THAILAND INDUSTRY OUTLOOK 2023-25

Construction Materials



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Krungsri Research

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EXECUTIVE SUMMARY



The construction materials industry will enjoy an improving outlook over 2023 to 2025 thanks to better conditions on both domestic and international markets. (i) Overall domestic expenditure on construction is forecast to expand by 3.0-3.5% annually, lifted by a combination of an acceleration in government investment on megaprojects connected to the Eastern Economic Corridor (EEC) and upgrades and expansion of the national road and rail networks, and growth in the economy that will then feed greater private sector spending on residential accommodation. (ii) With the COVID-19 pandemic now receding, regional economies are rebounding, and this will support increased spending on infrastructure and real estate projects across the region, especially in Thai operators' principal export market of the CLM nations.

Manufacturers and distributors will see their income rise amidst the stiff competition coming from both other Thai players and overseas producers exporting into the Thai market. Manufacturers will tend to respond to this situation by stepping up their investment in technology, and this will then pave the way to the production of higher-quality goods that are a better match for changing market demand, especially given the increasing focus on sustainability and the ESG model. Likewise, in response to consumer behavior that is evolving under the impact of new digital technologies, distributors will also need to adjust their operations, for example by developing new channels through which to connect with their customer base. Despite this positive outlook, players will nevertheless face the risk arising from: (i) rising imports of construction steel and ceramic tiles, especially from China and Vietnam since these enjoy a price advantage relative to Thai products; (ii) the likely elevated price of crude, which will add to energy costs; and (iii) continuing labor shortages that will affect both the construction industry and manufacturers of construction materials.

Krungsri Research view

Over the three years from 2023 to 2025, producers and traders of construction materials will see improving market conditions as activity in the construction sector picks up, boosted by: (i) strengthening investment in construction (especially in megaprojects) by the Thai and neighboring countries' governments; (ii) recovery in the real estate sector, in particular in the Bangkok Metropolitan Region and in provincial centers; and (iii) increasing demand for repairs and improvements to residential properties that is forecast to occur as the economy expands and consumer purchasing power rises.

Producers of construction materials:

- **Cement:** An overall increase in spending on construction will lift incomes for cement manufacturers, though exporters will also tend to move beyond their traditional markets in the CLM countries as they explore new opportunities in Australia and New Zealand.
- **Construction steel (bar & section):** Rising prices will mean that manufacturers' income will recover from its recent depressed state, but the domestic industry will have to contend with strong competition from low-cost imports from China and Vietnam.
- **Ceramic tiles and sanitary wares :** Greater activity in the real estate sector, in particular in the market for residential accommodation, will support a steady recovery in income, though the significant backlog of unsold housing stock and pressure from cheaper imports from China will place a limit on how far incomes will rise.

Traders of construction materials:

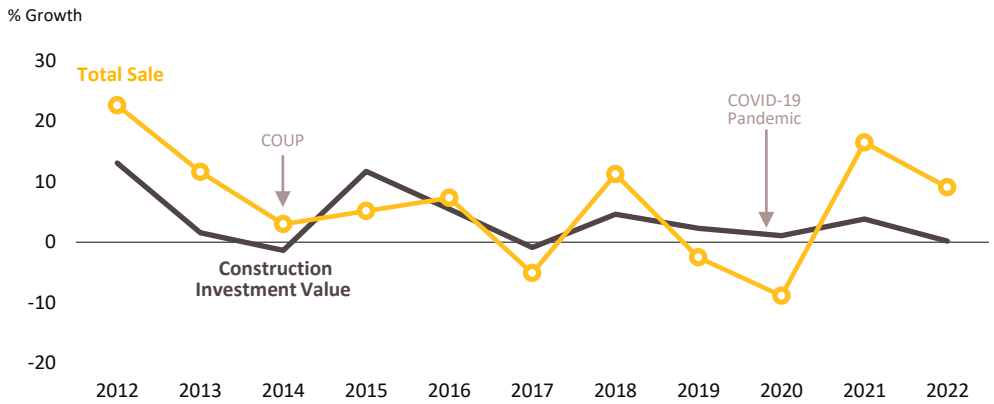
- **Modern traders:** For these players, income will tend to strengthen as: (i) economic activity picks up and investment in construction improves; (ii) businesses expand their branch networks and exploit new distribution channels (e.g., online platforms); (iii) operators deepen their involvement with own- or house brand products; and (iv) consumer preference increasingly favors outlets that carry a wide and comprehensive range of choices and that offer after-sales services such as home repairs and extensions.
- **Traditional traders:** For traditional **wholesalers**, income growth will be flat or at best only mild because despite a likely increase in construction-related activity across the country, players will face rising competition from modern trade outlets and manufacturers selling directly to their customers. For traditional **retailers**, income will remain flat, although sales of home decorations or goods used in home repairs and extensions may see some growth.



Overview

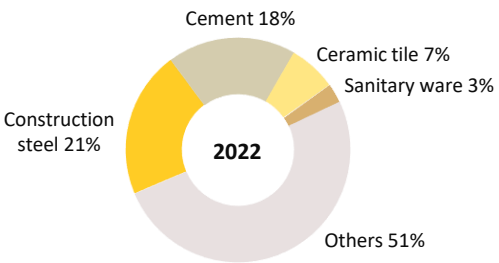
Construction supplies are a crucially important upstream component of the construction and real estate sectors. As some 60% of all construction costs are for materials (Input-Output Table, 2015), the outlook for the construction supplies industry tends to move with these in a coordinated fashion (Figure 1). The most important product groups can be split into building materials (e.g., cement and construction steel), which account for 39% of the market for all construction materials, and home decorations (e.g., ceramic tiles and sanitary wares), which represent another 10% of the market (Figure 2). Apart from sanitary wares, sales of the main product categories are mostly in the domestic market (Figure 3).

Figure 1: Total Sale Value of Construction Materials and Construction Investment Value (Gross Fixed)



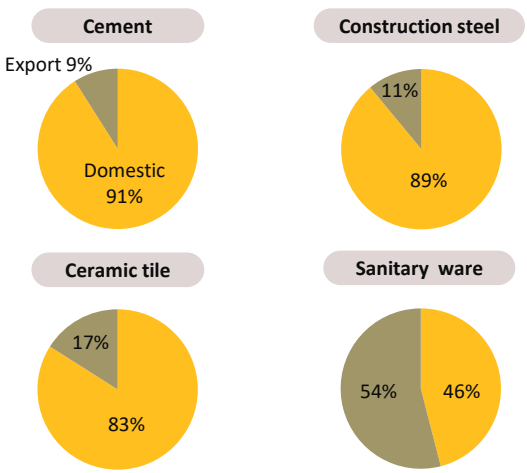
Source: Office of The National Economic and Social Development Council (NESDC), Office of Industrial Economics (OIE)
Note: Construction materials include cement, construction steel, ceramic tiles and sanitary wares.

Figure 2: Share of Total Sale Value by Major Product



Source: Office of Industrial Economics (OIE)
Note: Construction steel referred to bar and section (hot-rolled structural steel). Others include glass, concrete blocks, concrete pipes, precast concrete sections, high tensile steel, and galvanized steel sheets.)

Figure 3: Share of Sale Volume by Product and Market
(Avg. 2018-2022)



Sources: OIE, Ministry of Commerce (MOC), Iron and Steel Institute of Thailand (ISIT)

Industry structure

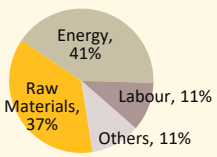
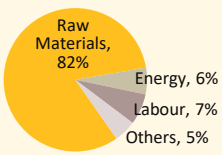
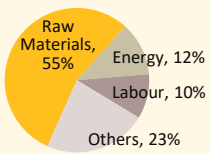
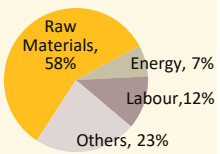
- **Producers:** As of 2022, there were 122 mid- and large-sized operators registered in Thailand (i.e., companies that had submitted accounts for the period 2018-2022). These enjoy advantages over smaller players in virtue of their stronger financial base, their better management of production processes, and their favorable bargaining position relative to suppliers with regard to, for example, price and deliveries of inputs. This then allows these players to mass produce goods more efficiently, which in turn generates economies of scale for them. In contrast, smaller operators, of which there are 205, tend to have limited finances and this then forces these to produce goods in smaller production runs, adding to marginal manufacturing costs. The structure of the manufacturing side of the industry is summarized in Table 1 below.
- **Traders**: As of 2022, Thailand was home to around 980 distributors of construction materials[1/], split between 35 large players, 127 mid-sized operators, and 818 small companies. These can be further categorized according to the characteristics of each business.

    - **Modern Traders** are notable for their use of comprehensive management systems across their businesses, from sales floor to back-office services. These operations stock a wide range of construction materials and related goods under a single roof, and these generally cover the complete spread of consumer and trade needs, from basic construction materials to home repairs, decorations, and furniture. Players are generally medium- or large-scale operations, and these have advantages in terms of their capital base and their lower operating costs. Many of these are now in the process of expanding their customer bases in the provinces by extending their upcountry branch networks. One favored strategy for increasing contact points with customers is by offering after-sales services, such as those for home repair and the installation of appliances in and outside the home. Within Thailand, five large players dominate the market and as of 2022, these had a combined 75% share of all income going to retailers of construction materials. These are: The HomePro group (HomePro shops themselves are more oriented towards retail and home decorations, while MegaHome is focused on the wholesale and trade market), Thai Watsadu, Siam Global House, Dohome, and the Boonthavorn Group.

    - **Traditional traders** in the construction sector have more old-fashioned management systems and their operations emphasize the distribution of basic building materials, such as cement, sand, and hardware (e.g., locks, nails, etc.) together with materials used in home repairs and decoration targeted at the consumers in the local area. However, in the face of rising competition from modern trade outlets, some players are also now beginning to raise their competitiveness by modernizing their operations and offering a more comprehensive set of services. This extends to giving their customers a wider range of choices that includes not just building materials but also home decorations, renovating their premises, using alternative distribution channels (especially by increasing their online presence), putting in place modern stock control systems, and offering organized delivery services. Nevertheless, traditional players remain at a disadvantage relative to modern trade outlets with regard to their finances, marketing, and the strength of their brand.

1/ This includes only companies registered with the Ministry of Commerce and that have submitted complete accounts for the years 2018-2022.

Table 1: Structure of the Construction Material Industry (Main Products) in Thailand

	Cement	Construction steel	Ceramic tiles	Sanitary wares
Production and investment	• Setting up and operating in this market carries significant investment overheads, and production is generally integrated across up- to downstream activities. It is thus difficult for new players to enter the market • There are 3 businesses that have a production capacity greater than 10 million tonnes/year, and these account for 85% of all Thai cement production capacity.	• The main products in this market are bar and section steel, and manufacturers can likewise be divided into those that do and do not operate their own furnaces. • Thailand lacks an upstream steel industry and so manufacturers are reliant on imported steel that they then process themselves. This adds to production costs, and domestic prices also tend to move in step with those set on international markets.	• Most manufacturers are SMEs, often producing to order. • However, large players typically have ready access to capital and so these are able to utilize significant technological resources and to develop their own products. By value, these also control some 90% of the market.	• Manufacturing sanitary wares entails major investments, and most production is integrated from up- to downstream. • 5 large operations are active in the market, these including Thai companies, joint ventures between Thai and foreign operations, and leading international players that have established production facilities in Thailand.
Major market	• Goods are distributed primarily to the domestic market and because products are heavy and expensive to transport, just 9% of production goes to overseas markets. • 60% of output is used in private sector construction (mostly in residential and commercial properties), with the remaining 40% going to public sector projects.	• Production is largely for domestic consumption (especially by the public sector) and only 11% of output is exported. • Cheap imports from China are taking an increasing market share.	• Only 17% of output is exported and so the domestic market is by far the most important. • This segment is notable for the high level of competition from imports (which are especially price competitive) and the wide range of alternative products.	• Sales are split 54:46 between the domestic and export markets, though most sales are to real estate projects. • At present, competition is rising from low-cost Chinese imports. This is a turnaround from the past, when imports were generally of high-end products.
Cost structure (IO Table 2015)				
Major indicators (annual averages) for the 5 years from 2018-2022 [2/]				
Production	43.6 million tonnes/year	3.9 million tonnes/year	133.5 million sq.m./year	7.4 m pieces/year
Domestic sales	38.9 million tonnes/year	4.1 million tonnes/year	162.5 million sq.m./year	3.4 m pieces/year
Export	3.8 million tonnes/year	0.5 million tonnes/year	32.5 million sq.m./year	4.0 m sq.m./year
Import[3/]	1.1 million tonnes/year	0.7 million tonnes/year	60.5 million tonnes/year	40,382 tonnes/year
Capacity utilization	71.4%	51.4%	58.4%	57.3%
Major operators in the segment	SCG, INSEE, TPI, Siam City Cement	TATA STEEL, GJS, SYS Steel, MILLCON	SCG, UMI Group, DYNASTY TILETOP	SCG, KOHLER, TOTO, LIXIL, Villeroy & Boch

Sources: OIE, MOC, and ISIT, compiled by Krungsri Research

2/ Data from the Office of Industrial Economics on production capacity utilization and domestic consumption and production have been adjusted from 2016 onwards.
3/ The move by Thai producers to establish production facilities overseas and then to reimport from there to Thailand has led to a large amount in the import figures.

Situation

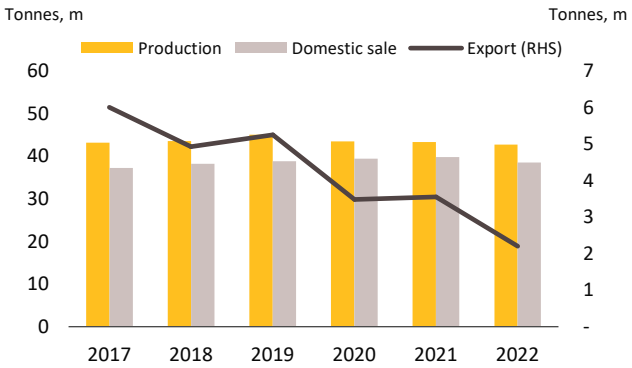
Producer

In 2022, depressed conditions in the construction sector undercut production and domestic sales in almost all the main product categories. This was principally the result of the only slow progress that was made on government infrastructure projects, though private sector real estate also demonstrated only weak levels of growth in the year. (Overall spending on construction expanded by just 0.2% in 2022, with public sector investment contracting -0.8% and private sector spending up 1.6%). Alongside this, exports also slipped[4/] on the weaker economic outlook in core export markets.

Cement

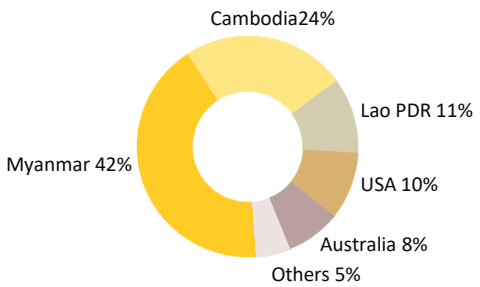
- **Production (excluding clinker)** dropped -1.5% to 42.7 million tonnes, thus continuing the 3-year decline that began in 2020. **Domestic sales** also slipped, weakening -3.2% to 38.5 million tonnes on depressed conditions in the construction sector and the run-up in energy prices, which then added to manufacturing and transportation costs. This was the first such decline in sales reported since 2018 (Figure 4).
- **Exports volume** slumped -37.9% by volume and -25.7% by value to totals of respectively 2.2 million tonnes and THB 4.7 billion. Sales to Myanmar (42% of Thai cement exports) dropped -34.5% as a result of the country's ongoing political troubles and the impact of this on government construction projects. Exports to Cambodia (24% of the total) also crashed -34.1%, although those to Lao PDR (11% of all cement exports) edged up 2.5% (Figure 5).

Figure 4: Cement - Production, Domestic Sales and Exports



Source: OIE

Figure 5: Cement Export Markets by Volume (2022)



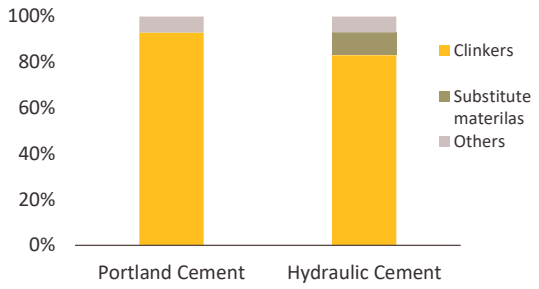
Source: MOC

- In recent years, cement manufacturers have begun to move the industry onto a more sustainable footing by investing in the development of new technology, including in the production of hydraulic cement. Because the latter uses eco-friendly materials in place of clinker[5/] (Figure 6), this helps to cut CO_2 emissions. The Ministry of Industry (February 2023) estimates that compared to producing a tonne of Portland cement, producing a tonne of hydraulic cement reduces CO_2 emissions by 0.05 tonnes. Given this and because hydraulic cement can be used in place of more carbon-intensive Portland cement, it is estimated that its use helped to prevent the release of more than 0.3 million tonnes of CO_2 in 2021 (Thai Cement Manufacturers Association: TCMA) (Figure 7).

4/ Exports of construction materials include sales of cement, construction steel, ceramic tiles, and ceramic sanitary wares.

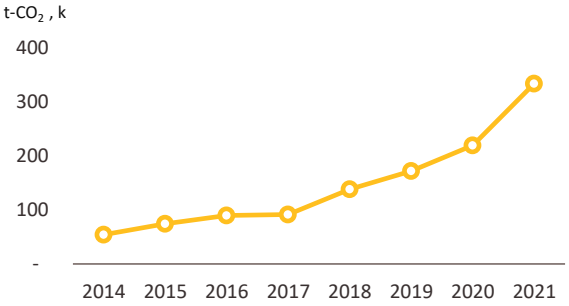
5/ Materials that are used in place of clinker include limestone (Thailand's ample supplies of high-quality limestone mean that this is a common domestic option), lime, fly ash, pozzolan (e.g., silica fume, rice husk, and kaolin), and slag sourced from blast furnaces.

Figure 6: Materials Used for Portland Cement and Hydraulic Cement Production



Source: easydrome.com, compiled by Krungsri Research

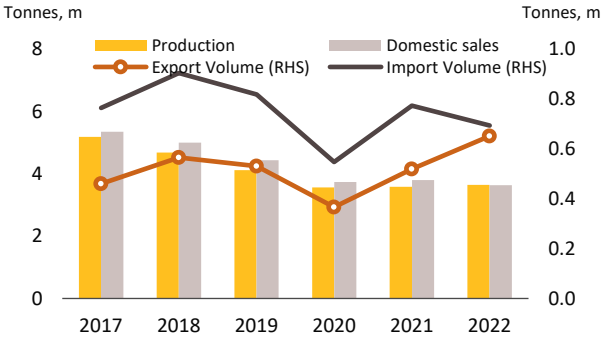
Figure 7: The Estimated Amount of the Greenhouse Gas Reduction (t-CO2) (by Using Hydraulic Cement)



Source: Thai Cement Manufacturers Association (TCMA)

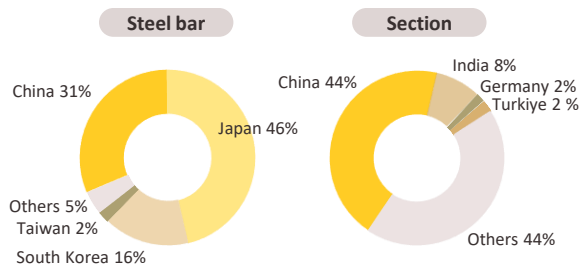
- **Construction steel (bar and section)**
  - **Output** of construction steel edged up 1.6% to 3.6 million tonnes in 2022 (Figure 8). However, delays in budget disbursements meant that work fell behind schedule on infrastructure projects that were expected to use significant quantities of steel in the initial phases of their construction (e.g., the MRT Orange Line and the three-airport high-speed rail-link). As such, the volume of construction steel distributed to the **domestic market** contracted -4.3% to 3.6 million tonnes. Demand was also impacted by a slowdown in construction of factories and other buildings in the provinces. (The supply of new land on industrial estates contracted -46.0%, while transfers of title deeds for shopping centers and commercial buildings slumped -68.8%). In addition, problems accessing finance, labor shortages, and the rising cost of construction materials meant that many SME contractors were unable to complete work as planned.
  - **Exports** jumped 25.7% to 0.65 million tonnes on greater demand in the main export markets of Canada, Myanmar (responsible for respectively 49% and 20% of Thai exports of steel bar), Malaysia and the Philippines (respectively 43% and 13% of exports of steel section). Simultaneously, the imposition of lockdowns in China forced some foundries to temporarily halt production and so imports contracted -10.2% to 0.69 million tonnes, most of which came from China, Japan, and South Korea (Figure 9).
  - Prices for steel bar were highly volatile through 2022 as a result of the Russian invasion of Ukraine at the end of February. In addition to pushing up the cost of both oil and electricity, this also reduced the supply of steel to global markets (in 2021, Russia and Ukraine had been respectively the 5th and 14th most important manufacturers of crude steel worldwide). Markets were also affected by a fall in Chinese output that was driven by: (i) the enforcement of the zero-COVID policy in the first half of the year; and (ii) the imposition of strict pollution controls on smaller foundries. These global influences were then transmitted to the domestic market and so average 2022 prices for rebar and channel rose by 5% and 3% to respectively THB 25,608/tonne and THB 36,046/tonne.

Figure 8: Construction Steel - Production, Domestic Sales, Exports and Imports



Source: ISIT

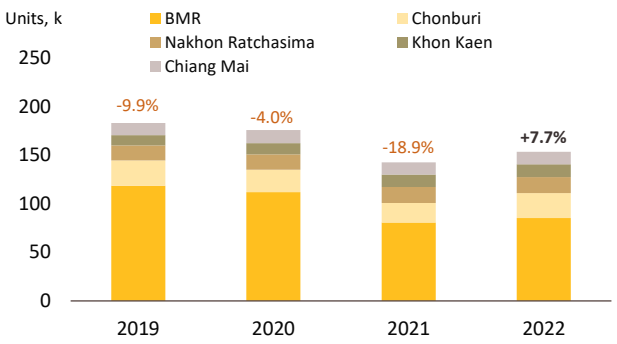
Figure 9: Steel Bar Prices Steel bar & Section Imports by Country (2022)



Source: ISIT

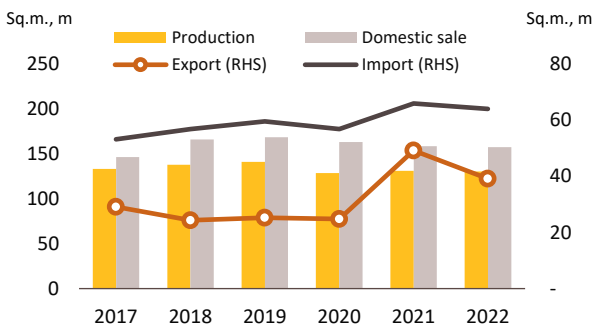
- **Ceramic tiles and sanitary wares**
  - **Production** of floor and wall ceramic tiles shrank -0.6% to 130.0 million sq.m., while production of ceramic sanitary wares fell -14.1% to 6.5 million pieces. On the supply side, output was hit by higher production and transportation costs, and on the demand side, rising inflation ate into consumer purchasing power. This particularly affected the market for home repairs since with spending tight, many consumers decided to postpone non-essential activities such as home renovation projects.
  - 157.2 million sq.m. of floor and wall ceramic tiles were distributed to the **domestic market** in 2022, and although this represented a decline of -0.8%, the market now appears to be stabilizing following 2021's -2.8% drop. At the same time, domestic sales of sanitary wares rose 6.5% to 3.2 million pieces thanks to the boost given to the market by recovery in investment in residential real estate. The latter was reflected in the 1.8% increase in the number of new residential units recorded nationwide, though this trend was most obvious in property markets in the Bangkok Metropolitan Region, Chiang Mai, Chonburi, Nakhon Ratchasima, and Khon Kaen. Together these accounted for 38% of all new house registrations in Thailand, with the total up 7.7% to 153,594 units (up from 142,585 in 2021) (Figure 10).
  - **Export** markets performed badly in the year, with exports down -20.4% (to 39.1 million sq.m.) for floor and wall tiles and -21.0% (to 88,200 pieces) for sanitary wares. Sales were undercut by weak purchasing power in the main export markets of Cambodia, where sales of ceramic tiles crashed -89.1%, and the US, where sales of sanitary wares slumped -49.8%.
  - **Imports** of tiles and sanitary wares also softened in the year, falling to respectively 63.9 million sq.m. (down -2.9%) and 46,100 tonnes (down -6.5%). In particular, imports from China (Thailand's main source of imports) dropped -5.9% for tiles and -7.0% for sanitary wares as the imposition of lockdowns forced production lines to come to a temporary halt (Figure 11 and Figure 12).

Figure 10: New Registered Housing Units



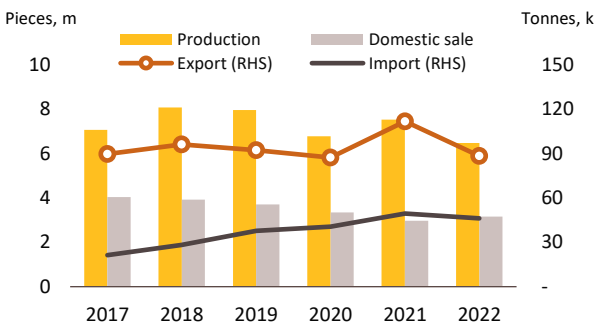
Source: Real Estate information Center (REIC)
Note: Housing referred to detached houses, duplexes, townhouses, condominiums and shophouses

Figure 11: Ceramic tiles - Production, Domestic Sales, Exports and Imports



Sources: OIE & MOC

Figure 12: Sanitary wares - Production, Domestic Sales, Exports and Imports

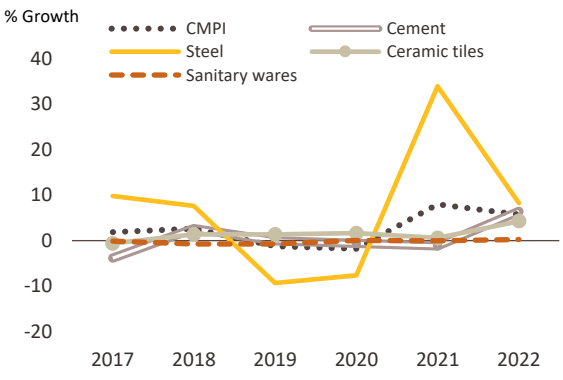


Sources: OIE & MOC

Construction materials price index

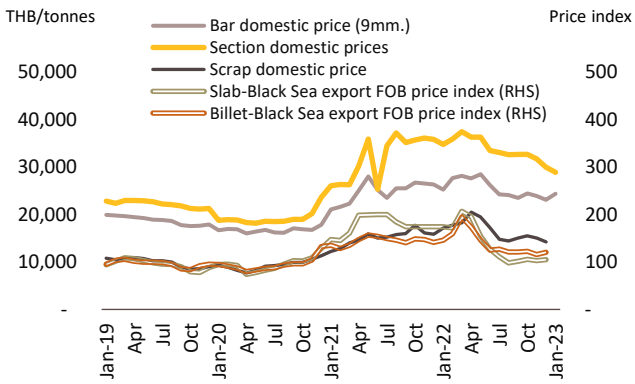
Construction Materials Price Indexes (CMPI) rose by 5.7% in 2022, having already climbed 8.0% in 2021. In particular, prices for steel and cement strengthened by 8.3% and 6.5% on higher prices for energy, raw materials, and transport, despite weak demand from the construction sector (Figure 13). (i) Global energy costs increased year-on-year due to intense geopolitical tensions, especially over the extended Russia-Ukraine war. (ii) Higher production and transportation costs lifted prices for inputs including gypsum and scrap steel. (iii) Electricity costs were up (Figure 14). (iv) The baht weakened from a year earlier, adding to the cost of imports of raw materials (especially of steel). (v) Global output of steel contracted as Chinese production came under pressure from weakness in the real estate sector (in 2022, Chinese steel output fell -1.7%). As such, steel supply to the global market contracted and prices rose.

Figure 13: Construction Material Price Index (CMPI)



Source: MOC

Figure 14: Construction Steel's Domestic Price and Oversea Price Index



Source: ISIT

Business performance in 2022

Producers

Overall income for manufacturers of construction materials[6/] expanded by 12.0% to THB 398 billion (Figure 15), though net profit margins for the 10 largest players tightened to 3.0%, down from 5.8% in 2021.

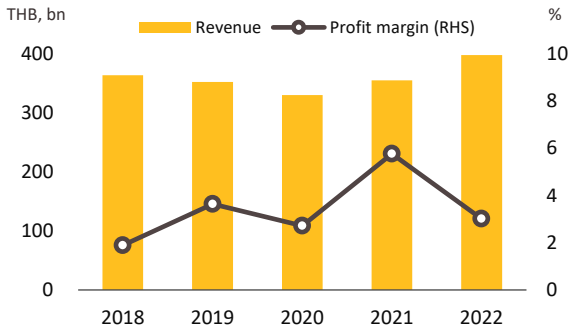
- **Cement:** Overall income (for 3 players) climbed 15.1% on higher prices that were themselves pushed up by the elevated cost of energy (the latter accounts for 40% of all production costs, see Table 1). However, income failed to keep pace with costs and so average net profit rates softened from 9.8% to 7.1%.
- **Construction steel:** Income for the 3 main players fell -0.5% on weaker demand for steel for use in infrastructure projects, though this followed a 17.0% jump in income in 2021, when tight supply led to surging global prices that then boosted turnover. However, conditions were depressed in the construction sector in 2022, while rising energy costs added to production overheads. Net profits thus turned negative, contracting -3.4% (this compares to growth of 6.2% a year earlier).
- **Ceramic tiles and sanitary wares:** Overall income (for 4 main players) rose 11.4%, doubling average net profits from 2.4% to 4.8%. This segment benefited from recovery in investment in residential accommodation (52% of all private sector investment in construction made in 2022).

6/ 10 manufacturers of construction materials (cement, construction steel, and ceramic tiles and sanitary wares) that are registered on the Thai stock market.

- **Traders**

For modern trade outlets[7/] turnover was up 15.0%, with net profits averaging 6.0% (Figure 16). Through 2022, the industry benefited from: (i) the expansion of operators' branch networks, both in the Bangkok Metropolitan Region and upcountry; (ii) the development of online distribution channels, which helped to better align retailers with the behavior of modern digital consumers; (iii) the provision of comprehensive building services to the public that cover construction, house extensions, and decoration and renovation; and (iv) expansion in sales of house brand goods, which because they carry lower marketing costs, are cheaper than other branded products.

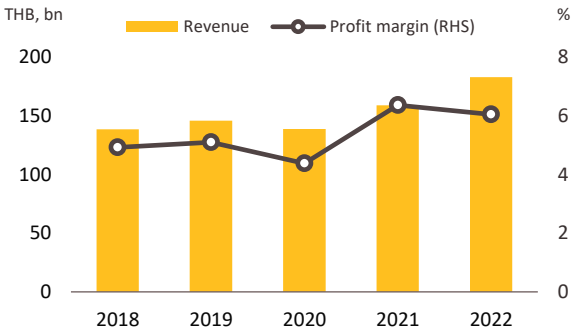
Figure 15: Major Producers' Business Performance



Source: SETTRADE

Note: Major producers include 1) Siam Cement 2) Siam City Cement 3) TPI Polene 4) Millcon Steel 5) TATA Steel 6) GS Steel 7) Dynasty Ceramic 8) The Union Mosaic Industry 9) SCG Ceramics and 10) Lixil (Thailand)

Figure 16: Major Modern Traders' Business Performance



Source: SETTRADE

Note: Major traders include 1) Home Product Center 2) Siam Global House and 3) Do home 4) CRC Thai Watsadu and 5) Boonthavorn

Situation over the first 5 months of 2023

Overall spending on construction rose 5.9% YoY through the first quarter of 2023, with this split between a 7.6% YoY increase in public sector construction investment and 3.1% YoY growth in private sector construction. In particular, the acceleration in work outlined in phase 2 of the EEC development plan (covering the years 2023-2027) fed through into a 9.2% YoY expansion in spending on government infrastructure projects, and this then supported a 13.0% YoY increase in sales of **construction steel** over the first 5 months of the year. Likewise, the volume of ceramic **sanitary wares** distributed to the market inched up 1.1% YoY on stronger investment in private sector residential real estate (up 4.6% YoY). However, the situation was less favorable in the markets for **cement and ceramic tiles**, and over 5M2023, sales of these declined by respectively -3.1% YoY and -6.2% YoY. These declines were partly driven by the effect of the rising cost of living on consumer spending power, which then affected demand in the renovation market.

Exports fell in all the major product categories during 5M2023. Overseas sales of **cement** fell to 0.75 million tonnes (down -29.0% YoY), with sales into Myanmar, which with a 49% share of cement exports is Thailand's most important market, dropping -26.0% YoY as the country's ongoing political trials took their toll on the construction sector. Exports of **construction steel** were also down -23.7% YoY, though this was split between a decline of -39.3% YoY for sales of formed steel/section and growth of 25.7% YoY in sales of rebar. Likewise, sales of **ceramic tiles and sanitary wares** dropped by respectively -35.4% YoY and -27.2% YoY (Table 2) on weaker sales into the main markets of, in the former case, Myanmar (down -28.6% YoY on squeezed consumer spending power) and in the latter, the US (down -49.3% YoY as the housing market weakened in the face of an aggressive cycle of rate rises). At the same time, **imports** strengthened, though this was especially so for low-cost goods from China, the supply of which expanded following the ending of lockdowns there. Thus, imports rose 25.2% YoY for all types of construction steel, 12.7% for ceramic tiles, and 19.2% YoY for sanitary wares, though considering just tiles and sanitary wares from China, imports were up by an average of 8.2% YoY and 21.6% YoY.

7/ Calculated from 3 companies listed on the Thai stock market and 1 unlisted companies.

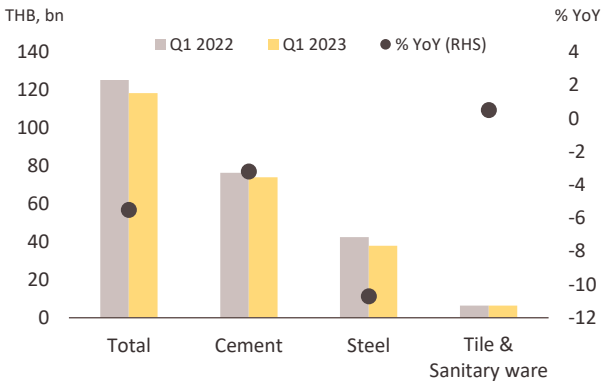
Table 2: Construction Materials Situation (5M2023)

Products	Unit (million)	Production	% YoY	Domestic Sales	% YoY	Export Volume	% YoY
Cement	Tonnes	18.10	-2.1	16.46	-3.1	0.37	-26.0
Construction steel	Tonnes	1.66	4.0	1.80	13.0	0.20	-23.7
Ceramic tiles	Sq.m.	52.53	-7.3	65.05	-6.3	11.59	-35.4
Sanitary wares	Pieces	2.33	-20.2	1.33	1.1	31,032 Tonnes	-27.2

Sources: OIE, MOC, ISIT, Krungsri Research

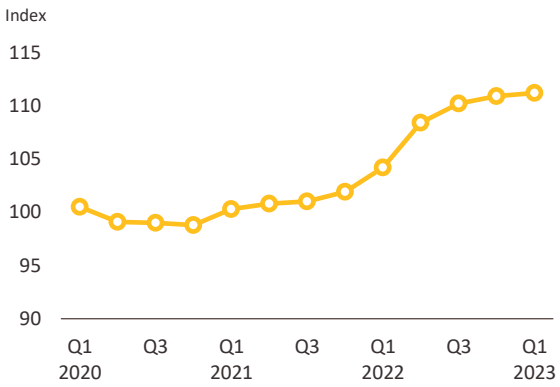
- Over 1Q23, combined income for producers of construction materials listed on the stock exchange[8/] fell back by -5.5% YoY (Figure 17), with net profit margins also sliding to 3.7% from 7.5% in 1Q22. Profits were hurt by the higher cost of energy and transport since these contribute a significant share of all overheads (Figure 18). For traders[9/], overall income was up 3.0% YoY and net profit margins averaged 7.2%. Players benefited from expansion in the use of alternative (and especially online) distribution channels and from growth in sales of house brands, which helped to reduce marketing costs.

Figure 17: Major Producers' Business Performance (Q1 2023)



Source: SETTRADE

Figure 18: Road Freight Transport Index (RFTI: CPA)



Source: MOC
Note: CPA : Classification of Products by Activity

8/ 9 companies listed on the Thai stock exchange (financial statements for Lixil for 1Q23 were unavailable so the company was excluded from consideration).

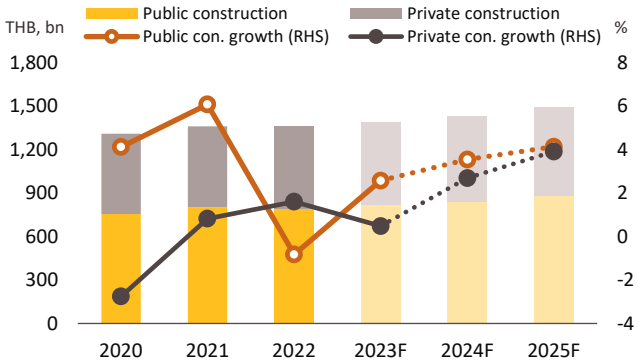
9/ Does not include CRC Thai Watsadu since this is not a listed company and so financial information for 1Q23 was not available.

Outlook

Over 2023-2025, demand for construction materials will strengthen in step with growth in investment in the construction sector itself. The latter is forecast to expand by 1.5-2.0% in 2023 and then by an average of 3.5-4.0% in each of 2024 and 2025 (Figure 19).

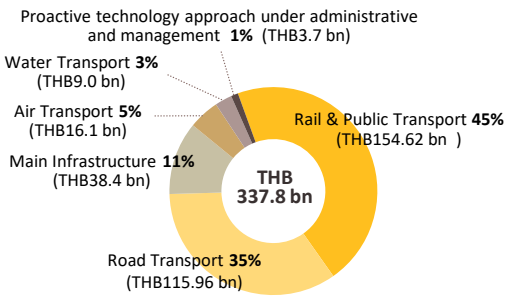
- **Producers** will strengthen on greater investment in large scale projects, especially those connected to the EEC development. In particular, the action plan for phase 2 of the EEC development covers the years from 2023 to 2027, and this specifies work to be completed on infrastructure and utilities that initially includes 77 projects with a value of THB 340 billion (Figure 20), though demand will also be driven by work on megaprojects elsewhere in the country. In addition to the initial outlay by the government, these are expected to pull in further private sector investment in their wake, including for the construction of residential housing projects along new mass transit lines and roads, as well as of factories and industrial estates in nearby areas.

Figure 19: Construction Investment Forecast



Source: NESDC, forecast by Krungsri Research

Figure 20: Infrastructure Projects of the Action Plan on EEC Infrastructure and Public Utilities (2023-2027)



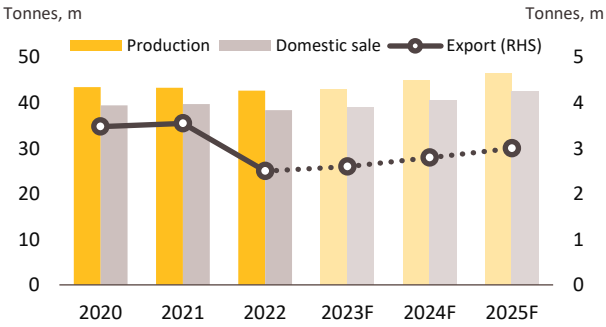
Sources: EEC Office and Krungsri Research

- **Cement: The volume of goods distributed to the domestic market should expand by 3.0-4.0% annually over 2023-2025** (Figure 21). Sales will be boosted by greater progress on infrastructure projects, though demand will be especially strong during the first phases of work on these projects, e.g., the laying of foundations for elevated mass transit lines and the build out of new train tracks that will connect to the EEC. **Export markets** will remain sluggish through 2023, but the outlook should improve in 2024 and 2025 as economies improve and investment in construction (especially in infrastructure and real estate) picks up in neighboring countries. The International Monetary Fund thus sees the GDP of the CLM countries continuing to grow through 2023 and 2024 (Figure 22), while Thai players will also look to open up new opportunities and diversify their exposure to risk by expanding exports to new markets including Australia and New Zealand.

  In keeping with rising global concerns over the environment, the industry, particularly the largest manufacturers, is moving towards a greater focus on the production of 'green cement'. Interest in hydraulic cement is especially intense since unlike regular Portland cement, which generates around 60% of its weight in CO_2 during the production process, for hydraulic cement, this falls to around 40% (Verified Market Research, November 2022). This is in line with the targets set by the TCMA for cutting greenhouse gas emissions[10/] by at least 1 million tonnes of CO_2 by 2023 (Figure 23), and with general ESG (environment, social, and governance) considerations that underline the importance of reducing environmental impacts across the product life cycle.

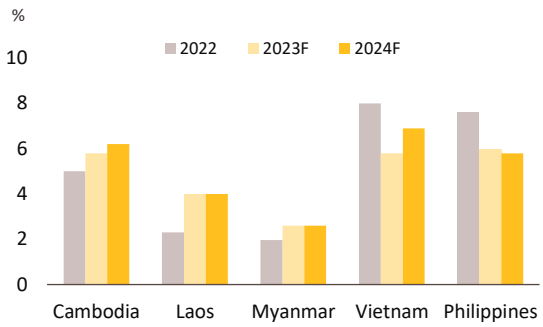
10/ The major greenhouse gases are: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases, including the hydrofluorocarbons (HFCs), sulfur hexafluoride (SF6), perfluorochemicals (PFCs), nitrogen trifluoride (NF3), and the chlorofluorocarbons (CFCs).

Figure 21: Cement Industry Forecast



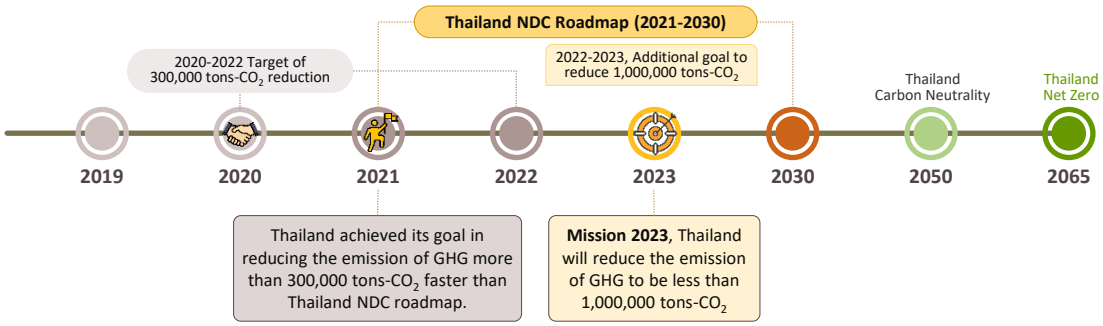
Source: OIE, forecast by Krungsri Research

Figure 22: GDP Growth for ASEAN Countries



Source: International Monetary Fund (IMF), as of April 2023

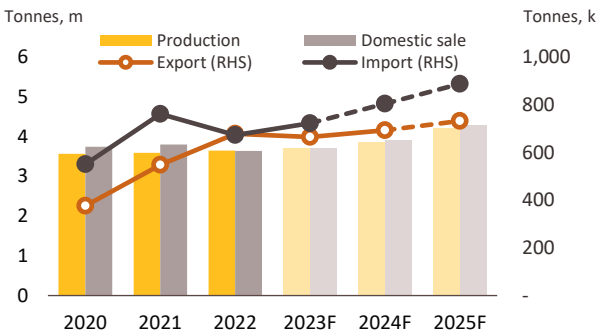
Figure 23: The Progress of the Clinkers Substitution



Source: TCMA

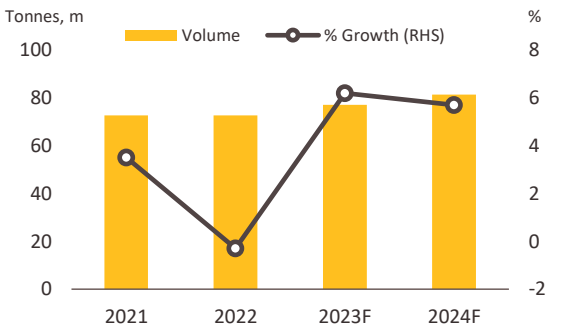
- **Construction steel (bar and section):** The quantity of construction steel distributed to the **domestic market** is expected to stay flat in 2023, though this should then expand by 5.5-6.0% in each of the following two years (Figure 24) as spending on construction by both the public and private sectors picks up. **Exports** will strengthen steadily as governments in many countries begin to accelerate investment in infrastructure projects now that COVID-19 is in abeyance, though this will be especially noticeable in the ASEAN region, home to Thailand's main export markets. Indeed, Worldsteel estimates that having contracted by -0.3% in 2022, demand for steel in the ASEAN countries will grow by 6.2% in 2023 and then by 5.7% in 2024 (Worldsteel, April 2023) (Figure 25). However, **imports** will also rise in step with growth in activity in the construction sector.

Figure 24: Construction Steel (Bar &Section) Forecast



Source: OIE, forecast by Krungsri Research

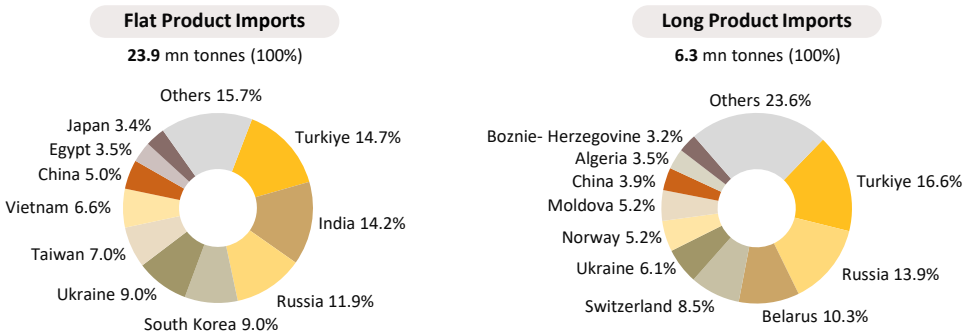
Figure 25: Forecast of Steel Demand in ASEAN 5



Source: The World Steel Association, as of April 2023
Note: ASEAN 5 Refers to Indonesia, Malaysia, the Philippines, Singapore, and Thailand

The Thai steel industry, and in particular those players manufacturing for the export market, will see sales come under greater pressure from stiffening barriers to trade. In particular, the EU's new Carbon Border Adjustment Mechanism (CBAM)[11/] specifies that from October 2023, importers to the EU of heavy industrial goods (including steel) must declare the carbon emissions involved in the manufacture of these goods in their originating country, and from 2026, importers will also need to purchase a CBAM Certificate if these goods are responsible for carbon emissions in excess of the specified limits. This will then naturally add to import costs, though in 2022, combined imports of iron, steel and aluminum products from Thailand to the EU had a value of THB 9.3 billion, or just 1.0% of the value of all Thai exports to the bloc. Rather, the main suppliers of iron and steel to the EU are Turkiye, Russia, and India (Figure 26).

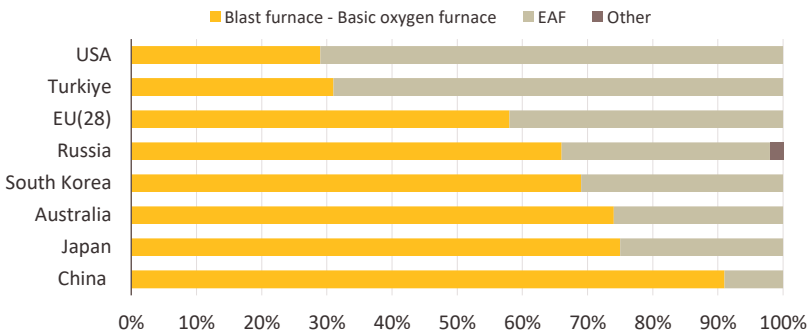
Figure 26: Top 10 Countries of Origin Exporting to EU by Product Category (2021)



Source: The European Steel Association, complied by Krungsri Research

Thai players that are currently exporting products to the EU that fall within the scope of the new CBAM regulations will likely have to shoulder higher costs arising from the need to invest in new production technology and then to pass CBAM assessments, and one result of this may be to encourage those who fail to meet the CBAM standards to look for new export markets. Thai manufacturers are also likely to increase their use of electric arc furnaces (EAFs) and many, especially major players, are indeed already moving down this road. Use of EAFs offers several advantages, and in addition to giving foundries better control over the quality of their output (EAFs are able to remove impurities from molten steel), these also cut energy use by up to 75% compared to traditional furnaces (Millcon Steel, 2022). Replacing carbon-intensive fossil fuel-fired furnaces with EAFs will therefore have an important role to play in cutting greenhouse gas emissions and increasing production of environmentally friendly or 'green' steel. In fact, at present over 20% of production capacity in the major steel producing countries comes from EAFs. This is, however, with the exception of China, though as a consequence, Chinese officials trying to control pollution levels have had to close foundries that failed to meet emissions standards) (Figure 27).

Figure 27: Share of Steel Made by Electric Arc Furnace Globally (% of Steel Output by Process, 2020)

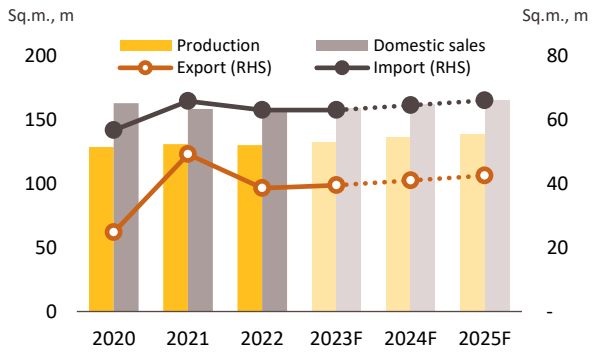


Source: Institute for Energy Economics and Financial Analysis (IEEFA), January 24, 2022

11/ In the transition phase (October 2023-31 December 2025) the CBAM will apply to products for which production processes typically result in the release of significant quantities of greenhouse gases, including cement, fertilizer, iron and steel, aluminum, electricity, and hydrogen (added to the scheme later).

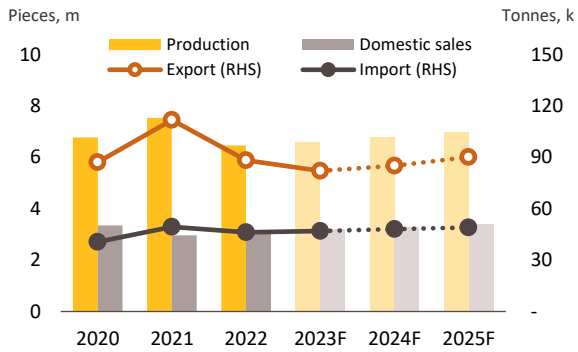
- **Ceramic tiles and sanitary wares:** **Domestic sales** of tiles and sanitary wares to the domestic market is forecast to grow at an annual rate of respectively 1.0-2.0% and 2.5-3.0% over the period from 2023 to 2025 (Figure 28 and Figure 29). Sales will benefit from the rebound in foreign tourist arrivals and an increase in overall economic activity, which will support a rise in consumer spending power, and with this, domestic real estate markets should strengthen. Over the same period, **exports** are forecast to expand at an annual rate of 3.3% for tiles and 0.8% for sanitary wares, with growth especially strong in the main markets of Lao PDR and Cambodia. In 2021 (the most recent year for which data are available), 40% of all imports of ceramic tiles to Lao PDR were from Thailand, and **imports** will continue to trend upward as the country's residential property market grows. Likewise, sales in Cambodia will benefit from the forecast 11.5% (CAGR) expansion in spending on the construction of residential accommodations that should be seen over 2021-2026 (Market and Research, November 2022). Similarly, imports of tiles and sanitary wares (mainly from China and Vietnam) are expected to rise by respectively 1.6% and 2.0% annually as the domestic markets for residential, commercial, and industrial property all strengthen.

Figure 28: Ceramic tiles Forecast



Sources: OIE, MOC, forecast by Krungsri Research

Figure 29: Sanitary wares Forecast



Sources: OIE, MOC, forecast by Krungsri Research

- **Traders:** Through the next 3 years, modern trade outlets have the potential to outpace traditional retailers and wholesalers.
  - **Modern traders: In the period 2023-2025, income will rise in step with growth in the real estate market and demand for home repairs and renovations.** This improving outlook will also be supported by a number of different business strategies that players will put into effect, including: (i) reducing shop sizes to allow greater expansion into local communities; (ii) opening and running new types of outlets in cooperation with major manufacturers that will better meet the particular needs of individual customer groups such as, for example, the joint venture between Boonthavorn and SCG, which have together launched a construction materials retail operation under the 'SCG Home Boonthavorn' brand that will expand into the regions; (iii) increasing the quantity of goods sold under their house brands as a means of controlling costs and increasing profit margins; (iv) increasing the range of distribution channels used to connect with customers, for example, extending the use of online channels and mobile applications, as well as distributing through online marketplaces such as Lazada and Shopee; and (v) investing in the expansion of branch numbers both at home and abroad, especially in the ASEAN region.
  - **Traditional traders**: **Over 2023-2025, income growth will tend to remain flat.** Players will benefit from economic expansion that will help to lift the incomes of low- to mid-level segments of the market, especially in the provinces. However, traditional outlets will struggle against strong competition from modern trade operations, which are extending their branch networks into second-tier cities, and manufacturers, which will increasingly distribute directly to smaller construction companies.

Over the medium term, producers of construction materials will likely invest in the new technology required to produce higher quality goods, especially more environmentally friendly products such as green steel and green (or hydraulic) cement (Figure 30). This will then allow players to better meet what is expected to be rapid growth in the total area of new green buildings under construction (Figure 31). In addition, players will exploit new distribution channels as they develop their ability to respond to more individualized consumer demand from property developers and major construction companies, which may include design services, shortening construction times, and improving building durability. **Traders** will also look to adjust their operations in light of the changing behavior of modern digital consumers. For their part, this may extend over offering end-to-end services, connecting with consumers through a range of means that mix on- and offline channels (i.e., using omnichannel marketing), and building personalized marketing platforms that take advantage of the opportunities offered by big data analytics. In the long run, as global megatrends unfold and support for the ESG goals strengthens, manufacturers and distributors are expected to form tighter alliances as they look to move their business development onto a more sustainable footing.

Figure 30: Market Value Forecast of Green Construction Materials Worldwide

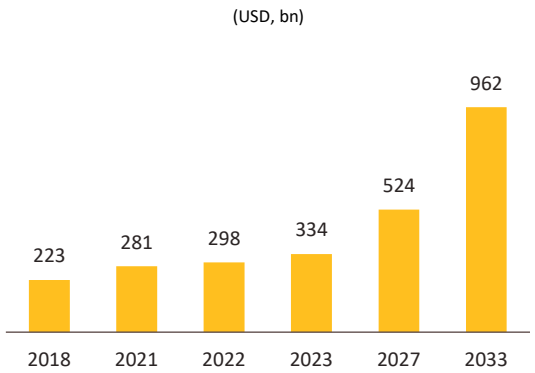
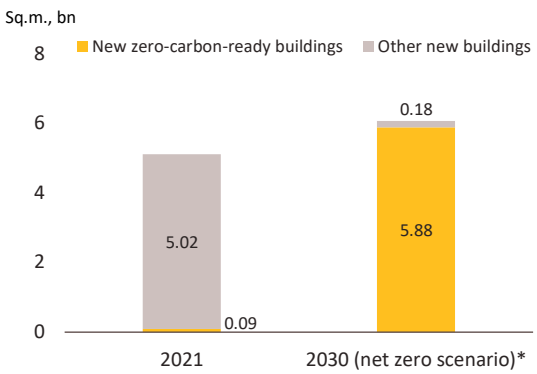


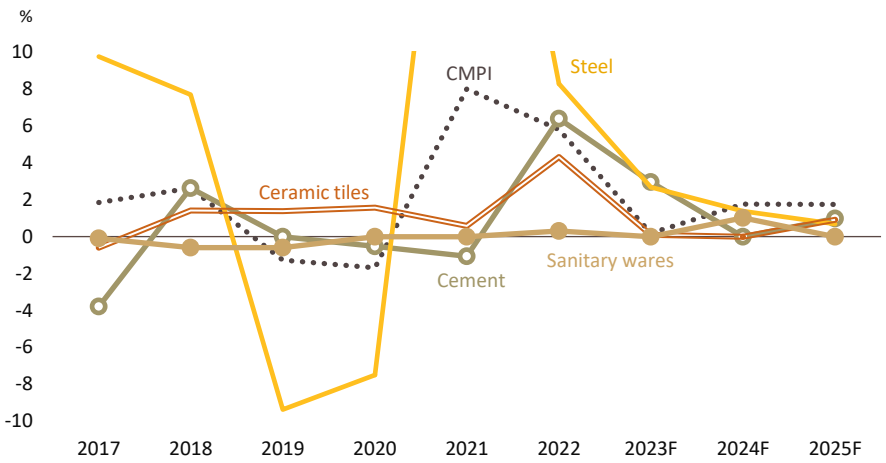
Figure 31: New Building Construction Worldwide Forecast by Type



Source: Statista
Note: * Forecast on the construction project development that will be necessary to meet the net zero scenario by 2050

Prices for construction materials will tend to rise over the 3 years from 2023 to 2025 (Figure 32) on: (i) stronger demand from the construction sector, especially in 2024 and 2025; (ii) an expected increase in the price of upstream imports, for example, of scrap and billet, which should rise with stronger global markets; and (iii) energy costs that are predicted to remain elevated due to unresolved geopolitical tensions.

Figure 32: Growth of Construction Material Price Index



Source: MOC, forecast by Krungsri Research

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