



Germany

Country Insights and Commodity Report

Q1 2022



Germany

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While Germany recorded 2.7% growth in 2021, momentum slowed towards the end of the year, as an additional COVID wave hit the country, along with a shortage of materials (including a notable semiconductor chip shortage) and energy price increase. Growth of 3.8% is anticipated for this year, spurred on by increased consumer spending.

Construction output declined slightly by 0.5% in 2021, with the industry facing workforce capacity limits, and value of construction work down by the same amount. However, recovery is expected this year, as the government focuses on infrastructure and renewable energy production. The Russia-Ukraine conflict is a significant risk, impacting material prices, supply chain bottlenecks and investor confidence.

As material costs will continue to represent a challenge for the construction industry for the foreseeable future, Linesight will publish quarterly updates to track commodities and provide insights about future projections on movements.



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Lumber

Reflecting high demand amid global shortages, domestic lumber prices rose throughout 2021, up by an estimated 65% between Q1 2021 and Q4 2021. Prices will remain at relatively high levels given the expansion in domestic demand, and owing to disruptions in global lumber trade, with Russia being a leading exporter.



Concrete and aggregates

Although being a leading producer of cement within the EU and having sufficient capacity to meet local demand, there has been upward pressure on cement prices owing to some supply disruption amid high demand levels. The recent surge in diesel prices will also feed through into higher prices for concrete deliveries. Prices will stay at high levels in 2022, given the impact of higher energy prices on production costs.



Concrete blocks and bricks

Although rising recently, brick prices have not faced the same pressure as metals, and this reflects relatively stable supplies and distribution networks that are generally localised. However, higher energy costs will push up production costs, and as construction activity picks up, demand will strengthen. Around a third of new residential buildings are constructed predominantly with bricks, according to the Federal Statistical Office; for single-family and two-family houses, the share stood at 34% and 37% respectively in 2020.



Steel (rebar and structural)

Germany is the leading producer of steel in the EU, but is also a major steel importer, and disruptions in exports from Russia and Ukraine will have a major impact on the market. In March as part of its sanctions on Russia, the EU banned imports from Russia of steel products currently under safeguarding measures. The sharp rise in energy prices is also having a major impact on domestic supplies, with reports of steelmakers halting production.



Copper

To meet its high levels of demand, Germany has significant domestic capacity but also relies on imports to meet requirements for copper intermediary products. With global prices soaring to record highs in May 2021, on an annual average basis prices were up by 46% in the year as whole. Global supply chain issues were expected to ease during 2022, but the Russia-Ukraine conflict has changed the market outlook.

Germany - Commodity Report



Materials	Q3 Q4 2021		Q3 Q4 2022 (f)		Q4 - Q1 (e)
	€	€	2021-22 (f) % change	% change	2022
Copper (€/MT)	8,216.5	9,442	14.9% ↑	5% ↑	●
Steel rebar (€/MT)	570	667	17% ↑	3% ↑	●
Steel flat (€/MT)	626	765	22.2% ↑	6.7% ↑	●
Lumber (€/M3)	103.3	119.5	15.7% ↑	6.7% ↑	●
Asphalt (€/MT)	56.4	62	10.7% ↑	3.9% ↑	●
Limestone (€/MT)	34.5	36.2	5% ↑	5.0% ↑	●
Cement (€/MT)	118.8	137	15.3% ↑	7.2% ↑	●
Concrete (€/M3)	144.3	173	20.2% ↑	11.1% ↑	●
Welded mesh (€/unit)	70.1	81	15.0% ↑	3% ↑	●
Bricks (€/000 unit)	557	622	11.7% ↑	8.2% ↑	●
Plasterboard (€/unit)	2.6	2.9	14.5% ↑	15.1% ↑	●
Diesel (€/litre)	1.5	2.27	53% ↑	14.7% ↑	●

Q3 Q4 2021: Average **Q3 Q4 2022 (f):** Forecasted average
2021-22 % change: % change from Q3 Q4 2021 average to Q3 Q4 2022 average
● Q4 to Q1 2022 % change greater than estimation in our Q4 report
■ Q4 to Q1 2022 % change less than estimation in our Q4 report

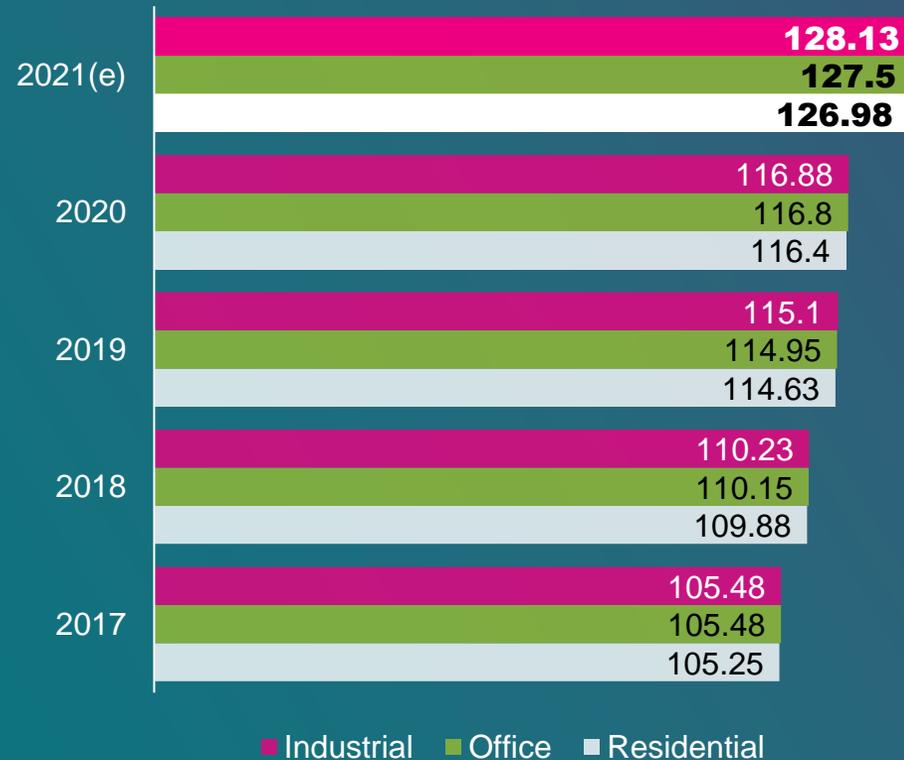
Material	% change Q1 – Q2 2022 (f)	Level of impact of pricing on construction procurement and supply chain *	
 Copper	+3% ↑	High	<p>Copper prices had been on an easing trend having reached a recent high in October 2021, and there was an expectation that an increase in supply would contribute to a continuation of this trend. However, prices spiked again in early March in a market response to the onset of the Russia-Ukraine conflict and the concerns over the potential for supplies to be impacted. Given the risk of further disruption to supplies and the expectation that demand will continue to rise amid investments in renewable energy technologies and EV production, prices will remain high.</p>
 Steel prices - Steel rebar - Flat steel	+8.3% ↑ +9.2% ↑	High	<p>Following an upward trend in prices in Q4 2021, as a result of tight supplies due to reduced output from China combined with domestic demand increase, there had been an expectation that prices would soften as supplies improved. However, higher energy costs kept prices relatively high in early 2022, before prices jumped in March due to severe disruptions in imports from Russia and Ukraine. Steelmakers have been cutting production, as high energy prices can make production economically unviable.</p>
 Cement Concrete	+2% ↑ +2% ↑	Low	<p>Strong demand from the construction industry has continued to push up prices for cement and concrete. As a leading producer of cement within the EU, Germany has not been subject to challenges on the supply side, but with energy costs rising sharply, domestic prices will remain at a relatively high level in 2022.</p>
 Asphalt	+1% ↑	Low	<p>The rise in international crude oil prices will contribute to upward pressure on asphalt prices. However, the new government is set to prioritise railways investment over roads, and Germany is the leading adaptor of recycled asphalt usage in EU. With more recycling, asphalt price inflation can be relatively well contained.</p>

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.

Germany - Commodity Report



Construction price indices



Knoema World Data Atlas

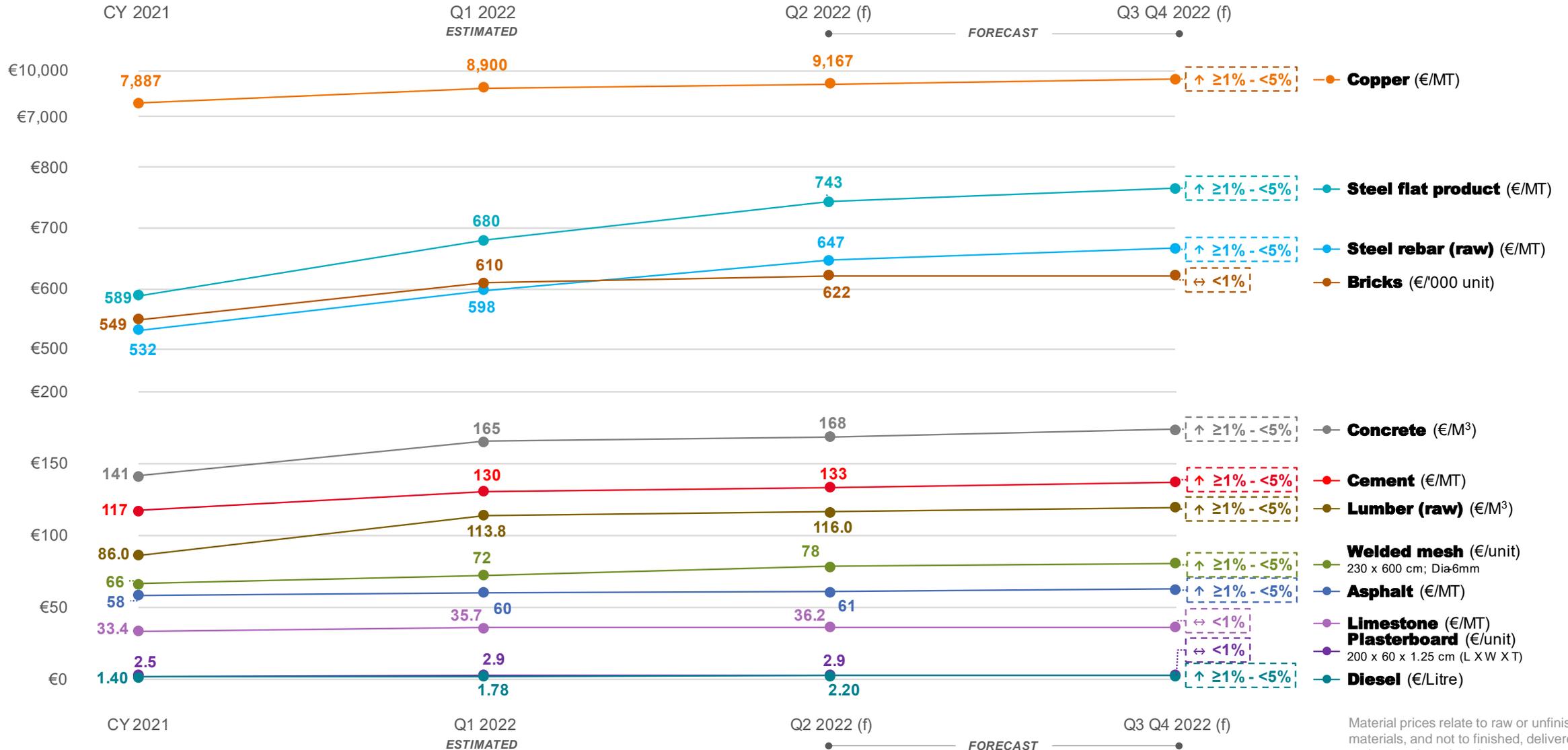
Index of economic freedom **72.5 out of 100**

Material	% change Q1 – Q2 2022 (f)	Level of impact of pricing on construction procurement and supply chain *
Limestone	+1.5% ↑	Low Demand for limestone is relatively stable in the market, however the prices is expected to increase because of higher energy costs.
Lumber	+2% ↑	Moderate The price of lumber has come under renewed upwards pressure. Russia is a leading exporter of lumber, and although much of this is exported to China, the classification by the PEFC that timber from Russia and Belarus is "conflict timber" will exacerbate the existing tightness in the market. The price is expected to remain high in 2022 , with demand still strong.
Welded mesh	+8.3% ↑	High Price of weld mesh is mainly impacted by the steel rebar prices. Prices are expected to stay high in the coming quarters.
Bricks Plasterboard	+2% ↑ +1% ↑	Low Solid demand for housing construction, combined with higher energy costs, will keep prices for bricks and plasterboard at relatively high levels.
Diesel	+23.5% ↑	Low Diesel prices jumped in March, as global oil prices soared in the wake of the Russia-Ukraine conflict. In March prices were above €2 per litre. Without any clear resolution in the short term to the military conflict in Ukraine and given Germany's reliance on imports for its oil needs and a large share of its diesel, it is likely that prices will remain elevated in the coming quarters and subject to a high degree of volatility.

* 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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Germany - Construction Materials Pricing (2021-2022)



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

Germany - Macroeconomic overview



Economic indicators



3.8%

GDP growth in 2022 (f) and 2.7% in 2021



1.51% inflation rate in 2022 (f), and **2.88%** for 2021



41.92M people employed in 2022 (f) and 41.41M in 2021



3.56% unemployment rate in 2022 (f) and 3.70% in 2021



112.6 Consumer Price Index in 2022 (f) and 111.8 in 2021

Weather conditions



0°C to 25°C

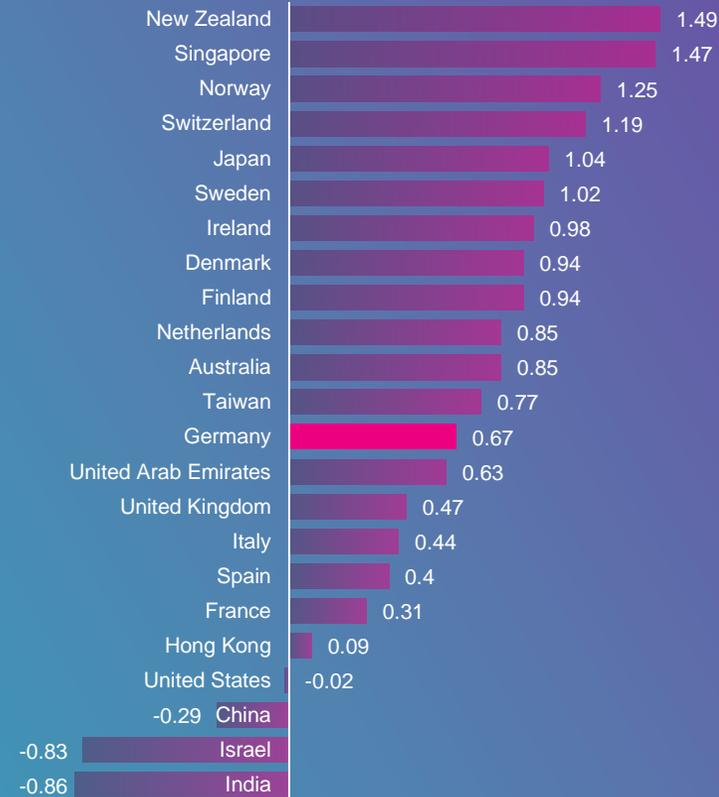
typical temperature range throughout the year



780mm

average annual rainfall

Political stability



Political stability index (-2.5 weak; 2.5 strong)

The index of Political Stability and Absence of Violence/ Terrorism measures perceptions of the likelihood that the government will be destabilised or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.

National holidays



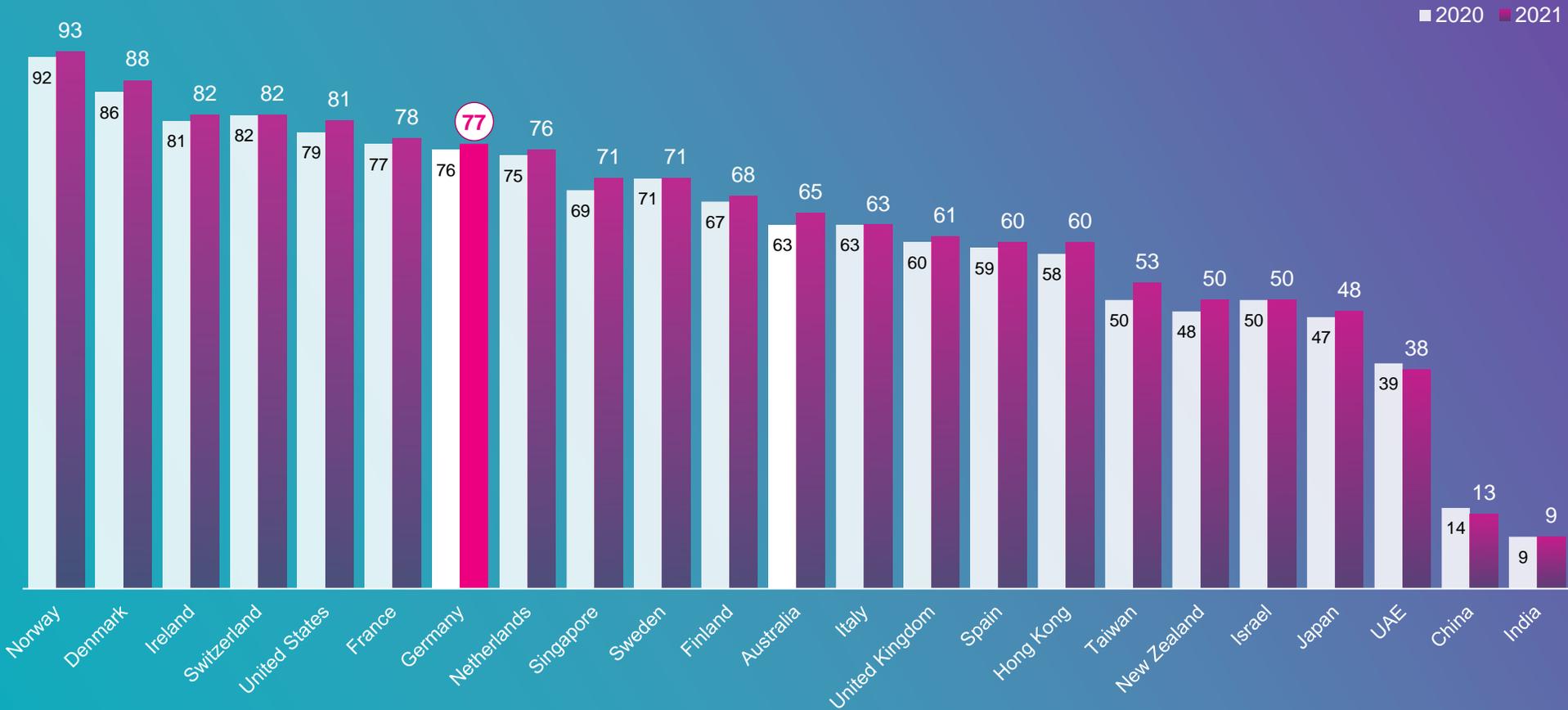
10 - 14 national holidays in Germany which are dependent on federal state and region.

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

Germany - Macroeconomic overview



Labour productivity



Labour costs

€40,006

average construction worker gross salary in Germany or an equivalent hourly rate of €19

- An entry level construction worker (1-3 years of experience) earns an average salary of €29,791.
- On the other end, a senior level construction worker (8+ years of experience) earns an average salary of €48,513.

Labour productivity per hour worked in 2020 international dollars, converted using Purchasing Power Parities

Germany - Construction overview



Output 2021 and 2022 (f) (in millions)			
Sector	Total 2021	Total 2022(f)	% Change
Commercial 	€56,566.77	€57,272.26	1.2%
Energy & Utilities 	€18,699.61	€18,860.44	0.9%
Industrial 	€21,397.62	€21,166.82	-1.1%
Infrastructure 	€49,514.33	€49,874.30	0.7%
Institutional 	€21,699.99	€23,065.39	6.3%
Residential 	€178,278.86	€182,579.83	2.4%
Total output	€346,157.16	€352,819.03	1.9%

Long-lead equipment (LLE) – time risks

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 increased exponentially with the IT boom. More data centre and crypto mining providers are joining the market, and this new demand far outweighs the capacity of the supply chain. Entry onto the production line has become a significant challenge, with suppliers reporting fully booked capacity until Q1 2023. Opportunities exist for the development of Tier 2 and Tier 3 suppliers to Tier 1 status. However, it will take time to develop an extended supply chain.
- Material shortage:** The end of Q1 2022 saw a significant drop in the availability of raw materials used for LLE production. Global factors such as the Russia-Ukraine conflict and the resurgence of COVID-19 has halted production, which is at its lowest levels in recent years. The ethical approach in the supply chain to manoeuvre away from the use of Russian gas and oil has reduced production levels and added longer lead times within the supply chain. The raw material shortages are expected to continue into Q2 2022, whilst there is uncertainty for the security of the supply chain.
- Freight durations and costs:** Heightened by the increase in fuel costs and compounded by the shortage of labour and low supply of shipping containers, freight durations have soared as suppliers look for ways to mitigate these challenges. The demand for freight services has grown across all markets in recent years and the competition amongst industries has had a negative effect on availability and durations. As clients consider alternative solutions, it almost becomes cost prohibitive to use quicker forms of transport, such as air freight, due to increasing fuel costs.

Construction health & safety practices and culture



Regulated and maintained by the Federal Institute for Occupational Safety and Health



6,000 construction accidents approx. per year



Germany uses the Sicherheits Certifikat Contractoren (SCC), which ensures all workers have a level of safety training when attending site

Germany - 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 - Germany

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

- IMF
- Economy.com
- The Global Economy
- Weather Spark
- Destatis
- GlobalData's Construction Intelligence Center (CIC)
- Conference-board.org

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