Institute for Energy Economics and Financial Analysis

Fact Sheet:

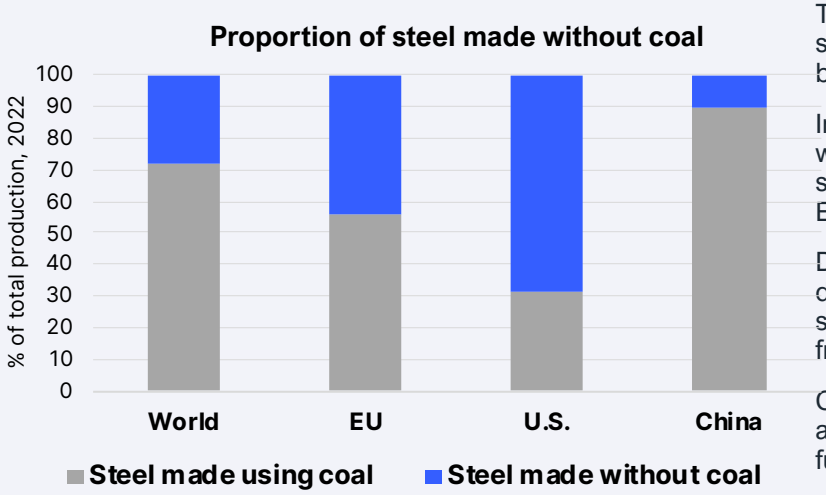
Mythbusting: Metallurgical Coal

Australia is by far the world's largest exporter of metallurgical coal. Unfortunately, several myths about met coal have become pervasive, even being repeated by senior government ministers in Australia.

MYTH 1

Metallurgical coal is essential to make steel

The Australian coal industry repeatedly claims metallurgical coal is "essential" for steelmaking. New industry lobby group Coal Australia states: "Coal is also a critical mineral in making steel, meaning it is essential to build homes and infrastructure." Moreover, the industry insists metallurgical coal is essential to make renewable energy infrastructure like wind turbines – claims parroted by senior Australian ministers.



Source: World Steel Association

This figure clearly shows coal is not required to produce steel. In the US almost 70% of steel is made without coal by recycling scrap steel in electric arc furnaces (EAFs).

In the EU, 44% of steel is made without coal. This proportion will now start rising significantly as European steelmakers shift away from coal-consuming blast furnaces towards EAFs and direct reduced iron (DRI).

DRI and EAF are mature steelmaking technologies that do not use coal and that have been used at commercial scale globally for many years. A technology shift away from coal-based steelmaking is now accelerating.

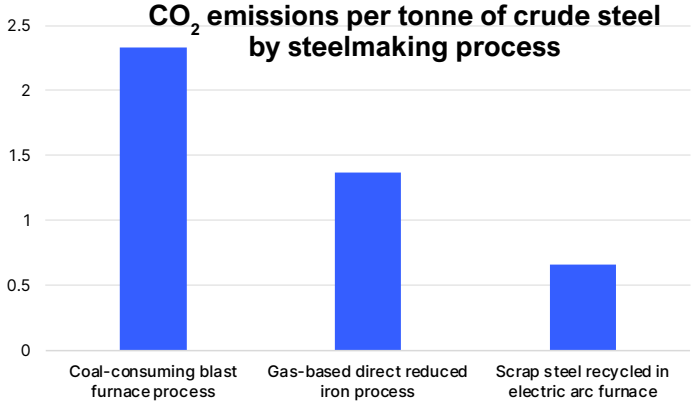
China – producer of most of the world's steel – is now aiming to accelerate its technology shift away from blast furnaces towards recycling steel in EAFs.

Coal is not required to produce steel.

MYTH 2

Metallurgical coal is a 'special case' distinct from other coal

The Australian coal industry is keen to differentiate between thermal and metallurgical coal. The inaccurate claim that met coal is essential to produce renewable energy infrastructure has led to calls from the industry that it should be considered a special case among fossil fuels. The industry has also called for met coal to be declared a critical mineral. Glencore has even sought to rebrand metallurgical coal as "carbon steel materials" in a further bid attempt to differentiate it from thermal coal used in coal-fired power stations.



Source: World Steel Association

In reality, use of metallurgical coal is highly carbon-intensive, in common with thermal coal consumption. Lower-grade metallurgical coals can and have been sold into thermal coal markets to fuel coal-fired power stations.

This figure shows that, of the mature steelmaking processes in use at commercial scale today, coal-consuming blast furnaces are by far the most carbon-intensive.

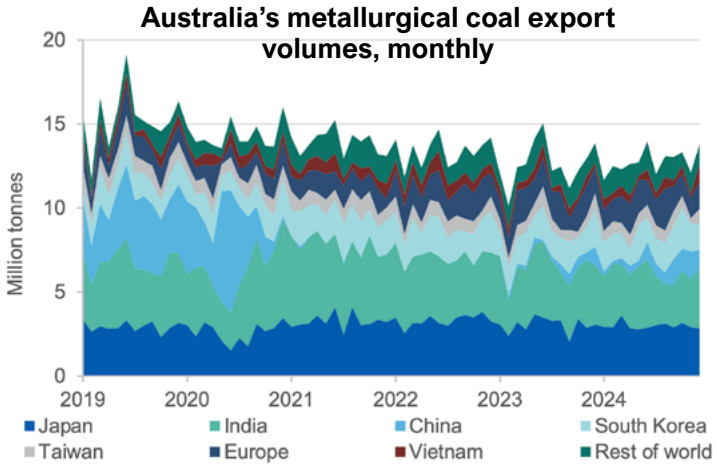
In addition, metallurgical coal mines are some of Australia's most significant methane emitters, further adding to the carbon footprint of coal-based steelmaking.

Metallurgical coal mines often emit significant methane, greatly increasing the carbon footprint of coal-based steel production.

MYTH 3

Metallurgical coal exports have a bright future

The Australian coal industry likes to insist met coal exports have a strong and growing future. Australian government data doesn't bear this out.

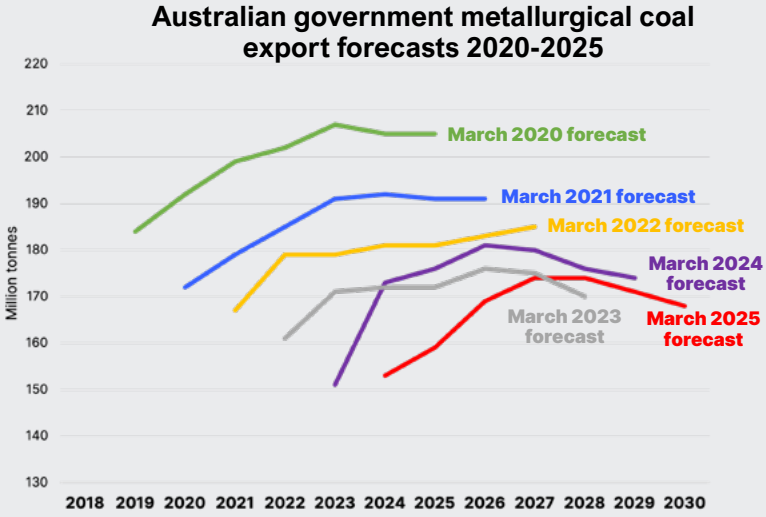


According to Department of Industry, Science and Resources (DISR) data, Australia's metallurgical coal exports have been in decline for the last six years.

In its latest medium-term forecast, DISR sees Australian metallurgical coal exports hitting a peak in 2026 before declining for the rest of the decade. DISR also forecasts a decline in world trade in met coal.

With Chinese steel demand in permanent decline, coal exporters often cite India as the key source of metallurgical coal demand growth. However, India's steel capacity growth is not on course to meet government targets, and Indian steelmakers have been diversifying their met coal imports away from Australia.

Source: Department of Industry, Science and Resources (DISR), Australian Government.



Source: DISR, Australian Government.

This figure shows that DISR has consistently overestimated its forecasts for Australian metallurgical coal export volumes.

Furthermore, it is increasingly clear that carbon capture and storage (CCS) will not play a significant role in decarbonising coal-based steelmaking. There is not one commercial-scale CCS plant for coal-based steelmaking anywhere in the world, and virtually nothing in the pipeline.

Australia's metallurgical coal exports have declined over the past five years and CCS will not preserve long-term met coal consumption.

In the US almost 70% of steel is made without coal by recycling scrap steel in electric arc furnaces (EAFs).

Metallurgical coal is highly carbon-intensive, in common with thermal coal consumption.

Australia's metallurgical coal exports are forecast to decline from 2026.

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