



## CONSTRUCTION MARKET INSIGHTS – AMERICAS

# Skilled labor shortage impacting construction growth opportunities

MARCH 2024

US • Canada

## Executive summary



**Patrick Ryan**  
Executive Vice President,  
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**The economies of the US and Canada proved resilient during 2023, thanks to public investment and heightened consumer spending. Growth is expected to slow in 2024, but demand for construction is strong and forecast to remain so.**

The US data center market in particular, is booming as operators rush to accommodate the rise of AI, with total capacity, rack density and energy consumption all set to increase substantially. The introduction of tighter sustainability requirements in both countries will push developers towards locations with low-cost renewable energy, and to leverage advanced cooling technologies.

AI will also transform the life sciences sector, by potentially speeding up drug discovery, and with it, turnaround times for new manufacturing facilities. Established life sciences clusters in the US continue to attract investment, while a major program by the Canadian government is contributing to strong growth in the hub centered around Ontario. Policies to boost domestic production of semiconductors and batteries for electric vehicles are leading to a surge in the high-tech industries too, with a robust pipeline of projects under construction and in the planning stages.

The commercial office market has been adversely affected by the shift to remote and hybrid working, leading to higher vacancy rates. Grade A space offering high standards of employee wellbeing remains sought-after, but lower-quality offices are being converted to other uses in record-breaking numbers.

As in other regions, the greatest challenge to construction is the lack of skilled workers: key trades are already in short supply, and this will be exacerbated by decarbonization, an aging workforce that is not being replaced, and stagnant worker productivity. Here, technology will again be crucial: greater adoption of digital tools, alongside modular and off-site manufacturing techniques, will be essential for keeping pace with demand, and to reshaping the industry for a more efficient, sustainable future.

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# Macroeconomic overview

## GDP Growth

**After a resilient performance in 2023, the US economy is anticipated to experience a gentle slowdown in 2024. Canada, having successfully sidestepped a recession in 2023, is expected to see growth in 2024, albeit at moderated levels.**

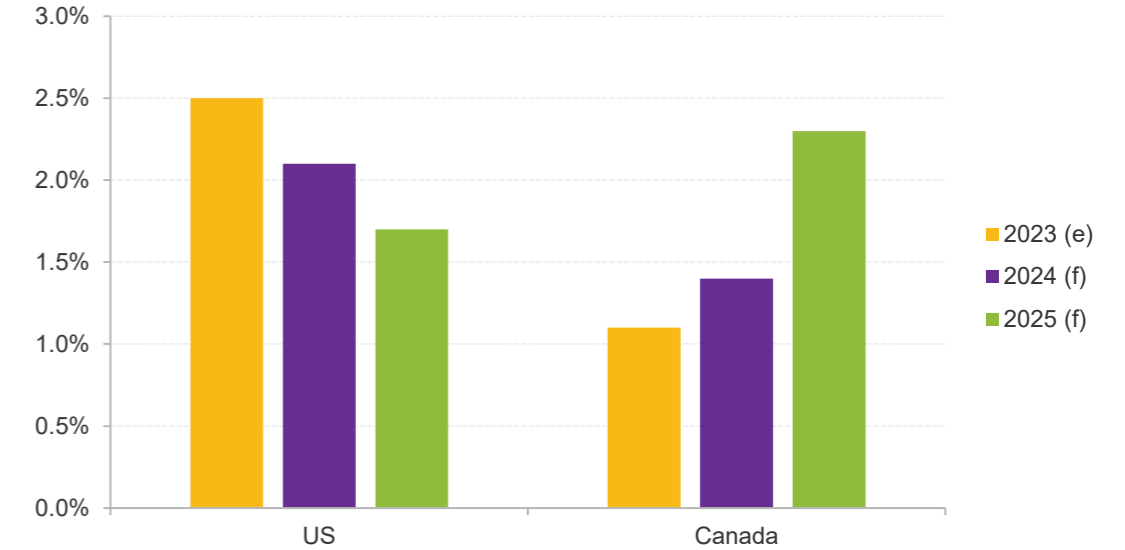
### US

In 2023, the US economy surpassed expectations, avoiding recession concerns largely due to robust consumer spending, enduring government policy reforms, strong job growth and a surge in public sector investments. The US economy maintained a sub 4% unemployment rate, with December 2023 marking 36 consecutive months of job creation. Despite inflation cooling significantly, wages continued to rise throughout 2023 <sup>1</sup>. Looking ahead, economic growth in 2024 and 2025 is expected to slow due to higher interest rates, moderate business activity, and a slowdown in government spending.

### Canada

In 2023, Canadian economic growth was fueled by robust job creation and favorable population expansion. This economic resilience prompted the Bank of Canada to raise interest rates. Subsequently, consumer spending experienced a decline. Augmented government investments and a stable, albeit subdued, residential market mitigated economic contraction. A contraction is expected in the first two quarters of 2024, resulting in a drop in consumer spending and reduced exports amid a challenging economic environment. As inflation begins to alleviate, interest rates are likely to be reduced, potentially fostering an improvement in overall economic activity.

Real GDP annual growth (%)



Source: IMF (Jan 2024 Update)

Source: <sup>1</sup> Bureau of Labor Statistics (BLS)

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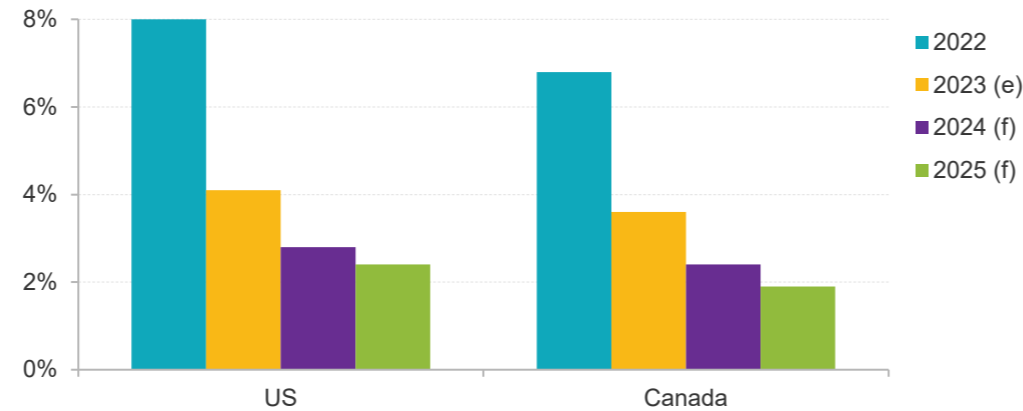
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## Inflation and interest rates

After several years of pandemic-induced turbulence the economy in the Americas appears to be stabilizing. Inflation is moderating. While interest rates remain elevated, they are stable. As inflationary pressures ease, expectations grow for a reduction in interest rates in the second half of 2024.

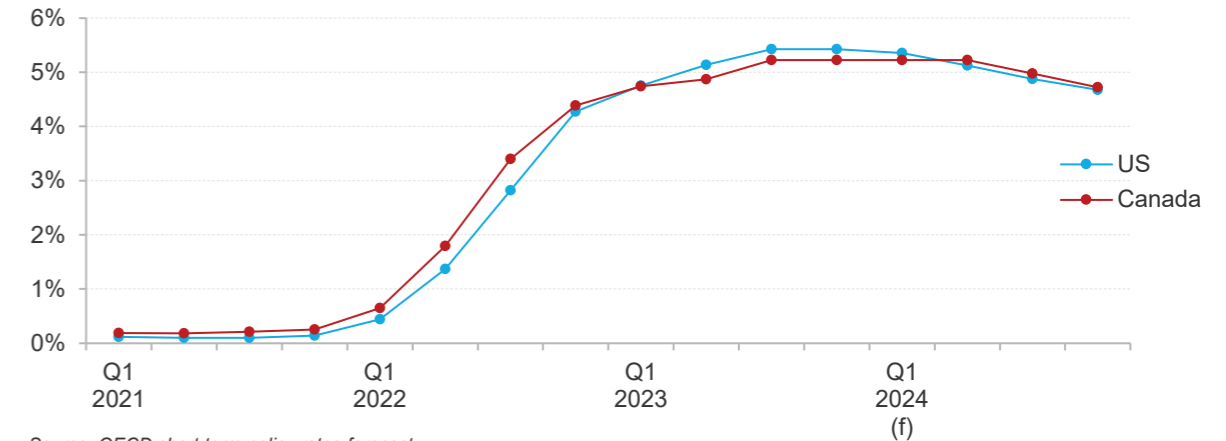
CPI Inflation



Source: IMF (Oct 2023 Update)

- The American and Canadian Consumer Price Index (CPI) inflation is expected to decrease over the years 2022 to 2025. While US inflation is decreasing, it has yet to reach the target level, prompting the Federal Reserve to consider a further tightening of monetary policy to align with the targeted range.
- The December 2023 inflation figures were higher than expected, indicating that a reduction in interest rates is unlikely until the second half of 2024. Projections suggest a gradual deceleration of inflation throughout 2024, with an anticipated decrease from 8% in 2022 to 2.4% by 2025.
- In Canada, inflation is forecasted to continue decreasing, but it is expected to persist within the range of 2% to 3% until the close of 2024. It is likely to fall below the Bank of Canada's target of 2% in 2025.

Short-term interest rates (% change per annum)



Source: OECD short term policy rates forecast

- Inflation levels reached their peak in 2022, accompanied by a significant rise in interest rates in both countries. Following the Federal Reserve's initiation of a monetary tightening campaign in the US, interest rates rose by 525 basis points (bps) since March 2022. As inflation subsequently declined, indications now suggest that interest rates have plateaued, hinting at a potential conclusion to the upward trajectory.
- Amid inflationary pressures, Canada's policy rates have closely mirrored the path set by the US Federal Reserve. Inflation in Canada remains above the target range set by the Bank of Canada, but a decrease is expected in the coming quarters. The OECD predicts that a proactive response will come in the form of interest rate cuts, likely in the second half of 2024.

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## Key challenges

**Despite the construction industry's resilience and recent improvements in material prices, several challenges persist in 2024, including higher finance costs and labor shortages. While supply chain timelines have become more predictable, concerns linger due to geopolitical uncertainties.**

### Elevated interest rates

- The 2024 Outlook Survey conducted by the Associated General Contractors of America highlights a significant concern, with 64% of respondents expressing apprehension over rising finance costs.
- Similar worries echo among Canadian contractors, as interest rates remain elevated.
- These high rates are amplifying business expenses, notably affecting developer-funded sectors such as commercial, warehousing, and multi-family residential, all of which are likely to contract.
- The increased cost of financing is eroding profit margins, hindering the initiation of new projects due to reduced overall viability.
- Conditions are expected to improve after Q2 2024.
- As inflation approaches the Federal Reserve's target, long-term interest rates are anticipated to gradually decline in the latter half of 2024.

### Skilled labor shortage

- Both nations are grappling with the challenge of skilled labor shortages within the construction industry. According to the U.S. Bureau of Labor Statistics, the construction industry added a substantial 17,000 net jobs in December 2023. It's worth noting there were 435,000 job openings in October 2023, marking the highest figure recorded that year.
- A recent survey conducted by the Associated General Contractors of America revealed that 77% of contractors faced difficulties in filling both salaried and hourly craft positions.
- A parallel survey in Canada, specifically in British Columbia, found that approximately 79% of respondents highlighted a shortage of qualified workers in the required trades.

- To address this issue, contractors are either increasing wages, thereby elevating overall project costs, or they are forced to decline new projects, resulting in prolonged timelines for ongoing projects.
- While material inflation is showing signs of easing, the rise in wages is contributing to overall construction inflation.
- Confronted with this challenge, construction firms are actively seeking innovative solutions to adapt to the shortage of skilled workers and enhance jobsite safety and productivity. Strategies such as using drones, artificial intelligence, and offsite production are being considered by contractors to tackle these workforce challenges.

### Anticipated disruptions in supply chain

- Challenges are anticipated due to recent conflicts in the Red Sea, impacting the overall global supply chain.
- Severe drought in some parts of Central America has forced the Panama Canal Authority to reduce the number of daily transits by a third causing delays and increased shipping costs.
- There are concerns looming over a potential strike by the largest union of maritime workers in North America, the International Longshoremen's Association (ILA). With their master contract - which services the East Coast - set to expire this year and negotiations underway, logistics decision makers are beginning to reroute freight to the West Coast to mitigate service disruptions.

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## Industry output

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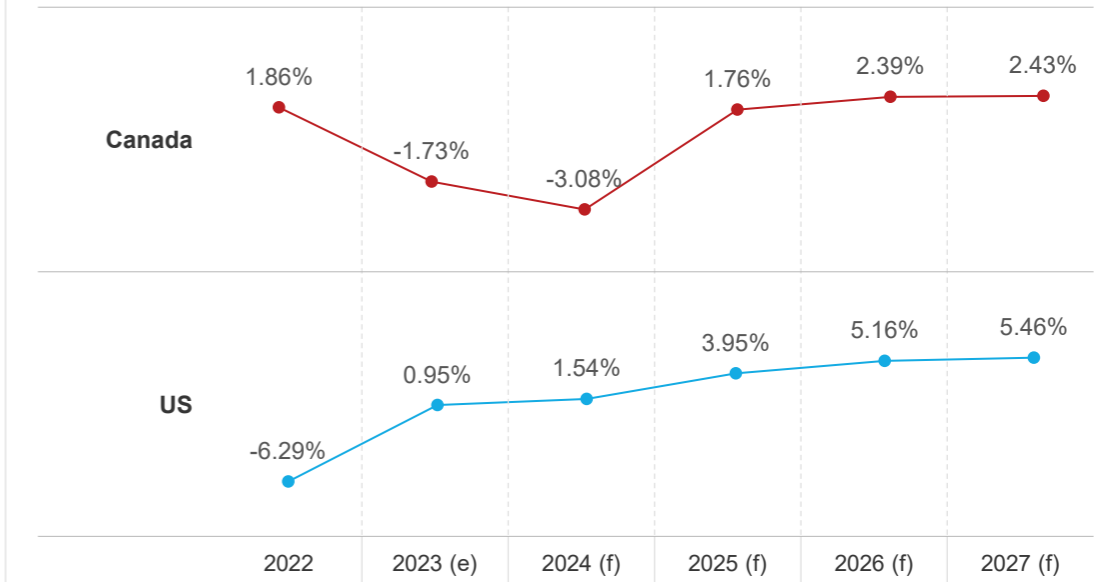
### US

- The US construction industry grew by 1% in real terms in 2023, surpassing earlier predictions. Despite elevated interest rates affecting residential investment, sectors such as infrastructure, energy, utilities, high-tech industrial, and data centers maintain their momentum. The growth has been largely driven by government spending and incentives, including the Infrastructure Investment and Jobs Act (IIJA), the Inflation Reduction Act of 2022 (IRA), and the Chips and Science Act.
- The industrial sector experienced a remarkable surge of 45.7% in 2023, with a projected growth of 3.5% in 2024. Investments in high-tech manufacturing, particularly in semiconductors, electric vehicles, and clean energy are driving this upward trend.
- The energy and utilities sector also performed strongly, growing by 11.9% in 2023, which is projected to continue with a 9.9% surge in 2024, driven by investments in renewable energy projects. The government's plan to develop seven hydrogen hubs underscores its commitment to sustainable energy initiatives.

### Canada

- Canada's construction industry is expected to contract by 1.7% in 2023, followed by a further decline of 3.1% in 2024. This decline is primarily attributed to weaknesses in the residential sector, high finance costs, and a subdued economic outlook. However, a rebound is anticipated, with a projected growth of 2.2% from 2025 to 2027, supported by developments in energy, transport, and industrial sectors.
- However, like the United States, Canada's industrial construction output experienced a significant surge, with remarkable growth of 26.8% in 2023. This positive momentum is expected to continue, with a projected growth of 3.6% in 2024. The upswing can be credited to robust public and private investments in the mining and electric vehicle manufacturing sectors.
- The data center sector is experiencing a surge in investments, primarily driven by hyperscalers and international colocation players.

YoY % change in construction output (in real terms)



Source: Global Data

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# Construction inflation

**With economic inflationary pressures easing construction inflation in North America is expected to ease in 2024 and remain in the range of 3.5% to 5.5%.**

- Material price inflation is easing, with steel and copper prices declining from their 2022 highs. Steel prices are expected to remain stable, while slight volatility may occur in copper prices.
- Energy-intensive materials like cement and concrete are stabilizing at elevated rates and are not expected to increase further.
- Volatility in diesel prices is anticipated due to geopolitical conflicts and OPEC+ production cuts.
- Meanwhile, labor availability remains a challenge, driving labor costs higher. Employers are expected to offer higher pay increases and counteroffers to retain their workforce.
- Large-scale projects are increasingly being undertaken in remote areas with lower land costs and ample availability of power. However, the cost of mobilizing workers to these remote locations is significantly adding to project expenses.
- Supply chain pressure have eased somewhat but long lead times for MEP equipment persist due to strong demand from thriving mission-critical sectors.

“The industry needs to address the shortage of skilled labor and find strategies to mitigate the impact of inflation and rising costs. In doing so we can sustain growth and competitiveness.”



**Patrick Ryan**  
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## Supply chain outlook for long-lead equipment

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### Review of 2023

- Over the course of 2023, there was a general decline in raw material prices, accompanied by the restoration of stock levels to establish a dependable supply source.
- In 2023, the currency exchange markets remained relatively stable, supporting international trading to enhance the supply chain and mitigate the cost impact on the international materials market.
- Energy prices peaked and began to drop back resulting in reduced input costs for some energy intensive materials and equipment. However, some materials and equipment suppliers have hesitated to transfer the cost savings to clients, maintaining a cautious stance toward the materials markets.
- Throughout 2023, the global industry faced obstacles in freight and logistics. Issues such as supply chain disruptions, capacity limitations, and weather-related challenges led to increased transportation costs throughout the year.
- Continuing political tensions, hostilities, and trade embargoes between nations remained a significant source of geopolitical risk. The outlook for 2024 does not indicate significant improvement.

### Outlook to 2024

- Supply chain relationships will continue to be a focus for 2024. As the industry grapples with over 12-month lead times for some equipment, strategic partnerships with vendors will be important to de-risk procurement and delivery dates.
- Increased demand for power and cooling products will create further capacity and lead time challenges for the supply chain. The heightened computing power and increased chip density are placing substantial demands on the HVAC supply chain, further compounded by rising temperatures due to global warming.
- In general, the supply chain is still being significantly impacted by regional conflicts, the persisting effects of the pandemic, and climate change. Further obstacles are likely to arise from the car industry, a major purchaser of microchips, due to the rising need for lithium-ion battery technologies that compete for the same rare earth elements. The identification of an alternate source of commodities other than China will also be a hot subject in 2024.
- Predictions from the supply chain suggest a 3% to 5% annual increase over 2024. This is guided by increasing labor and production costs. The gains in material pricing is likely to be offset by increasing labor costs.

**Equipment supply timelines (in weeks)**  
Current timelines as of Jan 2024 and future outlook

	US		Canada	
	Jan 2024	Q2-Q3 2024	Jan 2024	Q2-Q3 2024
Transformers	60-65 Weeks	➔	60-65 Weeks	➔
Generators	50-55 Weeks	➔	50-55 Weeks	➔
UPS	30-35 Weeks	↔	30-35 Weeks	↔
Batteries	28-32 Weeks	↔	28-32 Weeks	↔
LV switchgears	50-60 Weeks	↔	50-60 Weeks	↔
PDU/RPP	30-35 Weeks	↔	30-35 Weeks	↔
STS	30-35 Weeks	↔	30-35 Weeks	↔
Chillers-PRR	40-45 Weeks	↔	40-45 Weeks	↔
CRAC	30-35 Weeks	↔	30-35 Weeks	↔
Cooling tower	30-35 Weeks	↔	30-35 Weeks	↔

➔ Increasing  
↔ Stable  
➡ Decreasing

**Disclaimer**

The timelines provided are based on specific specifications and brands, as reported in January 2024, and reflect market conditions at that time. However, it's important to note that market conditions are subject to geopolitical and other influences which may cause supply chain disruptions that could impact the delivery schedules of equipment. Therefore, the timelines mentioned above are indicative and subject to change.

Source: Linesight



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## US labor market

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#### **The construction industry grapples with a myriad of labor supply challenges, exacerbated by the lingering effects of the pandemic.**

- Although the national unemployment rate in the US construction industry is decreasing, there is a growing number of available positions, aligning with increased labor demand driven by initiatives such as the Infrastructure Investment and Jobs Act.
- Rising labor costs pose a significant obstacle for the construction industry, driven by competition for a limited number of skilled laborers, resulting in wage increases.
- The strain is compounded by sustained demand for skilled construction laborers and a shortage of qualified candidates, partly due to an aging workforce and waning interest in trade professions among younger generations.
- The drive for decarbonization in the construction industry will likely further boost labor demand, with governments in both the US and Canada developing decarbonization roadmaps. These efforts emphasize equity, affordability, and resilience while aggressively reducing greenhouse gas emissions.
- This necessitates upskilling current workers and recruiting new talent, signaling a transformative change in the labor industry landscape.

Source: US Bureau of labor statistics, National Association of Home Builders

### Workforce overview

- Migrant workers constitute one-fourth of the construction workforce in the US.
- Native-born workers continue to have lower rates of participation within the construction industry, compared to foreign-born workers, with these disparities surpassing pre-pandemic levels.
- A shortage of skilled labor poses a considerable challenge. Inadequate workforce availability leads to project delays, prompting employers to hire less qualified individuals to address the skills gap. This could lead to potential compromises on the quality of the final output.

### Future trends

- Governments and industry stakeholders are working together to develop effective solutions to address the labor shortages within the construction industry.
- These initiatives include the implementation of digital technologies, such as automation and robotics, the incorporation of modular and off-site manufacturing techniques, and significant investments in upskilling existing workers.
- By embracing innovation and prioritizing skill development, the construction industry aims to overcome labor shortages while progressing towards a more efficient and sustainable future.
- Despite continuous efforts, the current circumstances indicate that a labor shortage will likely persist amidst increasing demand until transformative solutions effectively bridge the gap between supply and demand.

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## US demand and supply gaps

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### Factors influencing labor demand and supply

The following are key factors influencing the demand and supply of labor in the construction industry in the US:

#### Labor demand

- There is a surge in construction output in the high-tech, infrastructure, and mission-critical sectors, facilitated by support from various government programs leading to increased demand for specialist skilled labor.
- Increased demand due to occupier goals and initiatives around net-zero and sustainability.

#### Labor supply

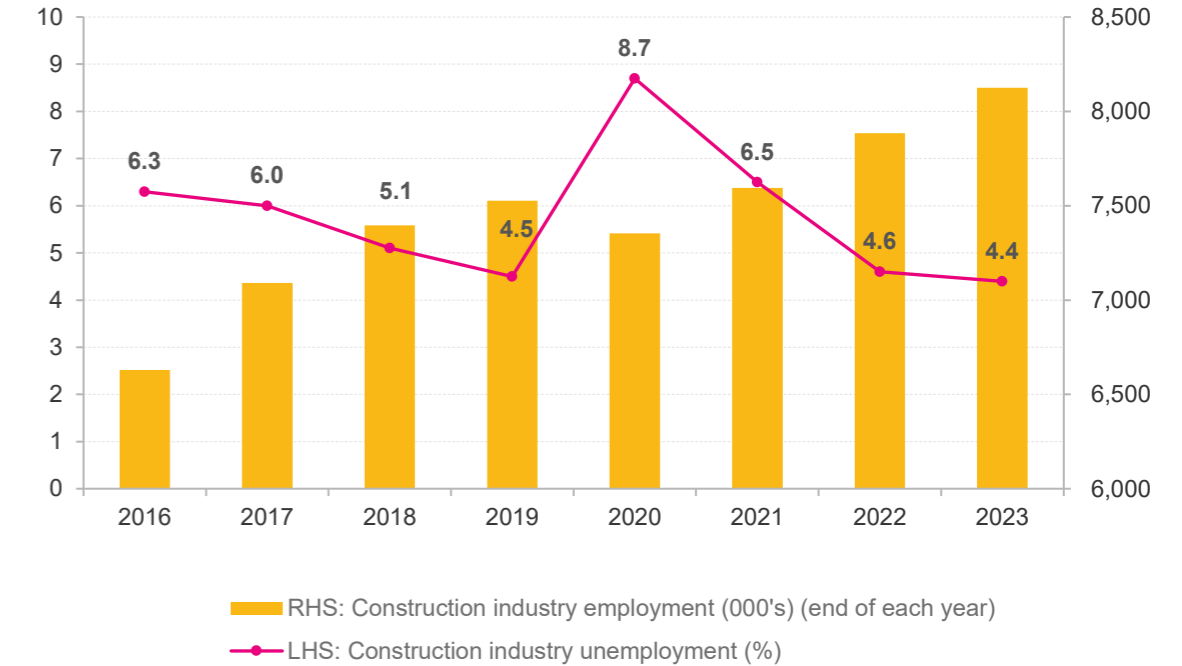
- Demographics – decreasing supply due to an aging population.
- Lack of interest among the younger workforce in construction trades.

### Construction Labor Shortage

- According to an analysis conducted by Associated Builders and Contractors (ABC), it is projected that the construction industry in the US will require approximately 0.5 million additional workers in 2024, surpassing the normal hiring pace to meet demand.
- Moreover, a report by McKinsey forecasts a need for a 30% increase in the overall US non-residential construction workforce by the end of 2030. This translates to an annual requirement of 300,000 to 600,000 new workers entering the sector.
- Shortages of skilled personnel, including carpenters, electricians, and various tradespeople, are causing delays in construction projects across multiple sectors.
- There is a widespread deficiency of qualified workers, particularly in trades such as carpentry, electricity, ironwork, painting, plumbing, and roofing.
- Demand for HVAC workers also remains consistently high across the vast majority of states in the US.

### Slowdown in unemployment rate

- The average unemployment rate in the construction industry is decreasing. In October, the unemployment rate in construction stood at 4%, marking one of the lowest rates for October in 24 years.
- In terms of employment figures, approximately 242,000 jobs were added from December 2022 to December 2023. However, it is notable that the average YoY increase in employment from 2016 to 2019 was around 309,000, indicating a slower growth pace in recent years compared to the previous period.



Source: Associated Builders and Contractors (ABC), McKinsey article Bridging the labor mismatch in US construction, March 2022

Source: US Bureau of labor statistics

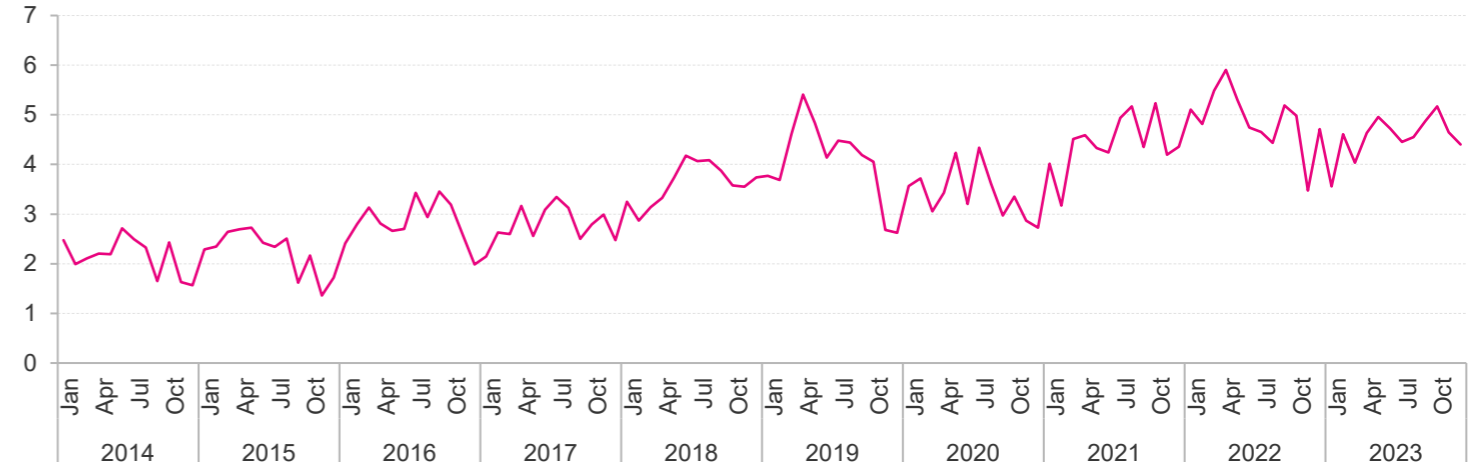
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# US labor market vacancy and hiring trends

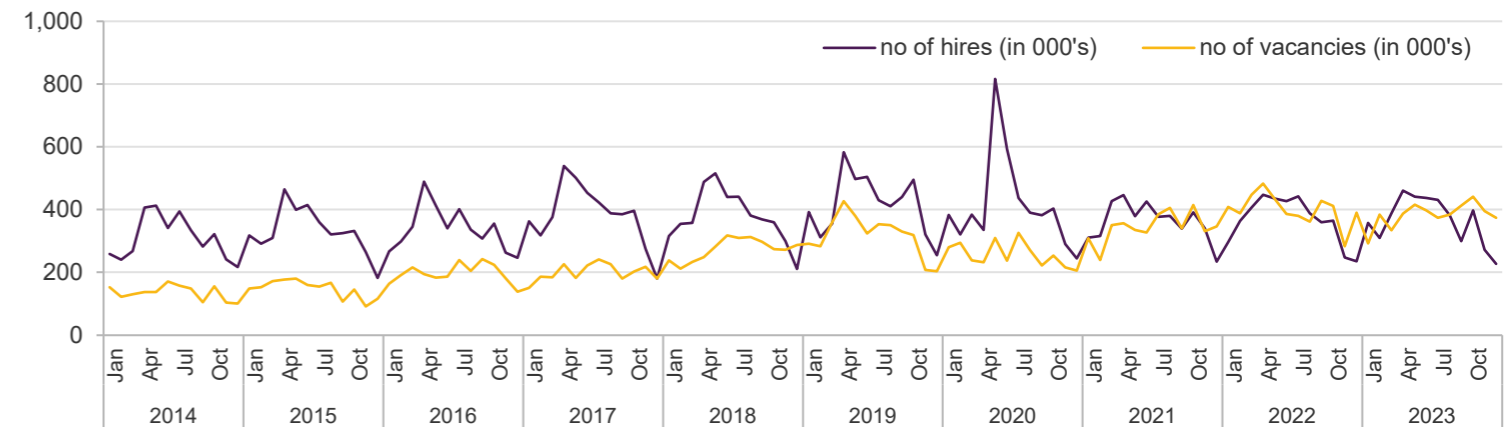
### The job vacancy rate in the construction industry has been steadily increasing

- Starting from an average vacancy rate of 4.08% in 2019, this rate surged to 4.9% by 2022. While there was some moderation in 2023, this decline was mainly attributed to weaknesses in the residential sector rather than an overall decrease in demand.
- Despite the noticeable rise in job vacancies within the construction industry, the rate of new hires fails to match this growth. This disparity highlights challenges in effectively filling vacant positions despite heightened demand for construction workers.

### Job vacancy rate (in %) in the construction industry in US\*



### Vacancies vs hires in the construction industry in US\*



**Note:**  
The job vacancy rate, JVR = number of job vacancies / (number of occupied posts + number of job vacancies) \* 100

Source: \*US Bureau of labor statistics

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## US labor market wage trends

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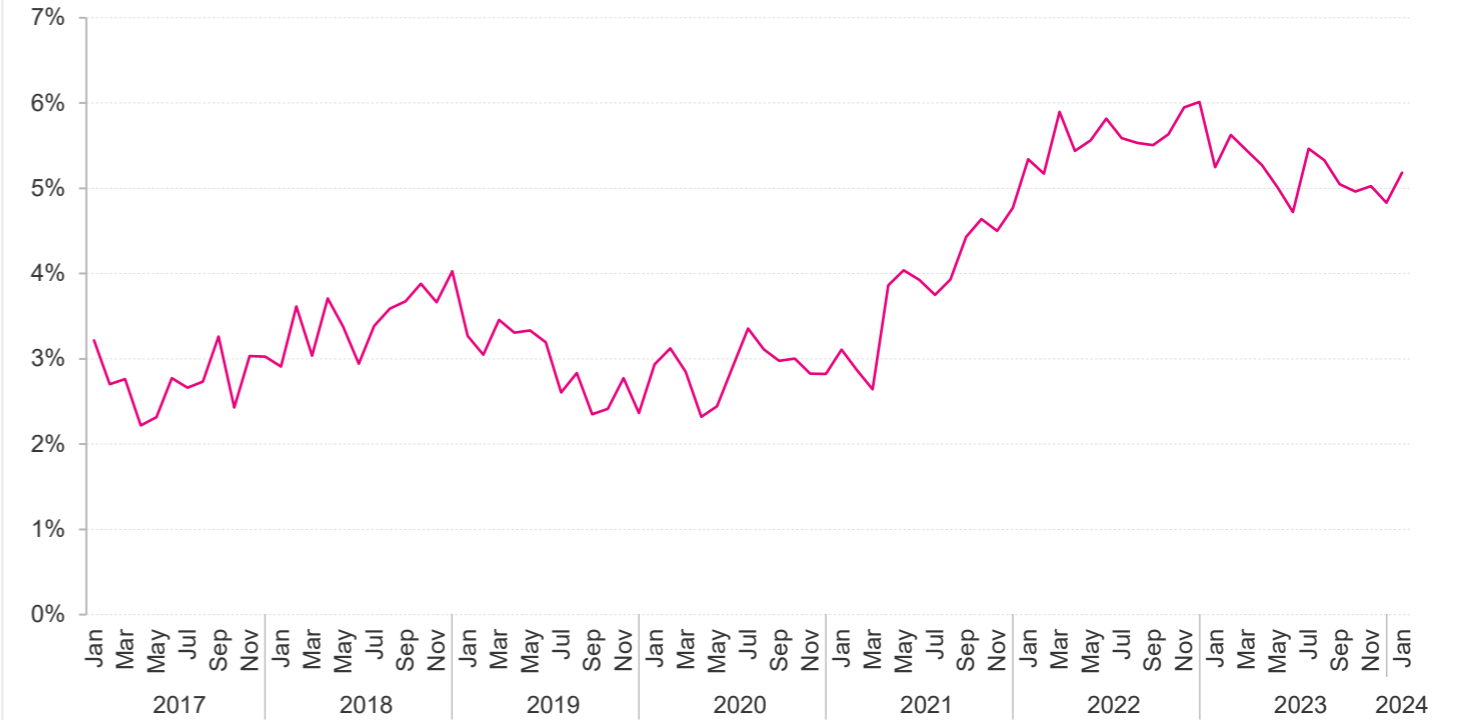
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**The widening gap between demand and supply in the construction labor force is resulting in increased labor costs, emerging as a key concern for contractors in the US.**

- According to a recent survey by AGC, 58% of respondents rank labor costs, including pay, benefits, and employer taxes, among their top three concerns.
- In January 2024, average hourly earnings in the construction industry surged by 5.18%, marking the highest increase among goods-producing industries. This growth accelerated from an average of 2.9% in 2019 to 5.17% in 2022.
- Furthermore, a 2023 AGC workforce survey highlighted that 81% of respondents raised base pay rates over the past year. Additionally, 44% of respondents offer incentives or bonuses, while 26% have increased benefit contributions or improved employee benefits.
- Looking ahead to 2024, expectations persist for continued upward pressure on construction wages as labor demand continues to outpace supply. Contractors anticipate hiring more employees but expect to encounter challenges in finding qualified workers.

**YoY change in average hourly earnings of all employees, construction (seasonally adjusted) in US**



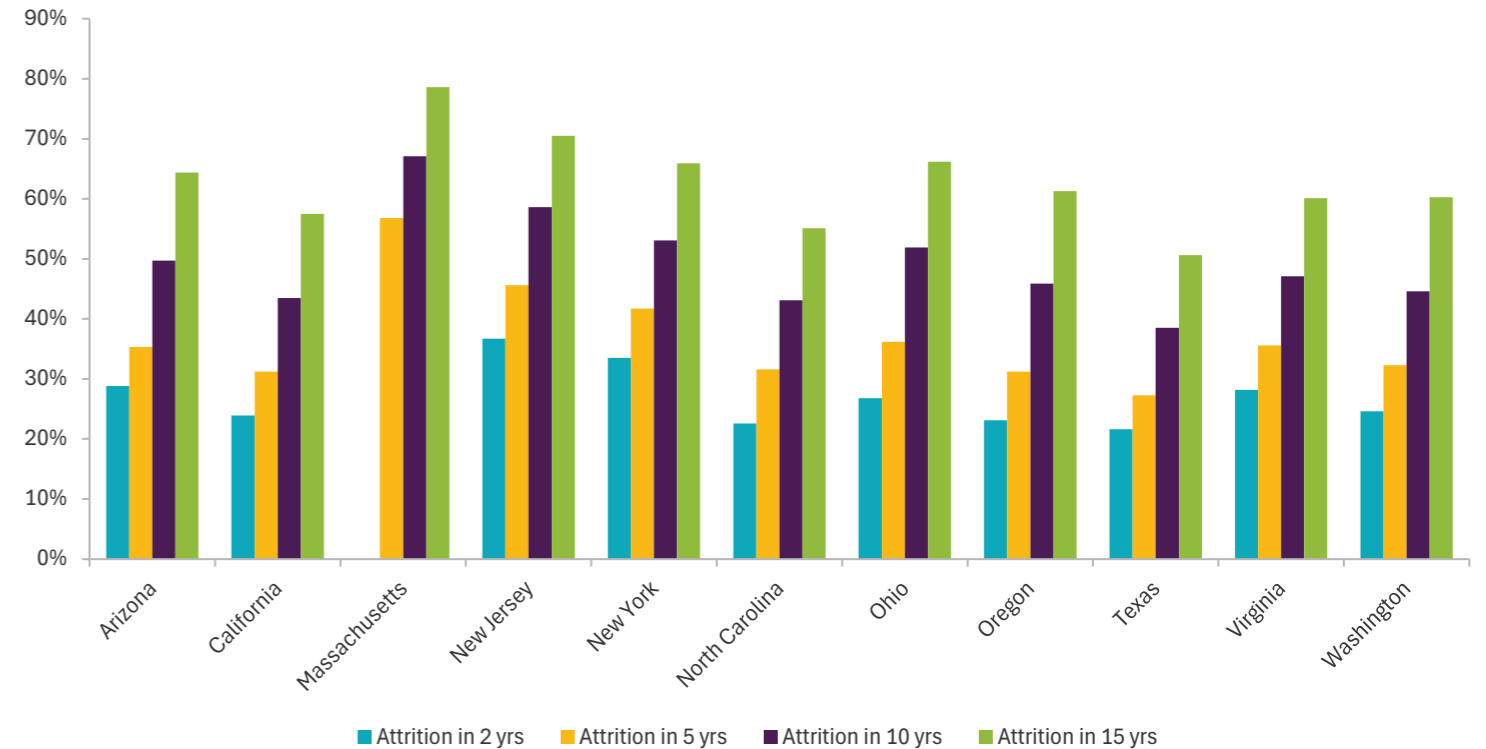
Source: US Bureau of labor statistics

# Labor

## US labor market supply factors

- Over the next two years, the majority of states in the United States anticipate an average age attrition rate of 24.5% in the construction industry, with laborers retiring at the age of 58.
- United States census bureau data reveals ongoing challenges in attracting young workers to the construction industry. The workers aged under 25 constituted 13.6% of the total US labor force in all industries in 2021. The share of workers aged under 25 in the construction industry was only 10%, less than the employment share of the age group 16-24 in all industries.
- The proportion of construction laborers aged 55 and older increased from 19.3% in 2015 to nearly 22.3% in 2021. The median age of the construction workforce is 42.
- Population aging is on the increase. It is expected that over the following 5, 10 and 15 years, the average attrition rate will exceed 30%, 40% and 60% respectively.

Age attrition trends across states (industrial craft disciplines)



**Note:** Industrial Craft Disciplines Retirement Age is considered as 59. The above graphs outline the expected percentages of workers who will be retired in 2, 5, 10, and 15 years in industrial craft disciplines.

Source: Structural Building Compensation Association, Construction Industry Resources, LLC (CIR)

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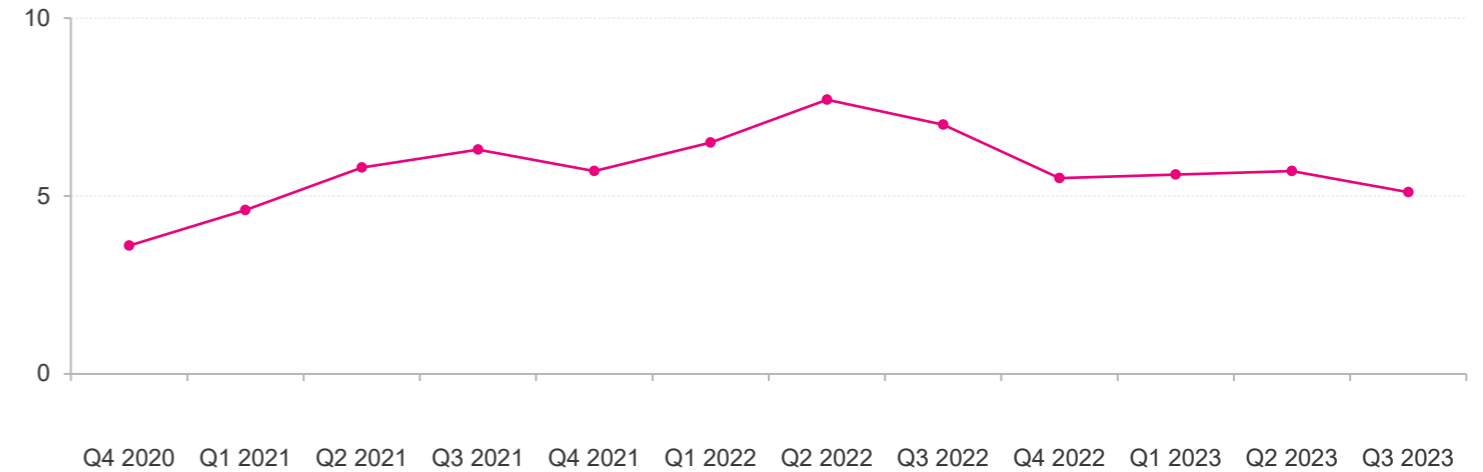
- In 2023, the Canadian construction industry experienced a contraction due to several economic factors which helped alleviate the job vacancy rate. Nevertheless, contractors continue to experience labor shortages.
- Moreover, Canada observed an uptick in average hourly wages as employers sought to bolster their workforce. This increase includes overtime pay as well. Faced with a tight labor market and heightened hiring challenges, many employers opted to raise wages for laborers.
- The mean hourly wage in Canada surged from 31.5 Canadian dollars in 2020 to 35 Canadian dollars in 2023, indicating an approximate 11% rise over three years.
- The Canadian federal and provincial governments are actively considering new immigration policies tailored to skilled trade labor.
- Efforts are also underway to incentivize the transfer of expertise from traditional heavy industrial sectors like oil and gas and mining into these burgeoning industries.

“ There is a shortage of skilled labor necessary to meet the demands of Canada's growing EV, data centers and life sciences sectors. Initiatives are urgently needed to support and sustain the momentum of growth in these critical sectors. ”

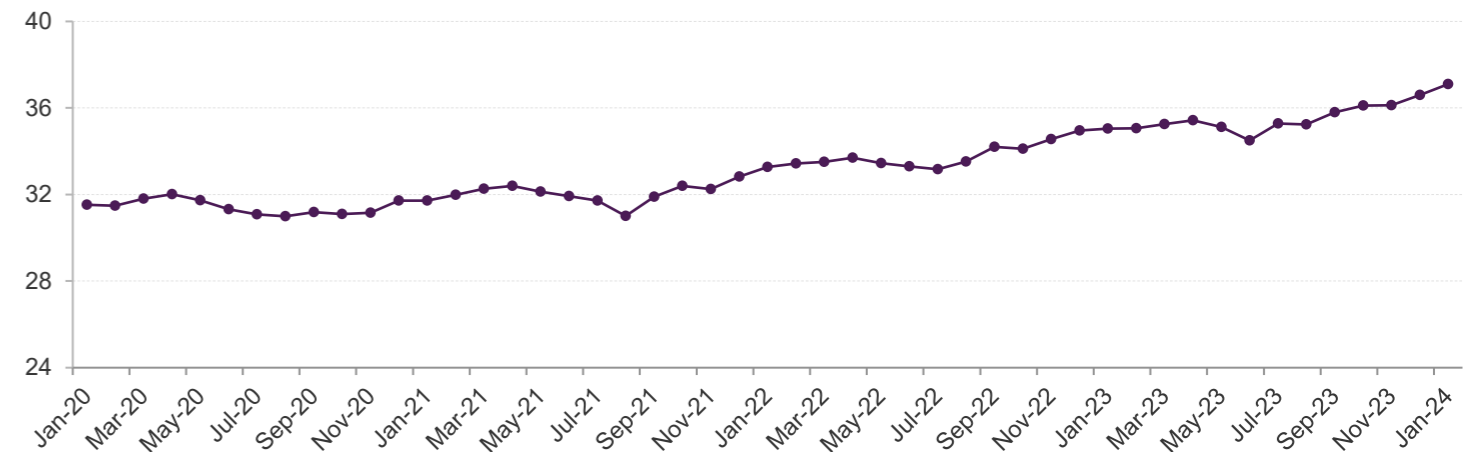
**Padraig Leahy**  
Vice President, Americas

Note: The job vacancy rate, JVR = number of job vacancies / (number of occupied posts + number of job vacancies) \* 100

**Job vacancy rate in construction industry in Canada**



**Average hourly wage rate in construction, 15 years and over (Canadian Dollars)**



Source: Statistics Canada

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Overview

“ With the data center market across North America experiencing unprecedented growth, companies are racing to expand their infrastructure to meet the escalating demand for digital services and storage capacity. ”



**Eoin Byrne**  
Vice President, Americas

Data center providers will need to leverage advanced cooling technologies and explore innovative design approaches to keep up with next-generation technology and accommodate the heightened heat loads generated by AI-driven applications.

In the US, the data center market is witnessing a surge in demand, resulting in reduced vacancy rates even in secondary markets. These secondary markets are now experiencing overflow demand from primary markets. With the rise of AI, data center power consumption in the US is forecasted to skyrocket to 35GW by 2030, nearly doubling its 2022 level.<sup>1</sup>

The demand for AI capabilities is causing transformation in the sector, prompting data center operators to ramp up capital expenditure to accommodate AI requirements within existing developments. Many operators are exploring retrofitting options to meet the demands of AI, while others are contemplating the construction of build-to-suit facilities tailored to these needs. The prevalence of large campus-based developments is on the rise to cater to these enhanced requirements.

According to estimates by Schneider, AI power consumption could grow by more than threefold by 2028.<sup>2</sup> As the demand for AI surges, an increase in rack density is anticipated, which will impact the cooling and electrical systems within data centers.

In Canada, the Greater Toronto Area remains a favored location for data centers. However, rising land prices and challenges related to power sourcing present hurdles for new construction sites. Quebec has emerged as a promising location due to its access to low-cost hydropower, offering potential solutions to these challenges.

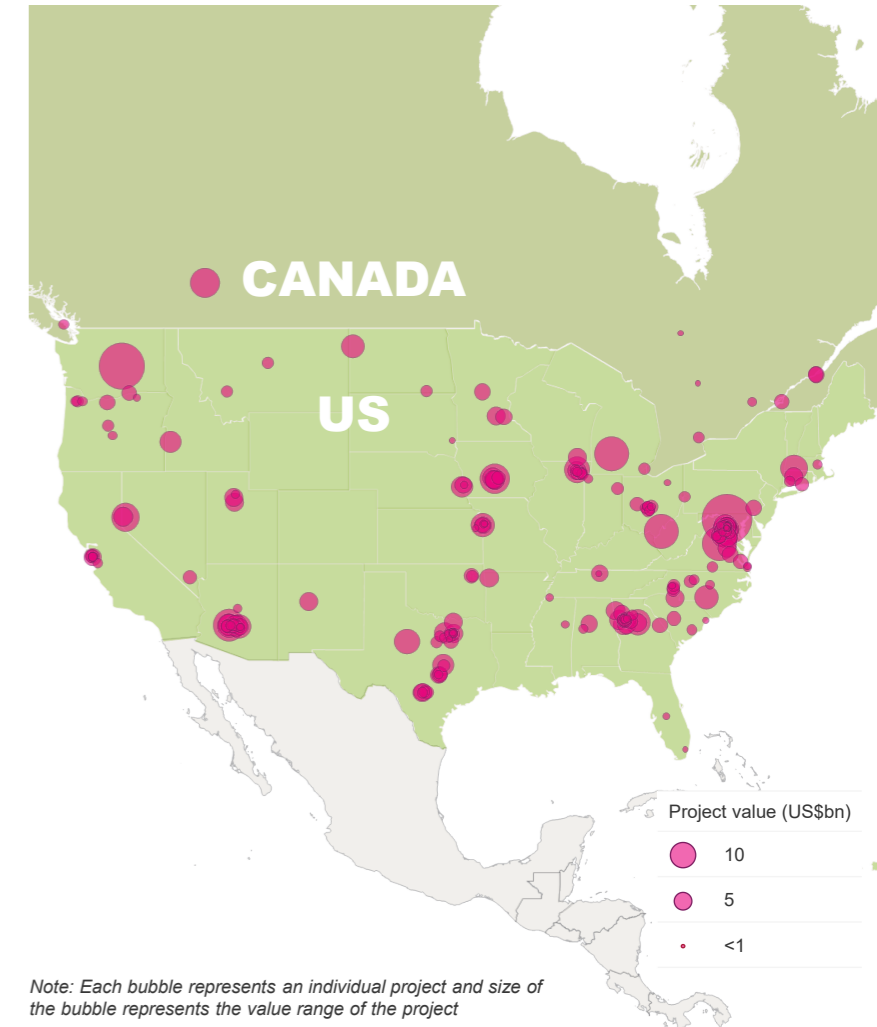
Source:

<sup>1</sup> Newmark 2023 U.S. Data Center Market Overview & Market Clusters, Jan 2024

<sup>2</sup> Schneider Electric – Energy Management Research Center White Paper 110 Version 2.1

Key site locations

Planned and under-construction projects



Note: Each bubble represents an individual project and size of the bubble represents the value range of the project  
Source: Global Data

# Sectors in focus

## Data Centers

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### Project activity

- In the US, the data center project pipeline, including projects under execution and planned, is estimated at approximately US\$160bn.
- Virginia is maintaining its position as a top location for data center investment, accounting for approximately one-fifth of the pipeline of data centers in the U.S. based on project value.
- Cloud markets are continuing to grow, with the Northern Virginia market extending its reach into neighboring counties.
- Atlanta, Dallas, Ohio, and Portland are witnessing sustained demand growth, while cities like Phoenix are reaching capacity due to trade labor and power constraints, posing threats to ongoing projects.
- New markets specializing in AI and machine learning are emerging in Indiana, Minnesota, Alabama, Wisconsin, and Nevada.
- In Canada the total project pipeline is around US\$6.8bn, with a number of projects currently under construction, while the remaining are in pre-design or planning stages.

Several data center providers are expanding beyond densely populated and popular cloud markets to remote locations where land and power resources are more abundant, in anticipation of future AI deployments.

### Key considerations

<b>01</b>	<b>Data center LLE lead times</b>	<ul style="list-style-type: none"> <li>• There's now greater certainty regarding lead times compared to the past 24 months. While lead times may be extending, delivery is more certain. Nearly all large-scale data center providers have implemented inventory systems to manage their portfolios effectively.</li> </ul>
<b>02</b>	<b>Design methodologies</b>	<ul style="list-style-type: none"> <li>• Large single-story developments in lower-cost locations continue to be the focus.</li> <li>• Several providers are actively engaged in retrofit programs at existing locations and campuses to accommodate denser designs for AI and machine learning, while others have proactively planned for potential changes and are already prepared.</li> <li>• Data center providers focusing on built-to-suit facilities are employing value engineering techniques to eliminate design elements previously tailored for multi-tenant colocation setups.</li> </ul>
<b>03</b>	<b>ESG regulations</b>	<ul style="list-style-type: none"> <li>• In the US, the Securities and Exchange Commission plans to standardize climate disclosures for organizations, with expected implementation in 2024. This will reshape sustainability guidelines and data center regulation.<sup>3</sup></li> <li>• In Canada, provinces are adopting carbon pricing policies to achieve net-zero emissions by 2050. This includes charging industrial sectors and power generators for emissions exceeding baseline levels.<sup>4</sup></li> <li>• The majority of hyperscalers have aggressive net-zero goals, with most aiming to reach those targets between 2030 and 2040.</li> </ul>
<b>04</b>	<b>Skilled labor and contractor shortage</b>	<ul style="list-style-type: none"> <li>• Skilled labor shortages are also noticeable in the data center construction sector, with electrical trades in particular being the main constraint affecting project costs and timelines.</li> <li>• The Phoenix market has reached a critical point where increased demand has jeopardized several projects, and local trade labor is unable to meet project needs. This is prompting some clients to bring in a traveling workforce from as far as California to meet the labor demands.</li> <li>• Similar trends are seen in Canada where there is a limited availability of general contractors and subcontractors with adequate proficiency in data centers to facilitate the design, development and construction of these projects. Additionally, outside contractors face challenges breaking into the region.</li> </ul>

Source: Global Data

<sup>3</sup> US Securities and Exchange commission

<sup>4</sup> Government of Canada Carbon pollution pricing systems across Canada dated 05.07.2023



# Sectors in focus

## Life Sciences

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“ The increasing demand for office-to-lab conversions will require meticulous integrated planning, to address unique complexities in this type of building use adaption. ”



**Jeff Peragallo**  
Director and Vice President  
of Operations, Americas

There's a sustained emphasis on R&D, with the clinical development pipeline of phases 1 and 2, standing at the largest it has been in two decades. This is promising for the potential for an array of future projects.

Reflecting broader sectoral trends, the life sciences industry in the US experienced a 25% decrease in venture capital (VC) funding in 2023 compared to the previous year.<sup>5</sup>

Nevertheless, funding levels surpass those observed before the pandemic. VC firms are directing their investments predominantly toward later-stage drug companies, particularly those engaged in traditional chemistry-driven small molecules.

Encouragingly, the National Institutes of Health (NIH) showcased a consistent uptrend in annual funding budget, registering a 6.5% YoY growth in FY2023.<sup>6</sup> Additionally, spending by publicly-traded, large-cap companies shows a consistent upward trajectory, signaling sustained confidence and investment in the market.

As the demand for laboratory space escalates to accommodate burgeoning R&D needs, there's a discernible uptick in office-to-lab conversions. These conversions present challenges concerning existing infrastructure, utilities aligned with lab requirements, regulatory adherence, and storage needs. Meticulous integrated planning becomes imperative to effectively navigate these complexities.

AI is poised to revolutionize the life science industry, accelerating drug discovery, and requiring faster development of manufacturing facilities. In pharmaceutical manufacturing, the adoption of flexible and modular designs, alongside prefab components, is on the rise to minimize retrofitting costs and align with advancing technology.

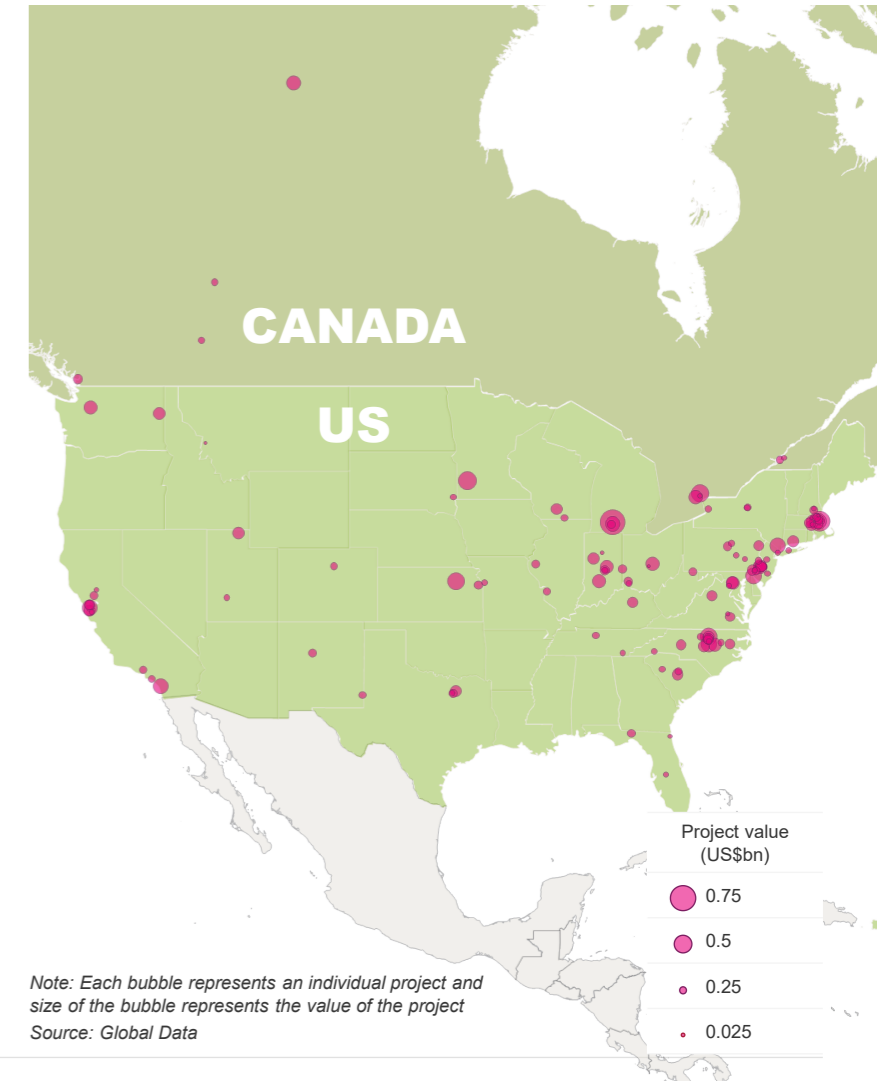
Source:

<sup>5</sup> Q4\_2023\_PitchBook-NVCA\_Venture\_Monitor

<sup>6</sup> National Institutes of Health (NIH) Funding: FY1996-FY2024, updated May 17,2023

### Key site locations

Planned and under-construction projects



Note: Each bubble represents an individual project and size of the bubble represents the value of the project  
Source: Global Data

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### Project activity

#### US

- Boston, San Francisco, and San Diego retain their positions as established life sciences hubs, attracting substantial investments in research facilities. Concurrently, North Carolina remains the preferred region for establishing bio-pharma plants.
- In the US, Massachusetts leads the way in the pipeline for research facilities, closely followed by California and Pennsylvania. Among research facilities currently under construction, Massachusetts commands nearly 46% of projects by value. Conversely, Pennsylvania leads in planned projects, comprising 24% of the total value. Manufacturing projects are dispersed nationwide, with North Carolina, Massachusetts, and Michigan serving as key hotspots.
- The total number of new project announcements by value in 2023 witnessed a notable decline compared to 2022. However, it exceeded pre-pandemic levels, signaling a gradual rebound in project activity.
- Office-to-lab conversion supply is outpacing demand in Boston and San Francisco, while remaining relatively balanced elsewhere.

#### Canada

- Echoing investment patterns in the US, Canada's life sciences sector saw relatively few announcements in 2023. Nevertheless, it stands as a mature and thriving market bolstered by a robust regulatory framework overseen by both federal and provincial governments.
- Notably, the Government of Canada has invested over US\$2.2 billion into 38 projects across the biomanufacturing, vaccine, and therapeutics ecosystem, underscoring its dedication to fostering innovation and expansion in this pivotal sector. Ontario emerges as the primary hub, hosting more than 50% of life sciences companies.<sup>7</sup>
- In Canada, the majority of manufacturing projects are concentrated in Ontario and Quebec.

Source:

<sup>7</sup> *Biotech Gate: Life science trend analysis, Canada 2023*

### Key considerations

01

#### Contractor and skilled labor shortage

- The expansion of the life sciences sector demands a highly skilled workforce, including specialized contractors capable of constructing and retrofitting complex facilities. A shortage in skilled labor can delay project timelines and increase costs.

02

#### Cost changes

- The volatility in construction costs poses a challenge for budgeting and financial planning of life sciences construction projects.

03

#### Technological integration

- In pharmaceutical manufacturing, the adoption of flexible and modular designs, along with prefab components, is on the rise to minimize retrofitting costs and align with advancing technology.
- Incorporating advanced technologies such as AI and modular construction techniques requires careful planning and expertise, adding another layer of complexity to project management.

04

#### Supply chain

- Procurement Issues: Supply chain disruptions have affected the timely procurement of materials and equipment, leading to delays and cost overruns in life sciences construction projects.
- Effective program and supply chain management prove crucial for the seamless execution of large-scale projects within the industry.

## Sectors in focus

# High-tech Industrial (semiconductors and batteries)

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### Overview

“ The high-tech industrial sector is experiencing a rapid expansion, setting the stage for increased production capacity, technological advancements, and economic growth. ”



**Dawn Cantrell**  
Vice President, Americas

There has been a significant surge in clean energy investments, surpassing US\$110 billion, with around US\$70 billion earmarked to strengthen the US battery supply chain, notably focusing on gigafactories.<sup>11</sup>

Benefiting from recent government support policies such as the CHIPS Act and the Inflation Reduction Act (IRA), investments in the semiconductor and battery manufacturing sectors have surged over the past year. Projections indicate a 6% YoY increase in chip manufacturing capacity in the Americas, which is expected to reach approximately 3.1 million wafers per month (wpm) by the end 2024.<sup>8</sup> This growth will be driven by the new greenfield fabrication locations as well as retrofits/conversions of existing facilities.

Both the semiconductor and energy sectors are expected to continue experiencing growth driven by technological advancements, evolving consumer preferences, regulatory changes, and global efforts to address climate change and promote sustainable development. However, challenges such as supply chain disruptions, critical mineral shortages, and regulatory uncertainty, may impact the pace and scale of growth in this sector.

The capacity of US gigafactories in the pipeline has surged from around 700GWh in July 2022 to over 1.2TWh as of July 2023.<sup>9</sup>

To achieve net-zero emissions by 2050, the Canadian government is offering production subsidies and construction support for the battery manufacturing sector, fueling investments in Canada’s battery manufacturing industry.

According to Invest Canada, the federal government, as well as the provincial governments of Ontario, and Quebec have jointly pledged a substantial US\$37.7 billion in production subsidies and construction support for three companies.<sup>10</sup>

Source:

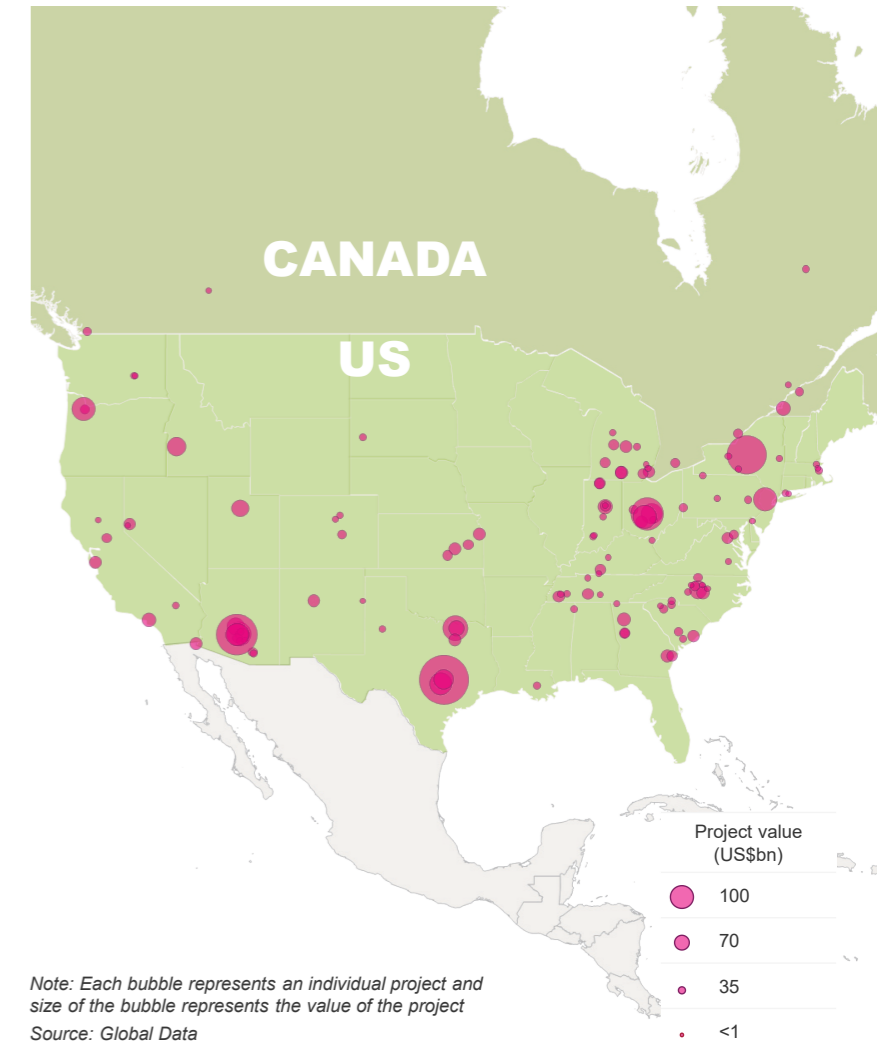
<sup>8</sup> SEMI: World Fab Forecast, dated Jan 2, 2024

<sup>9,11</sup> Columbia SIPA: Center on global energy policy September 2023

<sup>10</sup> Parliament Budget Office: Costing support for EV battery manufacturing, November 2023

## Key site locations

Planned and under-construction projects



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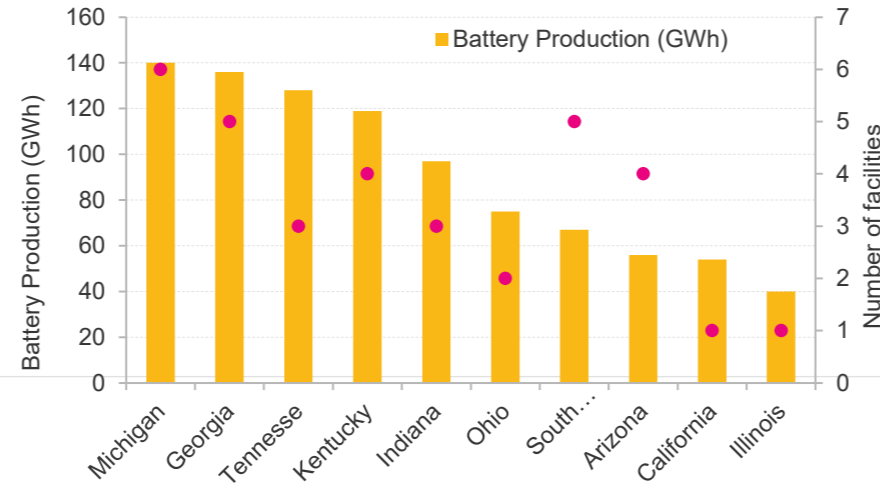
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### Project activity

- Battery manufacturing projects worth a value of US\$118bn are in pipeline in the US with more than 50% of projects by value in the planning stage.
- Approximately 30% of semiconductor foundry projects by value are currently under execution, with the remaining projects in the planning stage. The majority of investments are concentrated in Texas, Arizona, and New York.
- In Canada, battery manufacturing projects worth US\$6.3bn are currently in the pipeline, with the majority of these projects announced within the last two years. All of these projects are in planning stages right now and Quebec is a key region of focus.

**Announced Battery Manufacturing Capacity in the U.S.<sup>12</sup>**



Source:  
<sup>12</sup> Environmental Defense Fund : Battery Manufacturing December 2023

### Key considerations

- |           |                                       |  |
|-----------|---------------------------------------|--|
| <b>01</b> | <b>Supply chain complexity</b>        | <ul style="list-style-type: none"> <li>• Both semiconductor companies and governments have prioritized supply chain resilience by diversifying the semiconductor supply chain and reducing dependency on a single region for chip production.</li> <li>• The battery manufacturing market is relatively immature, and the supply chains less developed.</li> <li>• Critical mineral shortages have severely impacted battery production, disrupting supply chains and hindering the manufacturing of essential components for electric vehicles and renewable energy storage systems.</li> </ul> |
| <b>02</b> | <b>Availability of suitable sites</b> | <ul style="list-style-type: none"> <li>• A site must have a high-capacity, reliable, renewable energy source, connections to utilities and transport infrastructure to be considered well connected.</li> <li>• Fabs require extensive infrastructure and utilities to support manufacturing operations, including power supply, water supply, wastewater treatment, gas delivery systems, and facility support systems. The construction and integration of these infrastructure components will contribute to higher CAPEX spends.</li> </ul>  |
| <b>03</b> | <b>Skilled labor availability</b>     | <ul style="list-style-type: none"> <li>• The high-tech industry is experiencing a deficit when it comes to skilled workers, due to an overall industry shortage, gaps in skills, competition from other industries, and demographic shifts and location constraints.</li> </ul>  |
| <b>04</b> | <b>Construction methods</b>           | <ul style="list-style-type: none"> <li>• To meet schedule requirements, this sector is advancing in modular and prefabricated solutions.</li> <li>• Technology changes continue to drive innovation and transformation in semiconductor and energy construction, shaping the design, implementation, and operation of semiconductor manufacturing facilities</li> </ul>  |

## Sectors in focus Commercial

### Overview

“ With the growing importance of ESG principles, we're seeing an increase in the delivery of sustainable or carbon-neutral buildings, specifically designed to enhance employee well-being. ”



**John Fitzgerald**  
Vice President, Americas

Commercial developers are exploring retrofitting as a strategic approach to help secure tenants, many of whom are setting increased Environmental, Social, and Governance (ESG) targets in relation to their commercial spaces.

The US commercial sector faces persistent challenges as double-digit vacancy rates persist, largely attributed to the proliferation of remote and hybrid work models. Despite this, Grade A spaces and green-rated buildings remain resilient. To meet evolving demands, certain Grade B and C office buildings are undergoing conversions into alternative uses such as lab spaces and storage facilities.

Healthy sustainable buildings remains the biggest trend, with increased fresh air through a dedicated outdoor air supply becoming more common.

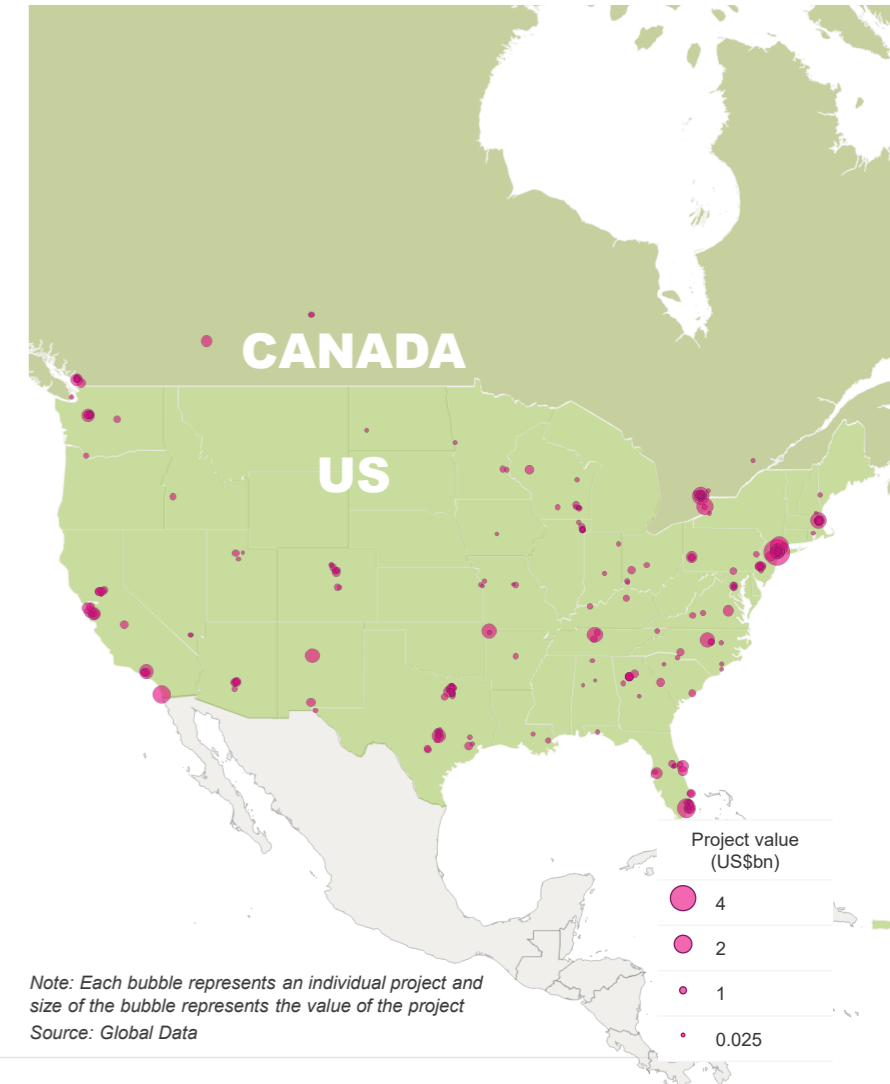
A surge in old office buildings redevelopment is underway. In 2023, a record-breaking volume of office inventory, totaling 18.8 million sq.ft., underwent conversion to other uses. The federal government actively supports these conversion endeavors through tax incentives, low-interest loans, and other means.<sup>13</sup>

Similarly, in the Canadian office sector, vacancy levels are on the rise, prompting properties to be repurposed for residential and alternative uses. Successful conversions, however, do necessitate thorough due diligence and meticulous planning.

As projects driven by larger developers slow down or are put on hold due to elevated interest rates, some contractors, designers, and consultants find themselves pursuing work they may not have previously considered. Most commercial projects are being driven by clients in the financial and technology sectors.

Source:  
<sup>13</sup> Manulife US REIT IMR 2023, January 2023

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### Project activity

- According to CommercialEdge, as of December 2023, there was 96.9 million sq.ft. of office space under construction.
- In 2023, there was a 35% decrease from the previous year on new project commencements.
- Apart from the surge in overall vacancies, high capital costs are contributing to the decline in new project volumes.
- In Canada, as of Q4 2023, approximately 10.5 million sq.ft. of office space is under construction, with Vancouver and Toronto accounting for approximately 9.7 million sq.ft. of that space.<sup>9</sup>

Source:

<sup>14</sup> Commercial Edge: National office report, February 2024

### Key considerations

01

#### Lack of skilled workers

- The shortage of skilled labor remains a significant impediment to greenfield developments and office fit-out budgets.
- Contractors are proactively addressing this issue by engaging subcontractors early and leveraging local resources.
- Retrofitting projects require a higher level of skilled labor, necessitating meticulous resource planning.

02

#### Evolving workplace designs

- As the predictability of office space occupancy diminishes, companies are prioritizing employee well-being, which underscores the importance of design layouts.
- There is a heightened focus on integrating Environmental, Social, and Governance (ESG) principles into office layout and design, with an emphasis on creating collaborative, ergonomic, well-lit, and inclusive spaces tailored to support employee well-being.
- Designers and contractors are being challenged with delivering more sustainable and carbon neutral or 'net zero' buildings.

03

#### Supply chain complexity

- Overall, the supply chain has shown signs of stabilization compared to the past few years. However, certain timeframes for MEP (mechanical, electrical, and plumbing) equipment remain prolonged, likely due to competition from the other thriving sectors, such as data centers.

# Commodities

**Construction commodities play a crucial role in the global economy, and their prices are subject to fluctuations due to various factors such as supply and demand, economic outlook, and geopolitical events.**

In recent times, we have witnessed market corrections in commodities, providing timely relief to the construction industry.

At Linesight, we closely monitor the trends and developments in the commodities market to provide our clients with the most up-to-date and accurate information.

*Please note that commodity prices are based on representative materials available in the respective countries, and as these materials may not be standard across all markets, cross-country comparisons on prices can be ineffective. For example, asphalt types can vary between hot, cold or a bitumen price, and standard unit sizes for materials can vary across countries. Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.*



Copper



Steel rebar



Steel flat



Stainless steel



Cement



Concrete



Lumber



Bricks



Drywall



Diesel

AMERICAS



CANADA

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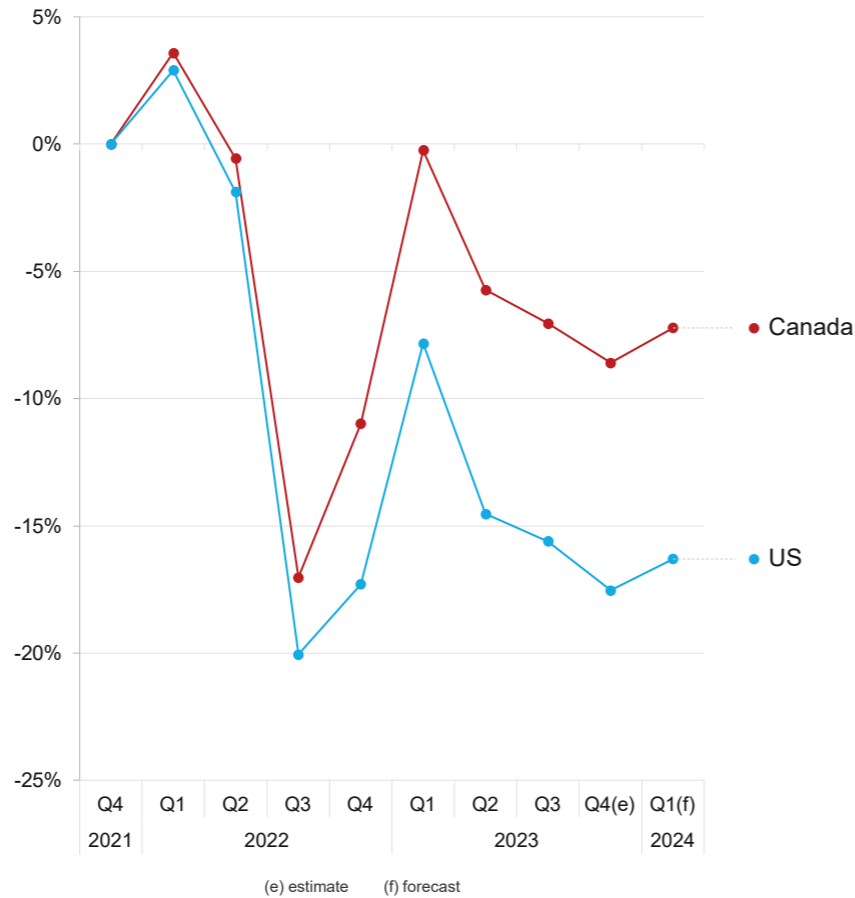
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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)



■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			↘ ≥ -1% – < -5%
			↓ ≥ -5%

Past trend

Copper prices in North America have been subject to ongoing volatility in recent months. On a YoY basis, Q4 2023 prices show a 3% increase in Canada, while prices in the US remain nearly unchanged. Factors such as supply disruptions in Latin America, a subdued global economic outlook, and expectations of a recovery in Chinese consumption have significantly contributed to the overall fluctuation in copper prices in the region.

Current situation

On a quarterly average basis, prices trended lower in Q4 2023. Although high interest rates have dampened demand in general, the government's stimulus programs in the US have contributed to an upturn in industrial and infrastructure construction activity.

Future outlook

In Q1 2024, copper prices are expected to experience a moderate increase of 1.5% on a QoQ basis in both the US and Canada. Weak global demand amid high interest rates and sluggishness in China's economy has kept copper prices relatively low, and no significant changes are expected over the coming quarters. Longer term, though, price support will come from significant investment in electric vehicles and renewable energy projects.



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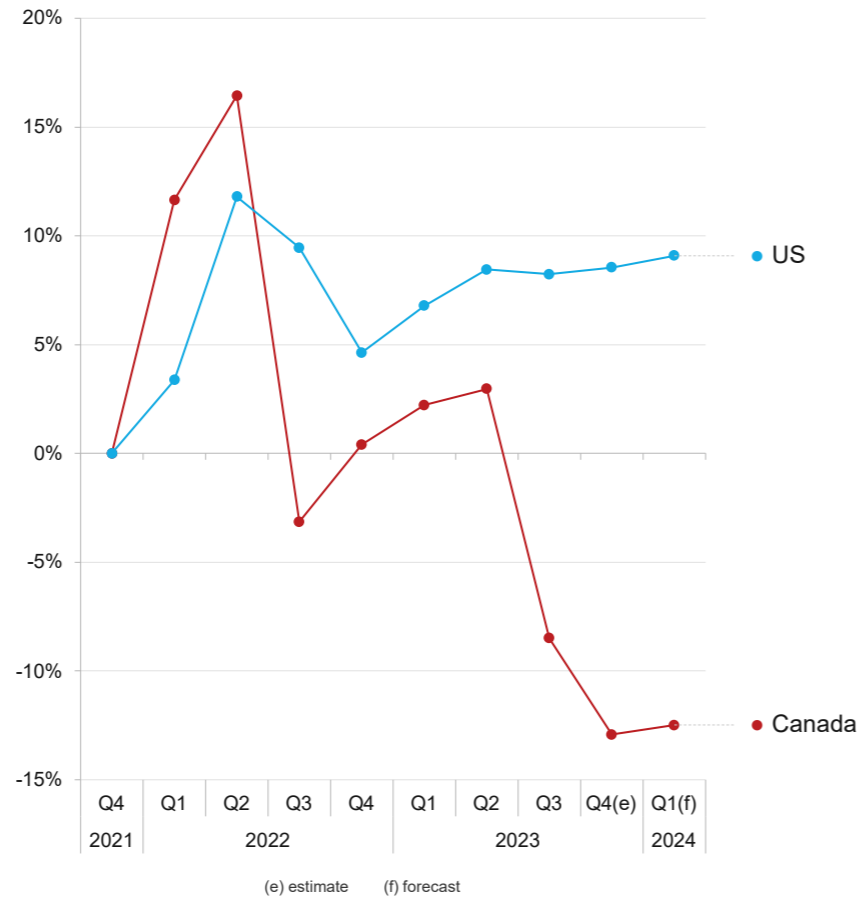
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Price change comparison against Q4 2021



YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)



■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			↘ ≥ -1% – < -5%
			↓ ≥ -5%

Source: Global Data

Past trend

Amid supply chain disruptions and increased energy costs, rebar prices peaked in H1 2022 and then began to decrease. The decline in prices was more pronounced in Canada compared to the US. However, in the US, prices started picking up again from Q1 2023, driven by demand generated from the industrial and infrastructure sectors as a result of various government programs. On YoY basis, in Q3 2023 there was a 1% decline in prices in the US, while this number for Canada was 6%.

Current situation

Rebar prices have remained relatively stable on a quarterly average basis in both the US and Canada. Despite a downturn in housebuilding, there is momentum in other key construction sectors, particularly in the US. Additionally, stability on the supply side, along with easing production costs, are helping keep prices in check.

Future outlook

Steel rebar prices are expected to stay flat in the upcoming quarters, aided by easing production costs and cheaper imports from Asia. However, demand from infrastructure projects will exert some upward pressure on prices.



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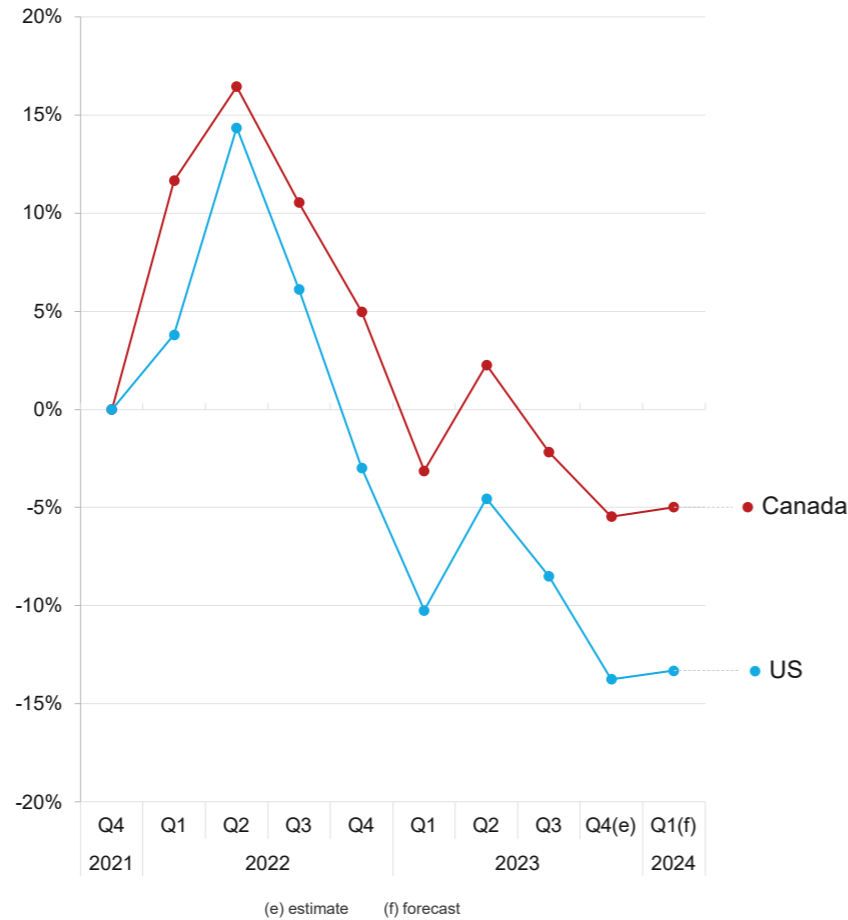
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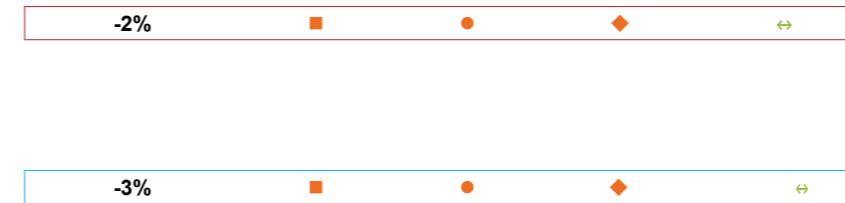
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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)



■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			↘ ≥ -1% – < -5%
			↓ ≥ -5%

Past trend

For steel flat, prices remain below the highs of 2022, but still much higher than levels seen in early 2021. However, there has been some volatility in prices in recent quarters, driven by fluctuating demand from the manufacturing sector.

Current situation

Due to stability on the supply side and an auto industry workers strike in September in the US, flat steel prices dropped by 6% in the US and 3% in Canada on a QoQ basis in Q4 2023.

Future outlook

Strong demand and periodic supply disruption will keep prices around current levels in the coming quarters.



# Commodities Stainless Steel

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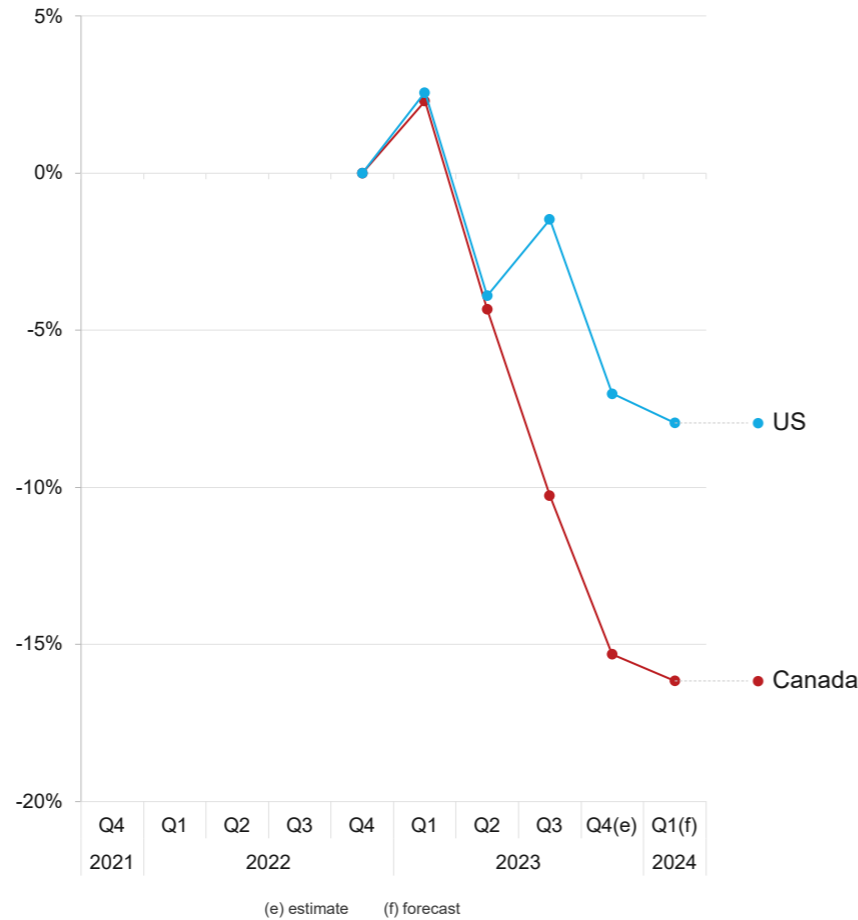
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Price change comparison against Q4 2022



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)	-10%	Balanced	Adequate	Q2 - Q3 '24 (f)



■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↔ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			↘ ≥ -1% – < -5%
			↓ ≥ -5%

### Past trend

Due to falling input material prices owing to a surplus in supply, stainless steel prices have been decreasing in Canada since Q1 2023. In the US, there has been some volatility attributed to the expansion in industrial construction, but overall, prices are on a declining trend.

On a YoY basis, in Q4 2023, stainless steel prices in Canada experienced a 15% decrease, while in the US, this decline was 7%.

### Current situation

On a QoQ basis in Q4 2023 stainless steel prices fell by 6% in both countries. The continued low prices are attributed to falling raw material costs, and this trend is anticipated to persist in the upcoming quarter.

### Future outlook

Prices are expected to decline in Q1 2024, albeit at a slower pace. Stronger demand from the expanding industrial construction sector is likely to prevent a further decline in prices in the US.

Additionally, Canada's industrial sector is expected to pick up, making the decline less gradual. Moreover, production levels will be scaled back to provide support.



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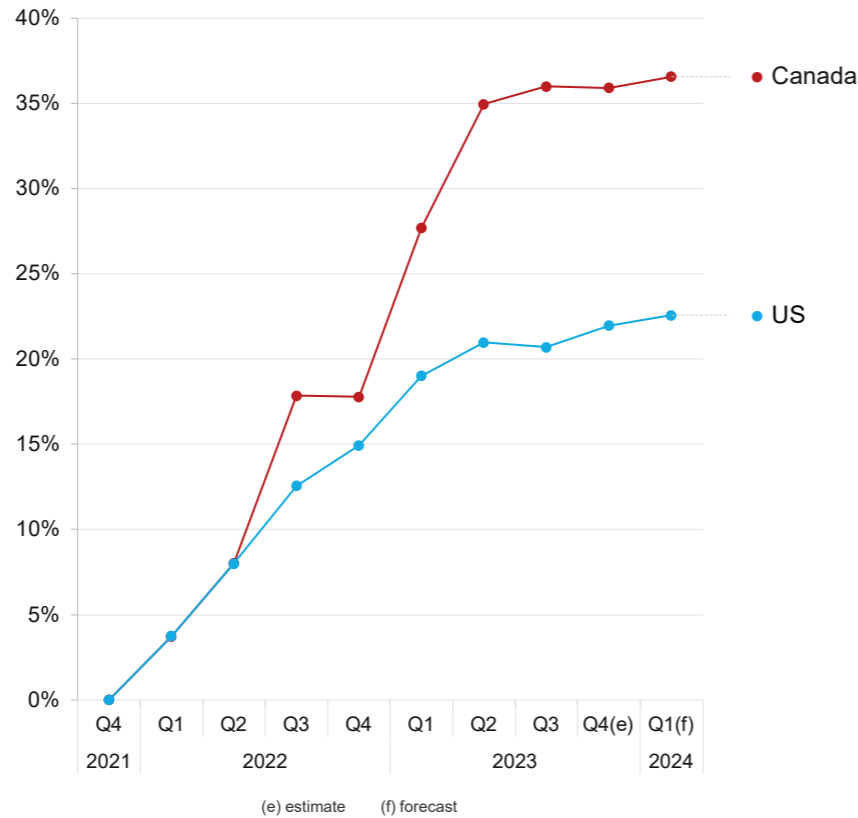
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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)

7%	■	●	◆	➔
----	---	---	---	---

3%	■	●	◆	↔
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■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	➔ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			➔ ≥ -1% – < -5%
			↓ ≥ -5%

Past trend

In 2022, rising production costs due to inflationary pressures kept cement prices high. Despite falling energy prices, cement prices remained elevated because producers were unable to pass on the benefit of the decrease due to previous losses.

On a YoY basis in Q4 2023, cement prices were 7% higher in the US and 15% higher in Canada.

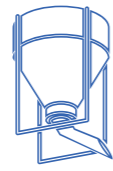
Current situation

On a quarterly average basis, prices remained almost flat in Q4 2023, amid a weak residential sector, contrasted by growing demand from the industrial, energy and infrastructure sector.

Future outlook

Although housebuilding activity has been weak, there has been solid demand stemming from rising construction activity in the infrastructure, industrial and energy sectors.

Given the outlook for positive growth in these sectors, cement prices are expected to remain close to current levels in the coming quarters. Higher costs due to increased environmental regulations on production will also be a factor that will prevent a sharp reversal in the inflationary trend recorded since late 2021.



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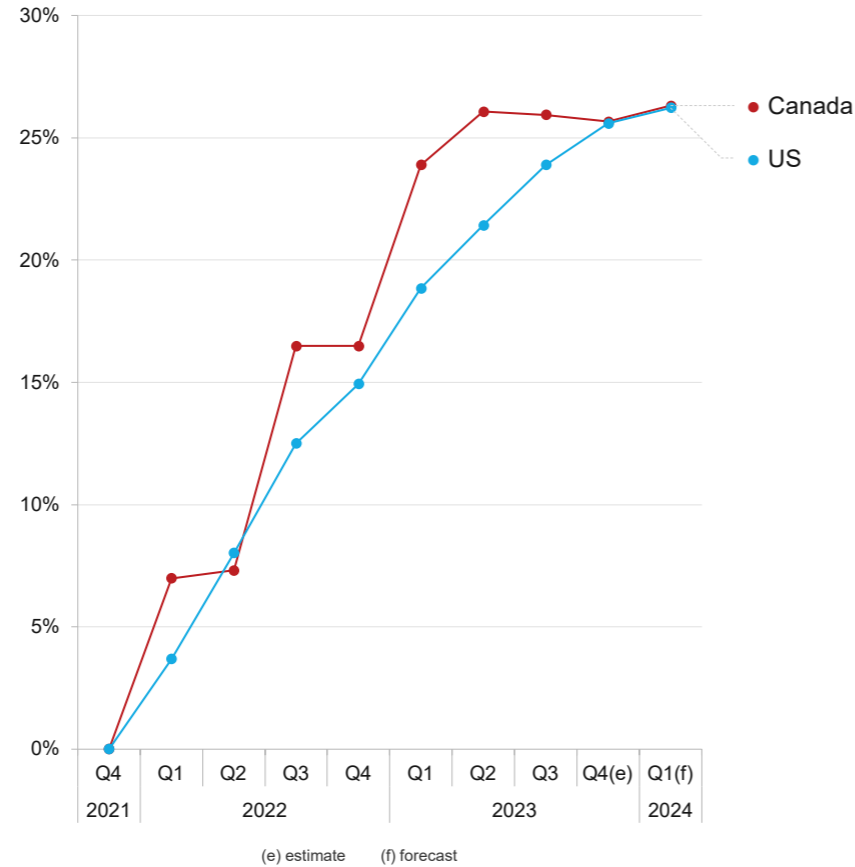
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Price change comparison against Q4 2021



YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
2%	■	●	◆	➔
6%	■	●	◆	↔

Past trend

Concrete prices have mirrored the trends of cement prices and have remained elevated. On a YoY basis in Q4 2023 concrete prices were 9% higher in the US and 8% higher in Canada.

Current situation

On a quarterly average basis concrete prices have remained largely flat, amid weak housebuilding activity contrasting with a strong demand emerging from the infrastructure, energy and industrial sectors.

Future outlook

Following the trend of cement prices, concrete prices are expected to experience a slight increase in Q1 2024. As supply adjusts to meet demand in the following quarters, prices in the US are anticipated to remain stable, while in Canada, prices may see a slight downward trend.

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	➔ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% - < 1%
			➔ ≥ -1% - < -5%
			↓ ≥ -5%

Source: Global Data



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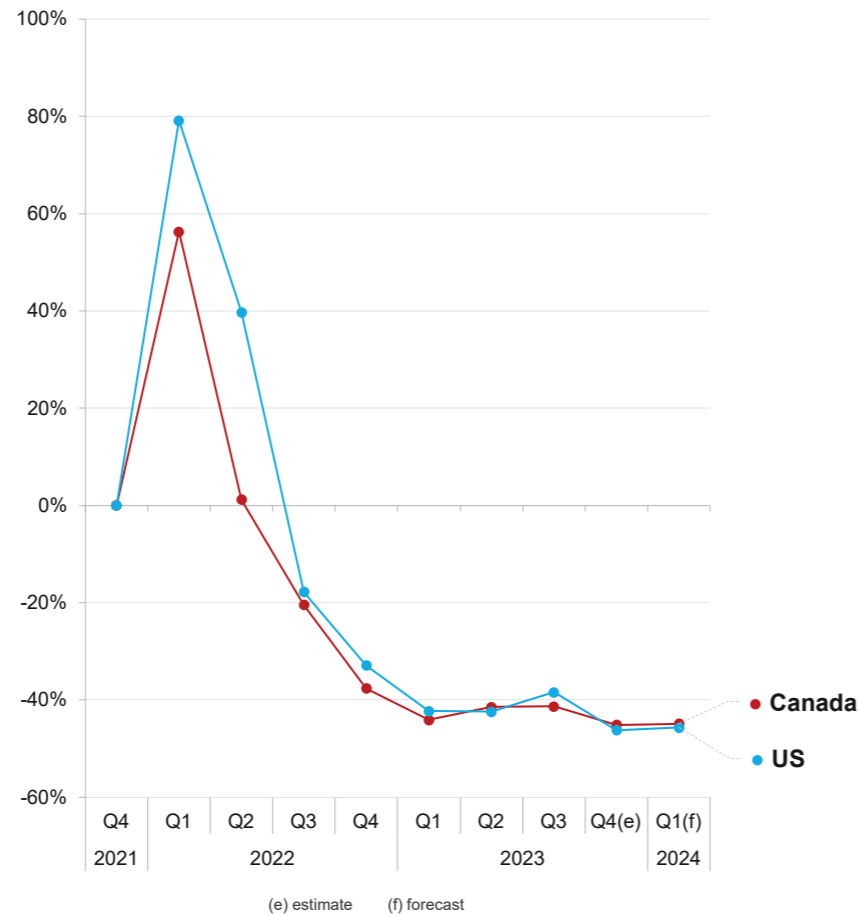
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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)	-1%	Balanced	Stressed	Q2 - Q3 '24 (f)

-1%	■	●	◆	↔
-6%	■	●	◆	↔

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			↘ ≥ -1% – < -5%
			↓ ≥ -5%

Past trend

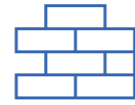
Lumber prices have been declining since Q1 2022, primarily driven by weakness in the residential sector. While there has been some volatility in the last few quarters, price movement has been minimal compared to the significant swings recorded in recent years.

Current situation

Lumber prices experienced a 6% decline in Canada on a QoQ basis in Q4 2023, while the dip was more pronounced in the US at around 13%. However, minimal price movement is anticipated in the coming quarters.

Future outlook

Demand in general is set to remain weak given the ongoing sluggishness in housing construction. However, on a QoQ basis, lumber prices are expected to see a slight increase, and then remain stable in the coming quarters.



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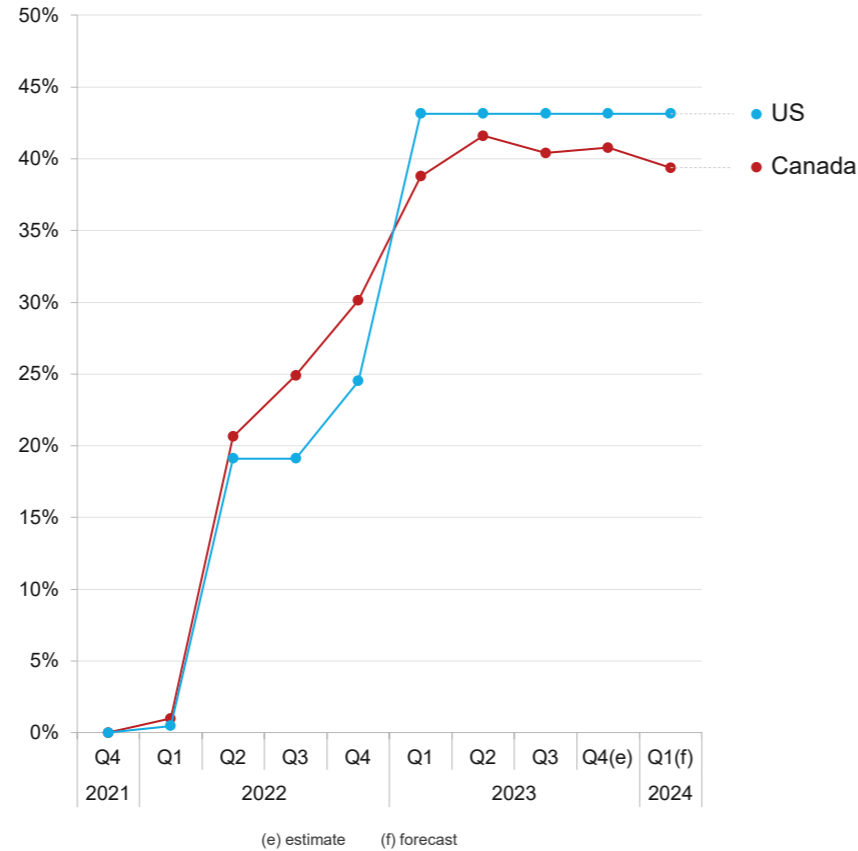
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Price change comparison against Q4 2021



YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)

0%	■	●	◆	➔
0%	■	●	◆	➔

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	➔ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			➔ ≥ -1% – < -5%
			↓ ≥ -5%

Source: Global Data

Past trend

Despite sluggish housebuilding activity, brick prices remained persistently high in early 2023, with producers failing to pass on the easing production costs to consumers in recent quarters. In comparison to Q4 2021, brick prices have surged by 41% in Canada and 43% in the US.

Current situation

On a quarterly average basis in Q4 2023, brick prices have remained stable but elevated. In Q1 2024, a marginal dip is expected in Canada, while no change is anticipated in the US.

Future outlook

After remaining elevated for an extended period, the weakness in the residential sector may lead to a gradual decline in brick prices in the coming quarters.

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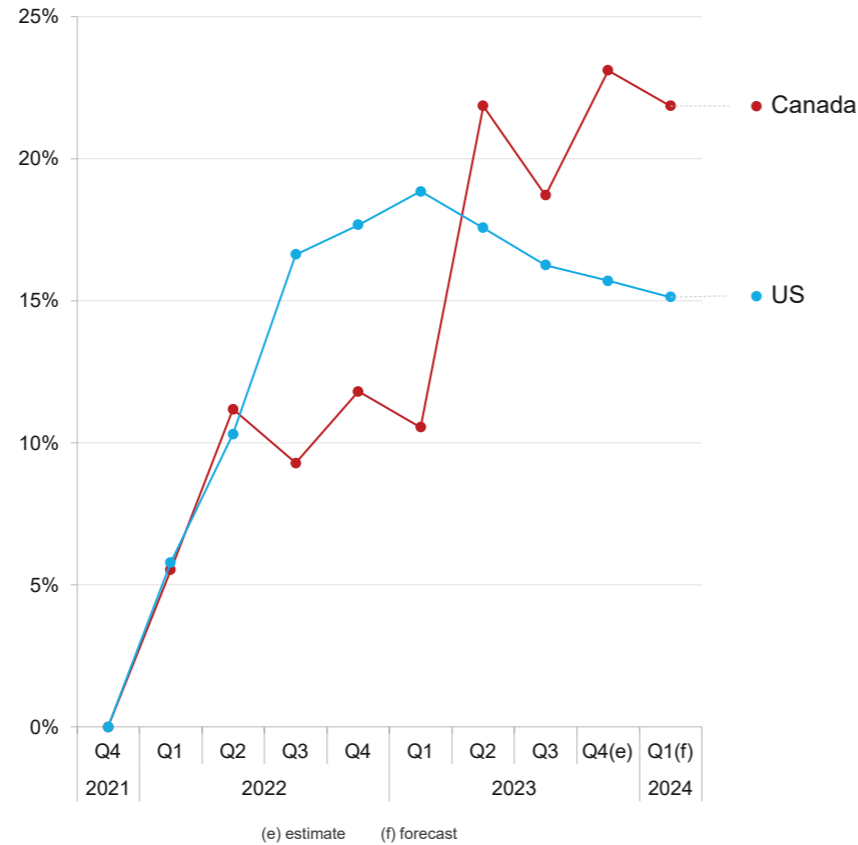
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**Price change comparison against Q4 2021**



YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)

10%	■	●	◆	↔
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-3%	■	●	◆	↔
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■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			↘ ≥ -1% – < -5%
			↓ ≥ -5%

Source: Global Data

**Past trend**

Drywall prices have shown an increasing trend since Q2 2022. While in the US prices started on a downward trajectory from Q1 2023 onwards, amid demand-side weakness and a decline in input costs, in Canada, they have remained elevated.

Despite some volatility in the last few quarters, prices are still at their peak. Producers, however, have not yet lowered prices despite a decline in production costs and weakened demand from the residential sector.

**Current situation**

In Q4 2023, there was a 4% increase in drywall prices in Canada, while prices in the US remained largely stable on a QoQ basis.

On a YoY basis, prices in Canada are still elevated, being 10% higher than Q4 2022, whereas US prices are 3% lower.

**Future outlook**

With residential construction activity weakening, prices are expected to follow a steady decline in the coming quarters in both countries.





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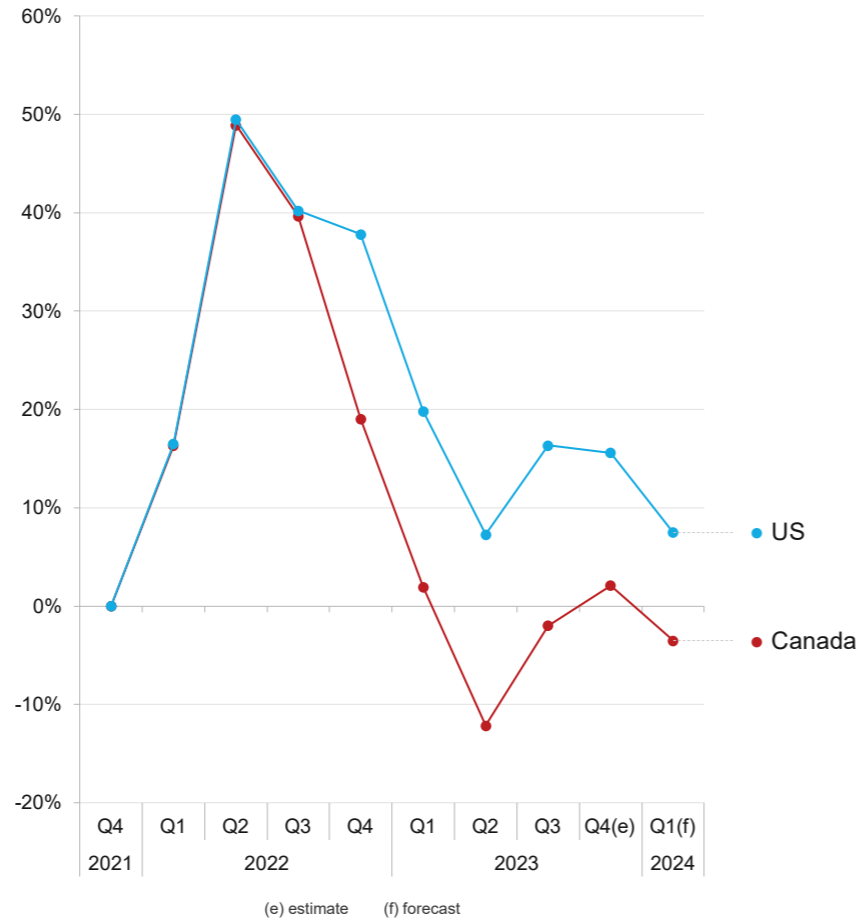
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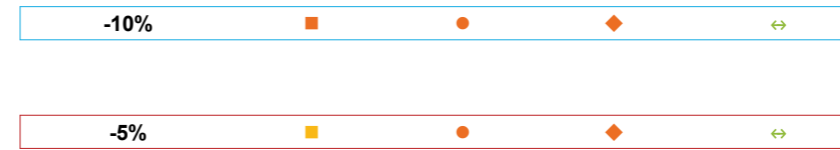
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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)



■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↔ ≥ 1% – < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% – < 1%
			↔ ≥ -1% – < -5%
			↓ ≥ -5%

Past trend

As supply chain disruptions eased, diesel prices declined from their peaks in Q2 2022. On a YoY basis, diesel prices were 39% lower in Canada and 22% lower in the US in Q3 2023. However, there has been some volatility in prices in the last few quarters, driven by the risks of supply chain disruptions.

Current situation

There has been a marginal dip in the diesel prices in the US but the Canadian market has witnessed an increase of 4% in prices on a quarterly average basis in Q4 2023. It's worth noting that prices dropped through the quarter, notably falling by around 6% in December.

Future outlook

Average quarterly prices in the US and Canada are likely to drop by 7% and 5.5% respectively and prices are likely to remain close to the levels seen at the end of December. In Canada, however, there is a risk of renewed volatility, with weakness on the demand side being offset by potential disruption in supply. Despite a generally weak global demand, OPEC+ production cuts have contributed to upward pressure on global crude oil prices, and geopolitical risks in the Middle East will add further upward pressure on prices.

# Methodology

## Linesight has commissioned independent global research to track construction activity, materials and commodity prices.

The approach and methodology for the collection of construction material pricing and other indicators is based on primary and secondary research.

### Primary and secondary research

Primary research is conducted on a quarterly basis with stakeholders in the value chain, including manufacturers and suppliers/distributors of the target materials, to ascertain market information on prices in recent quarters, and also on projections for changes in the coming quarter and remainder of the year. The market analysis also involves a thorough assessment of secondary sources of data on materials and labor prices, in addition to underlying demand and supply trends that will impact market prices.

Sources include GlobalData's Construction Intelligence Center (CIC), the World Bank, IMF, OECD, as well as country specific national statistics offices, such as the U.S. Bureau of Economic Analysis, Bureau of Labor Statistics, and also industry specific associations and publications.

### Definitions

- All commodities are raw materials
- Nominal data series do not exclude changes in prices and are also referred to as current prices series. Annual changes in nominal data for construction output will include changes in construction activity, as well as changes in costs for materials and equipment.
- Real data series are calculated by keeping prices constant (so, are also referred to as constant price series), and therefore, they reflect changes in activity only. Growth rates in nominal terms can overstate the pace of growth in construction activity if there is high inflation stemming from rising prices for key inputs.
- Level of impact rating reflects a combination of factors: price change (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.
- The key site locations and their respective project values indicated in the sector maps are based on information sourced from the Global Data Intelligence Center and data available in the public domain at the time of writing this report. These maps are indicative only and do not represent the exact project values.

### Abbreviations

QoQ	Quarter on Quarter
YoY	Year on Year
MoM	Month on Month
GDP	Gross Domestic Product
CPI	Consumer Price Index (wherever not specified)
e	estimated
f	forecasted
EV	Electric Vehicles
DC	Data Center

### Disclaimer

The construction market insights report contains information, data, and analysis related to the construction industry. While we strive to provide accurate and up-to-date information, it is important to note that the commodity market is subject to various factors, uncertainties, and changes that may impact the accuracy or reliability of the report's contents.

Linesight assumes no responsibility or liability for any inaccuracies, errors, omissions, or losses that may arise from your reliance on the information presented in the report. It is essential that users exercise their independent judgement, conduct their own research, and seek professional advice before making any decisions based on the information contained within the report.

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## Acknowledgements

Linesight wishes to thank all who took the time to contribute to this report including but not limited to:

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