



Australia

Country Insights and Commodity Report

Q3 2022



Australia

Q3 2022

In its latest update, the International Monetary Fund (IMF) has forecast 3.8% economic growth for Australia in 2022, before a marked slowdown to a rate of 1.9% next year. Inflationary pressures remain, with a rate of 6.5% expected to round out the year before 4.8% will be seen in 2023. The Reserve Bank of Australia (RBA) has taken a similarly aggressive approach to interest rates as that of many other central banks around the world, which is beginning to be reflected in a slowdown in household spending.

Construction output is expected to come in at 4.3% for the 2022 year in real terms, before easing off slightly in 2023 and in subsequent years. Inflation and interest rates, elevated material and labour costs, supply chain challenges and spiking energy prices are all weighing on the industry, with construction costs in particular having a significant bearing on the viability of some projects.



John Carleton
Director – Australia | New Zealand
john.carleton@linesight.com



Brian Coyle
Director
brian.coyle@linesight.com



Lumber

Lumber prices are expected to remain elevated this year, with persistent supply chain disruption further exacerbating shortages. The total number of dwellings under construction in Australia reached a record high in Q1 2022 and leading indicators suggest this may have been repeated in the June quarter. Further upwards price pressure will come from the imposition of the 35% import tariff on lumber products from Russia and Belarus, which account for a significant proportion of its imported laminated veneer lumber and engineered wood products. In the long term, supplies of lumber are expected to remain tight, despite the Labor government's AU\$86 million investment in plantations, with the development of new plantations stagnant over the last two decades, according to the Australia Forest Products Association.



Cement and aggregates

While new construction activity is expected to slow towards the end of this year, tight supply and rising rates of inflation are expected to drive marginal price growth in the second half of the year. Rising energy costs will further contribute to this increase in prices, with the energy-intensive manufacturing process increasing in cost. Disruption to supply chains and elevated shipping rates, as demand and fuel prices rise, will tighten the availability of cement clinker, further driving up the cost of domestically manufactured cement.



Concrete blocks and bricks

Concrete block and brick prices are expected to continue to rise across the second half of the year. Driving this increase in prices will be a rise in manufacturing costs due to elevated energy prices, continued disruption

to supply chains, particularly in China, and multi-year high rates of inflation. With the RBA aggressively hiking interest rates and new residential construction approvals beginning to regress, brick demand and prices will begin to moderate in the first half of 2023.



Steel (rebar and structural)

With global demand for steel moderating as economic growth stalls, and Chinese output cuts in the winter expected to have only a minimal effect on global output, a surplus of supply is anticipated to result in a decline in the price of steel in the second half of the year and into 2023. The collapse of activity in the Chinese residential sector is expected to be the most significant drag on global demand. While steel demand in Australian construction and rising inflation rates will exert some upwards pressure on steel prices domestically, a tighter credit environment and falling building approvals will begin to dampen domestic demand, as the Reserve Bank of Australia tightens policy.



Copper

Following its peak of US\$10,730 per metric tonne on the London Metal Exchange in March, copper was down almost 30% by early October. Rising inflation rates, a near universal tightening of monetary policy globally and the increasing strength of the US dollar have all exerted significant downwards pressure on copper prices, which is exacerbated by the continued downturn in activity in the Chinese residential sector. Upside risk for copper prices in the short-term include a strengthening of demand in China as its substantial increase in infrastructure construction gains pace, low global copper inventories and an increase in demand in Australia as part of Labor's Powering Australia plan to improve the electricity grid. In the longer-term, copper prices are expected to increase significantly, with Goldman Sachs forecasting a price of US\$15,000 per MT by 2025, as the green energy transition intensifies.

Australia – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	AUS\$	AUS\$	2021-22* % change	% change
Copper (AU\$/MT)	11,672	13,352	-12.6% ↓	-16.6% ↓ ●
Steel rebar (AU\$/MT)	843	1,020	-17.4% ↓	-17.5% ↓ ●
Steel flat (AU\$/MT)	823	1,088	-24.3% ↓	-17.7% ↓ ●
Lumber (AU\$/M3)	141	131	7.7% ↑	3.6% ↑ ●
Asphalt (AU\$/MT)	1,616	1,261	28.2% ↑	11.1% ↑ ●
Limestone (AU\$/MT)	50	50	0.5% ↑	-16.7% ↓ ●
Cement (AU\$/MT)	529	484	9.4% ↑	1.2% ↑ ■
Concrete (AU\$/M3)	332	320	3.6% ↑	0.8% ↑ ■
Welded mesh (AU\$/unit (a))	122	97	25.7% ↑	0.0% ↔ ■
Bricks (AU\$/'000 unit)	1,701	1,556	9.3% ↑	0.3% ↑ ●
Plasterboard (AU\$/unit (b))	37	35	6.5% ↑	2.2% ↑ ●
Diesel (AU\$/litre)	2.15	1.46	47.4% ↑	1.0% ↑ ●

(a) 600x240cm, dia.-6mm
(b) 300x120x1cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	+2.3% ↑	 High	Copper prices are expected to have fallen in Q3 2022, and growth will slow further in Q4 and into 2023. The continued downturn in residential activity in China, slowing industrial activity in the US and Europe, coupled with a significant weakening of global currencies against the US dollar are the principal factors driving down prices. Chinese infrastructure spending and domestic grid infrastructure spending may exert some upwards pressure on prices towards the end of the year, though this is unlikely to be sufficient to cause any significant increase. In the long run, copper prices are set to rise substantially as the energy transition accelerates and EV manufacturing intensifies, with the increase in demand expected to greatly outweigh that of supply.
 Steel prices - Steel rebar - Flat steel	-0.6% ↓ -2.1% ↓	 Moderate	A slowing of global demand and limited winter output in China are anticipated to result in a fall in the price of steel across the second half of the year. The sharp downturn in construction activity in China is expected to be the most significant drag on demand, with it typically accounting for approximately of 35% of China's steel consumption. Rising inflation and demand from Australian construction will exert some upwards pressure on domestic prices. However, with the RBA aggressively hiking rates and residential building approvals falling, this demand is expected to ease.
 Lumber	+2.6% ↑	 Moderate	Lumber prices are expected to rise across the second part of the year as supply remains tight due to disruption to supply chains and the aforementioned import tariff on conflict timber from Russia and Belarus. Given the proportion of laminated veneer lumber and engineered wood imports from Russia and Belarus used in the Australian commercial and residential sectors, this demand will underpin price growth this year. Lumber prices may, however, begin to moderate into the first half of 2023, as construction activity in Australia weakens.
 Asphalt	+0.5% ↑	 Moderate	Asphalt prices are thought to have increased by over 10% QoQ in Q3 and are expected to continue to rise into Q4. This is largely attributable to the currently elevated price of crude oil, which is expected to rise further following OPEC+'s decision to cut output by 2 million barrels per day on October 5th. Further upwards pressure on asphalt prices will be generated by the Australian government's significant project pipeline of infrastructure construction. However, with some projects being postponed, such as the Beaches Link tunnel in NSW, this pressure may begin to ease.

Australia – Commodity Report



AIQS Building Cost Index 2019-2023(f)

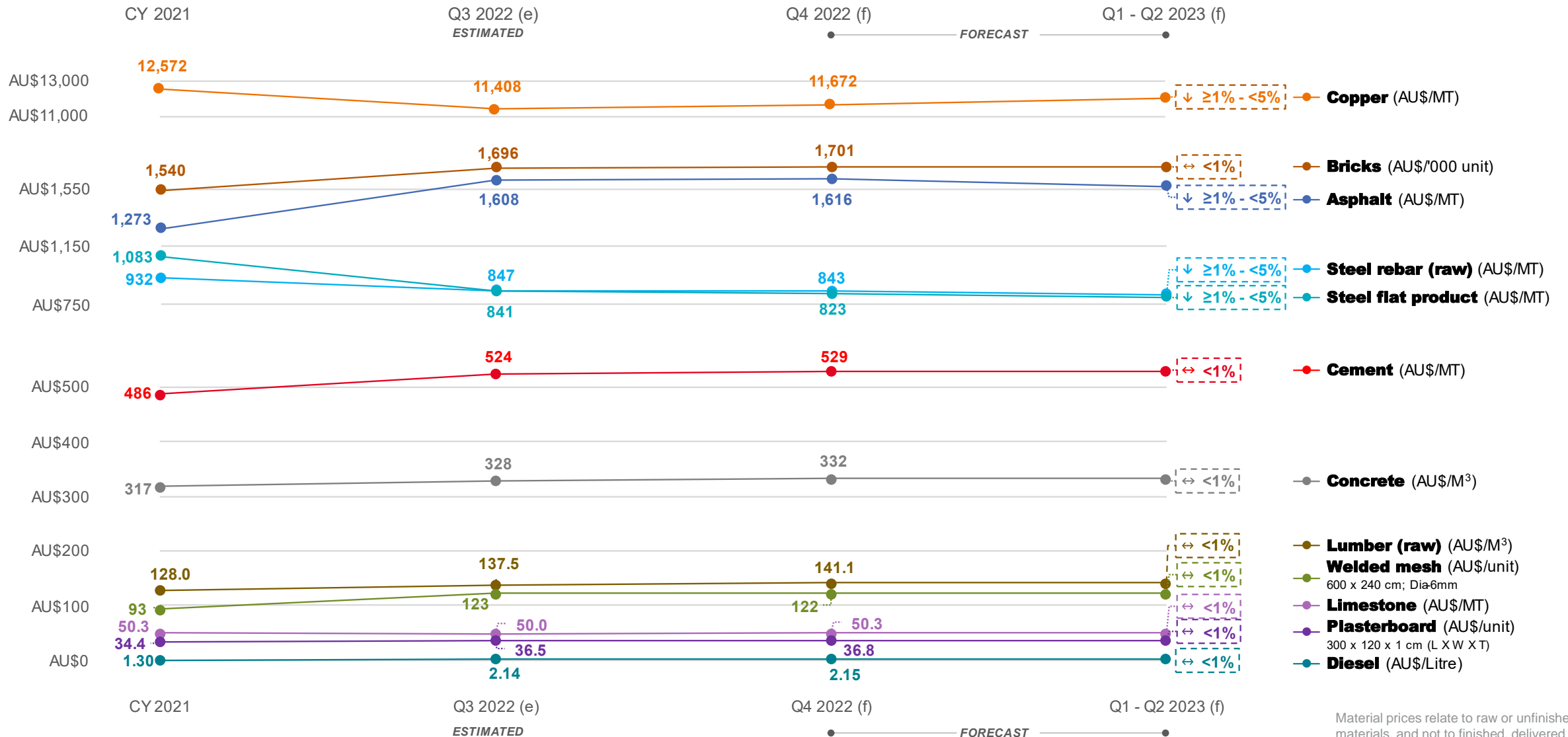
Jul-23 (f)	372
Apr-23 (f)	366
Jan-23 (f)	360
Oct-22 (f)	353
Jul-22	347
Apr-22	341
Jan-22	337
Oct-21	333
Jul-21	330
Apr-21	327
Jan-21	325
Oct-20	323
Jul-20	322
Apr-20	321
Jan-20	318
Oct-19	316
Jul-19	313
Apr-19	311
Jan-19	308

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+1.1% ↑ +1.0% ↑	Moderate	Cement prices are thought to have risen marginally QoQ in Q3 2022, with demand from civil engineering exacerbating tight supply. Given the energy intensity of its production, increased energy costs are expected to lead to a further price rise in Q4 2022 and into 2023.
 Limestone	+0.5% ↑	Moderate	Following the sharp increase early in the year, prices are expected to remain relatively stable through 2022, as demand remains balanced.
 Welded mesh	-0.5% ↓	Moderate	While welded mesh prices are expected to fall marginally in the second half of the year, they are not expected to decrease to the same degree as steel. However, as construction activity in Australia slows, downwards pressure on prices may begin to build into the first half of 2023.
 Bricks	+0.3% ↑	Low	Brick prices are estimated to have risen moderately in Q3 2022 and this is expected to continue into Q4. Further upwards pressure on prices will be generated by supply chain disruptions, particularly in China, and the increasing cost of energy. With the RBA aggressively tightening policy and residential approvals beginning to slow, towards the end of 2022 and into 2023, brick demand will begin to dampen, moderating price growth. Prices of plasterboard are expected to remain relatively stable in the coming quarters, appreciating slightly as inflation intensifies.
 Plasterboard	+0.7% ↑	Low	
 Diesel	+0.5% ↑	Moderate	The temporary excise cut on petrol and diesel came to an end on the 29th September 2022, with the full fuel excise of 46 cents per litre (Cpl) now reintroduced. In addition to the related increase in the GST, Australian consumers will be paying a 25.3 Cpl increase in taxes on diesel. Further upwards pressure on prices is expected to be generated by the decision by OPEC+ to cut production by 2 million barrels per day.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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.

Australia – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Australia – Macroeconomic overview



Economic indicators



3.84%

GDP growth in 2022 (f) and **1.48%** in 2021



6.23%

inflation rate in 2022 (f), and **2.86%** for 2021



12.6M

people employed in 2022 (f) and **12.32M** in 2021



4.2%

unemployment rate for 2022 (f) and **5.1%** in 2021



132

Consumer Price Index in 2022 (f) and **124.27** in 2021



120

Producer Price Index in June 2022 and **113.60** in June 2021

National holidays



7 public holidays







in Australia each year. All other public holidays are individually declared by the state and territory government.

- New Year's Day (1 January)
- Australia Day (26 January)
- Good Friday (15 April)
- Easter Monday (18 April)
- Anzac Day (25 April)
- Christmas Day (25 December)
- Boxing Day (26 December)

Australia – Macroeconomic overview



Output 2021 and 2022 (in millions)

	Total 2021	Total 2022 (f)	% change
Commercial 	AU\$37,8645	AU\$39,869	5.3%
Energy and utilities 	AU\$46,739	AU\$49,517	5.9%
Industrial 	AU\$17,505	AU\$18,083	3.3%
Infrastructure 	AU\$39,118	AU\$41,076	5.0%
Institutional 	AU\$18,742	AU\$19,417	3.6%
Residential 	AU\$88,264	AU\$91,921	4.1%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



12

deaths in construction industry in 2021



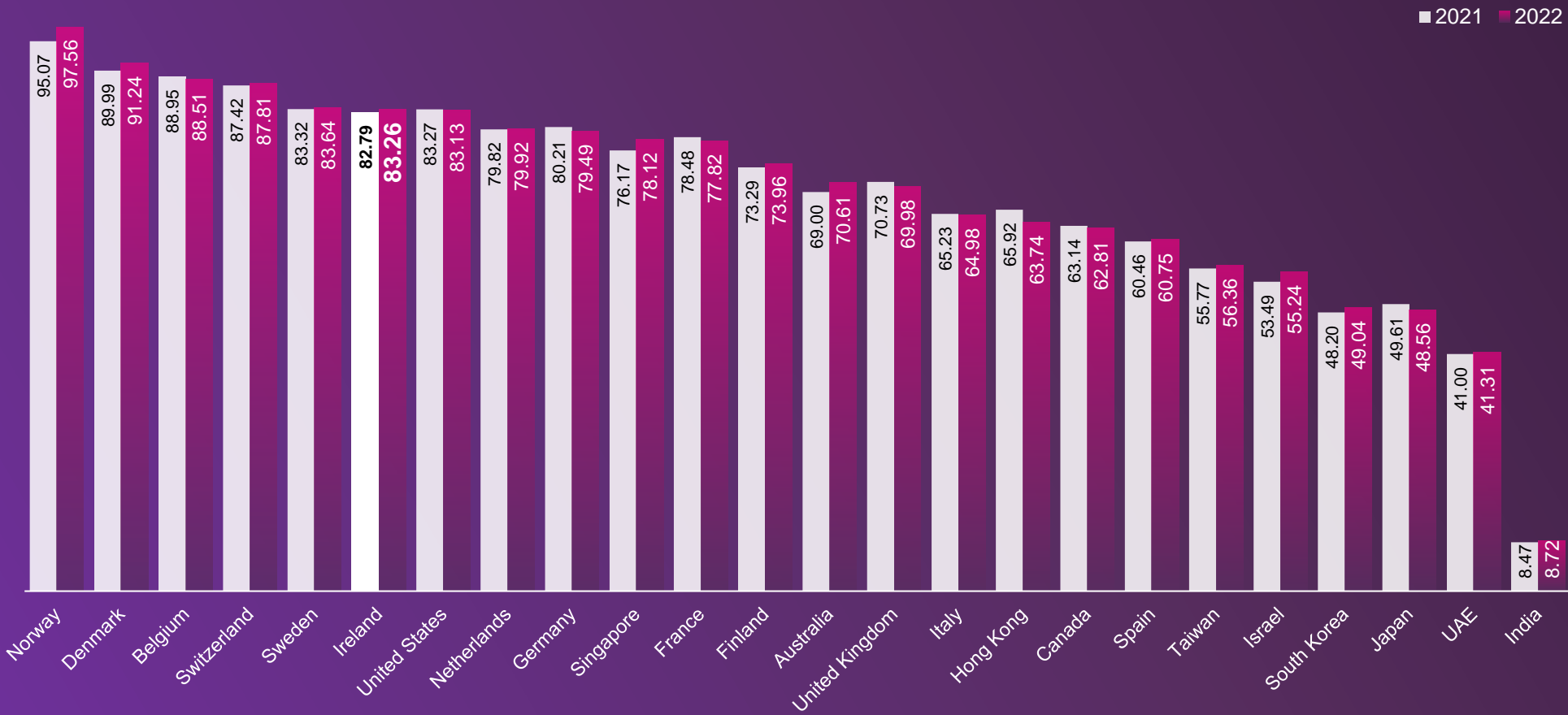
15

deaths in construction industry from January to October 6th 2022

Australia – Macroeconomic overview



Labour productivity



Labour costs



AU\$53.50

as of June 2022, compared to AU\$51.20 in June 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Australia – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Australia

For Australia, sources for this report include, but are not limited to:

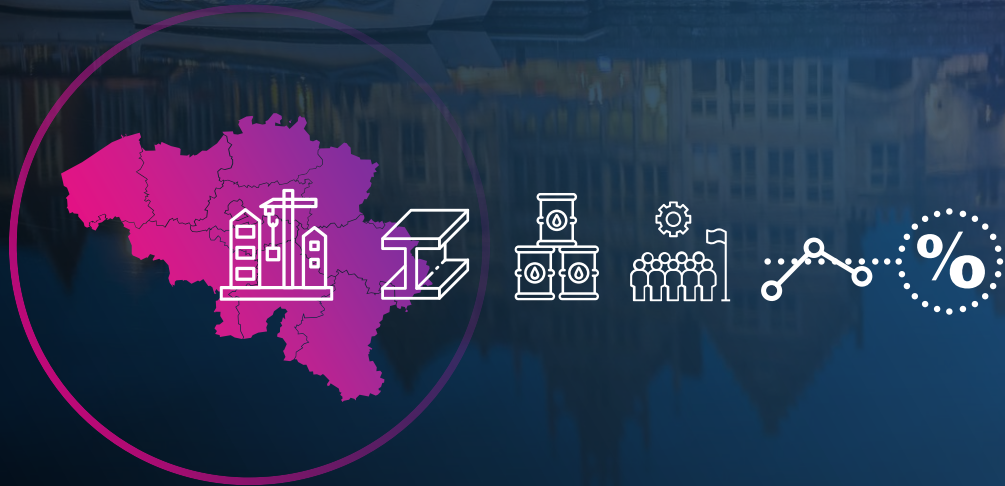
- IMF
- ABS
- AIQS
- RBA
- Safe Work Australia
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Belgium Country Insights and Commodity Report Q3 2022



Belgium

Q3 2022

Belgium is expected to record 2.37% economic growth for the full 2022-year, with more moderate expansion of 0.93% expected next year, as it grapples with the current macroeconomic factors weighing on many economies around the world. Inflation has soared this year and hit its highest level in 50 years in September – 11.27% year-on-year. For the full 2022-year, inflation of 9.16% is expected, while some stabilisation is anticipated in 2023, with 3.11% forecast. Eurostat announced earlier this year that Belgium has the highest energy inflation rate in Europe.

Following its rebound in 2021, growth momentum is slowing in the construction industry this year, and is expected to come in at around 2%, as energy prices and supply chain disruption weigh on output. High interest rates will impact project feasibility, and elevated costs for both materials and labour will also hamper industry performance. However, it is expected that market correction and stabilisation is coming.



Nigel Barnes
Head of Life Sciences - EMEA
nigel.barnes@linesight.com



David Withers
Project Director
david.withers@linesight.com



Lumber

Lumber accounts for around a 2% share of total construction production value in Belgium, which is amongst the highest in Europe. Due to the competitive nature of global lumber markets, the price is likely to be volatile over the medium term, owing to economic uncertainty and declining housing demand, as a result of rising interest rates. Demand for lumber in Belgium will remain high over the long term, owing to the growing popularity of wood as a construction material. Moreover, the usage of wood in construction is expected to aid the country's push for carbon neutrality by 2050.



Cement and aggregates

Demand for cement is likely to weaken over the coming quarters due to slowing economic growth, which will impact on construction activity. Rising interest rates coupled with high real estate prices will dampen demand for new housing in the short term, while weak investor confidence will impact the level of private investment in the industry. However, cement and concrete producers are also likely to face elevated costs over the coming quarters owing to high energy costs, which is likely to keep prices elevated despite the fall in demand.



Concrete blocks and bricks

Despite slowing activity in the construction industry expected over the coming quarters, prices for bricks and concrete blocks are likely to remain elevated due to high production and transportation costs. Brick prices have been on an upward trend since the start of 2022, due to rising production costs, coupled with rising demand amid the

recovery in buildings construction. The decline in demand owing to slowing economic growth is expected to limit further upward pressure on prices. However, due to the smaller and more localised nature of brick markets, the normalisation of prices is expected to be slower than other construction materials.



Steel (rebar and structural)

Although steel prices have fallen from recent highs, the market is expected to remain volatile over the medium term owing to downward pressure from the demand-side due to weakening economic growth, coupled with upward pressure from the supply side, stemming from supply disruptions and elevated energy costs. However, Belgium's position as a net exporter of steel will help to limit the exposure of domestic prices to large fluctuations in global pricing and reduce the risk of domestic shortages. Steel demand is expected to remain relatively high over the longer term, owing in part to the government's commitment to greater infrastructure investment.



Copper

Global copper prices are likely to remain volatile, reflecting in part the shifting pattern of consumption in China and fears of a recession hitting advanced economies, amid high energy costs and rising interest rates. Despite supply-side challenges stemming from elevated energy costs and supply disruptions feeding into the cost of producing copper, demand is likely to remain subdued over the coming quarters, which will keep prices relatively low in the short term. Over the long term, global demand for copper will be strong as it will be a key material used in EV production and renewable energy technology.

Belgium - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	€	€	2021-22* % change	% change
Copper (€/MT)	7,801	8,672	-10.04% ↓	-13.6% ↓ ●
Steel rebar (€/MT)	1,035	861	20.25% ↑	-16.8% ↓ ●
Steel flat (€/MT)	1,152	1,124	2.52% ↑	-7.8% ↓ ●
Lumber (€/M3)	113	97	17.18% ↑	3.8% ↑ ●
Asphalt (€/MT)	77	69	11.38% ↑	-2.1% ↓ ■
Limestone (€/MT)	78	56	38.07% ↑	3.0% ↑ ●
Cement (€/MT)	225	160	40.84% ↑	10.2% ↑ ●
Concrete (€/M3)	105	70	49.45% ↑	12.6% ↑ ●
Welded mesh (€/unit (a))	32	26	23.74% ↑	-14.4% ↓ ●
Bricks (€/000 unit)	641	587	9.17% ↑	3.2% ↑ ●
Plasterboard (€/unit (b))	5	4	27.77% ↑	3.0% ↑ ●
Diesel (€/litre)	1.98	1.72	14.84% ↑	-2.1% ↓ ■

(a) 200x300cm, dia.-6mm
(b) 260x60x1.3cm (LxWxT)

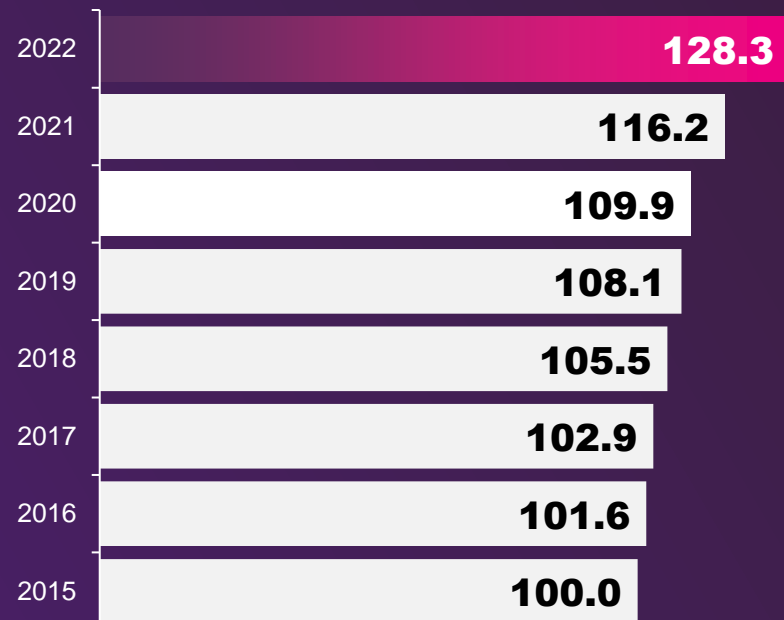
● Q2 to Q3 2022 % change greater than estimation in our Q2 report
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Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
Copper	-2.0% ↓	Low	Following the surge in copper prices in early Q2 2022, the market has weakened due to a decline in global demand amid slowing economic activity, high inflation and rising interest rates. Slower economic growth over the coming quarters will impact domestic copper demand. High energy costs feeding into the production of copper will place downward pressure on prices, which will help stabilisation in H1 2023.
Steel prices - Steel rebar - Flat steel	-2.0% ↓ -2.0% ↓	Moderate	Steel prices have been volatile this year amid mounting pressure on supply chains and the Russia-Ukraine conflict. After rising rapidly during H1, prices have retracted from highs reached in early Q2, as the market has begun to cool amid growing fears of a recession. Demand from the manufacturing and construction industries has dropped, which are anticipating a fall in output. Moreover, an increase in the supply of cheaper steel imports from Asia will exert further downward pressure on prices.
Lumber	+1.0% ↑	Moderate	The lumber market has been relatively stable in recent months due to weakening demand amid the prospect of slowing activity in the construction industry. However, prices have edged upwards marginally due to high production and transportation costs. Prices are expected to fall in early 2023 as rising interest rates begin to weigh on housing demand and homebuilding, but the growing popularity of wood as a construction material will be a factor in keeping local prices elevated over the long term.
Asphalt	-1.0% ↓	Low	Asphalt prices were exposed to upward pressure in Q2 2022, stemming from the impact of the Russia-Ukraine conflict on the crude oil market. More recently, crude oil prices have stabilised and declined from highs reached in early Q2. However, the decision by OPEC+ in early October to cut oil production is likely to cause further volatility in the global crude oil market, which could force asphalt prices high in the coming quarters.
Limestone	-1.0% ↓	Low	Limestone prices are expected to stabilise over the coming quarters as weak demand in the construction industry will offset high production costs. Prices are likely to edge downward in early 2023 as producers will become less able to pass on higher costs amid low levels of construction activity.

Belgium - Commodity Report



Construction cost index 2015-2022

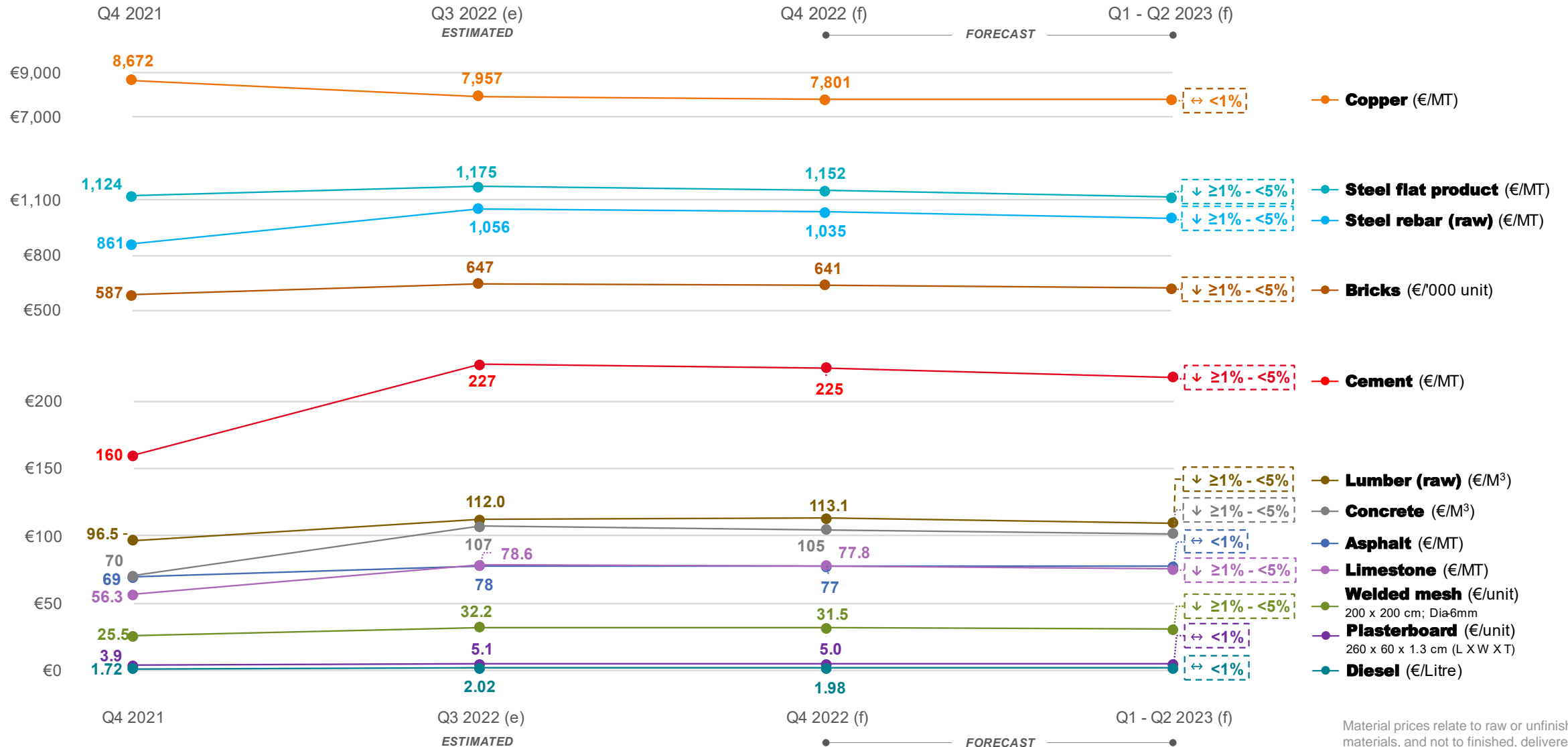


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	-1.0% ↓ -2.0% ↓	Moderate	<p>Cement prices rose sharply throughout Q2 2022 owing to the soaring cost of electricity following the onset of the Russia-Ukraine conflict. Between February and August, producer prices for cement manufacturing rose by 30%. Although prices remain elevated, further upward pressure on prices is expected to ease due to falling levels of activity in the construction industry, which will limit cement producers' ability to continue to pass on higher costs.</p>
 Welded mesh	-2.0% ↓	Moderate	<p>Owing to falling steel prices, the price of welded mesh is expected to fall over the coming quarters. Downward pressure on prices will be limited, however, due to the elevated production cost of steel products.</p>
 Bricks	-1.0% ↓	Low	<p>Surging energy costs caused brick prices to rise sharply in Q2 and Q3 2022. Although high energy costs will continue to keep prices elevated, weaker demand owing to declining levels of construction activity will contain inflationary pressures in the coming quarters.</p>
 Plasterboard	-1.0% ↓	Low	<p>Plasterboard prices have been edging upwards since Q1 2022. However, prices are set to stabilise over the coming quarters due to weakening demand. However, the high cost of raw materials and energy will ensure that prices remain elevated.</p>
 Diesel	-2.1% ↓	Moderate	<p>In line with the trend in global crude oil prices, diesel prices have fallen to the €2/litre mark after hitting a high of €2.18/litre in June 2022. However, the recent decision by OPEC+ to cut oil production could put renewed upward pressure on diesel prices in the coming quarters.</p>

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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Belgium - Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Belgium – Macroeconomic overview



Economic indicators



2.37%

GDP growth in 2022 (f)
and **6.24%** in 2021



9.16%

inflation rate in 2022 (f)
and **2.44%** for 2021



4.71M

people employed in 2022 (f)
and **4.66M** in 2021



6.02%

unemployment rate for 2022 (f)
and **6.30%** in 2021



131.93

Consumer Price Index in
2022 (f) and **120.86** in
2021



2.6%

Producer Price Index in
August 2022 and **36.2%**
from August 2021

National holidays



10 public holidays

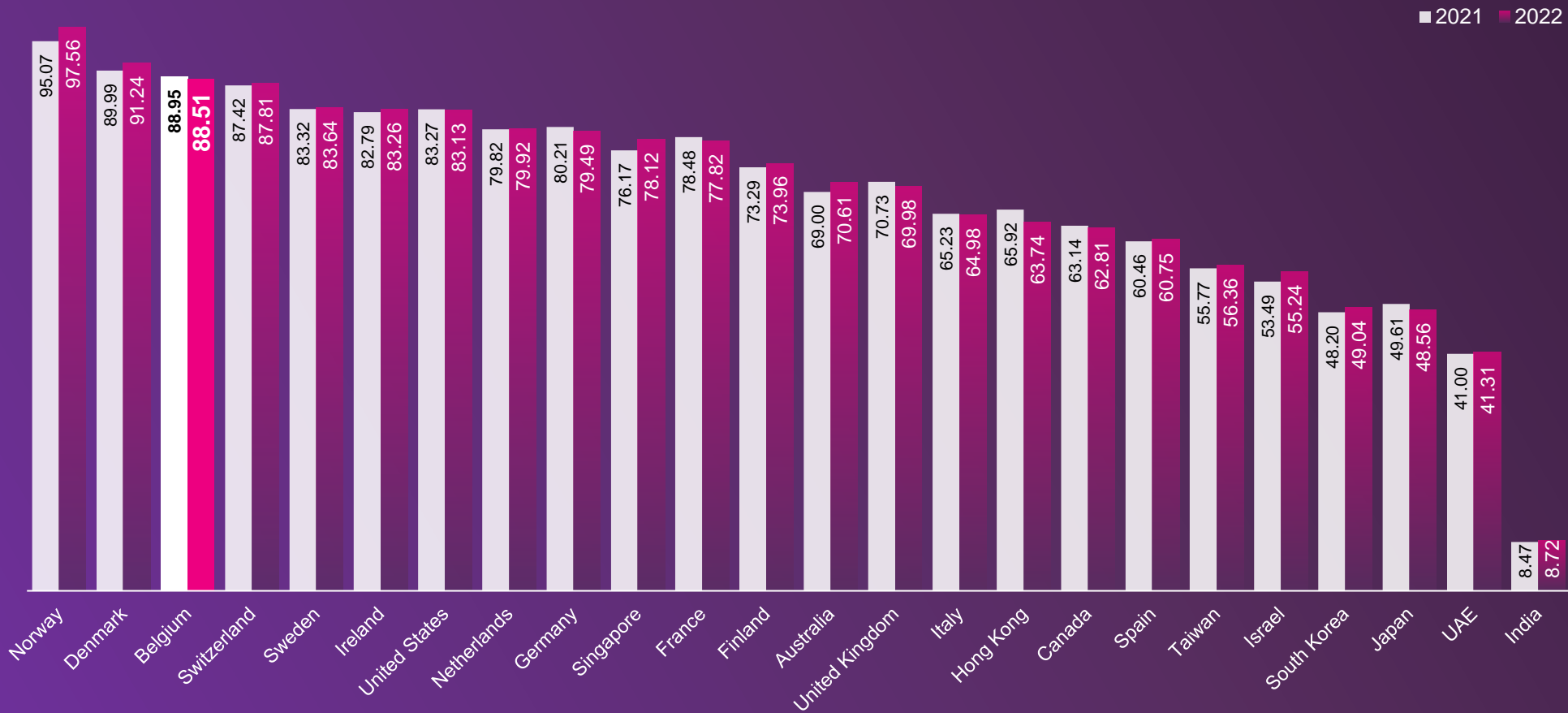
in Belgium each year.

- New Year's Day (1 January)
- Easter Monday (18 April)
- Labour Day (1 May)
- Ascension Day (26 May)
- Whit Monday (6 June)
- National Day (21 July)
- Assumption Day (15 August)
- All Saints' Day (1 Nov)
- Armistice Day (11 Nov)
- Christmas Day (25 December)

Belgium – Macroeconomic overview



Labour productivity



Labour costs









116.6pts

in Q2 2022 compared to 111.2pts in Q2 2021, and 111.7 in Q2 2020

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Belgium – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	€14,326	€14,725	2.8%
Energy and utilities 	€7,222	€7,470	3.4%
Industrial 	€5,778	€5,912	2.3%
Infrastructure 	€19,442	€20,029	3.0%
Institutional 	€5,309	€5,456	2.8%
Residential 	€39,245	€39,551	0.8%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Belgium – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Belgium

For Belgium, sources for this report include, but are not limited to:

- IMF
- Economie
- Trading Economics
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Canada

Country Insights and Commodity Report

Q3 2022



Canada

Q3 2022

While the International Monetary Fund (IMF) expects Canada to record growth of 3.3 percent this year, it projects 1.5 percent in 2023. However, Oxford Economics expects 2023 to see Canada record contraction of 3 percent in real terms. This is being attributed largely to its housing market, which is seeing a sustained boom in prices, coupled with a spike in household debt. Its inflation rate is projected to stand at 7.02 percent for the full year 2022, with 7 percent posted in August to follow July's 7.6 percent, before moderating in 2023. The central bank has raised its policy rate by 300 points since March of this year, and a further half point increase is anticipated very soon.

Following a marked recovery in 2021, Canada's construction industry is expected to post 4 percent expansion in 2022. The downside risks that are prevalent in many markets around the world are expected to weigh heavily on industry performance for the foreseeable future – high interest rates and inflation will impact the viability of projects, with energy price escalation, material prices and labor costs, and sustained supply chain disruption having a bearing.



Damien Gallogly
Vice President –
Americas West Region
damien.gallogly@linesight.com



Gavin Flynn
Vice President –
Americas Central Region
gavin.flynn@linesight.com



John Fitzgerald
Vice President –
Americas East Region
john.fitzgerald@linesight.com



Eoin Byrne
Vice President –
Americas Southwest Region
eoin.byrne@linesight.com



Lumber

Lumber prices in Canada are heavily linked to demand in the US market; 85 percent of US softwood lumber imports are from Canada. Prices have been extremely volatile over the past two years due to intensive supply chain disruption and strong residential demand. They are not expected to reach the highs seen in the past two years, as the gradual recovery in supply chains across British Columbia, after flooding and forest fires earlier this year, has eased supply tightness. On the demand side, with climbing interest rates on both sides of the border, the residential housing market in North America looks to be at a turning point, and expectations of a further slump in residential activity have added negative pressure on prices. Furthermore, the fall in the 17.99 percent US tariff to 8.59 percent will likely add competition and drive down prices.



Cement and aggregates

Demand for cement has remained relatively buoyant and continues to bear down on stocks. Plants are at full capacity and supply chain issues remain prevalent; plant fires, site closures, and hauler strikes earlier this year have amplified backlogs. In the short term, prices are likely to remain elevated. However, in the medium to long term, pressure on prices is expected to ease as the residential sector loses momentum and supply chains recover.



Concrete blocks and bricks

The drop off in crude oil prices in recent months will likely ease pressure on manufacturing costs and prices. However, OPEC+'s

recent cut to production has added to the risk that manufacturing costs will remain elevated.



Steel (rebar and structural)

Canada is a net importer of steel rebar, and 50 percent of steel supply to the construction industry is sourced domestically. Steel import costs from the US are exacerbated due to the 25 percent tariff, and with the majority of imports sourced from the US, this is a significant cost. There is potential for the tariff to be reduced along with the reduction of lumber tariffs, but this does not look likely to happen in the near future. Furthermore, the ever-appreciating US dollar will further drive-up import costs. Steel prices have stabilized after the drop-off in early summer, and with low demand due to the expected global economic slowdown and China's faltering construction industry, pressure on prices is low. However, energy input costs remain high.



Copper

Copper prices have maintained strength over the past quarter, after the rapid fall in price in early summer. The increased likelihood of a global recession, and falling demand in China due to the real estate crisis and lack of investment in infrastructure construction, is weakening pressure on prices. However, supply remains muted, with protests and strikes in Chile and Peru limiting output. Over the longer term, demand is expected to be strong, as the EV and renewable energy revolution gain momentum, putting upward pressure on prices.






Canada – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	CAS	CAS	2021-22* % change	% change
Copper (CA\$/T)	9,153	11,076	-17% ↓	-17.3% ↓ ●
Steel rebar (CA\$/T)	779	812	-4% ↓	-16.8% ↓ ●
Steel flat (CA\$/T)	2,029	2,116	-4% ↓	-16.8% ↓ ●
Lumber (CA\$/cu.ft.)	64	81	-22% ↓	-21.4% ↓ ●
Asphalt (CA\$/T)	1,246	828	50% ↑	8.4% ↑ ●
Limestone (CA\$/T)	36	32	11% ↑	0.0% ↔ ■
Cement (CA\$/T)	261	220	19% ↑	9.1% ↑ ●
Concrete (CA\$/CY)	192	164	17% ↑	8.5% ↑ ●
Welded mesh (CA\$/unit (a))	210	219	-4% ↓	-16.8% ↓ ●
Bricks (CA\$/'000 unit)	628	508	24% ↑	2.3% ↑ ●
Drywall (CA\$/unit (b))	18	16	12% ↑	-1.8% ↓ ●
Diesel (CA\$/gallon)	9.73	6.98	39% ↑	-7.0% ↓ ●

(a) 47.2x118.1 inches, dia.-0.24 inches
(b) 47.2x96.1x0.5 inches (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

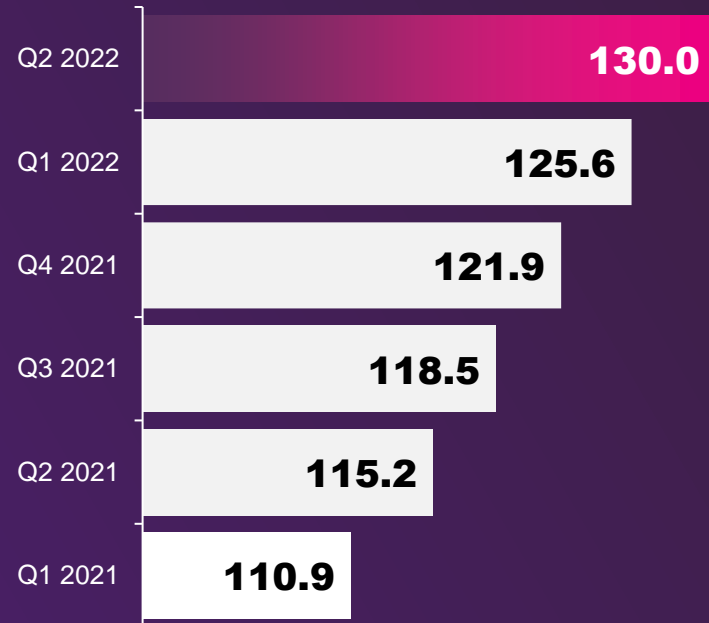
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	+0.5% ↑	Moderate	Copper prices have declined nearly 22 percent from the highs in March. Demand for copper is expected to remain fairly weak in the short term, but prices will be propped up by copper usage from emerging demand for EVs and renewable energy facilities.
 Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	Steel prices are expected to decline in 2022 due to lower demand from China and the risk of a global recession. Furthermore, with the gradual easing of supply chains, firms have been able to replenish stocks, putting further negative pressure on prices. However, an ever-stronger US dollar remains a concern for import costs.
 Lumber	-1.7% ↓	High	Prices have stabilized over the past quarter, as the subdued economic outlook has suppressed price growth. High inflation, rising interest rates, and the expected downturn in residential construction have reduced demand for lumber. The gradual recovery in the supply chain has put further negative pressure on prices.
 Asphalt	+0.5% ↑	Moderate	Asphalt prices are expected to remain elevated due to high production costs caused by OPEC+'s decision to cut production.
 Limestone	+0.2% ↑	Low	Mining for limestone and primary aggregates has been stable in Canada and supply chains remain strong. However, elevated energy prices will continue to put upward pressure on prices. Hence, prices are expected to remain stable at current highs in the coming quarters.











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Canada – Commodity Report



Building construction price index 2021-2022

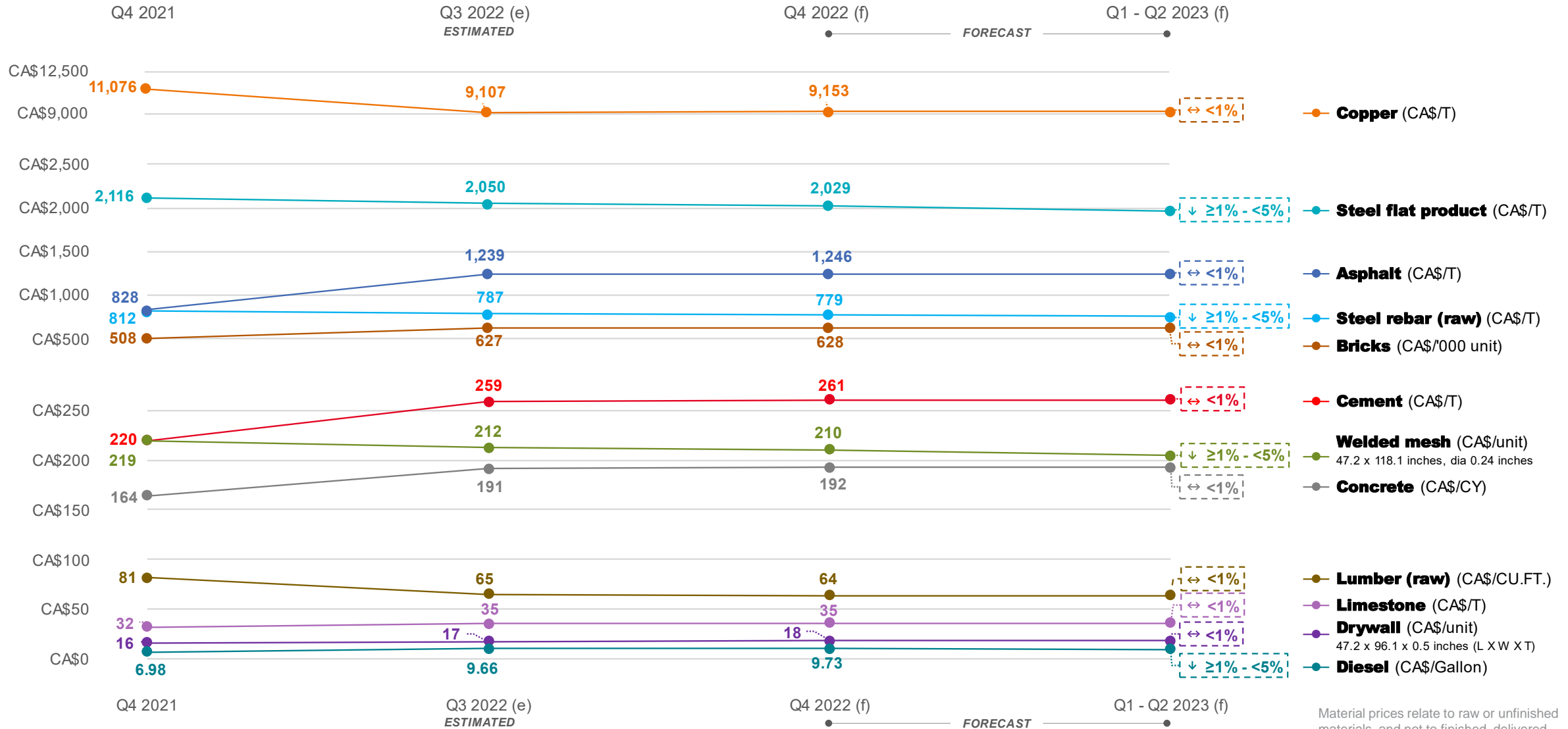


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *
 Cement Concrete	+0.7% ↑ +0.6% ↑	 Moderate Cement prices have flattened in recent months as demand pressures have lessened, although supply issues remain prevalent. A slowing construction market has been the key driver in lower demand for cement. However, elevated energy costs and logistical issues, such as the hauler's strike, continue to exert upward pressure on prices.
 Welded mesh	-1.0% ↓	 Moderate Following the steel price trends, demand for welded mesh will ease in the latter part of the year, but production and logistical costs will remain elevated.
 Bricks	+0.3% ↑	 Moderate Construction output for the residential sector is expected to decline in 2023, driving down demand for bricks. However, supply chains remain tight, hence the price is expected to remain at the current levels.
 Drywall	+2.3% ↑	 Low As the residential sector loses momentum, pressure on drywall prices is expected to ease. Consequently, prices will likely remain at similar levels to the previous quarter.
 Diesel	+0.7% ↑	 High Diesel prices have been on a declining trend since June 2022. However, the recent decision of OPEC+ to cut production targets is expected to keep the prices elevated in the near future.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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Canada – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Canada – Macroeconomic overview



Economic indicators



3.35%

GDP growth in 2022 (f) and **4.56%** in 2021



7.02%

inflation rate in 2022 (f), and **3.40%** for 2021



18.18M

people employed in 2022 (f) and **17.62M** in 2021



5.88%

unemployment rate for 2022 (f) and **7.43%** in 2021



130.12

Consumer Price Index in 2022 (f) and **121.59** in 2021



126.70

Producer Price Index in Aug 2022 and **114.60** in Aug 2021

Labor costs



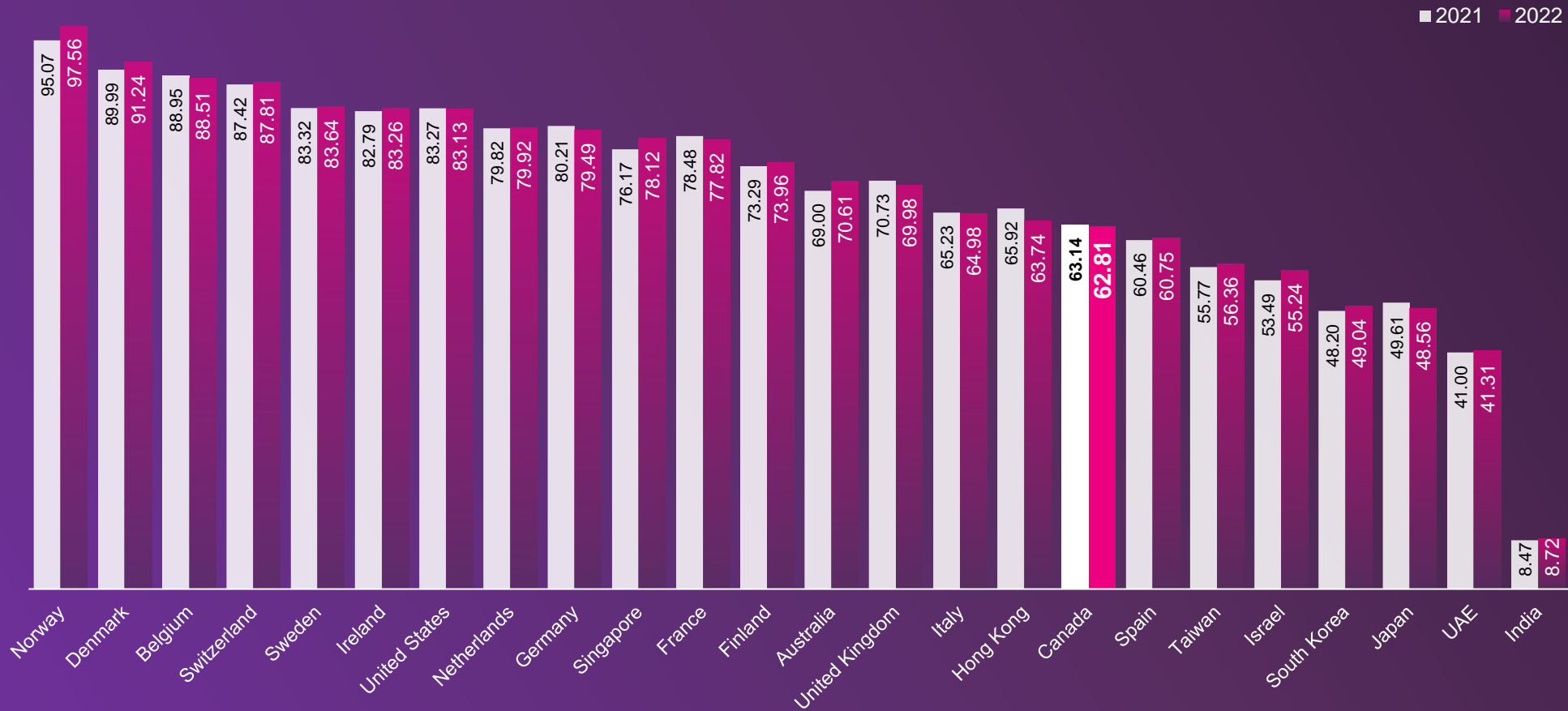
126.64

index of labor costs for August 2022 versus 118.53 in August 2021

Canada – Macroeconomic overview









Labor productivity



Labor productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Canada – Construction overview



Output 2021 and 2022 (in millions)			
Total 2021	Total 2021	Total 2022 (f)	% change
Commercial 	CA\$31,235	CA\$30,451	-2.5%
Energy and utilities 	CA\$102,263	CA\$105,386	3.1%
Industrial 	CA\$19,587	CA\$19,196	-2.0%
Infrastructure 	CA\$32,482	CA\$33,511	3.2%
Institutional 	CA\$23,240	CA\$24,077	3.6%
Residential 	CA\$191,337	CA\$203,708	6.5%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

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Sample sources – Canada

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- Trading Economics
- Oxford Economics
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Denmark

Country Commodity Report

Q3 2022



Denmark

Q3 2022

Economic growth of 2.87% is anticipated for 2022, with the Danish central bank, Nationalbanken, recently cutting its 2023 outlook, now foreseeing a contraction of 0.1%, as inflationary pressures and borrowing costs escalate. Inflation has hit a 40-year high of 10% in September, and is expected to stand at 7.27% for the full year. In the IMF's October update, it noted that energy price escalation has increased the cost of living by 10% in-country this year.

Growth is slowing in the construction industry in 2022, and is anticipated to stand at 2.1% in real terms for the full year. The government has a keen focus on the development of transport and green infrastructure, and a number of associated initiatives are expected to support growth. Similar to the rest of the world, there are a number of downside risks at play, with energy prices particularly influential, as well as spikes in inflation and interest rates, supply chain disruptions and elevated (albeit less volatile) material costs.



Paul Butler
Senior Director - Europe
paul.butler@linesight.com



Lumber

Domestic lumber prices in Denmark have retracted in recent months from record highs in mid-2022 caused by the supply shock stemming from the Russia-Ukraine conflict. The cooling of the market comes amid heightened fears of a recession hitting Denmark and other European markets in early 2023 due to high inflation and rising interest rates which will dampen demand in the construction industry, especially in housing construction. However, residential construction in Denmark will be partially buoyed by the government's focus on developing affordable housing to combat the countrywide housing shortage. Moreover, Copenhagen has been an early adopter of the 'Build-in-Wood' initiative funded by the EU to promote greater usage of timber-based construction. This could keep some upward pressure on domestic prices over the short to medium term, but prices are likely to be predominately driven by global market volatility.



Cement and aggregates

Cement prices rose sharply in the first half of 2022 due to high demand amid the expansion in construction output, coupled with rising production costs, owing to supply disruptions and the Russia-Ukraine conflict. However, demand is expected to decline over the coming quarters due to a fall in construction activity amid slowing economic growth, which will limit further upward pressure on prices. Prices are likely to remain relatively high due to elevated energy costs driving production costs, as well as low competition in the domestic cement market. Aalborg Portland, a subsidiary of Cementir, is the only grey and white cement producer in Denmark, with an annual capacity of approximately three million tons. Cementir has recently expressed concerns over the regulatory environment in response to the Danish government's environmental tax proposals.



Concrete blocks and bricks

Strong domestic demand has kept prices at a relatively high level in Denmark, which has been a small net exporter of bricks in recent years. However, demand is expected to dampen over the coming quarters due to slowing economic growth, amid high inflation and rising interest rates. Downward pressure on prices will be limited by production costs remaining elevated.



Steel (rebar and structural)

As a net importer of steel, Denmark has been heavily exposed to supply shortages and price volatility in the global market following the supply shock resulting from EU sanctions on Russian steel imports. Demand is expected to weaken in the short term amid rising interest rates and recession fears, which will put downward pressure on prices. In the medium term, the global steel market is likely to remain volatile due to sustained upward pressure on production costs.



Copper

Although copper prices have fallen from record highs in mid-2022, the global market is expected to remain volatile in the medium term, amid the persistence of supply-side challenges coupled with weakening demand for manufactured goods in the short-term, owing to high inflation and rising interest rates.



Denmark – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	DKK	DKK	2021-22* % change	% change
Copper (DKK/MT)	56,561	63,074	-10.33% ↓	-14.1% ↓ ●
Steel rebar (DKK/MT)	7,136	6,376	11.91% ↑	-20.8% ↓ ●
Steel flat (DKK/MT)	5,882	6,967	-15.57% ↓	-27.6% ↓ ●
Lumber (DKK/M3)	797	422	89.01% ↑	0.7% ↑ ■
Asphalt (DKK/MT)	2,287	1,949	17.35% ↑	4.3% ↑ ●
Limestone (DKK/MT)	1,434	1,379	3.95% ↑	-12.1% ↓ ●
Cement (DKK/MT)	1,595	1,361	17.22% ↑	1.6% ↑ ●
Concrete (DKK/M3)	1,097	926	18.49% ↑	2.9% ↑ ●
Welded mesh (DKK/unit (a))	289	247	17.04% ↑	-12.7% ↓ ●
Bricks (DKK/'000 unit)	7,099	5,881	20.70% ↑	-2.2% ↓ ●
Plasterboard (DKK/unit (b))	95	63	49.24% ↑	11.8% ↑ ●
Diesel (DKK/litre)	15.19	11.66	30.28% ↑	-0.6% ↓ ■

(a) 250x215cm, dia.-6mm
(b) 240x90x1.3cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

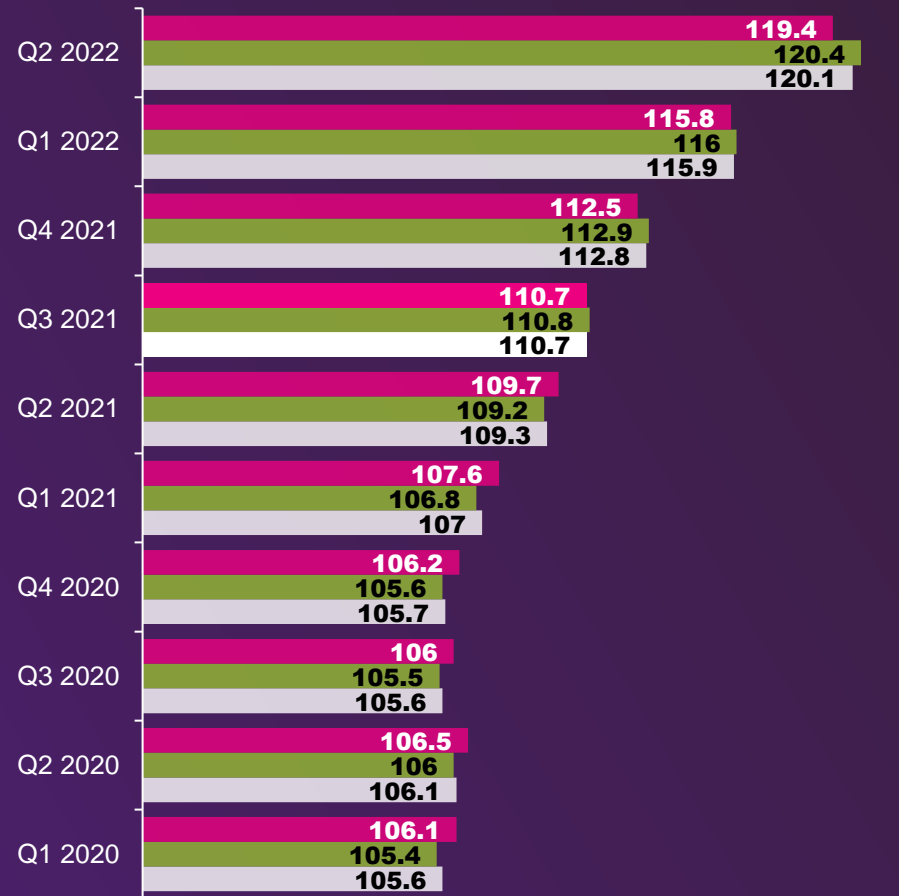
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
Copper	-1.0% ↓	Low	Copper prices have eased since reaching record highs in Q2 2022 as growing fears of slowing economic growth amid tightening monetary policy are weighing on copper demand. Prices are expected to slide further over the coming quarters but will remain elevated due to high production costs on the supply side.
Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	Steel prices fell sharply in Q3 after peaking in early Q2 following the onset of the Russia-Ukraine conflict. Global demand for steel has fallen in recent months due to slowing manufacturing and construction activity in large markets such as China, which has caused prices to slide. A decline in raw materials costs, alongside greater availability of cheap steel imports from Asia, will exert further downward pressure on prices over the coming quarters.
Lumber	-1.0% ↓	Moderate	Falling demand within the construction sector has caused wood prices to stabilize in recent months after the market experienced a volatile first half of the year. Elevated production and transportation costs owing to high energy costs will contain further downward pressure on prices over the coming quarters.
Asphalt	-1.0% ↓	Low	High crude oil prices caused asphalt prices to rise in early Q2. However, falling demand for crude oil amid slowing economic growth has put downward pressure on asphalt prices. Further downward pressure on prices will be contained following the recent decision by OPEC+ to cut oil production, which will keep crude oil prices elevated in the short term.
Limestone	-1.0% ↓	Low	Limestone prices have fallen from highs reached in Q2. However, prices are likely to remain elevated over the coming quarters due to the high cost of energy feeding into production costs.

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



Denmark – Commodity Report



Construction cost index 2020-2022 (2015=100)



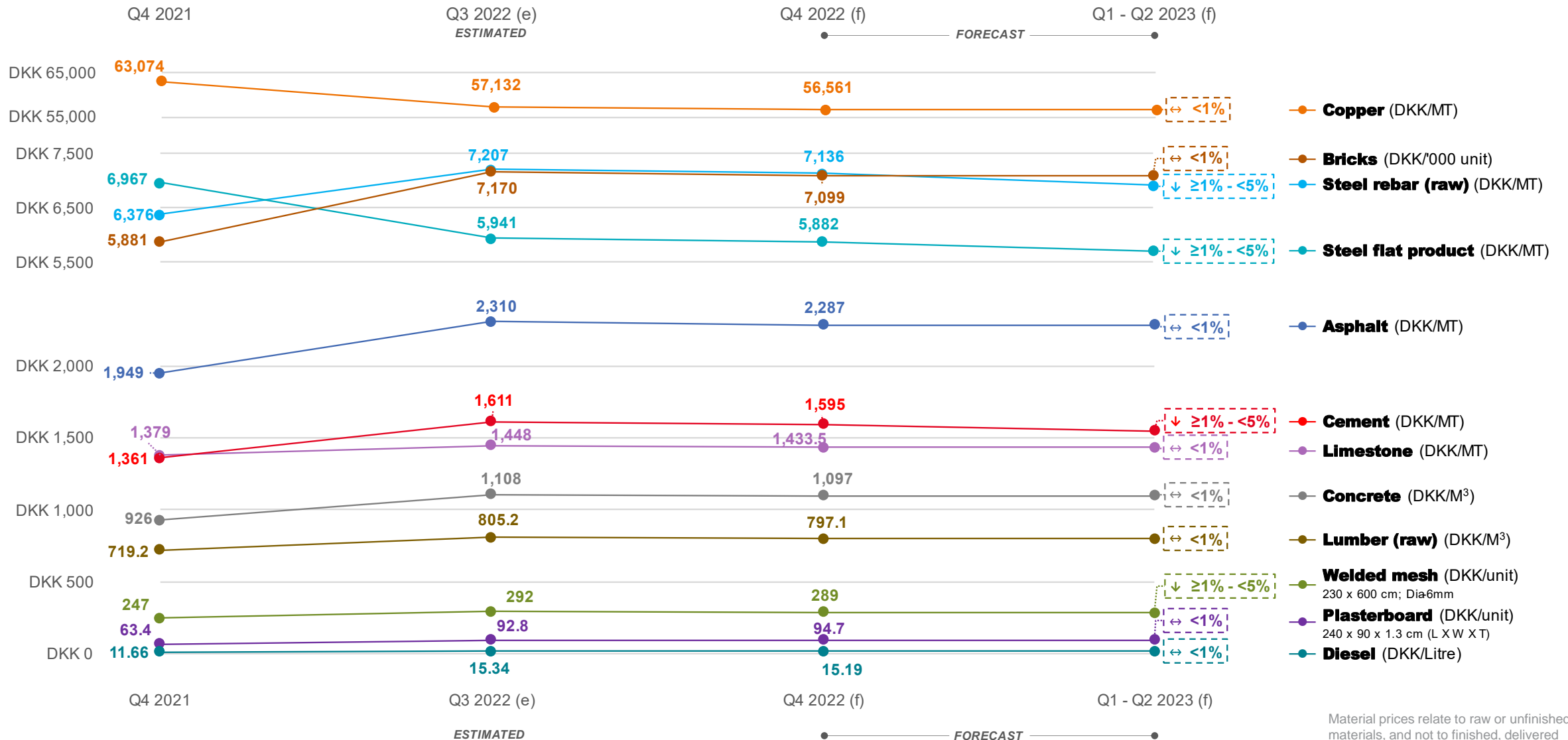
■ Multi-family houses ■ One-family houses ■ Residential

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	-1.0% ↓ -1.0% ↓	Moderate	The cement and concrete markets have stabilized in recent months after prices rose significantly in the first half of the year. Upward pressure on prices has eased owing to weaker demand amid falling levels of construction activity. However, high production and transportation costs will keep prices elevated.
 Welded mesh	-1.0% ↓	Moderate	Mesh prices are expected to fall over the coming quarters in line with the expected fall in steel prices. However, prices are expected to remain elevated due to the high cost of steel production.
 Bricks	-1.0% ↓	Low	Following a sharp rise in Q2 2022, brick prices have stabilized and begun to fall marginally. High energy costs will sustain upward pressure on prices but weakening demand owing to declining levels of construction activity will cause prices to trend downwards over the coming quarters.
 Plasterboard	+2.0% ↑	Low	Plasterboard prices have been on an upward trend in 2022. This trend is expected to continue in the short term due to the high cost of energy and raw materials pushing up production costs. However, weakening demand will offset further upward pressure and help prices stabilize in H1 2023.
 Diesel	-1.0% ↓	Moderate	Diesel prices retracted marginally in August and September from highs reached in Q2 as a result of falling crude oil prices. Prices are expected to remain elevated over the coming quarters as the recent decision by OPEC+ to cut oil production will keep crude oil prices volatile.

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Denmark – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Denmark – Macroeconomic overview

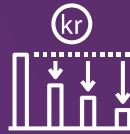


Economic indicators



2.87%

GDP growth in 2022 (f)
and **4.69%** in 2021



7.27%

inflation rate in 2022 (f)
and **1.85%** for 2021



2.79M

people employed
in 2022 (f)
and **2.79M** in 2021



5.11%

unemployment rate
for 2022 (f) and
5.1% in 2021



121.17

Consumer Price Index in
2022 (f) and **112.95** in
2021



160

Producer Price Index in
Aug 2022 and **116.3** in
Aug 2021

National holidays



**11 public
holidays**

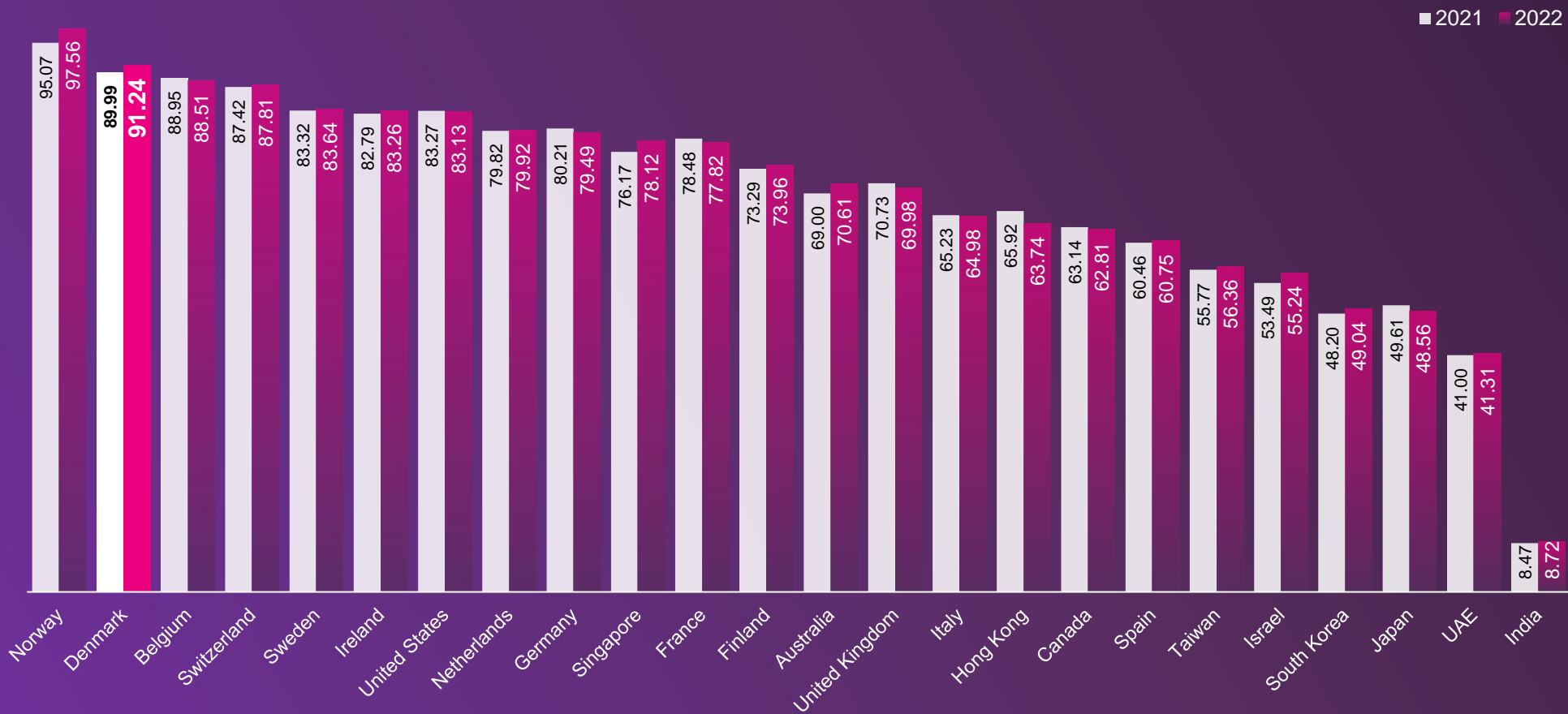
in Denmark each year.

- New Year's Day (1 January)
- Maundy Thursday (14 April)
- Good Friday (15 April)
- Easter Sunday (17 April)
- Easter Monday (18 April)
- Prayer Day (13 May)
- Ascension Day (26 May)
- Whit Sunday (5 June)
- Whit Monday (6 June)
- Christmas Day (25 December)
- 2nd Day of Christmas (26 December)

Denmark – Macroeconomic overview



Labour productivity



Labour costs









index of labour costs in July 2022 compared to **108.95** in July 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Denmark – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	DKK65,453	DKK65,552	0.15%
Energy and utilities 	DKK47,074	DKK50,700	7.7%
Industrial 	DKK18,998	DKK19,204	1.09%
Infrastructure 	DKK50,296	DKK54,438	8.24%
Institutional 	DKK12,561	DKK12,709	1.18%
Residential 	DKK160,772	DKK170,538	6.07%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

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Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Denmark

For Denmark, sources for this report include, but are not limited to:

- IMF
- Statistics Denmark
- Nationalbanken
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Finland Country Commodity Report Q3 2022



Finland

Q3 2022

Following a similar trend to much of Europe, economic growth is expected to stagnate, and come in at 2.03% in real terms, before dropping back to 0.61% for 2023. Economic performance from Q2 was hampered by the various global macroeconomic and geopolitical factors at play, weighing on Finland's manufacturing and export industries. Inflation is anticipated to stand at 6.53% for the full 2022 year, before falling back to 2.51% for 2023.

Construction output growth has slowed from the level seen in 2021, and is forecast to be 1.8% for 2022, as downside risks from the abovementioned macroeconomic and geopolitical factors weigh on performance. The impacts include disruptions to both the supply chain and energy markets, elevated construction material costs, labour constraints, and heightened inflation and interest rates.



Paul Butler
Senior Director - Europe
paul.butler@linesight.com



Lumber

Despite being amongst the largest lumber export markets in Europe, Finland has been reliant on imports (specifically from Russia) to meet its domestic demand. With the value of wood products accounting for 8% of its total construction production value, Finland uses more lumber for construction than any other European country. The market has therefore been highly sensitive to short-term supply shocks owing to the embargoes placed on Russian supplies to Europe by the EU this year. However, according to reports from the Finnish Central Union of Agricultural Producers and Forest Owners, the industry's needs can be met by domestic forests, which will limit the impact of future global supply shocks and keep prices stable over the long term.



Cement and aggregates

The supply of cement in Finland has been impacted by the ban on Russian imports to the EU, while high energy costs have pushed up Finland's cement manufacturing costs. Both of these factors have put upward pressure on prices this year. However, further upward pressure on prices will be contained by falling demand amid weakening activity in the construction industry. Prices are likely to remain elevated due to the monopolistic structure of the cement and concrete markets. Finnsementti, a subsidiary of CRH, is the only Finnish cement manufacturer, with the majority of domestic cement production taking place at its Parainen and Lappeenranta plants. Rudus, also part of CRH, is a leading producer of aggregates and ready-mixed concrete.



Concrete blocks and bricks

Although prices have been trending sharply upwards this year due to rising energy costs and supply disruptions, stemming from the Russia-Ukraine conflict, demand for concrete blocks and bricks is expected to decline over the coming quarters. This is due to slowing activity in the construction industry amid high inflation and rising interest rates, which will ease further upward pressure. However, energy prices are expected to remain high in the short term, which is likely to keep block and brick prices elevated over the coming quarters.



Steel (rebar and structural)

As a net importer of steel, Finland has been heavily exposed to supply shortages and price fluctuations in the global market in the wake of EU sanctions on Russian steel imports. Demand is expected to weaken amid rising interest rates and recession fears over the coming quarters, which will put downward pressure on prices. However, the global steel market is likely to be volatile over the medium term due to persistently high production input costs. Over the long term, strong demand driven by improving economic conditions, as well as government plans to develop transport and energy infrastructure, could put upward pressure on steel prices in Finland.



Copper

Greater investment in renewable energy and electric vehicle production will spur demand for copper in Finland over the long term. However, copper prices have retracted from record highs in Q2 2022 and are expected to fall further in the short term, reflecting investors' fears of recession and a subsequent slowdown in manufacturing activity in advanced economies.



Finland – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	€	€	2021-22* % change	% change
Copper (€/MT)	7,614	8,927	-14.71% ↓	-14.0% ↓ ●
Steel rebar (€/MT)	1,061	646	64.31% ↑	-12.3% ↓ ●
Steel flat (€/MT)	902	912	-1.04% ↓	-17.3% ↓ ●
Lumber (€/M3)	72	63	13.08% ↑	7.9% ↑ ●
Asphalt (€/MT)	75	66	14.97% ↑	-4.6% ↓ ●
Limestone (€/MT)	57	46	24.64% ↑	3.3% ↑ ●
Cement (€/MT)	291	213	36.53% ↑	2.0% ↑ ●
Concrete (€/M3)	140	120	16.69% ↑	1.8% ↑ ●
Welded mesh (€/unit (a))	95	73	30.37% ↑	-11.0% ↓ ●
Bricks (€/000 unit)	792	715	10.77% ↑	-0.4% ↓ ■
Plasterboard (€/unit (b))	13	9	46.64% ↑	10.3% ↑ ●
Diesel (€/litre)	2.15	1.64	30.79% ↑	-4.6% ↓ ●

(a) 235x500cm, dia.-8mm
(b) 120x240x1.3cm (LxWxT)

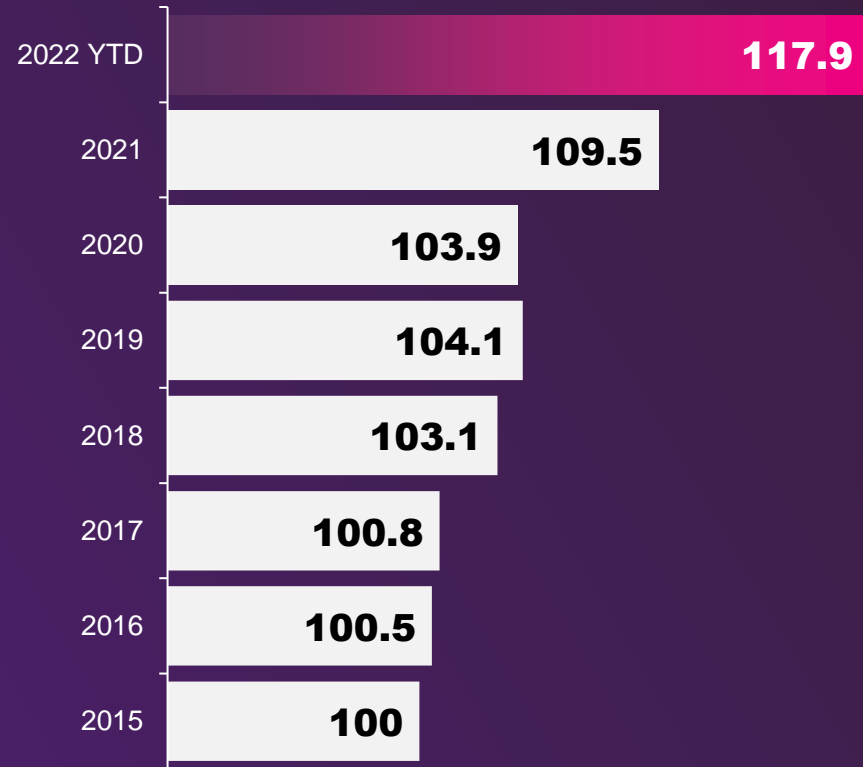
● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-1.0% ↓	Low	Following the surge in copper prices in early Q2 2022, prices have fallen by around 18% from their April highs as of the end of Q3, owing to the slowdown in demand from China and in the EU, amid mounting fears of recession. Weak demand for copper will continue to ease pressure on prices. However, high energy costs feeding into production will contain downward pressure on prices.
 Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	According to the World Steel Association, approximately 4.3 million tonnes of crude steel was produced in Finland in 2021, of which around 40% was via the electric arc furnace method. The spike in energy and electricity costs following the outbreak of the Russia-Ukraine conflict caused steel prices to jump significantly in Q2, with rebar prices rising by around 48% from Q1 to Q2. Declining raw material prices such as iron ore on global markets, coupled with falling demand, are likely to exert downward pressure on steel prices over the coming quarters.
 Lumber	-1.0% ↓	Low	Following a period of high demand in 2021, lumber demand has begun to wane and this is expected to continue over the coming quarters due to slowing economic growth. However, lumber prices have been edging upward this year due to rising production and transportation costs. Therefore, prices are expected to remain elevated but stable, owing to further demand-side weakness.
 Asphalt	-1.0% ↓	Low	Asphalt prices spiked in Q2 2022, as high crude oil prices impacted production costs. However, the subsequent decline in crude oil prices has put downward pressure on asphalt in recent months. Falling demand for asphalt as construction activity declines will exacerbate downward pressure on prices in the coming quarters. However, this is likely to be offset by renewed upward pressure on crude oil prices following OPEC+'s decision in early October to cut oil production.
 Limestone	-1.0% ↓	Low	Limestone demand is primarily met through domestic production. High energy costs have pushed up production and transportation costs, which has caused prices to trend upwards. Although supply-side costs remain elevated, prices are expected to stabilise over coming months due to waning demand.

Finland – Commodity Report



Building cost index 2015-2022



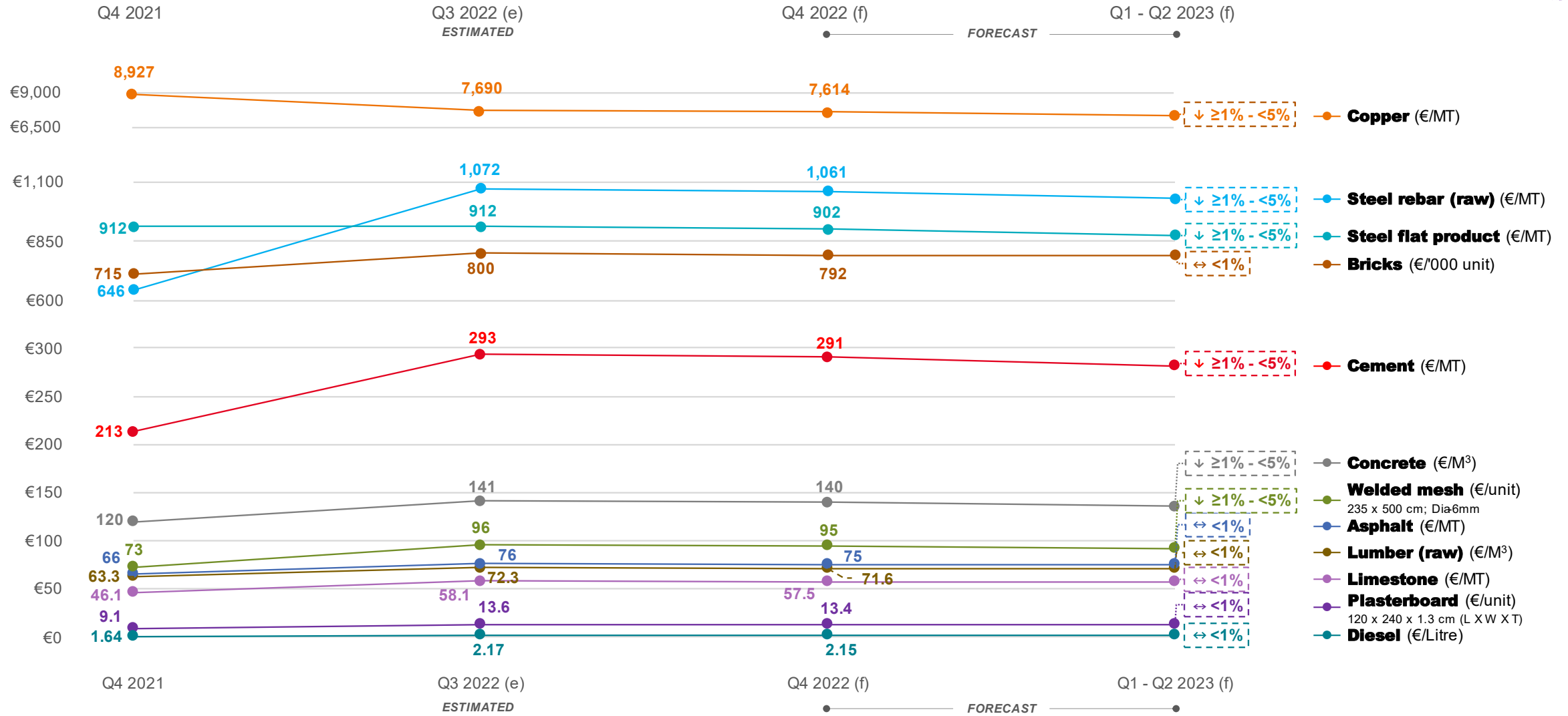
Note: 2015=100

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	-1.0% ↓ -1.0% ↓	Moderate	High energy costs and supply chain disruptions have put upward pressure on production and transportation costs this year. However, weakening demand for cement and concrete will ease upward pressure on prices, which are expected to stabilise in the coming quarters. Over the long term, upward pressure on prices will be eased by the industry's ongoing transition to carbon-free and recycled materials. According to Finnsementti, around 90% of concrete waste is currently recycled, while producers are increasingly making use of low-carbon materials, such as fly ash or blast furnace slag, which will help to lower production costs.
 Welded mesh	-1.0% ↓	Moderate	The sharp rise in steel rebar prices has caused the price of welded mesh to rise by around 41% from Q1 to Q2. Prices are expected to decline marginally in the coming quarters owing to falling demand for steel. However, high steel production costs will keep mesh prices elevated.
 Bricks	-1.0% ↓	Low	Brick prices have been impacted this year by supply chain disruptions, and high production and transportation costs. However, prices are set to stabilise in the coming quarters as construction demand moderates amid falling levels of activity.
 Plasterboard	-1.0% ↓	Low	Following the onset of the Russia-Ukraine conflict and its impact on energy and raw materials markets, plasterboard prices rose by around 17% from Q1 to Q2. Prices are expected to continue to edge upwards in the coming quarters and stabilise at elevated levels in H1 2023.
 Diesel	-1.0% ↓	Low	The price of diesel is expected to stabilise over the coming quarters as the price of crude oil continues to ease, amid weakening demand and slowing economic growth. However, downward pressure on prices is likely to be contained by the expected oil production cuts announced by OPEC+ in early October, which will cause further volatility in global crude oil markets in 2023.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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.

Finland – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

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Finland – Macroeconomic overview



Economic indicators



2.03%

GDP growth in 2022 (f)
and **3.47%** in 2021



6.53%

inflation rate in 2022 (f)
and **2.19%** for 2021



2.45M

people employed
in 2022 (f)
and **2.42M** in 2021



7%

unemployment rate
for 2022 (f) and
7.68% in 2021



122.67

Consumer Price Index in
2022 (f) and **115.16** in
2021



148.80

Producer Price Index in
Aug 2022 and **117.20** in
Aug 2021

National holidays



**15 public
holidays**

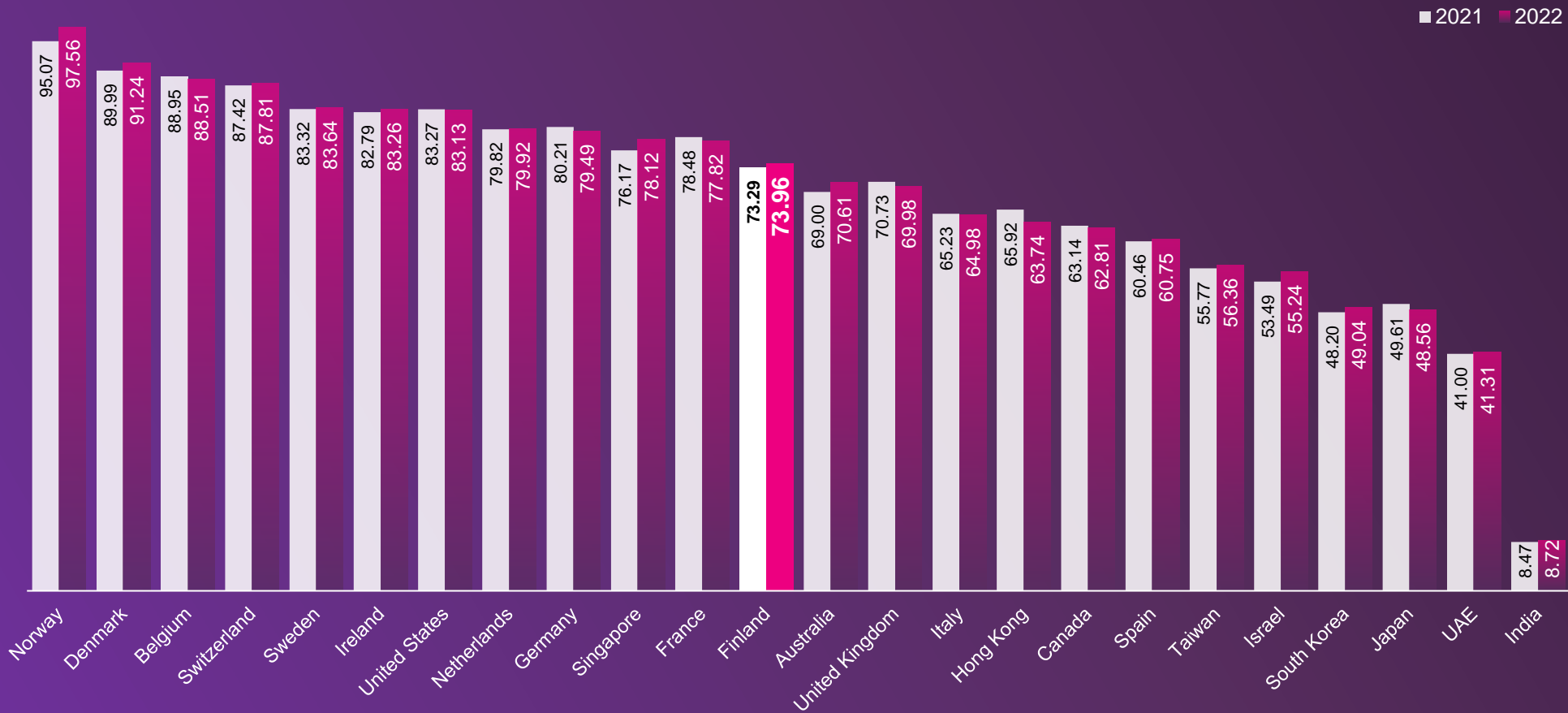
in Finland each year.

- New Year's Day (1 January)
- Epiphany (6 January)
- Good Friday (15 April)
- Easter Sunday (17 April)
- Easter Monday (18 April)
- May Day (1 May)
- Ascension Day (26 May)
- Whit Sunday (5 June)
- Midsummer's Eve (24 June)
- Midsummer Day (25 June)
- All Saints' Day (5 November)
- Independence Day (6 December)
- Christmas Eve (24 December)
- Christmas Day (25 December)
- 2nd Day of Christmas) (26 December)

Finland – Macroeconomic overview



Labour productivity



Labour costs









2.4%

growth in labour cost index in July 2022 compared to July 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Finland – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	€10,311	€10,260	-0.5%
Energy and utilities 	€5,281	€5,402	2.3%
Industrial 	€2,898	€3,036	4.8%
Infrastructure 	€7,391	€7,497	1.4%
Institutional 	€3,201	€3,023	-5.6%
Residential 	€15,842	€16,223	2.4%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Finland – Report methodology



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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 labour 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. A more comprehensive list of sources is included below.

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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.

Sample sources – Finland

For Finland, sources for this report include, but are not limited to:

- IMF
- Statistics Finland
- Finnish Institute of Occupational Health (FIOH)
- GlobalData's Construction Intelligence Center (CIC)
- Conference-board.org

Linesight





France

Country Insights and Commodity Report

Q3 2022



France

Q3 2022

INSEE expects the French economy to post a flat performance in terms of economic growth for Q4, following its 0.2% estimation for Q3, with its full-year forecast standing at 2.6%. Inflation remains a key threat for France as it does globally, with October expected to come in around the 5.6% mark as seen in September, before a further increase to 6.4% for the final two months of the year. The latest International Monetary Fund (IMF) release has downgraded its economic growth forecast for France in 2023 to 0.7%.

The French construction industry is expected to expand by 3.3% in real terms this year, supported by government infrastructure investment in renewables and railway. Downside risks remain, with high inflation levels and interest rates, elevated commodity prices facing further upwards pressure from electricity costs, and ongoing supply chain disruption due to the geopolitical climate. Ultimately, this perfect storm of factors may impact investor confidence and delay some project starts.



Ludovic Lecoeur
Project Director
ludovic.lecoeur@linesight.com



Lumber

Trade disruption, coupled with high production and transportation costs have kept lumber prices relatively elevated. Although there will be a period of weakness in demand, there are directives in place that will drive demand in the coming years. Examples of this are the requirement that any new buildings for the 2024 Summer Olympics (measuring eight stories or less) are to be made entirely from wood, and also a 2020 law requiring half of the materials used to construct public buildings to be wood or other natural substances.



Cement and aggregates

Building construction growth will slow in the coming quarters, and this is in part owing to the surge in material costs, including cement and aggregates. Although the government has implemented policies to offset high energy costs for businesses, the cement industry has been subject to high producer price inflation and will likely struggle to continue to pass this on to buyers due to weakened demand.



Concrete blocks and bricks

France has domestic capacity to meet demand, being a major producer of bricks in the EU. However, brick manufacturers are facing rising production costs, and recent indicators of purchasing activity suggest that demand has been weak, particularly in the residential sector.



Steel (rebar and structural)

Although construction output growth will be sluggish in the coming quarters, investment in infrastructure development will prop up demand for steel. Supplies of steel have been disrupted; France is the world's fifth largest importer of steel and the Russia-Ukraine conflict has greatly reduced the availability of products across Europe. With prices increasing sharply in Q2 2022 and remaining relatively high, buyers are shifting to cheaper sources, such as Turkey and India.



Copper

There has been a drop in copper prices, as global price pressures have eased amid weakening investor sentiment. Although a revival in demand in China could push prices up again, European demand levels will be relatively weak.

France – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	€	€	2021-22* % change	% change
Copper (€/MT)	7,877	8,670	-9.14% ↓	-13.9% ↓ ●
Steel rebar (€/MT)	865	663	30.53% ↑	-0.7% ↓ ●
Steel flat (€/MT)	861	687	25.31% ↑	-3.5% ↓ ●
Lumber (€/M3)	104	90	15.03% ↑	2.5% ↑ ●
Asphalt (€/MT)	81	70	15.57% ↑	-4.9% ↓ ●
Limestone (€/MT)	55	48	14.79% ↑	5.7% ↑ ●
Cement (€/MT)	169	140	20.86% ↑	4.9% ↑ ■
Concrete (€/M3)	151	125	20.88% ↑	4.9% ↑ ■
Welded mesh (€/unit (a))	166	127	30.79% ↑	-0.8% ↓ ●
Bricks (€/000 unit)	1,010	700	44.29% ↑	11.1% ↑ ●
Plasterboard (€/unit (b))	3	3	5.50% ↑	-1.9% ↓ ■
Diesel (€/litre)	1.82	1.55	17.17% ↑	-5.1% ↓ ■

(a) 240x600cm, dia.-7mm
(b) 250x120x1.3cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

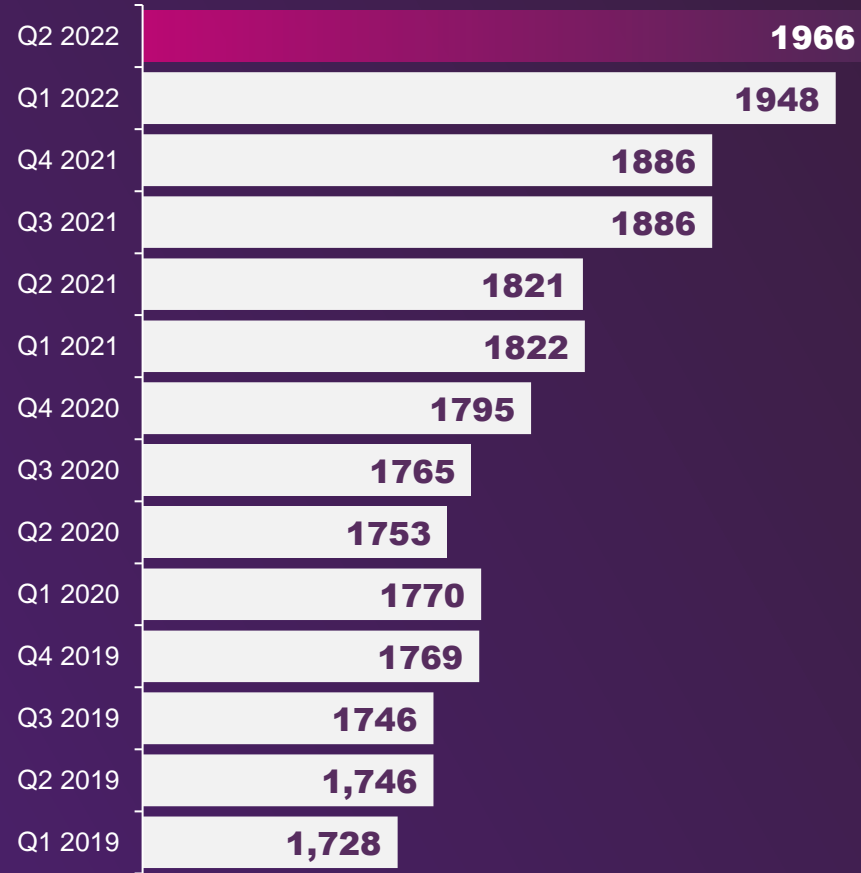
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
Copper	-0.3% ↓	Moderate	Copper prices have dropped from the highs of early Q2, and with the outlook for a sluggish overall economic performance in the coming quarters, prices will continue to slide. However, with investments in electric vehicles and renewable energy set to rise, this will sustain demand for the metal.
Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	Producer prices in the steel industry jumped sharply in Q2 2022, having been on an upward trend for much of last year. Prices have since eased back, with producers struggling to pass on higher costs to buyers, with buyer interest waning. Producers have also been cutting production. ArcelorMittal, for example, has reported that it will be slowing production at some sites and shutting down furnaces for maintenance. Cheaper imports from suppliers outside Europe, which have not faced the same energy cost pressures, have also risen.
Lumber	+1.0% ↑	Moderate	Lumber prices have stayed high in recent quarters, with producer prices escalating. Although construction starts for dwellings have been on a downward trend this year, the 2020 environmental law mandating that wood accounts for 50% of public building construction will mean that underlying demand is maintained.
Asphalt	-1.0% ↓	Moderate	With crude oil prices falling from mid-2022 highs, there has been a weakening in the asphalt price. But crude oil prices could pick up again following OPEC+'s decision in early October to cut production.
Limestone	+0.9% ↑	Low	Limestone prices have edged up marginally, and are set to remain close to these elevated levels, reflecting the impact of high production and transportation costs.

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.

France – Commodity Report



Construction cost index 2019-2022

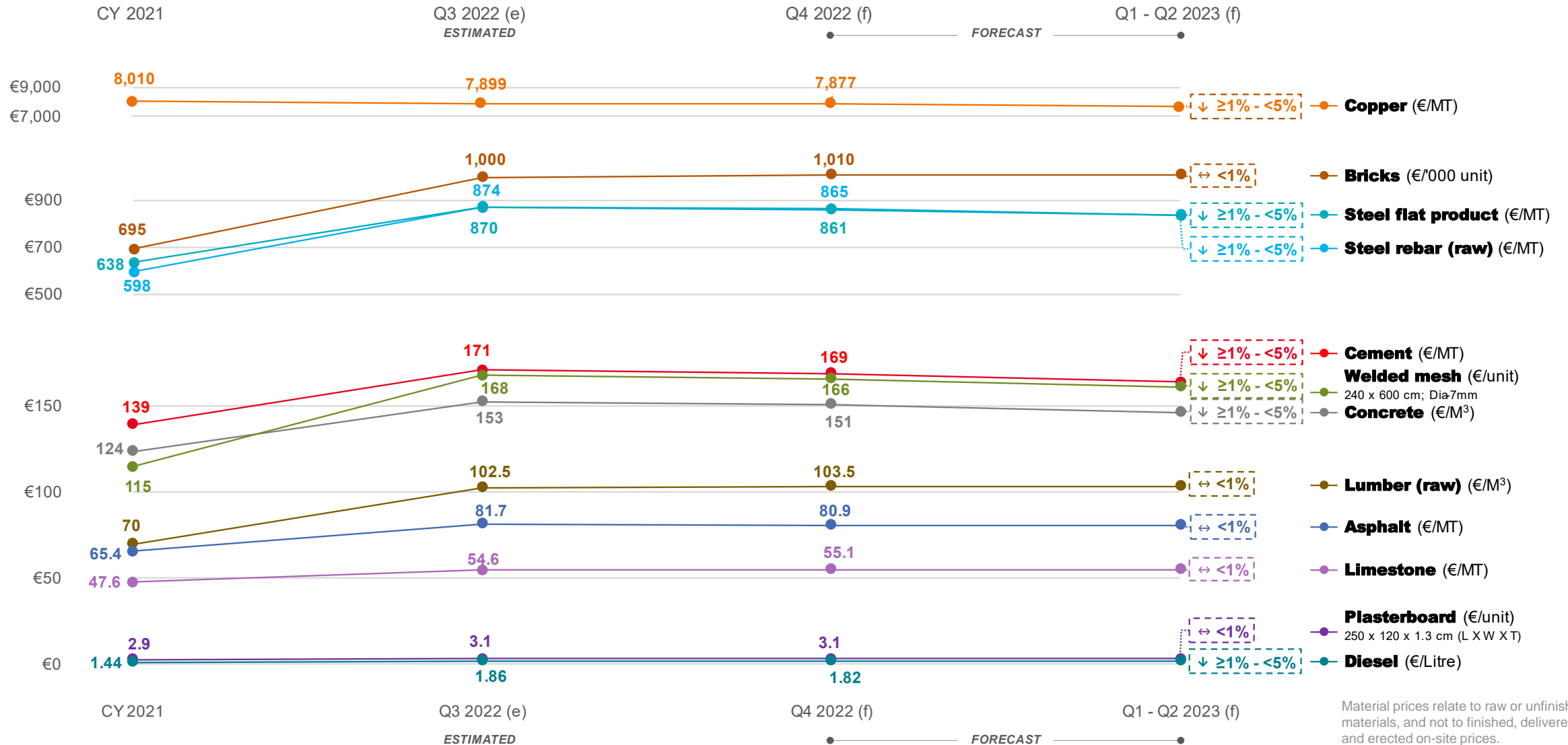


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	-1.0% ↓ -1.0% ↓	 High	French cement prices have been pushed up sharply by high production costs - producer prices for cement manufacturing were up by 18% year-on-year in August. Government support measures to contain energy price inflation may help to reduce upwards pressure on prices, while demand is also expected to soften.
 Welded mesh	-1.0% ↓	 Moderate	Welded mesh prices will fall back from the recent highs, moving in line with trends in the rebar market.
 Bricks	+1.0% ↑	 Low	As with other building materials, high production costs have driven up prices this year. In Q3 2022, brick prices were up by around 43% year-on-year. At such high levels, demand is waning as building projects become too costly.
 Plasterboard	-1.0% ↓	 Low	Although easing back recently, plasterboard prices are still high when compared to 2021 levels. Production costs have been a factor in driving prices up, but demand growth has been weak, as evidenced by the downward trend in dwelling construction starts this year.
 Diesel	-2.2% ↓	 Low	After reaching a monthly average high of €2.07 per litre in June, diesel prices have fallen back as global crude prices have dropped, also reflecting the increase in the government rebate from €0.18 per litre to €0.30 per litre effective September 1st. However, prices could come under renewed upward pressure following the decision by OPEC+ in early October to cut crude production.

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France – Construction Materials Pricing (2021-2022)



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France – Macroeconomic overview



Economic indicators



2.6%

GDP growth in 2022 (f)
and **6.96%** in 2021



5.75%

inflation rate in 2022 (f)
and **1.64%** for 2021



27.32M

people employed in 2022 (f)
and **27.14M** in 2021



7.88%

unemployment rate for 2022 (f)
and **7.9%** in 2021



118.85

Consumer Price Index in
2022 (f) and **112.39** in
2021



142.8

Producer Price Index in
Aug 2022 and **110.3** in
2021

National holidays



**11 public
holidays**

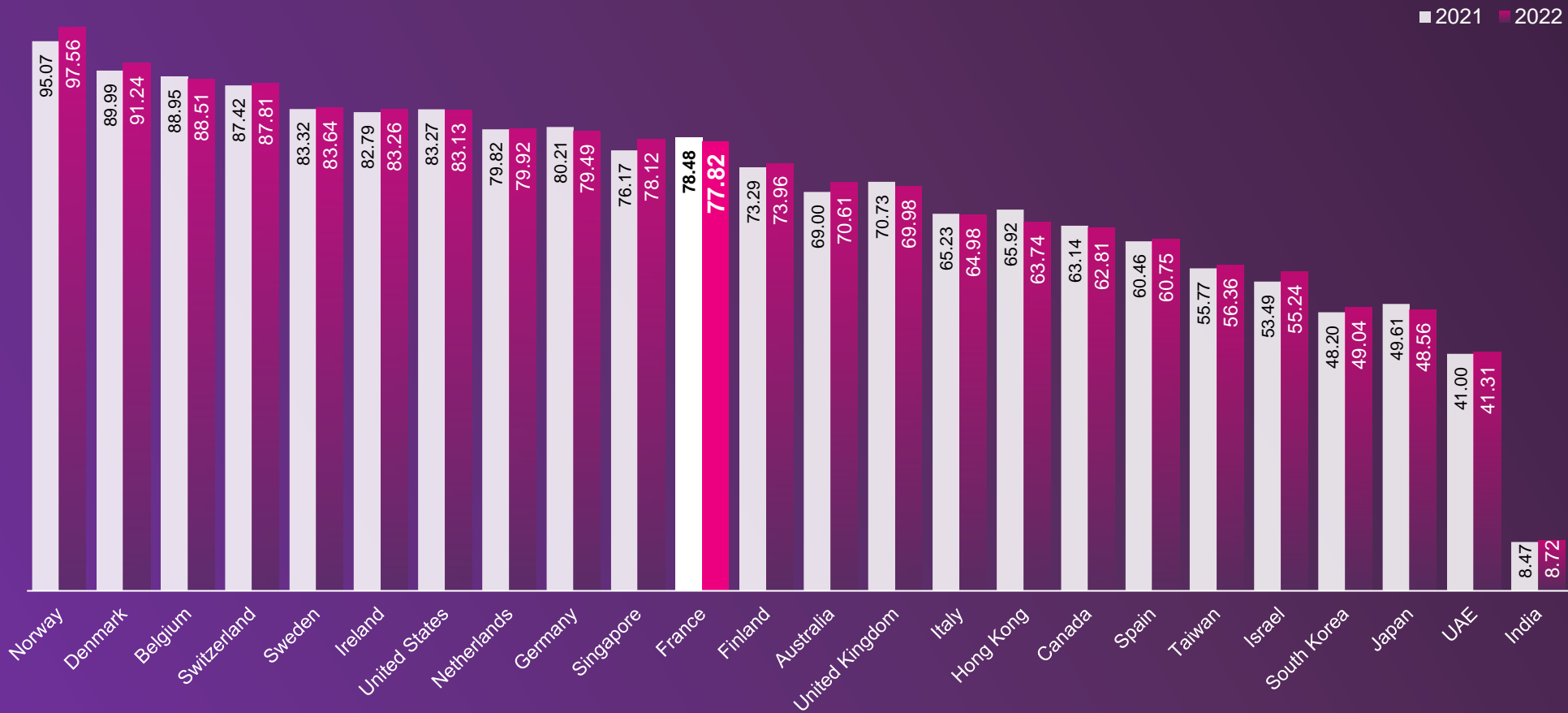
in France each year.

- New Year's Day (1 January)
- Easter Monday (18 April)
- Labour Day (1 May)
- Victory Day (8 May)
- Ascension Day (26 May)
- Whit Monday (6 June)
- Bastille Day (14 July)
- Assumption Day (15 August)
- All Saints' Day (1 November)
- Armistice Day (11 November)
- Christmas Day (25 December)

France – Macroeconomic overview



Labour productivity









Labour costs

2.70% change per annum in Q1 2022 compared to 2.80% in Q1 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	€52,846	€52,085	-1.4%
Energy and Utilities 	€27,589	€27,567	-0.1%
Industrial 	€31,883	€31,790	-0.3%
Infrastructure 	€64,388	€64,730	0.5%
Institutional 	€26,550	€26,794	0.9%
Residential 	€137,170	€135,610	-1.1%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



Health and Safety requirements are regulated at the EU level by both:

- EU Health and Safety Framework Directive (89/391/EC).
- Directive 92/57 on health and safety requirements at temporary or mobile construction sites.

France – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – France

For France, sources for this report include, but are not limited to:

- IMF
- Trading Economics
- INSEE
- GlobalData's Construction Intelligence Center (CIC)
- Conference-board.org

Linesight 





Germany

Country Insights and Commodity Report

Q3 2022



Germany

Q3 2022

Germany has been one of the countries most impacted by the Russia-Ukraine conflict, particularly with regards to the energy crisis. Modest growth of 1.4% is expected for this year, down from the previous 2.2% forecast. The government has cut its growth forecast in recent weeks, now anticipating a 0.4% contraction next year, rather than the 2.5% previously expected. Q3 and Q4 of this year, as well as Q1 2023, are expected to bear the brunt of the slowdown. Inflation of 8% is expected for the full-year 2022, with a very moderate decrease to a 7% rate in 2023.

Following a subdued H1 with the sharp spike in construction costs as inflation took hold, the latest forecast is for a 1.6% industry contraction in 2022 and 0.7% in 2023. The driving factors behind this are the above-mentioned energy crisis, labour constraints, and elevated material and labour costs. As of September 2022, 71% of construction companies viewed their lack of skilled resources as a major risk to their business compared to 39% a year prior, according to BauIndustrie.

The increase in interest rates is also having a marked impact on project viability, specifically in non-mission critical sectors. Investor confidence has been hampered, and this is indicated by the subdued industry expectations for the near future.



Michael Riordan
Senior Director - Europe
michael.riordan@linesight.com



John Atkins
Director
john.atkins@linesight.com



Lumber

The lumber trade has been particularly disrupted by the Russia-Ukraine conflict, as Germany imports a significant proportion of its lumber from Russia – in 2021, Russian softwood lumber accounted for 14% of overall imports. Lumber prices in Germany have also been rising in recent months because of higher production costs. However, with demand weakening, price pressures will ease.



Cement and aggregates

Germany is a leading producer of cement within the EU, and despite weakening demand amid the slowdown in the construction industry, prices have remained high owing to the sharp pick-up in production costs. When presenting its results for H1 2022, Heidelberg Cement noted that energy, raw material and transport prices had risen considerably, and that an easing was not expected for the time being.



Concrete blocks and bricks

Brick prices have stayed high in recent quarters, and this has been a result of steady demand and high production costs. Although there will be a weakening in demand (residential building permits have been on a downward trend), production costs are expected to prevent a marked reversal in prices, and there is a prospect of falling supplies as production levels drop because of high energy prices.



Steel (rebar and structural)

Germany's steel production has been down in 2022 from the levels recorded last year, and there has been a disruption in supplies amid the Russia-Ukraine conflict and the EU's ban on steel imports from Russia. Steel prices have been volatile, with high energy costs being a key factor in keeping prices at relatively high levels.



Copper

Copper prices have been on a decline in recent months, from record highs in the second quarter of this year amid uncertainty over the Russia-Ukraine conflict. Although a looming economic recession will contribute to weaker demand in the construction industry, copper demand in general will be backed by the expansion in electric vehicles and renewable energy requirements.

Germany – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	€	€	2021-22* % change	% change
Copper (€/MT)	7,665	8,477	-9.57% ↓	-14.4% ↓ ●
Steel rebar (€/MT)	756	580	30.35% ↑	-8.7% ↓ ●
Steel flat (€/MT)	765	637	20.09% ↑	-10.3% ↓ ●
Lumber (€/M3)	127	107	18.84% ↑	2.2% ↑ ●
Asphalt (€/MT)	75	58	29.07% ↑	5.2% ↑ ●
Limestone (€/MT)	39	34	13.61% ↑	3.9% ↑ ●
Cement (€/MT)	157	122	28.94% ↑	5.2% ↑ ●
Concrete (€/M3)	183	149	22.93% ↑	1.9% ↑ ●
Welded mesh (€/unit (a))	88	70	25.84% ↑	-11.9% ↓ ●
Bricks (€/’000 unit)	694	564	23.02% ↑	1.5% ↑ ■
Plasterboard (€/unit (b))	3	3	37.23% ↑	0.0% ↔ ■
Diesel (€/litre)	1.98	1.55	27.69% ↑	-1.5% ↓ ●

(a) 600x230cm, dia.-6mm
(b) 200x60x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

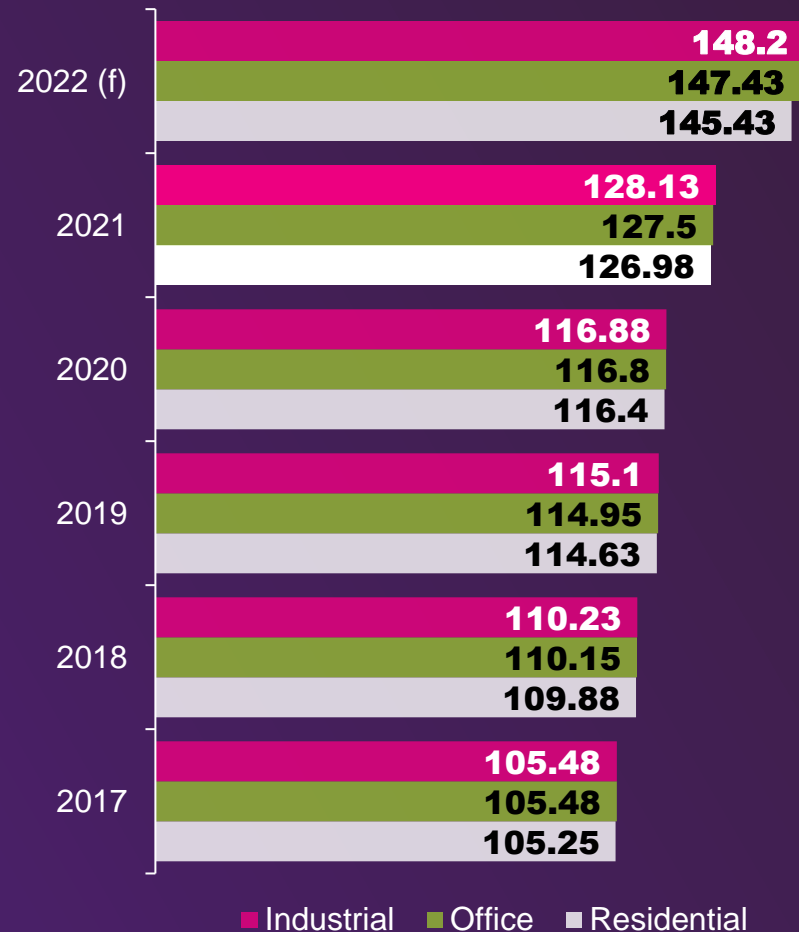
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-1.00% ↓	Moderate	Following the surge in prices early in Q2 2022 amid the onset of the conflict in Ukraine, the copper market has weakened recently, with prices trending downwards because of oversupply and weak demand globally. There will be continued underlying demand for copper stemming from investments in electric vehicle manufacturing and associated charging infrastructure, and given the prospect of continued high energy costs, copper prices are expected to stabilize during the first half of 2023.
 Steel prices - Steel rebar - Flat steel	-0.99% ↓ -0.99% ↓	Moderate	Steel prices have been volatile in recent months, but have stayed relatively high. There has been a weakening in demand amid the slowdown in the wider economy, but because of high energy costs, steel producers are still looking to push prices up. Their success in doing so, however, is limited given the growing availability of cheaper imports.
 Lumber	+1.01% ↑	Moderate	The price of lumber has come under renewed upwards pressure in recent months because of high production and transportation costs. However, with weakness on the demand side, the price is expected to decline heading into 2023.
 Asphalt	+1.00% ↑	Moderate	Asphalt prices came under renewed upward pressure in Q3 2022 amid high oil prices, with some products over 30% higher than they were in the year-earlier period. Although crude oil prices have dropped from the mid-2022 levels, prices remain high, and OPEC+'s plans to cut supply will ensure prices remain elevated.
 Limestone	+1.00% ↑	Low	Although demand is weakening amid the slowdown in construction activity, high energy prices will contribute to high production costs, keeping limestone prices close to recent levels.






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Germany – Commodity Report



Construction price indices 2017-2022(f)

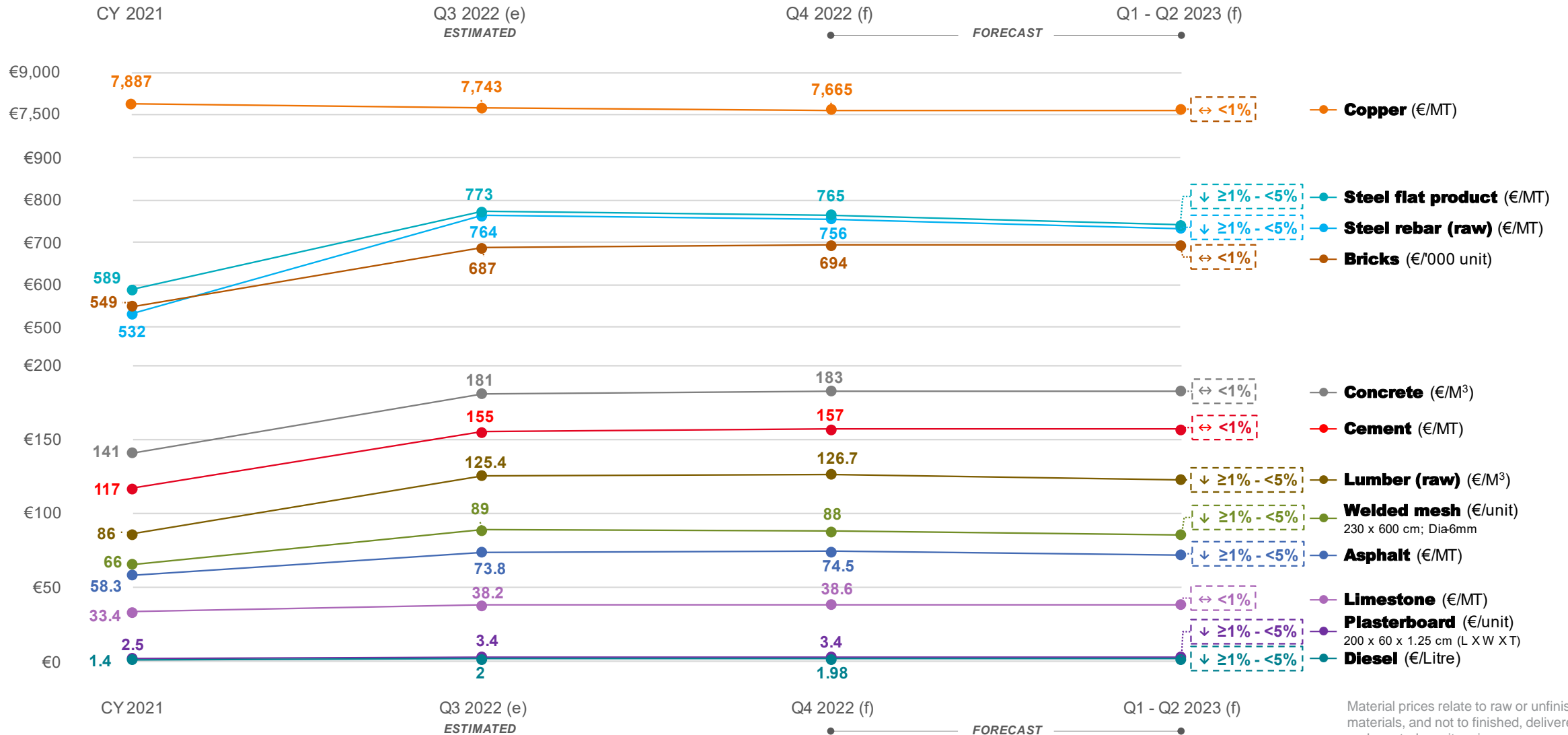


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+1.01% ↑ +1.01% ↑	High	The upward trend in concrete and cement prices in the past few months has been driven primarily by the sharp rise in producer prices - in August 2022 producer prices for cement manufacturing were up by 23% year on year. Demand-side pressures will weaken, as the construction industry declines.
 Welded mesh	-0.99% ↓	Moderate	Welded mesh prices have eased back from the highs of Q2 2022, in line with the general trend recording for steel. Prices are expected to decline on the back of a rise in cheaper imports from CIS and Asian suppliers.
 Bricks	+1.00% ↑	Low	Despite a weakening in demand, brick prices have continued to edge upwards because of rising production costs. However, government support packages could help to contain further rises in energy costs.
 Plasterboard	+1.01% ↑	Low	Plasterboard prices have stayed relatively high, reflecting ongoing high production costs.
 Diesel	-0.99% ↓	Low	Although falling back marginally on a quarterly basis in Q3 2022, diesel prices hit a new peak in early September. Crude oil prices have fallen from the highs of mid-2022, but there is a risk of renewed upward pressure given the decision by OPEC+ in early October to cut production levels.

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Germany – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

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Germany – Macroeconomic overview



Economic indicators



1.44%

GDP growth in 2022 (f)
and **2.89%** in 2021



7.87%

inflation rate in 2022 (f)
and **3.14%** for 2021



40.3M

people employed in 2022 (f)
and **40.14M** in 2021



3.29%

unemployment rate for 2022 (f)
and **3.60%** in 2021



126.25

Consumer Price Index in
2022 (f) and **117.04** in
2021



136.4

Wholesale Price Index in
Aug 2022 and **114.7** in
Aug 2021

National holidays



9 public holidays

in Germany which are dependent on
federal state and region.

Most holidays are taken during December,
typically around the festive period – ten days
(from 23rd December until 3rd January)

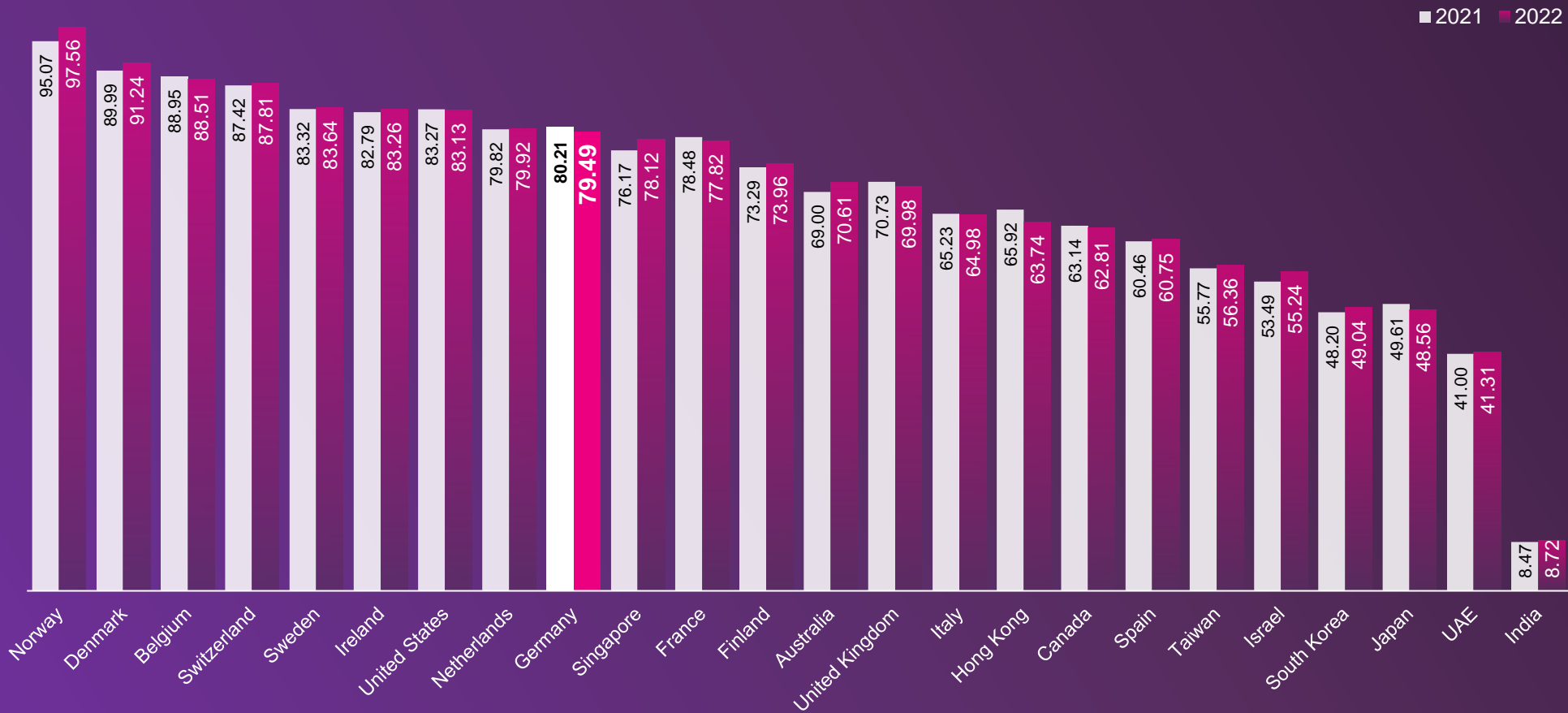
Under the federal states' legislation, the following are
observed:

- New Year's
- Good Friday
- Easter Monday
- Ascension Day
- Whit Monday/Pentecost Monday
- 1 May
- Day of German Unity
- Christmas
- St. Stephen's Day

Germany – Macroeconomic overview



Labour productivity



Labour costs









4.50%

change in index of labour costs for Q1 2022 compared to 1.40% in Q1 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Germany – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	€58,408	€57,096	-2.2%
Energy and Utilities 	€19,273	€19,268	0%
Industrial 	€22,054	€21,071	-4.5%
Infrastructure 	€51,032	€51,294	0.5%
Institutional 	€22,258	€22,837	2.6%
Residential 	€183,743	€179,386	-2.4%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



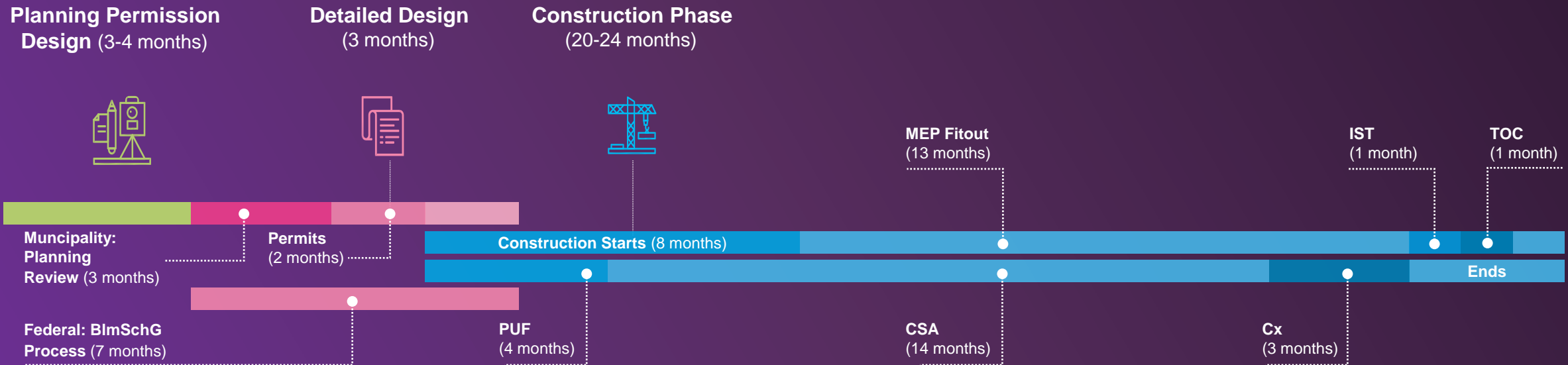
69

construction workers had an accident from January-September 2021

Germany – Construction programme considerations



Typical Delivery Programme



Note: Please note that the programme and phase duration will depend on project type, project specifics and the procurement method – please speak to your Linesight contact directly if you have a query in this regard related to a particular project

Germany – Report methodology



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Primary and secondary research

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- Destatis
- GlobalData's Construction Intelligence Center (CIC)
- Conference-board.org

Linesight





Hong Kong

Country Insights and Commodity Report

Q3 2022



Hong Kong

Q3 2022

Hong Kong is expected to record a moderate contraction in 2022 following the growth seen in 2021. After two consecutive quarters of contraction, Hong Kong is generally accepted to now be in a recession, impacted by the global economic landscape, rising inflation (at its highest since 2015) and interest rates, and the sharper than anticipated Chinese slowdown.

The construction industry is expected to record growth of 1.4% in real terms in 2022, following the moderate decline seen in 2021. Construction activity has improved this year, and growth has also been supported by projects in the transport and residential sectors. The abovementioned Chinese slowdown poses a downside risk for the industry, as do the current geopolitical tensions, supply chain disruptions, and commodity and material pricing (albeit with reduced volatility being seen). Growth is expected in the coming years for the industry, as the government focuses on investment programmes to bolster growth.



Scott Halyday
Associate Director
scott.halyday@linesight.com



Lumber

The short-term outlook is for fairly weak demand, amid the slowing economy and high interest rates. However, there are schemes aimed at boosting housing supply, namely the Green Form Subsidised Home Ownership Scheme and Starter Homes pilot projects, which will prop up demand.



Cement and aggregates

Regional cement output fell in the first half of 2022, in part reflecting the drop in demand in China amid the slowdown in real estate development there. With output down and production costs rising, prices for cement in Hong Kong have remained high, despite the declines seen in prices in China.



Concrete blocks and bricks

Rising production costs and an improvement in demand earlier this year has resulted in a relatively high price point for local bricks. With construction output growth being fairly weak, local supplies will be sufficient to meet demand.



Steel (rebar and structural)

Steel rebar prices in Hong Kong dropped by around 8% in Q2 2022, with price weakness reflecting the slowdown in China's real estate development. Hong Kong has also been importing rebar at relatively low prices from markets in the Middle East and Turkey, with Turkish steel rebar reportedly being sold to Hong Kong for the first time this year in July.



Copper

There has been a marked drop in copper prices, reflecting weak demand and investor confidence given the outlook for slowing economic growth. Hong Kong's copper demand is met mainly through Chinese and Korean imports.



Hong Kong - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	HK\$	HK\$	2021-22* % change	% change
Copper (HK\$/MT)	55,122	64,583	-14.65% ↓	-17.2% ↓ ●
Steel rebar (HK\$/MT)	5,184	6,443	-19.55% ↓	-12.3% ↓ ●
Steel flat (HK\$/MT)	6,661	7,833	-14.96% ↓	-15.7% ↓ ●
Lumber (HK\$/M3)	7,807	6,658	17.26% ↑	0.6% ↑ ■
Asphalt (HK\$/MT)	10,675	8,400	27.08% ↑	13.4% ↑ ●
Limestone (HK\$/MT)	73	63	16.08% ↑	15.8% ↑ ●
Cement (HK\$/MT)	922	782	17.86% ↑	3.7% ↑ ●
Concrete (HK\$/M3)	1,156	1,230	-6.05% ↓	-1.2% ↓ ●
Welded mesh (HK\$/unit (a))	65	63	3.07% ↑	-12.3% ↓ ●
Bricks (HK\$/'000 unit)	3,328	3,157	5.42% ↑	-0.8% ↓ ■
Plasterboard (HK\$/unit (b))	100	70	43.29% ↑	0% ↔ ■
Diesel (HK\$/litre)	17.80	13.99	27.2% ↑	13.4% ↑ ●

(a) 100x100cm, dia.-6mm
(b) 122x244x1.2cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

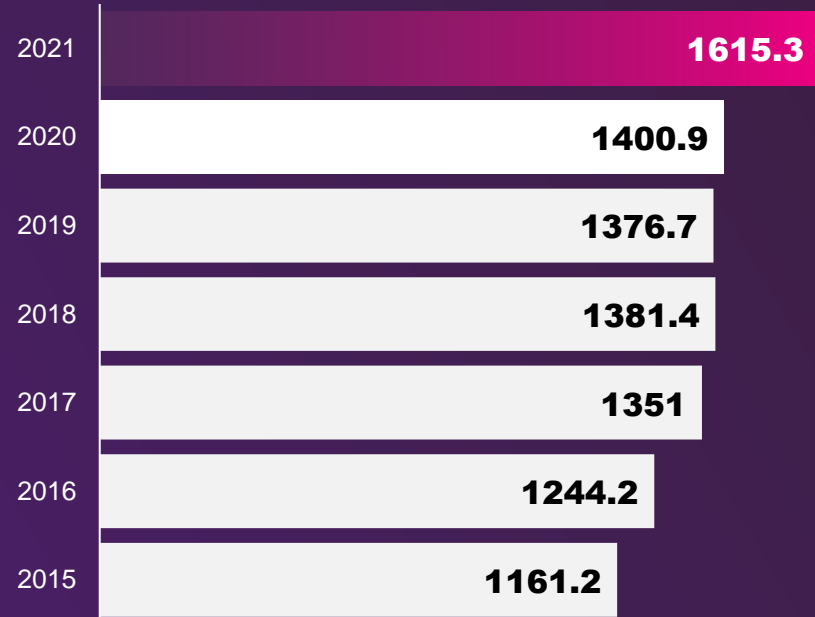
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-1.0% ↓	High	The copper market has faltered recently, dropping from the highs of April due to oversupply and weak demand globally. However, because of significant investments in the production of electric vehicles and the charging infrastructure, the underlying demand for copper will continue to grow.
 Steel prices - Steel rebar - Flat steel	-1.5% ↓ -1.5% ↓	Moderate	The price of steel products has fallen back in the past two quarters, having risen earlier in the year owing to high demand and tight supplies in the global market. Weak demand from China has been a key factor behind the recent decline, and prices are expected to continue to ease in the coming quarters.
 Lumber	-1.0% ↓	Moderate	The residential sector has struggled to regain growth momentum, with output remaining far below pre-COVID-19 levels. However, prices for lumber have risen this year, reflecting issues on the supply side and cost-push pressures. With a slowing economy and high interest rates, demand is expected to remain sluggish.
 Asphalt	-1.5% ↓	Moderate	Asphalt price inflation has eased because of the decline in international crude oil prices, and the increasing use of recycled material has also been a factor. There could be renewed price volatility given the expected rise in crude oil prices following OPEC+'s decision in early October to cut production levels. Hong Kong is also pursuing road infrastructure developments that will prop up demand.
 Limestone	+0.5% ↑	Low	Limestone demand is primarily met through domestic production, and price fluctuation recently has been due mainly to higher logistics costs. Prices are expected to remain close to current levels by the end of 2022.






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Hong Kong - Commodity Report



Construction cost index 2015-2021

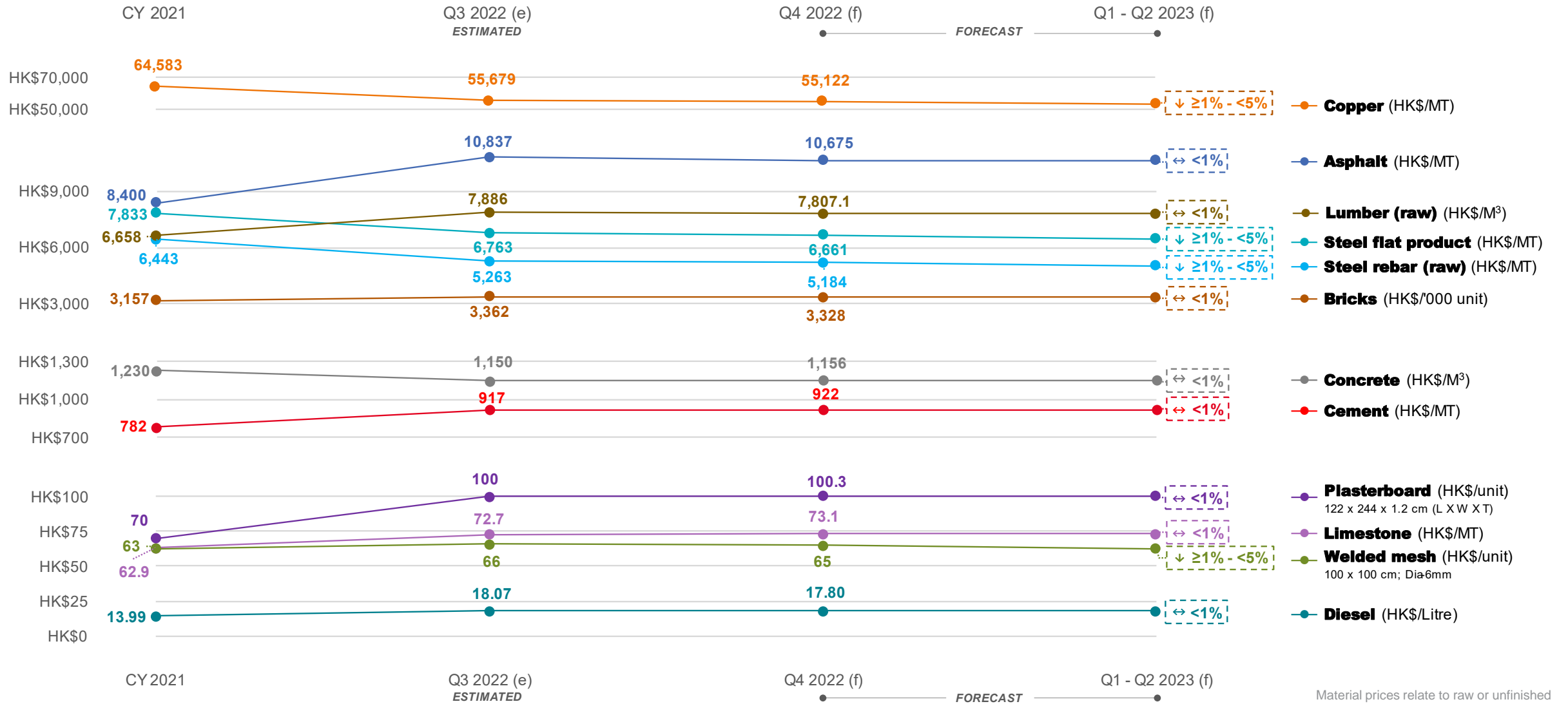


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+0.5% ↑ +0.5% ↑	Moderate	Cement prices rose sharply in the first half of the year, such that by June prices were up by around 18% on a year-on-year basis. This has reflected increases in costs for producers, and some expansion in demand, at a time of falling cement output levels, particularly in China. However, with investment levels set to wane amid the weaker economy and higher interest rate environment, producers will struggle to continue to pass on their higher costs.
 Welded mesh	-1.5% ↓	Moderate	Welded mesh prices have fallen back, a trend that is in line with that for steel rebar. Demand growth will be limited in the coming quarters, as construction output growth slows.
 Bricks	-1.0% ↓	Low	As with other building materials, brick prices came under upward pressure in the first half of the year, reflecting a mix of rising production costs and solid demand. Prices are expected to stabilise at a relatively high level into 2023, with continued supply-side pressures offsetting a weaker demand outlook.
 Plasterboard	+0.3% ↑	Low	Plasterboard prices have been relatively stable, and are expected to remain close to current levels in the coming quarters.
 Diesel	-1.5% ↓	Moderate	Although falling during the third quarter, diesel prices were still high, averaging HK\$18.1 per litre. Prices have been trending downwards in line with the fall in global crude oil, but this trend in crude prices could be reversed following the recent decision by OPEC+ members to cut production levels.

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Hong Kong - Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Hong Kong – Macroeconomic overview



Economic indicators



-0.17%

GDP growth in 2022 (f) and **6.42%** in 2021



2.29%

inflation rate in 2022 (f) and **1.57%** for 2021



3.62M

people employed in 2022 (f) and **3.58M** in 2021



4.62%

unemployment rate for 2022 (f) and **5.2%** in 2021



140.28

Consumer Price Index in 2022 (f) and **137.14** in 2021



115.8

Producer Price Index in July 2022 and **114.9** in July 2021

National holidays









17 public holidays

in Hong Kong each year.

- The first day of January (1 January)
- Lunar New Year's Day (1 February)
- The second day of Lunar New Year (2 February)
- The third day of Lunar New Year (3 February)
- Ching Ming Festival (5 April)
- Good Friday (15 April)
- The day following Good Friday (16 April)
- Easter Monday (18 April)
- The day following Labour Day (2 May)
- The day following the Birthday of the Buddha (9 May)
- Tuen Ng Festival (3 June)
- Hong Kong Special Administrative Region Establishment Day (1 July)
- The second day following the Chinese Mid-Autumn Festival (12 September)
- National Day (1 October)
- Chung Yeung Festival (4 October)
- The first weekday after Christmas Day (26 December)
- The second weekday after Christmas Day (27 December)

Hong Kong – Macroeconomic overview



Output 2021 and 2022 (in millions)			
	Total 2021	Total 2022 (f)	% change
Commercial 	HK\$47,635	HK\$48,881	2.6%
Energy and utilities 	HK\$19,339	HK\$19,691	1.8%
Industrial 	HK\$4,069	HK\$4,242	4.3%
Infrastructure 	HK\$56,996	HK\$58,435	2.5%
Institutional 	HK\$12,221	HK\$12,240	0.2%
Residential 	HK\$73,737	HK\$73,597	-0.2%

Long-lead equipment (LLE) and Supply Chain narrative

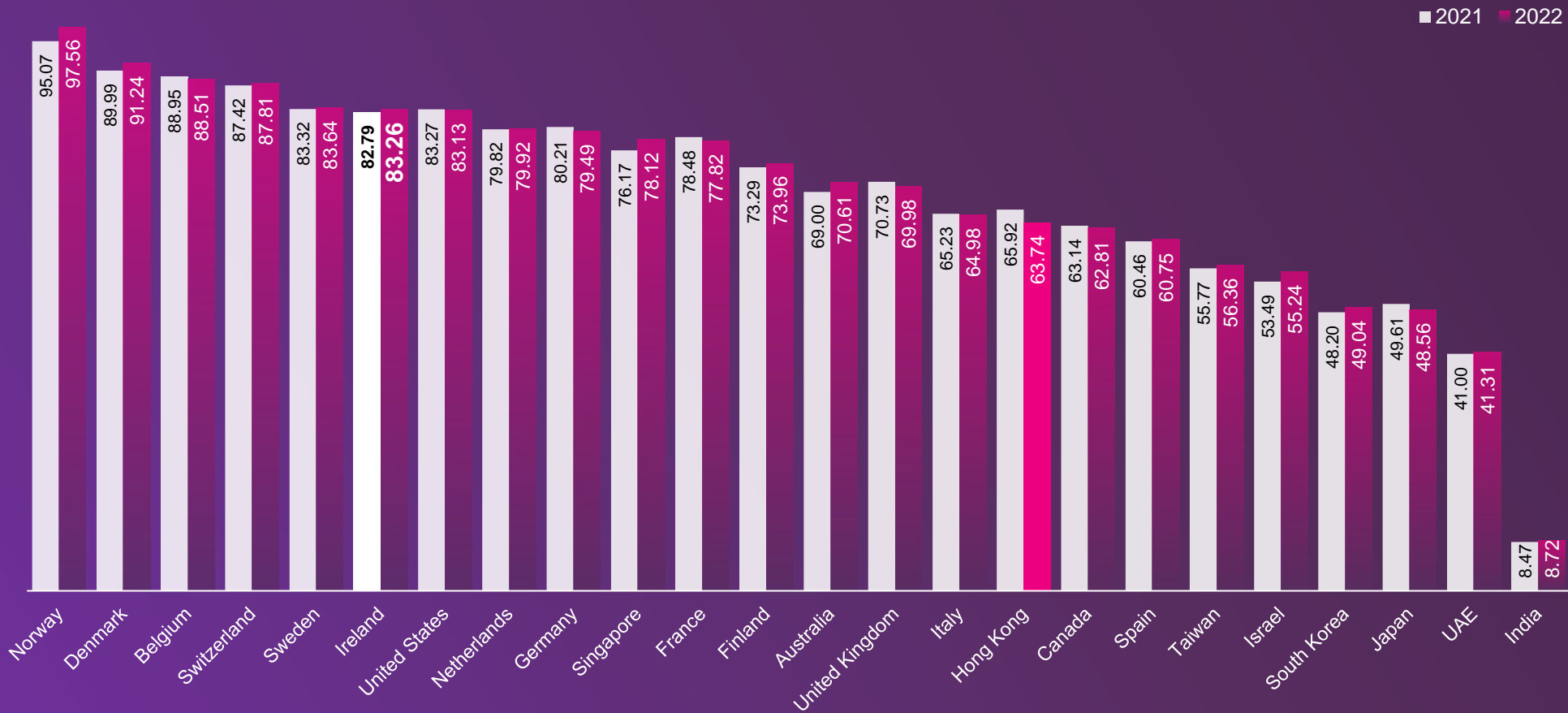
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Hong Kong – Macroeconomic overview



Labour productivity



Labour costs



HK\$17,320

average per month in July 2022
compared to HK\$17,019 per
month in July 2021

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Hong Kong - Report methodology



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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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Hong Kong

For Hong Kong, sources for this report include, but are not limited to:

- IMF
- Civil Engineering and Development Department – The Government of the Hong Kong Special Administrative Region
- The Census and Statistics Department
- GlobalData's Construction Intelligence Center (CIC)
- Fitch Ratings
- The Asian Development Bank

Linesight 





India

Country Insights and Commodity Report

Q3 2022



India

Q3 2022

In its October release, the International Monetary Fund (IMF) has cut its forecast for India's 2022-2023 economic growth to 6.8% from the previous prediction of 7.4%, which in itself was a downward revision. However, it referenced India as a "bright spot on this otherwise dark horizon" with the current global landscape, given its growth rate. Inflation for September came in at 7.41%, up from 7% in August, and above the 2-6% target range of the Reserve Bank of India (RBI).

In terms of construction, 5.8% growth is expected this year, with the downside risks of elevated energy and material costs, bottlenecks in terms of land acquisition and tendering, and ongoing supply chain issues hampering performance in H2 after a relatively good H1 performance. However, in comparison to prior quarters, there has been a stabilisation in commodity prices and construction costs. Sectors like data centres, logistics (warehousing) and infrastructure are undoubtedly seeing growth. The government has been reaching out to the high-tech sector with regards to the establishment of semiconductor manufacturing facilities in India, in light of the global shortages in this area. The recent rollout of 5G is expected to further enhance growth in the digital sector.



Ameya Gumaste
Country Head – India
ameya.gumaste@linesight.com



Lumber

India relies on imports to satisfy much of the lumber demand from the construction industry and, as a result, disruption to global supply chains and rising shipping rates have pushed up prices. Strong residential and commercial construction activity will exert further upwards pressure on prices into next year, though a potential fall in global demand for lumber as tighter monetary policies weigh on residential construction demand may offset this.



Cement and aggregates

While cement prices recorded a near 7% QoQ fall in the third quarter of this year, prices are expected to rally in Q4 2022 and into 2023. Cement prices fell in Q3 2022 due to a seasonal fall in construction activity during the height of the monsoon period, and a fall in petroleum coke prices. In the remainder of 2022 and into 2023, improving demand from the construction industry as activity ramps up and the beginning of works on a sizeable pipeline of public infrastructure developments will drive up cement prices.



Concrete blocks and bricks

Concrete block and brick prices fell in the third quarter of this year, as demand from the construction industry softened during the monsoon period. However, with demand from the construction industry expected to recover in the final quarter of this year and thermal coal prices, on which India's brick manufacturers are reliant, remaining elevated, prices are expected to remain high.



Steel (rebar and structural)

A glut of supply in Q2 and Q3 2022 as a result of the Indian government's imposition of export tariffs and weak global demand saw steel prices contract in India. Soft global demand, an increasingly strong US dollar and a substantial fall in iron ore prices are expected to weigh significantly on steel prices into the first half of next year. Works on India's sizeable pipeline of infrastructure construction and the ending of steel export tariffs will exert some upwards pressure on prices, particularly as construction activity recovers following the end of the monsoon season, but this is unlikely to have a significant enough impact to offset the aforementioned risks.



Copper

Copper prices have fallen significantly from their highs in Q2 2022, with prices in India estimated to have fallen by upwards of 16% on a quarterly basis in Q3 2022. Weighing on domestic prices during the quarter was the fall in global prices, as industrial activity in the EU and China slowed and global economic growth stumbled. Domestic copper prices in India are particularly exposed to movements in international markets, given India's reliance on imports of copper concentrate. Some upwards pressure on prices may be generated towards the end of the year as demand strengthens due to an acceleration of public infrastructure construction works in India and China, but this is unlikely to be sufficient to drive a return to the highs seen in late 2021 and early 2022.

India - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	INR	INR	2021-22* % change	% change
Copper (INR/MT)	696,306	804,966	-13.50% ↓	-16.4% ↓ ■
Steel rebar (INR/MT)	56,103	61,200	-8.33% ↓	-12.6% ↓ ■
Steel flat (INR/MT)	56,796	69,333	-18.08% ↓	-12.0% ↓ ■
Lumber (INR/M3)	12,814	9,625	33.14% ↑	7.4% ↑ ●
Asphalt (INR/MT)	53,815	43,707	23.13% ↑	-8.1% ↓ ●
Limestone (INR/MT)	480	424	13.15% ↑	5.6% ↑ ■
Cement (INR/MT)	8,038	7,620	5.48% ↑	-6.9% ↓ ■
Concrete (INR/M3)	4,545	4,000	13.63% ↑	2.3% ↑ ■
Welded mesh (INR/unit (a))	302	339	-10.83% ↓	-15.2% ↓ ●
Bricks (INR/'000 unit)	9,157	8,100	13.05% ↑	-2.1% ↓ ■
Plasterboard (INR/unit (b))	364	350	3.89% ↑	0.0% ↔ ●
Diesel (INR/litre)	87.83	90.30	-2.73% ↓	-3.8% ↓ ●

(a) 100x100cm, dia.-6mm
(b) 120x180x1.25cm (LxWxT)

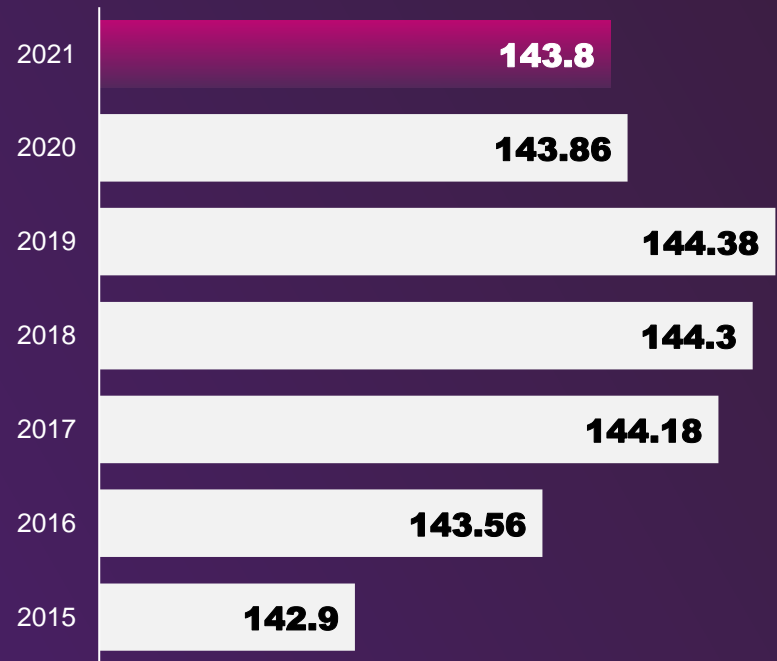
● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report






Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
Copper	-2.0% ↓	Moderate	Copper prices in India remain heavily influenced by international prices, given India's reliance on imports of copper concentrate. Prices have trended downwards since the second quarter of 2022, with slowing global economic growth, weak industrial activity in the EU and China, and the depreciation of the Indian rupee against the US dollar slowing global demand. This decline in prices is expected to continue into the first half of 2023.
Steel prices - Steel rebar - Flat steel	-4.9% ↓ -5.2% ↓	Moderate	Steel prices declined during the second and third quarter of 2022 owing to sluggish demand in the domestic market and higher inventory levels. The Indian government increased the export duty on steel products in May 2022, which led to a glut of steel in the domestic market. With demand from China and Europe weak due to a collapse in residential construction in China and poor industrial activity in the EU, prices are expected to decline further in the final quarter of this year and into 2023. However, the Indian government is planning to withdraw the export duty by the end of the year, and this is expected to restrict domestic supply, exerting a degree of upwards pressure on prices.
Lumber	+1.0% ↑	Moderate	Lumber prices are expected to have increased by approximately 7.5% on a quarterly basis in Q3 2022. Elevated demand from the construction industry is expected to drive lumber prices higher in the final quarter of this year and into early 2023.
Asphalt	-1.0% ↓	Low	An easing of global crude oil prices in the second and third quarter of 2022 is expected to have weighed on asphalt prices, with prices estimated to have fallen by approximately 8% quarter-on-quarter in Q3 2022. Further weighing on prices was the Indian government's sourcing of discount crude oil from Russia. In Q4, however, prices are expected to rise marginally as a result of increased crude oil prices following OPEC+'s decision to cut output by two million barrels per day.
Limestone	+1.0% ↑	Low	With limestone demand expected to continue to be well balanced, prices are expected to remain relatively stable, though higher energy costs will see some price appreciation in the final two quarters of this year.

India - Commodity Report



Construction cost index – 2015-2021

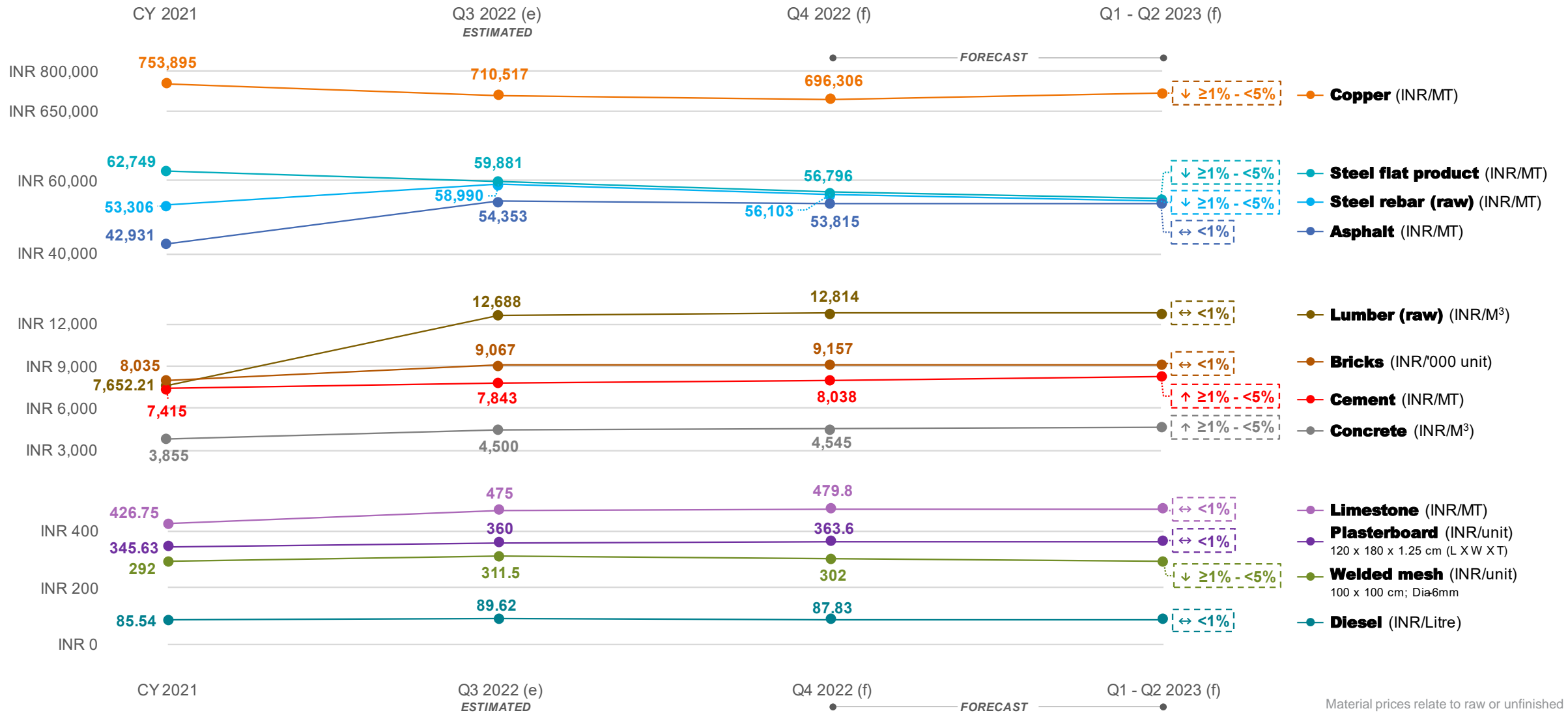


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+2.5% ↑ +1.0% ↑	Moderate	Declining input prices and a fall in demand due to a softening of construction activity during the monsoon season is expected to have resulted in a 7.4% quarter-on-quarter fall in cement prices in Q3 2022. However, with demand anticipated to improve in the final quarter of this year as construction activity picks up, prices are expected to rise.
 Welded mesh	-3.0% ↓	Moderate	Welded mesh prices are expected to fall in the second half of this year, in line with the decline in steel rebar prices.
 Bricks	+1.0% ↑	Low	Brick prices declined in Q3 2022 as construction activity slowed during the monsoon season. Prices are expected to rise marginally in the final quarter of this year and into 2023, as construction activity intensifies.
 Plasterboard	+1.0% ↑	Low	While no significant change is expected in the price of plasterboard, a slight increase in price is expected in the final quarter of this year as demand from the construction industry strengthens.
 Diesel	-2.0% ↓	Low	India is heavily dependent on imported crude oil, which accounts for approximately 80% of its domestic needs. Due to the fall in global crude oil prices and India's sourcing of discounted crude from Russia, the price of diesel is expected to have declined in Q3 2022. However, with OPEC+ cuts to production expected to drive global crude oil prices higher, diesel prices are expected to remain high in the coming quarters.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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.

India - Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

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India – Macroeconomic overview



Economic indicators



6.8%

GDP growth in 2022 (f)
and **8.95%** in 2021



6.58%

inflation rate in 2022 (f), and
5.13% for 2021



437.21M

people employed in
2022 (f) and **420.43M**
in 2021



7.00%

unemployment rate
for 2022 (f) and **7.81%**
in 2021



207.64

Consumer Price Index in
2022 (f) and **194.83** in
2021



153.10

Producer Price Index in
Aug 2022 and **136.20** in
Aug 2021

National holidays









17 public holidays

in India each year. Public holidays can vary significantly by state, and so we do not list them below.

India – Macroeconomic overview



Output 2021 and 2022 (in millions)			
Sectors	Total 2021	Total 2022 (f)	% change
Commercial 	INR3,163,737	INR3,355,525	6.1%
Energy and utilities 	INR12,988,090	INR13,598,945	4.7%
Industrial 	INR3,509,659	INR3,712,841	5.8%
Infrastructure 	INR11,053,625	INR11,814,943	6.9%
Institutional 	INR1,660,470	INR1,743,426	5%
Residential 	INR13,526,290	INR14,341,068	6%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



38

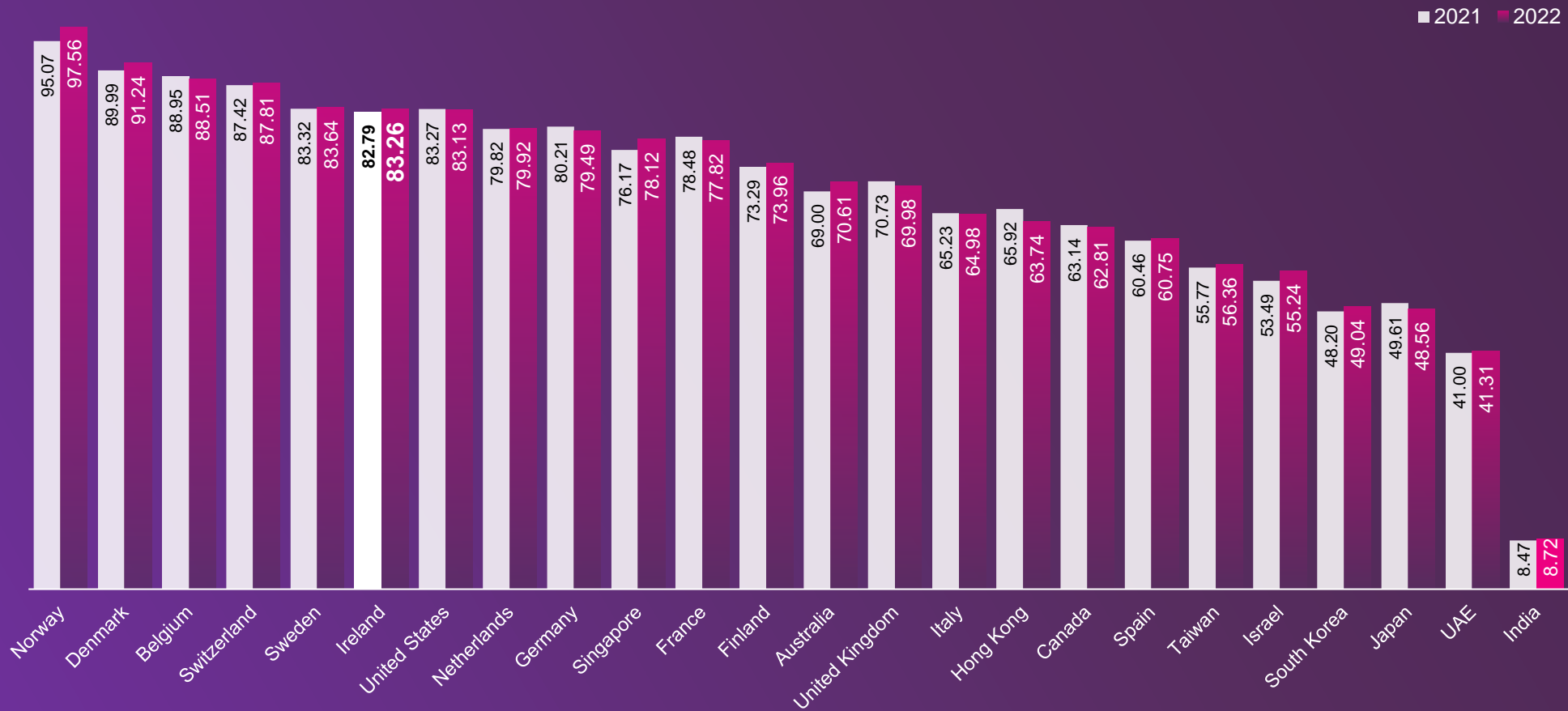
fatal accidents a day in 2022

Causes: Falls from heights, electrocutions, falling walls, and falling from scaffolds.

India – Macroeconomic overview



Labour productivity



Labour costs



INR178/day

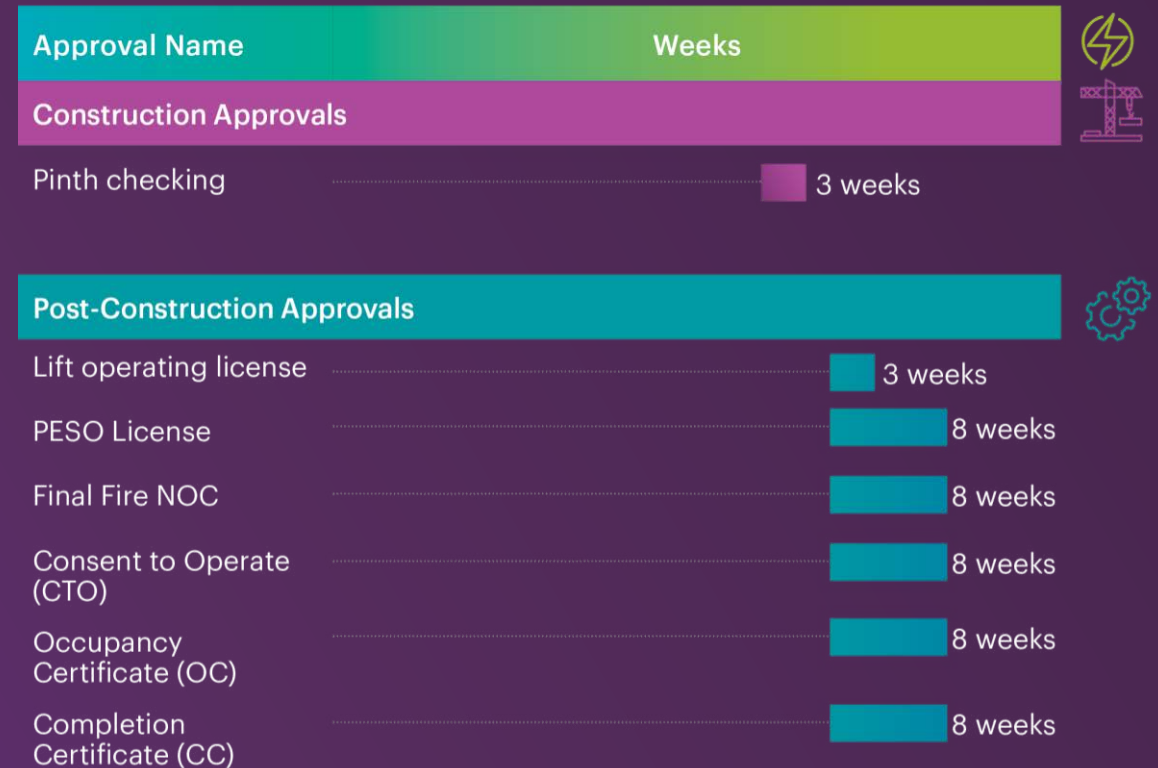
minimum wage

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

India – Construction programme considerations



Typical Delivery Programme



Note: All of the above information on process and timelines are from secondary sources. Linesight cannot independently verify the authenticity nor veracity of the information. We recommend engaging a suitable statutory consultants to have further and accurate details. Please also note that the permit process can differ from state/city/location.

India - Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

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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.

Sample sources – India

For India, sources for this report include, but are not limited to:

- IMF
- Reserve Bank of India
- Ministry of Statistics and Programme Implementation
- ILO
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Ireland

Country Insights and Commodity Report

Q3 2022



Ireland

Q3 2022

While the latest International Monetary Fund (IMF) forecast was an upward revision for Ireland to 9% growth for 2022 and a one-point downward revision to 4% next year (compared to the ESRI's 8.1% forecast for 2022 and 4.4% in 2023), this is significantly above the expected eurozone average of 3.1% for 2022 and 0.5% for 2023. As is the case for much of the world, inflation remains a key threat, with prices expected to have grown by 8.4% on average over the year. The Central Bank concurs with this view, with the slowdown next year expected to come from the technical recessions anticipated for many countries, which are expected to particularly impact the multinational sector.

Construction output is expected to record growth of 10.6% for the year in real terms and return to 2019 levels in 2023. Downside risks remain – supply chain disruptions, higher energy and labour costs, and the impacts of tightening monetary policy. With that said, hyperinflation has subsided, over the latter part of this year with commodity costs levelling off and beginning to drop. Industry slowdowns will lead to market correction, driven by the looming energy crisis and interest rates, which are impacting project financing. We expect this to continue into 2023.



Stephen Ashe
Senior Director - Europe
stephen.ashe@linesight.com



Lumber

With the construction industry heading for a slowdown following high levels of year-on-year growth in recent quarters, demand for lumber will soften. This has already been evident in recent months, but prices are still high compared to levels recorded last year. A concrete levy included in the 2023 budget (now coming into effect in September next year) could impact on building designs, potentially increasing demand for timber frame houses.



Cement and aggregates

Cement and aggregates prices have continued to rise in recent months, despite signs of slowing demand in the construction industry. Rising production costs, driven by surging energy prices, are likely to remain a key factor in keeping prices high.



Concrete blocks and bricks

After a sharp rise in recent months, prices have flattened out at an elevated level, as the impact of weaker demand has been offset by continued upward pressure on production costs. Concrete blocks (and other concrete products) will be subject to a 5% levy from September next year, a measure that has been introduced to fund the costs of the redress scheme for homeowners affected by defective products used in residential construction.



Steel (rebar and structural)

Having stabilised late last year and into the early part of 2022, steel prices have soared, with averages for structural steel and reinforcing metal being over 40% higher in August than in the same month last year. Although upward pressure appears to be easing, production costs remain high, but a downward trend is expected in the coming months.



Copper

Global copper has settled at a lower level compared to the highs posted in Q2, reflecting weaker demand globally, but prices for copper pipes and fittings in Ireland jumped in July this year, with prices remaining high compared to last year's levels.





Ireland – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	€	€	2021-22* % change	% change
Copper (€/MT)	10,253	8,375	22.42% ↑	19.0% ↑ ●
Steel rebar (€/MT)	907	765	18.48% ↑	-0.3% ↓ ■
Steel flat (€/MT)	1,193	783	52.26% ↑	17.0% ↑ ●
Lumber (€/M3)	112	106	6.03% ↑	4.6% ↑ ●
Asphalt (€/MT)	942	799	17.93% ↑	6.7% ↑ ●
Limestone (€/MT)	93	85	10.25% ↑	1.8% ↑ ●
Cement (€/MT)	257	212	20.89% ↑	8.1% ↑ ●
Concrete (€/M3)	86	69	24.59% ↑	7.6% ↑ ●
Welded mesh (€/unit (a))	61	53	16.91% ↑	-0.3% ↓ ●
Bricks (€/’000 unit)	864	730	18.34% ↑	5.1% ↑ ●
Plasterboard (€/unit (b))	11	9	21.21% ↑	-4.5% ↓ ●
Diesel (€/litre)	1.93	1.60	20.87% ↑	-0.5% ↓ ■

(a) 240x480cm, dia.-6mm
(b) 240x120x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-2.0% ↓	Moderate	Wholesale data indicates that prices for copper pipes and fittings surged by 18% in July, which reflects the high price levels reached in preceding months. However, with global prices easing from the highs of the first half of the year, local prices are set to fall back in the coming quarters.
 Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	Steel prices have come under significant upwards pressure in recent months, owing primarily to surging production costs and disruption to trade. Structural steel products saw a faster rate of price inflation than rebar in Q3 2022. Growth in domestic demand from the construction industry will wane in the coming quarters, which will contribute to an easing in prices.
 Lumber	+0.7% ↑	Moderate	Lumber prices rose during Q2 2022 and started to level off in Q3 2022, as weaker demand in the construction industry offset some of the upward pressure stemming from rising costs for energy and transportation.
 Asphalt	+0.9% ↑	Moderate	High global crude oil prices have driven up asphalt prices in the past two quarters. Although prices for crude oil have dropped below the highs of mid-2022, the decision in early October by OPEC+ to cut production could result in renewed upward pressure. Spending on road infrastructure projects outlined in the New National Development Plan (NDP) 2021–30 will also keep prices at elevated levels.
 Limestone	+0.4% ↑	Low	Limestone prices have been steadily rising in recent months, and with production costs set to remain high, prices will stay close to current levels in the coming quarters.

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.




Ireland – Commodity Report



Linesight tender price index 2011-2021



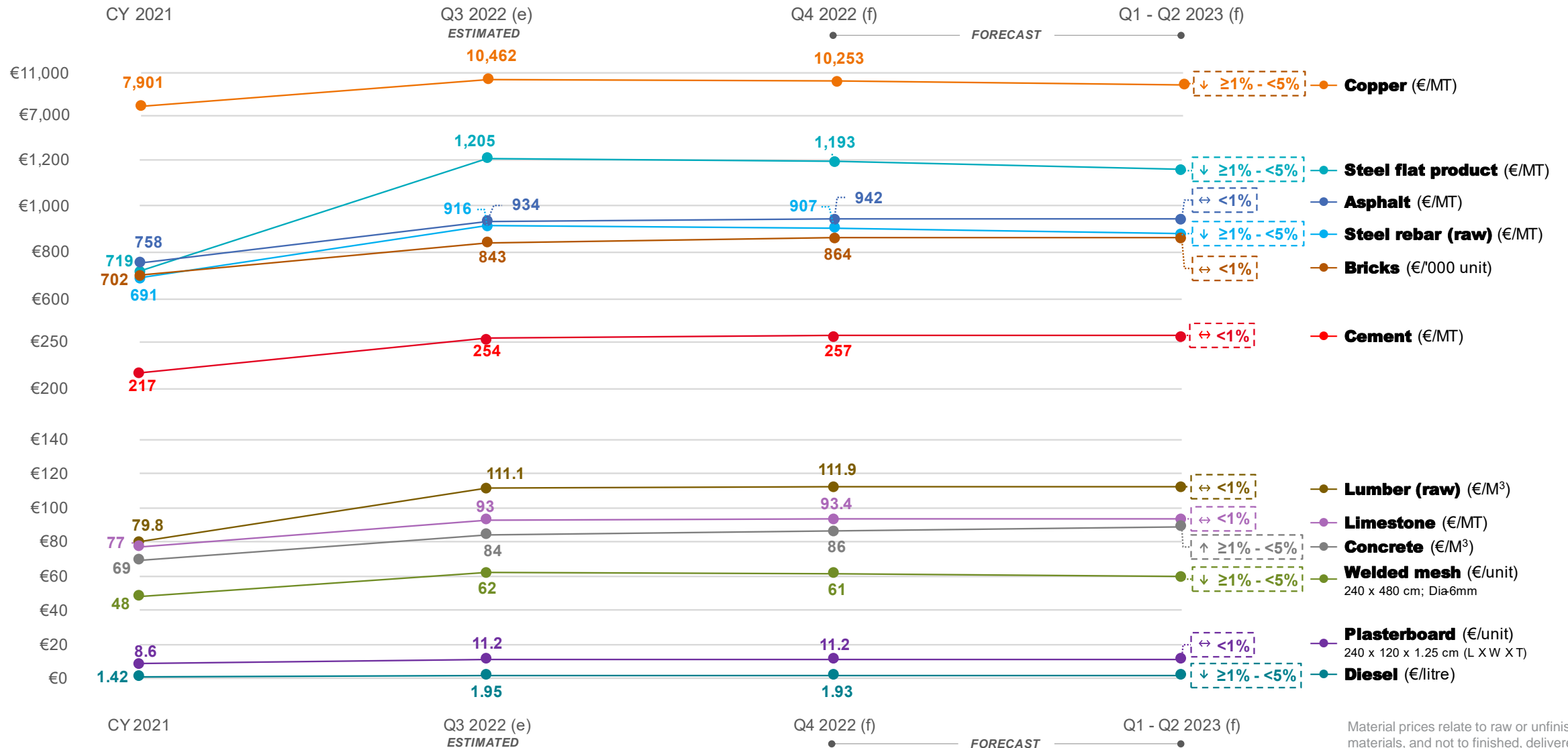
Note: The above infers a full-year increase of 9.7% in 2021. At present, we estimate that H1 2022 saw a circa 7% increase. The full-year 2022 figure will be subject to several factors, including the below, but ultimately, we would note that we see a correction coming across H2: projects go on hold and there is an eventual correction (supply and demand metrics change, the outcome and duration of the Russia-Ukraine conflict, a stabilisation of energy prices, the occurrence of a global recession and subsequent correction, further COVID-19 waves, Brexit impacts and supply chain liquidations/receiverships).

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement	+1.0% ↑	Moderate	Owing to high energy costs, cement prices rose further in Q3 2022, and are set to remain close to current levels to the end of the year. However, weaker demand amid the slowdown in the construction industry will contain further price spikes.
 Concrete	+2.5% ↑	High	With high prices for sand and cement, as well as high transportation costs, prices for concrete have continued on an upward trend. The introduction of a levy on concrete products will come into effect in September next year, pushing prices higher.
 Welded mesh	-1.0% ↓	High	Welded mesh prices have eased from the highs of mid-2022, and in line with trends in steel prices, there will be a further decline in the coming quarters.
 Bricks	+2.5% ↑	Moderate	Brick prices are still significantly higher than a year ago, and this reflects high production costs that have been passed on to buyers, along with a recovery in demand earlier in the year after pandemic disruption last year. Growth in the construction industry is weakening, but supply-side factors will keep prices close to current highs.
 Plasterboard	0.0% ↔	Low	With the likelihood of a continued slowdown in construction, demand for plasterboard will weaken, but raw materials and production costs will keep prices elevated.
 Diesel	-1.0% ↓	Moderate	Diesel prices have fallen from the highs of June 2022, when they rose above €2 per litre. The recent decision by OPEC+ to cut production levels raises the prospect of renewed volatility in the coming quarters.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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.

Ireland – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

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.

Ireland – Macroeconomic overview



Economic indicators



8.1%

GDP growth in 2022 (f) and **13.6%** in 2021



8.1%

inflation rate in 2022 (f), and **2.4%** for 2021



2.5M

people employed in 2022 (f) and **2.2M** in 2021



4.8%

unemployment rate for 2022 (f) and **16.1%** in 2021



116.7

Consumer Price Index in 2022 (f) and **108.72** in 2021



4.70%

Wholesale Price Index in Aug 2022 and **-1.40%** in Aug 2021

National holidays



10 public holidays

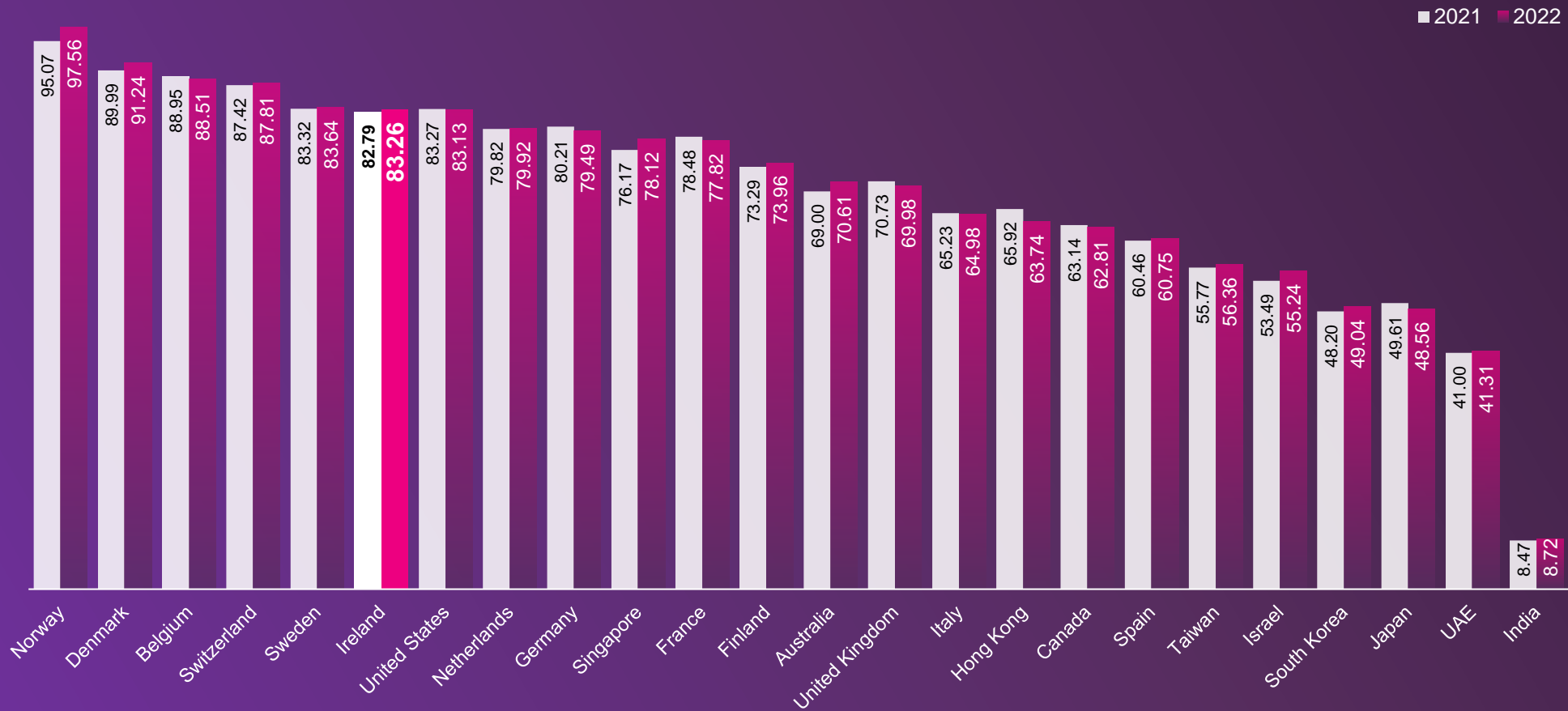
in Ireland in 2022.

- New Year's Day (1 January)
- First Monday in February, or 1 February if the date falls on a Friday (from 2023 onwards)
- Saint Patrick's Day (17 March)
- Extra public holiday (18 March in 2022 only)
- Easter Monday
- First Monday in May
- First Monday in June
- First Monday in August
- Last Monday in October
- Christmas Day (25 December)
- Saint Stephen's Day (26 December)

Ireland – Macroeconomic overview



Labour productivity



Labour costs







€27.33

average hourly total labour earnings for Q1 2022, compared to €26.83 in 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Ireland – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	€5,699	€6,007	5.4%
Energy and utilities 	€1,771	€1,779	0.5%
Industrial 	€2,032	€2,200	8.3%
Infrastructure 	€4,520	€4,664	3.2%
Institutional 	€2,912	€3,096	6.3%
Residential 	€10,436	€12,660	21.3%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



decline from 16 deaths in 2020 to 10 deaths in 2021

Ireland – Average construction costs



Building type	Cost range		M&E (inc. @)	
Commercial offices				
Suburban, naturally ventilated				
Shell and core	€1,800	€2,600	per sq.m.	10-15%
Developer standard	€2,000	€2,500	per sq.m.	15-20%
Extra for air-conditioning	€300	€600	per sq.m.	-
City centre, air conditioned				
Shell and core	€2,300	€3,600	per sq.m.	15-20%
Developer standard (CAT A)	€2,800	€4,200	per sq.m.	25-30%
Office fit-out				
95% open-plan, no catering	€700	€1,100	per sq.m.	20-30%
75% open-plan, limited catering	€900	€1,400	per sq.m.	20-30%
60% open-plan, full catering	€1,300	€2,000	per sq.m.	25-35%
Corporate HQ	€2,000	€2,700	per sq.m.	25-35%
High-tech industrial				
Shell and core	€1,500	€2,200	per sq.m.	20-25%
Fit-out	€1,100	€2,100	per sq.m.	25-45%

Building type	Cost range		M&E (inc. @)	
Residential				
Estate house (approx. 100sq.m.)	€1,400	€2,000	per sq.m.	10-20%
Purpose-built student accommodation (incl. FF&E)	€2,900	€3,600	per sq.m.	10-20%
Apartments - suburban/city edge (superstructure)				
BTR - 4-8 storey (incl. FF&E)	€2,300	€2,800	per sq.m.	15-20%
BTS - 4-8 storey	€2,200	€2,600	per sq.m.	15-20%
Apartments - Urban (superstructure)				
BTR - 5-8 storey (incl. FF&E)	€2,400	€3,100	per sq.m.	20-25%
BTR - 12-15 storey (incl. FF&E)	€2,600	€3,500	per sq.m.	20-25%
BTS - 5-8 storey	€2,300	€3,000	per sq.m.	15-20%
BTS - 12-15 storey	€2,500	€3,300	per sq.m.	20-25%
Co-living	€2,800	€3,600	per sq.m.	20-25%
Shopping centres				
Anchor unit	€1,000	€1,400	per sq.m.	10 -15%
Unit shops	€1,300	€2,100	per sq.m.	10-15%
Mall	€2,300	€4,400	per sq.m.	20-25%
Retail fit-out	€1,800	€2,700	per sq.m.	25-30%
Site development business parks				
Roads and primary services	€238,700	€816,500	per hectare	-
Warehouses				
Without offices	€800	€1,200	per sq.m.	8-12%
With 10% offices	€1,000	€1,700	per sq.m.	10-15%

Ireland – Average construction costs



Building type	Cost range		M&E (inc. @)	
Healthcare				
Tertiary care	€5,200	€6,600	per sq.m.	35-40%
Acute teaching hospital	€4,500	€5,700	per sq.m.	35-40%
General hospital	€4,100	€5,200	per sq.m.	30-35%
Nursing home	€2,500	€3,700	per sq.m.	20-25%
Car park				
Surface	€1,600	€2,200	per space	-
Multistorey	€13,800	€29,100	per space	-
Undercroft	€17,100	€26,100	per space	-
Single-level basement	€23,300	€48,800	per space	-
Double-level basement	€29,700	€65,800	per space	-
Basement (no car parking)				
Bicycle storage general	€1,400	€2,700	per sq.m.	-
Shower and changing facilities	€1,900	€3,500	per sq.m.	-
Plant space (excl. plant)	€1,300	€2,600	per sq.m.	-
Education				
Primary-level (DoES)	-	€1,640*	per sq.m.	10-15%
Second-level (DoES)	-	€1,640*	per sq.m.	15-20%
Third-level	€2,500	€4,000	per sq.m.	20-25%

Building type	Cost range		M&E (inc. @)	
Leisure				
Hotel building 3-4* (incl. FF&E)	€2,500	€3,700	per sq.m.	25-35%
Hotel building 5* (incl. FF&E)	€3,200	€5,800	per sq.m.	30-40%
Aparthotels	€2,900	€4,300	per sq.m.	25-35%
Restaurant	€2,400	€4,000	per sq.m.	25-30%
Cinema	€2,000	€3,500	per sq.m.	20-30%
Sports hall	€1,400	€2,300	per sq.m.	10-15%
Swimming pool	€3,100	€4,600	per sq.m.	30-40%
Municipal				
Fire station	€2,900	€3,700	per sq.m.	15-25%
Prison	€3,000	€4,100	per sq.m.	20-30%
Courthouse	€3,900	€5,300	per sq.m.	20-30%

Notes:

1. Costs are based on March 2022 prices and based on gross floor area. Average costs as indicated should not be used for insurance valuation purposes. The costs are representative of typical valuations for each type of project. Unique designs or challenging sites may not be within the cost range shown. The rates shown are average construction build only and do not include VAT, professional fees, any other soft costs, or allow for future inflation.
2. The building costs noted above for the various building types are exclusive of site development costs and external works, which can vary significantly based on the specific site.
3. The costs associated with brownfield sites can vary significantly and the building costs above exclude abnormal contamination.
4. The basic building costs above exclude basement construction costs. Should a basement be required, this should be costed separately.
5. Costs per car parking space assume a large, efficient car park layout, providing a gross 28-34sq.m. per car parking space. Note that this relates to pure car parking areas, and additional basement spaces such as bicycle parking, plant rooms, shower and changing facilities are not accounted for, and should be costed separately.
* Current basic building cost (BBC) limit based on May 2021 circular and includes VAT, but excludes external works, fitted furniture and abnormal cost provisions.
6. Costs exclude further market-driven forces associated with Brexit/COVID-19, and conflict in Russia-Ukraine or elsewhere.

Ireland – Main contractors' turnover



2021 rank	2020 rank	Contractor	Est. global – 2021 €m	Est. Irish – 2021 €m	Actual global – 2020 €m
1	1	John Sisk & Son Limited	€1,489.50	€774.54	€1,510.50
2	2	Winthrop Engineering Limited	€658.44	€233.12	€560.00
3	4	BAM Contractors Limited *	€633.00	€633.00	€460.00
4	6	John Paul Construction Limited	€544.00	€420.00	€447.80
5	5	Collen Construction Limited	€505.12	€227.30	€408.87
6	3	PJ Hegarty & Sons Limited	€375.00	€340.00	€566.00
7	7	Bennett Construction Limited	€320.00	€250.00	€367.00
8	9	Walls Construction Limited	€303.00	€303.00	€274.00
9	8	JJ Rhatigan & Co Limited	€263.00	€256.05	€287.00
10	/	Wills Bros Limited	€163.00	€81.98	€143.00
11	/	Murphy Ireland	€158.00	€136.13	€138.00
12	11	Mac Group	€144.50	€98.26	€141.90
13	12	Ardmac Limited	€130.19	€70.30	€129.09
14	13	StructureTone Limited **	€127.00	€127.00	€125.00
15	17	Conack Construction Ltd	€122.00	€122.00	€73.00
16	20	Monami Construction Ltd	€106.60	€106.60	€61.20
17	14	Flynn Management & Contractors Limited	€96.00	€77.76	€105.00
18	18	Clancy Construction Limited	€95.72	€95.72	€70.67
19	15	Duggan Brothers (Contractors) Limited	€87.00	€87.00	€106.50
20	16	Townmore Construction	€84.00	€56.00	€80.00
21	22	Elliott Group	€75.00	€60.00	€45.00
22	23	Purcell Construction Limited	€65.90	€65.90	€42.94
23	21	MMD Construction Cork Limited	€64.66	€64.66	€49.42
24	19	Vision Contracting Limited	€63.50	€63.50	€61.49
25	/	Mannings Construction Group	€51.10	€21.10	€51.10
26	/	Gem Group	€47.24	€47.24	€59.83
27	/	David Flynn Ltd.	€45.43	€36.34	€35.84
28	24	Townlink Construction Limited	€30.00	€30.00	€35.00

Ireland – Subcontractors' turnover

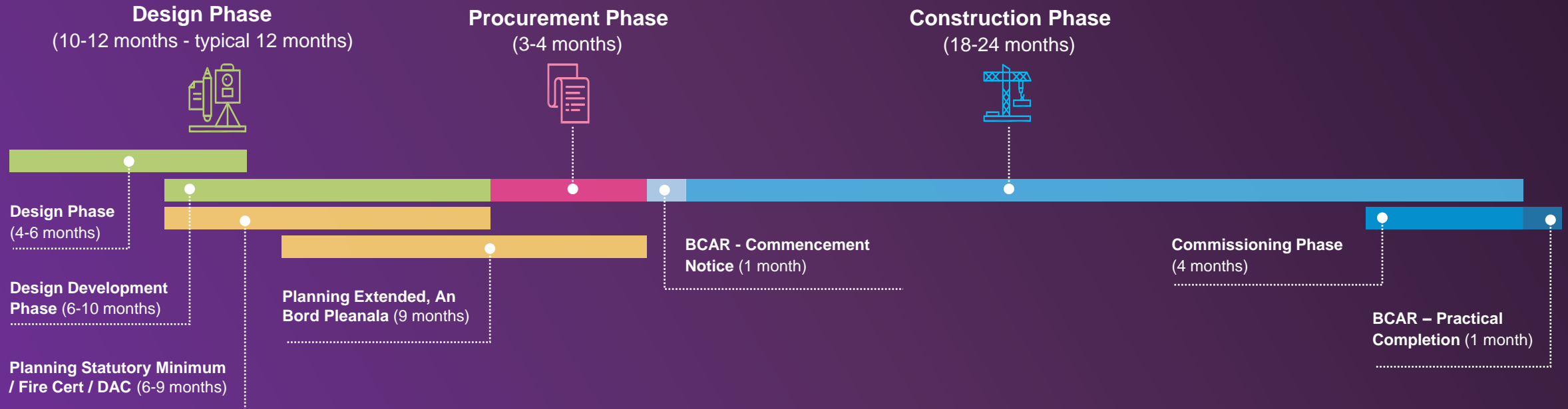


2021 rank	2020 rank	Contractor	Est. global – 2021 €m	Est. Irish – 2021 €m	Actual global – 2020 €m
1	1	Mercury Engineering Group	€1,480.00	€595.00	€1,040.00
2	2	Jones Engineering Group	€930.00	€558.00	€727.00
3	4	Kirby Group Engineering Limited	€401.84	€253.16	€292.75
4	3	Dornan Engineering Limited	€370.00	€105.00	€488.00
5	/	Specialist Technical Engineering Services (STS Group)	€255.00	€85.00	€170.84
6	5	Suir Engineering Limited	€242.00	€175.00	€178.00
7	/	Designer Group Engineering Contractors Limited	€202.30	€125.40	€203.42
8	6	King & Moffat Building Services	€128.57	€36.02	€109.93
9	9	B.M.D & Company Limited	€62.60	€62.60	€43.30
10	7	Lynskey Engineering Limited	€52.00	€34.00	€48.35
11	10	DMG Engineering Limited	€47.05	€47.05	€40.24
12	13	CJK Electrical Limited	€44.55	€44.55	€29.05
13	8	L. Lynch & Co. Limited	€44.27	€44.27	€44.32
14	/	Alucraft Ltd	€43.32	€36.20	€84.79
15	11	LMC Energy Solutions Limited	€42.00	€41.16	€37.66
16	/	Tritech Engineering	€36.25	€36.25	€18.00
17	15	Rockwell Engineering	€19.95	€19.95	€19.48
18	/	Buttimer	€19.60	€11.17	€18.23
19	16	T Bourke & Co. Limited	€15.11	€15.11	€11.14
20	/	Sean Ahern Limited	€11.00	€11.00	€9.30

Ireland – Construction programme considerations



Typical Delivery Programme



Note: Please note that the programme and phase duration will depend on project type, project specifics and the procurement method – please speak to your Linesight contact directly if you have a query in this regard related to a particular project

Ireland – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Ireland

For Ireland, sources for this report include, but are not limited to: IMF

- ESRI
- Central Bank
- CSO
- SCSi
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Israel

Country Commodity Report

Q3 2022



Israel

Q3 2022

Israel's central bank has updated its forecast for GDP growth early in October to 6% for 2022 and 3% in 2023, from previous predictions of 5% for 2022 and 3.5% for 2023. As is the case in many parts of the world, spikes in inflation and interest rates pose a key threat to economic performance, with five interest rate hikes to date in 2022, the latest of which is to 2.75%. The central bank is also forecasting a benchmark interest rate of 3.5% by Q3 2023. The upper target range for inflation stands at 3%, with a 12-month rate of 4.6% at present.

In terms of construction, the industry looks set to record 4% growth in real terms this year. There is a keen focus on infrastructure projects to support continued economic growth, such as large-scale transport projects and renewable energy. Key industry threats include electricity costs, elevated material prices, the re-emergence of political turmoil in recent months, supply chain disruption, and the impact of these factors on investor confidence.



Shay Dahan
Director
shay.dahan@linesight.com



Lumber

Israel is highly dependent on lumber imports, mainly from China, the US and mainland Europe. Lumber prices globally have eased, and with a recession on the horizon in the US and mainland Europe, prices will remain low. However, local demand could be stimulated by government spending, and with further dollar appreciation, import prices will increase.



Cement and aggregates

Although still relatively high, cement prices have stabilised over the past quarter as the cost of core input pet coke has stabilised and shipping costs have fallen. Israel is heavily reliant on imported cement, with domestic producers losing market share. Around 60% of the cement in Israel is imported from Turkey, and the Russia-Ukraine conflict and ensuing sanctions on Russia have restricted the export of pet coke, which consequently drove up the price of cement. Prices are levelling off due to dampening demand and an easing of supply-side tightness. In addition, the weakness in the Turkish Lira has made imports from Turkey far cheaper.



Concrete blocks and bricks

Domestic interest rate hikes and a fall in real incomes are a downside risk for construction projects, but public housing programmes will support demand and keep prices high. The recently introduced housing plan for 2022–25, aims to reduce house prices by increasing the supply of apartments. The plan includes starting construction of

280,000 homes over the next four years (70,000 annually), and providing approval for another 500,000 housing units (62,500 annually). There is also significant investment in transport infrastructure, including light rail projects in Tel Aviv and Beersheba.



Steel (rebar and structural)

The prospect of a global economic recession and slowdown in infrastructure investment, as well as the real estate crisis in China have been key drivers in the fall in global steel prices. In Europe, the impact of the energy crisis will keep a tight grip on Turkish and Italian steel producers, who have felt the effect of the sharp increase in natural gas prices. However, the continuation of the monetary tightening cycle and the slowdown in economic activity in the region will quell demand for steel, and put negative pressure on prices. Local prices will reflect these trends, as Israel relies heavily on steel imports to meet demand, given limited domestic capacity.



Copper

Copper prices have dropped over the past quarter, but supply-side factors continue to prevent prices from lowering to pre-pandemic levels. This includes protests in Chile and Peru that have limited production, and underinvestment in new mining operations that will likely limit supply into the future. Subdued demand from China and the US due to a decline in economic activity has put downward pressure on prices. Over the long term, though, prices are expected to recover; increased enthusiasm to invest in EVs, renewable energy and infrastructure will add to copper demand.

Israel – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)	Q2 2022 - Q3 2022 (e)	
	ILS	ILS	2021-22* % change	% change
Copper (ILS/MT)	25,275	30,061	-16% ↓	-19.1% ↓ ●
Steel rebar (ILS/MT)	2,251	2,235	1% ↑	-18.4% ↓ ●
Steel flat (ILS/MT)	1,951	3,768	-48% ↓	-22.2% ↓ ●
Lumber (ILS/M3)	758	827	-8% ↓	-2.5% ↓ ●
Asphalt (ILS/MT)	2,475	2,280	9% ↑	3.4% ↑ ●
Limestone (ILS/MT)	229	212	8% ↑	0.8% ↑ ■
Cement (ILS/MT)	384	272	41% ↑	3.4% ↑ ●
Concrete (ILS/M3)	408	315	29% ↑	1.5% ↑ ●
Welded mesh (ILS/unit (a))	230	212	8% ↑	-3.5% ↓ ●
Bricks (ILS/'000 unit)	3,402	3,120	9% ↑	2.8% ↑ ●
Plasterboard (ILS/unit (b))	44	40	10% ↑	1.9% ↑ ●
Diesel (ILS/litre)	6.31	6.46	-2% ↓	-3.8% ↓ ●

(a) 600x250cm, dia.-6mm
(b) 260x120x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

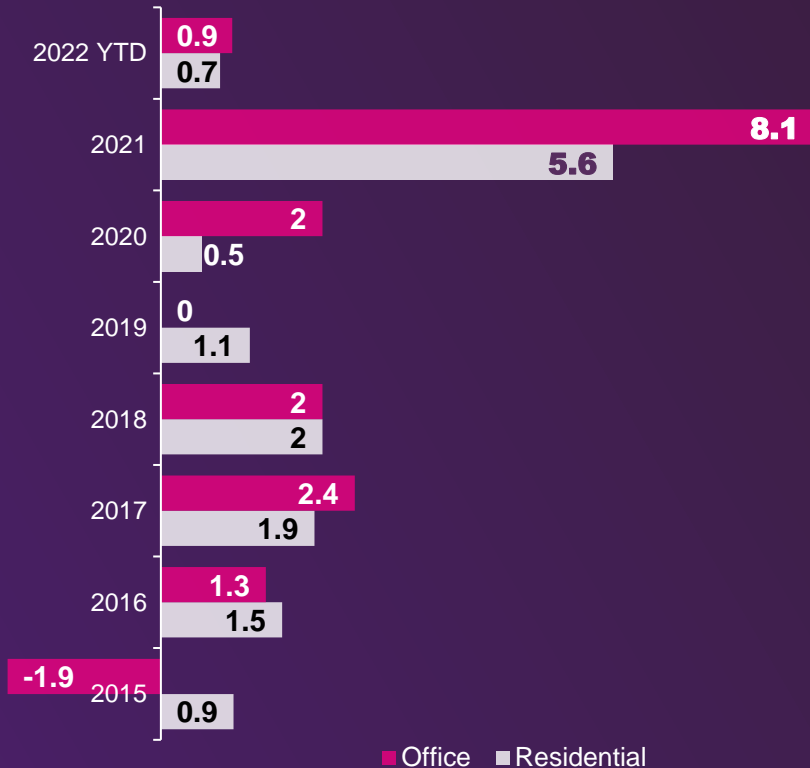
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-2.7% ↓	Low	Copper prices have declined by more than 15% over the previous quarter, reflecting the decline in demand in major economies across the globe, especially in China, which accounted for roughly half of the demand. With further economic weakness expected, copper prices are expected to decline further. However, in the long run, copper prices will rise on the back of demand from the EV industry and renewable energy investment.
 Steel prices - Steel rebar - Flat steel	-0.6% ↓ -3.6% ↓	Moderate	Steel prices have been on a downturn and registered a decline of more than 15% from the previous quarter. Increasing interest rates and fear of recession have weakened the demand from the real estate and housing sector, leading to a slump in demand for steel. However, the pace of decline in the price of steel is expected to slow, with major steel producers cutting down production or adjusting prices to balance supply.
 Lumber	+0.5% ↑	Low	With supply chain delays stabilising and a decrease in logistics costs due to lower crude oil prices, lumber prices have eased back, but they will remain around current highs in the coming quarters.
 Asphalt	-1.0% ↓	Low	The price of asphalt has stayed high, despite the recent drop in crude oil prices. With demand improving on the back of public infrastructure investment, and also the potential for renewed volatility in crude oil price, asphalt prices will stay close to current levels.
 Limestone	+1.0% ↑	Low	Limestone demand will remain fairly strong, owing to continued expansion within the construction industry.






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.

Israel – Commodity Report



Price index of input in residential, office and commercial buildings 2015-2022

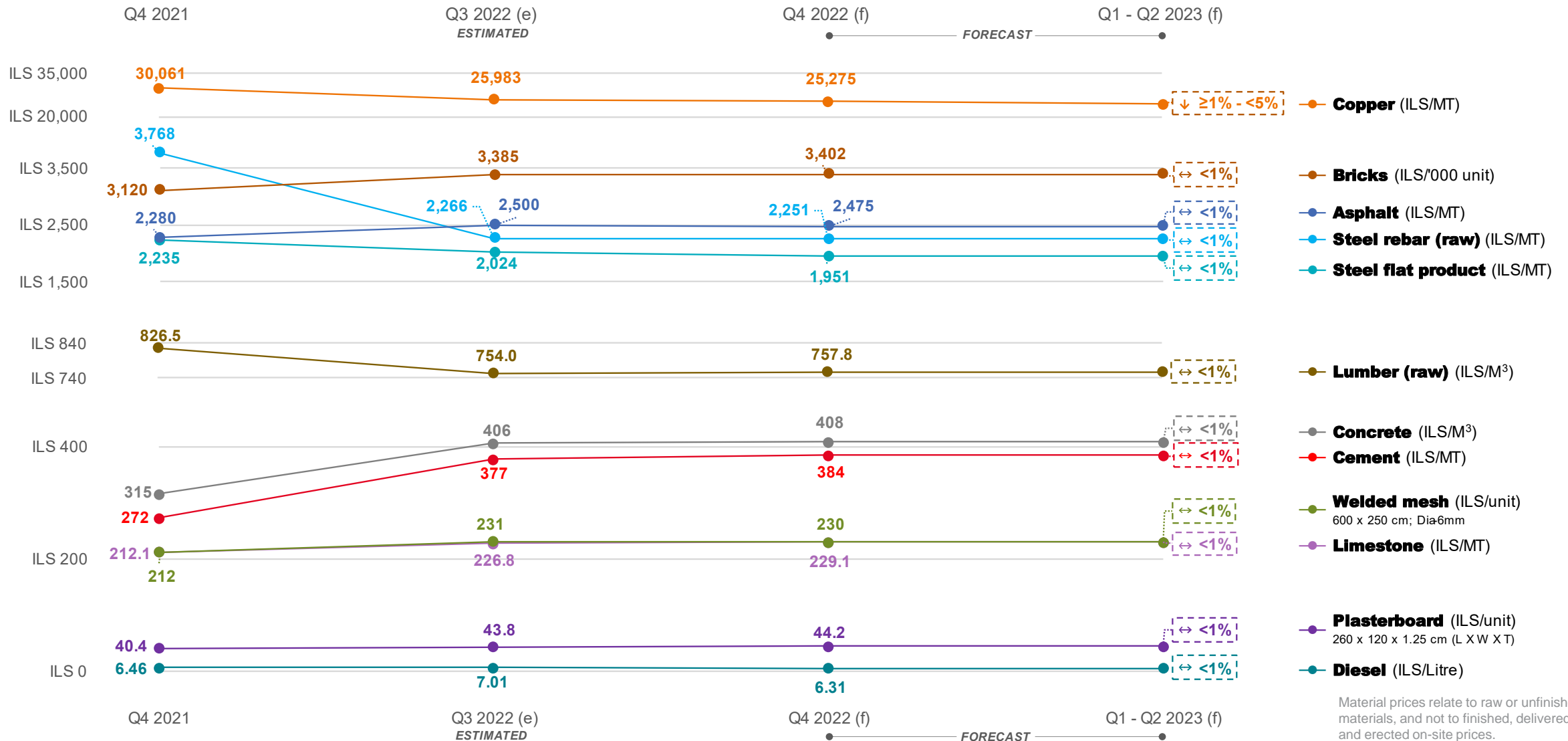


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+1.8% ↑ +0.5% ↑	Moderate	Having witnessed a sharp increase during H1 2022, cement prices have stabilised at a high level in recent months. With the government's plan to invest in housing projects, the demand for cement and related products is likely to pick up. The recent budget includes the introduction of a new housing plan for 2022–25, which includes starting construction of 280,000 homes over the next four years.
 Welded mesh	-0.5% ↓	Moderate	The price for welded mesh is derived from steel rebar prices. Mesh prices remained relatively high for H1, but with steel rebar prices stabilising, the price for rebar is likely to remain relatively flat in the coming quarters.
 Bricks	+0.5% ↑	Low	The price for bricks has shown a slight increase, which is due to high energy costs, and relatively high transportation and logistics costs. Building construction demand will be bolstered by government housing investment plans, helping to support demand for key materials, such as bricks.
 Plasterboard	+1.0% ↑	Low	Volatility in prices for plasterboard has been limited in recent quarters, but prices will edge upwards in line with improving demand.
 Diesel	-10.0% ↓	Low	Diesel prices have declined from the previous quarter, mainly due to stabilising crude oil prices. However, with OPEC+'s decision to cut oil production, the price of diesel is expected to hold close to current levels in the coming months.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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Israel – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

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Israel – Macroeconomic overview



Economic indicators



6%

GDP growth in 2022 (f)
and **8.19%** in 2021



4.32%

inflation rate in 2022 (f)
and **1.49%** for 2021



4.05M

people employed in 2022 (f)
and **3.94M** in 2021



3.92%

unemployment rate for 2022 (f)
and **4.99%** in 2021



113.77

Consumer Price Index in
2022 (f) and **109.06** in
2021



122.6

Producer Price Index in
Aug 2022 and **110.2** in
Aug 2021

National holidays



**11 official
holidays**

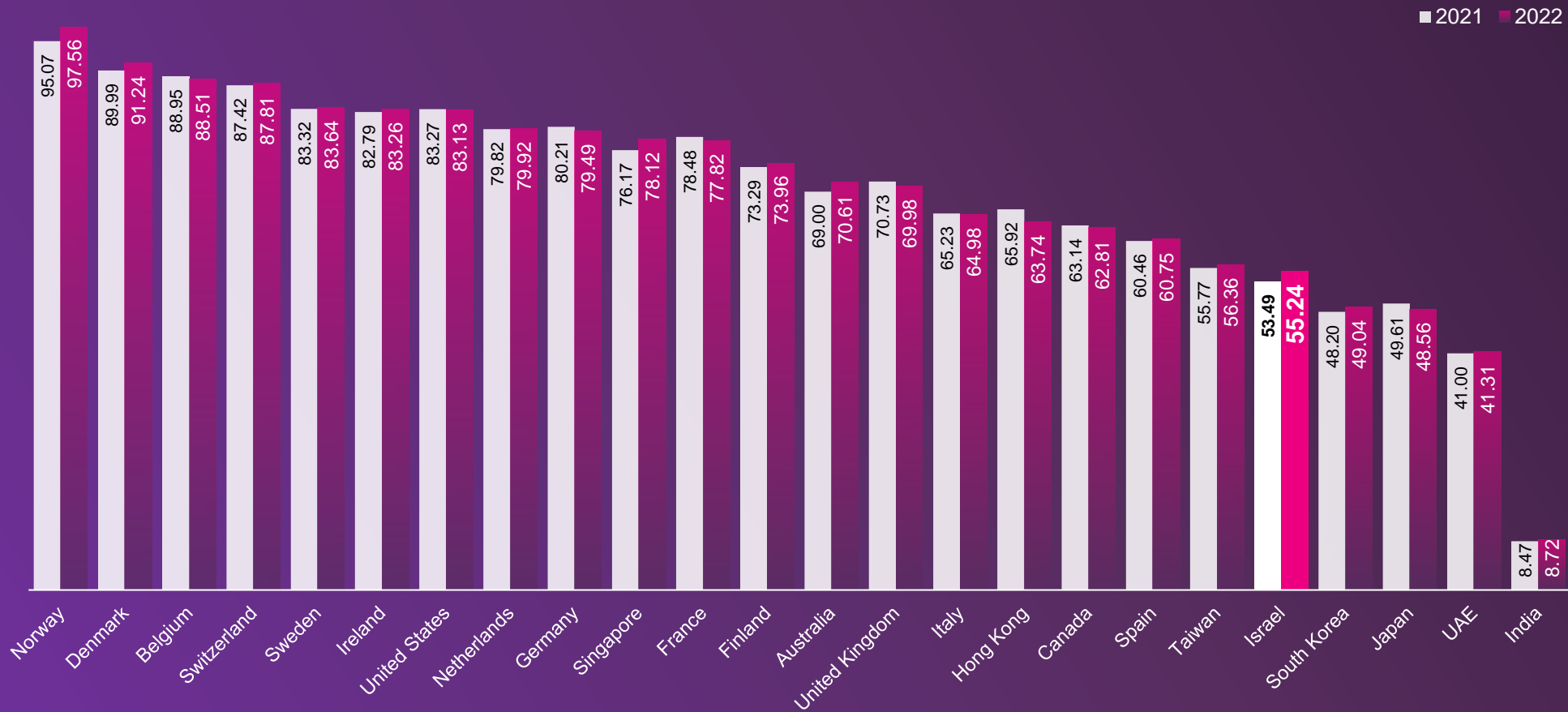
in Israel.

- Feast of Purim – Tel Aviv (17 March)
- Feast of Purim – Jerusalem (18 March)
- Last Day of Pesach (Passover) (22 April)
- Israel Independence Day (5 May)
- Feast of Shavout (Pentecost) (5 June)
- Fast Of Ninth of Av (7 August)
- Rosh Hashanah (New Year – 1st day) (26 September)
- Rosh Hashanah (New Year – 2nd day) (27 September)
- Yom Kippur (Atonement Day) (5 October)
- Succot (1st day) (10 October)
- Simchat Torah (Shemini Atzeret) (17 October)

Israel – Macroeconomic overview



Labour productivity









Labour costs

5,400ILS 
per month minimum wage in 2022

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Israel – Construction overview



Output 2021 and 2022 (in millions)			
Total 2021	Total 2021	Total 2022 (f)	% change
Commercial 	ILS19,219	ILS20,162	4.9%
Energy and utilities 	ILS14,367	ILS14,961	4.1%
Industrial 	ILS7,036	ILS7,386	5%
Infrastructure 	ILS16,659	ILS17,457	4.8%
Institutional 	ILS20,162	ILS20,960	4%
Residential 	ILS103,256	ILS107,022	3.6%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
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Construction Health and Safety practices and culture



The Israel Institute for Occupational Safety and Hygiene (IIOSH) is its national public institution, which oversees workplace safety and health.

Israel – Report methodology



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- Nominal and real data

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.

Sample sources – Israel

For Israel, sources for this report include, but are not limited to:

- IMF
- The Central Bureau of Statistics
- Israel Institute for Occupational Safety and Hygiene (IIOSH)
- GlobalData's Construction Intelligence Center (CIC)
- Conference-board.org

Linesight





Italy

Country Insights and Commodity Report

Q3 2022



Italy

Q3 2022

Given its reliance on Russian fuel imports, Italy is expected to see an economic contraction of 0.2% in 2023, according to the International Monetary Fund's (IMF) latest release. It revised its 2022 forecast upwards by 0.2 percentage points from July, to 3.2%. September saw inflation hit 8.9%, according to ISTAT, with the full year figure expected to be 7.45% before dropping to a still-elevated 4.02% next year. Energy costs, in particular, are weighing on economic performance.

With a huge expansion of 21.3% in real terms recorded in 2021, the construction industry saw a strong start to 2022, with H1 growth of 17.4%. Full-year 2022 industry output growth is expected to stand at 9.6%. In the following years, contraction is expected, as the residential sector is expected to drop relatively sharply. The above-mentioned reliance on fuel imports poses a key risk to the industry, in terms of energy costs, and while material costs are moderating, they remain elevated, with supply chain constraints and labour market tightness also at play.



John O'Sullivan
Project Director
john.osullivan@linesight.com



Lumber

Financial incentive schemes to support residential construction works have driven a surge in investment up to Q2 2022, which contributed to further upward pressure on key building materials, including lumber. However, the boom in construction has come to an end, according to recent indicators of buying activity.



Cement and aggregates

High demand and rising production costs have driven up prices for cement and aggregates. The sharp rise in energy costs has heavily impacted producers' bottom line, and cement production levels have been dropping in recent months.



Concrete blocks and bricks

Production costs have soared this year, up by 53% year-on-year in August, and these increases have been passed on to buyers, demand from whom had been strong up to the first half of the year. With uncertainty over the future of generous financial support packages for the residential sector, price pressures are expected to ease from the demand side, but energy costs are set to remain elevated.



Steel (rebar and structural)

Steel production in Italy has been on the decline amid the sharp rise in production costs, which producers have struggled to pass on to buyers. There has also been a worsening in the trade balance with non-EU markets, with exports falling and imports rising – an outcome that reflects the tightening in domestic supplies.



Copper

Copper prices have trended downwards, reflecting the relatively gloomy outlook for the economy, weaker demand and a pick-up in stocks. The potential for shocks on the supply side will mean there will be continued volatility, and demand over the long term will be solid.

Italy – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	€	€	2021-22* % change	% change
Copper (€/MT)	7,649	8,929	-14.33% ↓	-13.6% ↓ ●
Steel rebar (€/MT)	961	682	40.93% ↑	-6.1% ↓ ●
Steel flat (€/MT)	1,160	800	45.02% ↑	-4.7% ↓ ●
Lumber (€/M3)	111	109	2.04% ↑	-2.7% ↓ ●
Asphalt (€/MT)	105	85	23.35% ↑	1.0% ↑ ●
Limestone (€/MT)	52	42	25.27% ↑	1.4% ↑ ■
Cement (€/MT)	215	138	55.89% ↑	2.4% ↑ ●
Concrete (€/M3)	154	130	18.77% ↑	5.1% ↑ ●
Welded mesh (€/unit (a))	49	39	26.77% ↑	-3.0% ↓ ●
Bricks (€/000 unit)	798	599	33.15% ↑	6.0% ↑ ●
Plasterboard (€/unit (b))	13	10	31.78% ↑	0.0% ↔ ■
Diesel (€/litre)	1.84	1.59	15.87% ↑	2.0% ↑ ●

(a) 3mx2m, dia.-6mm
(b) 13mmx200x120cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

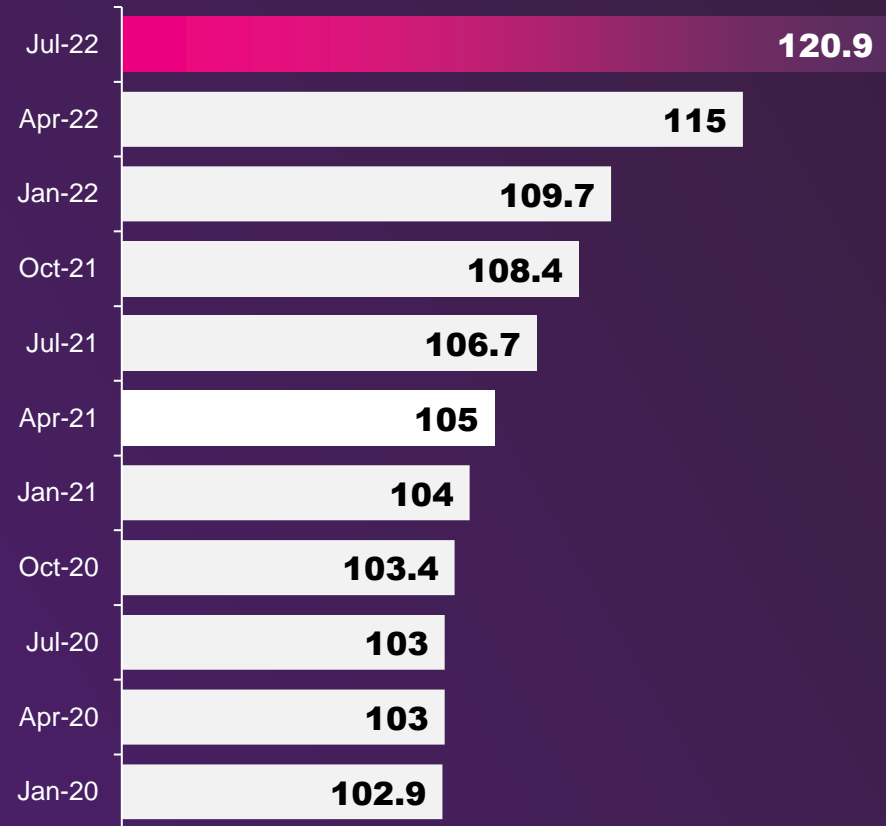
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
Copper	-1.0% ↓	High	Copper prices have dropped back from the record highs set in the middle of the year, and there is an expectation that prices will remain around current levels. Weaker global demand will be a key factor in containing upward pressure.
Steel prices - Steel rebar - Flat steel	-1.5% ↓ -1.5% ↓	Moderate	Steel production has slumped in Italy in recent months, as producers have faced surging electricity costs that have pushed up overall production costs amid a backdrop of weak demand and low finished products prices. In August 2022, crude steel output was down by 42% year-on-year, pulling output in the first eight months of the year down by 10% year-on-year. There has been a stand-off between producers and buyers, with the former trying to push up prices but the latter placing orders below such levels.
Lumber	-1.0% ↓	Moderate	Owing to rapid expansion in building construction in the first half of the year, supported by incentive schemes in the residential sector, lumber prices remained high. Factors on the supply side have also had an impact, notably high production and transportation costs. Demand is expected to subside, reflecting the sharp drop recently in some leading indicators for the construction industry, and this will contribute to an easing in prices from recent highs.
Asphalt	-1.0% ↓	Moderate	Asphalt prices have been high this year, which can be attributed to high raw materials costs stemming from the jump in crude oil prices, as well as demand from road investment projects. Further road development is in the pipeline. In August 2022, the Italian National Autonomous Roads Corporation (ANAS) announced a plan to invest €2 billion in developing road infrastructure across six different regions of Italy, and this will support demand for asphalt, keeping prices relatively high.
Limestone	+1.0% ↑	Low	Limestone prices picked up in Q3 2022 and are set to remain relatively high. Limestone demand is primarily met through domestic production, the costs of which have faced upward pressure this year.






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.

Italy – Commodity Report



Construction cost index 2020-2022

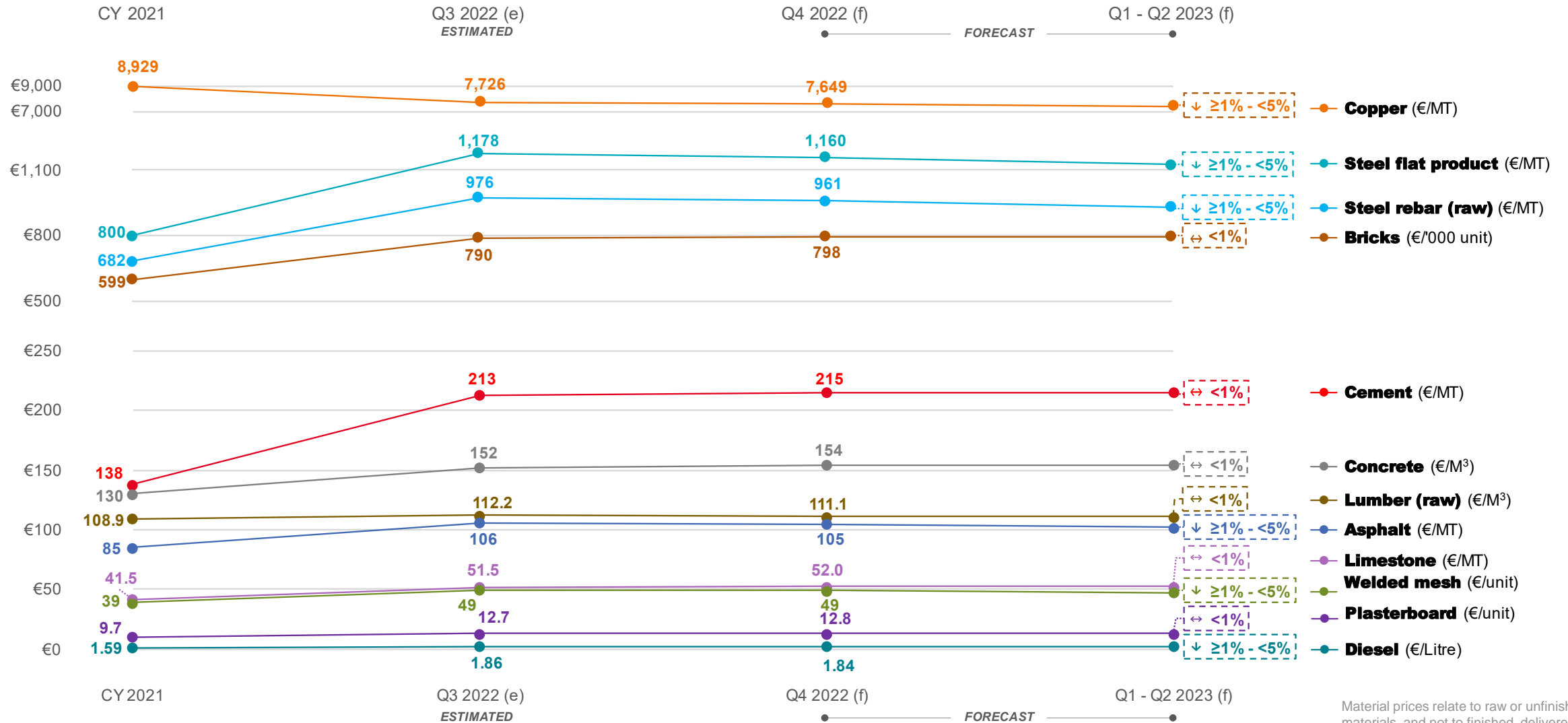


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+1.0% ↑ +1.5% ↑	High	Cement prices have continued on a steep upward trend, reflecting high demand and cost-push pressures. Production levels have also been declining given the challenges facing producers amid high energy costs. In August 2022, producer prices for cement manufacturing were up by 50% year-on-year. As construction activity slows, this will alleviate only some of the pressure on prices.
 Welded mesh	-1.0% ↓	Moderate	After rising sharply in Q2 2022, welded mesh prices have eased back, a trend that reflects the drop in steel prices in recent months.
 Bricks	+1.0% ↑	Low	High demand amid the jump in residential construction works alongside rising production costs pushed up brick prices in the first half of the year. While the uplift from the demand side will fade, energy costs are set to remain high.
 Plasterboard	+1.0% ↑	Low	Plasterboard products have been in high demand amid the expansion in residential renovation projects over the past year or so, bolstered by EU-funded financial incentive schemes. There is expected to be a drop off in construction activity in the coming quarters, which will help to stabilise prices.
 Diesel	-1.0% ↓	Moderate	Diesel prices have dropped from the June highs of over €2 per litre, but the recent decision in early October by OPEC+ to cut production will likely prevent prices from falling further in the coming quarters.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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.

Italy – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

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.

Italy – Macroeconomic overview



Economic indicators



2.93%

GDP growth in 2022 (f)
and **6.64%** in 2021



7.45%

inflation rate in 2022 (f)
and **1.87%** for 2021



22.39M

people employed in 2022 (f)
and **22.38M** in 2021



9.26%

unemployment rate for 2022 (f)
and **9.5%** in 2021



120.9

Consumer Price Index in
2022 (f) and **112.52** in
2021



156.4

Producer Price Index in
Aug 2022 and **111.6** in Aug
2021

National holidays



**12 public
holidays**

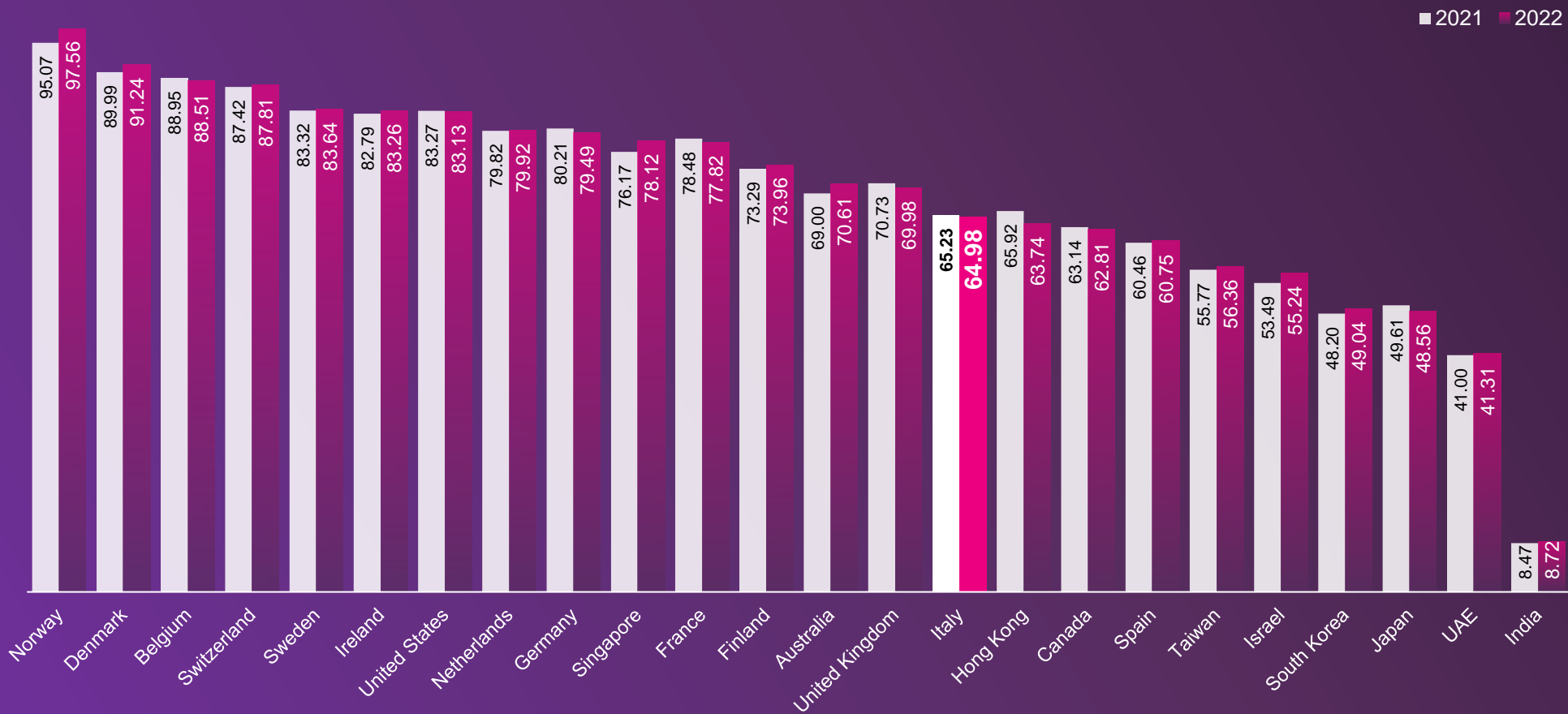
in Italy each year.

- New Year's Day (1 January)
- Epiphany (6 January)
- Easter Sunday
- Easter Monday
- Liberation Day (25 April)
- Labour Day (1 May)
- Republic Day (2 June)
- Assumption Day (15 August)
- All Saints' Day (1 November)
- Immaculate Conception (8 December)
- Christmas Day (25 December)
- Saint Stephen's Day (26 December)

Italy – Macroeconomic overview



Labour productivity



Labour costs









3%

annual change in index of labour costs in July 2022 compared to -4.3% in July 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	€24,949	€24,331	-2.5%
Energy and Utilities 	€12,133	€12,593	3.8%
Industrial 	€7,585	€7,573	-0.2%
Infrastructure 	€40,821	€41,340	1.3%
Institutional 	€17,628	€18,368	4.2%
Residential 	€148,685	€171,802	15.5%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



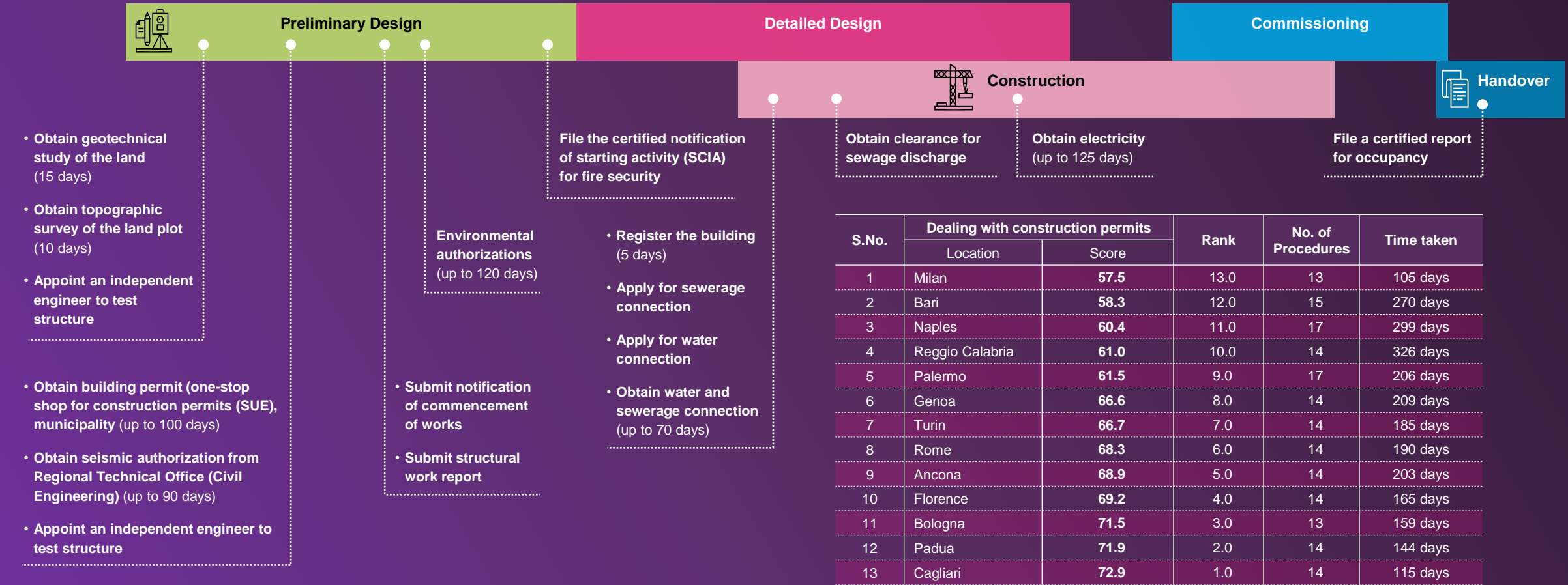
Health and safety with regards to construction is regulated by Legislative Decree No. 81 of 9 April 2008 (Safety Law).

Italy – Construction overview



Typical Delivery Programme

Note: Please note that the programme and phase duration will depend on project type, project specifics and the procurement method – please speak to your Linesight contact directly if you have a query in this regard related to a particular project



S.No.	Dealing with construction permits		Rank	No. of Procedures	Time taken
	Location	Score			
1	Milan	57.5	13.0	13	105 days
2	Bari	58.3	12.0	15	270 days
3	Naples	60.4	11.0	17	299 days
4	Reggio Calabria	61.0	10.0	14	326 days
5	Palermo	61.5	9.0	17	206 days
6	Genoa	66.6	8.0	14	209 days
7	Turin	66.7	7.0	14	185 days
8	Rome	68.3	6.0	14	190 days
9	Ancona	68.9	5.0	14	203 days
10	Florence	69.2	4.0	14	165 days
11	Bologna	71.5	3.0	13	159 days
12	Padua	71.9	2.0	14	144 days
13	Cagliari	72.9	1.0	14	115 days

Source: The World Bank Group, 'Dealing with Construction Permits – Italy' tracking the procedures and time to build a medium size warehouse on different Italian regions

Italy – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Italy

For Italy, sources for this report include, but are not limited to:

- IMF
- ISTAT
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Japan

Country Insights and Commodity Report

Q3 2022



Japan

Q3 2022

Japan's economic growth is expected to be relatively modest across both this year and next, at 1.58% and 1.35% respectively. In recent months, inflation rose to its fastest pace in over 30 years, similar to what is being seen around the world, with the Bank of Japan likely to revise its inflation forecast upwards for the current fiscal year in the face of a weakening yen, to 2.5%. FX rates are particularly influential at the moment, with the yen continuing to lose ground against the US dollar.

The construction industry is expected to grow by 2.5% in real terms this year. Q1 saw a relatively subdued performance, although investment in renewables and robust demand for Japanese exports is anticipated to support the industry throughout H2 2022. Slowing economic growth in China poses a particular downside risk for Japan, coupled with elevated material costs and escalating energy prices, which will somewhat dampen industry performance and investor sentiment for the foreseeable future.



Garvan Barry
Director
garvan.barry@linesight.com



Lumber

Japanese lumber prices are expected to continue to rise in the final quarter of this year, with Russia's halting of wood chip, logs and veneer sheet exports tightening available supply. With approximately 60% of Japan's lumber consumption met by imports, further upwards pressure on prices will be generated by the continued weakening of the Japanese yen and rising shipping rates. However, weaker private residential and non-residential investment will partially offset this upwards pressure.



Cement and aggregates

Cement prices in Japan are expected to continue to rise through the second half of this year. Driving the increase in prices is a relatively substantial increase in manufacturing and import costs as a result of the weaker yen, higher energy rates and increased raw material prices. With the Bank of Japan not expected to transition away from its ultra-easy policy stance as recession risks loom, the weakness of the yen will exert upwards pressure on cement prices well into the first half of 2023. However, an additional stimulus plan, expected in the coming weeks, may soften cement price growth, with the government expected to announce measures to ease the rise of electricity prices.



Concrete blocks and bricks

Brick and concrete block prices are expected to record marginal price growth in the final two quarters of this year. More costly manufacturing caused by higher energy prices and rising import costs due to the weak yen will be the key drivers of price growth in H2.



Steel (rebar and structural)

Steel prices in Japan are expected to rise in the second half of this year, with Japan's steel producers seeking increases on contract prices to offset rising manufacturing and elevated raw material costs. While iron ore and coking coal prices have eased, the significant decline in the value of the yen has kept their relative import price high. Furthermore, rising energy prices have exerted additional upwards pressure on manufacturing costs. With the weakness of the yen making imports of cheaper foreign steel alternatives unviable, domestic manufacturers have significant pricing power and domestic consumers are likely to accommodate an increase in price demand.



Copper

Copper prices have eased sharply from their Q1 2022 highs, with prices in Japan expected to have contracted by upwards of 13% in Q3 2022. Prices are expected to continue to fall in the final quarter of this year, with the slowing of industrial activity in the US and Europe, and soft public investment in H1 2022 in Japan weighing on demand. An increase in copper's relative cost, given its dollar denomination as the yen weakens, will further weigh on demand in Japan. In the longer term, copper prices are expected to increase significantly as investment in Japan's net and beyond-zero energy transitions accelerates.

Japan - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)	Q2 2022 – Q3 2022 (e)	
	JPY	JPY	2021-22* % change	% change
Copper (JPY/MT)	1,118,159	1,151,944	-2.93% ↓	-13.4% ↓ ●
Steel rebar (JPY/MT)	117,943	93,633	25.96% ↑	0.3% ↑ ■
Steel flat (JPY/MT)	148,545	136,200	9.06% ↑	3.1% ↑ ●
Lumber (JPY/M3)	73,057	65,000	12.39% ↑	3.3% ↑ ●
Asphalt (JPY/MT)	123,388	91,000	35.59% ↑	17.5% ↑ ●
Limestone (JPY/MT)	90,968	91,667	-0.76% ↓	0% ↔ ■
Cement (JPY/MT)	13,849	10,800	28.24% ↑	4% ↑ ●
Concrete (JPY/M3)	15,352	14,700	4.44% ↑	0.9% ↑ ■
Welded mesh (JPY/unit (a))	664	590	12.55% ↑	0.3% ↑ ■
Bricks (JPY/000 unit)	130,723	117,000	11.73% ↑	1.4% ↑ ●
Plasterboard (JPY/unit (b))	1,548	1,462	5.86% ↑	0% ↔ ■
Diesel (JPY/litre)	151.74	146.72	3.42% ↑	-0.7% ↓ ■

(a) 100x200cm, dia.-5mm
(b) 182x91x0.95cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-0.5% ↓	High	Global copper prices are expected to remain weak in the final two quarters of this year and into 2023. Downside risk to the price outlook is significant, with industrial production in Europe and the US slowing due to inflated energy costs, and a significant weakening of the Japanese yen against the US dollar increasing the cost of the dollar-denominated metal. Some upwards pressure on prices may be generated towards the end of the year as China's infrastructure drive begins to accelerate, but this is unlikely to offset the impact of the aforementioned risks.
 Steel prices - Steel rebar - Flat steel	+1.5% ↑ +1.5% ↑	Moderate	An increase in steel demand, as delayed civil engineering works commenced, helped to drive up prices in Q3 2022, with the volume of orders received by primary processors rising significantly. With raw material and energy costs rising, Japan's steel producers have begun to seek increases on contract prices with domestic customers to offset an increasingly costly manufacturing process. Price increases are likely to be accepted by domestic consumers, with the weak yen making imports of cheaper foreign alternatives more costly.
 Lumber	+1.0% ↑	Moderate	Lumber prices are estimated to have appreciated by approximately 3% on a quarterly basis in Q3 2022, predominantly due to a surge in demand and tight supply. Prices are forecasted to rise in the final quarter of this year, but this increase is expected to be far more marginal as the pressure on domestic supply chains eases. Heading into 2023, lumber prices are expected to remain relatively stable.
 Asphalt	+1.0% ↑	Moderate	The OPEC+ decision to cut production by two million barrels per day is expected to drive up crude oil and oil derivative prices and, as a result, the price of asphalt is expected to remain high.
 Limestone	+0.2% ↑	Low	Limestone prices are expected to remain relatively stable in the second half of this year, recording only a marginal increase in Q4 2022.

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.

Japan - Commodity Report



Raw construction materials price index 2021-2022

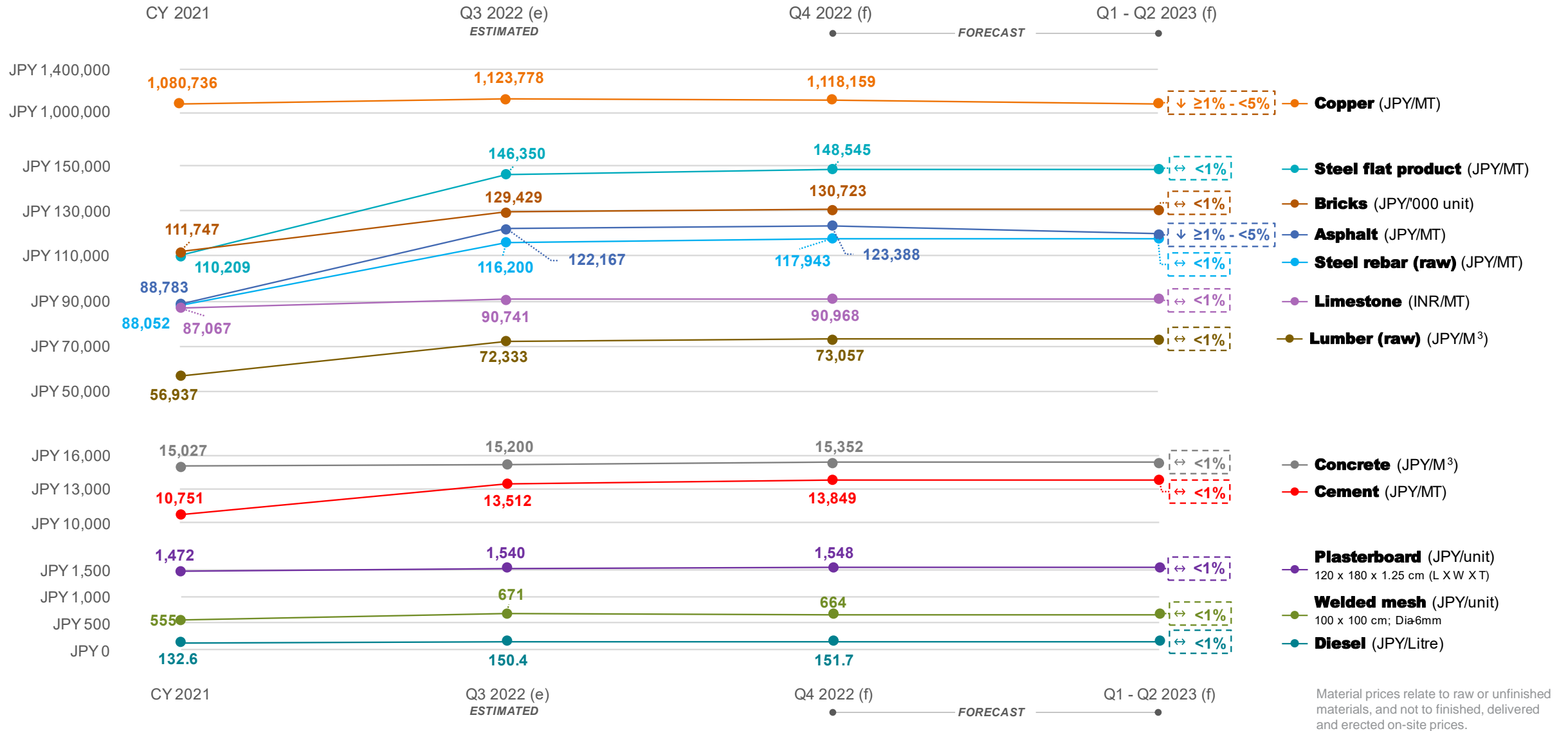
Apr-22	105.8
Mar-22	104.9
Feb-22	104.9
Jan-22	104.9
Dec-21	104.9
Nov-21	104.9
Oct-21	104.9
Sep-21	104.9
Aug-21	104.9
Jul-21	104.7
Jun-21	104.7
May-21	104.7
Apr-21	104.6
Mar-21	104.5
Feb-21	104.5
Jan-21	104.1

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+2.5% ↑ +1.0% ↑	Moderate	Cement prices are estimated to have increased by in excess of 3% on a quarterly basis in Q3 2022, predominantly due to an increase in manufacturing and import costs as energy and input prices rise, and the weakened yen. Major cement producers, such as Taiheiyo Cement, Sumitomo Osaka Cement and Tokuyama have all reported operational losses. These issues are expected to persist, and cement prices are forecasted to remain elevated into 2023 as a result. Due to the increase in cement prices, concrete prices are expected to rise in tandem.
 Welded mesh	-1.0% ↓	Moderate	Welded mesh prices depend primarily on the movement in the price of steel rebar. Due to this, welded mesh prices are estimated to have increased slightly in Q3 2022 but forecasted to moderate in Q4.
 Bricks	+1.0% ↑	Low	Brick prices are estimated to have increased marginally in Q3 2022, and a similarly marginal increase is forecasted for Q4. While manufacturing and import costs have risen substantially due to rising energy prices and a weaker yen, their impact has been partially offset by a continued slowing of private residential and non-residential investment.
 Plasterboard	+0.5% ↑	Low	Plasterboard prices are expected to have remained stable in Q3 2022 and will stay close to current levels into 2023.
 Diesel	+0.9% ↑	Moderate	While diesel prices moderated slightly in Q3 2022 as global crude oil prices softened, the agreed two million barrel per day cut in OPEC+ production is expected to see crude oil prices rally, driving up diesel prices in the final quarter of this year and into 2023. The increase in diesel prices will, however, be softened by government plans to extend its fuel subsidy into spring 2023.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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.

Japan - Construction Materials Pricing (2021-2022)



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.

Japan – Macroeconomic overview



Economic indicators



1.58%

GDP growth in 2022 (f) and **1.62%** in 2021



2.17%

inflation rate in 2022 (f) and **-0.23%** for 2021



56.18M

people employed in 2022 (f) and **56.24M** in 2021



2.56%

unemployment rate for 2022 (f) and **2.83%** in 2021



107.5

Consumer Price Index in 2022 (f) and **105.21** in 2021



116.3

Producer Price Index in Sept 2022 and **106.6** in Sept 2021

National holidays



16 public holidays







in Japan each year.

- New Year's Day (1 January)
- Coming of Age Day (10 January)
- National Foundation Day (11 February)
- The Emperor's Birthday (23 February)
- Vernal Equinox Day (21 March)
- Shōwa Day (29 April)
- Constitution Memorial Day (3 May)
- Greenery Day (4 May)
- Children's Day (5 May)
- Marine Day (18 July)
- Mountain Day (11 August)
- Respect for the Aged Day (19 September)
- Autumnal Equinox Day (23 September)
- Health and Sports Day (10 October)
- Culture Day (3 November)
- Labour Thanksgiving Day (23 November)

Japan – Macroeconomic overview



Output 2021 and 2022 (in yen, millions)

Sectors	Total 2021	Total 2022 (f)	% change
Commercial 	10,369,379	10,879,302	4.9%
Energy and utilities 	14,916,435	14,773,013	-1%
Industrial 	6,291,782	6,440,493	2.4%
Infrastructure 	24,021,878	23,817,276	-0.9%
Institutional 	3,601,571	3,681,973	2.2%
Residential 	23,892,182	25,553,386	7%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



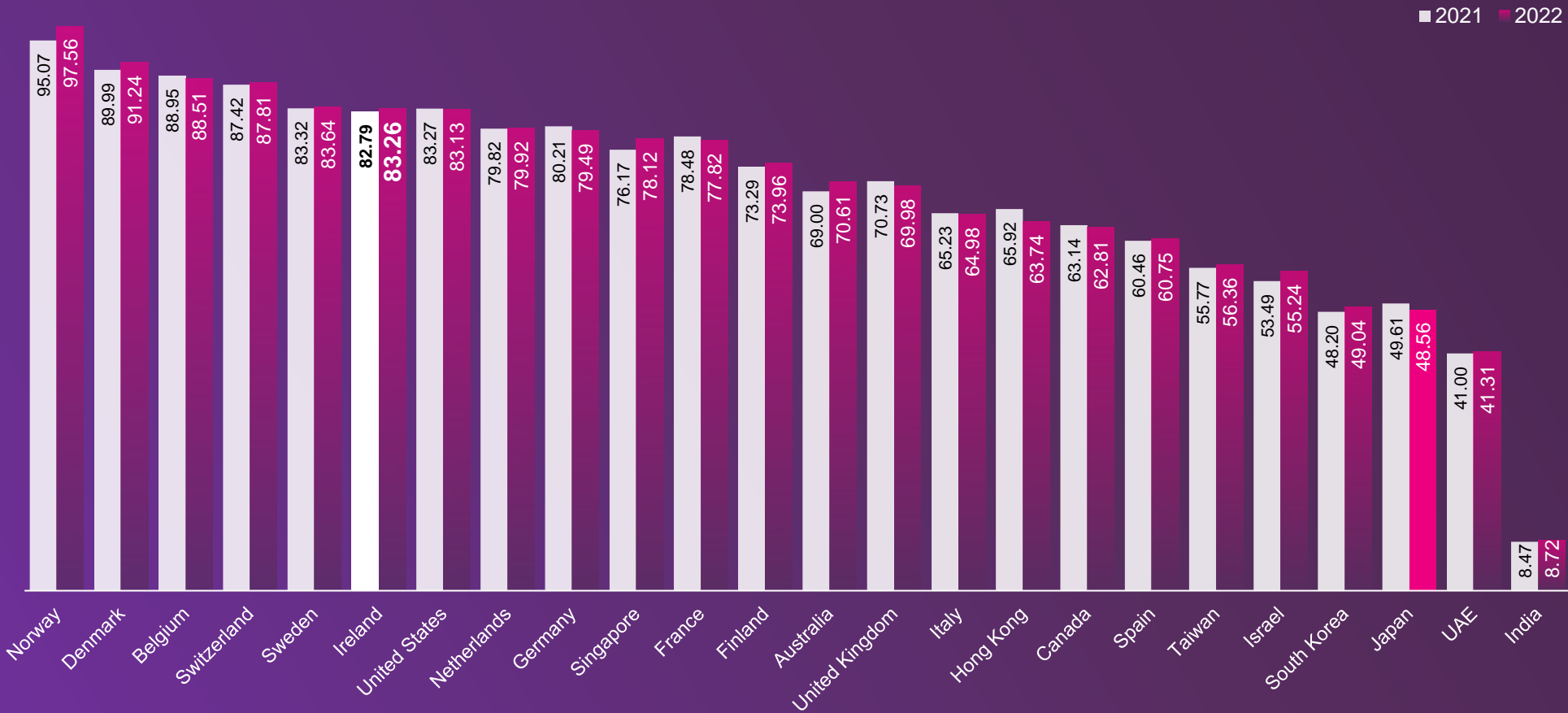
288

construction fatalities in 2021

Japan – Macroeconomic overview



Labour productivity



Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Labour costs



JPY1,950

is the average hourly earnings or

JPY4,057,017

average construction worker gross salary in Hong Kong.

An entry level construction worker (1-3 years of experience) earns an average salary of **JPY3,016,692**. A senior level construction worker (8+ years of experience) earns an average salary of **JPY4,912,428**.

Japan - Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Japan

For Japan, sources for this report include, but are not limited to:

- IMF
- Japan Industrial Safety and Health Association
- Statistics Bureau of Japan
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Netherlands

Country Commodity Report

Q3 2022



Netherlands

Q3 2022

The Statistics Netherlands CBS Business Cycle Tracker reported nine of 13 indicators performing above the long-term trend, although consumer confidence was at an all-time low. Economic growth was at 2.6% in Q2 2022, according to the agency's second estimate, buoyed by investment and a strong level of exports. Inflation has hit a record high as of September, with the consumer price index rising to 14.5% year-on-year, which was not equal amongst all sectors of the economy. The housing, water and energy sectors experienced one of the highest inflation rates in September, at 30.2%, according to Statista.

Construction output is expected to record growth of 2.5% this year, as investments in renewables and transport infrastructure ramp up. Growth has been particularly robust in the residential and commercial sectors. Challenges posed by labour market constraints, the abovementioned level of energy inflation, commodity price inflation and supply chain disruptions remain potential threats for industry performance.



Brian McClinton
Senior Director – Europe
brian.mcclinton@linesight.com



Lumber

Overall construction growth is slowing, but the residential sector will benefit from government funding for key projects and housing schemes, with the government committed to building 100,000 new homes per year until 2030. However, high building material costs and rising interest rates present a downside risk. Lumber prices are likely to remain close to the current high levels. Although disruptions in supplies have eased, producer costs have been rising.



Cement and aggregates

Despite the expectation of weaker demand as construction growth slows, prices for cement and aggregates will stay high, given the recent upward trend in production costs. Concerns over the issuance of new extraction licences also raises the risk of supply issues relating to sand and gravel products.



Concrete blocks and bricks

With construction output expanding steadily over the past two years, demand has been fairly robust for bricks, and the recent surge in energy costs has driven up producer prices. Although demand will ease on the back of rising interest rates and slowing economic growth, brick prices will remain around current highs given the cost pressures facing manufacturers.



Steel (rebar and structural)

Steel prices are set to fall from recent highs, which were caused by supply disruptions and high production costs. However, as production cost pressures will remain strong, prices for steel products will stay high when compared to 2021 levels. The government is also planning significant investment to improve transport infrastructure, which will be a key source of demand.



Copper

Copper prices will fall in the coming quarters from the highs reached earlier this year, reflecting the expectation of a weakening in demand as economic growth slows.






Netherlands – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	€	€	2021-22* % change	% change
Copper (€/MT)	9,230	8,563	7.79% ↑	4.3% ↑ ●
Steel rebar (€/MT)	845	694	21.81% ↑	2.3% ↑ ●
Steel flat (€/MT)	906	744	21.81% ↑	2.3% ↑ ●
Lumber (€/M3)	109	93	17.44% ↑	5.6% ↑ ●
Asphalt (€/MT)	87	80	9.30% ↑	4.5% ↑ ●
Limestone (€/MT)	91	83	9.35% ↑	3.2% ↑ ●
Cement (€/MT)	169	153	10.19% ↑	1.6% ↑ ●
Concrete (€/M3)	165	141	16.80% ↑	3.0% ↑ ●
Welded mesh (€/unit (a))	81	52	54.41% ↑	-1.2% ↓ ●
Bricks (€/000 unit)	567	510	11.25% ↑	3.4% ↑ ●
Plasterboard (€/unit (b))	10	9	13.04% ↑	-9.6% ↓ ●
Diesel (€/litre)	1.98	1.62	22.28% ↑	-1.5% ↓ ■

(a) 200x300cm, dia.-6mm
(b) 300x120x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

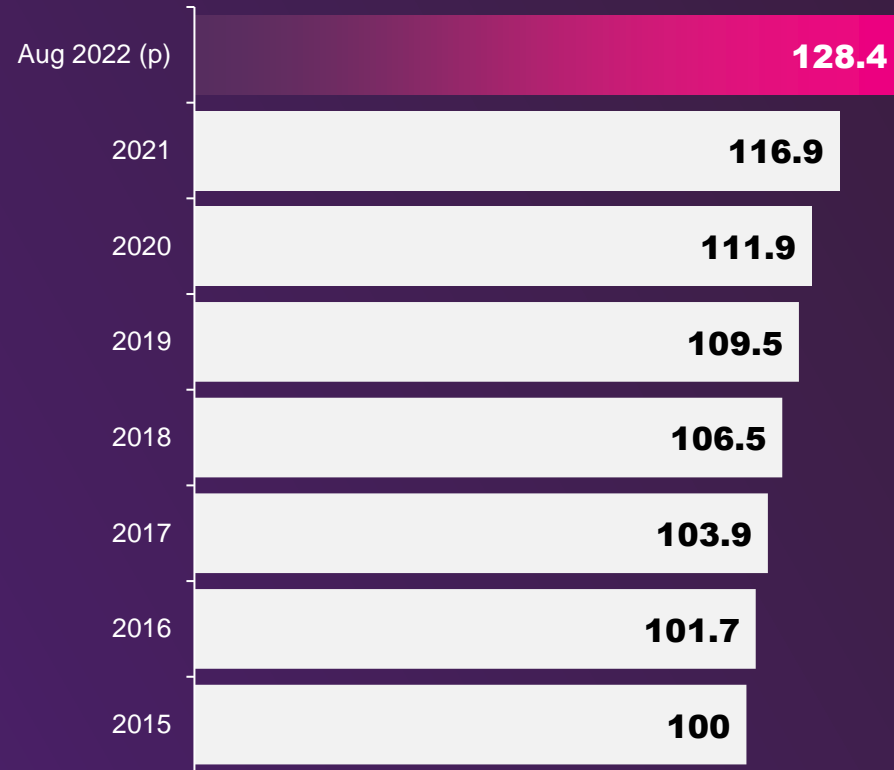
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-1.0% ↓	High	Due to slowing economic growth in China and shrinking copper demand in Europe amid the energy crisis, copper prices have generally been on a downward trend, but preliminary data suggests prices picked up in Q3 in the Netherlands. Nevertheless, with weaker economic growth expected, copper prices are forecast to decline in the near future.
 Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	Steel demand has been weakening amid the slowdown in construction, owing to rising interest rates and a decline in investor confidence. However, production costs will remain high, and government investment plans for infrastructure works will provide some support on the demand side, so the expected fall in prices overall will not be severe.
 Lumber	+0.8% ↑	Moderate	Lumber prices have stayed at a high level in recent months, driven by high production costs. Distributors' inventories have been secured at a relatively high price following the disruption to supplies during the height of the COVID-19 pandemic, and more recently, following the outbreak of the Russia-Ukraine conflict. Despite weaker demand-side pressures in the coming quarters, prices will remain elevated.
 Asphalt	-1.0% ↓	Moderate	With crude oil prices falling back, there has been a slight easing in asphalt prices, but investment in road construction projects and the expected tightness in the global crude market (following OPEC+'s decision to cut production) will keep prices high in the coming quarters.
 Limestone	+0.4% ↑	Low	Higher production and transportation costs have been a key factor in keeping limestone prices at recent high levels.

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.





Netherlands – Commodity Report



New dwellings; input price indices building costs 2015-2022



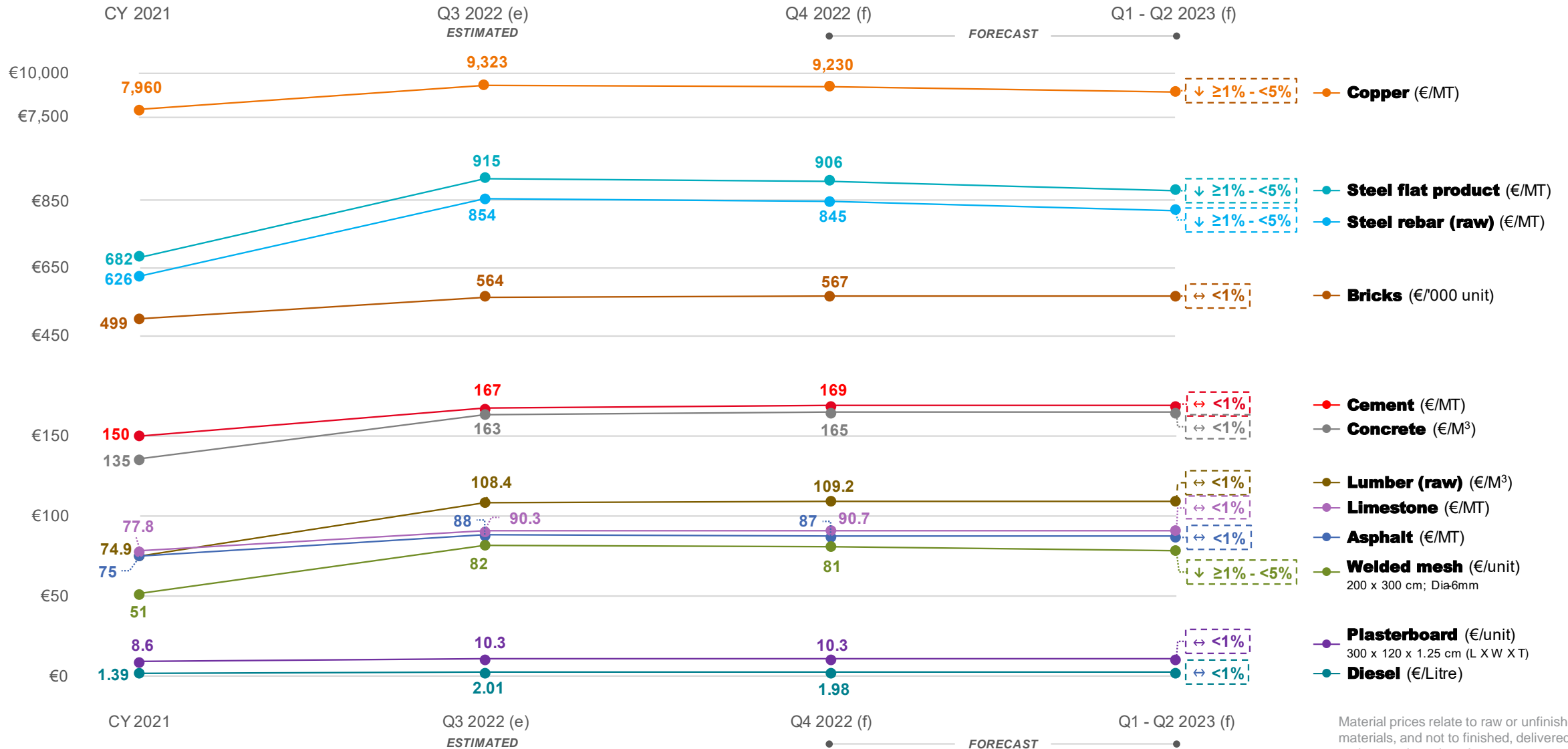
Note: 2015=100

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+0.9% ↑ +0.8% ↑	Moderate	Rising production costs have been the main factor in pushing up cement and concrete prices in recent quarters, with Dutch manufacturers having a relatively high dependence on gas for production. Demand growth in the construction industry has been flagging, and with interest rates rising the outlook is for continued sluggish demand.
 Welded mesh	-1.0% ↓	Moderate	Due to the expected decline in the price of steel, the price of welded mesh will be on a steady decline.
 Bricks	+0.6% ↑	Low	As has been the case with many building materials, pressures on the supply-side have been the main cause of recent price rises. However, producer prices for bricks have risen at a relatively slow pace, up by around 7% year-on-year in Q3 2022. Residential construction will benefit from government plans to boost the housing stock (over 917,000 new housing units by 2030, with 25% of these in Zuid-Holland and 600,000 of these categorised as affordable), but overall construction growth will slow in the coming quarters.
 Plasterboard	+0.1% ↑	Low	Plasterboard prices eased back in Q3 2022, but owing to high costs for raw materials and energy, it is expected that prices will stay high compared to 2021 levels.
 Diesel	-1.7% ↓	High	Diesel prices have remained close to the €2 per litre mark in recent months. Prices had started to trend downwards marginally in September, but the decision by OPEC+ in early October to cut crude oil production levels will keep diesel around current highs.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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Netherlands – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Netherlands – Macroeconomic overview



Economic indicators



2.66%

GDP growth in 2022 (f)
and **5.04%** in 2021



9.15%

inflation rate in 2022 (f)
and **2.68%** for 2021



9.45M

people employed in 2022 (f)
and **8.75M** in 2021



3.57%

unemployment rate for 2022 (f)
and **3.5%** in 2021



131.56

Consumer Price Index in
2022 (f) and **120.52** in
2021



143.1

Producer Price Index in
Aug 2022 and **116.5** in
Aug 2021

National holidays



**11 national
holidays**

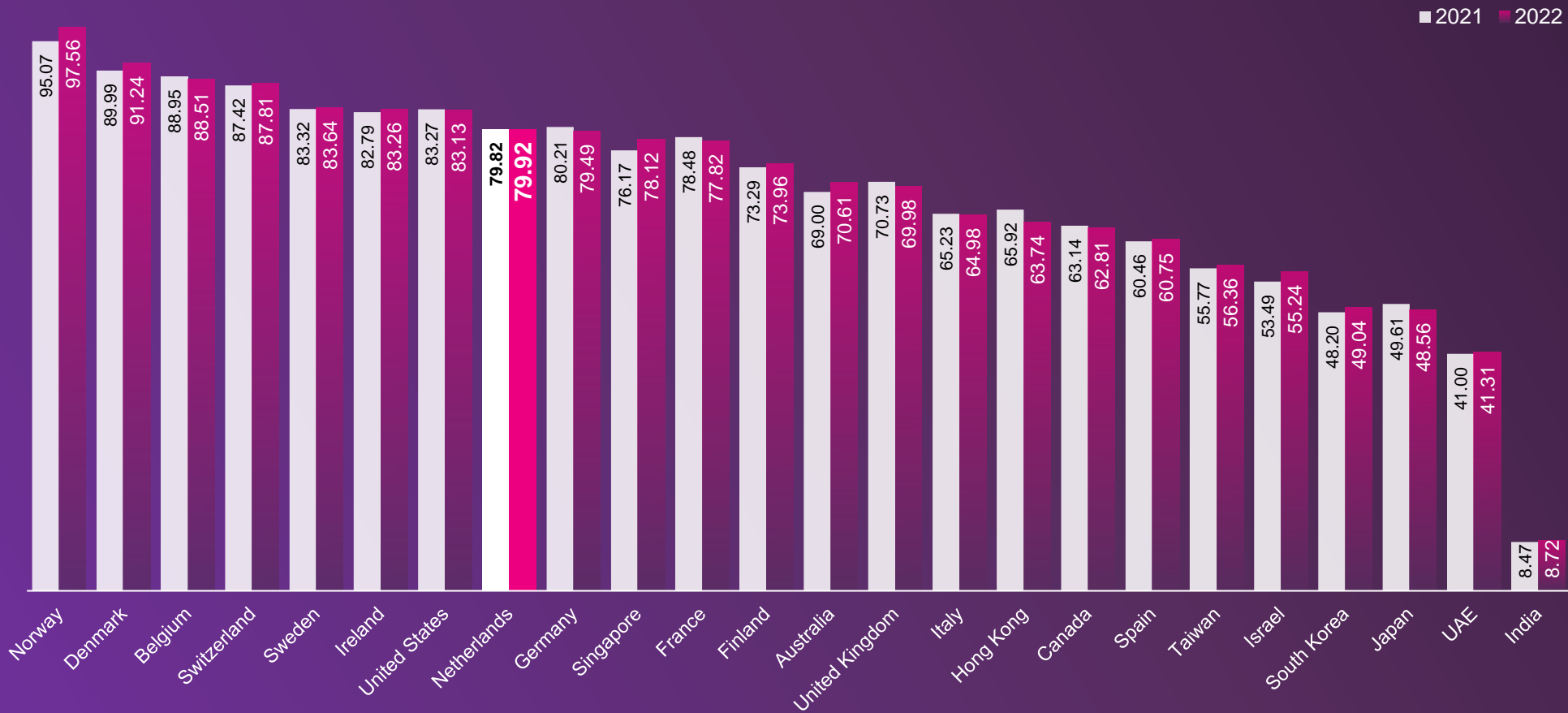
in Netherlands each year.

- Nieuwjaarsdag (New Year's Day) (1 January)
- Goede vrijdag (Good Friday) (15 April)
- Eerste en tweede paasdag (Easter Sunday and Easter Monday) (17 and 18 April)
- Koningsdag (King's Day) (27 April)
- Bevrijdingsdag (Liberation Day) (5 May)
- Hemelvaartsdag (Ascension Day) (26 May)
- Eerste en tweede pinksterdag (Whit Sunday and Whit Monday) (5 June and 6 June)
- Eerste en tweede kerstdag (Christmas Day and Boxing Day) (25 and 26 December)

Netherlands – Macroeconomic overview



Labour productivity



Labour costs









index figure of hourly contractual wage costs for September 2022 compared to €123.30 in September 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Netherlands – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	€17,245	€17,504	1.5%
Energy and Utilities 	€6,897	€7,036	2.0%
Industrial 	€4,088	€4,149	1.5%
Infrastructure 	€23,142	€23,841	3.0%
Institutional 	€8,917	€9,072	1.7%
Residential 	€67,988	€69,832	2.7%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



The Netherlands Labour Authority (NLA) works for fair, healthy and safe working conditions and socio-economic security for all.

Netherlands – Report methodology



Linesight has commissioned independent global research to track construction 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 labour prices, in addition to underlying demand and supply trends that will impact market prices.

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Sample sources – Netherlands

For the Netherlands, sources for this report include, but are not limited to:

- IMF
- Netherlands Labour Authority
- Statistics Netherlands (CBS)
- GlobalData's Construction Intelligence Center (CIC)
- Conference-board.org

Linesight 





Norway

Country Insights and Commodity Report

Q3 2022



Norway

Q3 2022

Norway is expected to record 2.79% growth in 2022 and 1.51% in 2023. Inflation came in at 6.9% in September on an annual basis, with cost-of-living increases at a 34-year high. Contrary to much of Europe, energy is not posing a challenge for Norway, as the country is now the EU's top natural gas supplier in light of the situation with Russia. It is expected that the petroleum sector will secure revenues of US\$109 billion this year for the nation.

Following modest growth of 1.2% in 2021, a slight improvement to 1.8% growth in real terms is anticipated for this year, as investments focus on the development of oil and gas infrastructure, due to the reason outlined above, as well as on renewable sources. Norway will not be immune from soaring inflation and elevated material prices, which will pose downside risks for its construction industry also.



Niall Greene
Senior Director - Europe
niall.greene@linesight.com



Lumber

Domestic demand for lumber in Norway has been relatively high due to high demand for wooden housing and general wood-based building materials to support the country's transition toward a circular economy. Moreover, the city of Trondheim has been an early adopter of the 'Build-in-Wood' initiative funded by the EU to promote greater usage of timber-based construction. This will continue to support long-term demand for lumber in Norway. However, due to the competitive nature of lumber markets, prices are likely to fluctuate over the short to medium term, owing to slowing economic growth and a decline in demand for new housing amid rising interest rates.



Cement and aggregates

Concrete and cement prices have been trending sharply upwards this year, owing to the impact of the Russia-Ukraine conflict on the cost of energy and raw materials. However, further upward pressure on prices will be contained by weakening demand amid declining activity in the construction industry over the coming quarters. Prices are likely to remain elevated, however, due to sustained upward pressure on energy costs and the lack of competition in the domestic market, which will delay the adjustment of prices. Norcem, a subsidiary of HeidelbergCement, is the sole producer of cement in Norway.



Concrete blocks and bricks

Prices have been trending sharply upwards this year due to rising energy costs and supply disruptions stemming from the Russia-Ukraine conflict. However, demand for concrete blocks and

bricks is expected to decline over the coming quarters owing to slowing economic growth, which will dampen construction output. This will ease further upward pressure on prices. However, elevated energy costs will keep prices relatively high in the short term.



Steel (rebar and structural)

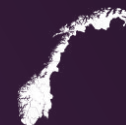
Being a marginal net exporter of steel, Norway is relatively well-positioned to cope with global supply shortages resulting from the Russia-Ukraine conflict, as both Russia and Ukraine are major steel exporters. However, prices are likely to remain volatile over the medium term owing to high input costs for production counteracted by weakening demand in the short term. Moreover, the government's plan to develop transport infrastructure will bolster steel demand in the long term. Under the new National Transport Plan 2022–2033, the government increased its allocation for railway infrastructure by over 23%.



Copper

Greater investment in renewable energy and electrification will drive demand for copper in Norway. To help meet this demand domestically and in a sustainable manner, Norway is planning to build a new copper mine that will be powered by renewable sources. However, pushback from environmentalists and indigenous rights activists is causing uncertainty and delaying progress on the project. Over the coming quarters, the global price of copper is expected to fall owing to growing fears of a recession, amid high inflation and rising interest rates.

Norway - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	NOK	NOK	2021-22* % change	% change
Copper (NOK/MT)	76,188	84,661	-10.01% ↓	-14.% ↓ ●
Steel rebar (NOK/MT)	10,413	7,924	31.41% ↑	-8.5% ↓ ●
Steel flat (NOK/MT)	9,409	9,896	-4.92% ↓	-8% ↓ ■
Lumber (NOK/M3)	474	568	-16.63% ↓	-4.5% ↓ ●
Asphalt (NOK/MT)	1,080	901	19.82% ↑	0% ↔ ■
Limestone (NOK/MT)	598	468	27.76% ↑	5.1% ↑ ●
Cement (NOK/MT)	4,635	3,618	28.12% ↑	5% ↑ ●
Concrete (NOK/M3)	1,638	1,384	18.34% ↑	5% ↑ ●
Welded mesh (NOK/unit (a))	207	154	34.03% ↑	-2.3% ↓ ●
Bricks (NOK/'000 unit)	10,097	8,732	15.63% ↑	1.5% ↑ ●
Plasterboard (NOK/unit (b))	173	114	51.51% ↑	-3.2% ↓ ●
Diesel (NOK/litre)	21.26	16.73	27.07% ↑	-4% ↓ ●

(a) 120x240cm, dia.-5mm
(b) 240x120x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

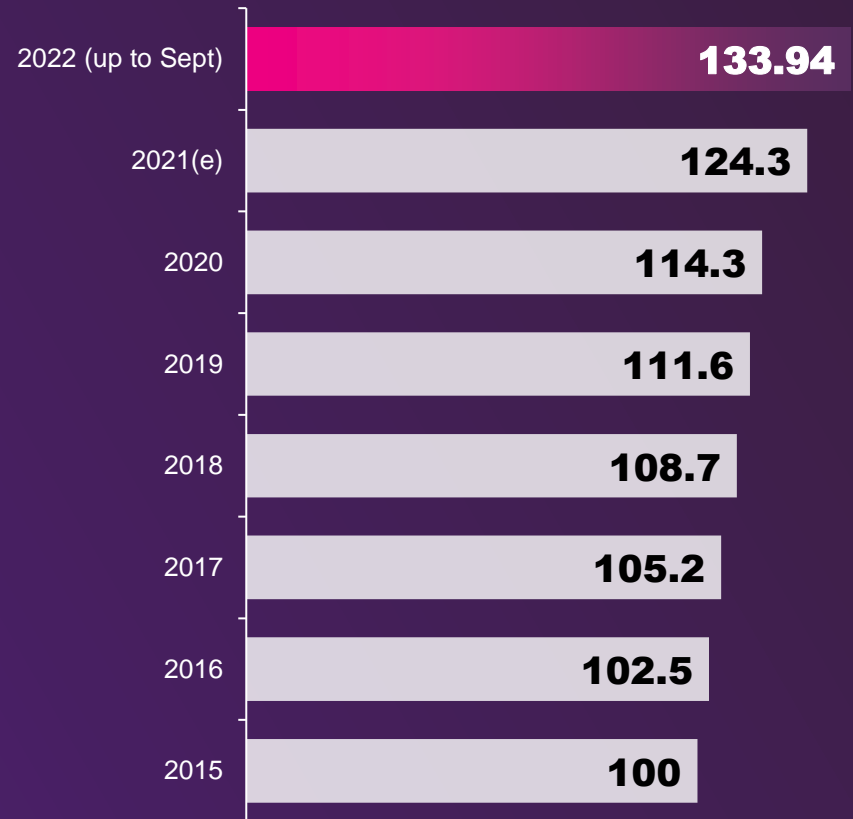
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
Copper	-1.0% ↓	High	Following the surge in prices in Q2 2022, the global copper market weakened in Q3 due to a decline in demand amid investors' growing fear of recession in early 2023. Underlying demand remains strong due to the importance of copper in emerging technology industries, such as electric vehicles. Due to the impact of high energy prices on copper production, prices are expected to stabilise in the first half of 2023.
Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	The steel market has cooled in recent months following a surge in prices in Q2 2022, driven by the onset of the Russia-Ukraine conflict. Weaker demand from the construction and manufacturing industries will limit upward pressure on prices. However, the high cost of production due to increasing energy costs will keep prices elevated, despite government subsidies to ease the burden on businesses.
Lumber	-1.0% ↓	Moderate	High production and transportation costs have renewed upward pressure on lumber prices recently, following a decline in prices from Q2 2022 levels. However, downward pressure from weak demand in the construction industry as a result of rising interest rates will outweigh rising costs on the supply side over the coming quarters.
Asphalt	-1.5% ↓	Moderate	Asphalt prices have remained elevated in recent months, despite weakening demand, due to high crude oil prices. Prices are expected to remain uncertain over the coming quarters following the decision by OPEC+ in early October to cut production by two million barrels per day. However, demand will be buoyed over the medium term by the rise in public revenue generated from the rising value of energy exports, coupled with government plans to invest in road infrastructure.
Limestone	+1.0% ↑	Low	Limestone prices are expected to remain stable over the coming quarters, as the impact of weakening demand in the construction industry will offset pressures on the supply side.

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.

Norway - Commodity Report



Construction cost index (residential) 2015-2022

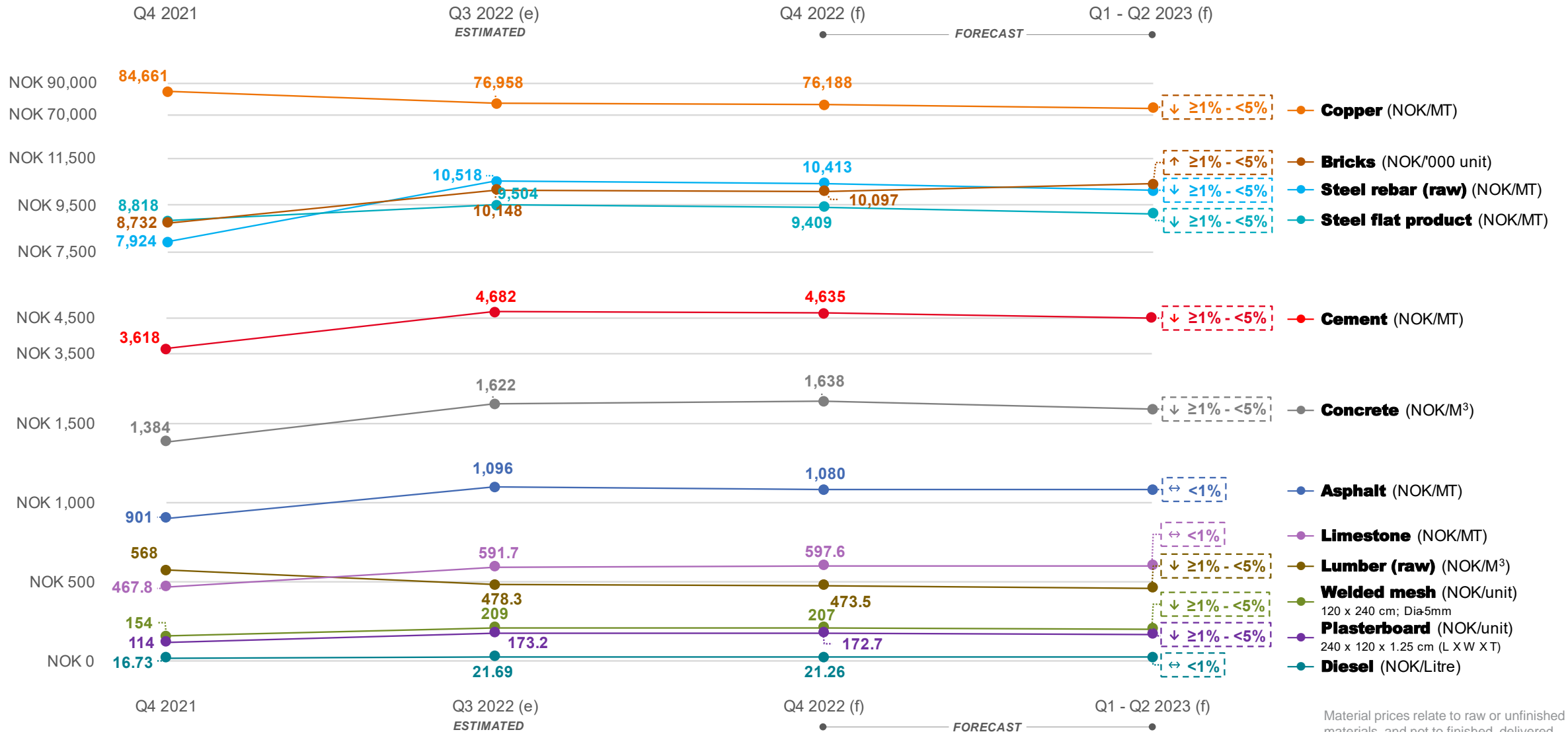


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	-1.0% ↓ +1.0% ↑	Moderate	Cement and concrete prices have been on an upward trend this year. Over the coming quarters, a marked slowdown in construction activity amid slowing economic growth will weaken demand-side pressures and ease prices. However, downward pressure on prices will be contained by elevated energy costs.
 Welded mesh	-1.0% ↓	Moderate	The price of welded mesh rose sharply in Q2 2022 in line with the spike in steel prices following the onset of the Russia-Ukraine conflict. Prices have since eased in Q3 and are expected to decline further, owing to falling steel prices amid weakening demand. However, downward pressure on prices will be contained by high energy costs, which will feed into the cost of steel production.
 Bricks	-0.5% ↓	Low	Falling demand amid an expected slowdown in construction activity will ease pressure on brick prices over the coming quarters. Rising energy costs are likely to keep prices elevated in H2 2022, despite government support measures to partially subsidise power costs for energy-intensive industries.
 Plasterboard	-0.3% ↓	Low	Plasterboard prices are expected to remain stable over the coming quarters following a sharp increase in Q2 2022, with sustained pressure on production due to high energy costs expected to be offset by a fall in demand.
 Diesel	-2.0% ↓	Moderate	Diesel prices had been on an upward trend since the beginning of 2022 before reaching a peak in June. Since then, prices have fluctuated but remained at high levels. Prices are expected to decline marginally in the coming quarters due the reduction of global crude oil prices from mid-2022 highs. However, following the decision by OPEC+ in early October to cut oil production, there is a risk that crude oil prices could rebound and put renewed upward pressure on diesel prices.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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.

Norway – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Norway – Macroeconomic overview

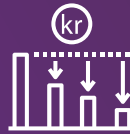


Economic indicators



2.79%

GDP growth in 2022 (f) and **3.92%** in 2021



5.41%

inflation rate in 2022 (f) and **3.48%** for 2021



2.64M

people employed in 2022 (f) and **2.61M** in 2021



4%

unemployment rate for 2022 (f) and **4.36%** in 2021



132.87

Consumer Price Index in 2022 (f) and **126.06** in 2021



232.2

Producer Price Index in Sept 2022 and **152.4** in Sept 2021

National holidays



12 public holidays

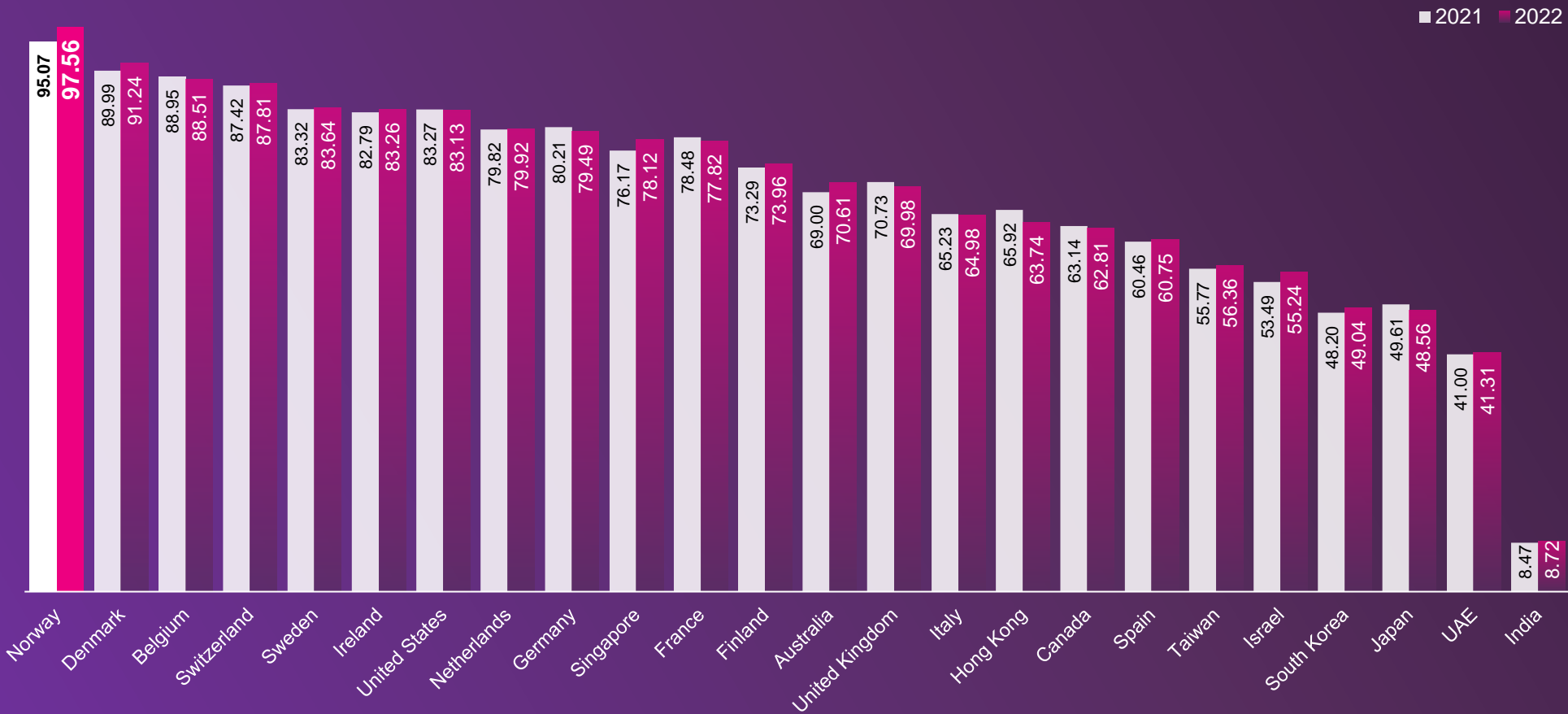
in Norway each year.

- New Year's Day (1 January)
- Maundy Thursday (14 April)
- Good Friday (15 April)
- Easter Sunday (17 April)
- Easter Monday (18 April)
- Labour Day (1 May)
- Constitution Day (17 May)
- Ascension Day (26 May)
- Whit Sunday (5 June)
- Whit Monday (6 June)
- Christmas Day (25 December)
- 2nd Day of Christmas (26 December)

Norway – Macroeconomic overview



Labour productivity



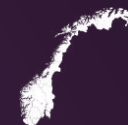
Labour costs









in July 2022 compared to 145.13 in July 2021

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Norway – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	NOK150,672	NOK152,628	1.3%
Energy and utilities 	NOK46,796	NOK48,827	4.3%
Industrial 	NOK25,927	NOK26,225	1.2%
Infrastructure 	NOK175,441	NOK182,498	4.0%
Institutional 	NOK40,587	NOK41,560	2.4%
Residential 	NOK318,159	NOK322,701	1.4%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Norway – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

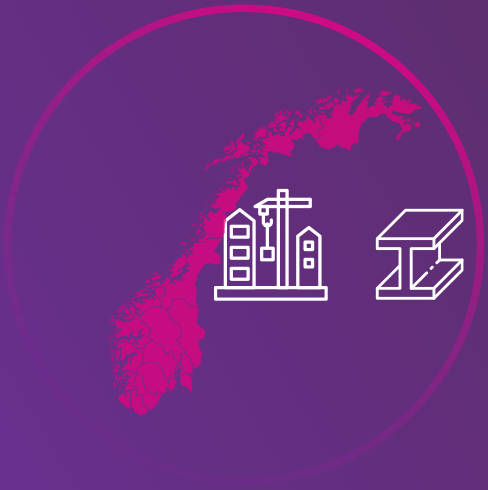
Real data series are calculated by keeping prices constant (so, are also referred to as constant price series), and therefore, they reflect changes in activity only. Growth rates in nominal terms can overstate the pace of growth in construction activity if there is high inflation stemming from rising prices for key inputs.

Sample sources – Norway

For Norway, sources for this report include, but are not limited to:

- IMF
- Statistics Norway
- GlobalData's Construction Intelligence Center (CIC)
- Statistisk Sentralbyrå (SSB)

Linesight





Singapore

Country Insights and Commodity Report

Q3 2022



Singapore

Q3 2022

In its October update, the International Monetary Fund (IMF) has forecast 3% economic growth for Singapore and 2.3% for 2023, down from its previous forecasts earlier in the year. Similar to many other parts of the world, inflation is proving a key challenge, with the Monetary Authority of Singapore using the exchange rate rather than interest rates in an effort to address this. The upcoming tightening of monetary policy will mark the fifth such move in a year, as the highest core inflation rate since November 2008 was posted for August 2022, at 5.1%.

The construction output forecast has been revised downwards to 3.5% growth in real terms by GlobalData, as inflation, supply chain delays, sustained elevation in material costs and labour market constraints come to bear. Growth will be buoyed by a small number of ongoing infrastructure and energy-related projects that faced disruption at the onset of the pandemic but have resumed as of last year.



Michael Murphy
Director
michael.murphy@linesight.com



Lumber

Although the construction industry has been on a recovery trend in recent quarters, pushing up demand for construction materials including lumber, leading indicators suggest that the expansion is weakening, with the outlook for investment undermined by a slowing economy and higher interest rates.



Cement and aggregates

With production costs set to remain high for energy-intensive materials such as cement, producers will be looking to pass on these higher costs to buyers. Imports of raw materials for concrete remain healthy, sufficient to support the construction industry's concrete needs. However, concrete prices will remain high given the increasing raw materials and conveyance costs.



Concrete blocks and bricks

Construction output remains below pre-COVID-19 levels, but the partial recovery has pushed up demand for construction materials, and combined with supply disruptions and higher production costs, this has meant prices for materials such as bricks have stayed at elevated levels.



Steel (rebar and structural)

Steel prices are coming off their recent highs that were reflective of supply disruptions and higher production costs. Weak demand in China has also helped to bring down prices, and cuts in production in China will also reduce demand for key raw materials. However, Singapore is pushing ahead with major transport infrastructure investments, thus propping up demand for steel products used in the construction industry.



Copper

The gloomy outlook for global economic growth, along with the slowdown in China, has contributed to the recent weakness in copper prices, but demand stemming from investments in renewable energy, for example, will contribute to keeping copper prices relatively high.



Singapore - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	S\$	S\$	2021-22* % change	% change
Copper (S\$/MT)	11,134	12,768	-12.67% ↓	-15.9% ↓ ●
Steel rebar (S\$/MT)	1,095	1,110	-1.18% ↓	-8.5% ↓ ●
Steel flat (S\$/MT)	1,360	1,236	11.50% ↑	3.3% ↑ ●
Lumber (S\$/M3)	122	105	21.15% ↑	5.4% ↑ ●
Asphalt (S\$/MT)	483	365	38.11% ↑	-3.7% ↓ ■
Limestone (S\$/MT)	42	35	23.40% ↑	0.0% ↔ ■
Cement (S\$/MT)	120	96	26.16% ↑	3.7% ↑ ●
Concrete (S\$/M3)	119	104	15.85% ↑	0.8% ↑ ■
Welded mesh (S\$/unit (a))	14	12	19.74% ↑	-2.6% ↓ ●
Bricks (S\$/'000 unit)	3,375	3,435	-3.56% ↓	-6.7% ↓ ●
Plasterboard (S\$/unit (b))	9	9	-1.38% ↓	0.0% ↔ ■
Diesel (S\$/litre)	2.89	2.14	40.76% ↑	-3.7% ↓ ■

(a) 200x300cm, dia.-4mm
(b) 10x20x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
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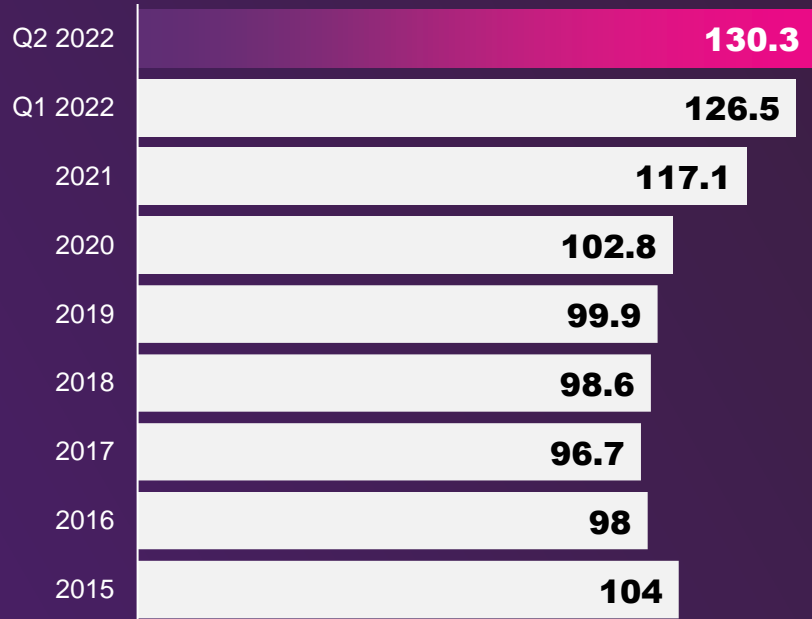
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
Copper	+1.0% ↑	Moderate	Copper prices have dropped back from the mid-2022 highs, with regional demand being hit by the weakness in China's economy, along with a general decline in investor confidence.
Steel prices - Steel rebar - Flat steel	-4.5% ↓ -3.0% ↓	High	From the highs of early Q2 this year, when geopolitical risk spiked upon the outbreak of the Russia-Ukraine conflict, steel prices have trended downwards. This trend is expected to continue, in part owing to the drop in iron ore prices across Asia, with steel production weakening in China given the slowing economy and real estate development downturn.
Lumber	-1.0% ↓	Moderate	The recovery in residential construction appears to be faltering, but in late July 2022, Singapore's HDB reported that all Build to Order (BTO) projects that were delayed by the COVID-19 pandemic will be completed in the next two to three years. This will be a factor in keeping lumber prices relatively high.
Asphalt	-1.0% ↓	Moderate	Bitumen prices have remained elevated in recent months, having risen sharply during the first half of the year. Although Singapore is a major producer and export of bitumen, local prices reflect trends in global crude oil, which has eased back from mid-year highs. However, prices are unlikely to drop markedly in the coming quarters given the recent decision by OPEC+ to cut oil production.
Limestone	+0.5% ↑	Low	Limestone prices have not been subject to a high degree of volatility, but given a reliance on imports from Malaysia, the UK, and other EU and Asian markets, prices are expected to remain close to current levels given high production and transportation costs.





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Singapore - Commodity Report



Tender price index 2015 – Q2 2022

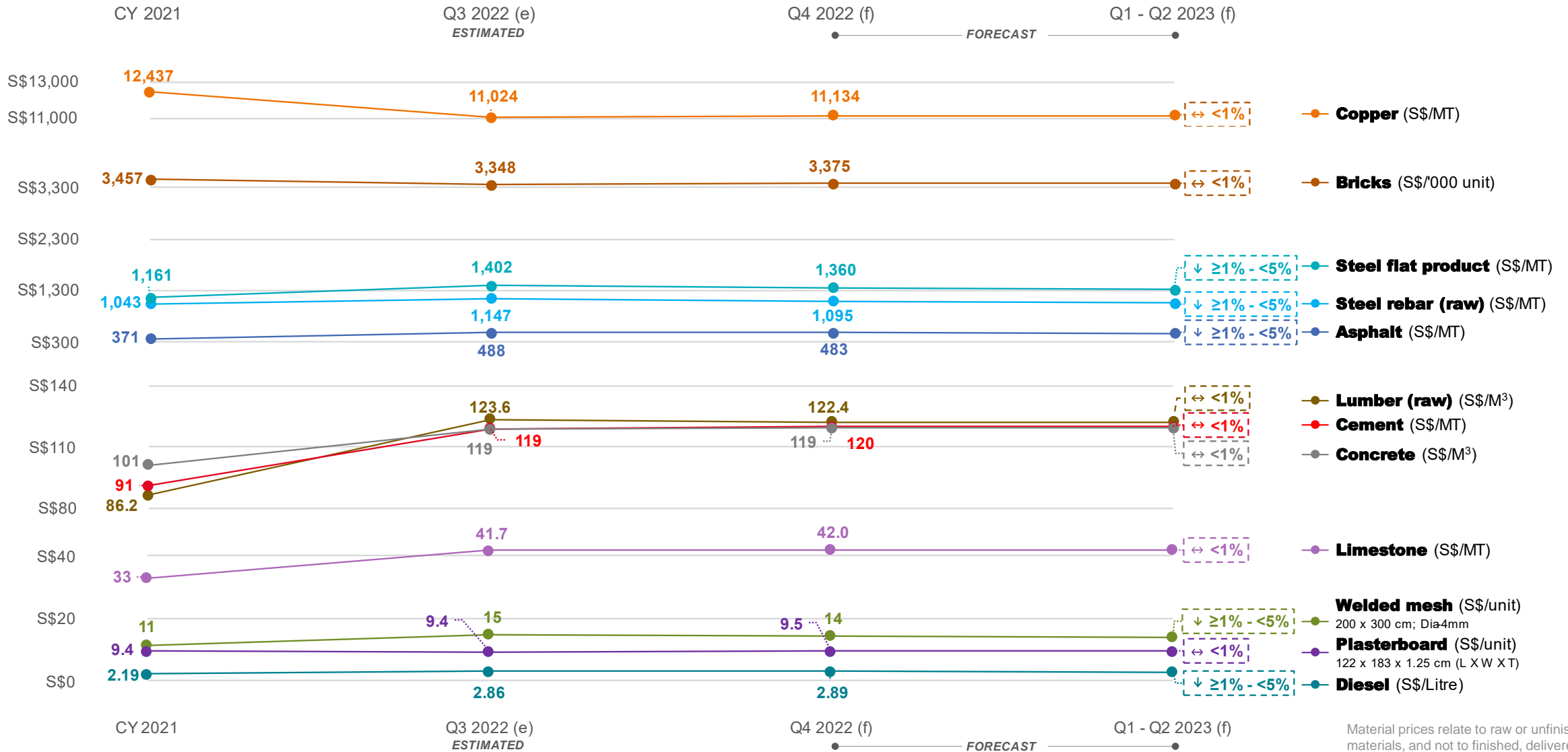


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+0.8% ↑ +0.7% ↑	Moderate	After rising during the first half of the year owing to a recovery in construction output and higher production costs, in recent months concrete and cement prices have stabilised at a high level. Given the outlook for relatively high prices for raw materials and transportation costs, prices will remain elevated.
 Welded mesh	-3.8% ↓	High	In line with the expected decline in steel prices, welded mesh prices will fall back in the coming quarters.
 Bricks	+0.8% ↑	Moderate	Brick prices have fallen from the highs of the first half of the year. Overall construction output will continue to edge upwards, maintaining demand levels, and production costs will remain relatively high.
 Plasterboard	+0.5% ↑	Low	Plasterboard prices will stay around the current levels, having been relatively stable in recent quarters.
 Diesel	+0.9% ↑	Moderate	Diesel prices fell in Q3 2022 after rising to a high of close to S\$3.20 in June. The main sellers reduced prices by 11 cents per litre in August, a response to the downward movement in prices of crude oil and refined products. However, the decision by OPEC+ in early October to cut production is likely to keep prices relatively high.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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Singapore – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Singapore – Macroeconomic overview



Economic indicators



3%

GDP growth in 2022 (f) and **7.61%** in 2021



5.88%

inflation rate in 2022 (f), and **2.3%** for 2021



3.13M

people employed in 2022 (f) and **3.11M** in 2021



2.49%

unemployment rate for 2022 (f) and **2.65%** in 2021



123.69

Consumer Price Index in 2022 (f) and **116.83** in 2021



114.80

Producer Price Index in Aug 2022 and **100.09** in Aug 2021

National holidays









11 public holidays

In Singapore each year.

- New Year's Day (1 January)
- Chinese New Year (1 and 2 February)
- Good Friday (15 April)
- Labour Day (1 May)
- Hari Raya Puasa (3 May)
- Vesak Day (15 May)
- Hari Raya Haji (10 July)
- National Day (9 August)
- Deepavali (24 October)
- Christmas Day (25 December)

Singapore – Macroeconomic overview



Output 2021 and 2022 (in millions)			
	Total 2021	Total 2022 (f)	% change
Commercial 	S\$1,250	S\$1,325	6%
Energy and utilities 	S\$1,974	S\$2,013	2%
Industrial 	S\$5,427	S\$5,612	3.4%
Infrastructure 	S\$4,148	S\$4,242	2.3%
Institutional 	S\$3,348	S\$3,479	3.9%
Residential 	S\$5,423	S\$5,654	4.3%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

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Construction Health and Safety practices and culture



10

fatalities in the construction industry in 2022 (as of July)



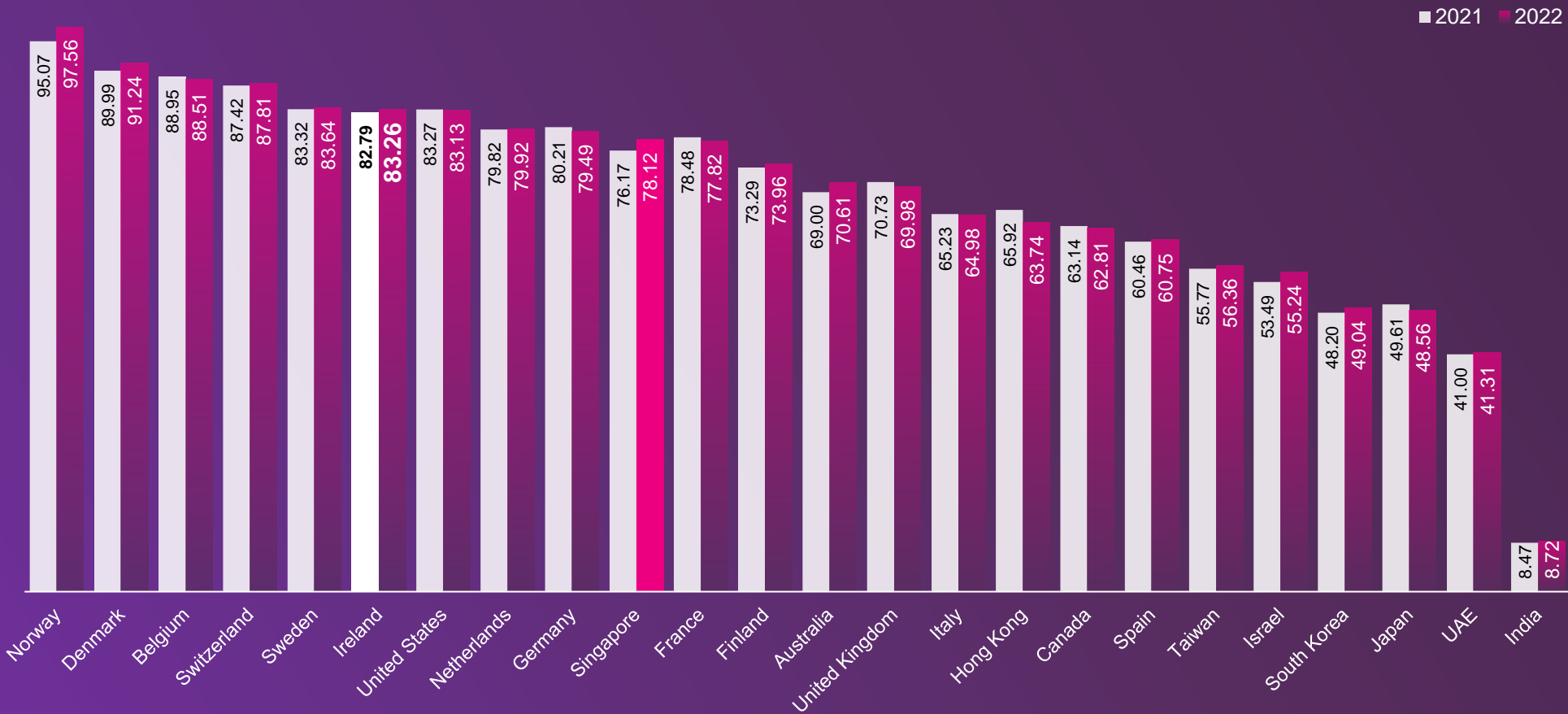
13

fatalities in the construction industry in 2021

Singapore – Macroeconomic overview



Labour productivity



Labour costs



S\$5,847

average monthly total labour costs in August 2022, compared to S\$5,474 in August 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Singapore – Report methodology



Linesight has commissioned independent global research to track construction 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 labour prices, in addition to underlying demand and supply trends that will impact market prices.

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Sample sources – Singapore

For Singapore, sources for this report include, but are not limited to:

- IMF
- Ministry of Trade and Industry
- BCA
- GlobalData's Construction Intelligence Center (CIC)

Linesight





South Korea Country Insights and Commodity Report Q3 2022



South Korea

Q3 2022

South Korea's economic growth this year is expected to come in at 2.6%, slowing to 2.3% next year, as it loses momentum, according to the recent International Monetary Fund (IMF) update. Recent trade data reported by the Korea Customs Service point towards weakening indicators for the second half of the year, as spiking energy costs and the depreciation of the won against the dollar exacerbate inflationary pressures. Inflation for the full-year 2022 is anticipated to hit 5.2% and drop to 3.16% next year.

Q2 2022 saw the ninth consecutive construction industry contraction, with a year-on-year decline of 0.3%, as escalating energy costs, inflationary pressures and supply chain disruptions caused by the current geopolitical climate impacted. For the full 2022 year, a moderate contraction of 0.5% is expected, before growth returns for the coming years, as renewables and transport infrastructure come into focus.



Garvan Barry
Director
garvan.barry@linesight.com



Lumber

Despite a marginal increase in prices in Q3 2022 as a result of a seasonal increase in demand, tight supply and higher logistical costs, lumber prices are expected to fall in the final quarter of this year. Weighing on prices in Q4 2022 will be a reduction in demand from the construction industry as activity slows.



Cement and aggregates

A substantial, sustained rise in bituminous coal prices (120% year-on-year as of end of Q3), which is used to fire South Korea's cement kilns, is expected to drive an increase in prices in the second half of this year. Korean cement producers Sampyo Cement and Hanil Cement increased their prices by 11.7% and 15.0% respectively from September 2022, citing the rise in raw material costs, and this increase is expected to be passed on by ready-mix producers. An expected downturn in construction activity will weigh on cement demand in the coming quarters, but this is not expected to be sufficient to see cement prices fall.



Concrete blocks and bricks

Construction activity in Korea slowed to a contraction of 1.5% year-on-year in H1 2022, recording a ninth successive contraction in Q2 2022. With construction activity slowing, brick and concrete block demand is expected to moderate. An expected rise in cement prices in Q4 2022 on the back of rising input costs, is anticipated to lead to a slight increase in concrete prices, which will see concrete block prices rise marginally as a result.



Steel (rebar and structural)

A fall in raw material costs, weaker domestic demand and the slowing of global economic growth are expected to contribute to a weaker steel market. Supply disruptions and strike action at two of Korea's largest steel producers, POSCO and Hyundai Steel, will, however, exert upwards pressure on prices in the final quarter of this year, keeping steel prices at relatively elevated levels.



Copper

Slowing global economic growth, weak industrial production in Europe, rising energy costs and an increasingly strong US dollar have resulted in a significant fall in global copper prices in recent months. Some upwards pressure on copper prices may be generated as infrastructure construction in China ramps up towards the end of the year, though this is unlikely to be sufficient to generate a return to copper's prior highs. In the longer term, copper demand in Korea is expected to strengthen substantially, driven by demand from its prominent EV battery manufacturing industry.

South Korea - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	KRW	KRW	2021-22* % change	% change
Copper (KRW/MT)	10,208,386	10,491,201	-2.70% ↓	-12.3% ↓ ●
Steel rebar (KRW/MT)	1,048,085	1,040,667	0.71% ↑	-3.5% ↓ ■
Steel flat (KRW/MT)	994,704	947,526	4.98% ↑	-0.8% ↓ ■
Lumber (KRW/M3)	354,600	330,000	7.45% ↑	4.0% ↑ ●
Asphalt (KRW/MT)	66,730	57,913	15.22% ↑	0% ↔ ■
Limestone (KRW/MT)	969,737	974,857	-0.53% ↓	0% ↔ ■
Cement (KRW/MT)	379,853	311,684	21.87% ↑	0.5% ↑ ■
Concrete (KRW/M3)	145,804	118,677	22.86% ↑	1.0% ↑ ●
Welded mesh (KRW/unit)	9,024	8,297	8.75% ↑	-3.5% ↓ ●
Bricks (KRW/000 unit)	646,750	596,048	8.51% ↑	0% ↔ ■
Plasterboard (KRW/unit)	4,104	3,916	4.81% ↑	0% ↔ ■
Diesel (KRW/litre)	1,722	1,860	-7.43% ↓	-18.2% ↓ ●

(a) 100x200cm, dia.-5mm
(b) 90x180x1.2cm (LxWxT)

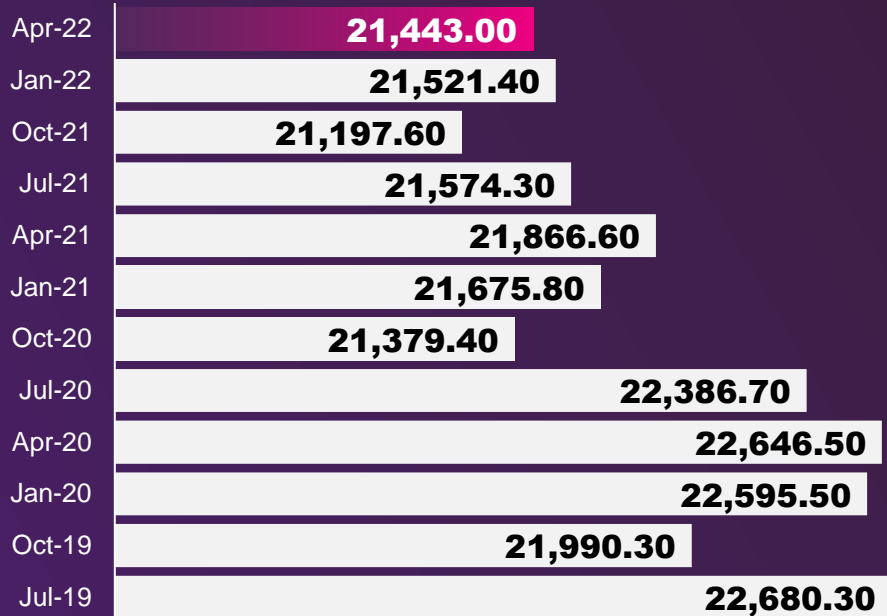
● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-1.4% ↓	Moderate	Copper prices are expected to moderate in the second half of this year due to slower economic growth in China and decreasing demand for copper in Europe, as industrial output softens as a result of the energy crisis. Concerns over the potential for a global recession has significantly reduced demand for the metal, which is reflected in the declining price of copper. Further weighing on copper demand in the second half of this year will be the recent slowing of industrial production in South Korea.
 Steel prices - Steel rebar - Flat steel	-2.3% ↓ -0.4% ↓	Moderate	Rising interest rates, increasing economic headwinds and softening external demand have hampered steel demand in the Korean construction and industrial sectors, which is expected to weigh on prices in the second half of this year. However, as a result of limited output at large, steel producers and increases to contract prices, it is anticipated that the decline in the price of steel will be less sharp in the final quarter of this year.
 Cement Concrete	+0.8% ↑ +1.1% ↑	Moderate	An increase in raw material costs, particularly of bituminous coal, is expected to have kept cement and concrete prices high in Q3 2022, and this is expected to continue into the final quarter of this year. While some downwards pressure on prices will be generated by the slowing of global economic growth and the tightening of policy by the Bank of Korea, which will weigh on construction demand, it will likely not be sufficient to generate a decline in prices in the short term.
 Asphalt	+0.8% ↑	Moderate	The global price of crude oil guides the movement in asphalt prices. It is anticipated that the price of asphalt will stay high in the near future as OPEC+ production cuts increase crude oil prices.
 Limestone	+0.5% ↑	Moderate	Higher production and transportation costs owing to increased fuel costs have been the primary factors buttressing limestone prices at elevated levels. A moderation in fuel costs stabilised limestone prices in Q3 2022. However, limestone prices are expected to remain high given elevated costs.

South Korea - Commodity Report



GDP from construction in KRW billions 2019-2022

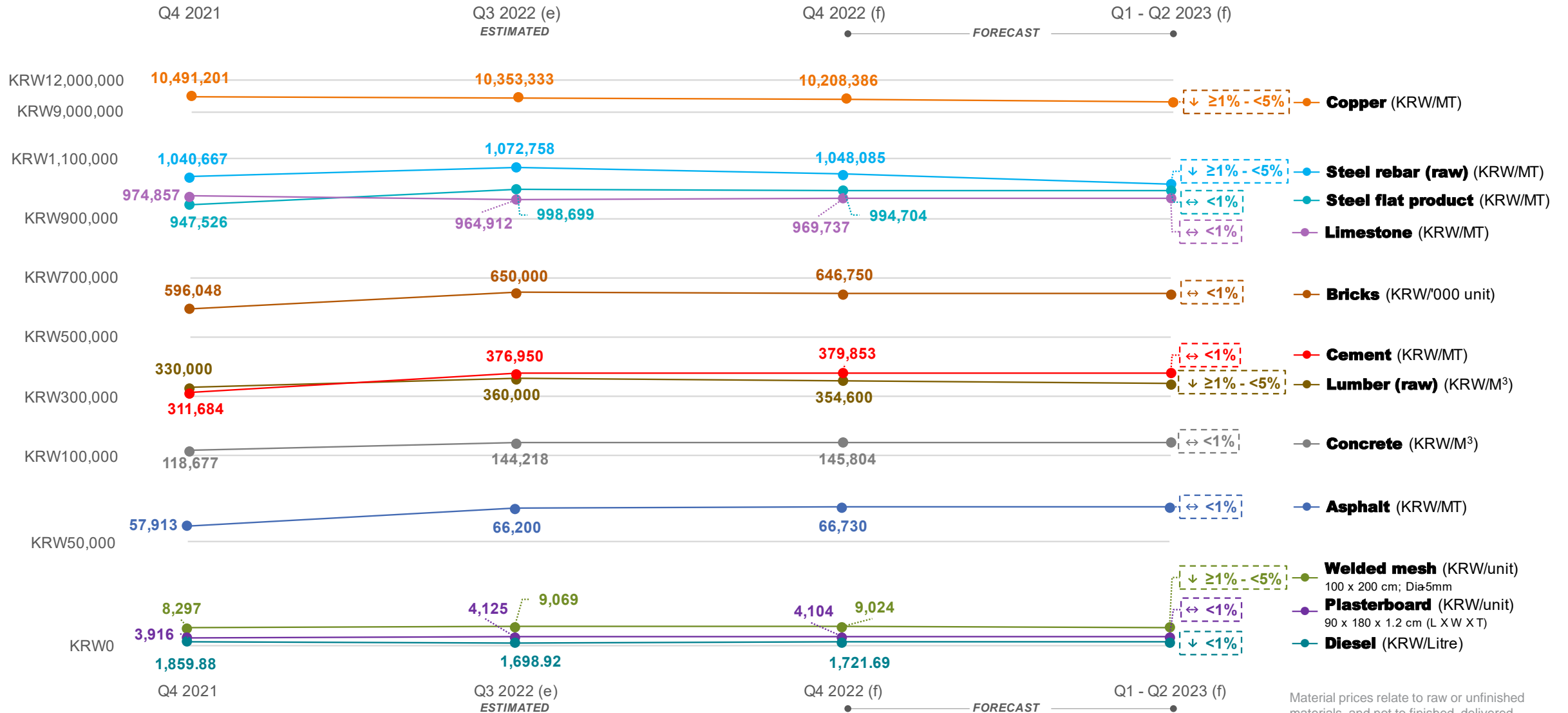


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Lumber	-1.5% ↓	 High	In Q3 2022, lumber prices are expected to have increased by approximately 1.5% on a quarterly basis, primarily as a result of a seasonal rise in demand and a shortage of supply. The pressure on domestic supply chains is, however, projected to ease by the final quarter of this year, which will result in a marginal fall in prices. Into 2023, prices are expected to be relatively stable, with risk weighted to the downside as tighter monetary policy softens demand for lumber in the residential sector.
 Welded mesh	-0.5% ↓	 Moderate	As a result of the expected decline in the price of steel, the price of welded mesh is expected to fall in the coming quarters.
 Bricks	-0.5% ↓	 Low	On a quarterly basis, brick prices remained stable in Q3 2022. However, owing to an expected decrease in demand from the construction industry as building activity slows, brick prices are expected to moderate in the final quarter of this year.
 Plasterboard	-0.5% ↓	 Low	Plasterboard prices have been stable in recent quarters, and with weaker demand being offset by high production costs, prices are not expected to move significantly.
 Diesel	+1.3% ↑	 High	Diesel prices in South Korea are expected to follow movements in international crude oil prices. With oil prices expected to rise in the final quarter of this year, due to the recent decision by OPEC+ to reduce oil output, it is anticipated that diesel prices will remain high, with supply-side pressures being offset by a moderation in demand.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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South Korea - Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

South Korea - Macroeconomic overview



Economic indicators



2.6%

GDP growth in 2022 (f) and **4.02%** in 2021



5.2%

inflation rate in 2022 (f) and **2.5%** for 2021



28.4M

people employed in 2022 (f) and **28.3M** in 2021



2.4%

unemployment rate for 2022 (f) and **3.5%** in 2021



103.95

Consumer Price Index in Sept 2022 and **108.93** in Oct 2021



120.12

Producer Price Index in Aug 2022 and **111.27** in Oct 2021

National holidays



12 public holidays







in South Korea each year

- New Year's Day (1 January)
- Seollal (31 January to 2 February)
- March 1st Movement Day (1 March)
- Children's Day (5 May)
- Buddha's Birthday (8 May)
- Memorial Day (6 June)
- Liberation Day (15 August)
- Chuseok (9 to 12 September)
- National Foundation Day (3 October)
- Hangeul Day (9 October)
- Hangeul Day Holiday (10 October)
- Christmas Day (25 December)

South Korea - Macroeconomic overview



Output 2021 and 2022 (in KRW millions)

	Total 2021	Total 2022 (f)	% change
Commercial 	57,535,097	57,380,800	-0.3%
Energy and utilities 	11,378,514	10,900,450	-4.2%
Industrial 	46,266,366	46,368,563	0.2%
Infrastructure 	47,053,026	44,758,315	-4.9%
Institutional 	20,698,917	20,672,437	-0.1%
Residential 	115,941,589	117,424,735	1.3%

Long-lead equipment (LLE) and Supply Chain narrative

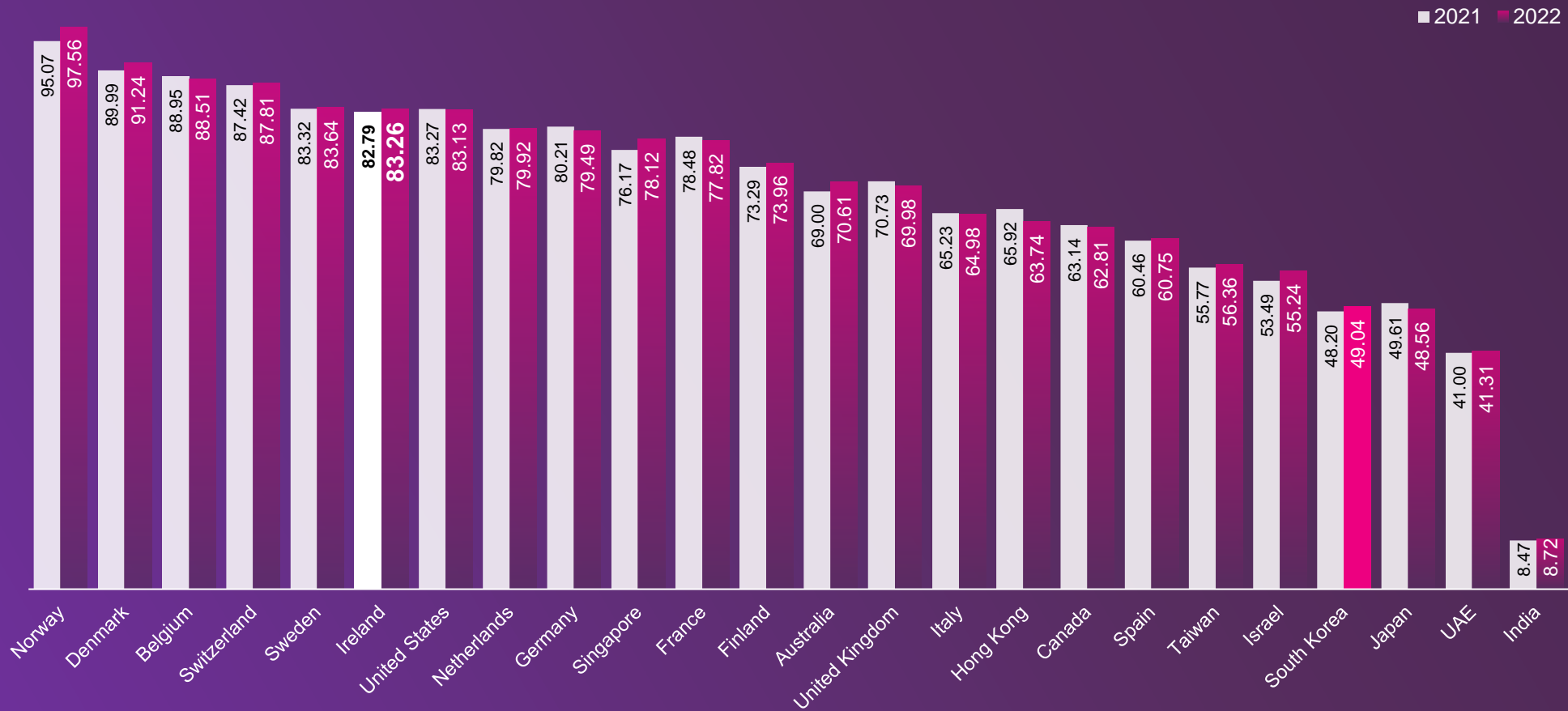
Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

South Korea - Macroeconomic overview



Labour productivity



Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

South Korea - Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – South Korea

For South Korea, sources for this report include, but are not limited to:

- IMF
- The Korean Statistical Information System (KOSIS)
- Bank of Korea
- Statistics Korea
- Korea Customs Service
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Spain

Country Commodity Report

Q3 2022



Spain

Q3 2022

The International Monetary Fund (IMF) has forecast 4.8% growth for 2022 in its latest release, before a slowdown to 1.2% for 2023. Given that Spain experienced the largest contraction amongst the major economies in 2020, output is not expected to converge on pre-pandemic levels until 2024. The consumer price index in September saw a 8.9% year-on-year increase in prices, according to Spain's National Statistics Institute. It has softened from July's peak, but remains elevated largely due to energy price volatility.

Construction output is expected to post modest growth of 1.7% in 2022, following the contractions seen in 2020 and 2021. The impact of energy costs and material prices have been particularly influential, although growth will be driven by the resumption of some key energy and infrastructure projects, as well as low base effects. Supply chain disruption and elevated material costs will remain downside risks, as is the case for much of the world given the current geopolitical climate.



Niall Greene
Senior Director - Europe
niall.greene@linesight.com



Lumber

High inflation and rising interest rates will put a brake on the recovery of Spain's construction industry. High production and transportation costs, combined with disruptions in regional trade, however, will keep building materials such as lumber at relatively high levels.



Cement and aggregates

Demand weakness has been reflected in the drop in cement consumption this year. According to Oficemen, Spain's Cement Association, consumption was down by around 7% in July-August. Despite soaring production costs, with weak buyer demand, price inflation has been contained. The outlook is gloomy for producers; with high production costs, its export potential is limited, given that competitors in key markets outside of Europe have not faced the same level of energy price inflation.



Concrete blocks and bricks

Demand from the residential sector has weakened, with the recovery in building activity being stymied by rising interest rates. Brick producers, however, are having to contend with soaring energy costs and are struggling to pass this on to buyers.



Steel (rebar and structural)

As in other markets in the region, Spanish steel producers have sought to push up prices to reflect their higher costs stemming from rising energy prices. However, buyers are refusing to place orders at such levels, resulting in a market stand-off. In September, ArcelorMittal was reportedly negotiating with unions over plans to furlough workers so as to limit its production plants for any period of time up to the end of 2023. At the end of September, the company initiated the shutdown of blast furnace A at its Gijón mill.



Copper

Copper prices will continue to slide amid the weakened outlook for global demand, but demand for the metal will be sustained amid the expansion in investment in renewable energy facilities and electric vehicle production.

Spain – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	€	€	2021-22* % change	% change
Copper (€/MT)	7,651	8,443	-9.39% ↓	-14.6% ↓ ●
Steel rebar (€/MT)	835	458	82.55% ↑	-0.5% ↓ ■
Steel flat (€/MT)	948	760	24.81% ↑	-8.3% ↓ ●
Lumber (€/M3)	145	121	19.01% ↑	1.4% ↑ ●
Asphalt (€/MT)	98	79	23.33% ↑	-0.8% ↓ ■
Limestone (€/MT)	57	51	12.38% ↑	4.0% ↑ ●
Cement (€/MT)	141	123	14.27% ↑	0.0% ↔ ■
Concrete (€/M3)	135	121	11.48% ↑	0.0% ↔ ■
Welded mesh (€/unit (a))	98	67	45.48% ↑	4.5% ↑ ●
Bricks (€/000 unit)	846	728	16.23% ↑	0.0% ↔ ■
Plasterboard (€/unit (b))	4	3	16.06% ↑	0.0% ↔ ■
Diesel (€/litre)	1.83	1.37	34.26% ↑	-0.6% ↓ ■

(a) 100x100x6cm
(b) 125x60x1.3cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

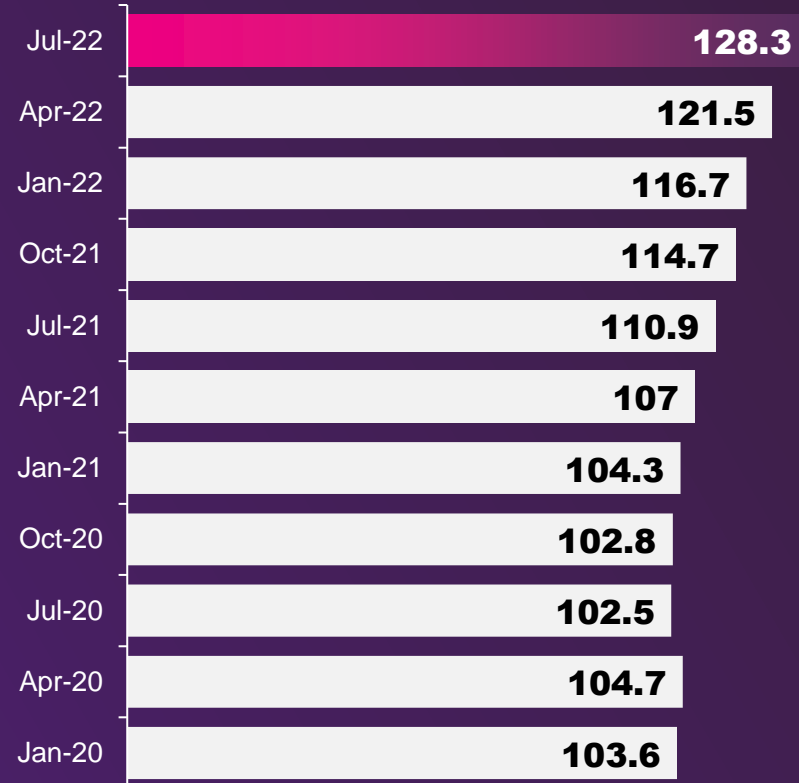
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-0.3% ↓	Moderate	Copper prices dropped by more than 10% in Q3, reflecting weak global demand and the economic slowdown in China. With rising interest rates, investment growth will be constrained, and copper prices are expected to fall further. However, copper's important role in the green transition suggests that copper prices will strengthen over the medium to long term.
 Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.5% ↓	Moderate	Reflecting increased energy costs, steel prices have remained high in recent quarters, but steel mills have been unable to push up prices as much as they had targeted owing to weakening demand. With the prospect of continued weakness on the demand side, prices are expected to fall further in the coming quarters, with producers slowing production.
 Lumber	+1.0% ↑	Moderate	Lumber prices have edged upwards, with weak demand being offset by the impact of supply chain disruptions and high logistics and transportation costs. The decline in demand in the residential sector due to rising interest rates will keep the price of lumber in check.
 Asphalt	-1.0% ↓	Moderate	With international crude oil prices stabilising at levels below the mid-2022 highs, upward pressure on asphalt prices has been contained in recent months. However, in the wake of the recent OPEC+ decision to cut oil production, and with infrastructure spending set to pick up, prices will remain close to current highs.
 Limestone	+1.0% ↑	Low	Although overall construction growth has remained weak, production costs have risen, keeping limestone prices at high levels. Producer prices for the quarrying of stone in general were up by 9% year-on-year in August 2022.






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.

Spain – Commodity Report



Building cost index 2020-2022

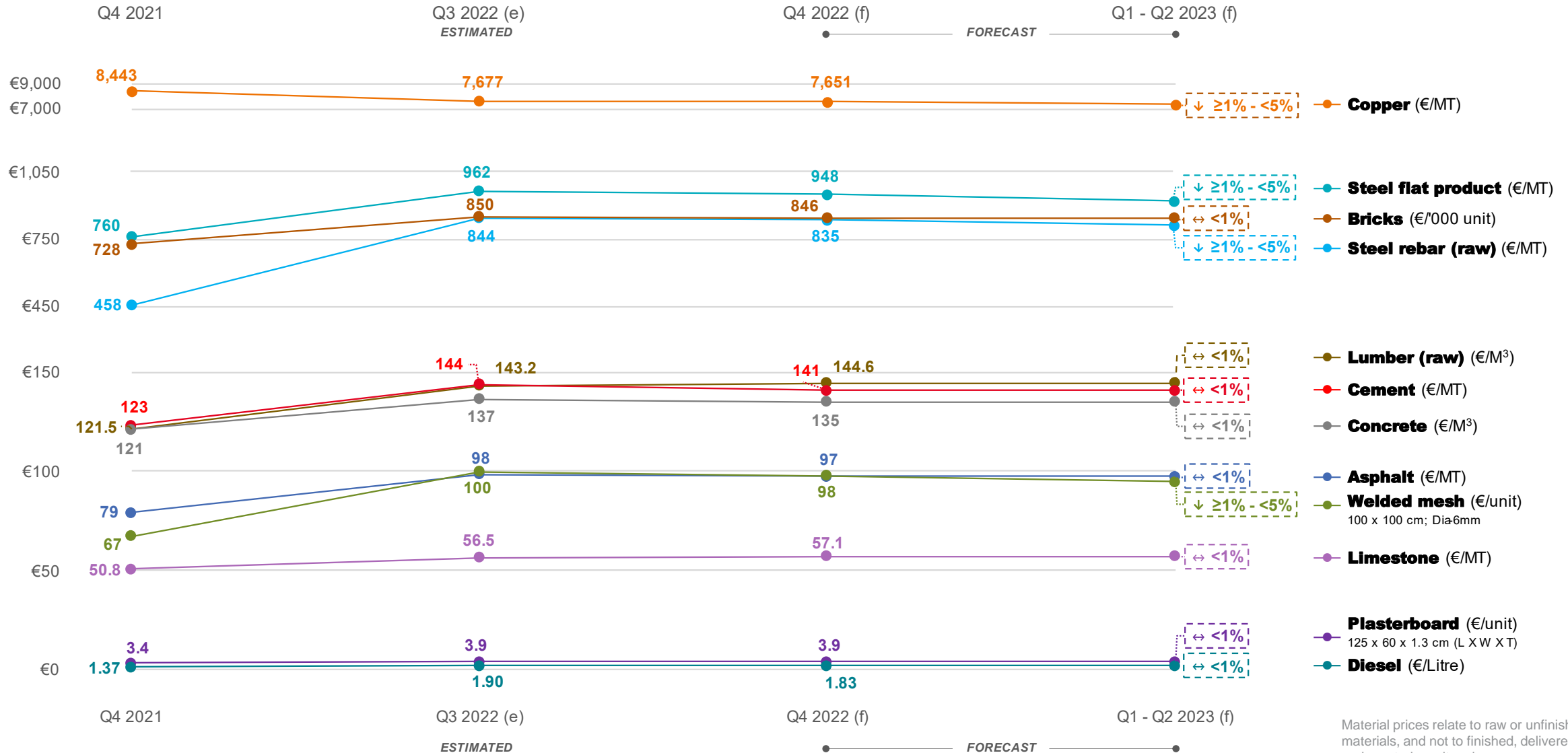


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	-2.0% ↓ -1.0% ↓	Moderate	Despite further rises in production costs (which were up by around 16% year-on-year in Q3 2022) owing mainly to rising energy prices, cement and concrete prices have remained stable at a high level. Price inflation is being contained by weakness on the demand side, with consumption levels declining amid slowing construction output growth.
 Welded mesh	-2.0% ↓	Low	Welded mesh prices rose in Q3 2022, reflecting higher steel prices in earlier quarters, but weaker demand and falling steel prices will reverse this trend in the coming quarters.
 Bricks	-0.5% ↓	Low	Despite soaring production costs (brick producer prices were up by 50% year-on-year in Q3 2022), prices have stabilised at a high level, owing to weaker demand from the housing sector.
 Plasterboard	+0.5% ↑	Low	As has been the case for bricks and other key building materials, despite high production costs, prices have steadied at an elevated level, with producers unable to pass on higher costs because of limited demand from buyers.
 Diesel	-3.5% ↓	Moderate	Diesel prices have declined from the high of just over €2 per litre in June this year, and the government's 20 cents per litre subsidy is to remain in place until December 2022. However, the early October announcement of OPEC+ nations to reduce oil output is expected to counter the recent declining crude oil price trend.

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Spain – Construction Materials Pricing (2021-2022)



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Spain – Macroeconomic overview



Economic indicators



4.8%

GDP growth in 2022 (f)
and **5.13%** in 2021



8.78%

inflation rate in 2022 (f)
and **3.09%** for 2021



19.93M

people employed in 2022 (f)
and **19.27M** in 2021



13.36%

unemployment rate
for 2022 (f) and **14.78%** in 2021



124.01

Consumer Price Index in
2022 (f) and **114.00** in
2021



41.8%

change in Producer Price
Index in Aug 2022 compared
to Aug 2021

National holidays



**10 public
holidays**

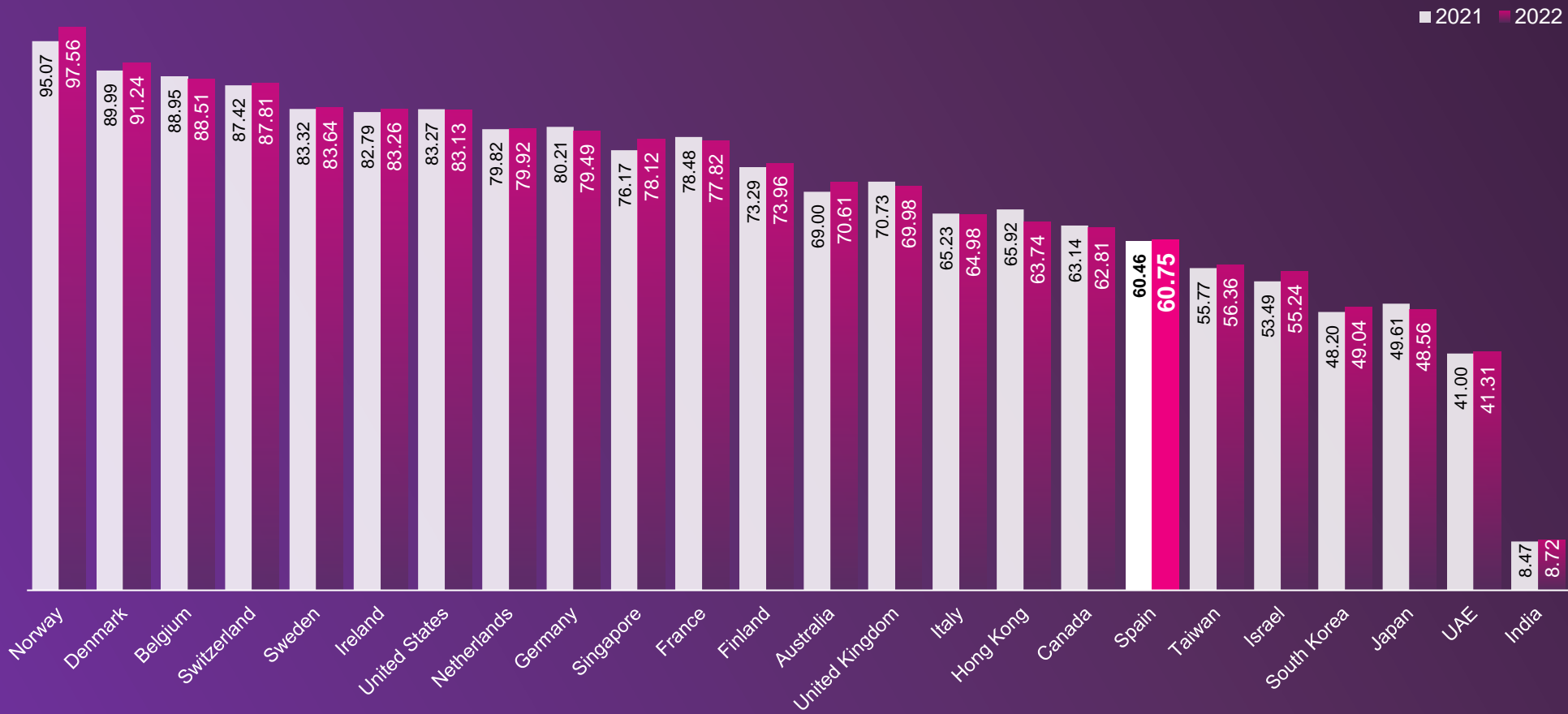
in Spain each year.

- New Year's Day (Año Nuevo) (1 January)
- Good Friday (Viernes Santo) (15 April)
- Labor Day (also referred to as Worker's Day) (Día del Trabajo) (1 May)
- Assumption of Mary (Asunción de la Virgen) (15 August)
- Spain's National Day (also referred to as Columbus Day) (12 October)
- All Saints' Day (Fiesta de Todos los Santos) (1 November)
- Spanish Constitution Day (Día de la Constitución) (6 December)
- Immaculate Conception (La Inmaculada Concepción) (8 December)
- Christmas (Navidad) (25 December)
- Christmas holiday (26 December)

Spain – Macroeconomic overview



Labour productivity



Labour costs









2.1%

annual change in index figures of labour costs for July 2022 compared to -3.70% in July 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Spain – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	€19,206	€18,658	-2.9%
Energy and utilities 	€6,616	€6,862	3.7%
Industrial 	€6,474	€6,455	-0.3%
Infrastructure 	€28,626	€29,721	3.8%
Institutional 	€13,045	€12,717	-2.5%
Residential 	€73,854	€75,875	2.7%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
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Construction Health and Safety practices and culture



3 industry deaths from Jan-July 2022

9.2 deaths per 100,000 workers in 2021

Spain – Report methodology



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Primary and secondary research

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Sample sources – Spain

For Spain, sources for this report include, but are not limited to:

- IMF
- National Statistics Institute
- International Labour Organization
- GlobalData's Construction Intelligence Center (CIC)
- Conference-board.org
- Fitch Ratings

Linesight





Sweden Country Commodity Report Q3 2022



Sweden

Q3 2022

Sweden's economic growth is expected to be moderate for the full 2022 year at 2.02%, and 0.83% anticipated for 2023. Consumer price inflation is predicted to run at 7.35% for the full 2022 year, before dropping off to 4.07% in 2023. Sweden's interest rate was hiked by one percentage point in September to hit 1.75% - its biggest hike since November 1992, and further rises are expected in the coming months to tackle soaring inflation.

After sluggish growth for the last two years, the construction industry is expected to post modest 1.5% growth for the full 2022 year, as the commercial sector remains sluggish, while residential and infrastructure are both anticipated to demonstrate expansion. As is the case throughout Europe, material price escalation, energy costs, supply chain disruption, labour shortages and tightening monetary policy remain key threats to industry performance.



Paul Butler
Senior Director - Europe
paul.butler@linesight.com



Lumber

As the second largest user of lumber in construction in Europe, with the share of wood products used in construction (in terms of value) standing at 6%, demand for lumber in Sweden is relatively high. Due to its substantial forest cover and its position as Europe's largest timber export market, Sweden is largely self-sufficient in meeting its domestic demand and is therefore well protected from global supply shocks. However, high global demand put pressure on Sweden's timber stocks, which fell to 20-year lows in 2021, and in turn caused prices to rise substantially. A decline in demand that is expected over the coming quarters due to slowing economic growth will ease pressure on stocks and prices, but prices are likely to remain volatile over the medium term.



Cement and aggregates

The risk of a cement supply shortage in Sweden is particularly acute owing to the ongoing dispute between the Swedish government and the largest domestic producer of cement, Cementa, over environmental concerns regarding limestone mining activity at its Slite quarry site in Gotland. Averting an immediate crisis, in late 2021, the Swedish government announced that it would allow Cementa to continue its mining operations until December 2022. However, uncertainty remains as to what will happen in 2023. As Cementa produces 75% of Sweden's domestic cement consumption, closure of the quarry will be highly disruptive to the Swedish construction industry and will put significant upward pressure on cement prices.



Concrete blocks and bricks

Fears of a global recession amid high inflation and rising interest rates is expected to dampen demand for new buildings over the short and medium term, easing upward pressure on prices. However, the high cost of energy and fuel feeding into production and transportation costs will keep prices elevated over the coming quarters.



Steel (rebar and structural)

As a net exporter of steel, Sweden has been relatively well insulated from the adverse effects of the Russia-Ukraine-induced supply shock in mid-2022. Despite avoiding the problem of shortages, steel prices in Sweden have been largely influenced by global market forces. Prices are expected to remain volatile over the medium term owing to the challenging economic environment. In the short term, declining manufacturing and industrial activity will weigh on demand for steel and keep prices subdued. Over the medium term, domestic steel demand will be buoyed by a high-value pipeline of infrastructure construction projects.



Copper

Although demand for copper will be strong over the long term to support the green transition, recession fears amid rising energy costs and monetary tightening are impacting heavily on demand for copper in the short to medium term, putting downward pressure on global copper prices. In a move that will increase domestic production in 2023, Copperstone Resources has announced revised and enlarged ambitions for the reopening of the Viscaria copper mine in Kiruna. This increase in supply is likely to put further downward pressure on prices, while reducing medium to long-term price volatility.



Sweden – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	SEK	SEK	2021-22* % change	% change
Copper (SEK/MT)	80,790	85,265	-5.25% ↓	-12.1% ↓ ●
Steel rebar (SEK/MT)	8,006	7,832	2.22% ↑	-1.0% ↓ ■
Steel flat (SEK/MT)	7,546	7,382	2.22% ↑	-1.0% ↓ ■
Lumber (SEK/M3)	861	831	3.63% ↑	-11.1% ↓ ●
Asphalt (SEK/MT)	944	777	21.47% ↑	-6.4% ↓ ●
Limestone (SEK/MT)	602	497	21.18% ↑	13.5% ↑ ●
Cement (SEK/MT)	2,546	1,807	40.92% ↑	12.0% ↑ ●
Concrete (SEK/M3)	1,270	1,213	4.71% ↑	3.1% ↑ ●
Welded mesh (SEK/unit (a))	911	647	40.73% ↑	-1.0% ↓ ●
Bricks (SEK/'000 unit)	8,858	7,397	19.76% ↑	1.5% ↑ ●
Plasterboard (SEK/unit (b))	93	76	22.35% ↑	0.0% ↔ ■
Diesel (SEK/litre)	24.19	18.93	27.81% ↑	0.9% ↑ ●

(a) 500x230cm, dia.-6mm
(b) 250x90x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

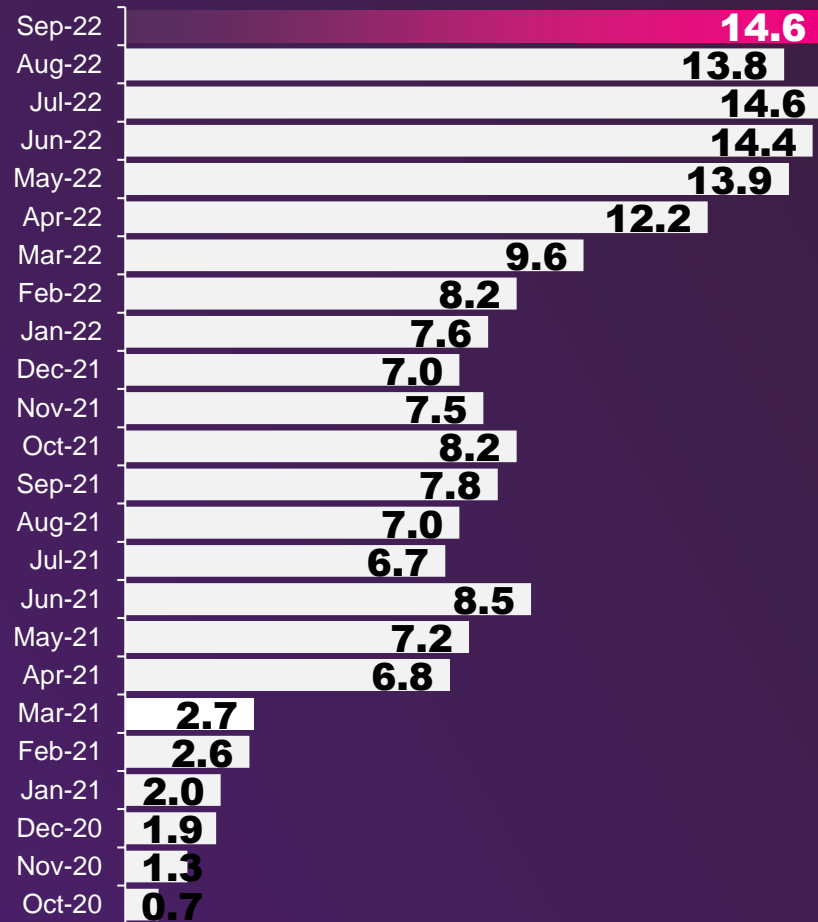
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-2.0% ↓	Low	Copper prices surged in Q2 2022 following the onset of the Russia-Ukraine conflict. Prices have since retracted from the highs amid an increasingly gloomy outlook for the European economy, which will continue to put downward pressure on prices in Q4 2022. Nevertheless, increasing investment in renewable energy and electric vehicle manufacturing will sustain demand over the coming quarters.
 Steel prices - Steel rebar - Flat steel	-6.8% ↓ -6.8% ↓	Moderate	Steel prices have eased in recent months following a surge in prices in Q2 resulting from the impact of the Russia-Ukraine conflict on production costs, which will continue to weigh on European steelmakers over the coming quarters. The decline in prices is due to weakening demand amid the rising likelihood of a recession hitting Europe, coupled with an increase in cheaper imports from outside Europe.
 Lumber	+1.0% ↑	Moderate	Lumber prices have retracted from highs reached in Q2 2022, due to weakening demand amid fears of slowing economic growth. However, renewed upward pressure from high production and transportation costs will keep prices elevated over the coming quarters. Moreover, the popularity of lumber as a construction material in Sweden, coupled with sustained pressure on timber stocks, will keep prices elevated.
 Asphalt	-4.7% ↓	Low	Asphalt prices have declined in recent months due to the decline in crude oil prices from mid-2022 highs. However, renewed upward pressure on crude oil prices following OPEC+'s decision in early October to decrease production could result in a rise in asphalt prices over the coming quarters.
 Limestone	-2.9% ↓	Low	The supply of limestone in 2023 remains uncertain due to the ongoing environmental dispute between Cementia, the sole producer of cement in Sweden, and the Swedish government over mining activity at the Slite limestone quarry. With Cementia's mining license set to expire at the end of 2022, there is an acute risk of a supply shock in early 2023.

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Sweden – Commodity Report



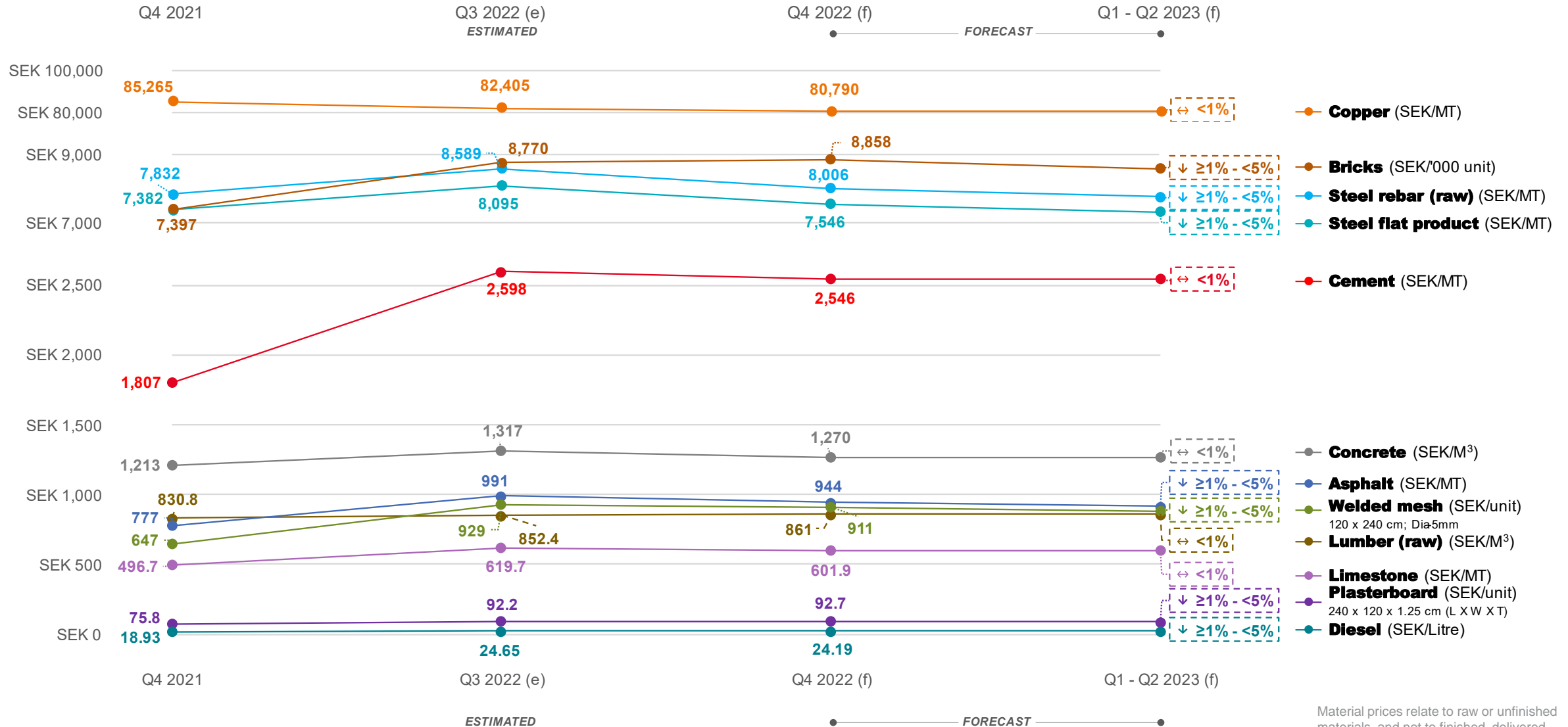
Construction cost index 2020-2022



Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	-2.0% ↓ -3.6% ↓	 Moderate	The risk of a cement shortage in Sweden remains high due to the aforementioned environmental dispute between Cementsa and the Swedish government over mining operations at the Slite limestone quarry. As Cementsa's mining permit is set to expire at the end of 2022, uncertainty remains over supplies in 2023. Although construction activity is expected to decline over the coming quarters, which will dampen demand for construction materials, demand for cement and concrete is expected to remain strong due to the likelihood of construction companies stockpiling in anticipation of a supply shock in early 2023.
 Welded mesh	-2.0% ↓	 Moderate	Following a sharp rise in the price of welded mesh in Q2 2022, prices have since eased due to falling steel prices and are expected to remain subdued due to the impact of weakening demand for steel in the manufacturing and construction industries.
 Bricks	+1.0% ↑	 Low	Brick prices are expected to continue to edge upward in the coming quarters due to high production costs, despite government support for domestic energy producers, which will ease some pressure on brick producers. Weakening demand will limit pressure on prices in H2 2022.
 Plasterboard	+0.5% ↑	 Low	Plasterboard prices rose rapidly in H1 2022 due to producers passing on higher energy and transportation costs. Owing to production costs remaining high in H2 2022, prices are likely to remain stable at elevated levels over the coming months, before declining in H1 2023 due to weak demand amid slowing growth in the construction industry.
 Diesel	-1.9% ↓	 Moderate	Since diesel prices peaked at SEK26.7/litre in June 2022 following a surge in the price of crude oil, prices have stabilised at around SEK24.5/litre. The decline in global crude oil prices is expected to put downward pressure on prices in the near future. However, the decision by OPEC+ to cut oil production is likely to cause volatility in the crude oil market, which will contain downward pressure on diesel prices.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

Sweden – Construction Materials Pricing (2021-2022)



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Sweden – Macroeconomic overview

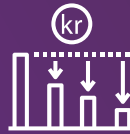


Economic indicators



2.02%

GDP growth in 2022 (f)
and **4.80%** in 2021



7.35%

inflation rate in 2022 (f)
2.16% for 2021



4.99M

people employed
in 2022 (f)
and **4.84M** in 2021



7.75%

unemployment rate
for 2022 (f) and
8.78% in 2021



121.84

Consumer Price Index in
2022 (f) and **113.5** in
2021



139.3

Producer Price Index in
Aug 2022 and **114.2** in
Aug 2021

National holidays



**16 public
holidays**

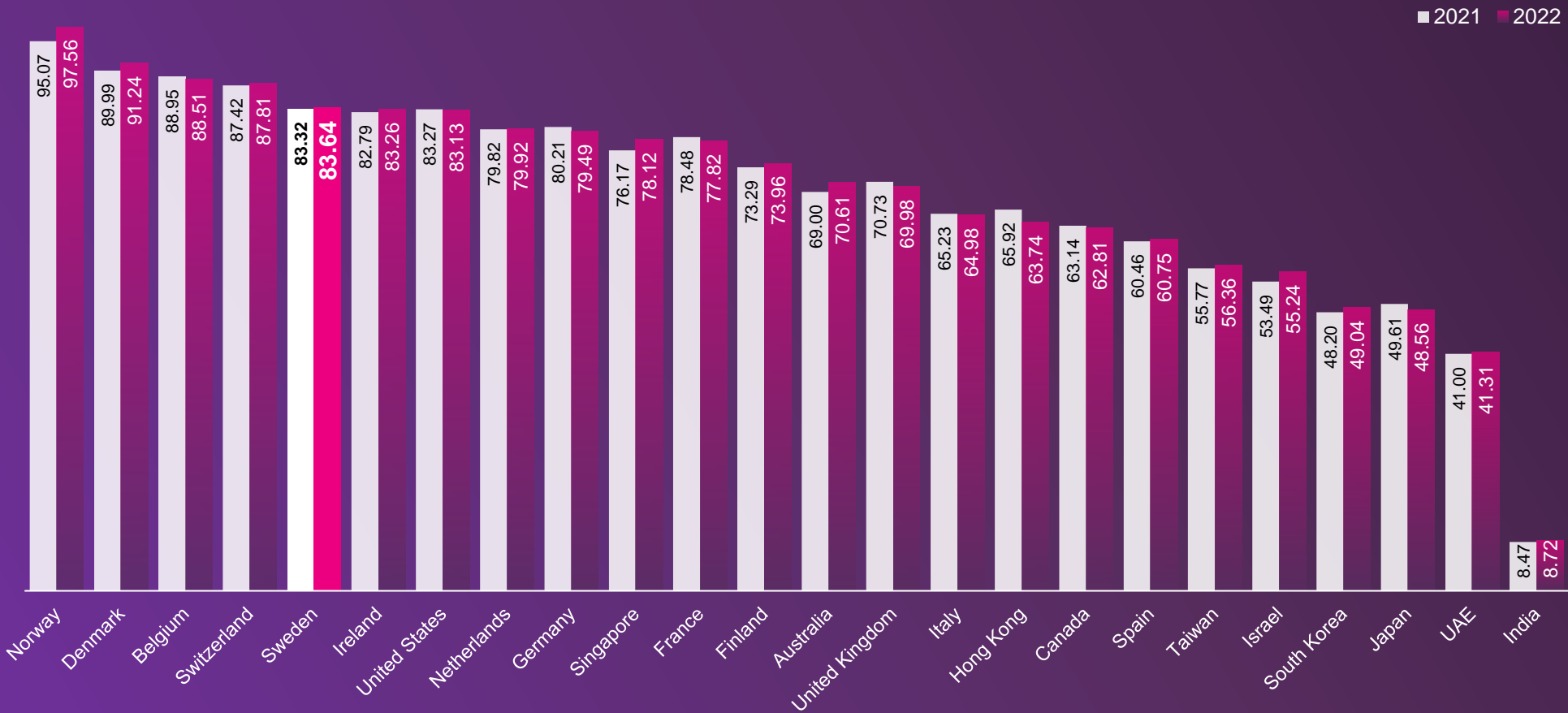
in Sweden each year.

- New Year's Day (1 January)
- Epiphany (6 January)
- Good Friday (15 April)
- Easter Sunday (17 April)
- Easter Monday (18 April)
- Labour day (1 May)
- Ascension Day (26 May)
- Pentecost (5 June)
- National Day (6 June)
- Midsummer Eve (24 June)
- Midsummer Day (25 June)
- All Saints Day (5 November)
- Christmas Eve (24 December)
- Christmas Day (25 December)
- Boxing Day (26 December)
- New Year's Eve (31 December)

Sweden – Macroeconomic overview



Labour productivity









Labour costs



Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Sweden – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	SEK 106,259	SEK 105,548	-0.7%
Energy and utilities 	SEK 47,068	SEK 47,849	1.7%
Industrial 	SEK 91,707	SEK 101,714	10.9%
Infrastructure 	SEK 138,942	SEK 140,955	1.4%
Institutional 	SEK 53,832	SEK 52,877	-1.8%
Residential 	SEK 412,455	SEK 419,392	1.7%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Sweden – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Sweden

For Sweden, sources for this report include, but are not limited to:

- IMF
- Mynak
- Statistics Sweden
- GlobalData's Construction Intelligence Center (CIC)

Linesight





Switzerland Country Commodity Report Q3 2022



Switzerland

Q3 2022

Economic growth for Switzerland for 2022 is forecast to come in at 2%, with the government revising its forecast from the June forecast of 2.6%, followed by a sluggish 1.1% in 2023 – both downward revisions on previous expectations. The outlook is being dampened by the current energy crisis and inflation. However, it is worth noting that consumer price inflation slowed to 3.3% as of September, but still surpassed the Swiss National Bank's target of 0-2% for the eighth consecutive month. Economists had expected the year-on-year rate to hold steady at August's 3.5% - a 29-year high. The index fell 0.2% month-on-month, given falling prices for items such as fuel, heating oil and hotels, while other items maintained increases.

Modest growth is expected for the Swiss construction industry this year of 1.3% in real terms, as the government focuses on energy and transport infrastructure. Similar to much of the world, there is a keen focus on renewables and this will provide a boost to the industry. However, challenges will be presented by the energy market, elevated material costs (albeit less volatile than previously) and inflation, hampering investor sentiment and industry performance for the near future.



Brian McClinton
Senior Director – Europe
brian.mcclinton@linesight.com



Lumber

Long-term demand for domestically produced lumber is expected to remain relatively strong, owing partly to increased awareness of sustainability, according to the president of Holzindustrie Schweiz, which is the organisation for Swiss sawmills and wood-based material producers. However, prices are largely influenced by the global lumber market, which is expected to remain volatile over the medium term due to mounting economic challenges weighing on growth prospects and demand for housing.



Cement and aggregates

Owing to an abundance of limestone deposits in the country, Switzerland has the potential to be highly self-sufficient in its cement usage. However, pushback by environmentalists on plans to expand its limestone quarries to access the deposits puts the country at risk of being increasingly reliant on imported limestone. Cement prices are expected to remain elevated in the short to medium term, owing to elevated production costs, despite a fall in demand due to slowing construction activity.



Concrete blocks and bricks

Brick prices in Switzerland have been partially shielded from supply chain disruptions and high transportation costs in recent quarters due to high domestic production with inputs sourced from local clay deposits, which has helped keep lead times and transport routes

short. High energy prices will keep production costs elevated, but weakening demand will put some downward pressure on prices over the coming quarters.



Steel (rebar and structural)

As a net importer of steel, Switzerland is highly exposed to supply shortages and price fluctuations in the global market. Demand is expected to weaken in the short term amid rising interest rates and recession fears, which will put downward pressure on prices. However, due to sustained upward pressure on production costs, prices are likely to remain volatile over the next year, potentially exposing Swiss steel buyers to another spike in prices once demand rebounds.



Copper

Copper prices in Switzerland have fallen since the middle of 2022 in line with the global market, reflecting the country's reliance on imported copper. Switzerland imports much of its copper from Zambia, with much of this re-exported by Swiss-based traders. Global copper prices are expected to remain volatile over the medium term, low in the short term amid growing recession fears, but to strengthen over the longer term, reflecting investment in the green energy transition.

Switzerland – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 - Q4 2022 (f)		Q2 2022 - Q3 2022 (e)
	CHF	CHF	2021-22* % change	% change
Copper (CHF/MT)	7,339	8,942	-17.92% ↓	-19.7% ↓ ●
Steel rebar (CHF/MT)	1,044	1,140	-8.42% ↓	-12.8% ↓ ●
Steel flat (CHF/MT)	942	920	2.4% ↑	-23.6% ↓ ●
Lumber (CHF/M3)	97	87	10.71% ↑	2.8% ↑ ●
Asphalt (CHF/MT)	120	96	24.56% ↑	3.3% ↑ ●
Limestone (CHF/MT)	41	36	13.19% ↑	2.6% ↑ ●
Cement (CHF/MT)	191	170	12.45% ↑	2.6% ↑ ●
Concrete (CHF/M3)	148	132	12.5% ↑	2.1% ↑ ●
Welded mesh (CHF/unit (a))	109	93	17.49% ↑	-11.4% ↓ ●
Bricks (CHF/'000 unit)	1,020	805	26.65% ↑	1.5% ↑ ●
Plasterboard (CHF/unit (b))	6	5	32.20% ↑	3.3% ↑ ●
Diesel (CHF/litre)	2.29	1.83	25.50% ↑	2.3% ↑ ●

(a) 150x300cm, dia.-5mm
(b) 200x60x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

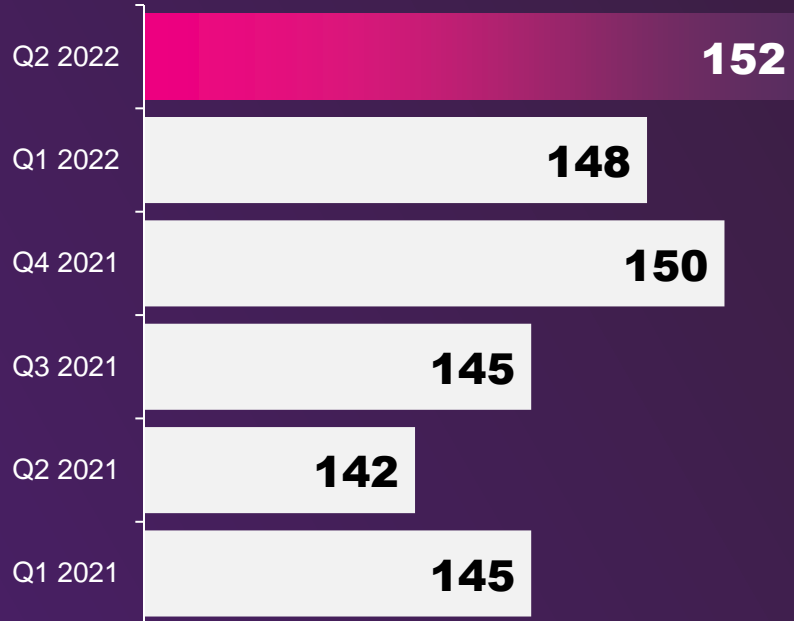
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-2.0% ↓	Low	Copper prices stand around 20% below levels reached in Q2 2022 as a result of the Russia-Ukraine conflict. Prices have declined owing to growing fears of a slowdown in the global economy. Although underlying demand remains strong due to increasing investments in electric vehicle manufacturing, copper prices are expected to decline further over the coming quarters.
 Steel prices - Steel rebar - Flat steel	-2.0% ↓ -2.0% ↓	Moderate	Steel prices faced significant upward pressure in Q2 2022, due primarily to surging energy costs following the onset of the Russia-Ukraine conflict. Although production costs are still high, weakening demand in the construction and manufacturing sector will continue to contribute to the easing of steel prices in the coming months. However, looking ahead, demand will be strengthened by the government's efforts to improve regional connectivity through the development of rail and road transport infrastructure.
 Lumber	-1.0% ↓	Moderate	Lumber prices have stabilised recently, owing to weakening demand in the construction industry. However, renewed pressure on prices from elevated production and transportation costs will keep prices high over the coming quarters. Downward pressure from the demand side is expected to cause prices to fall in the early part of 2023.
 Asphalt	-1.0% ↓	Low	Despite weakening demand amid growing fears of a recession, asphalt prices have remained elevated in recent months. Declining crude oil prices from mid-2022 highs have helped to ease upward pressure on asphalt prices, but the decision by OPEC+ in early October 2022 to cut oil production by two million barrels per day is likely to increase volatility in crude oil prices.
 Limestone	-1.0% ↓	Low	Although production costs remain high due to elevated energy costs, weakening demand in the construction industry will offset supply-side pressures and keep limestone prices stable over the coming quarters.

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.

Switzerland – Commodity Report



Construction cost index 2021-2022

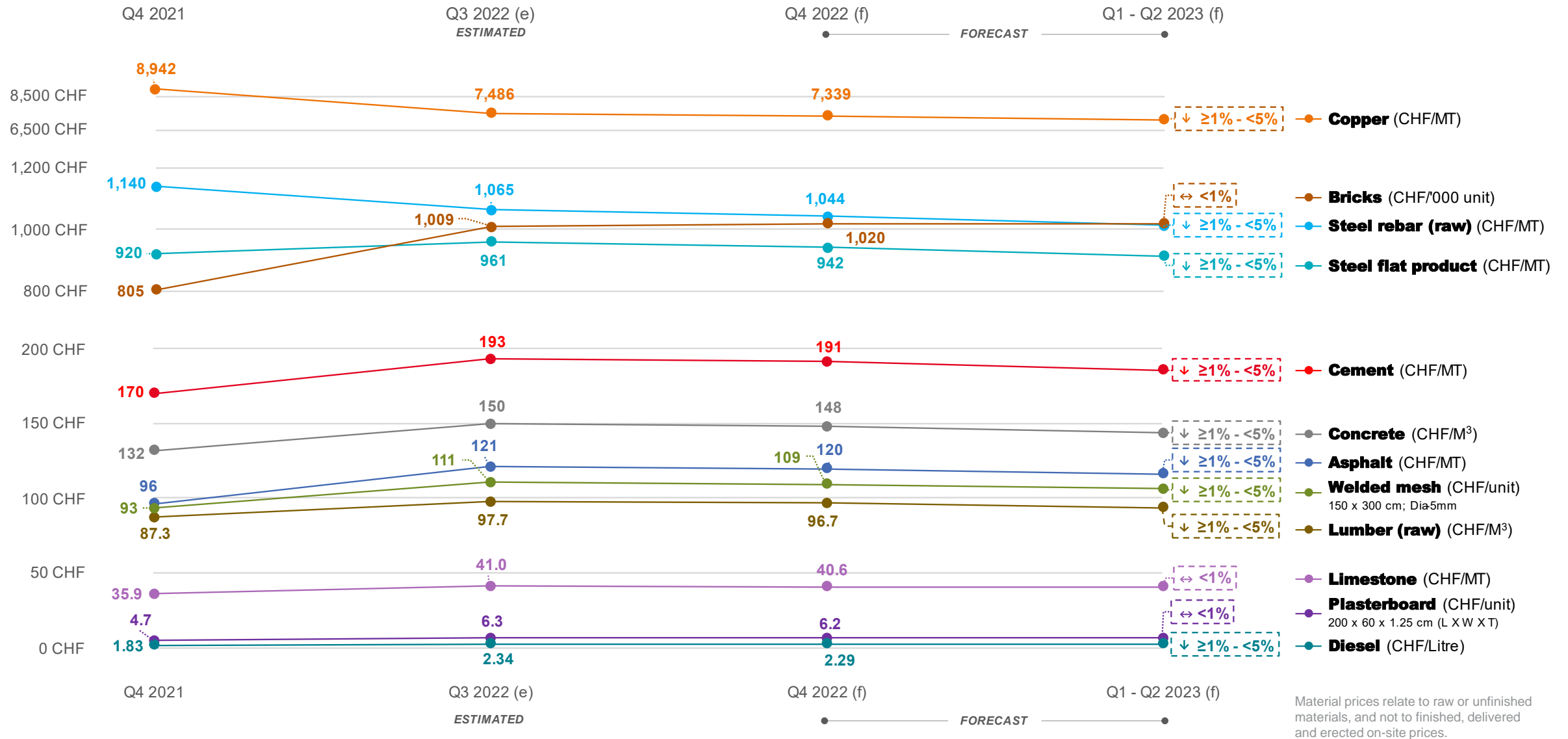


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *
 Cement Concrete	-1.0% ↓ -1.0% ↓	 Moderate Cement and concrete prices have faced upward pressure due to the impact of high energy costs on overall production costs. Weakening demand over the coming quarters will make it difficult for producers to pass on these costs, and prices are expected to slide in early 2023.
 Welded mesh	-1.0% ↓	 Moderate The price of welded mesh rose sharply in Q2 2022 due to rising steel prices. However, prices have since retracted owing to declining demand for steel from the construction and manufacturing industries. Due to high energy costs feeding into production costs, further downward pressure is expected to be limited, and prices are expected to be relatively stable over the coming quarters.
 Bricks	+1.0% ↑	 Low Brick prices have been edging upwards in recent months, owing primarily to the rising cost of energy. However, substantially weakened demand amid slowing economic growth in early 2023 will cause prices to drop back.
 Plasterboard	-1.0% ↓	 Low Following a 17% quarter-on-quarter rise in plasterboard prices in Q2, prices are expected to remain stable over the coming quarters due to sustained supply-side pressure stemming from rising energy costs being offset by weakness on the demand-side.
 Diesel	-2.0% ↓	 Low The price of diesel rose during the first half of the year due to rising crude oil prices. Diesel prices peaked at CHF2.39/litre in July and have since retracted slightly. Over the coming quarters, prices are expected to remain stable at elevated levels. The decision by OPEC+ in early October, however, could cause further volatility in the crude oil market, which in turn could put upward pressure on diesel prices.

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Switzerland – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

Switzerland – Macroeconomic overview



Economic indicators



2.32%

GDP growth in 2022 (f)
and **3.69%** in 2021



2.8%

inflation rate in 2022 (f)
0.58% for 2021



4.58M

people employed
in 2022 (f)
and **4.55M** in 2021



4.96%

unemployment rate
for 2022 (f) and
5.1% in 2021



102.18

Consumer Price Index
in 2022 (f) and **99.4** in
2021



109.57

Producer Price Index in
Aug 2022 and **103.87** in
Aug 2021

National holidays



5 public holidays

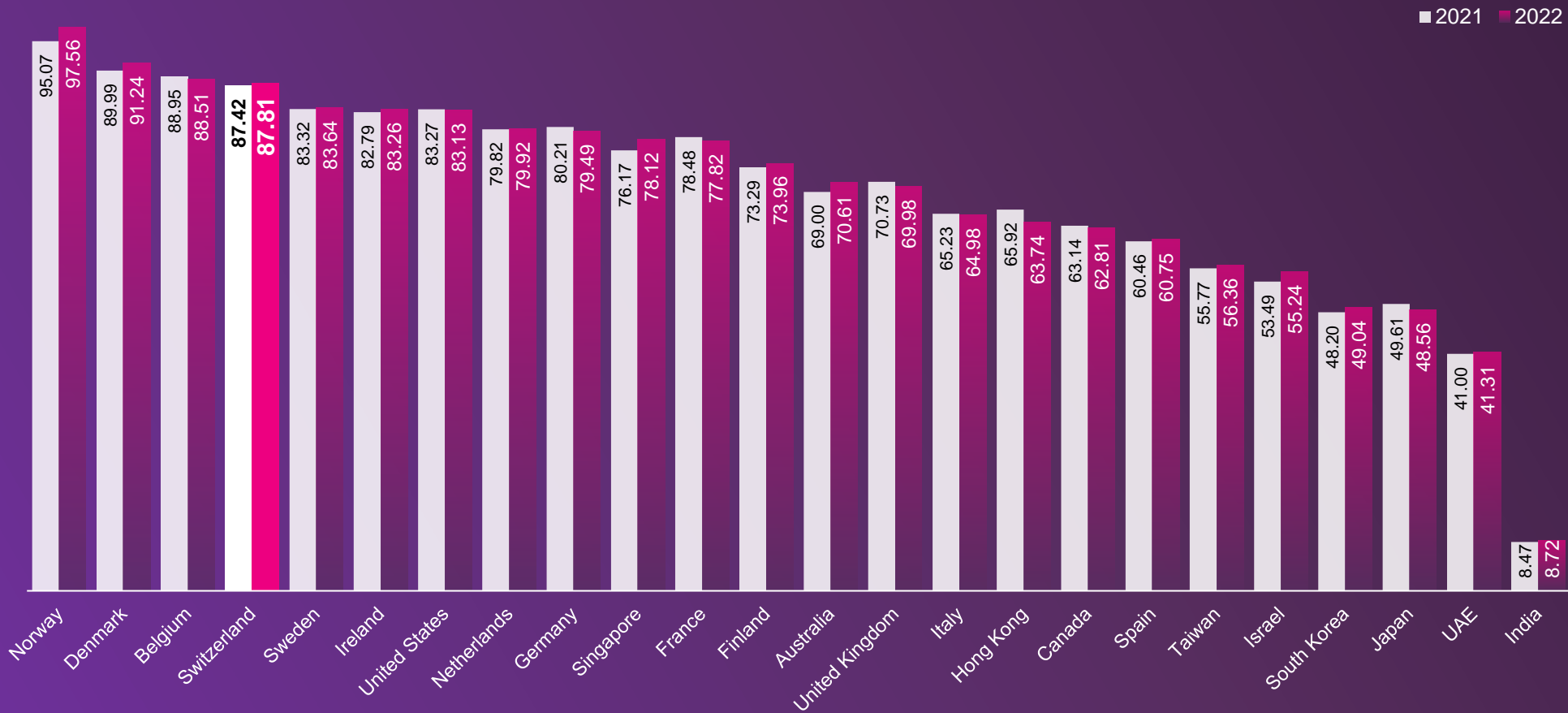
in Switzerland each year – this does not include regional observances, of which there are many.

- New Year's Day (1 January)
- Good Friday (15 April)
- Ascension Day (26 May)
- National Day (1 August)
- Christmas Day (25 December)

Switzerland – Macroeconomic overview



Labour productivity









Labour costs

2% 
 nominal wage growth for July 2022, compared with July 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Switzerland – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	CHF 16,507	CHF 16,386	-0.7%
Energy and utilities 	CHF 8,103	CHF 7,652	-5.6%
Industrial 	CHF 7,834	CHF 7,804	-0.4%
Infrastructure 	CHF 17,287	CHF 16,527	-4.4%
Institutional 	CHF 7,127	CHF 7,058	-1%
Residential 	CHF 27,210	CHF 26,648	-2.1%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Switzerland – Report methodology



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Sample sources – Switzerland

For Switzerland, sources for this report include, but are not limited to:

- IMF
- BFS
- Swiss Federal Statistic Office
- GlobalData's Construction Intelligence Center (CIC)
- Reuters

Linesight





Taiwan

Country Insights and Commodity Report

Q3 2022



Taiwan

Q3 2022

Taiwan is expected to record 3.3% economic growth in 2022 according to the latest International Monetary Fund (IMF) forecast, which is a slight upward revision of 0.1 percentage points on its April prediction, contrary to what has been seen for many other countries. However, it expects to see a more moderate expansion of 2.8% for 2023. Inflation is anticipated to come in at 3.2% this year and 2.2% next year. Interest rates have been raised by Taiwan's central bank in recent weeks, albeit to a modest 1.625%, in an effort to curb inflation without weighing too heavily on its slowing economy. FX rates are particularly influential at the moment, with the US dollar recently hitting a six-year high against the Taiwanese dollar.

The construction industry is expected to grow by 3.4% in real terms over the full 2022 year, with investments in renewables, manufacturing and transport infrastructure driving growth – many of these fall under the Forward-Looking Infrastructure Development Program (FLIDP). The semiconductor sector is also performing well, with heavy investments underway from Taiwan Semiconductor Manufacturing Company (TSMC). However, it is worth noting that electricity prices, elevated materials and labour costs and ongoing supply chain constraints may hamper the industry in the near future.



Garvan Barry
Director
garvan.barry@linesight.com



Lumber

Lumber prices have dropped from recent highs, with import prices falling in line with cheaper products in major source markets. The pace of growth in construction output has slowed, keeping demand down compared to the high pace of expansion recorded in recent years.



Cement and aggregates

Driven by domestic demand, high production costs and falling supplies in China, the price of cement has stayed at a high level in recent quarters. Taiwan Cement Corp has reported that high coal prices had impacted its bottom line, despite higher cement prices. In spite of uncertainty over the demand outlook, the company is pushing ahead with investment in the circular economy and new energy.



Concrete blocks and bricks

With domestic production falling, Taiwan has become more reliant on imports from China and Vietnam. Demand growth has weakened in China, but with high production costs in general, prices are set to remain relatively high.



Steel (rebar and structural)

China Steel Corp, the largest integrated steel maker in Taiwan, stated in September that it would keep domestic steel prices for deliveries unchanged in October, but would cut prices by 2.6% on average for Q4, given high levels of inventories among buyers as demand had been fairly weak. In 2023, demand is expected to pick up, primarily driven by works under the Forward-Looking Infrastructure Development Program, which covers a wide range of public infrastructure projects.



Copper

Copper prices have remained weak, reflecting a decline in demand growth locally and in mainland China. Although regional demand could improve, the outlook in other major regions is for sluggish demand amid rising interest rates.



Taiwan - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)	Q2 2022 – Q3 2022 (e)	
	NT\$	NT\$	2021-22* % change	% change
Copper (NT\$/MT)	226,612	260,035	-12.85% ↓	-12.7% ↓ ●
Steel rebar (NT\$/MT)	20,118	22,520	-10.67% ↓	-14.8% ↓ ●
Steel flat (NT\$/MT)	32,903	32,047	2.67% ↑	0.0% ↔ ■
Lumber (NT\$/M3)	6,857	6,540	4.84% ↑	-1.5% ↓ ■
Asphalt (NT\$/MT)	12,999	13,827	-5.98% ↓	-3.0% ↓ ●
Limestone (NT\$/MT)	1,866	1,717	8.71% ↑	1.0% ↑ ■
Cement (NT\$/MT)	3,856	3,260	18.27% ↑	3.1% ↑ ●
Concrete (NT\$/M3)	1,686	1,489	13.24% ↑	4.6% ↑ ●
Welded mesh (NT\$/unit (a))	357	350	2.03% ↑	-3.5% ↓ ■
Bricks (NT\$/'000 unit)	17,416	17,000	2.45% ↑	-1.2% ↓ ■
Plasterboard (NT\$/unit (b))	251	230	9.24% ↑	0.0% ↔ ■
Diesel (NT\$/litre)	26.85	27.07	-0.82% ↓	-3.0% ↓ ●

(a) 150x300cm, dia.-5mm
(b) 183x122x1.2cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

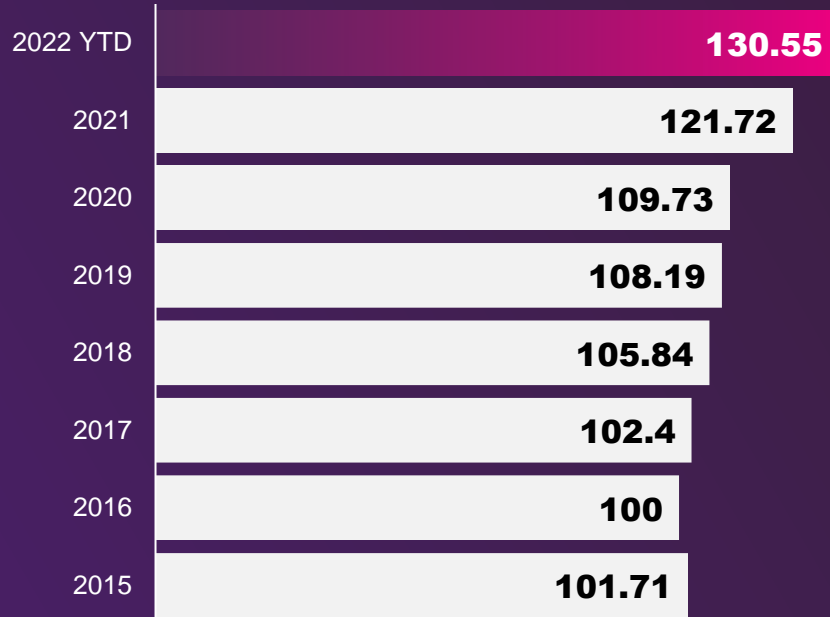
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
Copper	-2.0% ↓	High	Copper prices have declined sharply since reaching a high in May, a trend that has reflected weak demand in China, relatively high stocks, and an outlook for sluggish economic growth across major markets. Although the short-term outlook is one of declining prices, as copper is one of the most important metals needed for the booming EV industry, long-term copper demand is expected to strengthen. It is worth bearing in mind that with the current foreign exchange rates, copper purchased in US dollars will actually infer an increase in the price at present.
Steel prices - Steel rebar - Flat steel	-1.7% ↓ -2.5% ↓	Moderate	Steel rebar prices dropped by around 20% from late April to early August, having peaked in March, and have since held relatively steady (minor pick-up in August seen on the ground). Prices are still at relatively high levels, with high production costs offsetting a weakening in demand. The price for flat steel products has been more robust. With the government's budget for public construction to increase by 32% in 2023 and with mainland China slowly but steadily resuming construction activities, demand for steel will improve in the region against a backdrop of weak demand in Europe.
Lumber	+0.5% ↑	Moderate	Lumber prices have stabilised amid an improvement in the supply chain and domestic timber supplies. Prices are expected to remain fairly stable in the coming quarters, with demand growth easing but production and transportation costs remaining relatively high.
Asphalt	-1.0% ↓	Moderate	Asphalt prices have eased in line with the recent fall in crude oil prices, but with the latter set to face renewed upward pressure globally because of production cuts by OPEC+, further declines in asphalt prices will be limited.
Limestone	+0.5% ↑	Low	Limestone prices have stayed relatively stable compared to other building materials, and this trend is expected to be maintained in the short term.





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Taiwan - Commodity Report



Construction cost index 2015-2022

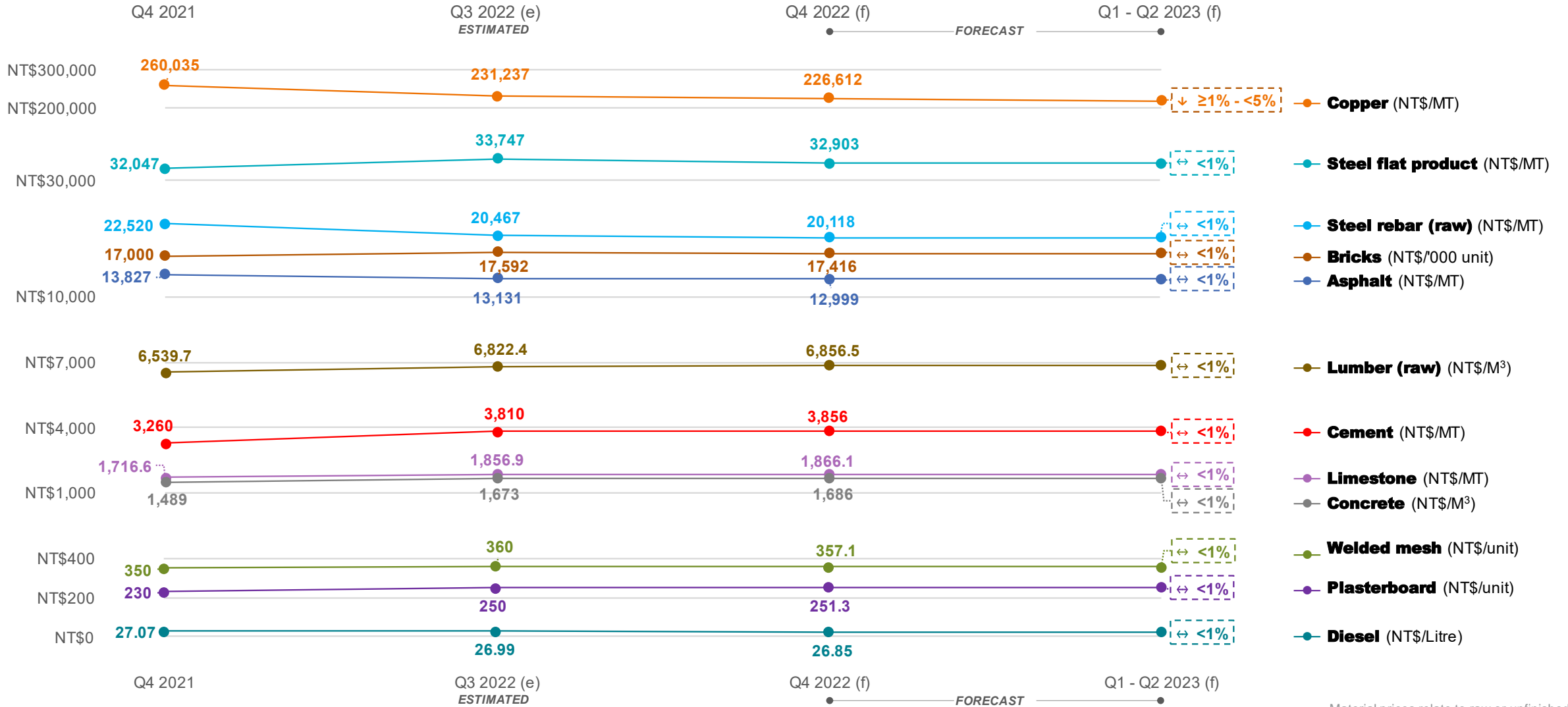


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Cement Concrete	+1.2% ↑ +0.8% ↑	 Moderate	Having risen sharply between mid-2021 and mid-2022, cement prices have stabilised at a high level in recent months. Although growth in local demand is easing, higher production costs will keep pressure on prices in the coming quarters. Regional demand could pick up with mainland China set to invest heavily in infrastructure. On the ground, we have seen a moderate price increase in concrete over the January to August period.
 Welded mesh	-0.8% ↓	 Moderate	The prices for welded mesh have stayed relatively high, but will weaken as steel prices edge downward.
 Bricks	-1.0% ↓	 Low	Brick prices have fallen marginally, reflecting slightly weaker demand along with a slowing real state sector amid rising interest rates. Production costs will remain relatively high, preventing a marked decline in final prices.
 Plasterboard	+0.5% ↑	 Low	With some increased uncertainty in the housing sector amid increasing interest rates, demand for building materials such as plasterboard is expected to remain relatively sluggish, but production costs are still high.
 Diesel	-0.5% ↓	 Moderate	With international crude oil prices stabilising and Taiwan's government policy to keep oil prices in Taiwan lower than neighbouring countries, diesel prices had steadily declined in Q3 this year. However, with the recent announcement of OPEC+ nations to cut oil production output targets, diesel prices are expected to remain close to current levels in the coming months.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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Taiwan – Construction Materials Pricing (2021-2022)



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Taiwan – Macroeconomic overview



Economic indicators



3.3%

GDP growth in 2022 (f) and **6.57%** in 2021



3.18%

inflation rate in 2022 (f), and **1.96%** for 2021



11.09M

people employed in 2022 (f) and **11.17M** in 2021



3.75%

unemployment rate for 2022 (f) and **3.95%** in 2021



114.71

Consumer Price Index in 2022 (f) and **111.17** in 2021



118.7

Producer Price Index in Sept. 2022 and **105.21** in Sept. 2021

National holidays









14 days

national holidays in Taiwan

- New Year's Day (1 January)
- Lunar New Year's Eve (31 January)
- Lunar New Year's Day (1 February)
- Lunar New Year Holiday (2 February)
- Lunar New Year Holiday (3 February)
- Lunar New Year Holiday (4 February)
- Lunar New Year Holiday (5 February)
- Peace Memorial Day (28 February)
- Children's Day (4 April)
- Tomb Sweeping Day (5 April)
- Dragon Boat Festival (3 June)
- Mid-Autumn Festival Holiday (9 September)
- Mid-Autumn Festival (10 September)
- National Day (10 October)

Taiwan – Macroeconomic overview



Output 2021 and 2022 (in millions)			
	Total 2021	Total 2022 (f)	% change
Commercial 	NT\$112,633	NT\$114,356	1.5%
Energy and utilities 	NT\$346,148	NT\$350,924	1.4%
Industrial 	NT\$277,540	NT\$280,817	1.2%
Infrastructure 	NT\$501,128	NT\$521,048	4%
Institutional 	NT\$99,642	NT\$99,980	0.3%
Residential 	NT\$591,637	NT\$595,899	0.7%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



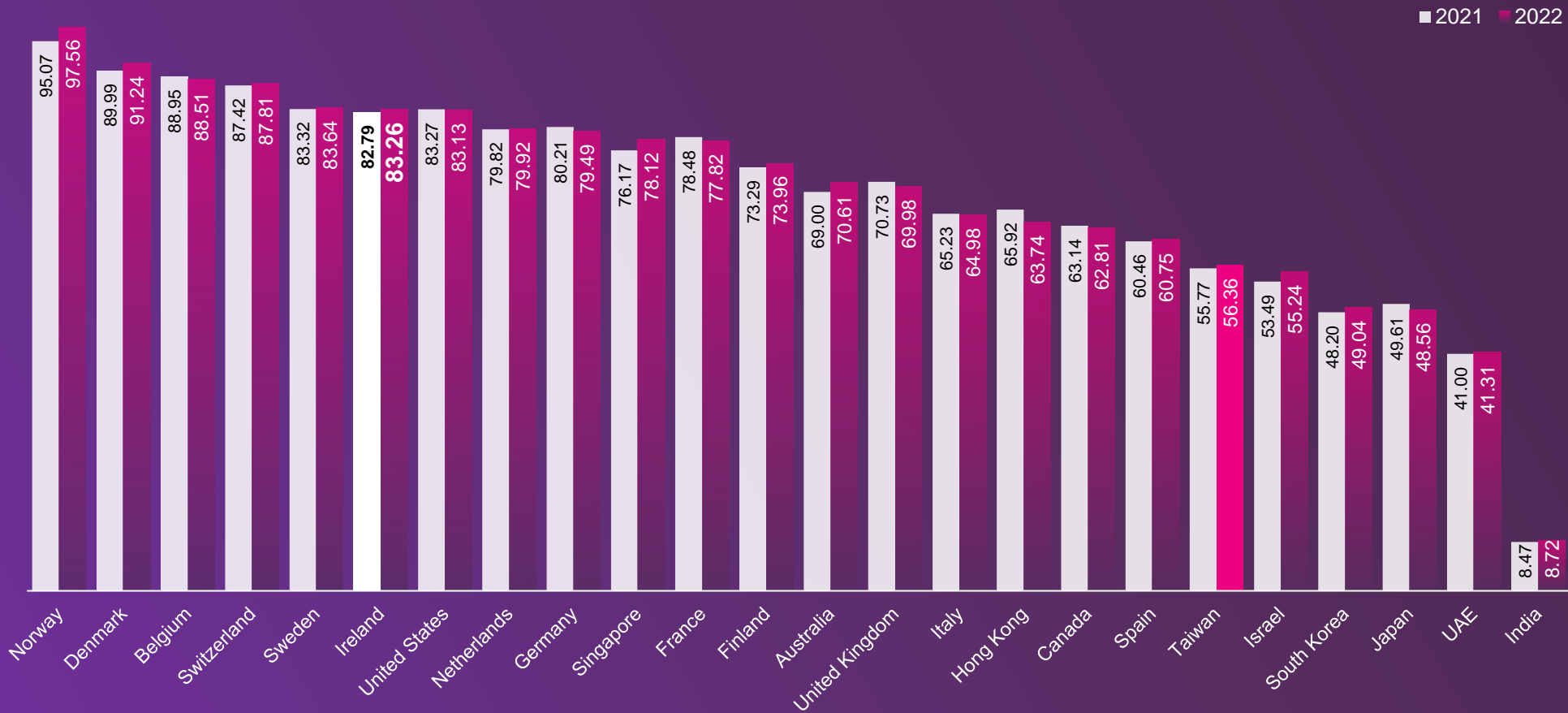
137

fatalities in the construction industry in 2021

Taiwan – Macroeconomic overview



Labour productivity



Labour costs



NT\$109.73

index of labour costs in July 2022, compared to NT\$100.47 in July 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Taiwan – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – Taiwan

For Taiwan, sources for this report include, but are not limited to:

- IMF
- National Statistics
- Department of Statistics
- GlobalData's Construction Intelligence Center (CIC)

Linesight





UAE

Country Insights and Commodity Report

Q3 2022



UAE

Q2 2022

The International Monetary Fund (IMF) has recently revised its outlook for the UAE's economic growth upwards to 5.1% for this year, marking the highest growth over the last seven years. Growth for next year is anticipated to stand at 4.3% - again an upward revision on previous estimates. 5.2% inflation has been forecast for this year by the UN's global financial agency, before moderating to 3.6% in 2023.

The UAE's construction industry is projected to grow by 3.8% in real terms this year, driven by developments in infrastructure, energy and utilities, and residential projects. However, the industry faces key challenges from downside risks that are prevalent globally, such as spikes in inflation and interest rates, ongoing supply chain constraints and the cost of labour.



Ciaran McCormack
Director
ciaran.mccormack@linesight.com



Lumber

The expected improvement in construction output in the UAE, supported by government investment, will contribute to domestic demand for lumber, prices for which have eased globally. With most imports sourced from Europe and North America, where prices have dropped, local price inflation will be contained.



Cement and aggregates

Cement prices have stayed high this year, with high production costs and improving demand contributing to this trend. The UAE has sufficient capacity to meet domestic consumption needs, and this has helped the market avoid a significant impact on prices stemming from global supply chain disruption.



Concrete blocks and bricks

The outlook for global economic growth is gloomy, but oil-rich markets have benefited from the high oil price environment. The UAE is set to push ahead with investment programs that will support a pickup in construction activity, which will keep prices for key building materials, such as bricks, at relatively high levels.



Steel (rebar and structural)

Steel prices have moderated in recent months, having spiked in early 2022. The downturn reflects weakness in global demand, but production costs remain high. The UAE's largest public steel company, Emirates Steel Arkan, posted a profit of \$56m in Q2 2022, owing to rising sales volumes and prices. This compares to a small loss in the year-earlier period. The company has joined with Japan's Itochu and JFE Steel in a plan to build a ferrous raw material production facility in Abu Dhabi, part of an effort to meet growing global demand for 'green' steel.



Copper

Amid weakness in global demand, and concerns over the prospect of economic recession in major markets, global copper prices have dropped sharply from the mid-2022 highs. Although prices are set to remain around current lows in the coming quarters, demand will recover given the importance of the metal in the energy transition drive.



UAE - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	AED	AED	2021-22* % change	% change
Copper (AED/MT)	26,317	35,635	-26.15% ↓	-26.5% ↓ ●
Steel rebar (AED/MT)	2,304	2,430	-5.21% ↓	-20.2% ↓ ●
Steel flat (AED/MT)	2,292	3,361	-31.80% ↓	-27.9% ↓ ●
Lumber (AED/M3)	655	608	7.83% ↑	0% ↔ ■
Asphalt (AED/MT)	1,872	1,764	6.12% ↑	-1.0% ↓ ■
Limestone (AED/MT)	452	432	4.65% ↑	0% ↔ ■
Cement (AED/MT)	219	204	7.30% ↑	0% ↔ ■
Concrete (AED/M3)	231	196	17.93% ↑	0% ↔ ■
Welded mesh (AED/unit (a))	82	75	10.06% ↑	-11.3% ↓ ●
Bricks (AED/'000 unit)	1,717	1,388	23.75% ↑	0% ↔ ■
Plasterboard (AED/unit (b))	14	13	5.88% ↑	0% ↔ ■
Diesel (AED/litre)	3.80	2.70	40.93% ↑	4.3% ↑ ●

(a) 244x488cm, dia.-6mm
(b) 122x244x1.2cm (LxWxT)

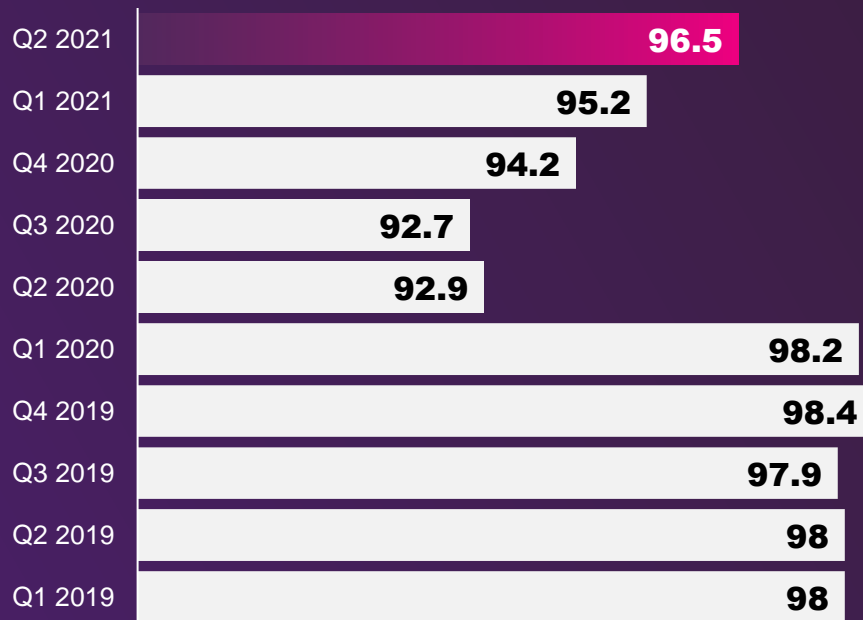
● Q2 to Q3 2022 % change greater than estimation in our Q2 report
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


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-1.0% ↓	Moderate	Copper prices have fallen sharply from the highs of late Q1 2022, recently dropping back to levels recorded in early 2021. With interest rates increasing across major economies and weakening economic activity, copper demand has in turn weakened. Global demand is not expected to strengthen markedly in the coming quarters, keeping prices at these moderate levels.
 Steel prices - Steel rebar - Flat steel	-3.0% ↓ -6.4% ↓	High	After rising sharply in March and remaining high in Q2 this year, steel prices have dropped back, a trend that reflects the weakening in global demand. However, construction activity in the UAE is expected to regain momentum, bolstered by the government's plan to expand the non-oil economy.
 Cement Concrete	+0.8% ↑ +0.5% ↑	Moderate	Cement and concrete prices are projected to remain at a high level, as demand picks up, with spending on infrastructure, energy and utilities, and residential construction projects. Major infrastructure projects include the Dubai Metro expansion lines, comprising the expansion of two existing metro lines and the construction of 12 new stations, as well as deep sewer tunnels.
 Asphalt	-0.5% ↓	Moderate	Owing in part to easing global crude oil prices, asphalt prices have fallen marginally in recent months. However, there could be renewed volatility in crude oil prices in the coming quarters, and investment in road transport projects will bolster demand.
 Limestone	+0.7% ↑	Low	Although remaining relatively stable, in part because demand is mainly met through domestic production, limestone prices will stay high in the coming quarters, reflecting prospects for renewed growth in construction.

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.



Construction cost index 2019-2021



Material	% change Q2 – Q3 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Lumber	+0.8% ↑	Moderate	Lumber prices have been relatively stable in the past two quarters, having risen earlier in the year amid rising transportation costs. With local demand edging up, prices are set to stay close to current levels.
 Welded mesh	-2.0% ↓	High	Following the trend in steel rebar products, welded mesh prices have eased back in recent months, and will continue to fall in the coming quarters.
 Bricks	+1.0% ↑	Moderate	Brick prices will stay at a high level in the coming quarters, with demand expected to pick up and production costs also remaining high. Longer-term demand will be supported by the government's focus on building affordable housing units; the government recently announced an investment of \$17.7 billion towards the Emirati housing programme in Dubai.
 Plasterboard	+1.0% ↑	Low	With energy prices stabilising and raw materials such as gypsum produced domestically, the price for plasterboard is expected to remain at current levels in the coming quarters.
 Diesel	-10.7% ↓	Moderate	Diesel prices dropped below AED4/litre in September having been above that level since April. Planned cuts in crude oil production by OPEC+ could lead to renewed volatility in prices in the coming quarters.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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UAE – Macroeconomic overview

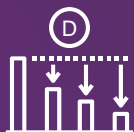


Economic indicators



5.1%

GDP growth in 2022 (f)
and **2.24%** in 2021



5.2%

inflation rate in 2022 (f)
and **1%** for 2021



6.65M

people employed in 2022 (f)
and **6.56M** in 2021



2.76%

unemployment rate for 2022 (f)
and **3.4%** in 2021



117.99

Consumer Price Index in
2022 (f) and **113.26** in
2021

National holidays



14 public holidays

in UAE each year. Most holidays are taken
during Eid al-Fitr.

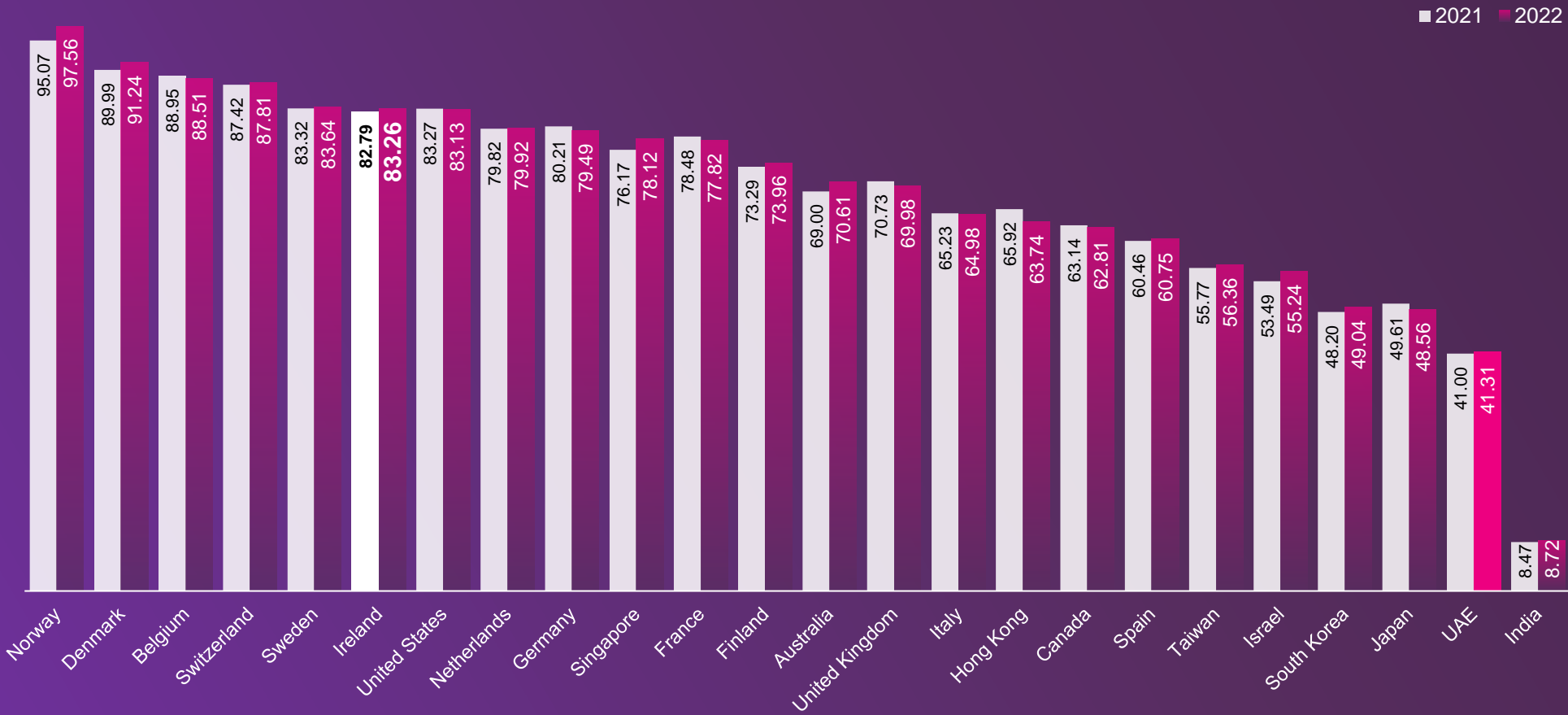
- Gregorian New Year (1 January)
- Eid Al Fitr (29 Ramadan to 3 Shawwal*)
- Arafah day and Eid Al Adha (Feast of Sacrifice) (9 to 12 Dhu al Hijjah*)
- Hijri New Year (Islamic New Year) (1 Muharram*)
- Prophet Mohammed's birthday (8 October)
- Commemoration Day (1 December)
- National Day (2 and 3 December)

* Denotes that Islamic holidays are determined according to moon sighting

UAE – Macroeconomic overview



Labour productivity



Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

Labour costs

AED57

is the average hourly earnings or

AED118,078

average construction worker gross salary in UAE.

An entry level construction worker (1-3 years of experience) earns an average salary of **AED88,366**. On the other end, a senior level construction worker (8+ years of experience) earns an average salary of **AED143,896**.







\$38

is the labour productivity per hour worked in 2021 international dollars, and \$39 in 2020 (converted using Purchasing Power Parities)



UAE – Macroeconomic overview



Output 2021 and 2022 (f) (in AED millions)			
Sectors	Total 2021	Total 2022 (f)	% change
Commercial 	AED38,755	AED39,358	1.6%
Energy and utilities 	AED73,473	AED75,354	2.6%
Industrial 	AED14,440	AED14,571	0.9%
Infrastructure 	AED59,011	AED60,637	2.8%
Institutional 	AED8,338	AED8,432	1.1%
Residential 	AED97,580	AED99,048	1.5%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

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Construction Health and Safety practices and culture



Health and safety requirements are governed by the federal law of the UAE



The principal law governing entities and employees is Federal Law (8) of 1980, as amended ('Labour Law'). Furthermore, subsequent and various decisions of the Ministry of Labour and Social Affairs are also relevant and taken into account

UAE - Report methodology



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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 labour prices, in addition to underlying demand and supply trends that will impact market prices.

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Sample sources – UAE

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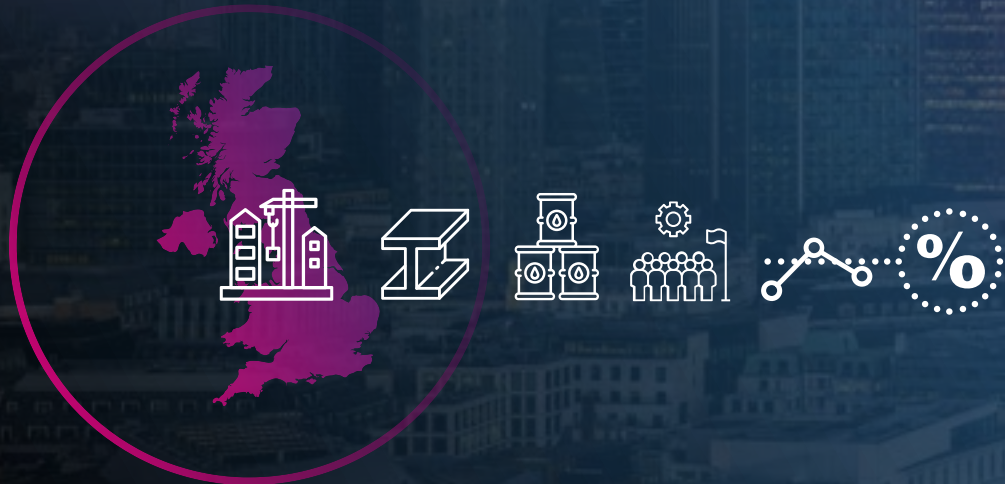
- IMF
- Statistics Center – Abu Dhabi
- National Bureau of Statistics (United Arab Emirates)
- Dubai Statistics Center
- GlobalData's Construction Intelligence Center (CIC)
- The Ministry of Economy

Linesight





United Kingdom Country Insights and Commodity Report Q3 2022



United Kingdom

Q3 2022

Growth this year has been slower than was previously anticipated, with inflation and the cost of living continuing to impact, and 3.6% economic expansion forecast for the full year. August saw a 0.3% contraction, following July's 0.2% growth and June's 0.6% decline. Rising interest rates have been hiked in an effort to tackle inflation, with the Bank of England's rate currently at 2.25%. However, there will be more clarity around the outlook for the UK's economy and key indicators as Rishi Sunak begins to better outline the government's policies going forward, following this period of uncertainty.

Following seven consecutive months of growth between November 2021 and May 2022, construction output fell by 1.4% in June, followed by a 0.8% decline in July before returning to 0.4% growth in August. According to the Office for National Statistics, the August increase is attributable to a 1.9% increase in new work. Key threats to industry success are posed by certain material prices remaining high (the ONS reports 9.6% construction work price growth in June 2022 on an annual basis, which is a record high since the inception of the Construction Output Price Indices series in 2014), as well as soaring energy costs and labour market constraints, disrupted supply chains and the realisation of the impacts of current monetary policy.



Michael Riordan
Managing Director – United Kingdom
michael.riordan@linesight.com



Lumber

Although below the levels seen in late 2021, timber prices in recent months have remained relatively high, with a particularly sharp jump recorded in April. High transportation costs have been a factor in keeping prices elevated, and construction demand in H1 was also solid. Although the wider economic difficulties are likely to constrain residential activity in the coming quarters, any weakness in demand will be offset by the impact on prices from high energy and transportation costs. The Construction Leadership Council's Product Availability working group also recently advised that buyers would need to consider forward purchases to ensure the specifications they require are available.



Cement and aggregates

Cement prices have continued on an upward trend, and were up by 18% year-on-year in July, according to the latest data from the ONS. Aggregates have also faced continued upward pressure, reflecting what has been a strong demand environment. However, with leading indicators pointing to a much weaker outlook for construction in the coming quarters, price pressures from the demand side will ease. The longer-term picture is one of a risk of insufficient supply, with the Mineral Products Association recently raising concerns over restricted availability and limited access to particular mineral resources that could put pressure on traditional aggregate sources.



Concrete blocks and bricks

Brick production picked up strongly during the first half of the year, but has weakened in recent months, and stocks have been further run

down – in July, brick stocks were at their lowest monthly level in recent years. Brick production capacity, however, is being expanded. Higher production costs are being passed on by producers such as Forterra, which increased its prices by 30% in the first half of 2022. Such supply side pressures will keep prices relatively high.



Steel (rebar and structural)

Steel prices remain under considerable upward pressure, reflecting surging energy costs along with disruptions to supply stemming from the Russia-Ukraine conflict. British Steel has pushed up its prices twice in the past few months, by a cumulative £250 per tonne for structural sections, and this followed its price hike of £250 per tonne in March this year. However, the increases may not be sufficient to support the company's operations, with British Steel's owner reportedly stating that its two blast furnaces are unlikely to remain feasible unless it is granted financial aid. According to reports from the International Steel Statistics Bureau, in August 2022, the production cost for long steel via an electric arc furnace was £790 per tonne, up from around £400 in 2020.



Copper

Copper prices have dropped from the historic highs set in Q1. The prospect of further interest rate hikes and economic recession will dampen demand, and likely contain any upward pressure on prices in the coming quarters.

United Kingdom – Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	£	£	2021-22* % change	% change
Copper (£/MT)	6,490	7,191	-9.75% ↓	-13.0% ↓ ■
Steel rebar (£/MT)	698	534	30.75% ↑	-8.3% ↓ ●
Steel flat (£/MT)	828	656	26.24% ↑	-5.8% ↓ ●
Lumber (£/M3)	63	79	-20.82% ↓	-11.2% ↓ ●
Asphalt (£/MT)	535	523	2.27% ↑	1.9% ↑ ●
Limestone (£/MT)	40	40	0.45% ↑	0.0% ↔ ■
Cement (£/MT)	217	186	16.22% ↑	4.4% ↑ ■
Concrete (£/M3)	136	109	25.10% ↑	1.6% ↑ ■
Welded mesh (£/unit (a))	46	35	28.58% ↑	3.3% ↑ ●
Bricks (£/000 unit)	1,105	860	28.56% ↑	4.1% ↑ ●
Plasterboard (£/unit (b))	9	8	20.66% ↑	12.3% ↑ ●
Diesel (£/litre)	1.82	1.47	23.81% ↑	4.1% ↑ ■

(a) 240x480cm, dia.-6mm
(b) 240x120x1.25cm (LxWxT)

● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

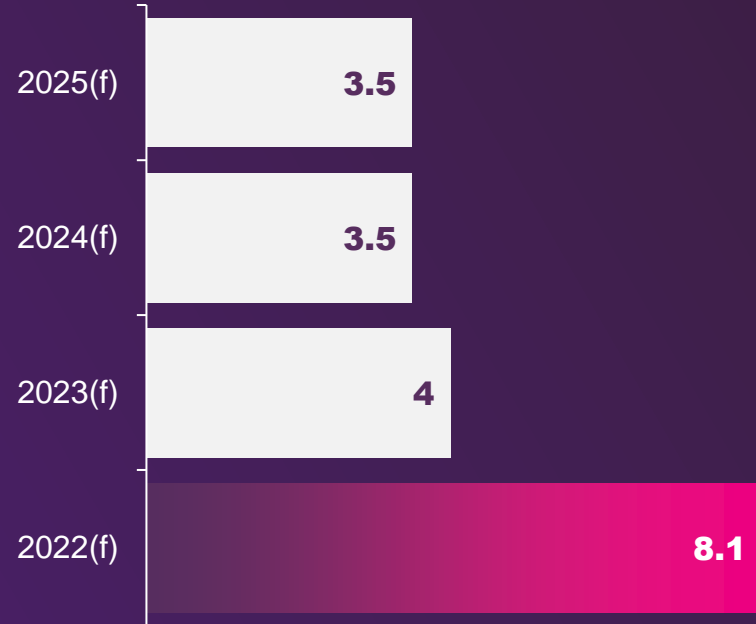
Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-1.5% ↓	Moderate	On a quarterly average basis, copper prices fell in Q3 2022, but were fairly stable in August-September. With the looming economic recession, copper prices will face downside pressure in the coming quarter, but supply disruptions, particularly from South America, could generate renewed volatility.
 Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	Steel prices fell in Q3 from the highs reached in the preceding quarter when disruption in steel trade intensified following the onset of the Russia-Ukraine conflict. However, there was an uptick in September, with producers feeling the effects of high energy costs. Weaker demand from the construction industry in the coming quarters will keep overall price pressures contained, but producers are facing challenges in keeping prices down, despite government support to alleviate energy cost increases.
 Lumber	+1.0% ↑	Moderate	Although lumber prices have eased back from the highs of mid-2022, rising production and transportation costs are set to prevent a marked drop to the levels seen 2020. However, there will be some weakness in demand, with the residential market set to be impacted by rising interest rates.
 Asphalt	-1.0% ↓	Moderate	With continued expansion in road construction works, asphalt prices have remained elevated, despite a dip in crude oil prices from the mid-2022 highs. In H1 2022, new orders for road construction were up by 10%. The outlook for crude oil prices is uncertain, following the early October decision by OPEC+ to cut production levels.
 Limestone	+0.9% ↑	Low	There has been a short period of stability in limestone prices, and this is expected to continue, as higher production costs are offset by weaker demand.











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.

United Kingdom – Commodity Report



Linesight tender price change forecast 2022-2025

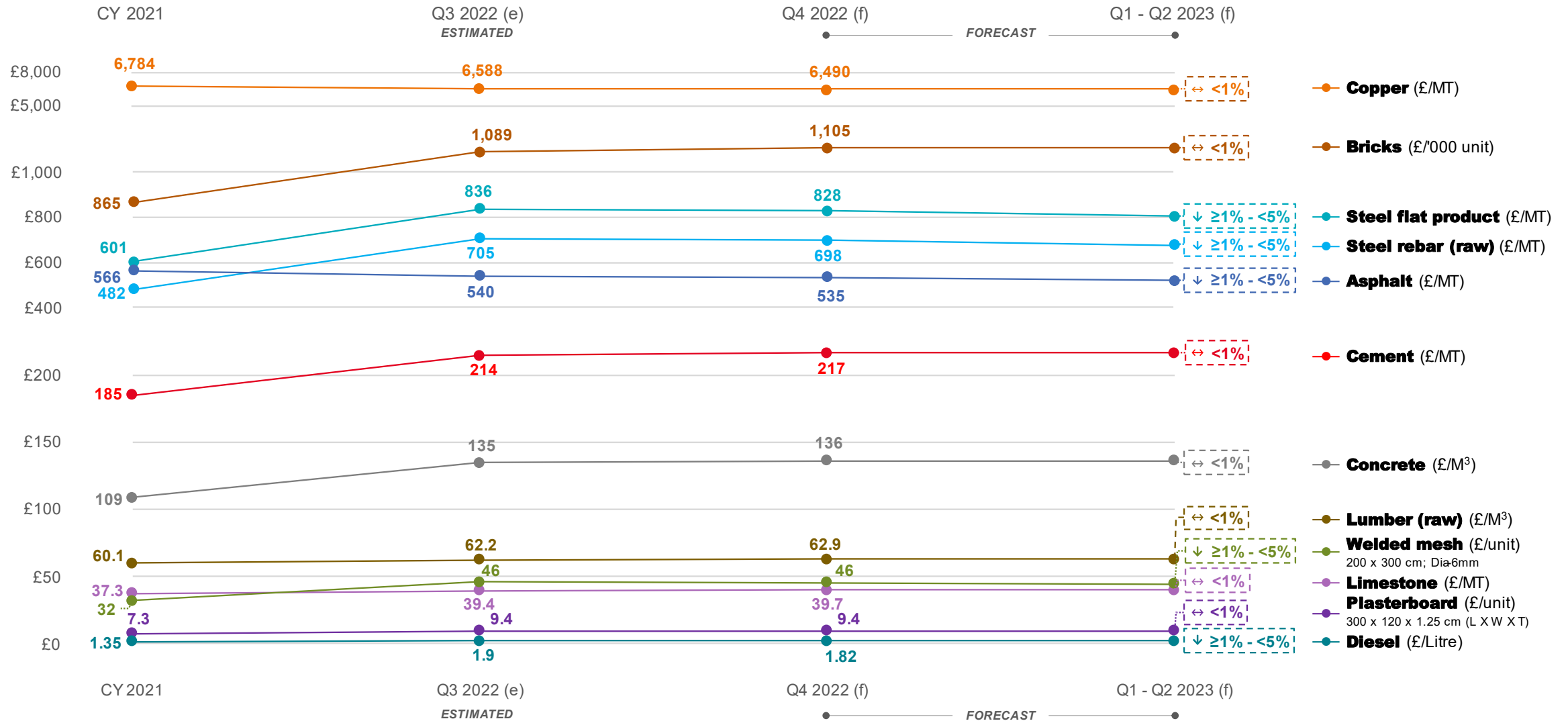


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *
 Cement Concrete	+1.0% ↑ +1.0% ↑	 Moderate Cement and concrete prices have been on an upward trend this year, reflecting relatively high demand and rising production costs. This trend is not expected to prevail in the coming quarters. Although high energy costs will continue to be a factor in keeping prices at elevated levels, demand is set to weaken amid signs of a slowdown in construction.
 Welded mesh	-1.0% ↓	 High Welded mesh prices jumped in Q2 this year and remained high in Q3, but will fall back in the coming quarters, reflecting the expected softening in steel prices.
 Bricks	+1.5% ↑	 Moderate High levels of construction activity in H1 2022, combined with rising production costs in recent months, have driven brick prices up sharply. Although demand will be somewhat weaker in the coming quarters, brick production costs will mean prices stay close to current highs.
 Plasterboard	+0.5% ↑	 Low Plasterboard prices jumped in Q3 2022, with producers passing on higher production and transportation costs. Shortages in supplies of paper for plasterboard production limited product availability in 2021, but this has not been a factor contributing to price inflation this year.
 Diesel	-4.3% ↓	 Moderate Prices have dropped back having touched the £2/litre mark in early July. However, OPEC+ decisions on cutting supply will contribute to some volatility in crude prices, keeping diesel prices relatively high.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

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.

United Kingdom – Construction Materials Pricing (2021-2022)



Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

United Kingdom – Macroeconomic overview



Economic indicators



3.6%

GDP growth in 2022 (f)
and **0.3%** in 2021



9.16%

inflation rate in 2022 (f)
and **2.52%** for 2021



31.64M

people employed in 2022 (f)
and **31.33M** in 2021



4.15%

unemployment rate for 2022 (f)
and **4.49%** in 2021



135.21

Consumer Price Index in
2022 (f) and **123.86** in
2021



133.1

Producer Price Index in
Aug 2022 and **114.60** in
Aug 2021

National holidays



**10 public
holidays**

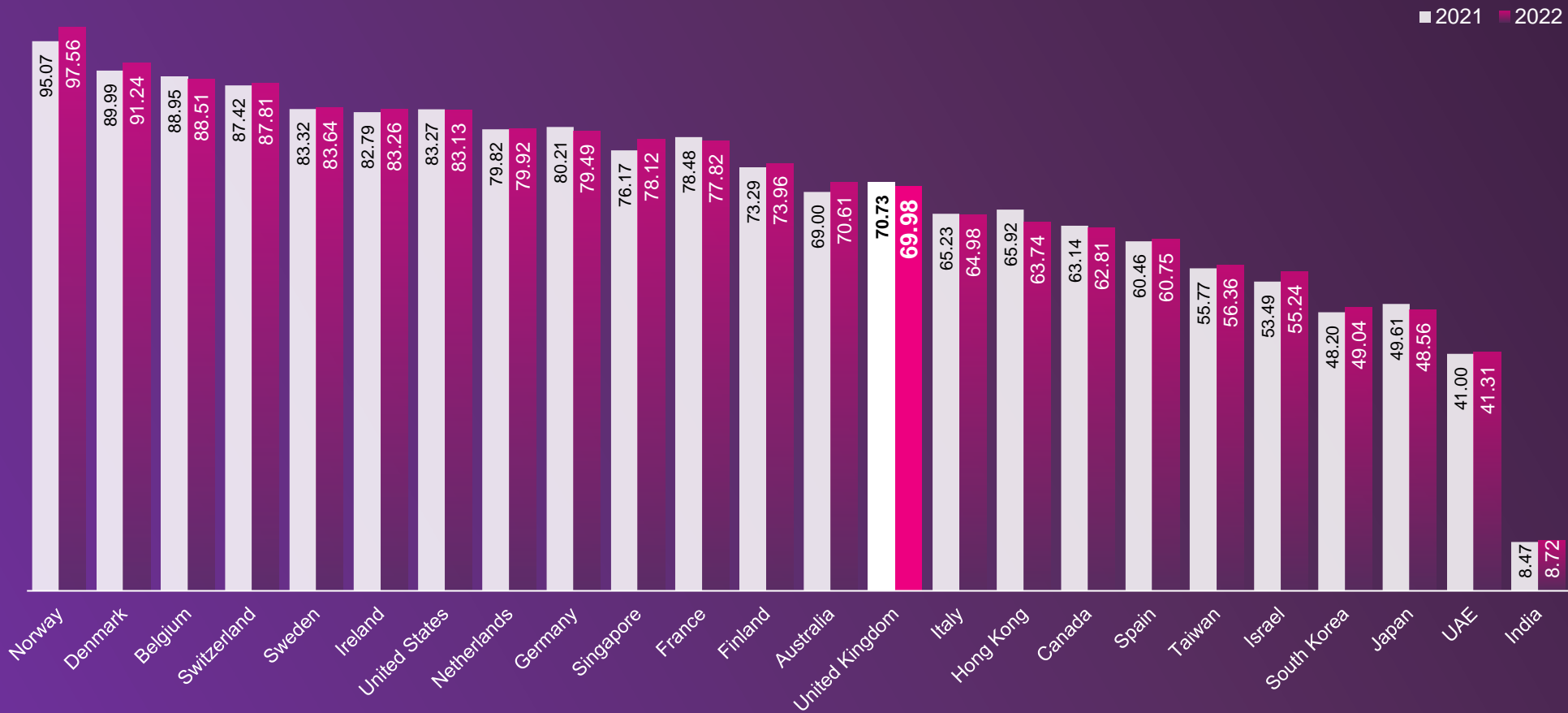
in UK in 2022.

- New Year's Day: 1 January
- St. Patrick's Day (Northern Ireland only): 17 March
- Good Friday: 2 April
- Easter Monday (Wales, England and Northern Ireland only): 5 April
- Early May Bank Holiday: 3 May
- Spring Bank Holiday: 31 May
- Christmas Day: 25 December
- Boxing Day: 26 December


United Kingdom – Macroeconomic overview



Labour productivity









Labour costs

1.90% 
 change per annum in labour compensation per hour worked in Q1 2022 compared to 8.30% in Q1 2021.

Labour productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

United Kingdom – Construction overview



Output 2021 and 2022 (in millions)			
Sector	Total 2021	Total 2022 (f)	% change
Commercial 	£69,442	£69,192	-0.4%
Energy and utilities 	£33,449	£28,211	-15.7%
Industrial 	£8,626	£10,492	21.6%
Infrastructure 	£36,111	£41,316	14.4%
Institutional 	£35,304	£35,536	0.7%
Residential 	£152,829	£158,031	3.4%

Long-lead equipment (LLE) and Supply Chain narrative

Long-lead equipment (LLE) lead times have changed drastically since the start of 2022. Suppliers have seen the implications of material shortages, delays and price hikes throughout the supply chain, which is leading to extended lead times and reduced commitment from suppliers for new projects. The key areas in focus are:

- Demand:** The demand for long-lead equipment in the data centre sector has continued to increase in Q3 2022. More data centre and crypto mining providers are joining the market, and this continued demand far outweighs the capacity of the supply chain. Entry onto the production line remains a significant challenge, with suppliers reporting fully booked capacity until Q2 2024. There has been some growth in the development of Tier 2 and Tier 3 suppliers to support this demand. However, it will take time to build an extended supply chain. There has also been no sign of a decline in demand yet in early Q4 2022.
- Material shortage:** Just as material availability started to improve, the further threat of escalation with the Russia-Ukraine conflict has cast further uncertainties of future material stocks and reserves. The supply chain has continued to seek alternative sources of raw materials, and although this has been with partial success, market lead times remain conservative.
- Freight durations and costs:** Heightened by the increase in fuel costs, and compounded by the instability of labour and container availability, freight durations have been particularly volatile in recent times. Early indications from Q4 2022 suggest some stabilization in shipping durations is returning to the market, but the associated costs remain volatile due to the global fuel crisis. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to these increasing fuel costs.

Construction Health and Safety practices and culture



1.62 fatal injuries per 100,000 workers in construction industry from April 2020-March 2021)



30 deaths in construction industry from April 2021-March 2022

United Kingdom – Report methodology



Linesight has commissioned independent global research to track construction 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 labour 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. A more comprehensive list of sources is included below.

Definitions

- Commodity prices are net of taxes for all the countries
- Prices are not customer delivered
- All commodities are raw materials
- Nominal and real data

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.

Sample sources – United Kingdom

For the United Kingdom, sources for this report include, but are not limited to:

- IMF
- ONS
- Gov.uk
- GlobalData's Construction Intelligence Center (CIC)
- BCIS

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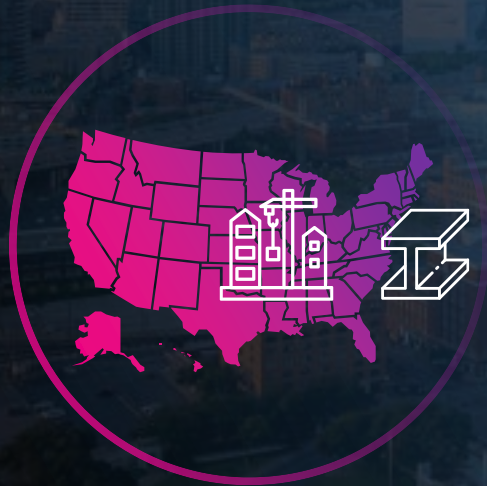




United States

Country Insights and Commodity Report

Q3 2022



United States

Q3 2022



In its recent forecasts, the IMF revised its 2022 growth forecast downwards by 0.7 percentage points to 1.6 percent, following a Q2 contraction, while the 2023 forecast remains unchanged at 1 percent. While the labor market has proven resilient, the Federal Reserve has taken a particularly aggressive stance in combatting inflation, and a lack of consensus remains as to whether the US is already in recession. In spite of two consecutive quarterly declines, there are positive indicators being recorded to suggest economic resiliency in some key areas – for example, the lowest unemployment rate in five decades.

Construction output has been weak, with a 4.3 percent contraction expected this year as activity remained subdued in Q2, and a 7.5 percent year-on-year decline in output seen for the first half of 2022. Although upward price pressures, supply chain constraints and interest hikes are impacting, the medium to long-term outlook appears to be positive, with growth expected in the coming years as inflation comes under control. However, in the near term, the Consumer Price Index (CPI) remained above 8 percent as of August for a sixth consecutive month, and this macroeconomic landscape is weighing on the industry at large. Overall, we envisage stabilization and reduced volatility prevailing, but the downside risks mentioned above will continue to impact the market.



Damien Gallogly
Vice President –
Americas West Region
damien.gallogly@linesight.com



Gavin Flynn
Vice President –
Americas Central Region
gavin.flynn@linesight.com



John Fitzgerald
Vice President –
Americas East Region
john.fitzgerald@linesight.com



Eoin Byrne
Vice President –
Americas Southwest Region
eoin.byrne@linesight.com



Lumber

After a prolonged period of volatility, lumber prices have been on a downward trend since the end of Q1 2022. Slower construction growth, higher interest rates and falling real incomes have put downward pressure on the demand for lumber. Supply-side fragilities have also eased; lumber mills in British Columbia have gradually rebuilt stock after flooding earlier this year and US tariffs on Canadian lumber have more than halved to 8.59 percent, putting further downward pressure on prices.



Cement and aggregates

High demand and rising prices of core inputs have largely driven the rise in cement and aggregate prices. Oil prices have been turbulent over the past quarter. Downward pressure from recession expectations and rising interest rates contrasted with limited supply from Russia, while the recent announcement of production cuts by OPEC+ will add to volatility. However, the recent slowdown in construction activity in the US, primarily from the residential sector, will ease demand for cement and aggregates. Medium-term demand will be sustained by infrastructure investment, driven by the \$1.2 trillion Infrastructure Investment and Jobs Act signed in late 2021.



Concrete blocks and bricks

Supply fragilities and elevated input costs compounded by strong residential demand drove a sustained price increase over the past

two years. Price growth is slowing, however, amid the waning of residential demand, as a result of Federal Reserve interest rate hikes.



Steel (rebar and structural)

Steel prices have flattened over the past quarter and weakening demand points to a fall in prices. The anticipation of a global recession amid a monetary tightening cycle, in addition to the faltering property sector in China, have contributed to broader global demand weakness. However, high energy prices continue to drive up production costs, and over the medium to long term, demand will be sustained by infrastructure spending in the US.



Copper

After the sharp fall in prices in early summer this year, copper has stabilized. Copper prices have faced contrasting market dynamics. Supply disruption from protests in Chile and Peru, and a lack of investment in new mining operations have contributed to production shortfalls. However, offsetting this has been negative pressure arising from growing interest rates and the deterioration of the global macroeconomic environment. Demand is expected to remain resilient in the medium to long term; continued investment in EVs, along with renewable energy production and infrastructure, will put upward pressure on prices.

United States - Commodity Report



Materials	Q4 2022 (f)	Q4 2021 – Q4 2022 (f)		Q2 2022 – Q3 2022 (e)
	US\$	US\$	2021-22* % change	% change
Copper (US\$/T)	7,156	9,914	-28% ↓	-18.5% ↓ ●
Steel rebar (US\$/T)	1,032	1,049	-2% ↓	-2.1% ↓ ■
Steel flat (US\$/T)	1,917	1,861	3% ↑	0.3% ↑ ■
Lumber (US\$/cu.ft.)	7	9	-17% ↓	-41.2% ↓ ●
Asphalt (US\$/T)	691	437	58% ↑	8.6% ↑ ●
Limestone (US\$/T)	28	28	1% ↑	0.0% ↔ ■
Cement (US\$/T)	133	129	3% ↑	4.0% ↑ ●
Concrete (US\$/CY)	116	134	-13% ↓	4.0% ↑ ●
Welded mesh (US\$/unit (a))	242	174	39% ↑	-2.1% ↓ ■
Bricks (US\$/'000 unit)	814	680	20% ↑	0.0% ↔ ■
Drywall (US\$/unit (b))	13	11	17% ↑	4.6% ↑ ●
Diesel (US\$/gallon)	4.90	0.97	407% ↑	-5.8% ↓ ■

(a) 47.2x118.1 inches, dia.-0.24 inches
(b) 47.2x143.7x0.49 inches (LxWxT)

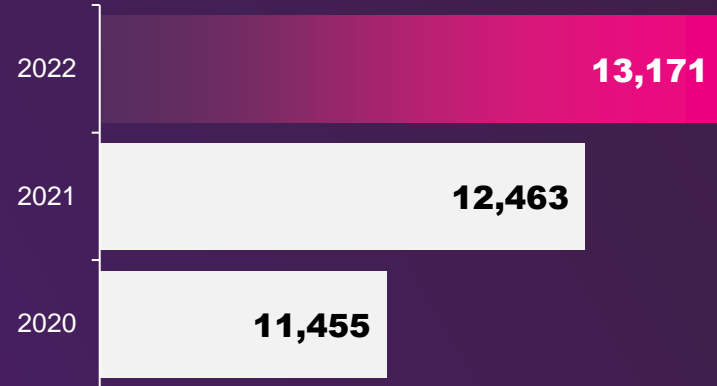
● Q2 to Q3 2022 % change greater than estimation in our Q2 report
■ Q2 to Q3 2022 % change less than estimation in our Q2 report

Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	-0.5% ↓	Moderate	Copper prices are declining due to the global slowdown, weaker demand, a higher dollar and rising stocks in warehouses. However, with underlying US demand exceeding supply, prices are not expected to fall much further in the coming quarters, and the longer-term outlook is one of strengthening demand for copper to support growth in electric vehicle production and renewable energy facilities.
 Steel prices - Steel rebar - Flat steel	-1.0% ↓ -1.0% ↓	Moderate	Weaker domestic demand from the construction industry has contributed to the fall in steel prices. Despite higher production costs, the drop in prices also reflects weakness globally – particularly with the slowdown in construction activity in China, the drop in European demand and an ever-appreciating dollar. Prices over the longer term will be supported by public investment programs in the US, such as the Investment Infrastructure and Jobs Act, the CHIPS and Science Act, and the Inflation Reduction Act.
 Lumber	+0.8% ↑	High	Lumber prices have fallen sharply from the highs reached in the first quarter of this year. The market has been highly volatile over the past two years, reflecting major shifts in demand at times of supply disruptions. With weak construction activity and the risk of greater-than-expected Federal Reserve rate hikes, lumber prices will remain close to current lows. However, due to the risk of railway strikes, lumber supply may be disrupted in the near future.
 Asphalt	+0.8% ↑	Moderate	Asphalt prices have stayed at relatively high levels in recent months despite the drop in crude oil prices. Prices are expected to remain elevated, reflecting likely renewed upward pressure on global crude oil prices, and the expected growth in demand from infrastructure projects.
 Limestone	+0.6% ↑	Moderate	Limestone prices have stabilized at a high level. Rising production costs and disruptions in the supply chain contributed to the upward pressure recorded over the past year.

United States - Commodity Report



US - construction cost index 2020-2022 (August of each year)

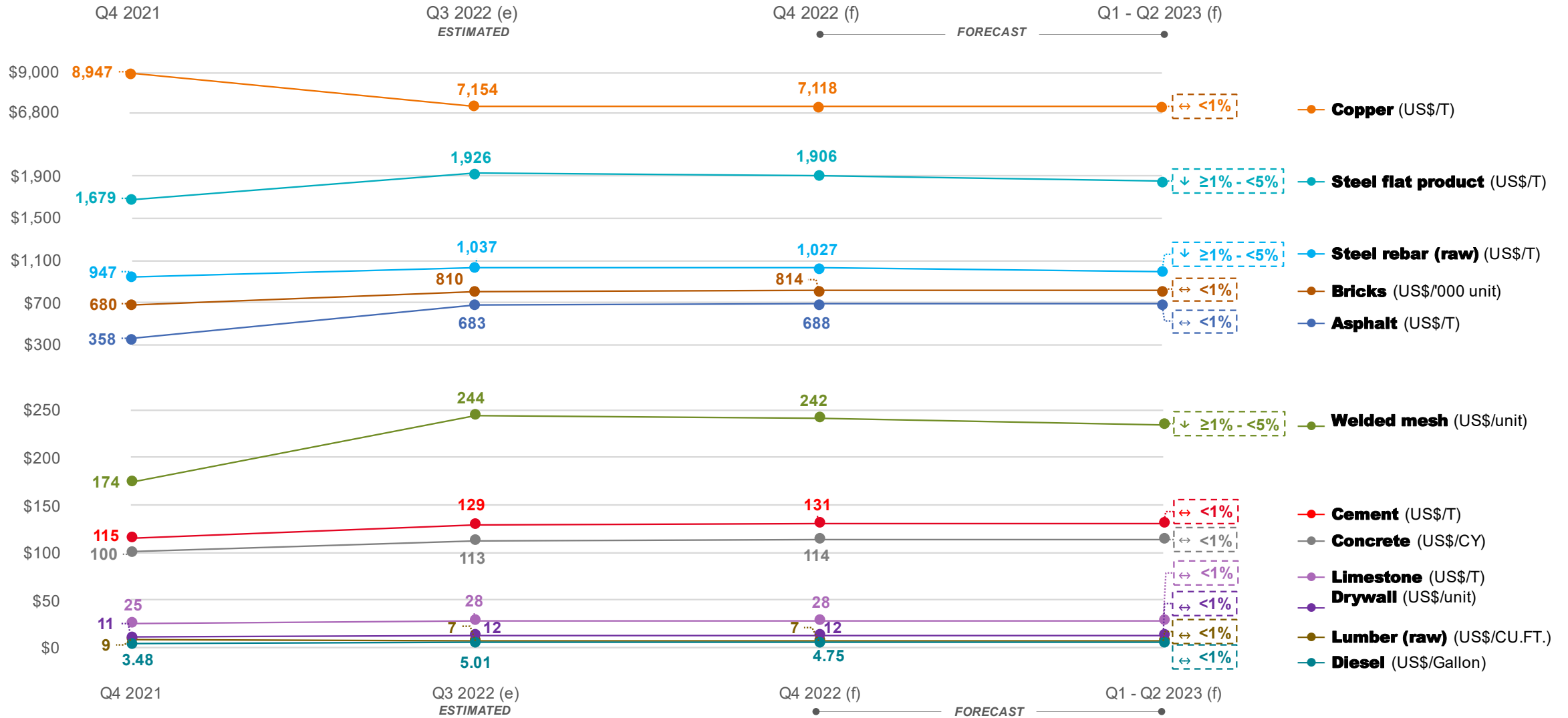
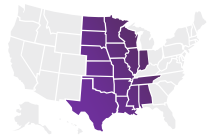


Material	% change Q3 – Q4 2022 (f)	Level of impact of pricing on construction procurement and supply chain *
 Cement Concrete	+0.9% ↑ +0.9% ↑	 Moderate Cement and concrete prices have continued to edge upwards in recent months, primarily reflecting higher production costs (which were up by around 14 percent year-on-year in Q3 2022). Housing starts have been steadily declining since February, and the sharp increase in interest rates will further dampen demand. However, with production and transportation costs unlikely to ease markedly, cement and concrete prices will remain close to current highs.
 Welded mesh	-1.0% ↓	 Moderate Reflecting the weakness in construction output and falling steel prices, welded mesh prices are expected to moderate.
 Bricks	+0.5% ↑	 Low Having jumped in early 2022, brick prices have stabilized at a high level in recent quarters, with high production costs being offset by weakening demand.
 Drywall	+0.7% ↑	 Low Higher production costs have been a factor in keeping drywall prices at elevated levels in recent quarters. Producer prices for Gypsum building materials were up by around 18 percent year-on-year in Q3 2022. However, upward pressures on the demand side are easing, which will contain further rises in prices.
 Diesel	-5.1% ↓	 High As per the US Energy Information Administration, the Brent crude oil spot price is forecast at an average of \$98 per barrel in Q2 2022 and \$97/b in 2023. With economic growth slowing amid high inflation and rising interest rates, demand will ease, but prices will remain close to current highs given the prospect of possible supply disruptions and OPEC+ production cuts leading to supply restrictions.

* Level of impact rating reflects a combination of factors: the price movement and also price level (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.

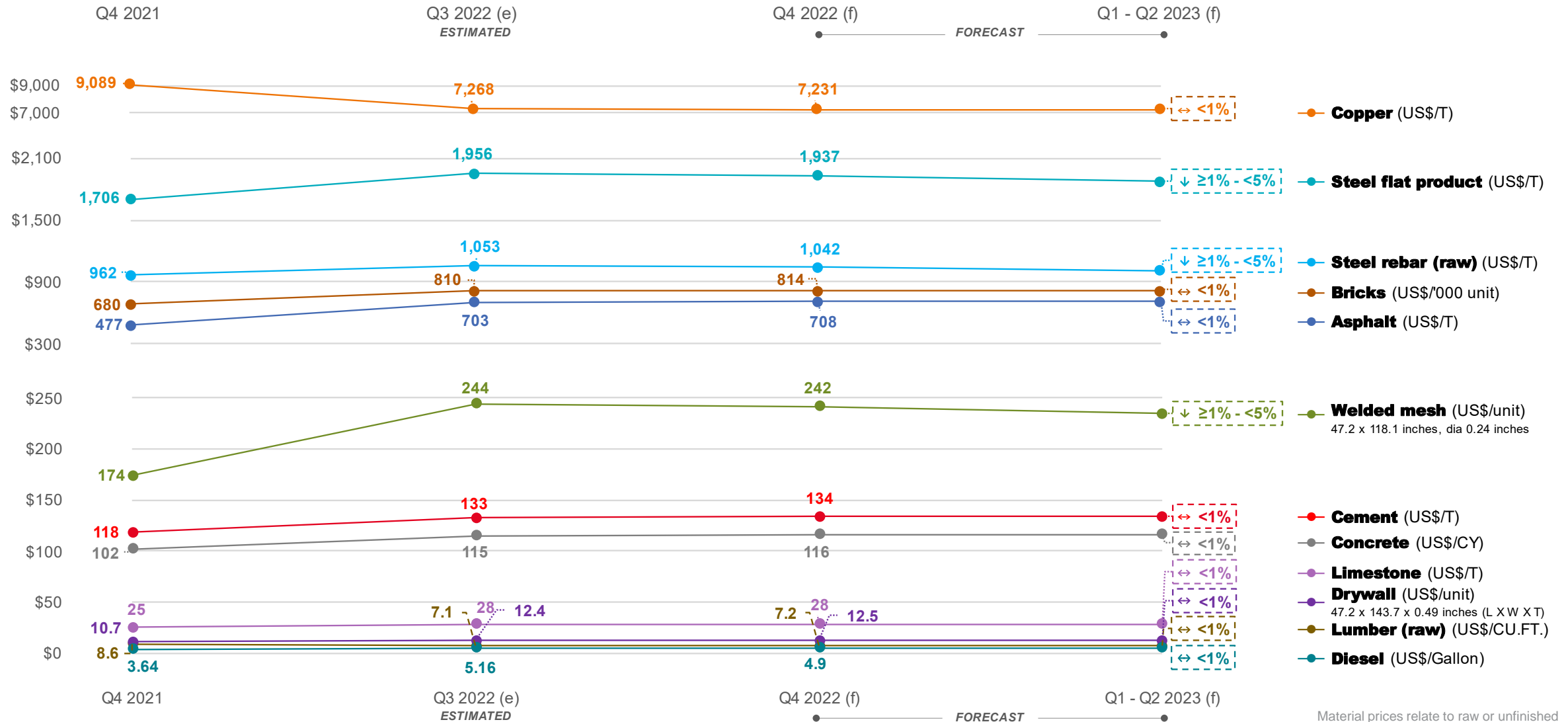
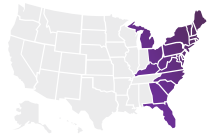
Please note that commodity prices are based on representative materials available in the respective countries, and as these materials may not be standard across all markets, cross-country comparisons on prices can be ineffective. For example, asphalt types can vary between hot, cold or a bitumen price,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

US Central - Construction Materials Pricing (2021-2022)



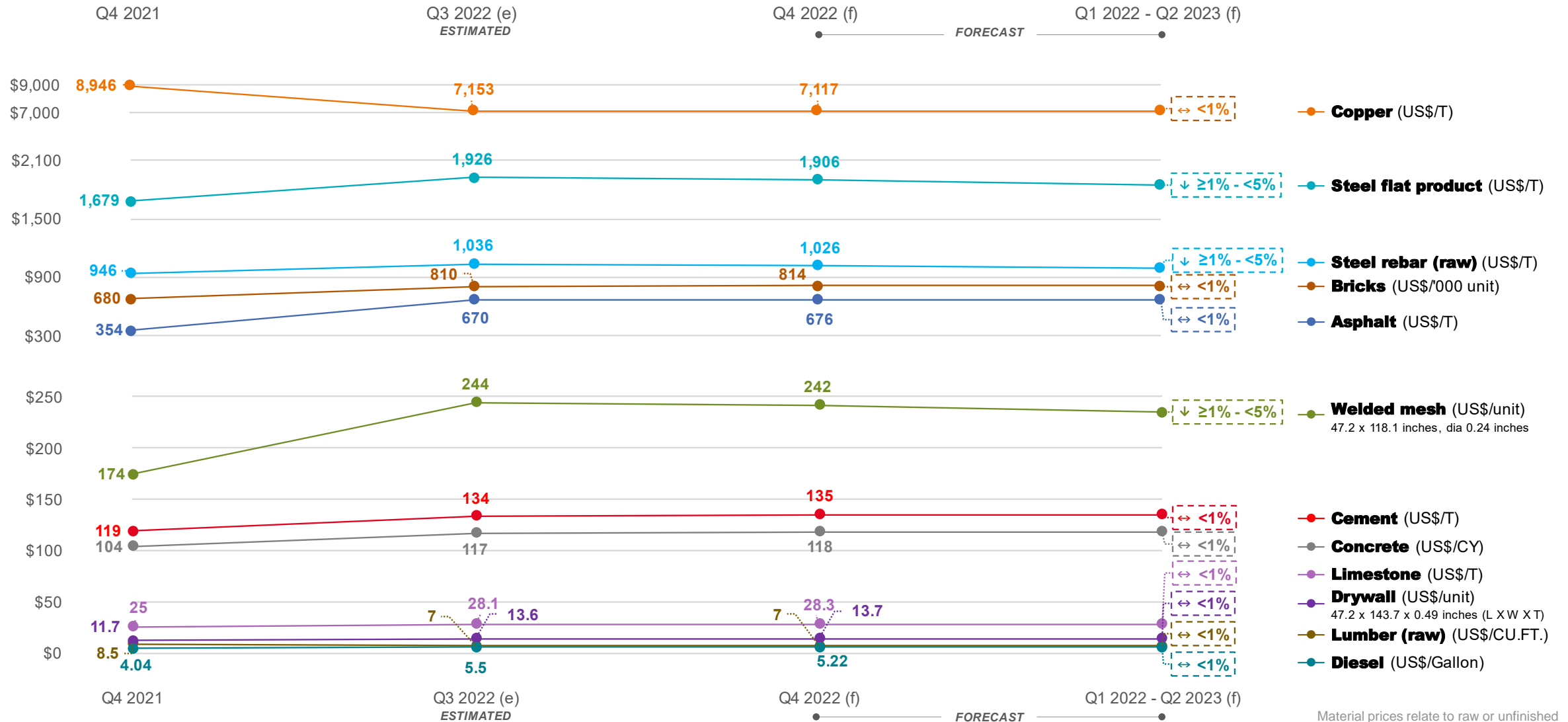
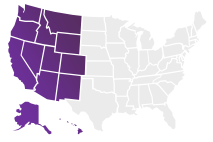
Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.

US East - Construction Materials Pricing (2021-2022)



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US West - Construction Materials Pricing (2021-2022)

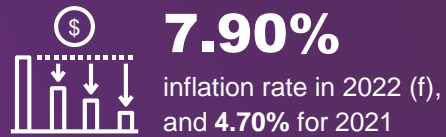


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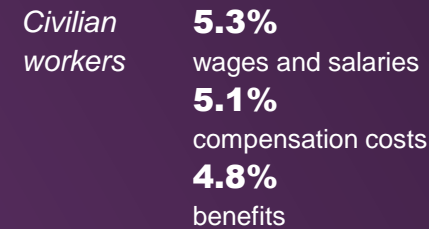
United States - Macroeconomic overview



Economic indicators



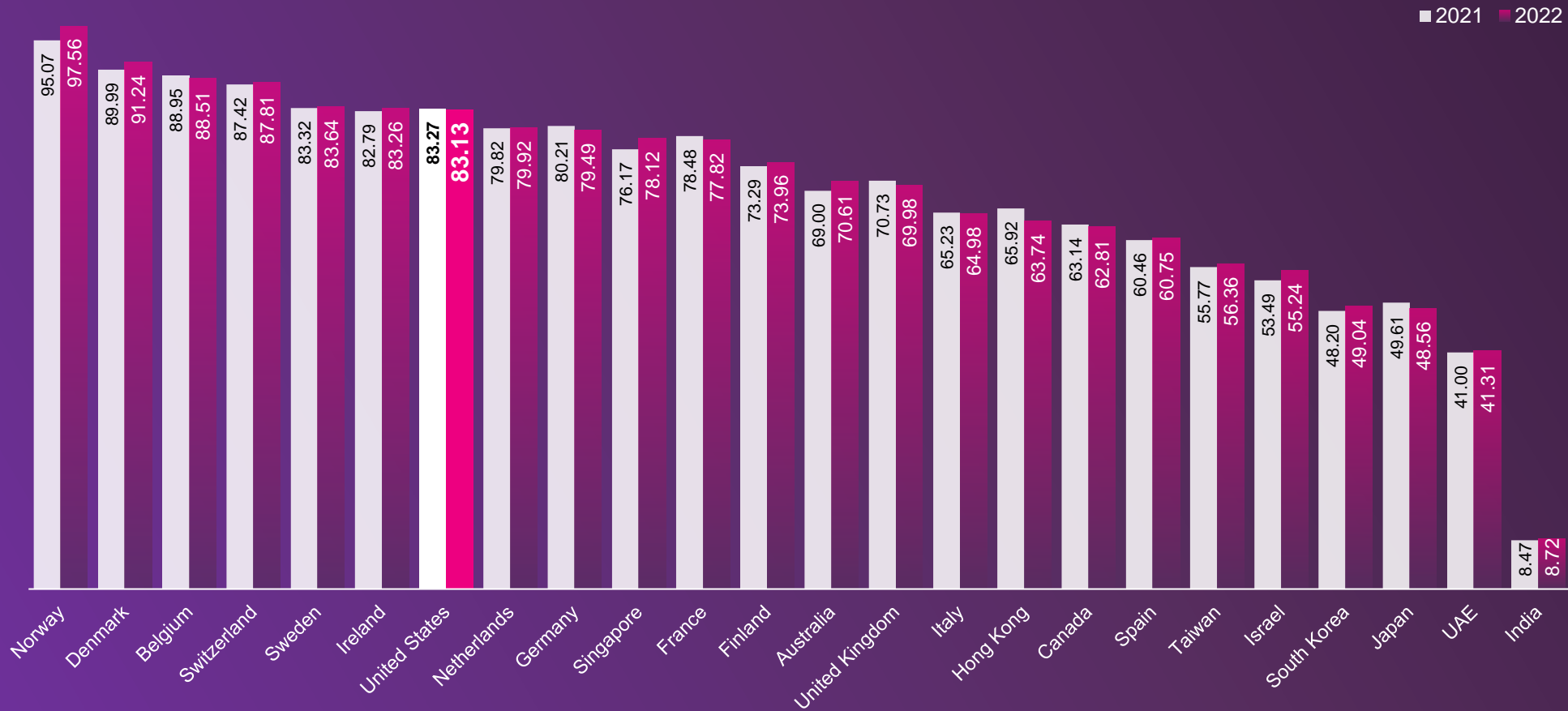
Labor cost growth - YoY June 2022



United States - Macroeconomic overview









Labor productivity



Labor productivity per hour worked in 2021 international dollars, converted using Purchasing Power Parities

United States - Macroeconomic overview



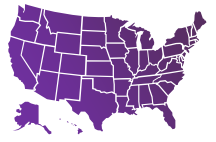
Output 2021 and 2022 (in millions)			
	Total 2021	Total 2022 (f)	% change
Commercial 	\$224,842	\$209,399	-6.9%
Energy and utilities 	\$222,848	\$204,235	-8.4%
Industrial 	\$53,753	\$59,580	10.8%
Infrastructure 	\$162,473	\$146,135	-10.1%
Institutional 	\$168,636	\$146,632	-13%
Residential 	\$809,044	\$804,715	-0.5%

Long-lead equipment (LLE) and Supply Chain narrative

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United States - Report methodology



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Sample sources – United States

For the United States, sources for this report include, but are not limited to:

- ENR
- IMF
- US Bureau of Labor Statistics
- GlobalData's Construction Intelligence Center (CIC)
- Federal Reserve Economic Data
- Bureau of Economic Analysis

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