



ASX Release: 15 March 2022

**Price rise of Pig Iron to new high of US\$850/tonne endorses Magnum's planned development of an integrated pig iron production facility at Buena Vista in the United States.**

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## HIGHLIGHTS

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- The price of pig iron has risen by around 55% over the past 4 weeks (*Figure 1*) as concerns grow for surety of long-term supply
  - The USA is the largest importer of pig iron with 5.6 million tonnes imported in 2021.
  - Russia and Ukraine are the largest exporters, supplying around 54% of the global pig iron trade. (*Figure 2*)
  - Magnum is fast tracking the near-term development of the Buena Vista Pig Iron Project (located in Nevada, USA) as an integrated mining and production facility for low emission green pig iron products.
  - Magnum's Buena Vista Pig Iron Project is to become the **FIRST** green pig iron producer in North America and the **ONLY** pig iron producer on the West Coast of the United States.
  - This premium product will be for both the US domestic market and premium Asian steelmakers.
  - Pig iron is a major ingredient for Electric Arc Furnace (EAF) steelmaking which is growing rapidly in importance, as the global steel industry is stepping away from blast furnaces which use sinter and coke.
  - Global long-term demand for pig iron is forecast to increase at an accelerated rate, from US\$5 billion in 2019 to US\$124 billion in 2027.
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## **PIG IRON PRICE**

The extreme positive price volatility seen in pig iron over the past 4 weeks highlights the importance of this commodity for global steel production.

This price volatility, which has increased as a result of geopolitical events including the invasion by Russia of Ukraine, has caused the price of pig iron to rise from around US\$550/tonne in February to reach US\$850/tonne last week (8 March 2022).

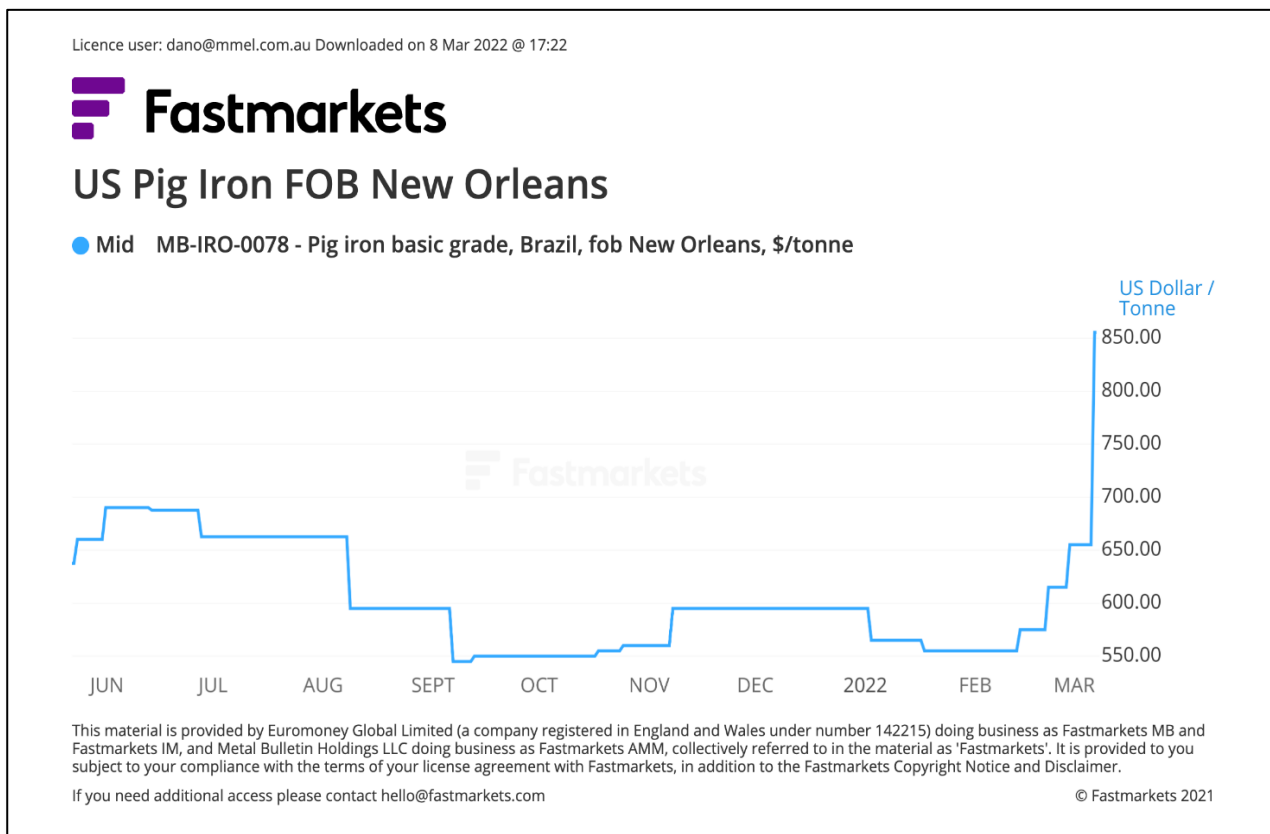


Figure 1: US pig iron price (Source: Fastmarkets)

## **RUSSIA & UKRAINE IMPACT**

Russia and Ukraine combined account for around 54% of the global supply of pig iron to world markets.

The likelihood of on-going disruption to this supply, and decreasing appetite to purchase from these sources, particularly for the United States which is the world's largest importer of pig iron, demonstrates the now significant political risk inherent in this market.

## **USA PIG IRON SHORTAGE**

The United States is the world's largest pig iron importer. (Figure 2)

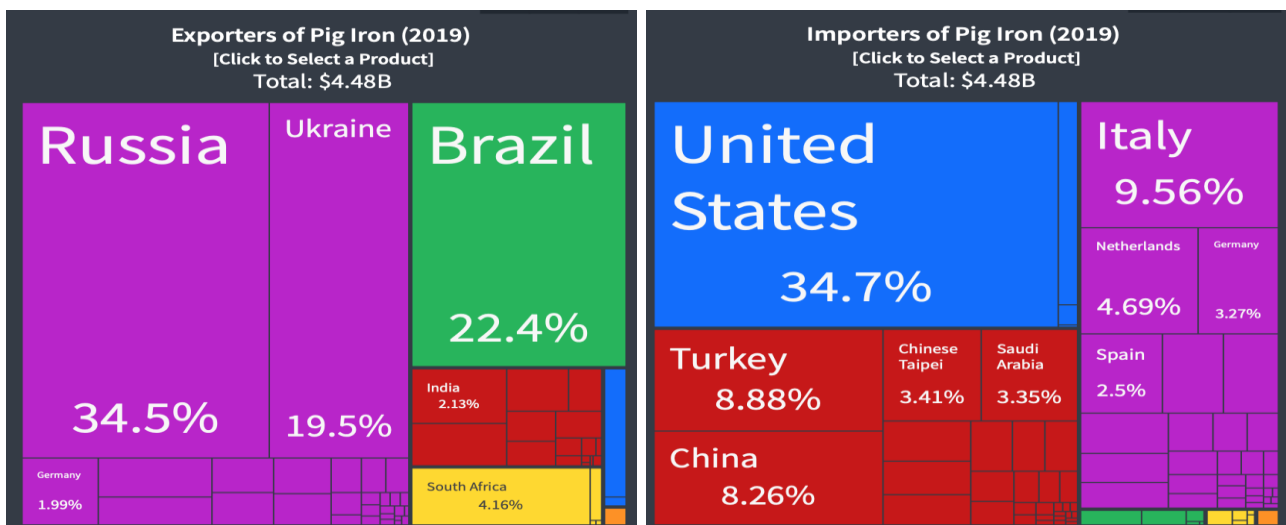


Figure 2: World pig iron trade 2019 Source: <https://oec.world/en/profile/hs92/pig-iron>

The US steel industry imported 5.6 million tonnes of pig iron in 2021, of which nearly 4 million tonnes were from Russia and Ukraine. Due to the new and expanding EAF capacities, the import requirement for 2022 is forecast at 7.3 million tonnes.

(Source: <https://www.marketscreener.com/news/latest/Viewpoint-US-pig-iron-demand-to-rise-on-EAF-growth--37426369/>)

The US steel industry is currently already experiencing a pig iron shortage.

### **WORLD PIG IRON GROWTH FORECAST**

Currently the steel industry accounts for 9% of global greenhouse gas emissions and as a consequence Electric Arc Furnace (EAF) steel making technology is rapidly being accepted as the way forward for low emission steel production.

Pig iron is a major raw material for EAF steel making process and with new EAF plants already under construction or planned global pig iron trade is expected to rise rapidly. For the transition into a carbon neutral economy and to meet emission restrictions, all major economies are competing for EAF raw materials.

The worldwide expansion in EAF green steelmaking is pushing up demand for pig iron.

World pig iron trade is forecast to grow from USD5 billion in 2019 to USD124 billion in 2027.

(Source: <https://www.globenewswire.com/news-release/2021/03/17/2194652/0/en/Global-Merchant-Pig-Iron-Market-Expected-to-Attain-8-7-CAGR-And-Reach-USD-1-24-179-Million-By-2027-Facts-Factors.html>)

### **MAGNUM BUENA VISTA INTEGRATED PIG IRON PROJECT**

The main stay of Magnum’s Buena Vista Integrated Pig Iron Project is the projects JORC 2012 premium quality magnetite resource located approximately 160km east-north-east of Reno in the mining friendly state of Nevada, United States.

Magnum is targeting the development of this magnetite resource as the key component of an on-site integrated pig iron production facility.

This proposed development will utilise the premium quality and low cost Buena Vista magnetite resources and the abundant local biomass to produce low emission (carbon neutral) green pig iron products on site thereby maximising the value addition for the Company's shareholders.

This integrated pig iron strategy will benefit from the long term positive outlook for pig iron prices and coincides with the global push for a greener steel making industry.

There are 30 million tonnes of new EAF production capacities planned in the USA alone and as noted earlier the USA is already a net importer of pig iron.

The proposed development of the Buena Vista Pig Iron Project will see it become the only pig iron producer on the West Coast of the USA with the nearest competitor located in the state of Illinois, over 2,000 km away.

This is an exciting development strategy for Magnum as well as the USA and one that as it progresses will see Magnum transformed and the value of the Buena Vista Pig Iron Project as a key US production asset more fully recognised.

Authorised for release by the Board of Directors of Magnum Mining & Exploration Limited

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