KOGI IRON
LIMITED

20 June 2022

Fastmarkets Report
Double Nigerian steel billet price forecast for Agbaja

Kogi Iron Limited and its Nigerian subsidiary KCM Mining (ASX: KFE, 'Kogi', 'the Company') are pleased to provide an update on the results of the 2022 updated Agbaja project market feasibility study conducted by leading global commodity price forecaster, Fastmarkets.

Highlights

- The 2022 Fastmarkets report forecasts long-term average billet price of US$1,024/ tonne Nigeria/ ddp (nominal; delivered duty paid) Lagos over the period 2023 to 2032, which more than doubles the 2018 report's forecast (US$476/tonne, ex-works Lokoja).
- Fastmarkets report supports Kogi's current design framework to build a 500,000 tonnes per annum (tpa) facility.
- At a capacity of 500 ktpa, Kogi's output will only need to substitute for imports of rebar or billet and will not need to erode any existing domestic producers to be sustainable. This supports Kogi's steel import replacement strategy.
- The updated Fastmarkets Report supports the Company's belief that there is a strong business case for the Agbaja Project and in continuing to progress all the detailed work required to complete the Feasibility Study.
- It appears that this increase in steel billet prices will materially effect the Net Present Value (NPV) of the Agbaja project, as demonstrated in the sensitivities published in the 2021 Scoping Study. A revised Scoping Study is under preparation as a priority to properly restate this improved valuation and will be the subject of a further announcement at the earliest possibility.

Kogi Iron Chairman Craig Hart commented: "This updated steel billet price forecast for Nigeria by respected global commodity price forecaster Fastmarkets resets the value proposition of the Agbaja Iron and Steel Project. The disruption to the European Steel market caused by the Ukraine war will be felt for at least the next decade.

Moreover, there is likely to be systemic and ongoing change occasioned by the decarbonisation trend across Europe which will impact not only the availability of competitive steel scrap but also its price. Kogi Iron's vision to provide a sustainable import replacement solution for Nigeria's domestic steel market is now more compelling than ever."

The Fastmarkets report is another significant step in the evaluation of the project's economics and, together with other work being undertaken as part of the Feasibility Study, the report will be an important document regarding the project's capability to raise project capital.

Background and Introduction

Since the initial Fastmarkets 2018 study (refer ASX Announcement 16 January 2019) and the 2021 Scoping Study (refer ASX announcement 13 December 2021), a number of events and factors influencing the value proposition of the Agbaja Project have occurred at a global, local and company level.

A more detailed list of these factors include:

- Design change to the Agbaja project nameplate capacity of steel billet production of 1.5 Mtpa to 500 ktpa
- Improved technical understanding of the project
- Covid-19 impact
- Disruption to global supply chains
- Ukraine/Russia war
- Changes to inflation and interest rates
- Accelerated global strategies for decarbonisation effecting the availability and the likely increased price of the competitive scrap steel product.
- Changes to the Chinese economy
- Changes to oil, gas and energy strategies and prices.

Fastmarkets were commissioned in February 2022 to consider the impact of these factors and to provide the Company with a platform to assist evaluation of key project economics, appropriateness of plant sizing, general marketing strategies and other matters critical to progressing the Feasibility Study that is presently underway.

Steel and scrap steel prices contained in the most recent Fastmarkets report are significantly higher than any previous forecasts. The 2022 Fastmarkets report forecasts long-term average billet price of US$1,024/tonne Nigeria DDP (nominal; Delivered Duty Paid) Lagos over the period 2023 to 2032. This compares to US$441/tonne FOB (Free On Board) Black Sea and US$476/t ex-works Lokoja forecasted in the Fastmarkets 2018 report and US$550/tonne ex-works Lokoja assumed in the 2021 Kogi Iron Scoping Study.

Pricing of other project inputs including, but not limited to, scrap steel, energy and shipping are also likely to increase over the same forecast period. However, the sensitivity analysis in the Agbaja financial model, as disclosed in the 2021 Scoping Study, demonstrated that the project is far more sensitive to steel billet product pricing than to input costs.

Fastmarkets Completes Market Study

In the ASX Announcement "Agbaja Leveraged by Higher Steel Billet Prices" released on 23 March 2022 the Company advised the market that it had commissioned Fastmarkets to provide a comprehensive market feasibility study, updating a similar study completed in 2018 with the output to be utilised in the ongoing Agbaja Steel Project's Feasibility Study. In conducting the study, Fastmarkets undertook analysis of the steel industry in Nigeria and West Africa, with specific reference to:

- Steelmaking raw material costs and substitutes
- Competitor and customer analysis
- Existing and future market demand for Kogi cast steel billet products
- Recommendation of an appropriate product mix and plant capacity
- Price forecasts

The objective of the Fastmarkets study was also designed to update the overall level of potential market demand and forecasted pricing for planned steel billet production from the Agbaja Steel Project.

Key Results from the Fastmarkets Study

Economic and Market Outlook

Fastmarkets have made the following general observations:

- Economic growth in Nigeria and other African nations is accelerating after the Covid-19 pandemic brought slowdowns and recessions in 2020 and 2021.
- Oil prices have recovered strongly after the weakness of the last 24 months and are holding up, which will see investment in new energy projects.
- The Nigerian elections are due in early 2023. Until then, activity will be slowed, but when the new Ministers are in place, they are likely to initiate projects involving substantial construction that should in turn further increase the demand for steel.
- Rates of construction growth, the major market for steel long products, are forecast to rise at an average of 4.6% per annum in the years to 2030, with civil engineering construction growing at a slightly faster 5.1% per annum.
- Billet demand is expected to exceed the previous high of 2014 and reach 2.07 million tonnes by 2024, when Kogi Iron's facility is due to start to ramp up.
- In its base case, Fastmarkets forecasts a long-term average billet price of US$1,024/tonne ex-works Nigeria/delivered duty paid (ddp) Lagos in nominal terms over the period 2023 to 2032.

Billet Pricing Forecast

Since the advent of Covid-19, the Ukraine/Russia war, global supply chain disruption, increased inflation, a drop in commodity demand from China and various other significant global events there is prevailing global economic uncertainty. The Company recognises that additional Fastmarkets updates will be likely nearer to the completion of the Feasibility Study.

Fastmarkets key inputs to the forecast of Nigeria pricing is based on several drivers, namely:

- Input costs
- International prices
- Nigerian demand outlook
- Balance between Nigerian supply and demand

Given the present global steel market uncertainty, the Company requested Fastmarkets provide interim information on a number of demand/pricing scenarios and the following three cases were determined by Fastmarkets.

a. Base Case:

The base case price forecast uses ***Fastmarkets' current assessment of future market fundamentals*** and raw materials price development. With the arrival and ramp up of Kogi Iron's operation in circa 2024, Nigerian buyers will effectively have another source of material for the production of rebar – produced from Kogi Iron's billet. At the Kogi planned 500 ktpa level of production, output will deliver an opportunity for replacing the reliance on imported product, rather than replacement of existing domestic capacity.

b. High Case:

In the **high case**, the economic growth lifts noticeably. A combination of stimulus programmes and recovery after the Ukraine-Russia war sees increased spending globally. Building out the 'net-zero' economy adds to the demand for new vehicles and infrastructure. The result is a strong increase in oil prices and stronger demand for steel, which pushes up steel prices.

c. Low Case

In the **low case**, economic growth falls following a drop in energy demand. This is reflected in both lower streel scrap and oil prices. With so much of Nigerian GDP associated with the oil industry, weaker oil prices apply downward pressure on economic growth. Overall, steel consumption contracts 1% for each year 2022-2024. Under these circumstances, domestic producers would have to compete for market share, so depressing prices for all producers, including Kogi.

Fastmarkets' forecasts that the billet price in 2032 would be US$1,258/tonne (ex-works Nigeria/ddp Lagos) in nominal terms under the base case, and US$997/tonne and US$1,444/tonne under the low- and high-case, respectively.

Plant Sizing Supports Import Replacement Market

At the time of preparing the 2018 Fastmarkets study, Kogi Iron was planning a facility with nameplate capacity of 1.5 Mtpa. Given the size of Nigerian demand, export markets or replacement of local production would have been substantially needed to place all the Agbaja production. The current plant design now scales that back to 0.5 Mtpa capacity and suggests all production can be reasonably placed in Nigeria, with exports not necessary. This confirms the scope and size of the plant and the capital expenditure basis that was included in the 2021 Scoping Study Report.

It should be noted that neighbouring countries generally have limited domestic steel industries and could be a target for exported steel to meet their emerging economies. This could see prices in those adjacent countries rise faster than in Nigeria, and so making exporting attractive. The Company therefore has the option to consider exports as part of future expansion.

Fastmarkets Recommendations for Kogi Iron

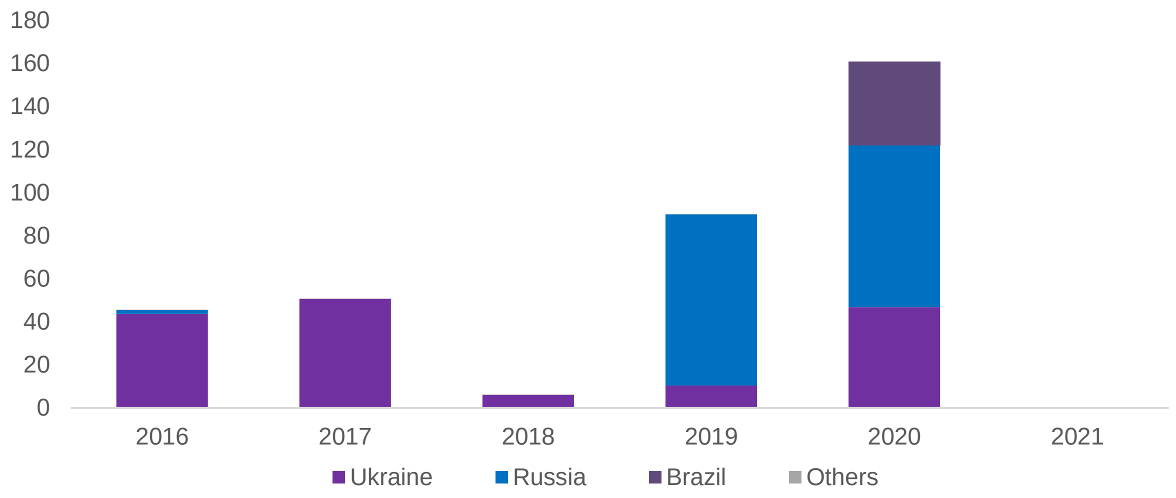
- Fastmarkets' report supports Kogi's current design framework to build a 500 ktpa facility to produce standard sizes of billet – That is 100 mm to 160 mm square billet.
- At a capacity of 500 ktpa, Kogi's output will only need to be a substitute for imports of rebar or billet, and not necessarily erode sales of existing domestic producers. Domestic steelmakers can utilise billet, as a more profitable option than using ferrous scrap, while long-product rerollers can benefit from cheaper, higher quality and logistically easier material.
- As all of the intended output can be accommodated internally in Nigeria, at a later stage export sales may be considered.

Significant Factors Impacting the Global Steel Market

Russia/Ukraine War

The war presents several challenges to global economies and the steel market. Impacts will likely to be felt in the short-term, while the war in Ukraine continues. The long-term impact will depend on the damage done to Ukrainian's steel industry and the economic assistance offered in rebuilding damaged infrastructure. For example, one of the largest steel works in the world (6Mtpa) at Mariupol has been completely destroyed. Also important for the longer-term effect is the severity of sanctions imposed against Russia. These are likely to limit the country's access to global trade and financing, so cutting Russian raw materials & semi-finished steel flows and shrinking global economic growth.

From 2016-2020 almost all of Nigeria's steel billets came from Ukraine and Russia (Figure 1).



Source: ISSB

Figure 1: Nigerian billet imports by country (ktonnes)

The impact on Kogi Iron's project is likely to be mixed. Any reduction of supply from the Black Sea would increase logistics costs and the price of imported billet, so making domestically produced billet more attractive. However, this is likely to be offset by weaker global economic growth, that will keep oil demand low and so reduce Nigerian GDP growth and spending.

The war has contributed to a widespread lift in commodity prices, but some commodities were seeing higher prices on other drivers, such as emission's regulations and trade duties. Consequently, price inflation in many commodities has reached multi-decade highs and is being supported at present levels.

Inflation can depress consumer spending, slowing the manufacturing and construction sectors, leading to lower steel demand and so pushing down prices. In the low-case scenario, demand is reduced sufficiently to remove Nigeria's need to import either steel billet or rebar, which will see prices falling towards the costs of domestic producers.

Longer Term Benefits to Agbaja Resulting from Ongoing Decarbonisation

The development of low- and net zero-carbon-emitting technologies and economies is likely to see an increase in global demand for scrap steel. Steel production with a greater utilization ratio of scrap steel has a lower carbon emission intensity – greenhouse gas emissions per tonne of steel. – and so higher utilization of scrap steel may become increasingly favoured, particularly in Europe.

Moves towards decarbonisation is likely to increase the demand for scrap steel, and consequently put upward pressure on scrap steel pricing. Kogi utilises iron ore from its own resources and supplemented by only 33% scrap steel. This is likely to provide a significant competitive advance over other local Nigerian steel producers who up to 100% scrap steel as an input.

On the upside, Kogi Iron's operation has a relatively lower carbon emission intensity compared to blast furnaces globally by virtue of the electric arc furnace process. Overall, decarbonisation may see higher prices for steel products sourced from international mills, especially those in Europe, the United States or China, and so this is likely to see Nigerian prices rise and improve the profitability of domestic mills.

Kogi intends to quantity the carbon emission intensity of its process in the Feasibility Study and sees this as a key favourable attribute that is expected to be of keen interest to project financiers.

In the longer term, global companies with operations in Nigeria may want to stress their "green" credentials and so will strive to reduce their carbon emission footprints. This may allow Kogi Iron to charge a premium for its steel produced with lower carbon emissions, though the scale of premium and the timeframe for this are not known.

Scrap Price Forecast

Almost all steel products in Nigeria are produced from or originate from 100% scrap steel. Kogi's current metallurgical models anticipates a utilisation rate of only 33% scrap steel. Additional test work planned by Kogi this year will contemplate a reduction in the utilisation of scrap steel. A change in the projected scrap utilisation ratio may or may not be achieved. Nonetheless the utilisation of iron ore from Kogi's iron ore deposit provides it with a significant raw material input price advantage compared to other Nigerian producers utilising scrap. In addition, it should be noted that the marketing study anticipates future scarcity and high prices of scrap steel in Nigeria should steel demand increase from existing levels.

Fastmarkets expects the price of shredded scrap to increase from $400/tonne in 2024 to $535/tonne cost and freight (cfr) Turkey in nominal terms in 2032.

Kaduna Project Possibility

In considering Nigeria's steel capacity, Fastmarkets has, for now, discounted an integrated iron ore and finished steel plant being developed in Kaduna province by African National Resources and Mines, part of the African Industries Group. Fastmarkets believes there is too much uncertainty about access to power, security threats and the quality of the product to include it in capacity forecasts.

If the plant is completed, sufficient generating capacity installed and the facility ramped-up successfully, then Fastmarkets would need to reassess the Nigerian supply picture and determine its implications for the analysis made in its market feasibility study.

Value and Sensitivity

Based on the Sensitivities presented in the 2021 Scoping Study, these revised assumptions are expected to have a material effect on the valuation of the Agbaja Project. Given the materiality of this change, Kogi intends to update and republish the Scoping Study with revised valuation metrics and sensitivities. This work is being progressed as a priority and will be released to the ASX as soon as it is complete.

For information purposes, below is the NPV sensitivity to steel billet price chart which was announced to the ASX on 23 March 2022 (Figure 2). This chart does not take into account the Fastmarkets forecasts on steel billet prices, as outlined in the low case, base case and high case scenarios above.

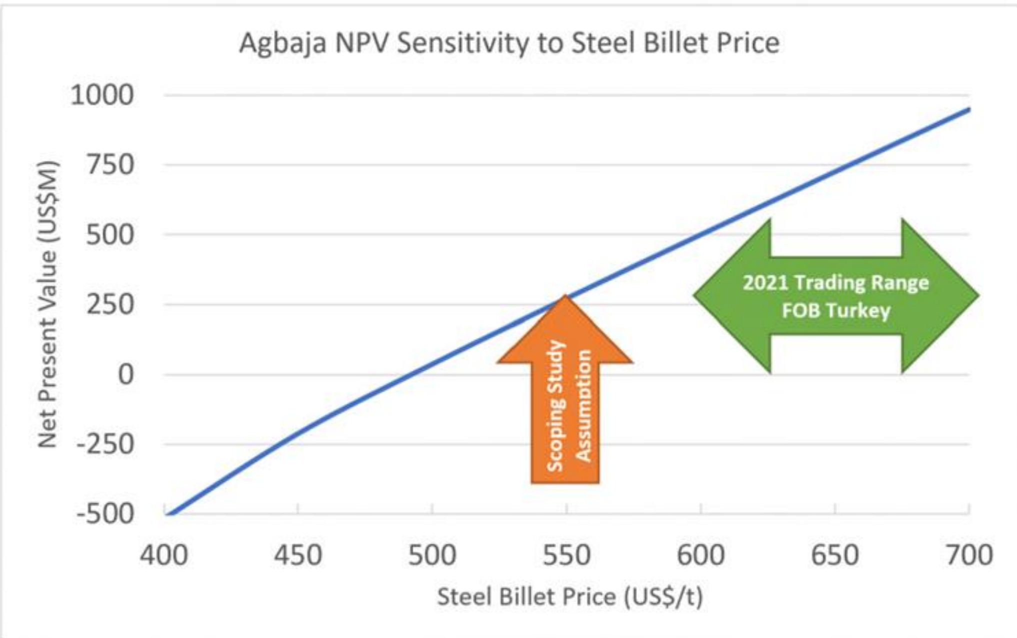


Figure 2 - March 2022 sensitivity curve

Feasibility Study

This updated Fastmarkets Report was a critical gateway in the overall Feasibility Study process and supports continuing to progress all the detailed work required to complete the Feasibility Study.

The next phases of the Feasibility Study which includes:

- DRI testing conducted by Uvan Hagfors Teknology (UHT) and FL Smidth (FLS). This is a key study, proving the scrap metal consumption, metal yield data, and process characteristics, key to the next stage of plant design
- Export of bulk Nigerian coal sample to FLS for testing
- Export of bulk Agbaja Fe sample to FLS testing facility in USA
- Environmental and Social Impact Study – Community Consultation and approval
- Front End Engineering Design
- Feasibility – Project Design
- Completion of the Environmental and Social Impact Assessment approval process
- Mining study, and
- Power generation study

The Company believes there are opportunities with the completion of these studies to refine and optimise operating costs (including the scrap steel utilisation ratio) that might lead to further improve project valuation.

About Fastmarkets

Fastmarkets MB, formerly Metal Bulletin, is an independent steel industry consultancy that specialises in steel industry research, based in London, United Kingdom. Fastmarkets has over 130 years of commodity expertise and is a leading and trusted price reporting and intelligence service. Its price reporters are required to follow robust pricing procedures, clearly defined methodologies and price specifications during their market reporting and pricing sessions. All calculations or assessments are verified through their integrated peer review system, to guarantee quality control and compliance.

The market study was completed using Fastmarkets and publicly available data. External sources include World Steel Association (WSA), International Steel Statistics Bureau (ISSB), Oxford Economic Forecasting (OEF), International Monetary Fund (IMF) as well as publicly available company data.

Cautionary Statement Regarding Forward Looking Forecasts

This announcement contains forward looking statements which are identified by words such as “forecasts”, “anticipates”, “believes”, “estimates”, “expects”, “intends”, “guidance”, “should”, “could”, “may”, “will”, “targets” and other similar words that involve risks and uncertainties.

These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this announcement may take place.

Such forward looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company and the Directors. No representation, warranty or assurance (express or implied) is given or made in relation to any forward-looking statement by any person (including the Company).

The Company cannot and does not give any assurance that the results, performance, long-term pricing of steel products or achievements (expressed or implied) by the forward-looking statements contained in this announcement will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements.

The Company has no intention to update or revise forward looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information in this announcement, except where required by law.

These forward-looking statements are subject to various risk factors that could cause the Company’s actual results to differ materially from the results expressed or anticipated in this announcement.