

# BUILDING MATERIALS Price Trends

Q3 2021

## BRIEFING NOTE

October 2021

**Spiking and volatile building material prices, coupled with supply chain issues are impacting on project cost estimates, construction contracts, cash-flows, schedules and contractor pricing decisions.**

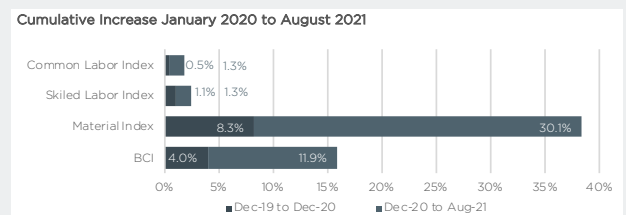
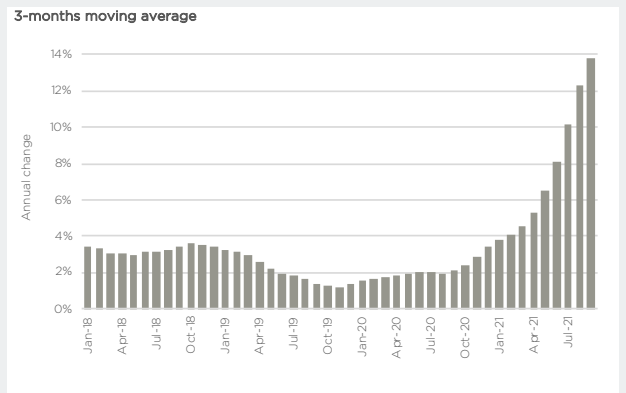
### ► BUILDING COSTS

Building input cost inflation continued to accelerate sharply in the 3rd quarter of 2021, due to higher (raw) material and transport costs. Higher labor costs on the back of a shortage of skilled labor are also cited as putting pressure on building cost, but over the past year these have been far less than the increases seen in building material prices.

Although there have been some recent price decreases of key inputs such as lumber, building material companies and contractors are still dealing with higher costs, which they are expecting to pass on to higher output and bid submission prices. Mismatch between current prices and contract prices agreed over the past 1-2 years is causing major issues for contractors and clients alike.

Supply chain problems and extremely long lead times are exacerbating the challenges facing the building sector, with anecdotal evidence suggesting that project starts are being postponed because of construction material costs and scheduling issues.

CHART 1: AVERAGE BUILDING INPUT COST INFLATION



Source: ENR

# RAW MATERIALS

## Commodities

Volatility in global commodity markets remains high and whilst some commodity prices, including copper have retreated from their recent spikes, the decline is not widespread.

Oil stood above \$70/bbl for much of September, up from \$67.5/bbl in August, and more than 75% higher year-on-year. Global copper prices - a key input for MEP-related construction materials - stagnated in September, averaging \$9,402/ton, relatively unchanged compared to August, but 40% higher than during the same period last year.

Aluminium prices - important for windows and door frames, roofs, siding, staircases, air conditioning systems, among others products - continue to increase sharply, with prices in September at \$2,806/ton, nearly 8% higher than in August and up by more than 60% year-on-year. The price for iron ore - key input for many steel products - continued to drop sharply, as a strong rise in supply has dampened price expectations globally.

The potential for further price hikes remains a challenge, mainly as supply-side issues from production disruptions and logistics bottlenecks are yet to be resolved. If demand picks up further on expectations of a full post-pandemic economic recovery this will maintain pressure on commodity markets.



CHART 2: WTI OIL PRICE



CHART 3: COPPER AND ALUMINUM

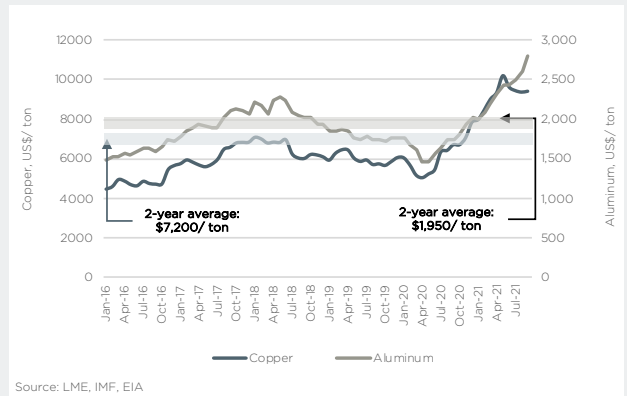
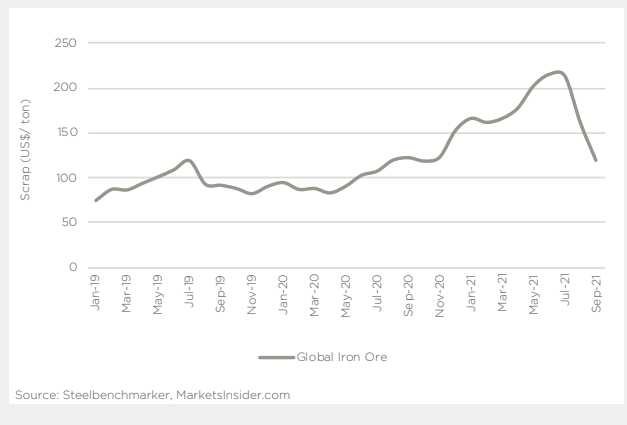


CHART 4: IRON ORE



# BUILDING MATERIALS

## Inputs to Construction

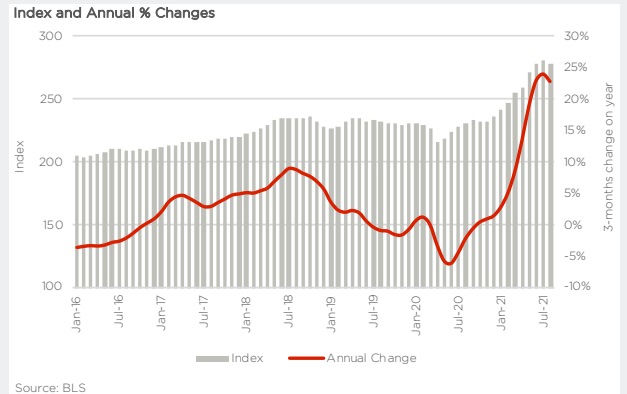
The Inputs to Construction cost index clearly shows the sharp rise in average building costs over the past year. Building materials in the three months to August 2021 were up 23% year-on-year.

Price escalation appears to have spiked in July 2021 and started to slow. Costs in August dipped compared to July (-1%), a trend that we see continuing over the next few months as cost escalation cools.

Steel prices have been affected most by the price increases over the past 18 months, while lumber prices have been the most volatile. Insulation materials, copper wires and plastic products have also seen price escalation in double-digit figures.

In contrast, the rise in prices of other key materials, such as cement, bricks and RMC, as well as glass products has been more moderate.

CHART 5: INPUTS TO CONSTRUCTION INDEX

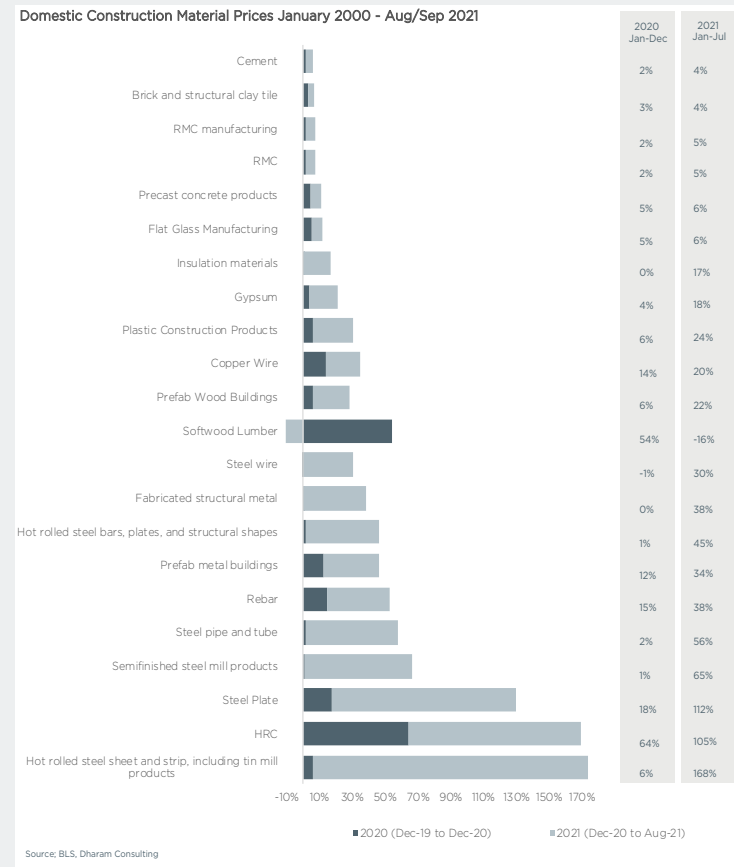


Source: BLS

Percentage Change since December 2019



CHART 6: PRICE CHANGES OF KEY BUILDING MATERIALS



Source: BLS, Dharam Consulting

Material Price Inflation (%)	Dec-20 - Aug-21
Hot rolled steel sheet and strip, including tin mill products	174%
HRC	169%
Steel Plate	129%
Semifinished steel mill products	66%
Steel pipe and tube	57%
Rebar	53%
Prefab metal buildings	46%
Hot rolled steel bars, plates, and structural shapes	46%
Fabricated structural metal	38%
Softwood Lumber	38%
Copper Wire	35%
Plastic Construction Products	30%
Steel wire	30%
Prefab Wood Buildings	28%
Gypsum	21%
Insulation materials	17%
Flat Glass Manufacturing	12%
Precast concrete products	11%
RMC	7%
RMC manufacturing	7%
Brick and structural clay tile	7%
Cement	6%

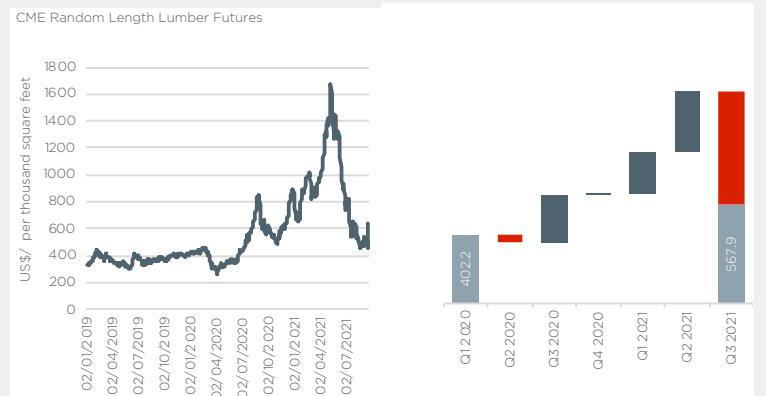
Source: BLS

# Lumber

Softwood lumber prices remain extremely volatile, impacting in particular the residential sector. Since peaking at over \$1,600 per thousand square feet in May 2021, lumber prices are down by 66% to \$630 in mid-September, which is more in line with recent historic trading ranges.

The recent spike in prices was unsustainable, and ultimately caused customers to cancel or postpone their projects. This shift in supply and demand led to price adjustments we are seeing today.

CHART 7: CME LUMBER FUTURES



Source: CME

Time Period	Average \$/1,000 sqft	Annual % compared to prev. period	Min \$/1,000 sqft	Max \$/1,000 sqft
2015-2019	356.5		216.2	639.0
2019	371.9		301.8	439.5
2020	504.7	36%	259.8	884.6
Average 2021 YTD	900.1	78%	454.0	1670.5
Dec-19	407.0		392.7	422.02
Dec-20	786.4	93%	635.2	884.6
Sep-21	518.4	-34%	454	634

Source: CME, Dharam Consulting



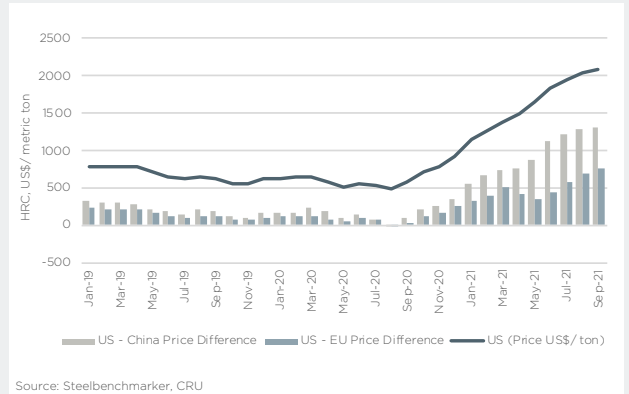
# Steel

Steel prices in 3Q 2021, continued to rise significantly in the US, in contrast to China and Europe, where steel prices have levelled and even fallen back in recent months. Global steel markets are highly competitive. There is a more direct pass-through of higher raw material costs down the steel products value chain than for example in markets for concrete, cement and bricks, which are more local.

The prices of key input materials, Iron ore and shredded scrap, have retreated in recent months, which explains pricing trends in Europe and in China. At the same time, US steel production has risen to pre-pandemic levels, which together with retreating input cost would suggest a plateauing in steel price escalation. So far this has not happened.

Stronger demand, higher transport cost and logistics bottlenecks which impedes imports, as well as low inventories appear to support the continuing pricing dynamics in the US.

CHART 8: INTERNATIONAL STEEL PRICE COMPARISON



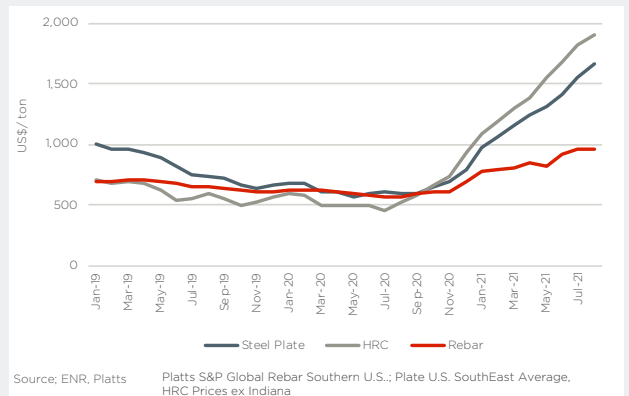
Source: Steelbenchmarker, CRU

CHART 9: INPUT COSTS - IRON



Source: Steelbenchmarker, MarketsInsider.com

CHART 10: US STEEL PRICES



Source: ENR, Platts  
Platts S&P Global Rebar Southern U.S.; Plate U.S. SouthEast Average, HRC Prices ex Indiana

Time Period	Steel Plate \$/ton	Annual % compared to prev. period	HRC \$/ ton	Annual % compared to prev. period	Rebar \$/ ton	Annual % compared to prev. period
2019	811		601		663	
2020	639	-21%	584	-3%	609	-8%
Average 2021 YTD	1358	113%	1553	166%	871	43%
Dec-19	668.85		565.26		605	
Dec-20	786.14	18%	928.31	64%	695	15%
Sep-21	1856	136%	2078	124%	960	38%

Source: ENR, Platts, Dharam Consulting

# Other Materials

Other building materials have also seen multiple price hikes by producers and distributors this year. Further price increases have already been announced by building material suppliers, most notably for gypsum, wallboard and acoustical and drywall systems, as well as metal- and wood-based specialty products.



CHART 11: BUILDING PRODUCTS PRICE ANNOUNCEMENTS

Distributor/ Manufacturer	National Gypsum	
Price Announcement	From	%
Gypsum Wallboard	Jan-21	20% (1)
	Apr-21	20% (3)
	Jun-21	15 (3)
	Sep-21	Price increase details not publicly announced
Interior Finishing	Jan-21	5% (2)
	Apr-21	5% (4)
	Jun-21	5% (4)
	Oct-21-21	Price increase details not publicly announced
Cement Board	Apr-21	5% (5)
	Jun-21	5% (5)
Plaster Products	Jan-21	20% (2)
	Jun-21	5% (3)
Distributor/ Manufacturer	Armstrong	
Price Announcement	From	%
Architectural Specialties - all Metal-based products	Apr-21	10%
	Jun-21	10%
	Aug-21	5% + 10% (15% total)
	Oct-21	10%
	Feb-22	5%
WoodWorks ceiling and wall products, Wood Accessories	Aug-21	5%
	Oct-21	5%
	Feb-21	5%
FeltWorks products, Felt Accessories	Oct-21	10%
	Feb-22	5%
Acoustical and drywall suspension systems	Mar-21	7.5%
	Jul-21	10%
	Aug-21	10%
	Oct-21	10%
Mineral fiber and fiberglass ceiling panels	May-21	10%
	Aug-21	5% + 11% (total 16%)
	Feb-22	5%
	Aug-22	5%

Source: Marjam, Company Price Announcement

# IMPACT ON CONSTRUCTION PRICES

## Considerations

**Our key considerations around material availability, project activity, contractual relations and the length of bid times remain a key focus for the remainder of the year.**

Extended lead times and on-time availability of products are a challenge for purchasers and projects, in particular where material substitution is a limited option.

Prices are making clients more cautious, impeding a widespread rebound in post-pandemic construction activity. Consequently, new construction starts have not picked up to the extent expected at the start of 2021. We expect that clients will maintain a wait-and-see approach in the short-term.

Although there have been some recent price decreases of materials such as lumber, building material companies are still dealing with higher costs, which they are keen to pass on to higher output prices. Consequently, we expect further price increases in key material prices over the next months, though the pace of increase is likely to slow for most materials.

### Considerations to mitigate procurement risk

Whilst contractors will seek to pass on the cost of material price increases to protect their cash-flows and margins, clients will want to protect themselves and their project financial viability.

Clear contractual clauses around contingencies for material cost increases should be included upfront to reduce later disputes and achieve mutually beneficial outcomes. Contractors will seek to include price escalation clauses, to pass on price increases to clients, which is common for public and large non-residential projects, but difficult to implement on smaller projects or single-project clients.

Depending on capacity, contractors will seek to limit the time that their bids remain valid in anticipation of rising prices to mitigate their risk.

### Construction Activity and Bid Submission Prices

Construction starts in the first eight months of this year recovered from their 2020 lows, totalling \$590 billion in August 2021, up from \$529 billion during the same period a year earlier. However, the rebound in starts has been much shallower than expected at the start of the year, with starts still lower than in 2019. Nevertheless, the number of projects in design and planning is strong, which raises expectations that firm pent-up demand could offset the uncertainty surrounding building material prices, increasing confidence of clients to proceed with their projects in the near- to medium term.

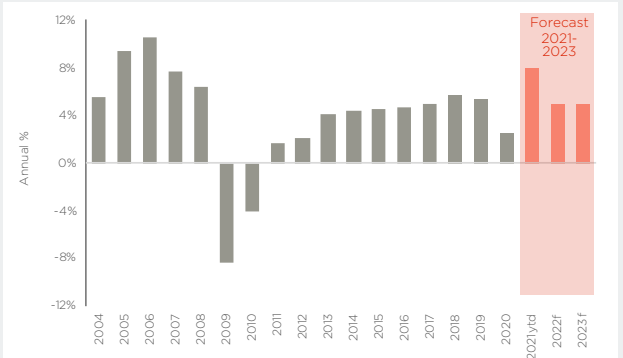
Throughout the third quarter of 2021, we have seen contractors push through input costs to the supply chain.

This is particularly true for concrete/rebar, steel and MEP trades, where we are seeing significantly higher bid submission prices. Consequently, project owners are likely to be exposed to much higher project cost than they may have planned for earlier.

In 2021 these price increases are entirely driven by material costs, but in 2022 we expect that labor constraints and wage growth will become the dominant factor driving price increases, as material prices stabilize (or even fall back). There will, of course, be differences between sectors and locations.

Our central scenario now foresees average bid submission prices to increase by 8% on average in 2021. We see the pricing risk in 2021 clearly on the upside and some projects and locations could see price escalation beyond those forecast in our central scenario. We expect further escalation of 5% per annum on average in 2022 and 2023. Next year, prices could moderate more than we currently anticipate in our central scenario, if material prices trend down stronger than expected. Lower than expected project starts in 2021 in key locations will increase competition among contractors, limiting their ability to pass on higher costs to clients.

CHART 12: AVERAGE US BID SUBMISSION PRICE INFLATION



Source: Turner, Dharam Consulting

Dharam Consulting is an Independent Construction Consultancy specializing in providing proactive and value adding Cost and Risk Services that contribute towards successful outcomes for our clients and their projects. (A registered MBE company)

**DHARAM**  
CONSULTING

# ABOUT US

We are an experienced independent construction consultancy and we concentrate on doing what we do best – providing an intelligent, objective perspective which goes beyond measuring and pricing – delivering the highest quality pre-construction services, cost and budget management, risk, schedule, logistics, and procurement advice to clients.

Project benchmarking, market intelligence and data analytics support our services. We are a certified Minority Business Enterprise.

We have a deep understanding of the critical cost drivers and the administrative realities of working on Government projects. One of our most valued contributions is our ability to bring a balanced and independent viewpoint.

Our services are based upon strong relationships and trust, and our professional advice is grounded in a fundamental understanding of what matters to the project owner, architect and other stakeholders on a high-quality federal or publicly funded project, enabling our clients to deliver their vision.

# CONTACT

## NEW YORK

**Harpy Lally** | Managing Director  
hlally@dharamconsulting.com  
+1 718 913 9420

**Andrew Smith** | Managing Director  
asmith@dharamconsulting.com  
+1 862 208 8206

**Raj Sayal** | Director  
rsayal@dharamconsulting.com  
+1 516 965-3025

## WASHINGTON, DC

**David Pearson** | Director  
dpearson@dharamconsulting.com  
+1 267 455 4244

## PHILADELPHIA

**David Pearson** | Director  
dpearson@dharamconsulting.com  
+1 267 455 4244

## NOIDA

**Kafeel Maqbool** | Director  
kafeelmaqbool@dharamconsulting.com  
+44 7810482423

## BOSTON

**Owain Jones** | Director  
ojones@dharamconsulting.com  
+1 617 913-4345

**Gavin English** | Director  
genglish@dharamconsulting.com  
+1 617 372-7844

## SAN FRANCISCO

**Mike Montague** | Director  
mmontague@dharamconsulting.com  
+1 949 304-3099

## CHANDIGARH

**Kafeel Maqbool** | Director  
kafeelmaqbool@dharamconsulting.com  
+44 7810482423

## LOS ANGELES

**Simon Hough** | Director  
shough@dharamconsulting.com  
+1 610 554 6560

## SAN DIEGO

**Simon Hough** | Director  
shough@dharamconsulting.com  
+1 610 554 6560

## PUNE

**Kafeel Maqbool** | Director  
kafeelmaqbool@dharamconsulting.com  
+44 7810482423