Institute for Energy Economics and Financial Analysis

Fact Sheet

Green iron demand set to exceed supply

Corporate commitments could generate 5.5Mt of Asian green iron demand by 2030

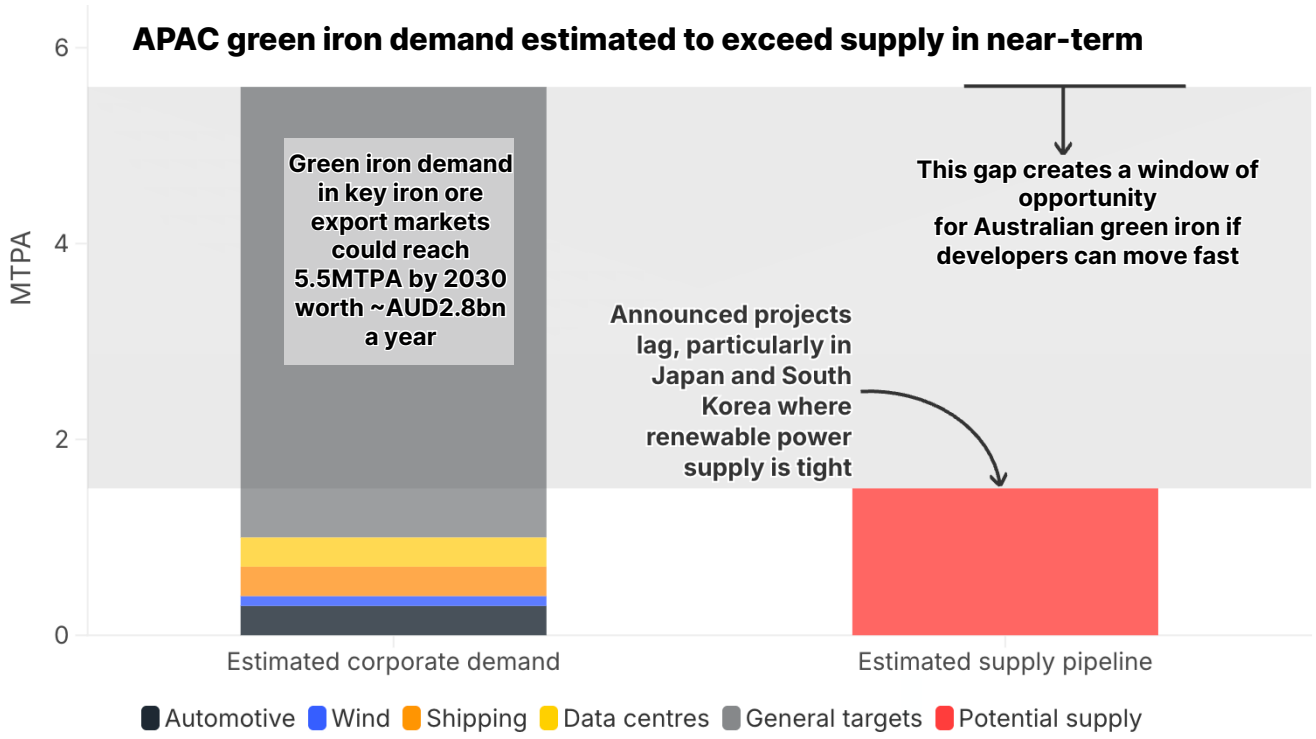
Key opportunities are in automotive, wind, shipping and data centres, as well as supply chain targets

Supply gap creates opportunity for Australian green iron developers if they move fast

Supply gap also expected in DR-grade iron ore, opening opportunities for Australia

Significant unserved green iron demand expected by 2030 in Asia-Pacific

A short-term gap between supply and demand of green iron in Australia's key iron ore export markets gives the country an opportunity to kick-start a green iron export industry, building on its strengths in iron ore and renewable resources. To take advantage, project developers will need to move quickly to establish offtakes with partners in key sectors.



- *Source: IEEFA estimates for demand using company reports for sectors and general corporate target coverage by steel end-use sectors across the Forbes 2000 (via Net-Zero Tracker). Supply estimates based on LeadIt project tracker with estimates for green fraction and likelihood to proceed.*

READ THE REPORTS

Any takers for Australia's green iron?

Global high-grade iron ore market is set to grow

Australian green iron tracker

Four key sectors: automotive, shipbuilding, wind and data centres

Steel decarbonisation policy in Australia's key iron ore export destinations (China, Japan and South Korea) is not yet sufficient to drive green iron demand. However, voluntary corporate climate commitments for the steel end-use sectors into which Australia's iron ore flows provide a near-term opportunity for potential green iron exporters. IEEFA identified four promising sectors that use a large volume of steel and have strong/growing presence in the Asia-Pacific region:

Automotive

China, Japan and South Korea are home to 6 of the top 10 automakers, and the industry uses ~44MTPA of steel. Asian automakers have not set green steel targets, whereas US and EU producers with Asian operations have.

Shipbuilding

China, Japan and South Korea account for >95% of all shipbuilding, and China produces >95% of shipping containers. This requires ~30-35MTPA of steel. Majors Maersk and CIMC have green steel purchasing targets.

Wind

China has 6 of the top 10 turbine makers, and the region has several wind manufacturing hubs. We estimate this uses ~8MTPA of steel. Many wind developers have committed to 10%+ near-zero emissions steel by 2030.

Data centres

Up to 40% of data centre investment is targeting the Asia-Pacific, especially China. This will likely require ~2Mt of steel in 2026 alone. Many big tech firms have pledged to 50% cut or net zero supply-chain emissions.

In addition to those four sectors, IEEFA quantified the likely demand for green iron and steel coming from general net-zero supply-chain commitments in companies with operations in Asia.

Supply gap also expected in DR-grade iron ore

Direct-reduction technology is the most mature route for decarbonising ironmaking process and producing green iron. However, it currently relies on high-grade, low-impurity ores (DR-grade), which are limited in supply. Australia's iron ore exports are dominated by lower-quality, blast furnace-grade material, which faces a challenging long-term outlook.

Forecast supply gap

▶ Most forecasts point to rising demand for DR-grade iron ore pellets, and a widening supply deficit post 2030.

▶ Prime movers pursuing this opportunity are producers in Canada, Brazil, and the Nordic region, and prospective developments across Africa.

Australia well placed

▶ Australia has great potential in magnetite mining and DR-grade material production but must act quickly to seize this opportunity.

▶ Although Australia's DR-grade feed production sits at the higher end of the global cost curve, the market appears to have sufficient capacity to absorb this supply.