

The main title 'Gathering storm?' is written in a large, white, sans-serif font. It is positioned in the center of the page, with two short orange horizontal lines above and below it. The background is a high-angle photograph of a city skyline, featuring a prominent, modern, glass-clad skyscraper on the left and a historic, ornate building with a clock tower on the right.The subtitle 'Poland Construction Market View' is written in a white, sans-serif font, positioned in the lower-left quadrant of the page. It is preceded by two short orange horizontal lines.The date 'Autumn 2021' is written in a white, sans-serif font, positioned in the lower-left corner of the page.



Introduction

Despite construction materials prices escalating, Polish construction presses ahead, with residential and industrial sectors booming. But there is even more inflation on the horizon.

- The Polish economy was relatively unscathed by COVID-19, with a decrease in GDP of -2.7% in 2020, compared with an average of -5.9% across the EU (Eurostat). It entered a dynamic growth path in 2021 and has already recovered to pre-COVID levels. GDP is forecast to grow by 5% in 2021, and continue improving in subsequent years to reach 5.4% in 2022 and 5.3% in 2023. While the recovery in 2021 is mainly driven by an increase in household consumption, following the easing of COVID restrictions, the contribution from gross fixed capital formation is expected to pick up sharply in Q3 and Q4 and remain significant over the forecast period until 2023 (Narodowy Bank Polski – NBP predictions).
- The fast recovery has brought challenges related to inflation, with a September reading of 5.9% and a forecast (from both NBP, and the European Commission) of 4.1% in 2021, before a decrease to 3.3% in 2022. There are many factors influencing the current readings, and some, like the release of pent-up consumer demand, are likely to be temporary. The current strong driver in the form of elevated construction materials costs is expected to start easing in 2022 too. However, prices of energy are forecast to keep driving inflation and as such, it will still remain above the NBP goal of 2.5% in the



coming years. A sharp increase in inflation rates is one of the drivers for the construction boom in the residential sector, as consumers decide to invest their money in property.

- Unemployment peaked at 6.5% in Q1 2021 but has since decreased to 5.8% (which is 0.3% above pre-COVID levels). Construction workers remain in high demand, with almost 100,000 construction related vacancies in the first part of the year. The shortage of operatives does not yet seem to permeate into official data on wages. According to Główny Urząd Statystyczny – GUS – salaries in construction increased by 3.6% in the January-August 2021 period, compared to the same period a year ago. This is slightly less than the 4.3% increase in the wider economy, and it is likely to change as the supply of workforce is shrinking due to migrant workers either returning home or moving to Germany. In the long-term, factors such as a lack of skilled people, ageing workforce and lack of new apprentices will come to the fore.
- Seasonally adjusted output in the construction industry increased by 4.2% in September, but decreased by 2% compared to August 2021 (month-on-month). The growth was achieved despite multiple challenges regarding the prices and availability of construction materials. The output continues to be driven by the specialist construction works which grew by almost 22% on an annual basis, followed by infrastructure (+1.2% year-on-year).
- The current orders are driven mainly by the residential sector, which recorded a 40% increase in new construction starts in the first seven months of 2021, compared to the same period in 2020. The industrial sector picked up strongly too, especially in warehousing, which recorded a 90% year-on-year increase in new orders in Q3 2021. The commercial sector is still due to deliver high volumes of output, however looking ahead the situation is uncertain.
- The latest construction sentiment index by Europejski Fundusz Leasingowy (Barometr EFL) recorded 52.9

– which is the highest reading since the beginning of the pandemic. Any value above 50 indicates expansion of activity, and 50% of the surveyed companies expected an increase in new orders in Q3 2021. But despite positive developments regarding new orders, business sentiment across the supply chain seems to be mixed. Polish construction was booming between 2017-2019, and while the impact of COVID is relatively mild, GUS points to a lot of uncertainty regarding the wider economic recovery and contractors quoting labour and construction materials costs as barriers. The latter has already increased on average by 8.3% on an annual basis, but there are also unprecedented price hikes, such as 200% for steel rebar.

- While the long-term outlook for residential and industrial sectors is positive, and infrastructure picking up as well, there is still some uncertainty around the commercial sector. This requires contractors to retain a level of competitiveness. But as demand returns, this pressure is likely to ease. This will add to the inflationary landscape and encourage the supply chain to be more open about the risk premiums. Clients need to be prepared for an inflationary storm.

Forecast



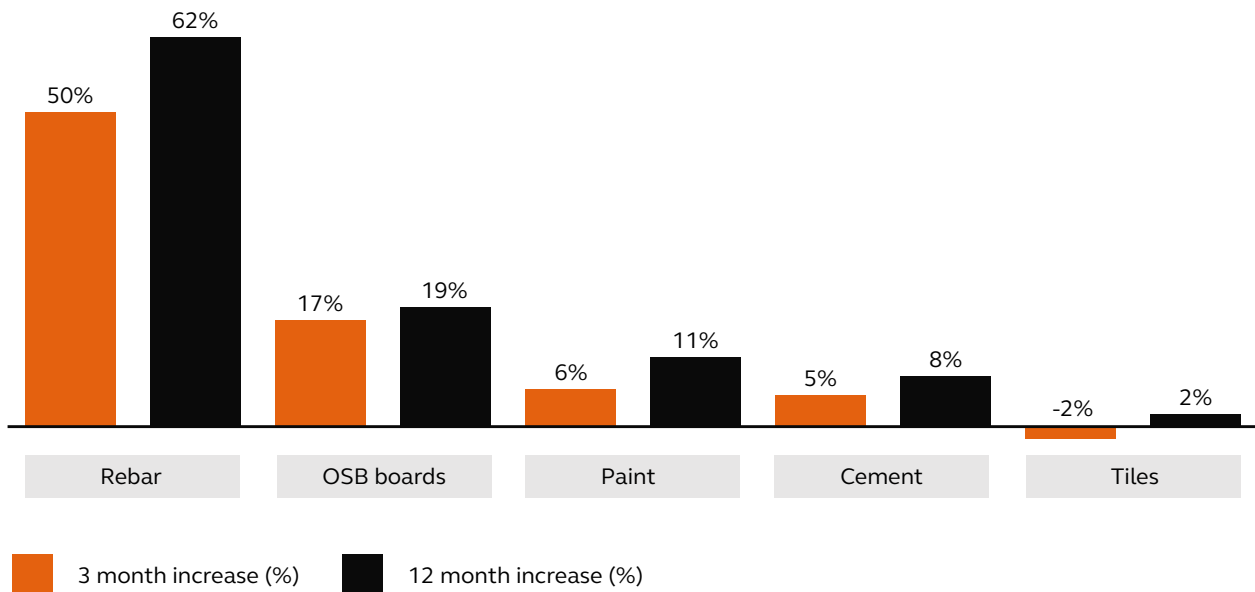
Recovery in the construction sector is accelerating, but multiple inflationary factors heighten risk and can threaten viability of some projects. Clients willing to proceed need to be prepared to enter negotiations with contractors.

New orders are accelerating

The Polish construction market is highly cyclical and in 2019 was very much at its peak, with record levels of output across all sectors. The outbreak of COVID-19 had a relatively limited impact on the levels of activity in construction, and the majority of sites were allowed to continue working, delivering previously contracted projects. As a result, the downfall in output was less than 1%; very mild compared to other sectors. However, the building sector has not been immune to some of the impacts of the pandemic on investor confidence, with many, especially in the commercial sector, hitting the breaks in 2020 and postponing some decisions on new schemes. Consequently, new orders started recovering slowly at the beginning of 2021, but have accelerated remarkably in Q2, driven by a high demand in residential and industry/warehousing sectors.

The activity returning to the sector coincided with a synchronised global recovery in the wider economy, which lead to a strong imbalance between the available supply and demand. This is at the core of elevated levels of inflation, as well as issues around cost and availability of construction materials. The prices of energy also keep rising, and availability of labour is becoming an increasing issue. While contractor's order books are not yet full, there is some degree of competition in the market. This, however, is likely to change quickly as there are no signs of slowing in the residential sector, and infrastructure is picking up pace as well. The landscape is becoming more and more inflationary, and clients wanting to pursue their projects need to understand the sources of risk and be prepared to tackle them.

Figure 1: Annual and quarterly price increase of selected construction materials



Material prices continue to drive inflation

Industry is currently facing near-record increases in the cost of construction materials (see Figure 1). What began as an issue focused on steel and timber has recently spread into other product categories, resulting in an average annual price increase of almost 22% (according to muratorplus.pl). This, however, does not include all price increases related to steel, as prices of, for example, rebar almost doubled to reach 5,000 PLN per tonne. Oriented standard boards (OSB) recorded an almost 20% increase in price over last 12 months, while paint increased by 11% (Sekocenbud). Styrofoam particularly is now in short supply, as demand surged since the beginning of 2021, supported by the introduction of tougher regulations on buildings energy efficiency.

At the same time, some signs of returning stability can be seen in the price trends for commodities. According to Nasdaq, lumber prices in the US returned to below \$600 per thousand board feet in mid-September, after having peaked at a May 2021 record of \$1,600. Rebar rates reported by the London Metal Exchange have dropped by 15% from their peak and are now close to January 2021 prices, and copper is back below \$9,500, after reaching \$10,700 in late Spring. It is, however, too early to herald the beginning of a ‘return to normal’ and there will likely be a delay before these price corrections reach construction materials.

In the meantime, increases in material prices and availability issues have been the most often quoted reason for project delays, both on-site and in procurement, as contractors are unable to hold their prices. Re-negotiation - and in some cases even

rebidding - is taking place, leading to delays. Difficulties in pricing risk have become a major threat to the viability of projects and a potential spanner in the wheels of recovery. Even once supply can be secured again and prices return to more reasonable levels, other factors that have emerged recently will continue to impact on the pace of recovery.

Logistic challenges – assess your exposure

In principle, Poland exports fewer construction materials than it imports, and hence exposure to the ongoing logistics crisis is limited. Yet products imported, especially from China, are likely to suffer not only from price increases but also significant delays. This is mainly caused by an ongoing disruption at Chinese ports, including a shortage of containers and unloading capacity. To illustrate the scale of the issue, shipping rates are now 5-7 times their pre-COVID levels.

Road distribution is also at risk, as there seems to be a European-wide shortage of HGV drivers. While this may not impact the availability of imported construction materials, it can threaten the regular delivery of these materials to construction sites. If contractors need to arrange their own transport, this will result in additional costs, putting delivery reliability at risk and increasing the odds of delays on projects. Should any of this happen, contractors are also more likely to start pricing this risk, as they potentially face ‘idle’ days, with equipment and workforce on site to be paid for and no output delivered due to the lack of materials.

Watch out for labour

The shortage of labour – both skilled and unskilled – is the major factor driving our inflation forecast beyond 2023, especially in infrastructure.

Forecast

The construction industry in Poland shares some of the universal challenges observed in other countries – such as an ageing workforce and low levels of construction careers uptake among young people. In addition, since many Polish operatives left the country, that gap needed to be filled by migrant workers who are also on the move and choosing either to go back home or continue their journey and leave Poland for Germany or The Netherlands.

Currently we already see some of the migrant operatives leaving. At the same time, hiring intentions from Q1 2021 indicated that there are approximately 100,000 workplaces to be filled – an increase of almost 10% to the current workforce. The issue seems to be only emerging and has not yet been reflected in the official data on wages, which according to GUS increased rapidly compared to August 2020 (+7.5%) but overall in the last 12 months grew at a slower pace compared to the rest of the economy (+3.6%). Returning demand can change this situation very quickly and add another cost driver to an already inflationary market.

Good outlook removes competitive pressures

While construction materials are experiencing record levels of inflation, there are no signs of the sector slowing down. Quite on the contrary, residential and warehousing sub-sectors remain hot. Driven by the need for energy transition, the renewable energy infrastructure sector is booming too. This is an important development for contractors, who are now under less pressure to secure new work. However, one must remember that part of the new orders will have come from pent-up demand, so it is important that underlying growth is sustained.

Business sentiment points to contractors anticipating further increase in new orders in Q3 and Q4 2021, and the contribution from infrastructure will keep growing, thanks to the National Road Construction Pipeline 2030. Workload beyond 2022 is also likely to increase significantly, subject to the EU approving the Polish National Recovery Plan. With this in mind, we expect that in the near future contractors will become more selective in their bidding activities, and price their risks more fully, which is another driver for inflation.

Everybody's talking inflation

Concerns regarding inflation and its impact on the pace and success of post-COVID recovery have been in the news for a while. Due to the situation with materials prices, the construction sector is now actively discussing this issue. The improving business sentiment and growth in new work will be gradually easing pressure on contractors and removing some of the competitive pressure on pricing. As a result, the supply chain will be able to include bigger risk premiums.

Because there are currently so many cost drivers in place, inflation has been generally acknowledged and consequently the supply chain is far from being shy about making allowances for it. Prices of energy are only likely to keep increasing too – driven by a combination of the recovery in Brent prices and growing costs of carbon tax paid by Polish power plants.

We have taken all these factors into account when preparing our Autumn 2021 Forecast for tender prices over the next five years. Our Tender Price Index (TPI) indicates the annual increase in construction prices. A quick look at the historic data indicates that in times of high activity, inflation in construction exceeds inflation in the wider economy. Since 2018, inflation in construction prices has been approximately 3%-5%, depending on the sub-sector. The current impact of construction materials prices will still be visible in 2022, although it is likely to start easing in Q2-Q3 2022. However, inflation related to energy costs will persist. The impact of labour shortages will permeate more into infrastructure, as the gap in highly skilled operatives will be much more challenging to address than some of the shortages in less skilled labour.

We anticipate that the price inflation in the buildings category will peak in 2021-2022 and start easing off in 2023 as the balance between supply and demand is restored. For infrastructure, we expect the trend to become more inflationary in the long-term as increasing demand (driven mainly by the energy transition) will be faced with a combination of shortages in specialist skills and increasing prices of traditionally used carbon intense materials. Our predictions assume that the pace of recovery will be maintained. Should clients decide that construction is too expensive, then a quite different pattern of pricing might emerge.



Inflationary drivers	Non-inflationary factors	Deflationary drivers
<ul style="list-style-type: none"> Continued increases in construction materials prices 	<ul style="list-style-type: none"> Low-skilled labour wages 	<ul style="list-style-type: none"> Contractors still need to secure their long-term pipeline
<ul style="list-style-type: none"> Hot residential and warehousing market 	<ul style="list-style-type: none"> Costs of transportation 	<ul style="list-style-type: none"> Subdued orders in commercial sector
<ul style="list-style-type: none"> Increasing demand from infrastructure 		
<ul style="list-style-type: none"> Shortage in highly-skilled operatives 		
<ul style="list-style-type: none"> New energy efficiency regulations for buildings 		
<ul style="list-style-type: none"> Costs of energy driven by increasing carbon tax 		
<ul style="list-style-type: none"> Contractors less able to price risk and hence higher risk premiums 		

	National Building Construction TPI	National Infrastructure Construction TPI
2021	8%-10%	6%-8%
2022	5%	4%
2023	3%-4%	5%
2024	3%	5%
2025	3%	5%



Zoom into: Mitigating the risk of construction materials price volatility

Construction materials prices have been escalating rapidly in the recent months, creating challenges for the on-going projects and potentially threatening new schemes. What can clients do to avoid project delays and cancellations?

The discrepancy between supply and demand has been rapidly driving up the prices of many construction materials, with basic timber and steel products typically having increased by 30-50% on annual basis. The situation is similar across the world and has become a source of concern as high prices might hold back the pace of recovery.

Ongoing projects need to tackle price hikes and delays, as lead times for many products have extended and some materials are on allocation. This can result in additional costs for both contractors and clients, especially on time constrained projects, and in extreme cases could lead to contract dispute.

Increased nervousness and high levels of uncertainty are not good for the new projects either. Contractors and clients may both be put off by the elevated levels of risk and increased price of delivery can undermine a business case, leading to project suspension. However, pausing the activity until prices return to 'normal' in many cases is not possible. There are interventions, though, that could help limit the exposure. They are not a silver bullet, and come with pros and cons, but in the current conditions of heightened uncertainty, they can facilitate the decision making.

Procurement options

With procurement, the key consideration is achieving a balance between competition and the attraction of the project to bidding contractors.

Single stage tender competitions are suitable for highly competitive sectors with quick turnaround needed but are increasingly less acceptable to bidders. It is advisable to undertake extensive supply chain engagement first to confirm continuing levels of interest.

Phased tender: Dividing the tendering process into two stages offers a possibility to delay or bring forward tendering for some work packages and can help avoid price peaks and mitigate some of delays. However, they present a particular risk in volatile markets such as today's, with the possibility of a last-minute upward price adjustment at the end of the second stage.

Reverse two stage tender competitions, where the client directly procures specialist packages as well as the main contract, could be an attractive option in the current market – providing greater transparency over pricing. This could facilitate early procurement of long-lead-in items. But the inability of the client to contract directly with specialists may mean that it is not possible to secure cost certainty prior to the agreement of the second stage bid.

Construction Management, where there is no cost certainty until all packages are procured, is likely to be riskier for clients but will enable the optimisation of the timing of procurement. This route will benefit most the clients with previous experience and access to appropriate resources, and capable of agreeing to sub-contract prices quickly to achieve cost certainty.

Negotiation in the current market is likely to result in full pass-through of inflation costs at the outset of a project, and hence is only recommended where there is not enough time for a competitive process.

With **any lump-sum procurement**, some flexibility can be built into the pricing using provisional sums, prime cost allowances or early procurement.

Provisional sums can be used to delay the procurement of later packages on a project – e.g., fit-out and avoid some of the inflationary 'fever' and risk-averse pricing seen in 2021. However, prices will continue to rise, and the contractor and project team will need to remain alert to material availability issues to manage the risk to the programme.

Prime cost allowances can be used to include costs against measured items where it is not desirable to fix the price at the point of tender. This option is beneficial in case of volatile prices but, the client will be 100% exposed to movements of the price of the material relative to the prime cost benchmark.

Early procurement of bulk materials/production slots. Clients can secure early orders for bulk materials with manufacturers either directly or through the supply chain. The advantages of early procurement are price and programme certainty. The disadvantage is the client's financial and physical commitment to the purchase.

Risk transfer options

Another option for securing a competitive initial price from the market is to vary the terms of the risk transfer in the contract. The changes required in the current market are significant – increasing the scope for extensions of time

with or without cost.

Clients that are not willing to consider sharing some of the risk need to be prepared to pay for risk premiums included in the bid. The ones willing to accept at least some of the risk can secure better rates. It is also a matter of choice between the certainty of paying risk premium and chances of having to cover some of the risk (if ultimately the risk does not materialise, neither contractor nor client will be faced with additional costs).


As a result, a relaxation in the balance of risk transfer should only be considered if bidders are keen to offer a discount in their bids.

Materials availability. With availability of materials being a particular problem at the moment, clients who have some flexibility on completion dates might consider including materials availability as a permitted trigger for a compensation event/extension of time. Awarded on a time-only basis, this step will eliminate one source of contractor risk (cost of contractual penalties) without exposing the client to full inflation risk.

Fluctuating price contracts can help deal with the challenges related to extremely short periods of fixed prices and include the provision for a monthly calculation of inflation based on published indices. Relevant contract clauses can be included that define the scope of this intervention (for example, work packages most exposed to volatile prices can be included). Fluctuations are calculated monthly and added to the valuation. Provisions for fluctuating prices are embedded in the main contract. Clients should take steps to ensure that similar measures are embedded in sub-contracts.

It is difficult to predict how long construction material prices increases and associated shortages will persist. The situation is not likely to stabilise before Q1 2022 and some sectors, like infrastructure, will continue to be exposed to materials-related risks into the longer-term. Implementing the above-described steps will not make clients and contractors immune to cost hikes, but enhanced transparency and a more equitable sharing of these risks, when they occur, will help manage price increases and mitigate the consequences.





Spotlight on: Carbon pricing and its impacts to construction

One of the biggest challenges in meeting the net zero targets will be decarbonisation of hard to abate sectors such as steel or cement.

Carbon taxes related to the emissions trading scheme (ETS) will play a crucial role in reducing consumption and incentivising new technologies. Below we describe how ETS operates, how it is likely to evolve over time, and what its impacts are to construction sector.

What is ETS and how relevant is it to construction?

ETS has been designed to encourage decarbonisation of the largest CO₂ emitters, such as power generators and carbon intense industries – this includes production of steel, cement and aluminium. The scheme includes two parts, a cap on allowed emissions and a carbon tax paid through the purchase of carbon credits that are auctioned and then traded on the open market. The prices of CO₂ have been increasing significantly and reached €59 per tonne in the mid-September.

How does this impact construction? Through an additional cost, which depends on the CO₂ emissions generated in the production process. We provide few examples in the table below and looking at the developments in both UK and EU ETS, these numbers are only likely to increase.

Material	Cost of carbon at carbon tax rate €59/CO ₂ tonne	Cost of material including carbon tax	% carbon tax in total price
Rebar	€110	€1100	10%
Aluminium	€354	€2550	14%
Cement	€37	€155	24%



What is next for ETS?

The amount of carbon credits available in the market will be gradually reducing, through the following:

- Market stability reserve – a mechanism put in place to avoid oversupply of carbon credits and its too low price is on track to limit the surplus to 400Mt by 2023.
- Emission cap reduction: the EU ETS emissions cap is decreasing by 2.2% per year, but new proposals could increase this to 4.2%.
- Emission benchmarks are established for each industry and the remaining free allocation will be slashed from 30% in 2020 to 0% in 2030.

All these interventions will result in smaller supply of carbon credits and will stimulate further carbon price hikes. Multiple forecasts are available, and the cost ranges presented therein are €65-€90 for 2030 and €70-€190 by 2040 per tonne CO₂ emitted. These increases may seem shocking, but one must remember that the prices of CO₂ already increased by 70% since January'21, and further increases are very likely.

In addition, costs related to carbon are likely to be further increased by the introduction of so-called Carbon Border Adjustment Mechanism. Its objective is to create a fairer playing field for the EU businesses which need to compete with companies from territories where carbon pricing is not present. A CBAM will apply a carbon price to materials and goods imported into the EU, based on the cost of allowances current in the EU. Credit will be given for carbon taxes levied elsewhere. The scheme will be phased out from 2023 and will apply to aluminium, cement, fertilizer, iron and steel industries. As a result, an increase in prices of steel imported to the EU can be expected.

What does this mean for clients?

Clients have very little control over their exposure to carbon pricing. The price of the credits will be set by the market, and the amount of emissions will be determined by the manufacturer's process. Looking further ahead, the impact that carbon pricing will have on the construction costs will depend both on the pace of reducing CO₂ emissions and the pace of the expansion of the scheme. Emissions reduction can be achieved either by transitioning to innovative processes and products or implementing the carbon capture and storage. But we must acknowledge the enormous size of the decarbonisation challenge which will require new processes and products to be developed. The change will not happen overnight. There is a lot of work to do, and clients have their role to play in the process. The first step is to understand the carbon content of products so that low-carbon alternatives can be considered. What initially seems unfeasible, may turn out to be suitable after a modification to the design or to the delivery programme. Clients also have a role in creating the market for low-carbon products, and the faster they make the switch, the sooner economies of scale will be achieved. Otherwise, net-zero will remain a costly and niche option... almost as costly as carbon.

Contact



Senan Corbett
Head of Cost &
Commercial Management, Poland
senan.corbett@arcadis.com



Agnieszka Krzyzaniak
Market Intelligence Lead
agnieszka.krzyzaniak@arcadis.com



Simon Rawlinson
Head of Strategic Research & Insight
simon.rawlinson@arcadis.com

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