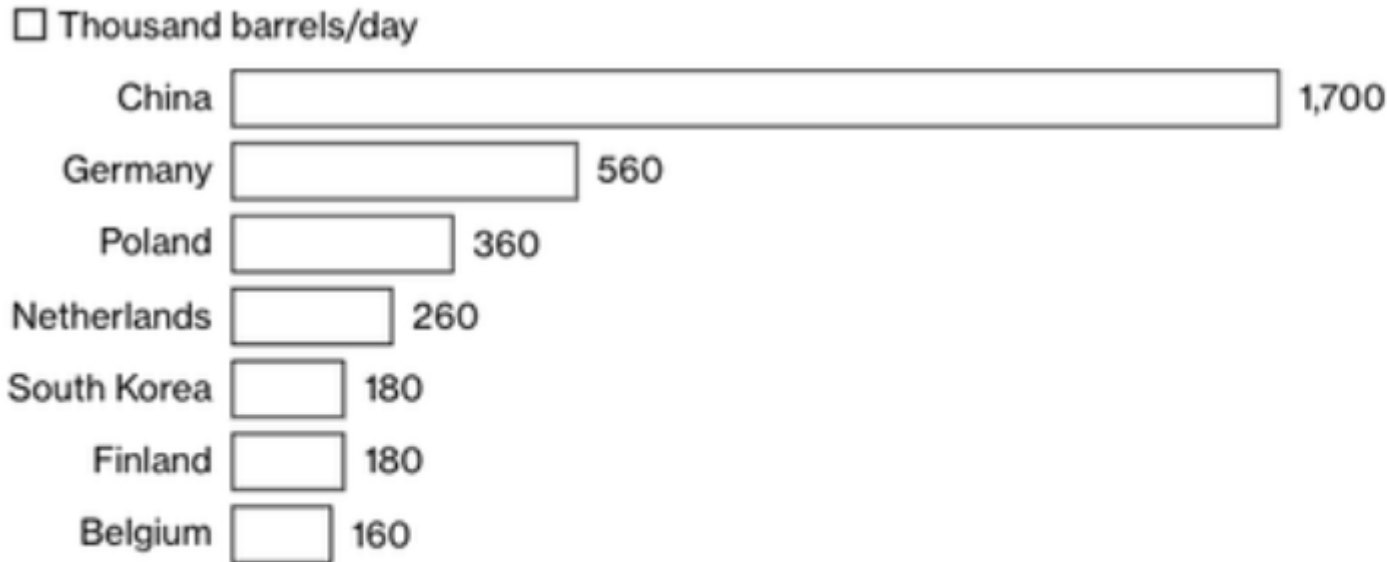
Bloomberg, Share of Russian exports to each destination



Note: Coal figures combine thermal and metallurgical; liquefied natural gas and pipeline gas are also combined.

Russia exports a lot of resources

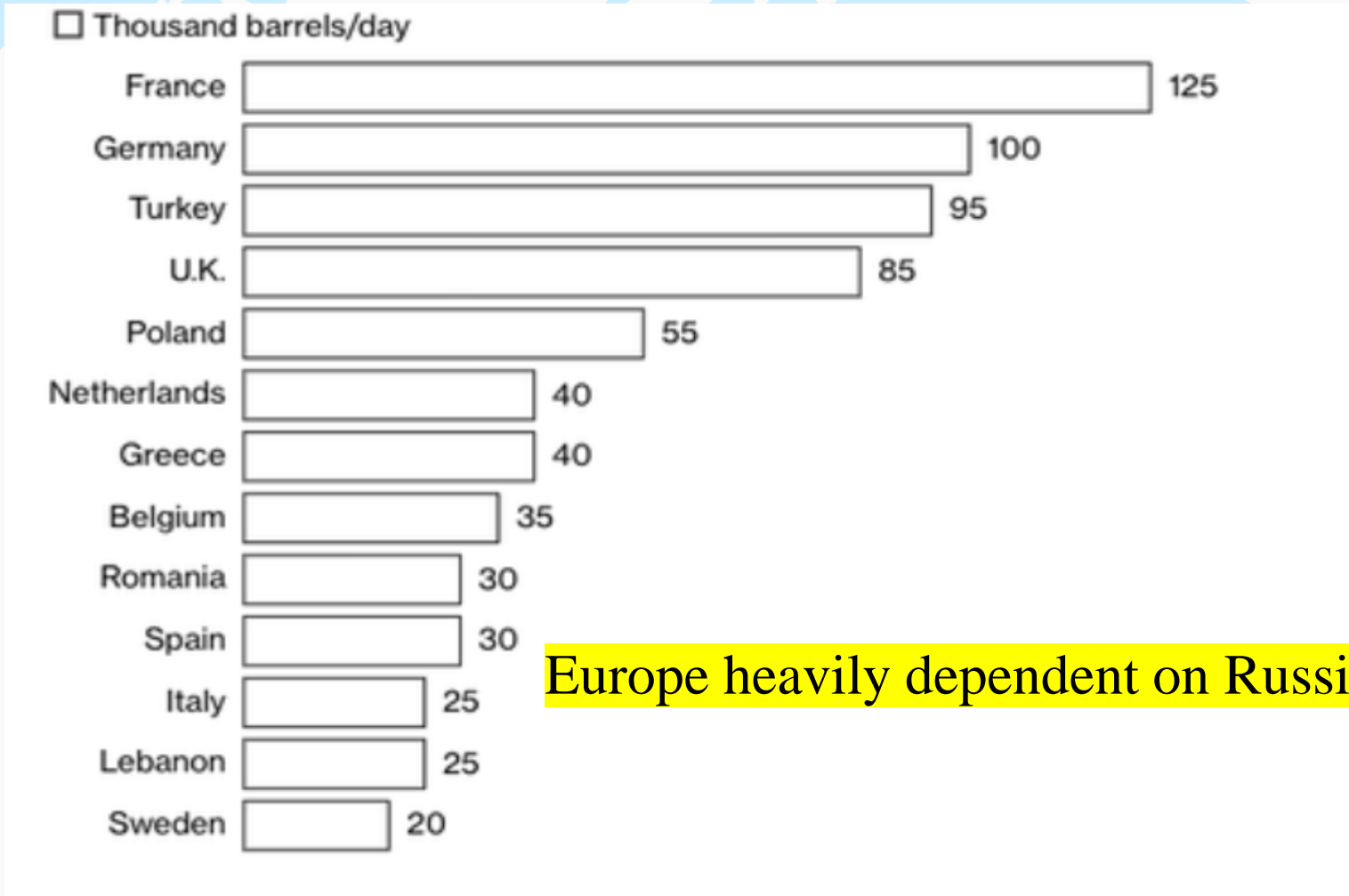
Bloomberg, China & EU are key destinations for oil exports, 2020



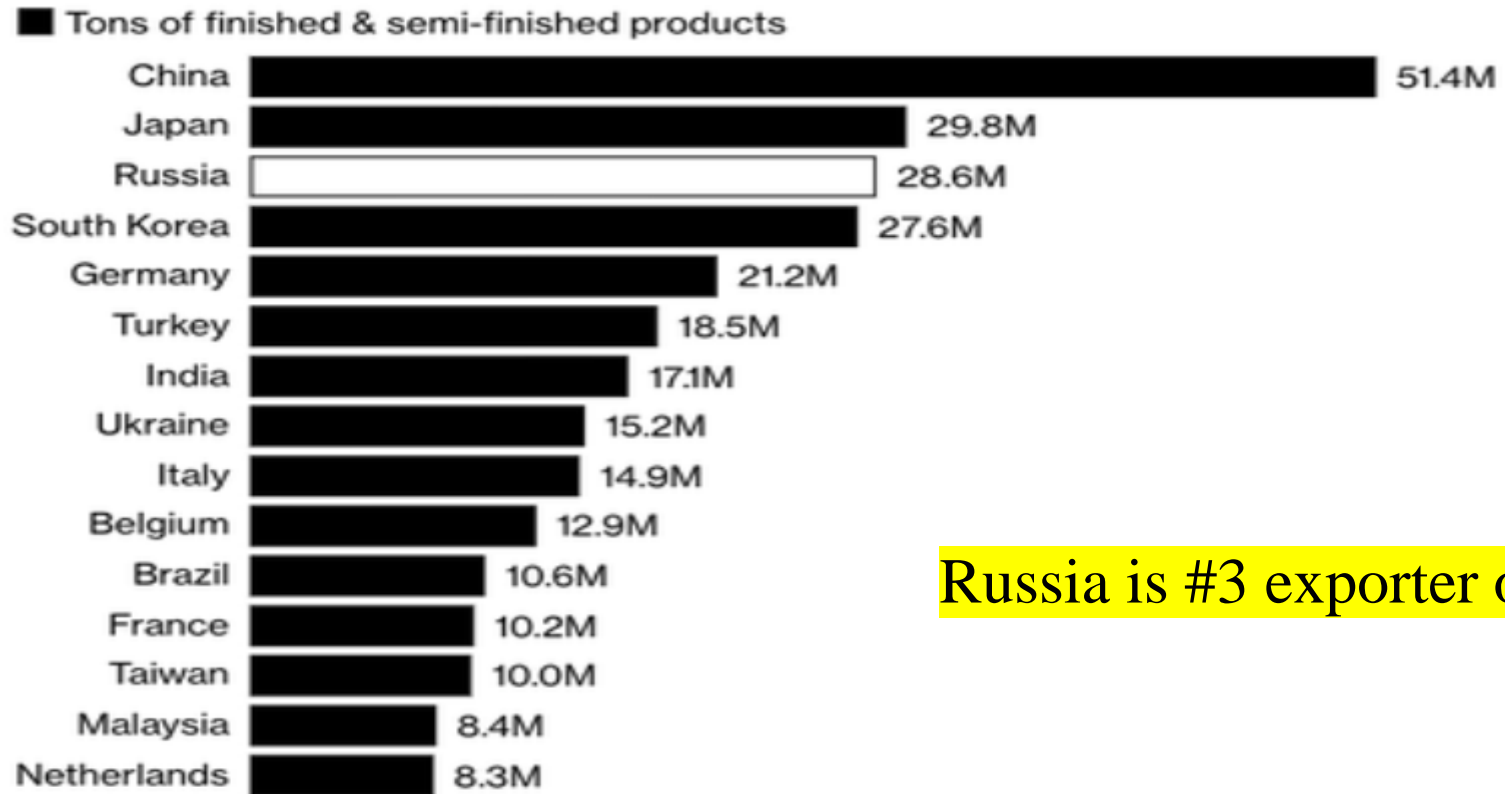
Sources: BP for China, vessel tracking data monitored by Bloomberg for South Korea and Eurostat.
Note: Figures are rounded to the nearest 10K barrels/day. Data are for 2020.

EU imports of oil almost = China imports of oil

Bloomberg, Europe guzzles Russian gasoil & diesel, 2020



Bloomberg, Top STEEL exporters, 2020



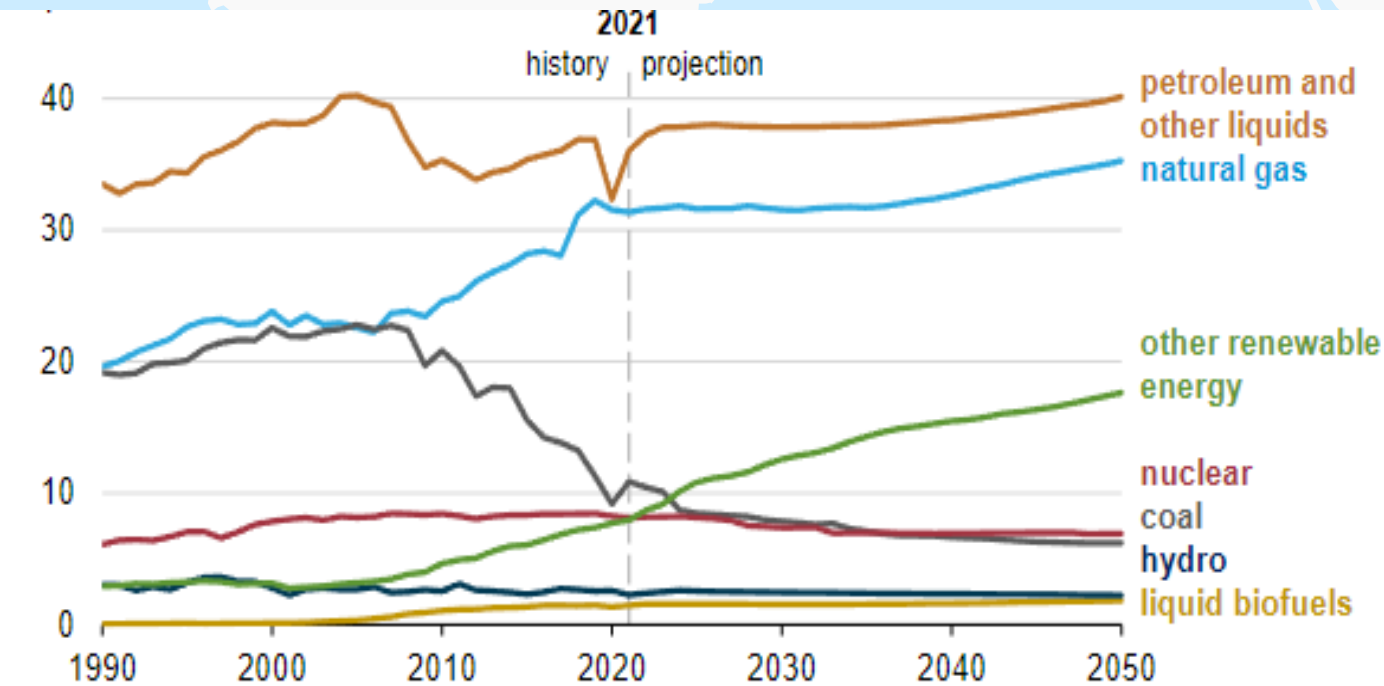
Russia is #3 exporter of steel

Note: Worldwide total was 396 million tons.

Source: World Steel Association

US EIA, Oil & Natural Gas most used fuel to 2050

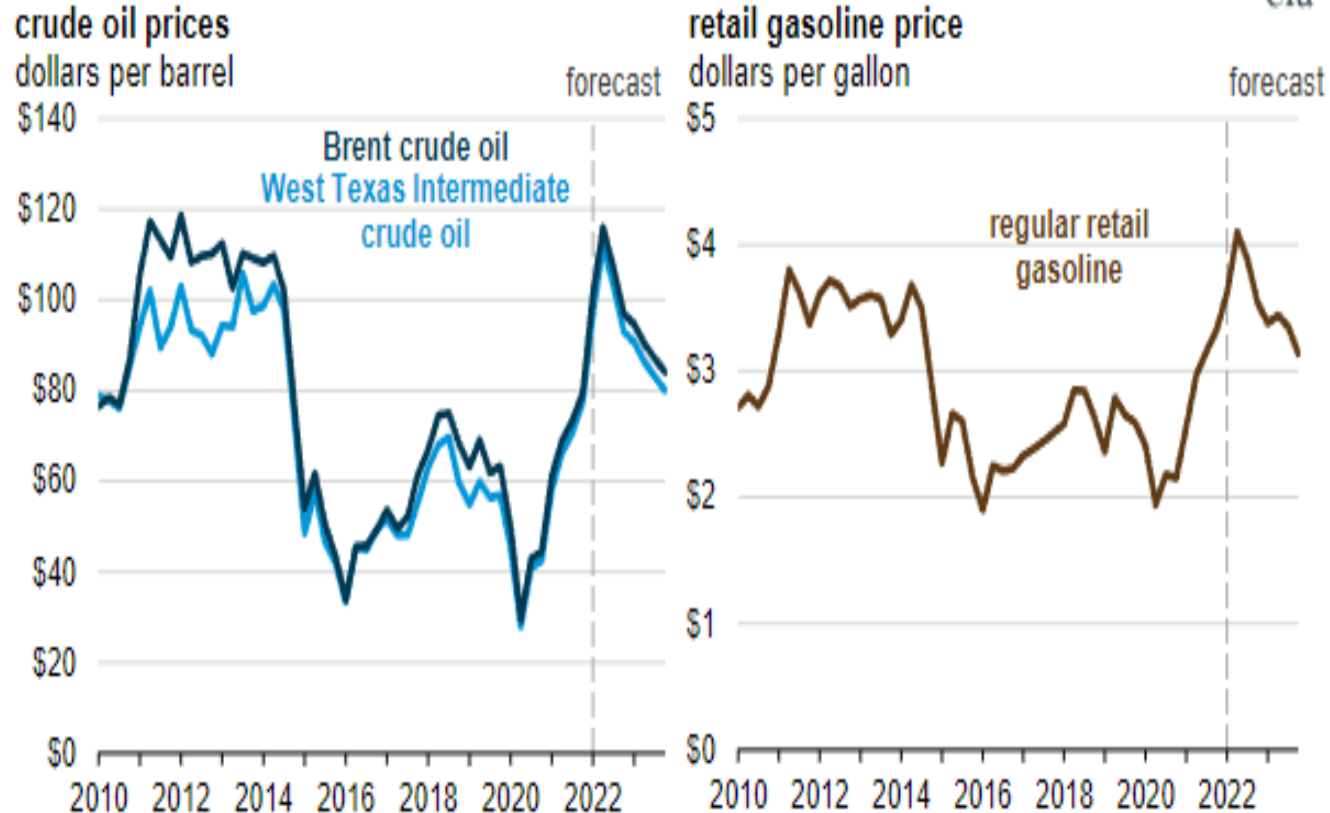
Contradicts claims of decarbonization by 2050



Source: U.S. Energy Information Administration, *Annual Energy Outlook 2022* (AEO2022)
Note: Biofuels are both shown separately and are included in petroleum and other liquids.

<https://www.eia.gov/todayinenergy/detail.php?id=51678>

US EIA, Qterly avg crude oil & retail gas, 2022



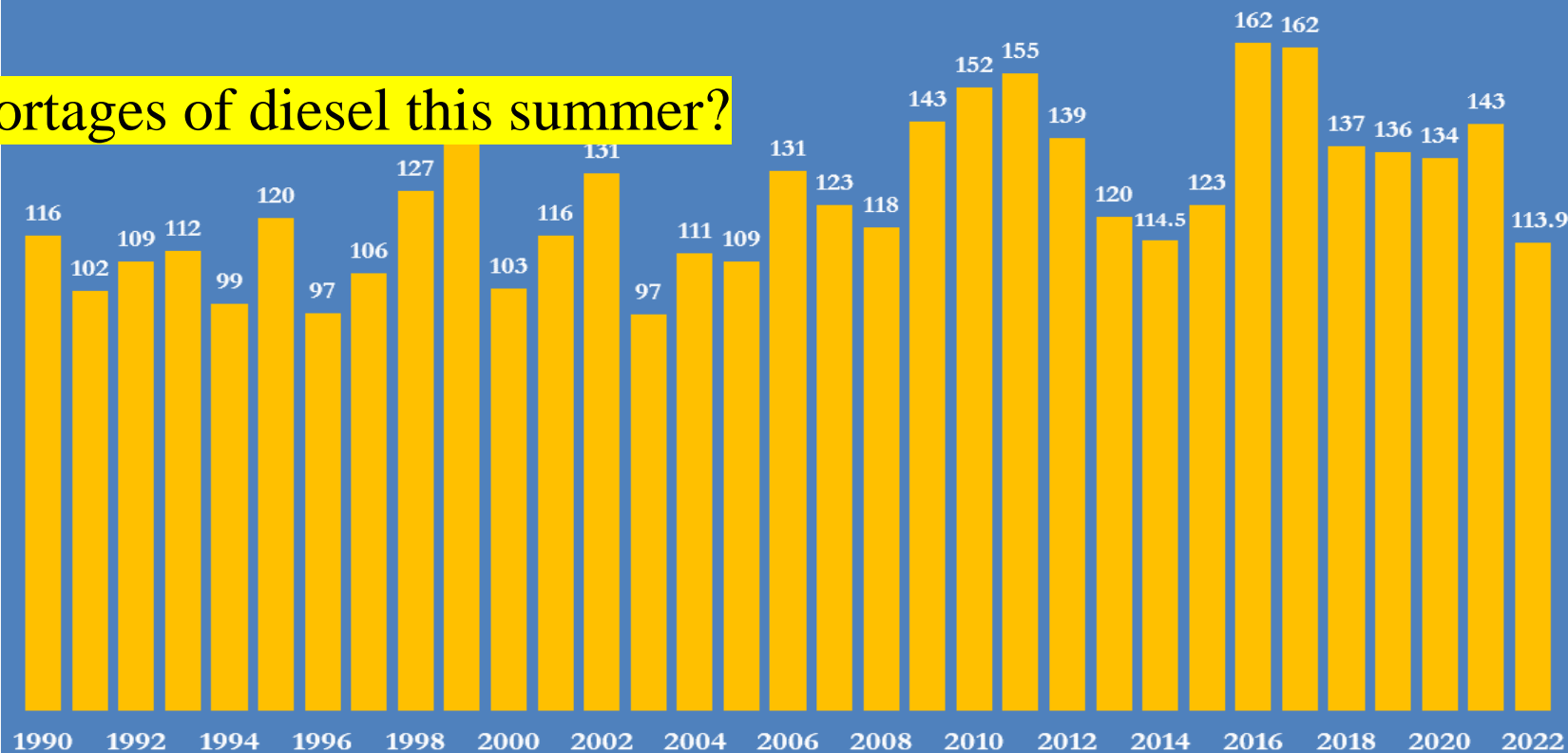
Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, March 2022

<https://www.eia.gov/todayinenergy/detail.php?id=51658>

US diesel & distillates at lowest levels since 2008

U.S. distillate fuel oil inventories, 1990-2022
million barrels, annual, week ending nearest to March 4

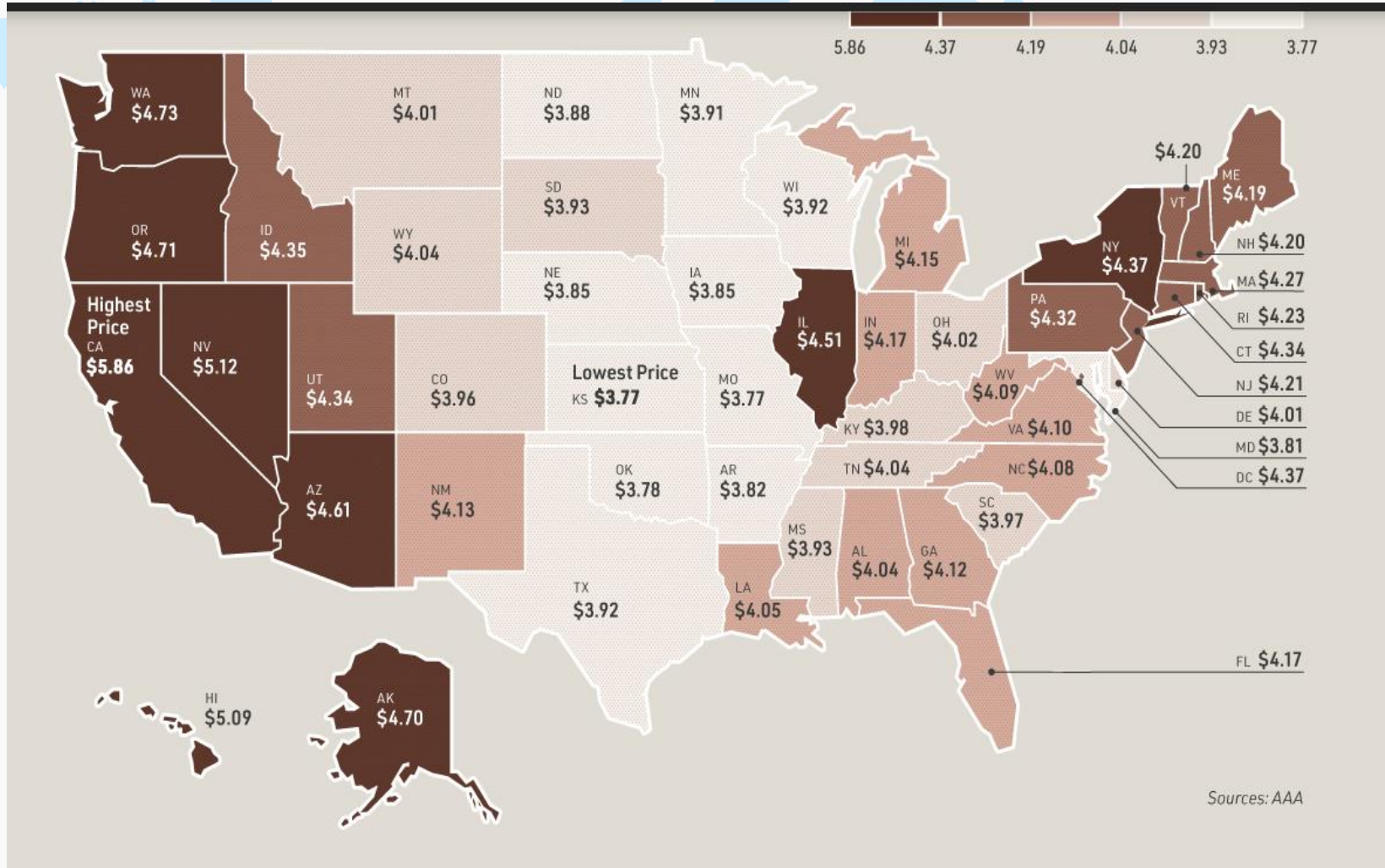
Shortages of diesel this summer?



Source: U.S. Energy Information Administration

@JKempEnergy

US Gas prices, March 2022



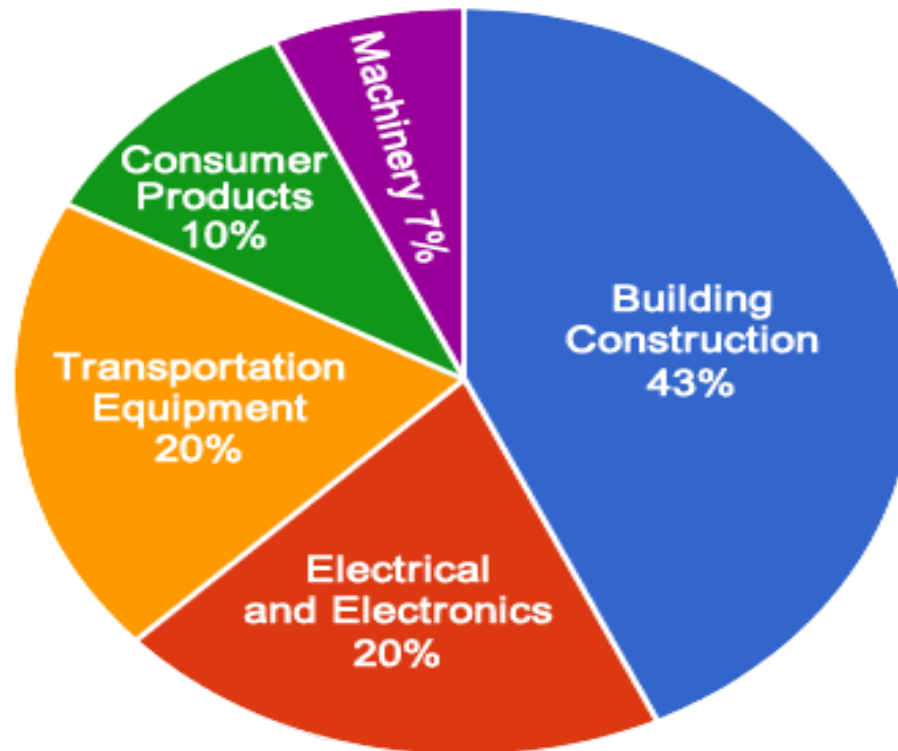
Copper prices - the “new oil”

- Today, it is \$10,173 per tonne
- Bank of America: copper prices could reach \$20,000 per tonne by 2025 ie +50%
- demand for copper will stay strong
- Due to housing, cars, consumer electronics

Use of copper in US, 2019

And watch when Evs are mandated!

Uses of Copper in the United States During 2019



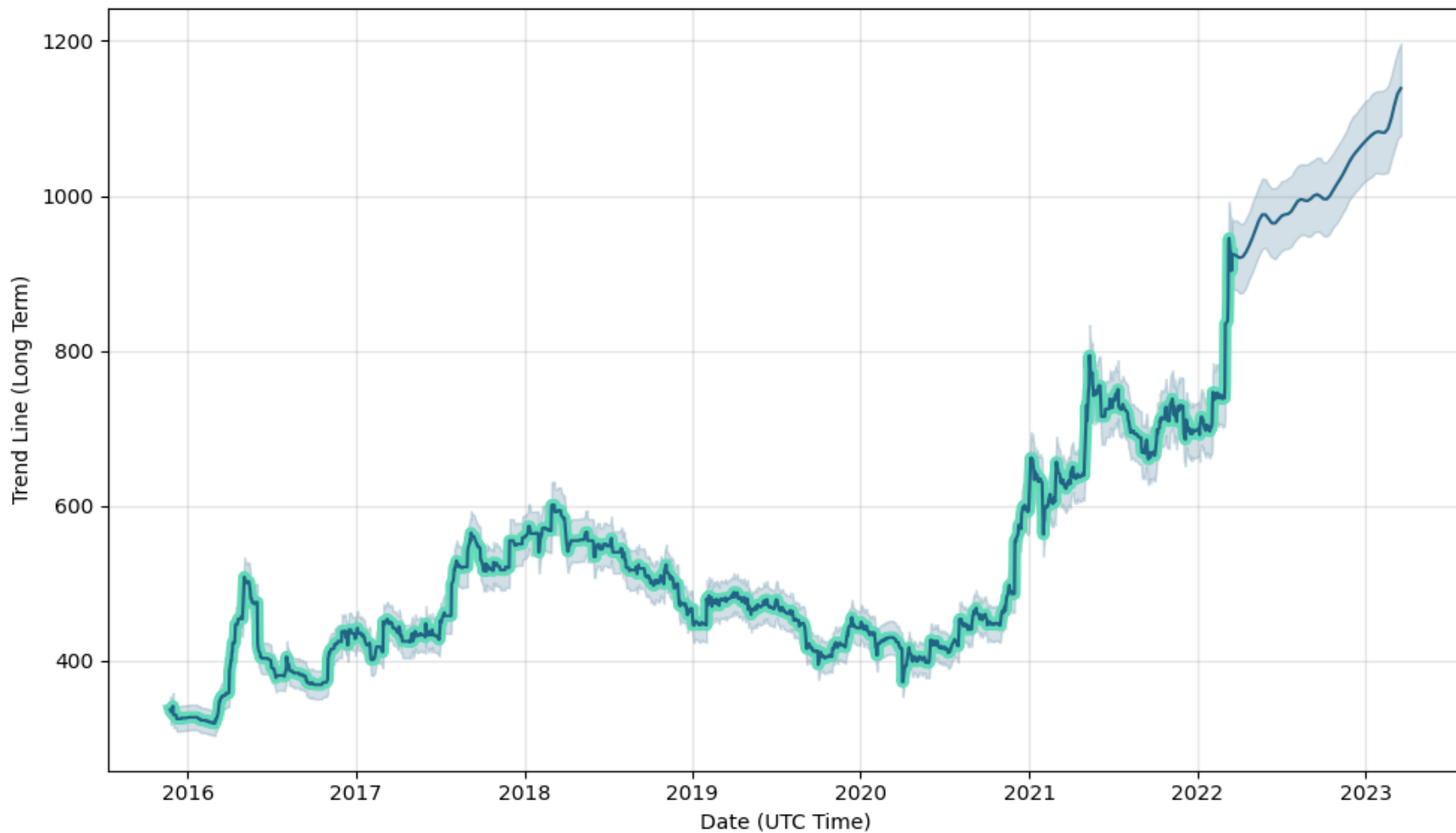
Copper prices, 2018-2022

Copper price chart

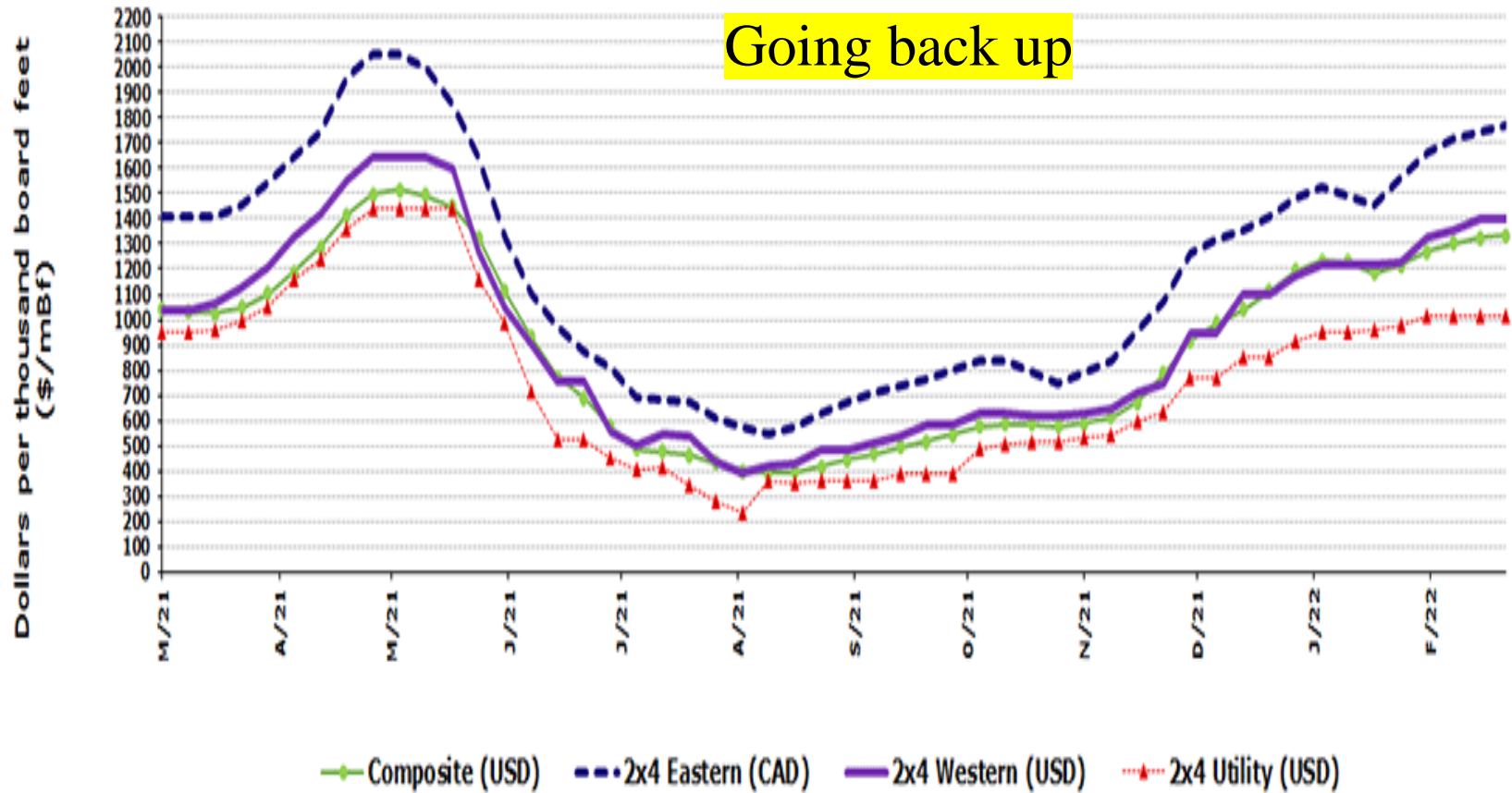


Source: Nasdaq, COMEX

Reebar Forecast per metric ton, 2016-2023

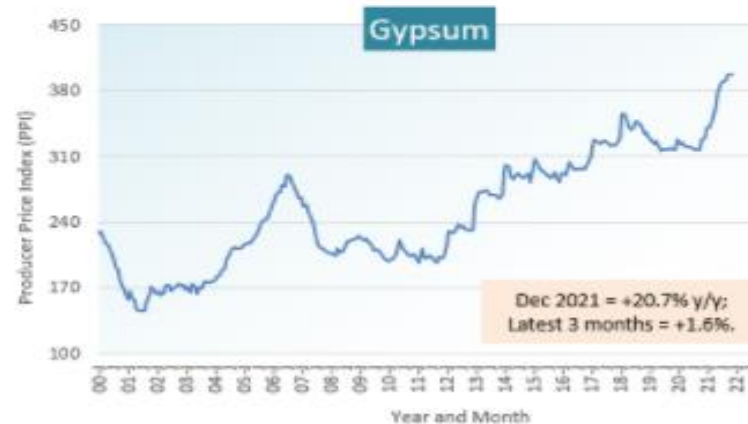
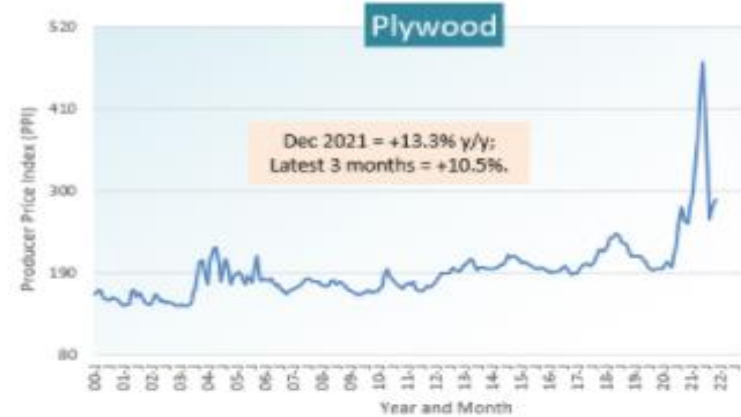


NR Can, Lumber prices, 2021-2022



US, Forestry Products, 2000-21

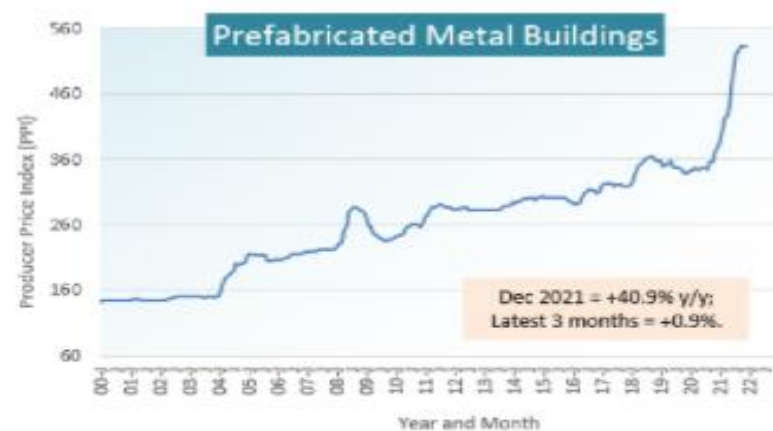
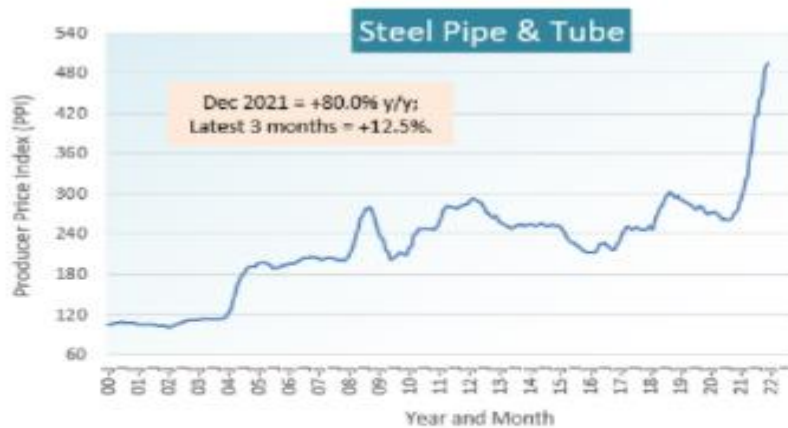
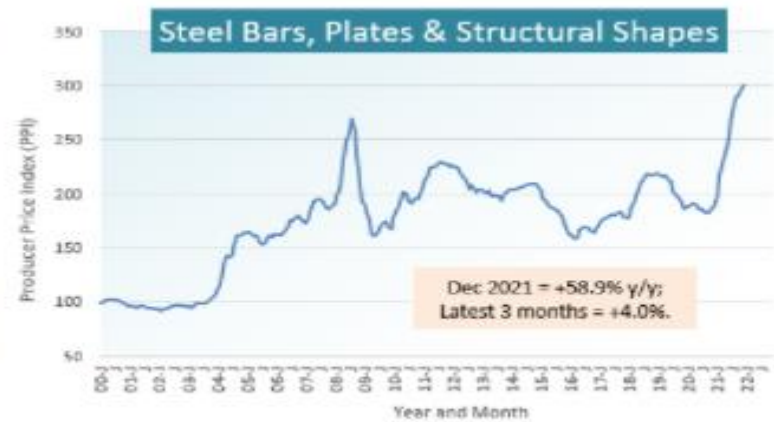
Up, up and away



The latest data points are for December, 2021.

Data source: U.S. Bureau of Labor Statistics (BLS), Producer Price Index (PPI), not seasonally adjusted (NSA) / Charts: ConstructConnect-CanaData.

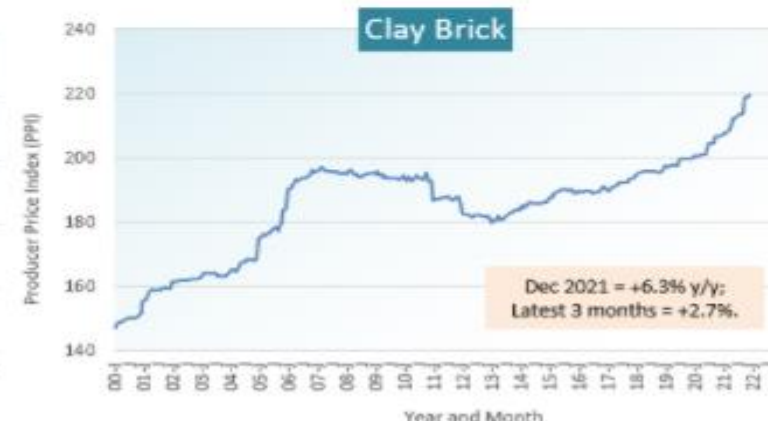
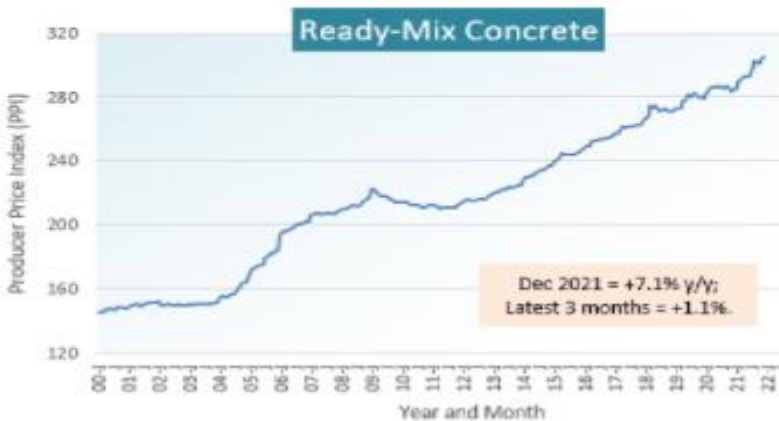
US, Steel products prices, 2000-21



The latest data points are for December, 2021.

Data source: U.S. Bureau of Labor Statistics [BLS], Producer Price Index (PPI), not seasonally adjusted (NSA) / Charts: ConstructConnect-CanaData.

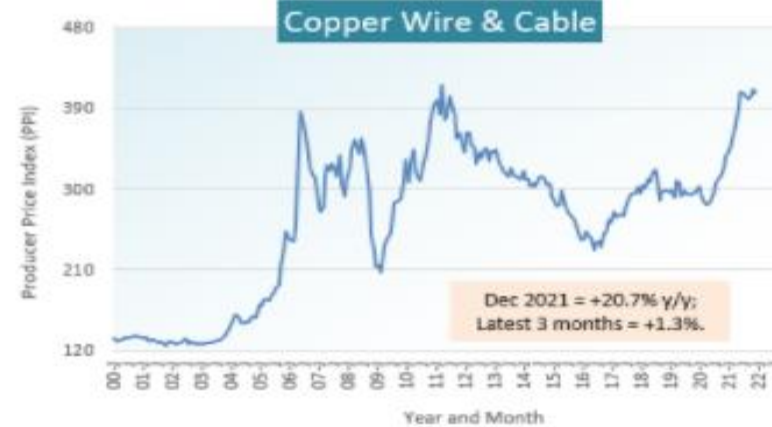
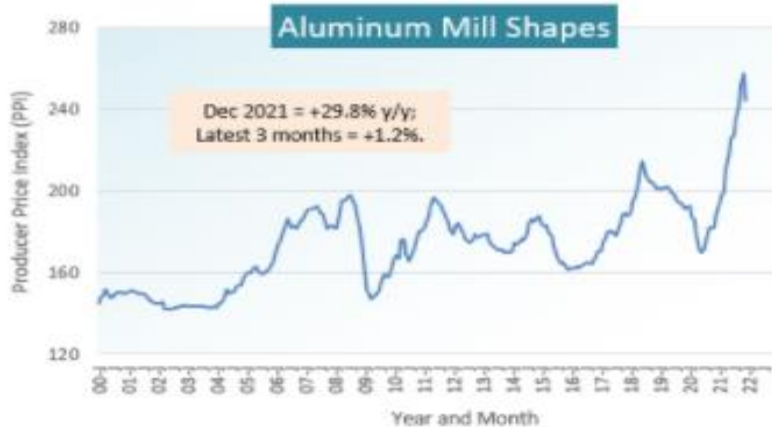
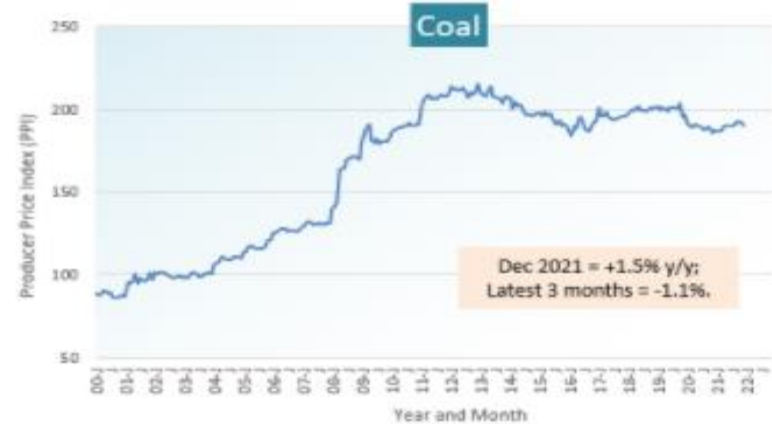
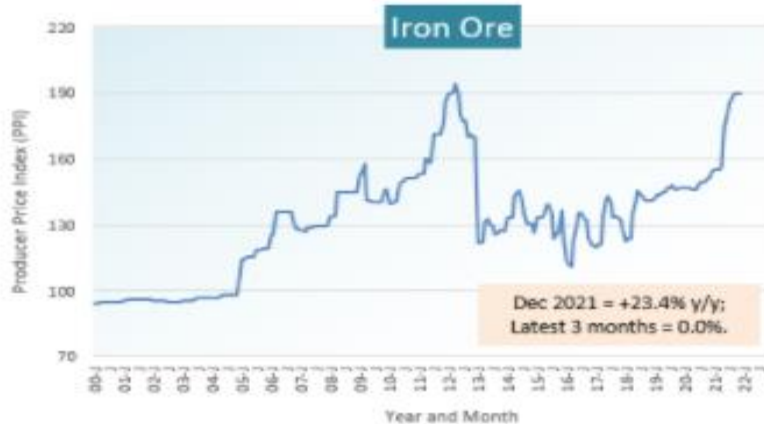
US, Cement & brick prices, 2000-21



The latest data points are for December, 2021.

Data source: U.S. Bureau of Labor Statistics (BLS), Producer Price Index (PPI), not seasonally adjusted (NSA) / Charts: ConstructConnect-CanaData.

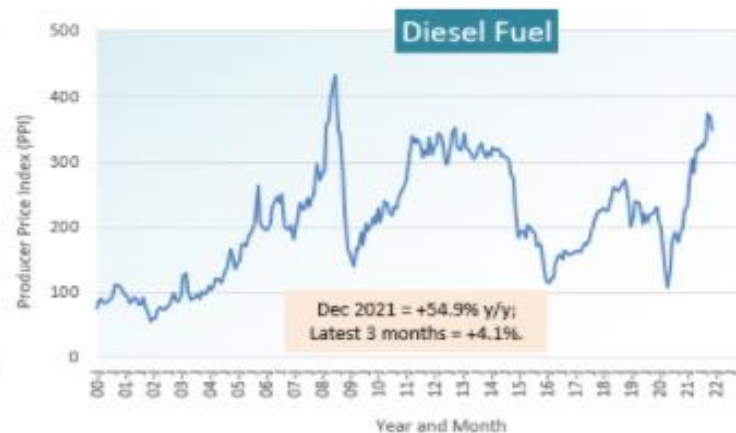
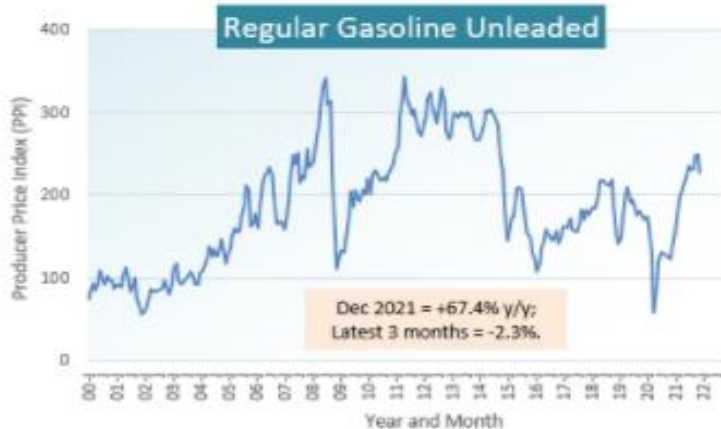
US, Construction base inputs, 2000-21



The latest data points are for December, 2021.

Data source: U.S. Bureau of Labor Statistics (BLS), Producer Price Index (PPI), not seasonally adjusted (NSA) / Charts: ConstructConnect-CanaData.

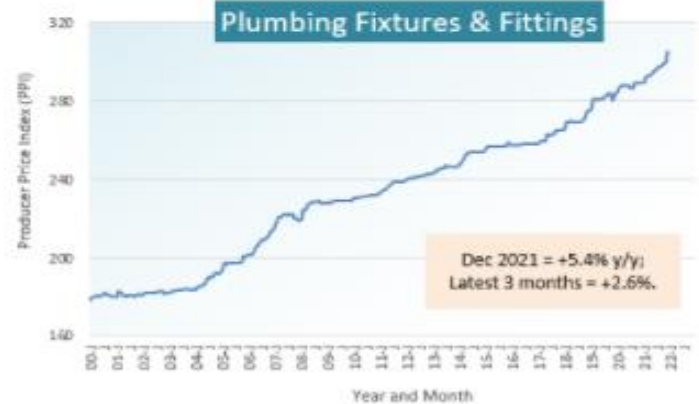
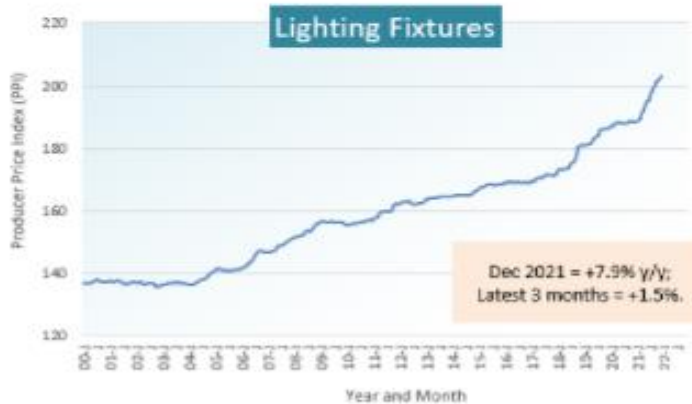
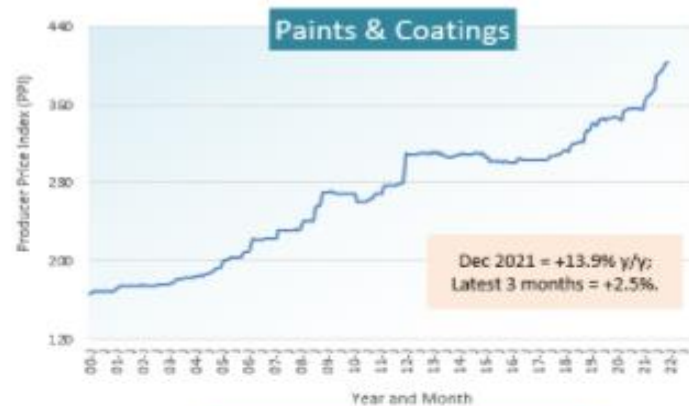
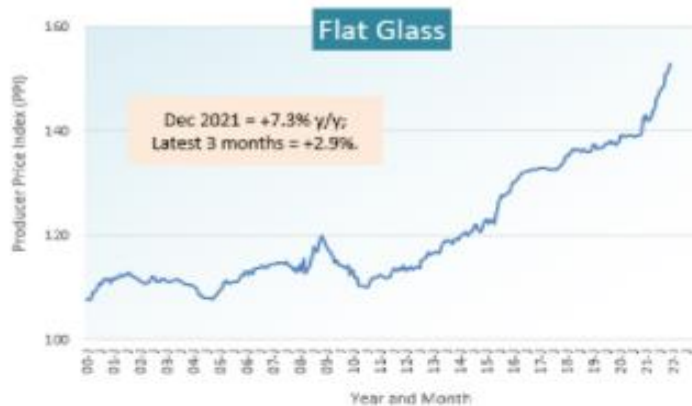
US, Energy related construction materials, 2000-21



The latest data points are for December, 2021.

Data source: U.S. Bureau of Labor Statistics (BLS), Producer Price Index (PPI), not seasonally adjusted (NSA) / Charts: ConstructConnect-CanaData.

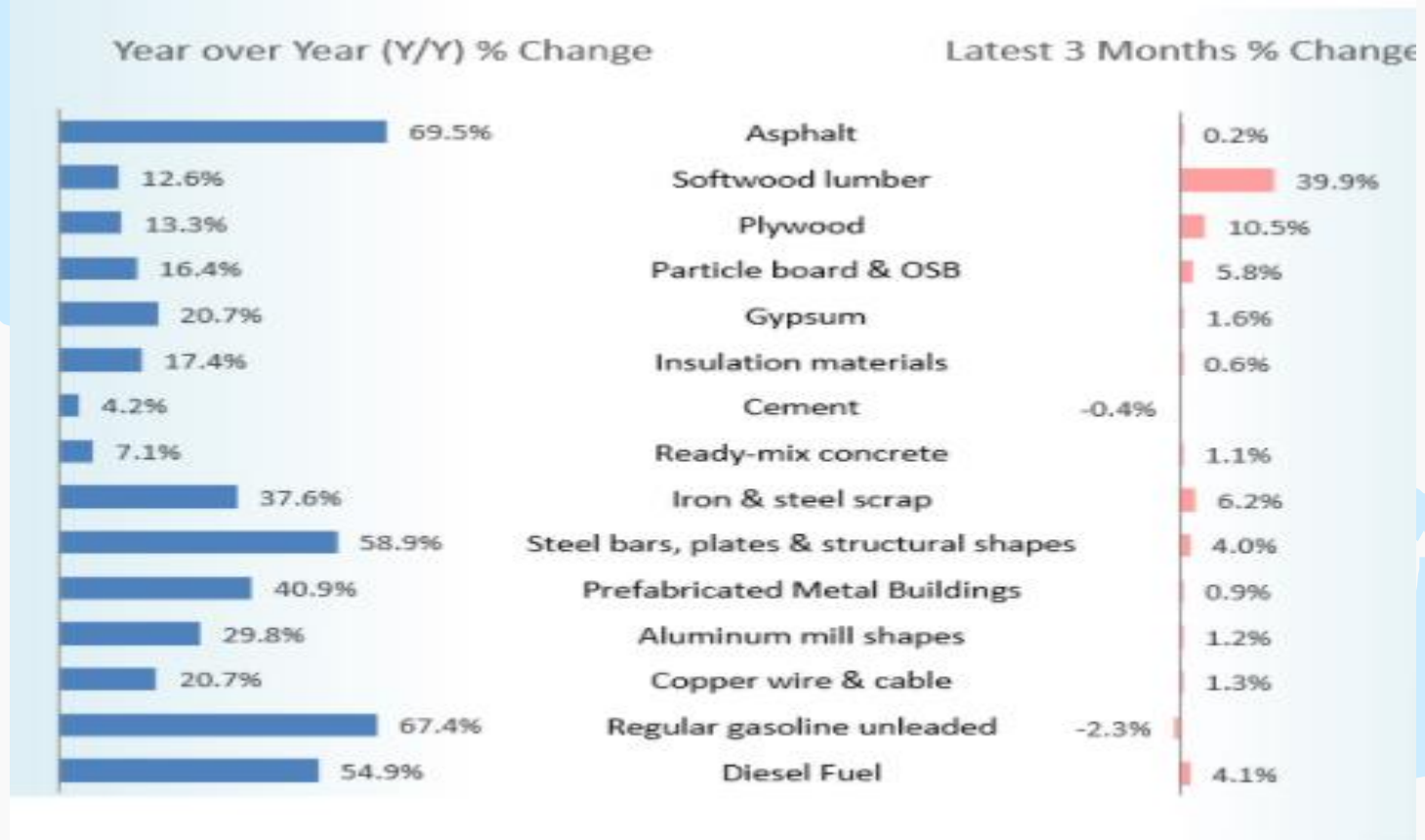
US, Construction Accessories, 2000-21



The latest data points are for December, 2021.

Data source: U.S. Bureau of Labor Statistics (BLS), Producer Price Index (PPI), not seasonally adjusted (NSA) / Charts: ConstructConnect-Canada.

US BLS, Construction material price changes, Dec. 2021



Data source: Bureau of Labor Statistics (BLS) / Chart: C

Cdn Construction material price changes, Nov. 2020 - Nov. 2021

The most dramatic increases are denoted with red arrows; and the most dramatic decreases with yellow arrows.

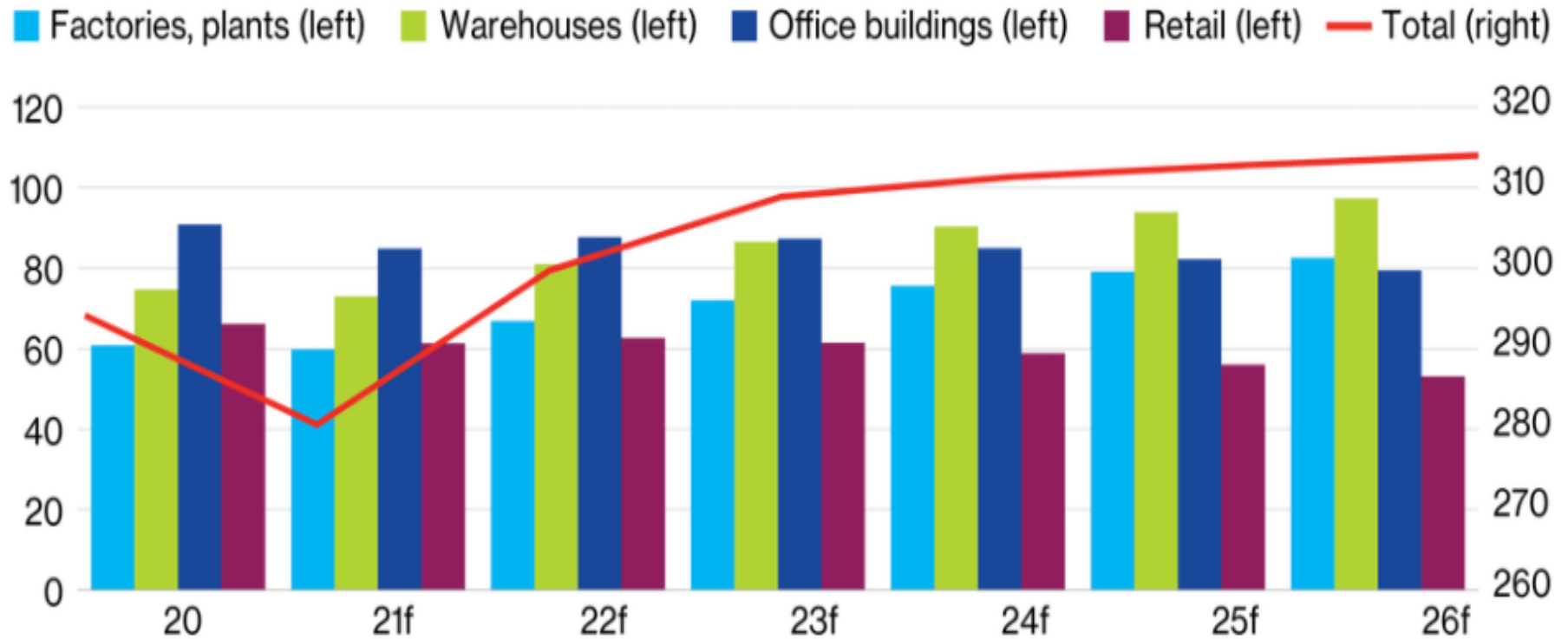
	Year over Year Nov 2021/Nov 2020	Latest 3 Months Nov 2021/Aug 2020
Paints, coatings, and adhesive products	7.3%	0.2%
Plastic and foam building and construction materials	21.1%	2.6%
Hardwood lumber	25.0%	4.7%
Softwood lumber	21.8%	19.3%
Wood trusses and engineered wood members	39.2%	0.1%
Veneer and plywood	-16.6%	-10.9%
Wood windows and doors	19.0%	1.0%
Wood cabinets and counter tops	3.8%	1.3%
Coke and other coke oven products (for steelmaking)	40.7%	10.7%
Motor gasoline	71.5%	4.5%
Diesel and biodiesel fuels	58.9%	16.3%
Asphalt (except natural) and asphalt products	37.6%	4.7%
Iron or steel pipes and tubes	63.0%	-2.6%
Waste and scrap of iron and steel	51.4%	13.6%
Metal building and construction materials	54.4%	11.0%
Fabricated steel plate & other fabricated structural metal	39.2%	5.3%
Metal windows and doors	39.4%	10.0%
Hardware	11.6%	0.2%
Heating & cooling equipment (except home fridges & freezers)	-0.9%	0.1%
Industrial & commercial fans, blowers, air purification equipment	0.4%	0.0%
Communication and electric wire and cable	73.2%	11.6%
Electric lamps & lighting fixtures (except bulbs and tubes)	16.5%	13.6%
Glass and glass products (except automotive glass)	8.3%	0.2%
Cement	5.8%	-0.2%
Ready-mixed concrete	2.6%	0.4%
Lime and gypsum products	4.9%	0.0%

Data source: Statistics Canada's Industrial Product Price Index (IPI) series, Table 18-10-0266-01 / Graphic: ConstructConnect-CanaData.



Canadian Construction Industry

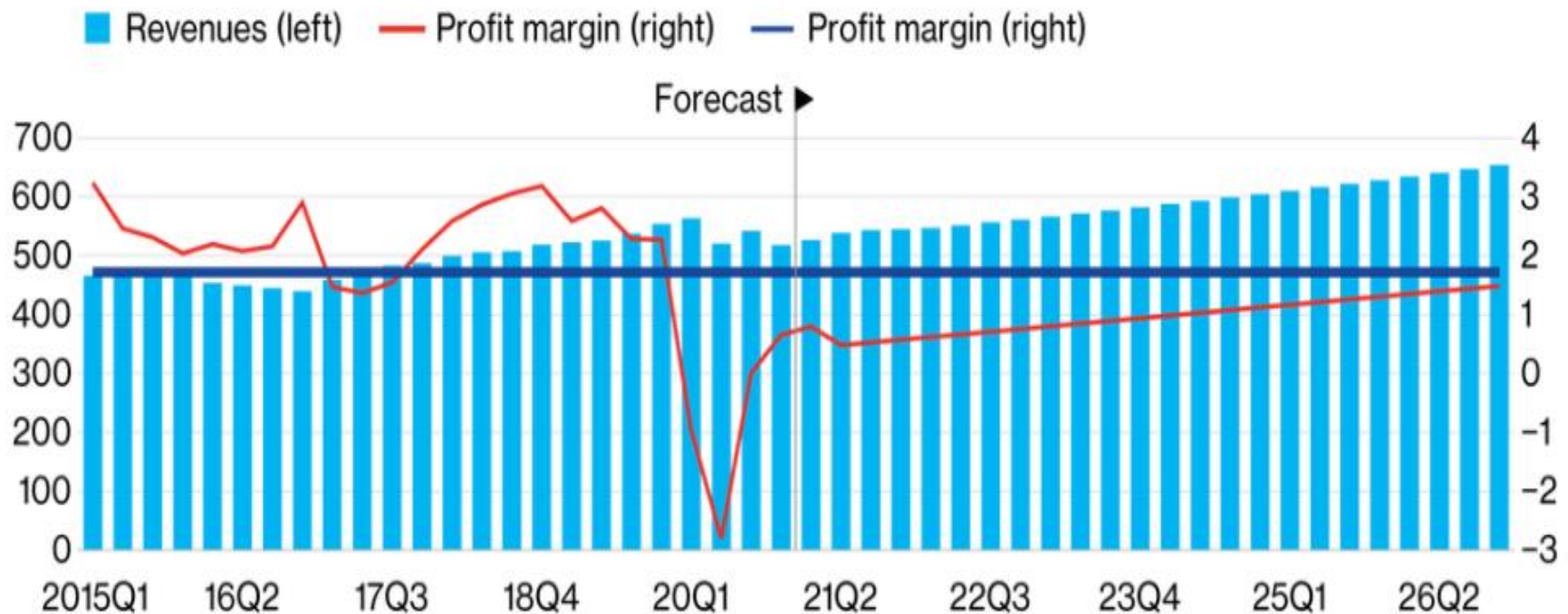
CB, Cdn Business investment (\$Billions) in Non-residential structures, 2020-2026



f = forecast

Sources: Statistics Canada; The Conference Board of Canada.

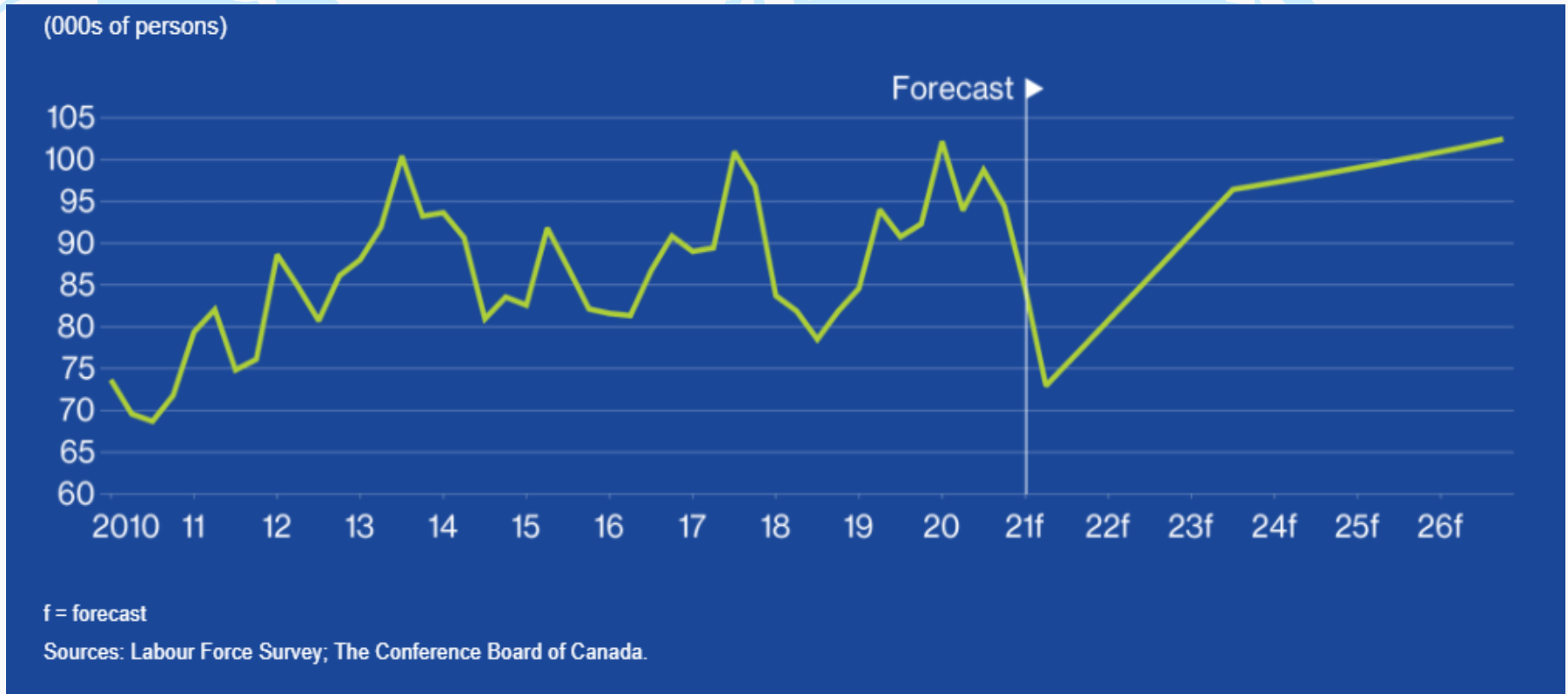
CB, Cdn Construction profit margins will remain weak, 2015-2026



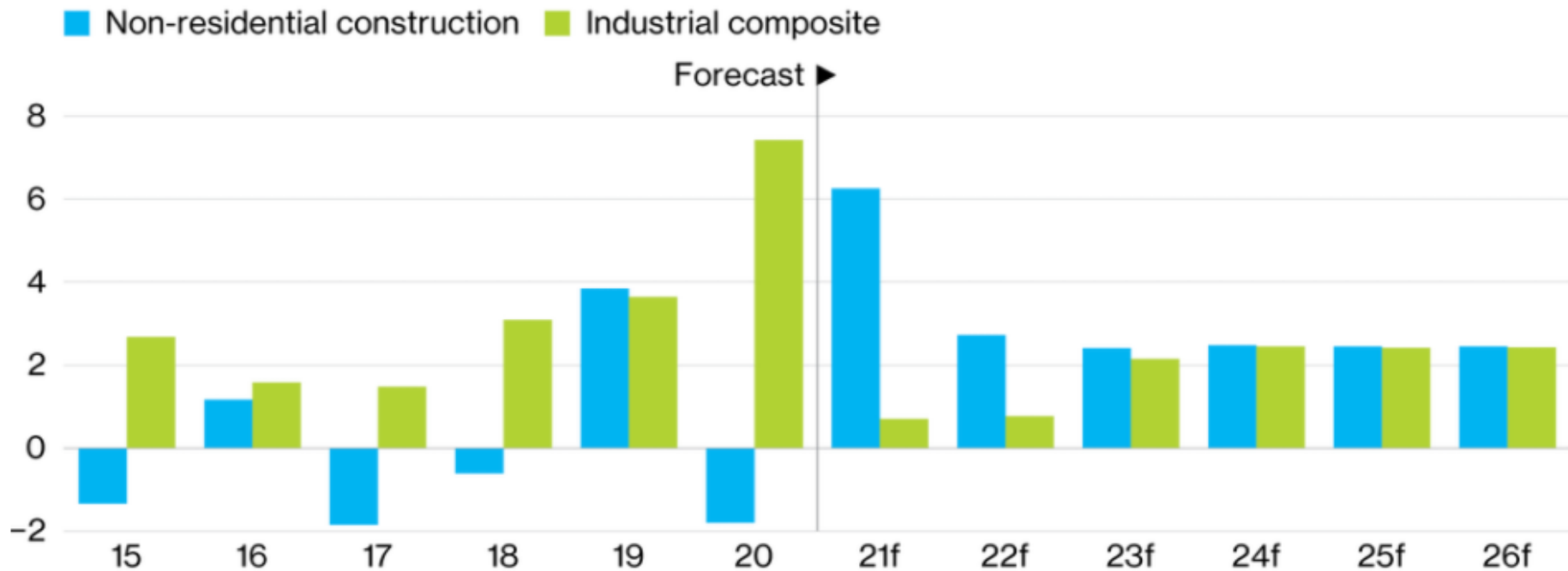
f = forecast

Sources: Statistics Canada; The Conference Board of Canada.

CB, Cdn Non-residential construction employment, 2010-2026



CB, Construction labour shortages & wages, % change, 2015-2026



f = forecast

Source: Statistics Canada.





Ontario Construction Outlook

Ontario construction industry facts, 2021



Approximately

552,000*

people were employed in a variety of construction trades and professions

1 in 13

workers was employed in construction

More than

140,720*

construction firms were in operation

8.3% of

provincial GDP was contributed by the construction industry

62%* of construction employers employed less than 5 people

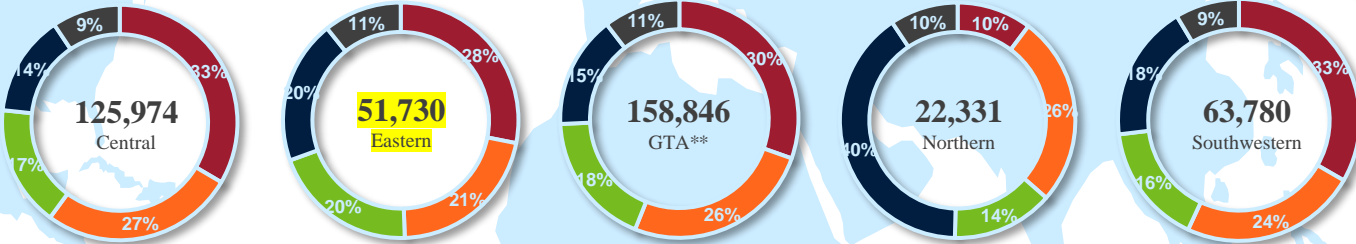
Source: Statistics Canada, BuildForce Canada (2021)

* Data is from 2020 and estimated 2021, as updated data for 2021 was unavailable at time of compilation.

Ontario construction employment distribution, 2021



● New housing
 ● Renovations and residential maintenance
 ● Engineering
 ● ICI* Buildings
 ● Non-residential maintenance



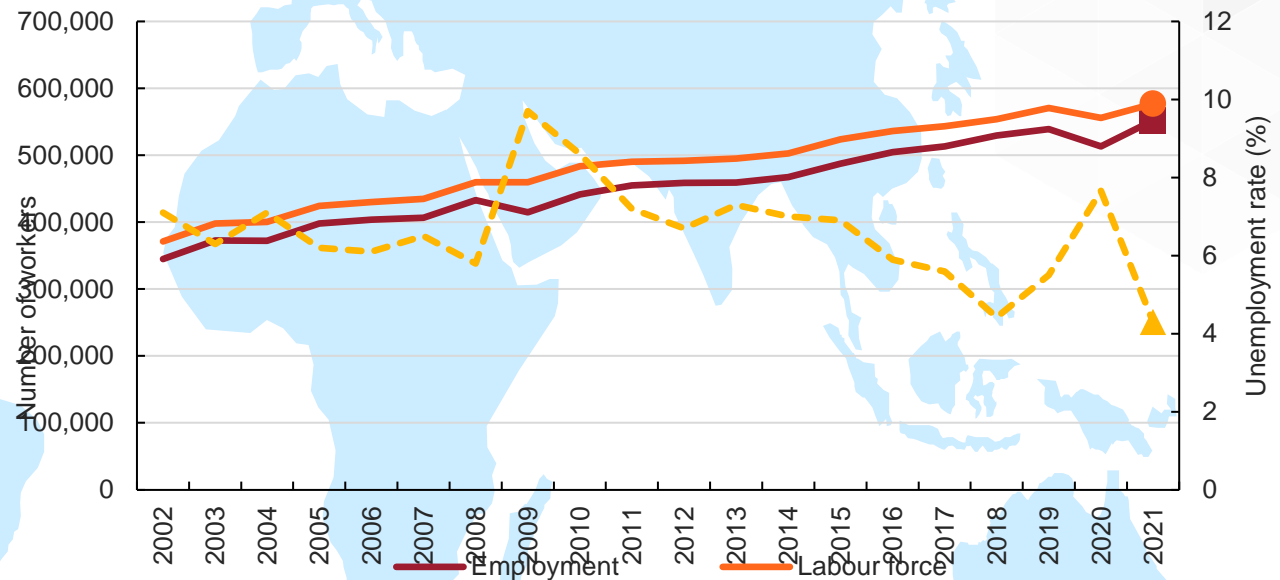
* industrial, commercial, institutional
 ** Greater Toronto Area

Ontario construction industry facts, 2021



Construction labour market, 2002-2021

Yellow dotted line is unemployment

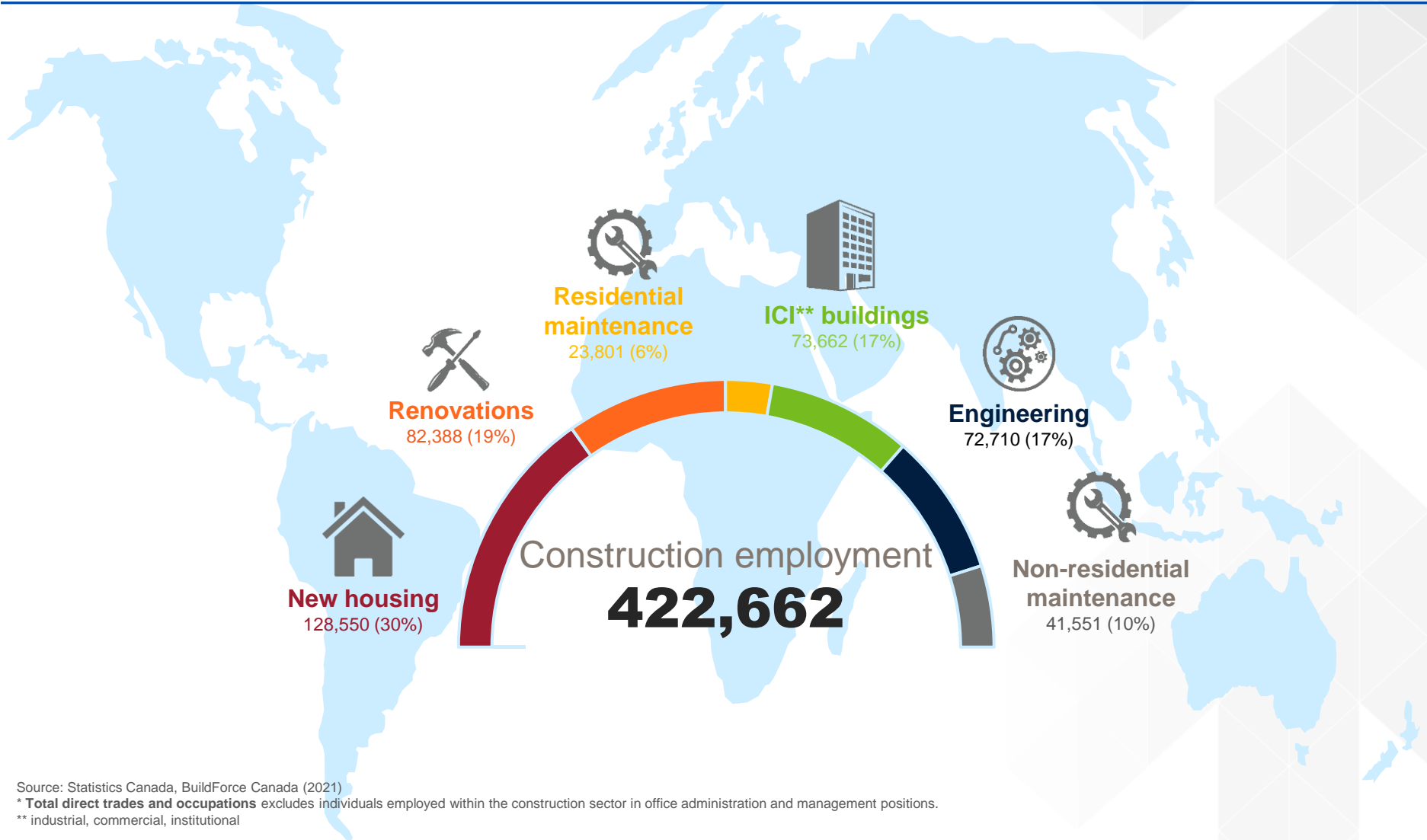


Source: Statistics Canada. Table 14-10-0023-01 Labour force characteristics by industry, annual

* 2021 is estimated, as final employment data for the sector was unavailable at the time of publication.

** includes administrative and other off-site occupations

Ontario Total **direct trades** and occupations*, 2021



Source: Statistics Canada, BuildForce Canada (2021)

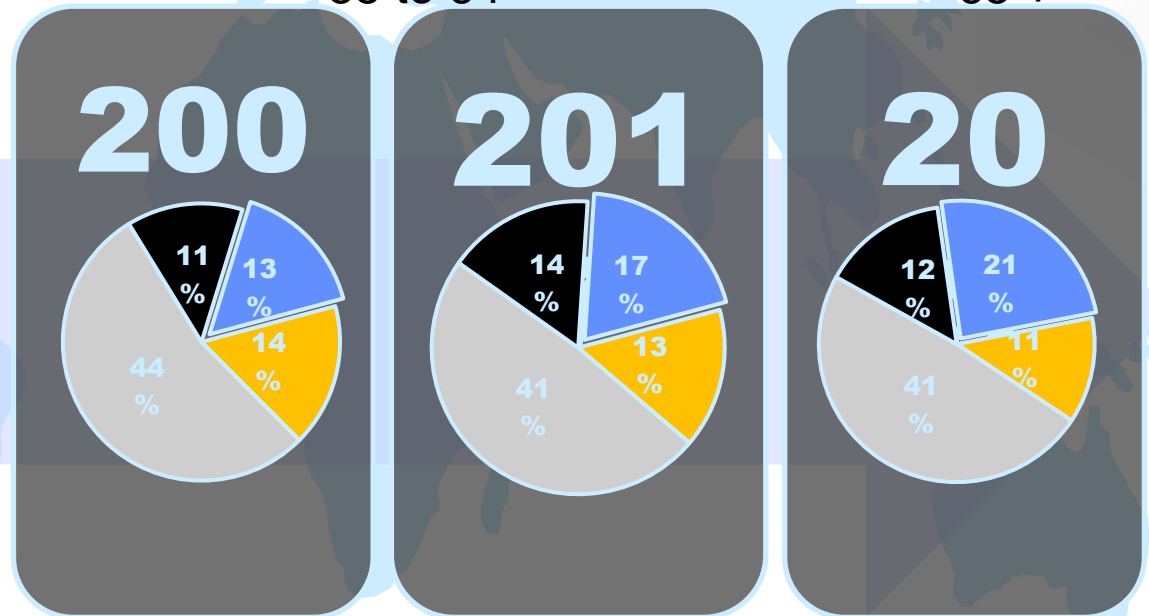
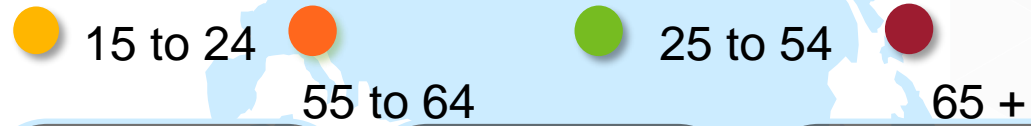
* Total direct trades and occupations excludes individuals employed within the construction sector in office administration and management positions.

** industrial, commercial, institutional

Ontario Population age distribution, 2007, 2017, 2027



Examine blue pie: from 13% to 17% to 21%
Pop over 65 years almost doubled in 20 years



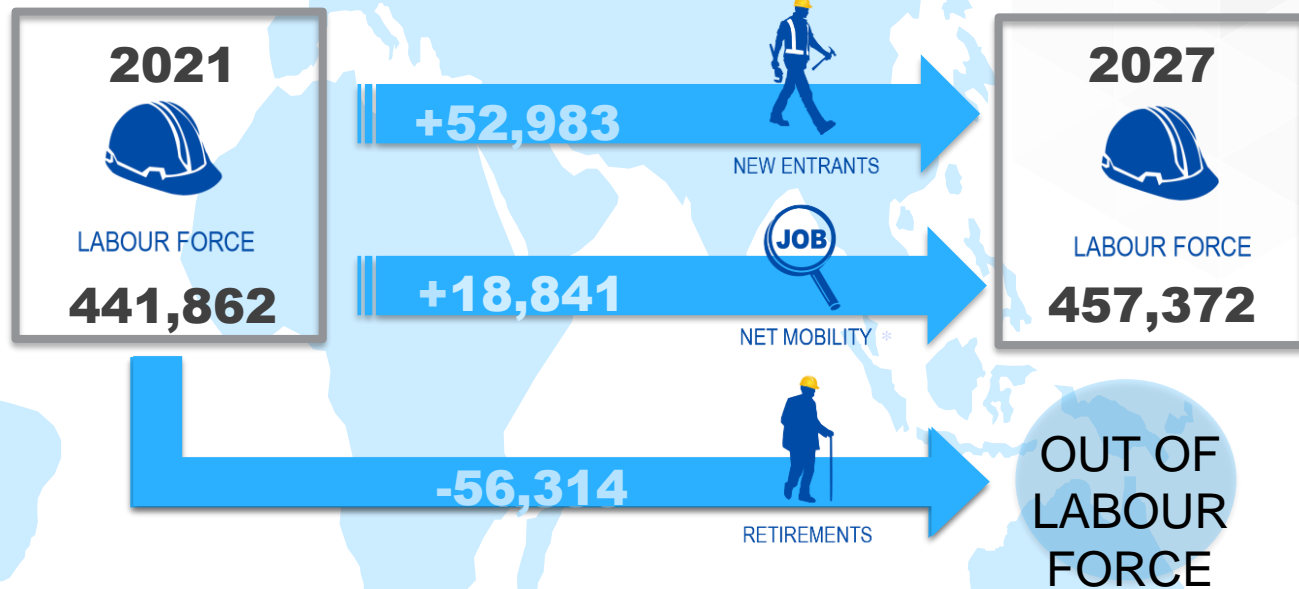
- Like most other provinces, Ontario's population is aging, as most baby-boom workers reach retirement age across the forecast period.
- By 2027, the share of the population 65 years of age and older is projected to rise to 21% – up from 17% in 2017 and 13% in 2007.
- Declining fertility rates since the 1970s have also reduced the share of the population aged 15 to 24 available to replace those older individuals expected to retire. The share of younger individuals (15 to 24 years of age) is projected to decline from 13% in 2017 to 11% by 2027.
- The influx of international migrants to the province, however, will help to sustain the share of the core working-age cohort at 41% in 2027.
- These shifts in demographics are expected to increase competition for the recruitment of younger workers across the forecast period and will likely contribute to tighter labour markets.

Ontario construction industry overview



Total changes in labour force

Total direct trades and occupations



Note: Due to rounding, numbers may not add up to the totals indicated.

* **Net mobility** refers to the number of workers needed to be brought into the industry from other industries or other provinces to meet rising demands or the number of workers that exit the industry in downturns. Positive net mobility means that industry must attract workers, while negative net mobility arises from an excess supply of workers in the local construction labour force.

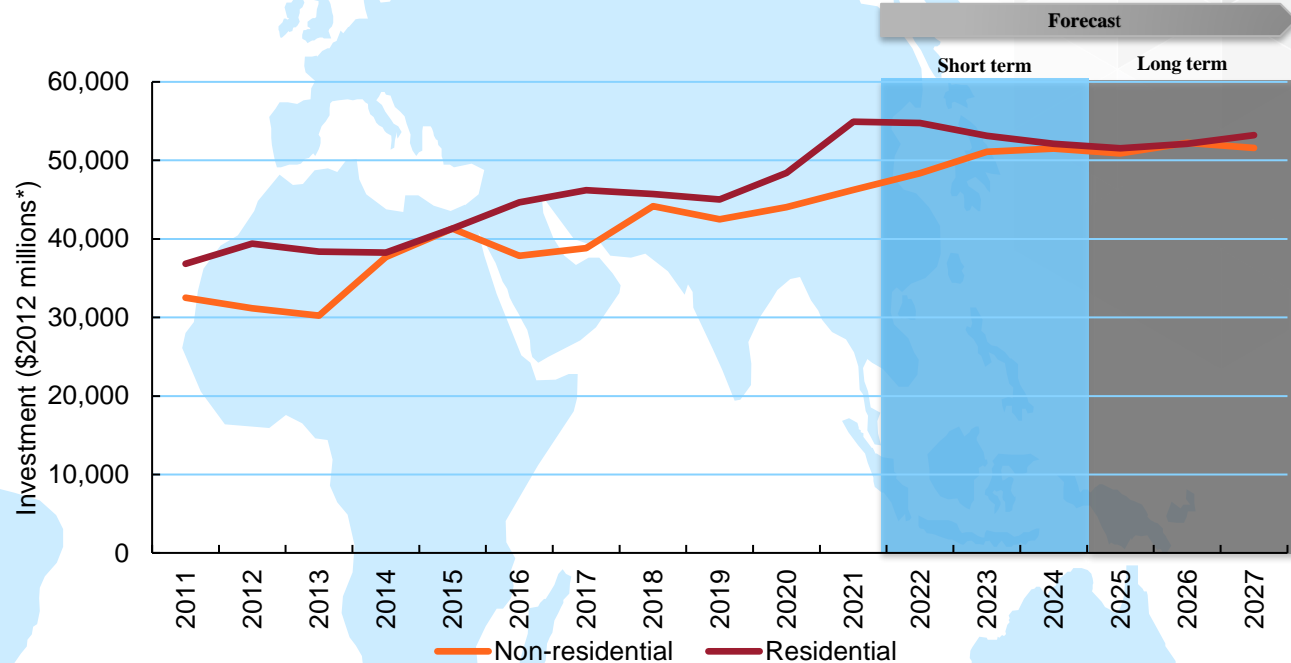
- The changing employment demand in the province will have implications for the labour force.
- The rise in overall employment will necessitate the industry to recruit an additional 15,500 workers over the forecast period.
- The retirement of 56,300 workers during this period will increase the overall recruitment requirement to 71,800 workers.
- Over the forecast period, the addition of almost 53,000 new-entrant workers under the age of 30 from local recruitment efforts will help to moderate labour force pressures, but unless anticipated recruitment is increased, a deficit of 18,800 workers is expected to emerge by 2027.
- Addressing the worker deficit will require a combination of strategies, including:
 - additional local recruitment and training, particularly of individuals from groups traditionally underrepresented in the construction labour force
 - the hiring of workers from other industries with the required skills sets
 - the recruitment of surplus workers from the construction labour forces of neighbouring provinces
 - the recruitment of immigrants to Canada with skilled trades training and/or construction experience

Ontario Construction industry overview



- The COVID-19 pandemic overlayed a strong demand for renovation and housing on top of an existing non-residential expansion, inducing a 16% rise in overall construction investment between 2020 and 2021.
- Residential construction surged as housing starts increased to 92,000 units in 2021, up from 69,000 in 2019. Going forward, starts are expected to moderate between 2022 and 2025 as interest rates edge up and international migration to the province slows. Residential investment is expected to decline by a modest 6% following a 22% increase over the past two years.
- Non-residential investment, which grew more slowly, is expected to continue to rise to 2027, driven by major infrastructure, public transit, utilities, mining projects, IC**I building construction, and maintenance requirements. The non-residential sector benefits from a long list of planned major projects across all regions of the province that will drive investment 12% higher between 2021 and the scenario peak in 2026.

Investment



Source: Statistics Canada, BuildForce Canada (2022-2027)

* \$2012 millions indicates that the investment values are in year 2012 dollars (base year), that is, adjusted for inflation. This is used to calculate the real physical year-to-year change of the value of construction, factoring out growth (increase in value) due to increases in prices.

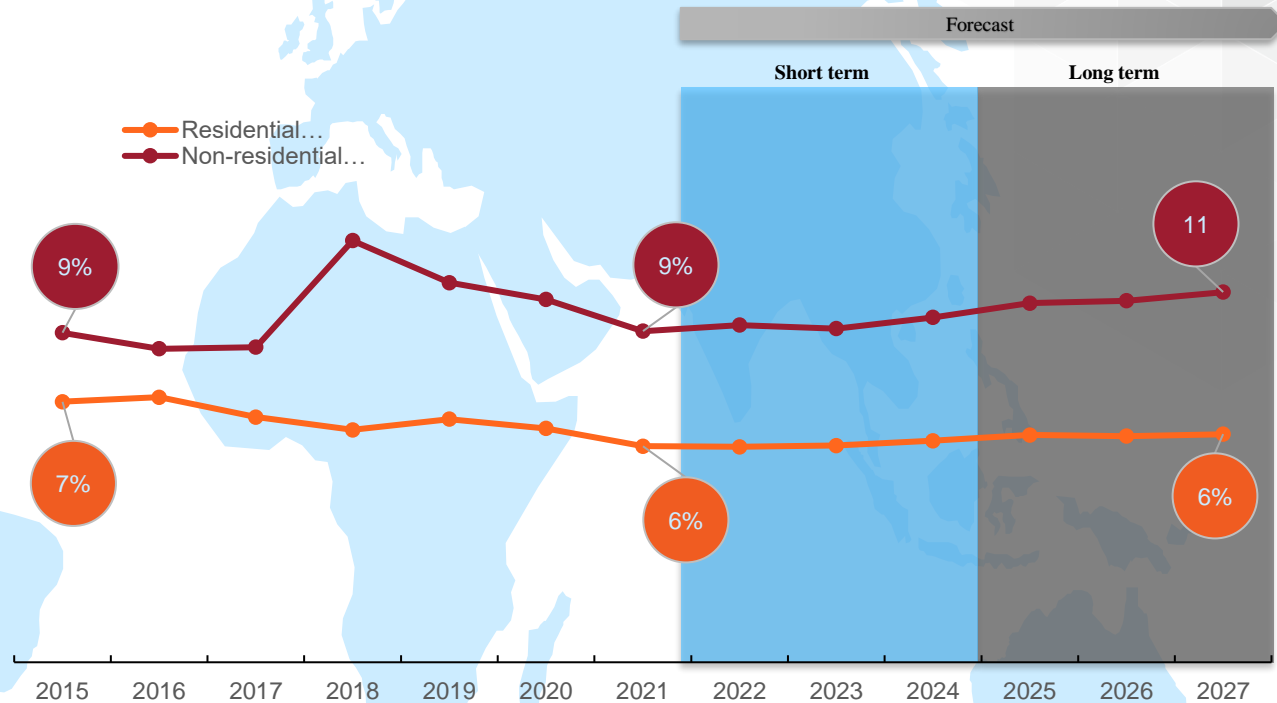
** industrial, commercial, institutional

Ontario construction industry overview



- The number of houses, non-residential buildings, and other infrastructure in Ontario has grown substantially over the past decade. These assets are aging and will require maintenance throughout the forecast period and beyond.
- Residential maintenance is expected to remain mostly unchanged, sustained at around a 6% share of total construction investment throughout the forecast period.
- Non-residential maintenance in the region is expected to rise slightly in terms of its share of overall construction investment. This is driven in part by the aging of public- (roads, highways, bridges, hospitals, public transit, government buildings, etc.) and private-sector assets in the region.

Maintenance investment



Source: Statistics Canada, BuildForce Canada (2022-2027)

Note: The chart above shows residential and non-residential maintenance investment as a percentage of total construction investment.



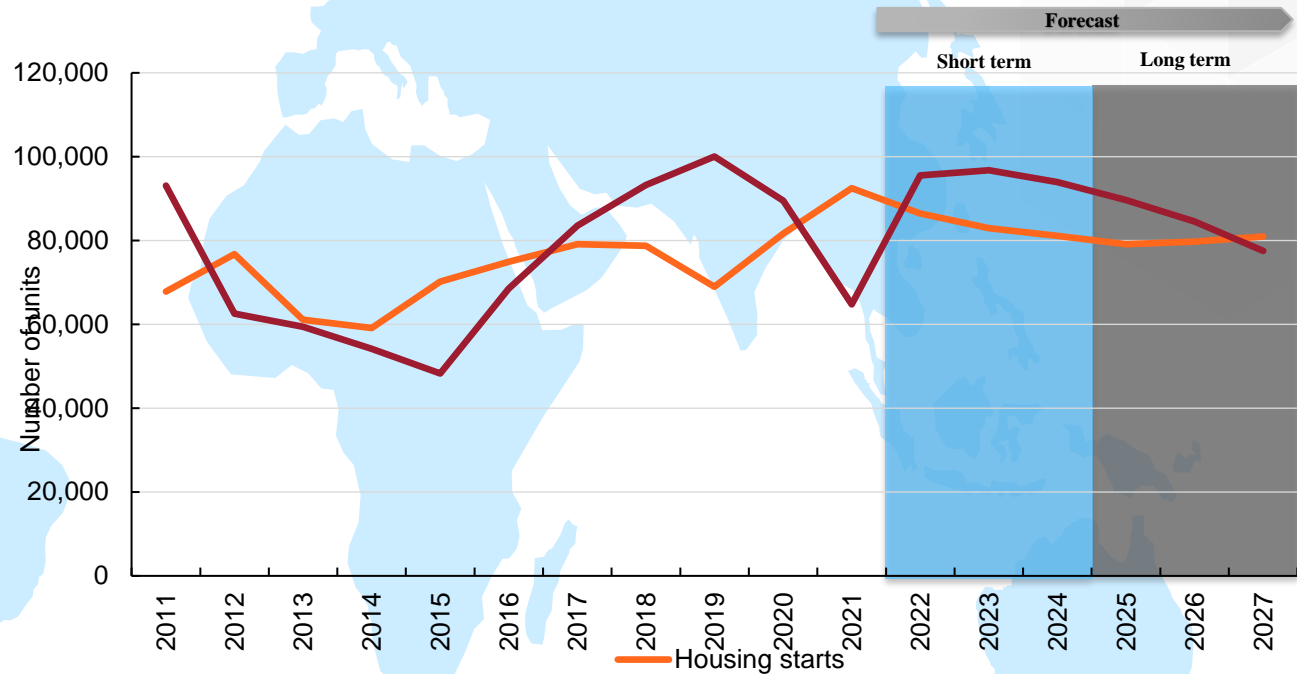
Ontario Residential Construction

Residential construction



Housing starts and household formations

- Ontario's housing sector has benefitted from large inflows of international migrants over the past five years, driving a substantial increase in household formations*.
- Due to the COVID-19 health crisis and related travel restrictions, Ontario saw a decline in household formations in 2020, as international migration fell. Despite weaker population trends, housing starts surged in 2020 and 2021 with gains across all regions.
- Household formations should recover in 2022 and be sustained in 2023. Weakening population growth drives a steady decline to 2027, before it stabilizes thereafter.
- Housing starts are expected to cycle down over the short term to 2025. Over the long term, housing starts track household formations, with starts averaging close to 80,000 units annually.



Source: CMHC. BuildForce Canada (2022-2027)

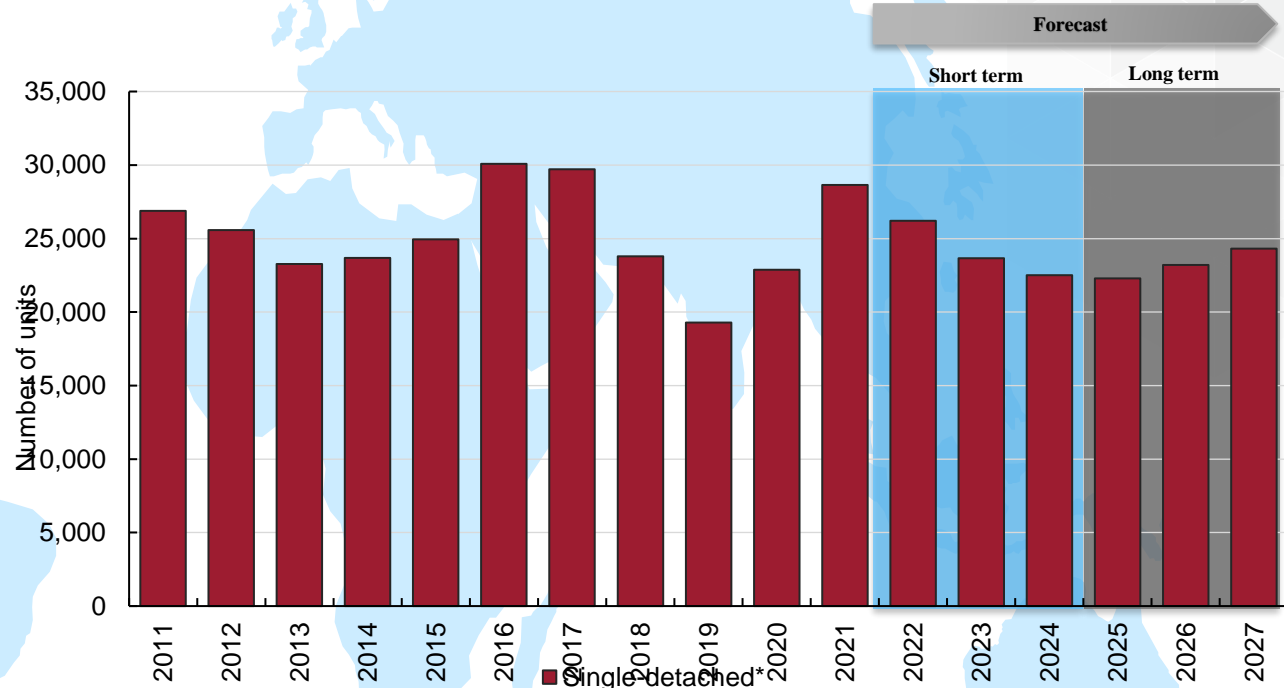
* **Household formation** refers to the change in the number of households (persons living under one roof or occupying a separate housing unit) from one year to the next. It is the means by which population growth is transformed into demand for new housing.

Ontario Residential Construction, 2011-2027



- Across Ontario, nearly 23,000 single-detached units were started in 2020 – up 19% from 2019. Demand for single-detached units continued to rise in 2021, with starts rising to 28,600 units – up 49% compared to 2019.
- Single-detached starts are expected to slow slightly into 2022 but remain elevated due to the current low interest-rate environment.
- As a whole, demand for singles is expected to decline by 13% from 2021 levels over the forecast period, averaging around 23,000 units over the long term.
- As a share of housing starts, single-detached units are expected to continue accounting for approximately 30% of total residential construction throughout the forecast period.

Housing starts by structure type



Source: CMHC, BuildForce Canada (2022-2027)

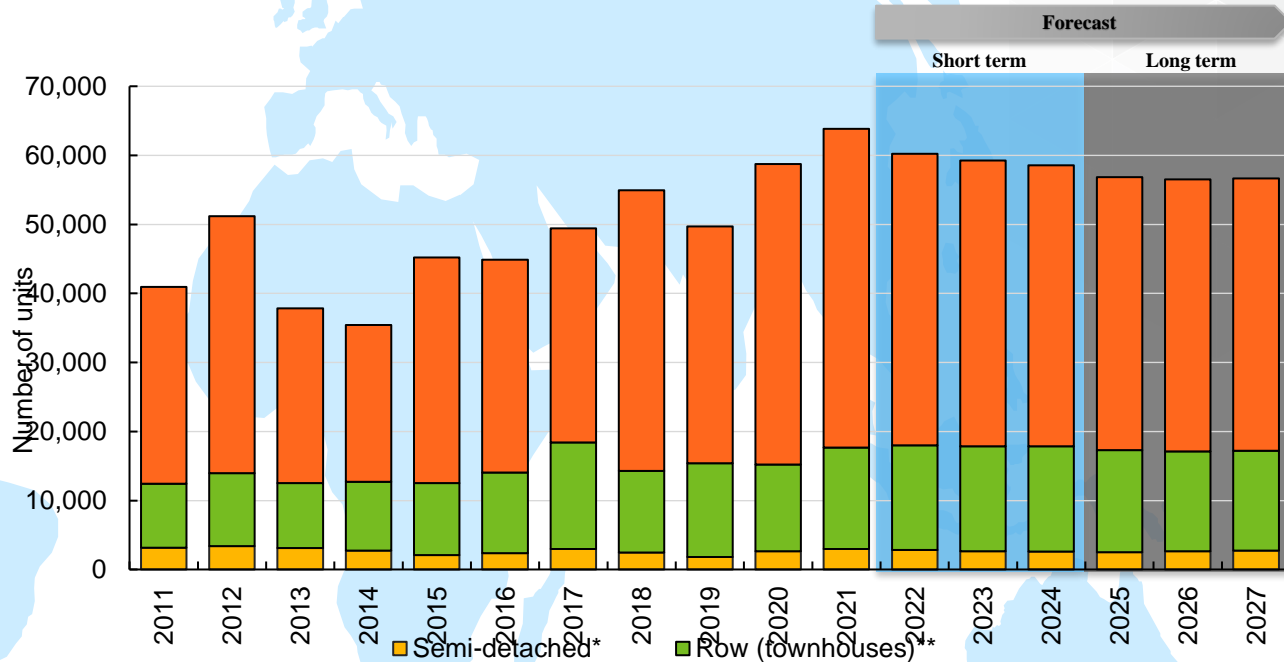
*Single-detached (single) refers to a building containing only one dwelling unit that is completely separated on all sides from any other dwelling or structure.

Ontario Residential construction, 2011-2027



Housing starts by structure type

- Ontario's multi-unit starts reached record levels in 2021, with all segments experiencing a rise over 2020. This represents a 14,000-unit rise (+29%) from 2019 levels. Slower population growth and rising interest rates should produce a decline in all residential construction segments, with multi units projected to fall 11% over the forecast period from the peak levels reached in 2021.
- Due to their relative affordability, multi-unit starts account for approximately 70% of the overall residential construction market in the region.
- Semi-detached units, which in 2021 accounted for just 5% of the residential construction market, experienced a 14% rise over 2020 levels. Semi-detached units are expected to remain relatively stable over the forecast period, averaging around 2,600 units.
- Row housing accounted for 23% of the market in 2021 and experienced a 17% increase over 2020 levels. Due to their relative affordability, demand should be sustained over the short term and average around 14,500 starts annually over the forecast period.
- Apartments, which account for 72% of the residential construction market, increased to a historical high of 46,000 unit starts in 2021. Over the forecast period, apartment construction should decline from the 2021 peak by 14%. On average, apartments will account for 40,000 annual starts over the latter part of the forecast period.



Source: CMHC, BuildForce Canada (2022-2027)

*Semi-detached (double) and semi refers to one of two dwellings located side-by-side in a building, adjoining no other structure, and separated by a common or party wall extending from ground to roof.

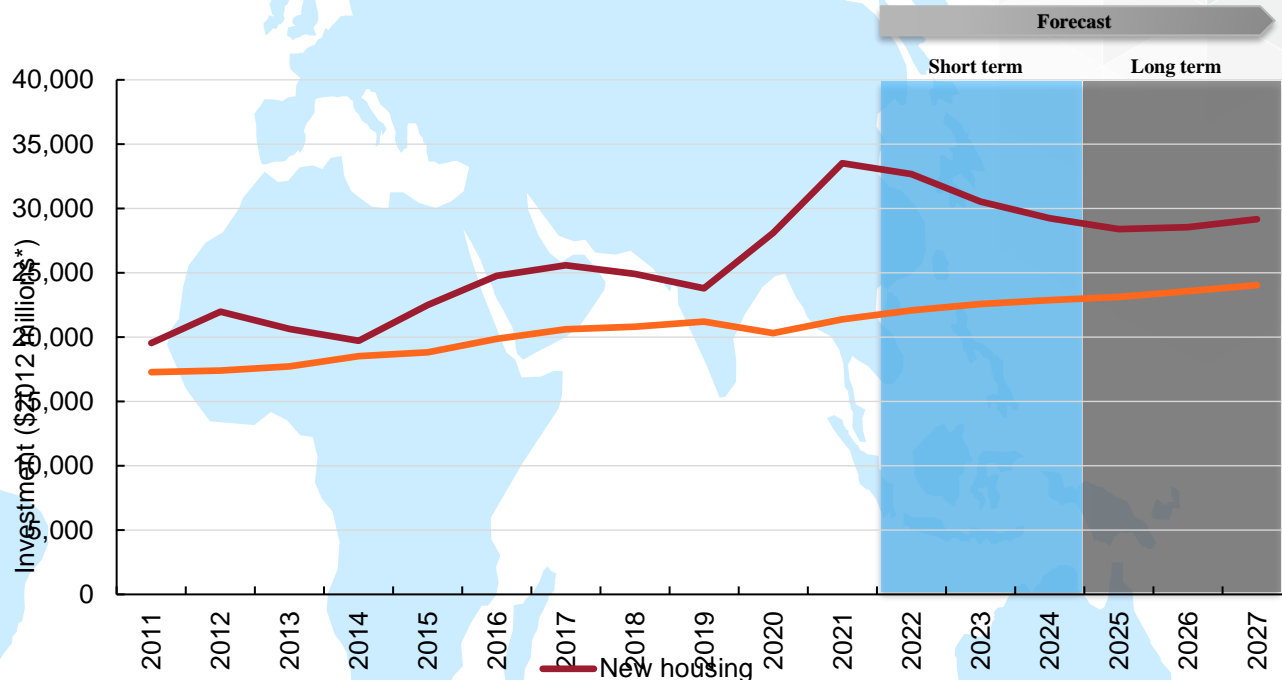
** Row (townhouse) refers to a one-family dwelling unit in a row of three or more attached dwellings separated by a common or party wall extending from ground to roof.

*** Apartments and other includes all dwellings other than those described above, including structures commonly known as stacked townhouses, duplexes, triplexes, double duplexes, and row duplexes.

Ontario Residential construction, 2011-2027



Investment



Source: Statistics Canada, BuildForce Canada (2022-2027)

* \$2012 millions indicates that the investment values are in year 2012 dollars (base year), that is, adjusted for inflation. This is used to calculate the real physical year-to-year change of the value of construction, factoring out growth (increase in value) due to increases in prices.

- New-housing investment generally follows the trends in housing starts.
- Driven by increased housing starts, new-home construction surged over the last few years, peaking in 2021.
- New-housing investment is expected to moderate over the short term as population growth slows and interest rates rise. Investment is expected to stabilize through to 2025, followed by a modest rise thereafter through to 2027.
- After a decline in 2020, renovation permit activity commenced a strong rise in 2021; a trend that is expected to be maintained over the forecast period. Strong real estate sales in Ontario's more mature housing markets should contribute to a steady rise in renovation demands, as home sales are often followed by renovations to customize the home to the tastes of the new occupants. By 2027, renovation investment is expected to be 12% higher than 2021 levels.

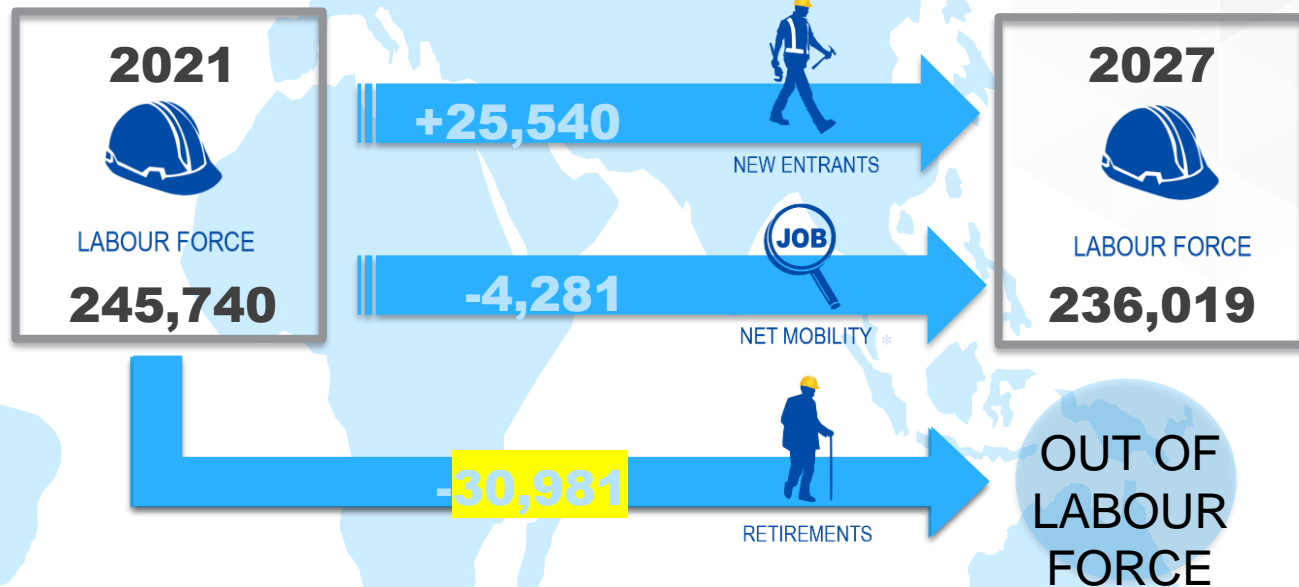
Ontario Residential construction



Total changes in labour force

- The changing employment demand in the region will have implications for the labour force.
- As new-home construction declines from 2021 peak levels, the decrease in overall employment will necessitate the industry to contract by 9,700 workers over the forecast period.
- The retirement of almost 31,000 workers during this period will still require the industry to recruitment some 21,300 workers.
- Over the forecast period, the addition of 25,500 new-entrant workers under the age of 30 from local recruitment efforts to keep pace with demands could lead to a surplus of almost 4,300 workers by 2027.
- Some of these workers will find employment in other segments of construction, but careful labour force management will be required throughout the forecast period.

Total direct trades and occupations



Note: Due to rounding, numbers may not add up to the totals indicated.

* **Net mobility** refers to the number of workers needed to be brought into the industry from other industries or other provinces to meet rising demands or the number of workers that exit the industry in downturns. Positive net mobility means that industry must attract workers, while negative net mobility arises from an excess supply of workers in the local construction labour force.



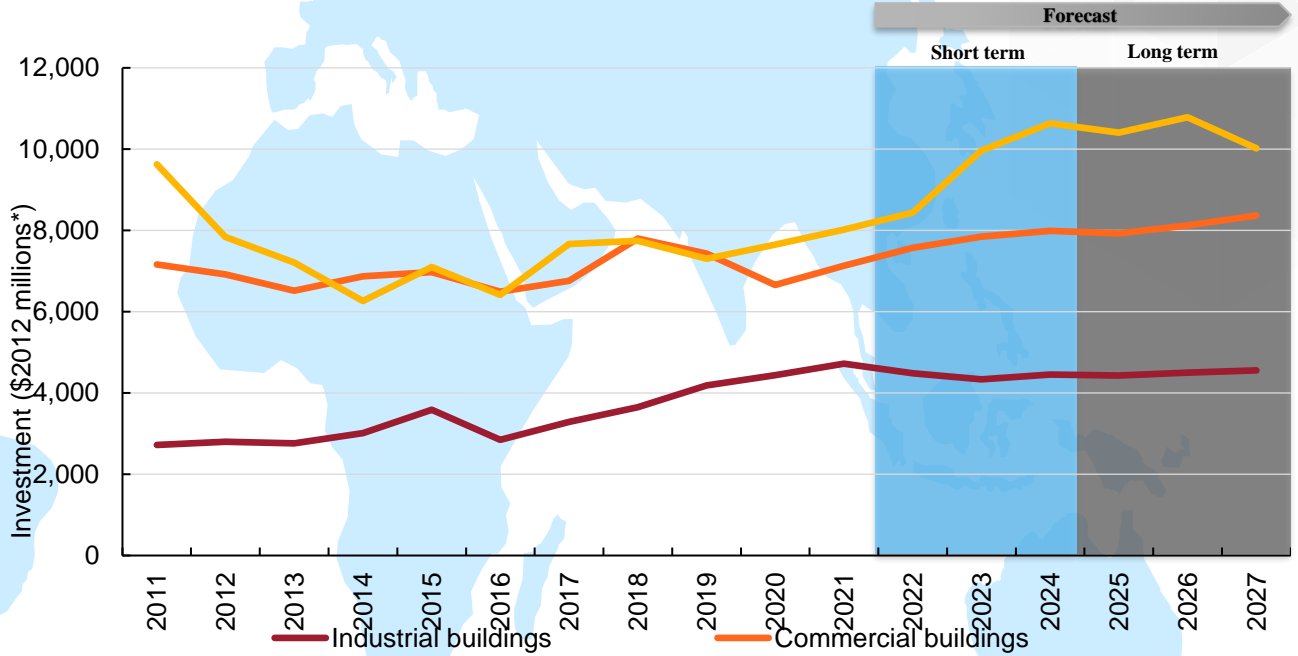
Ontario Non Residential Construction

Ontario Non-residential construction, 2011-2027



- Industrial building construction held steady in 2020, as the negative effects of COVID-19 and the completion of several manufacturing projects were mostly offset by the ramping up of industrial work in Sarnia, spin-offs from mining activity in the North, and transportation work in the GTA and Central regions. Investment is expected to benefit over the short term from recovery, but cycles lower to 2023 and remains relatively static over the remainder of the forecast period.
- Commercial building construction was hit very hard by COVID-19 restrictions, particularly related to investment in the hospitality and travel and tourism sectors. Activity in the sector rebounded in 2021 and is expected to continue to recover in line with overall economic growth.
- Investment in institutional and government building construction averaged 5% growth between 2020 and 2021. Investment is expected to surge between 2023 and 2026 with the anticipated start and acceleration of several major hospital and other institutional building projects across all regions of the province.

Investment: industrial, commercial, and institutional



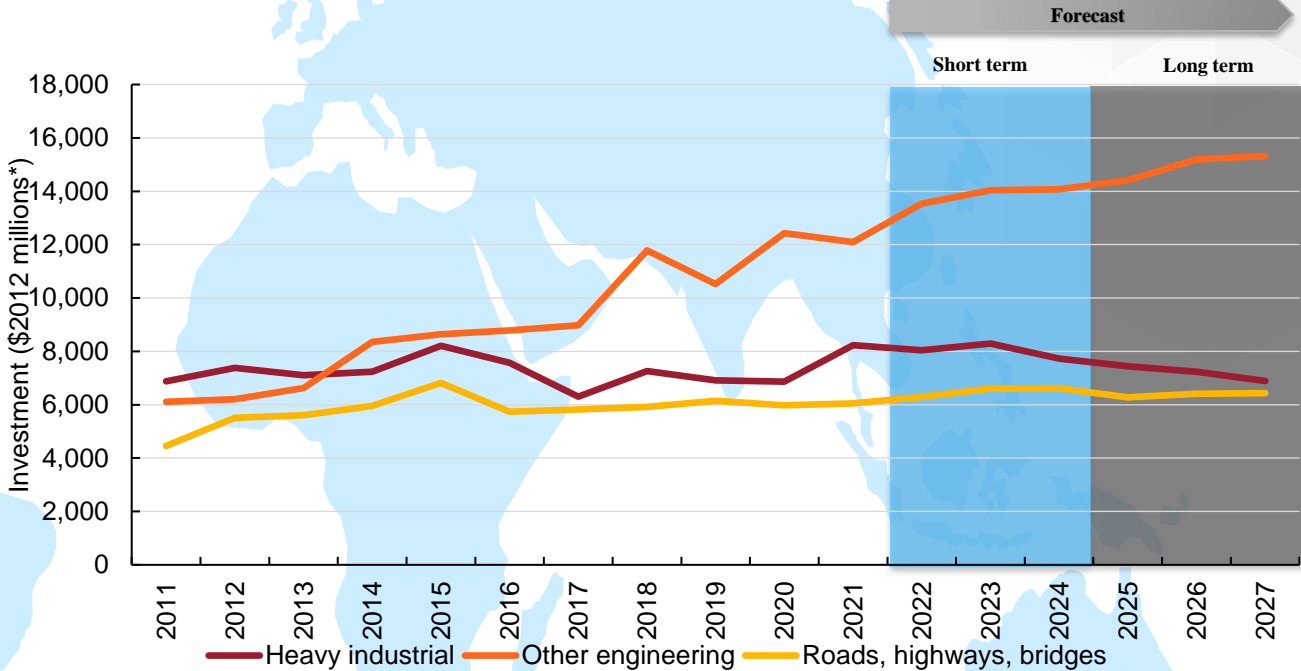
Source: Statistics Canada. BuildForce Canada (2022-2027)
 * \$2012 millions indicates that the investment values are in year 2012 dollars (base year), that is, adjusted for inflation. This is used to calculate the real physical year-to-year change of the value of construction, factoring out growth (increase in value) due to increases in prices.
 Note: **Non-residential construction** excludes the value of machinery and equipment.

Ontario Non-residential construction, 2011-2027



Investment: engineering

- Other engineering investment is primarily driven by activity in the transportation and warehousing industries, since the service sectors only include a small amount of investment classified as engineering. While 2021 was a down year, investment levels are expected to rise throughout the forecast period, primarily driven by the construction of several large public transit projects, with close to \$60 billion dollars in transportation-related projects. The majority of these projects are expected to wind down after 2027.
- Heavy-industrial engineering is driven primarily by mining and utilities. In 2021, mining projects in Northern Ontario and nuclear refurbishment work in the GTA and Southwestern Ontario led to a peak in heavy-industrial engineering investment. Completion of tracked mining projects causes investment to decline after 2023.
- Investment in roads, highways, and bridges came off peak in 2020, supported by the completion of the 407 extension and other infrastructure projects. Over the first half of the forecast period, investment is anticipated to remain relatively stable with ongoing construction at the Gardiner Expressway, Gordie Howe bridge, and Port Lands Flood Protection, and supplemented by numerous smaller road and bridge projects.



Source: Statistics Canada. BuildForce Canada (2022-2027)

* \$2012 millions indicates that the investment values are in year 2012 dollars (base year), that is, adjusted for inflation. This is used to calculate the real physical year-to-year change of the value of construction, factoring out growth (increase in value) due to increases in prices. Note: **Engineering construction** excludes the value of machinery and equipment. **Heavy-industrial engineering** includes oil and gas, mining, electric power, wastewater, gas distribution, etc. **Other engineering** includes pipelines, transit systems, tunnels and other civil engineering.

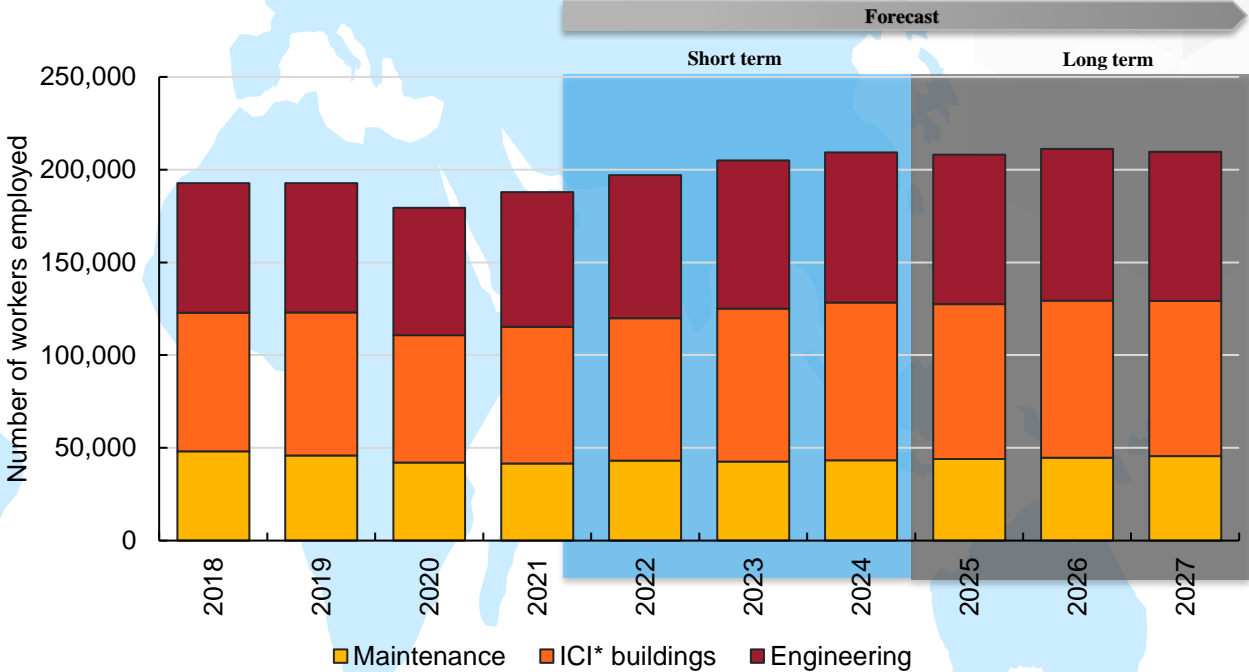
Ontario Non-residential construction, 2018-2027



Total changes in employment

- Non-residential employment declined by 7% in 2020, driven by sharp reductions in ICI* building employment, while engineering construction was mostly sustained (-1.6%).
- Construction employment rebounded in 2021 and is projected to rise across most of the forecast period, peaking in 2026, up 23,000 workers (+12%), before receding marginally in 2027.
- Engineering construction is projected to rise by almost 9,000 workers (+12%) to peak in 2026, with some workers released in 2027 as major project activity winds down, but employment remains well above 2021, up by 7,700 workers (+11%).
- ICI building employment recovered in 2021 with gains across all sectors and is projected to post increases across most of the forecast period. A small decline in 2027 occurs as some major institutional projects wind down. Sector employment rises by 10,000 workers (+14%) over the forecast period.
- Following declines in 2020 and 2021, maintenance requirements are projected to rise steadily across the forecast period, adding almost 4,000 workers (+10%) between 2021 and 2027.

Total direct trades and occupations



Source: BuildEcon Canada (2022-2027)

* industrial, commercial, institutional

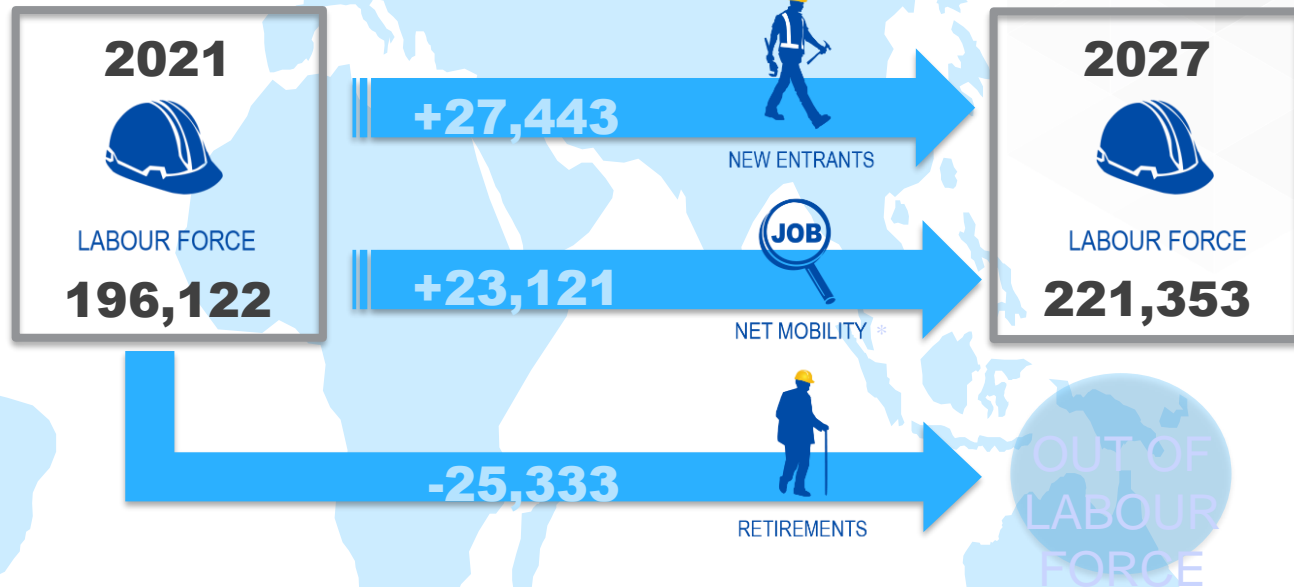
Ontario Non-residential construction



Total changes in labour force

- The changing employment demand in the province will have implications for the labour force.
- The rise in overall employment will necessitate the industry to recruit an additional 25,200 workers over the forecast period.
- The retirement of 25,300 workers during this period will increase the overall recruitment requirement to nearly 50,600 workers.
- Over the forecast period, the addition of 27,400 new-entrant workers under the age of 30 from local recruitment efforts will help to moderate labour force pressures, but unless anticipated recruitment is increased, a deficit of 23,100 workers is expected to emerge by 2027.
- Addressing the worker deficit will require a combination of strategies, including:
 - additional local recruitment and training, particularly of individuals from groups traditionally underrepresented in the construction labour force
 - the hiring of workers from other industries with the required skills sets
 - the recruitment of surplus workers from the construction labour forces of neighbouring provinces
 - the recruitment of immigrants to Canada with skilled trades training and/or construction experience

Total direct trades and occupations



Note: Due to rounding, numbers may not add up to the totals indicated.

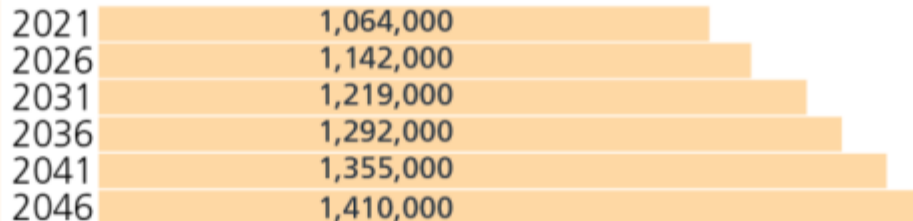
* **Net mobility** refers to the number of workers needed to be brought into the industry from other industries or other provinces to meet rising demands or the number of workers that exit the industry in downturns. Positive net mobility means that industry must attract workers, while negative net mobility arises from an excess supply of workers in the local construction labour force.



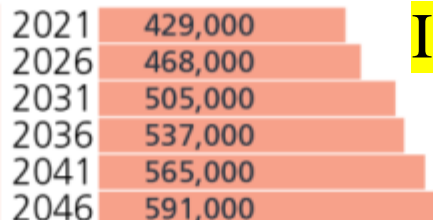
Ottawa Outlook: 2022 onward

Ottawa, Pop, households & employment, 2021-2046

POPULATION

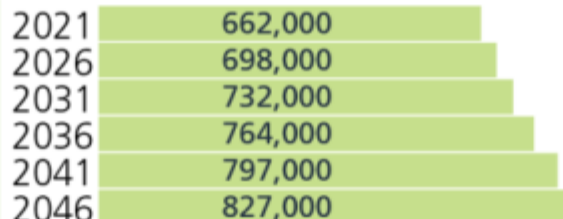


HOUSEHOLDS



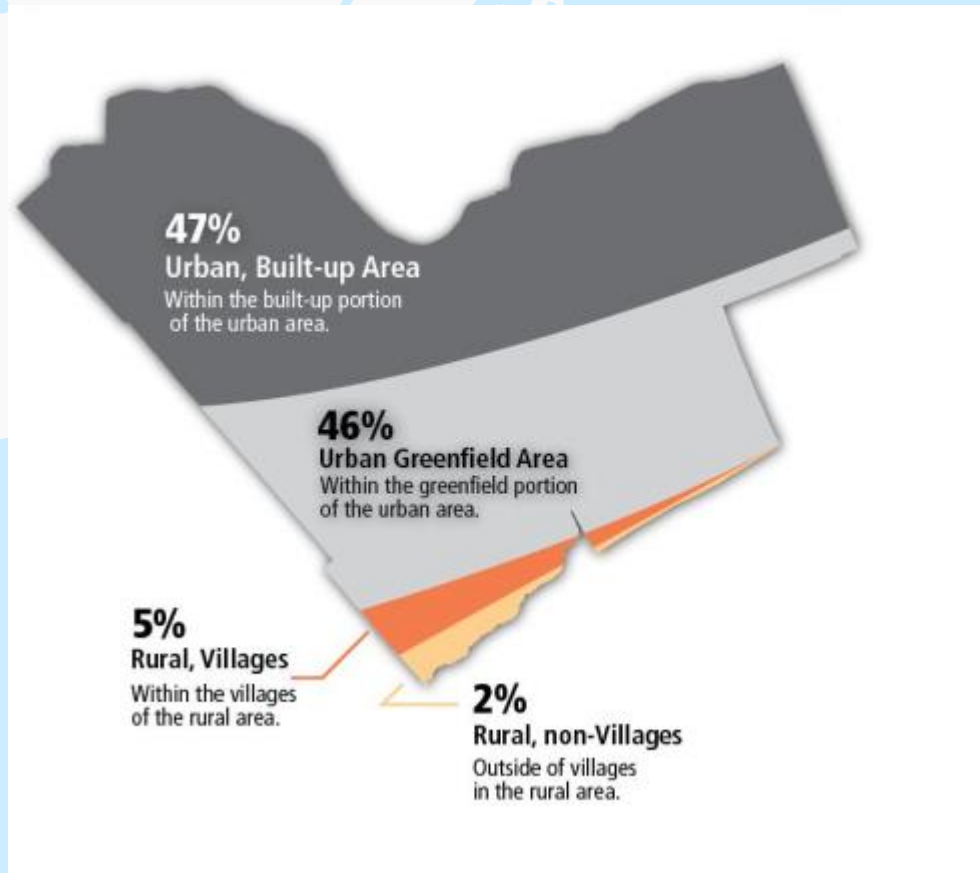
In 25 years, +50% increase in pop

EMPLOYMENT



1. Population and households are adjusted for Census undercounting. Population includes institutional residents; households exclude institutional residences and vacant dwellings.

Ottawa Growth Allocation by Area



I testified before City Council in favour of more suburban growth

Ottawa, Growth by area, to 2046



Downtown Core -
Will account up to 30% of new jobs.



Inner Urban and Outer Urban Corridors & Hubs -
Will see a significant increase in new jobs of 25% to 2046.

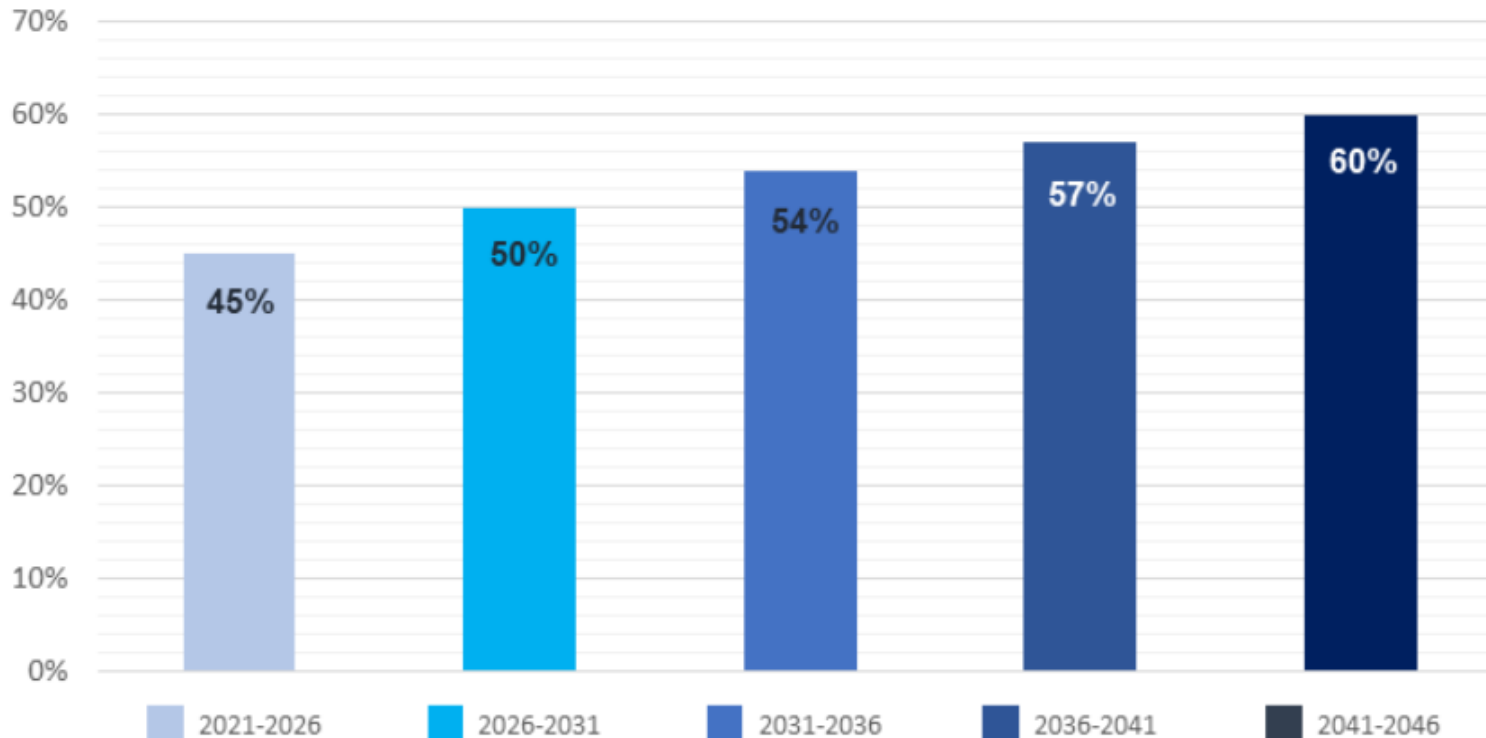


Suburban Town Centres -
Will account for an additional 25% of new jobs to 2046.



Rural -
Will account for an additional 10% of new jobs to 2046.

Ottawa growth by intensification, 2021-2046



The percentage represents the proportion of new **private residential dwelling units** based upon building permit issuance for each year within the built-up portion of the urban area.

CB, Dominant Industries, 2021

Class*	Industry	Employees (000s)
9110–11	Federal government	163.3
4411–4543	Retail trade	69.8
2311–29	Construction	50.8
6111	Primary and secondary schools	34.9
6220	Hospitals	34.5
5415	Computer systems design services	32.2
6211–19	Ambulatory health care services	28.8
7221–24	Food and beverage services	28.6
5511, 5611–12, 5615–17, 5619, 5621–29	Other management and administrative services	25.0
6112–17	Post-secondary education	24.9

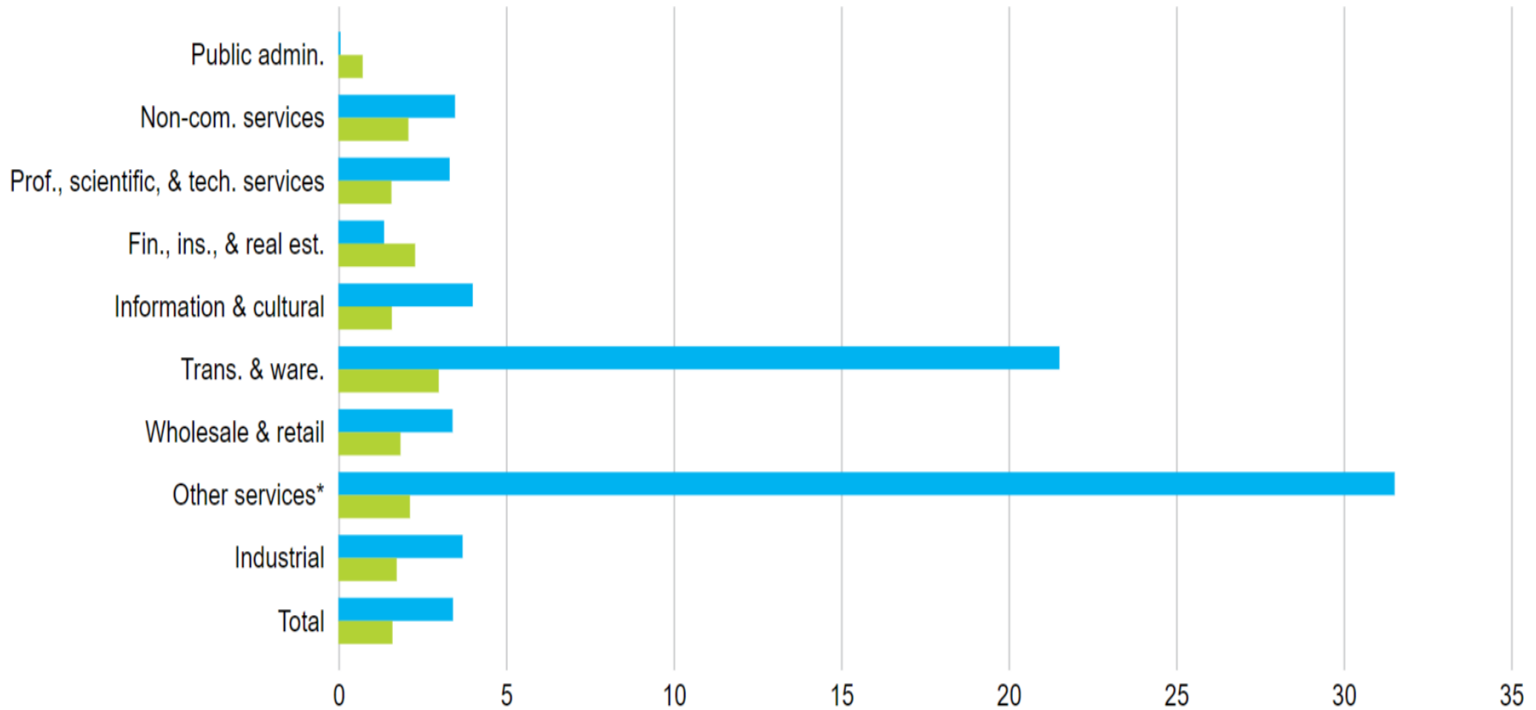
*North American Industrial Classification System

Source: Statistics Canada.

Construction is 3rd largest employer

CB, Ottawa, GDP CAGR outlook by Sector

● 2022 (annual growth rate) ● 2023–26f (average annual compound growth rate)

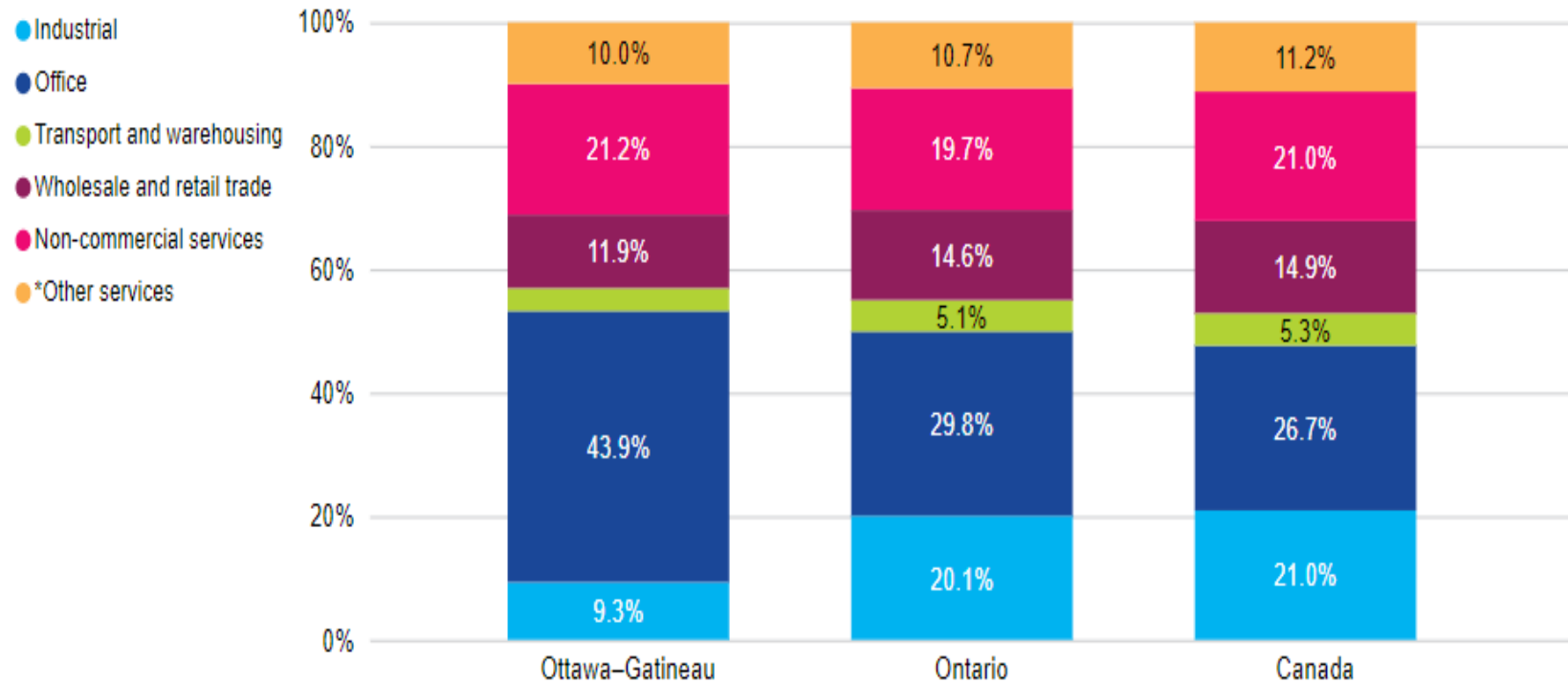


*arts, entertainment, and recreation; accommodation and food services; and other services (except public administration)

Source: The Conference Board of Canada.

CB, Ottawa vs ON vs CAN

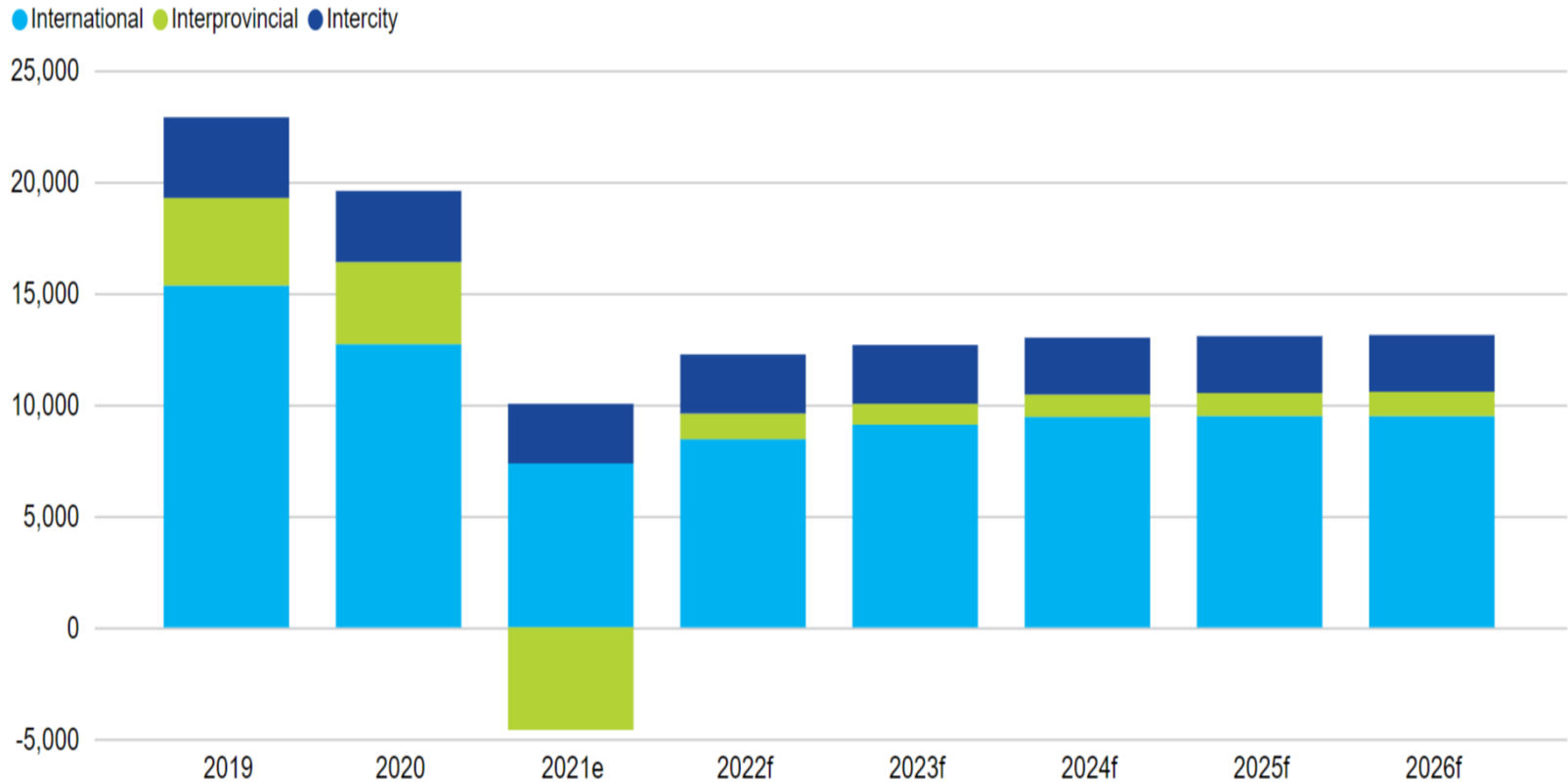
Comparative employment, 2020



*arts, entertainment, and recreation; accommodation and food services; and other services (except public administration)

Sources: The Conference Board of Canada; Statistics Canada.

CB, Sources of migration, 2019-2026



e = estimate; f = forecast

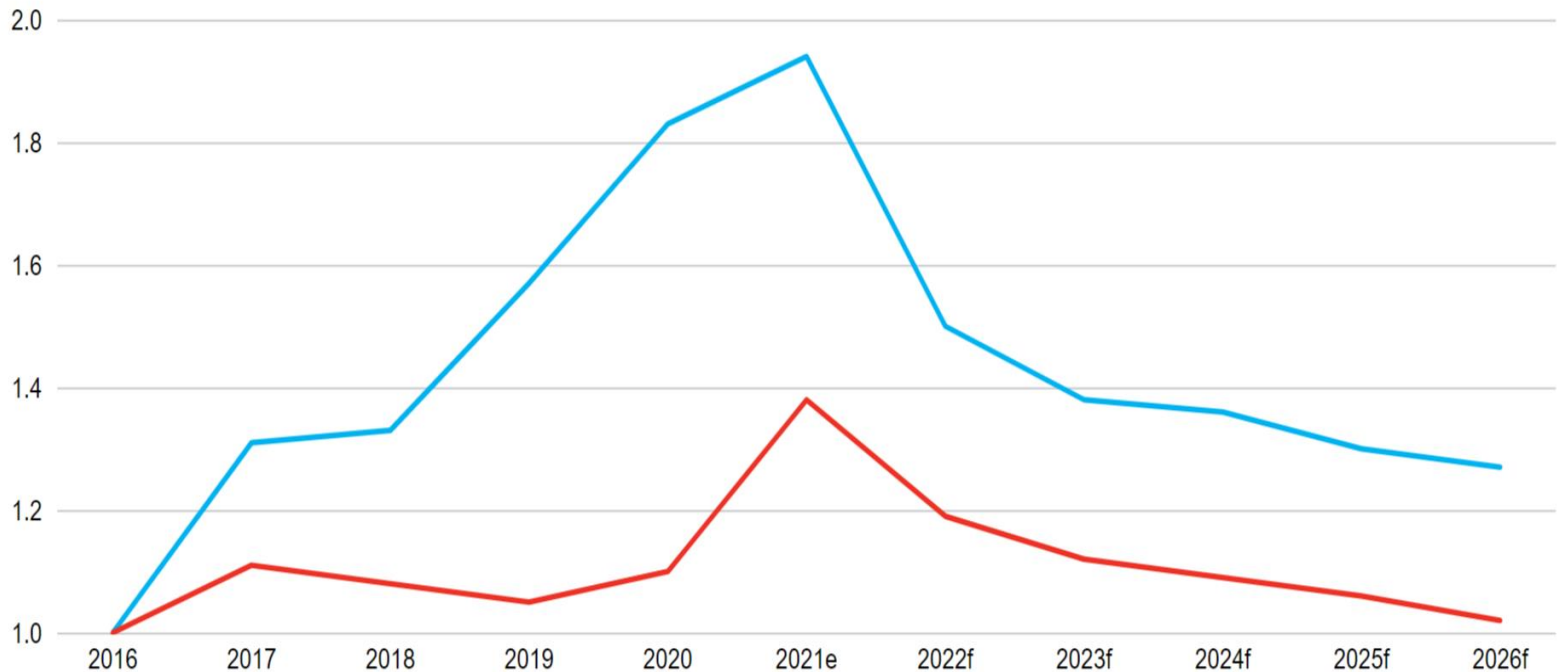
Sources: Statistics Canada; The Conference Board of Canada.

CB, Ottawa Housing Starts, 2016-2026

Housing Starts

(2016 = 1.0)

Ottawa-Gatineau Canada



e = estimate; f = forecast

Sources: The Conference Board of Canada; CMHC Housing Time Series Database.

CB, Ottawa Real Estate, 2021, Q3

Real Estate

Downtown Office Market (2021Q3)

Class A vacancy rate	7.2%
Average Class A net rent (\$/sq. ft.)	\$23.28

Suburban Office Market (2021Q3)

Class A vacancy rate	8.8%
Average Class A net rent (\$/sq. ft.)	\$15.43

Industrial Market (2021Q3)

Overall availability rate	2.6%
Average net rent (\$/sq. ft.)	\$11.94

Apartment Market (October 2020)*

Vacancy rate	3.8%
Average two-bedroom rent	\$1,521.00

*in structures with at least six units.

Sources: CBRE; CMHC Housing Time Series Database.

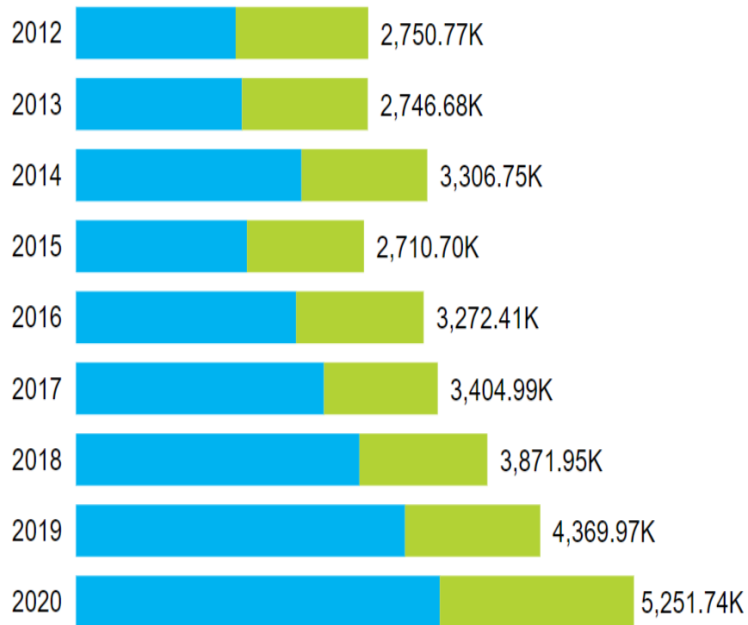
CB, Ottawa, Construction, commercial real estate & income overview, 2012-2020

Construction, Commercial Real Estate, and Income Overview

Building Permits

(\$ 000s)

● Residential ● Non-residential

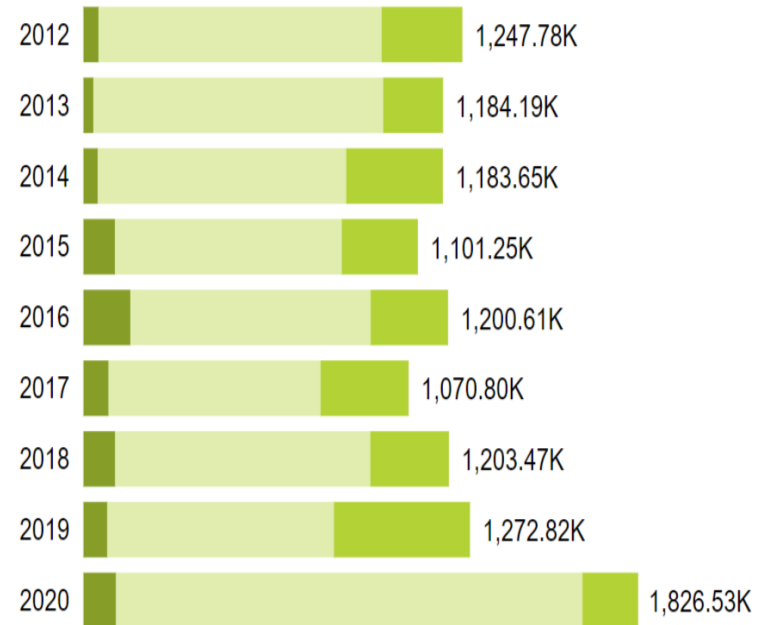


Sources: The Conference Board of Canada; Statistics Canada; Industry Canada; CBRE.

Breakdown of Non-Residential Building Permits

(\$ 000s)

● Industrial ● Commercial ● Public admin. and non-comm.



Sources: The Conference Board of Canada; Statistics Canada; Industry Canada; CBRE.

Conclusions

- COVID is over from economic perspective
- Ukraine invasion will end this year
- Oil prices will decline to \$85/\$90 range
- Inflation is becoming embedded
- Bank of Canada will increase rates 3x more

Conclusions

- Immigration will continue @ 400,000/year
- Budget 2022 fight between:
 - More income support vs econ growth
 - Including infrastructure spending
 - Increased residential construction