



Final Report

Seaborne Thermal Coal: Asian Demand Forecast to 2030

October 2020

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1. Overview

An accurate understanding of thermal coal demand is important in the context of ongoing interest within Australia, our region and the world about the future of coal.

Recent analysis suggests that Australia's world-leading thermal coal producers can benefit from strong future demand growth, especially in our region.

It is clear that the global seaborne thermal coal market has grown strongly in recent years.

Global seaborne thermal coal volumes doubled between 2006 and 2019, from 500Mt (million tonnes) to 1,000Mt, growing in volume every year of that period except 2015. The market's average growth was almost 40Mt per annum, or around eight times the average annual output of an Australian thermal coal mine.

With the drivers of recent growth still largely in play, Commodity Insights projects Asian thermal coal imports will grow by over 270Mt to more than a billion tonnes per annum over the next decade.

In the long term, government policy in relation to both energy sources and emissions reduction are important drivers of coal's share of power generation and therefore import demand.

In this context, these forecasts will continue to be subject to changes in government policy, including emissions reduction measures to meet Paris Agreement targets.

Asia is the dominant market for thermal coal. In 2006, the global seaborne thermal coal market was approximately 500Mt in volume. Asia accounted for around 300Mt, of which the traditional north Asian importers (Japan, Korea and Taiwan) accounted for 240Mt or 80 per cent. China and India combined for less than 35Mt and Southeast Asia combined for 30Mt.

Since then, global import demand growth has doubled to slightly more than a billion tonnes, with all the growth coming from Asia. China led the growth, passing Japan as the world's largest importer in 2011, a status it still retains. India followed, becoming the world's second largest importer in 2014, and then South East Asia accelerated, doubling its imports between 2011-18.

Market	2006 Imports (Mt)	2019 Imports (Mt)	Growth (Mt)	Growth (%)
Asia	305	834	525	173%
North Asia (JKT)	242	315	73	30%
China	11	218	207	1,880%
India	23	169	146	635%
SE Asia	30	114	84	280%
Rest of World	206	186	(16)	(10)%
Global	511	1,020	509	100%

Source: Commodity Insights.

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There are several fundamental factors driving this growth in demand:

- High electricity demand growth across developing Asia, driven by strong economic growth, increasing industrialisation and higher electrification rates
- High population growth across developing Asia, particularly India and South East Asia
- Significant coal-fired generation capacity commissioned in many countries
- In some regions, an inability of domestic coal production to keep pace with demand growth, amplified by an increasing demand for high quality thermal coal (i.e. high energy, low impurity), which is typical of seaborne traded coals.

While past performance is no guarantee of future performance, these fundamental drivers remain and suggest thermal coal demand growth will continue for some time yet.

The developing regions of Asia – China, India, Thailand, Vietnam, Indonesia, the Philippines, Pakistan and Bangladesh – all have low levels of per capita electricity consumption. The most developed of these – China – has a consumption level half of Japan's and a third of the USA's. India's per capita consumption level is only one-tenth of Japan's, and Bangladesh's is less than one-twentieth of Japan's.

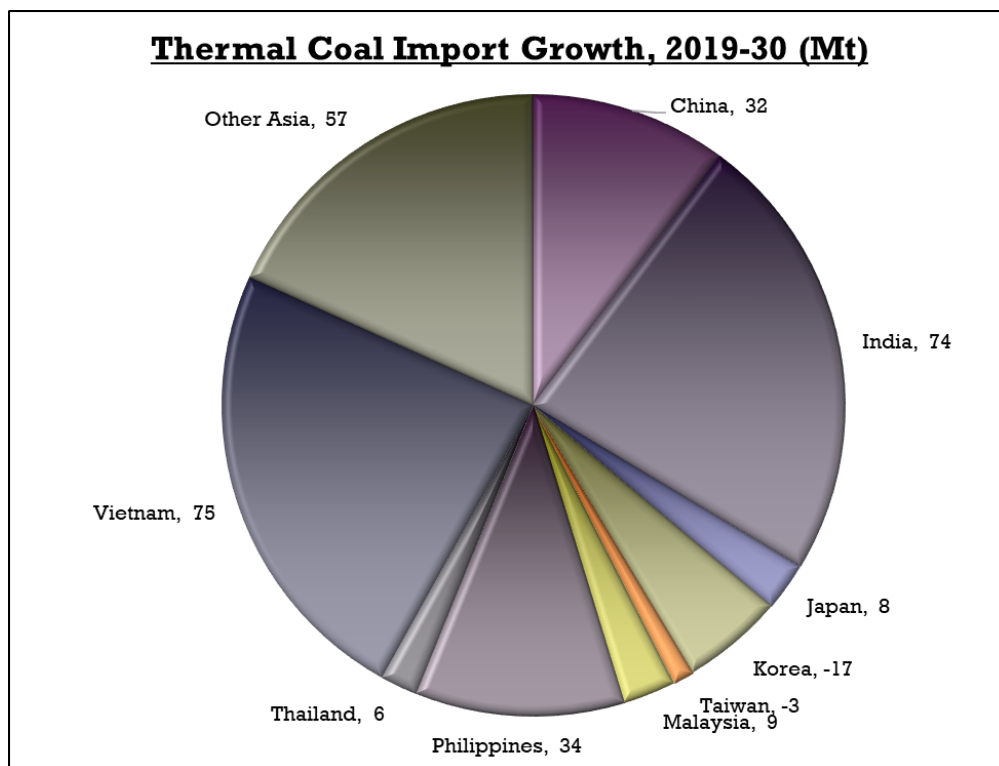
Along with their substantial populations (Asia contains eight of the world's 15 most populous nations) and strong forecast population growth (with almost 300 million additional people expected by 2030 according to UN projections) these relatively low consumption levels indicate there is significant future electricity demand growth across Asia.

For all Asian nations to reach a Japanese level of consumption, massive investment in power generation capacity will be required. While the timeframe of development and growth will vary by country, demand for electricity generation is likely to be met by a range of sources, including coal.

Commodity Insights has forecast thermal coal import growth to 2030 for selected Asian markets, which is presented below. This is based on the following assumptions:

- To 2025, forecasts are based on coal-fired capacity additions
- Beyond that, forecasts are based on electricity demand forecasts and coal's estimated share of the generation mix, based on official government policy.

Imports are forecast to grow by more than 270Mt from 2019 to 2030 – considerably more than Australia's entire 2019 thermal coal exports (212Mt).



Source: Commodity Insights.

While it is probable that thermal coal demand will decrease in other regions, much of this decline will be in countries such as the USA that utilise domestic coal, therefore the impact on the seaborne market will be limited. Conversely, much of the Asian demand growth will rely completely on higher quality imported coals, which will drive an increase in seaborne thermal coal volumes.

The forecast growth is not only robust but broadly spread across the region.

Australian thermal coal is widely considered to be the benchmark coal in Asian import markets (being of higher energy and therefore lower CO₂ emissions per kWh than lower rank alternatives).

If more Asian demand is met from Australia, it will not only contribute substantially to national wealth but it will also provide power to developing Asian neighbours, with a lower CO₂ emissions profile than if produced from alternative coal sources.

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2. Demand Forecast

In 2018, Commodity Insights developed a detailed Asian seaborne thermal coal demand forecast. An update of this forecast is presented below. To 2025, forecasts are based on coal-fired capacity additions in each country, and beyond that on electricity demand forecasts and coal's estimated share of the generation mix, which are sourced from official government policy targets. Asian thermal coal imports are forecast to grow by 275Mt from 2019 to 2030, a CAGR of 2.6 per cent. This represents annual growth of around 25 Mt.

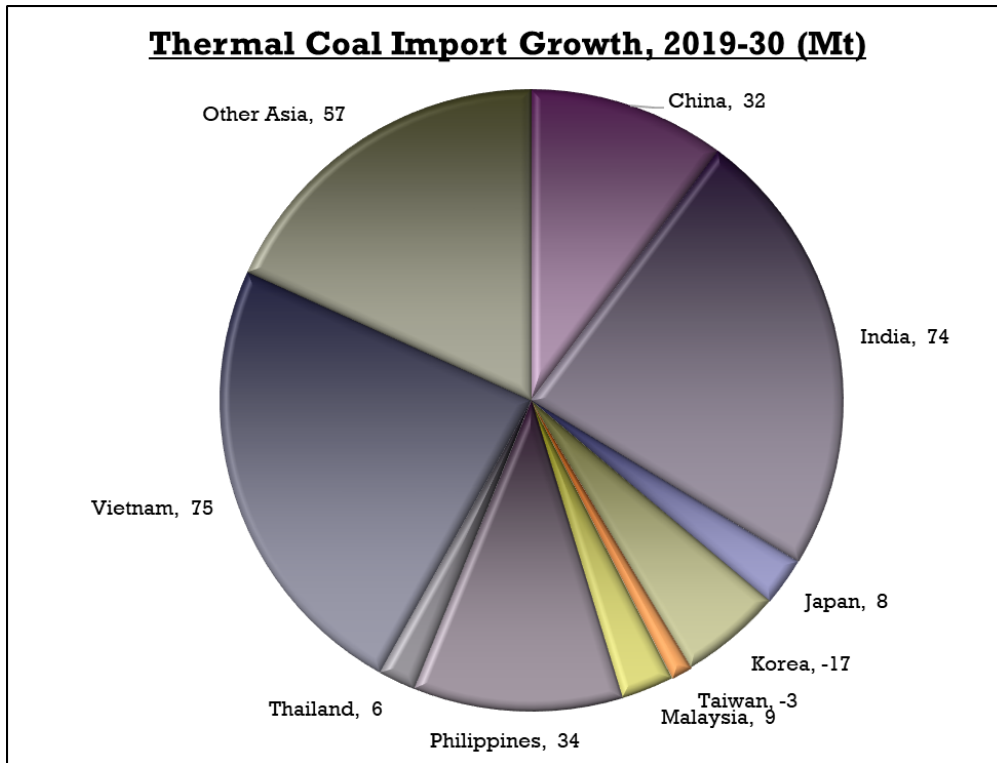
Country (Imports Mt)	2019	2020e	2025f	2030f	Growth
China	218	230	250	250	32
India	169	150	200	243	74
Japan	137	132	156	145	8
Korea	111	103	110	94	(17)
Taiwan	59	56	61	56	(3)
Malaysia	34	35	40	43	9
Philippines	27	28	47	61	34
Vietnam	32	41	68	107	75
Thailand	21	23	25	27	6
Other Asia	25	24	56	82	57
Total	834	822	1,013	1,109	275

Source: Commodity Insights. Figures for 2020 are based on actual year-to-date imports, annualised.

Growth will be negative in 2020 due to the impact of COVID-19 but will be followed by a solid recovery. Most countries are expected to increase imports, with only Taiwan (marginally) and Korea reducing volumes.

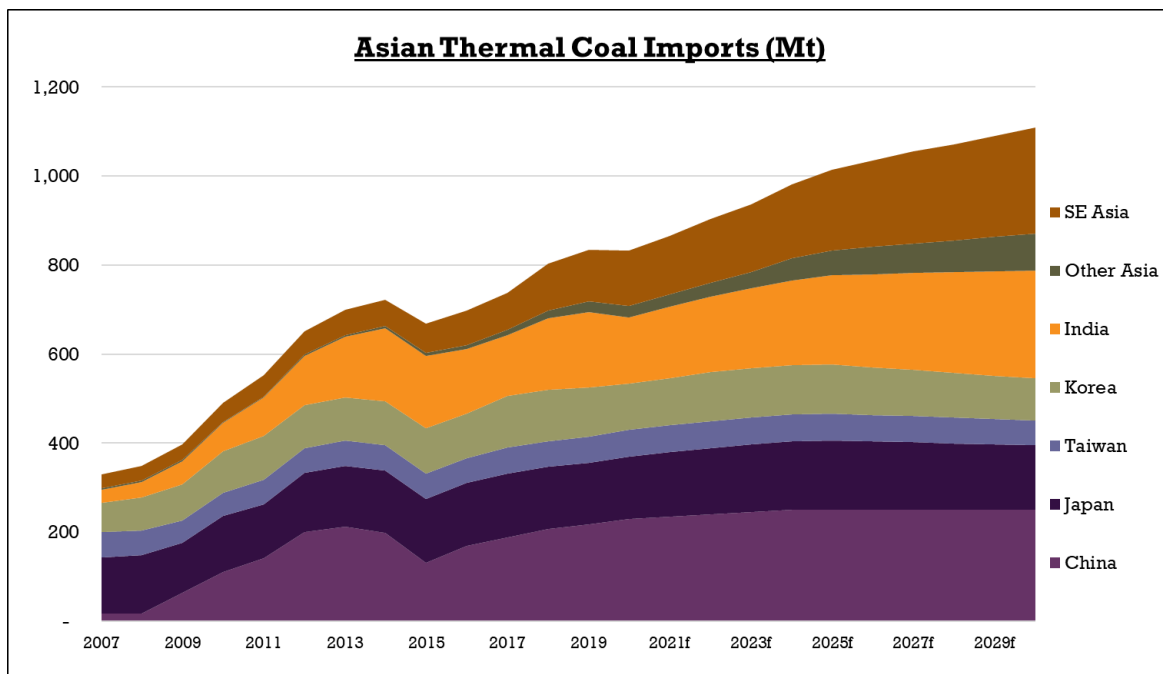
Importantly, five countries/regions are forecast to increase demand by more than 30Mt, illustrating the breadth of market demand growth for imported thermal coal – which is not reliant on growth from China. The distribution of growth for 2019-30 by country is charted below.

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Source: Commodity Insights.

The cumulative growth profile from 2007 to 2030 is charted below, incorporating Commodity Insights' forecasts from 2020 onwards.



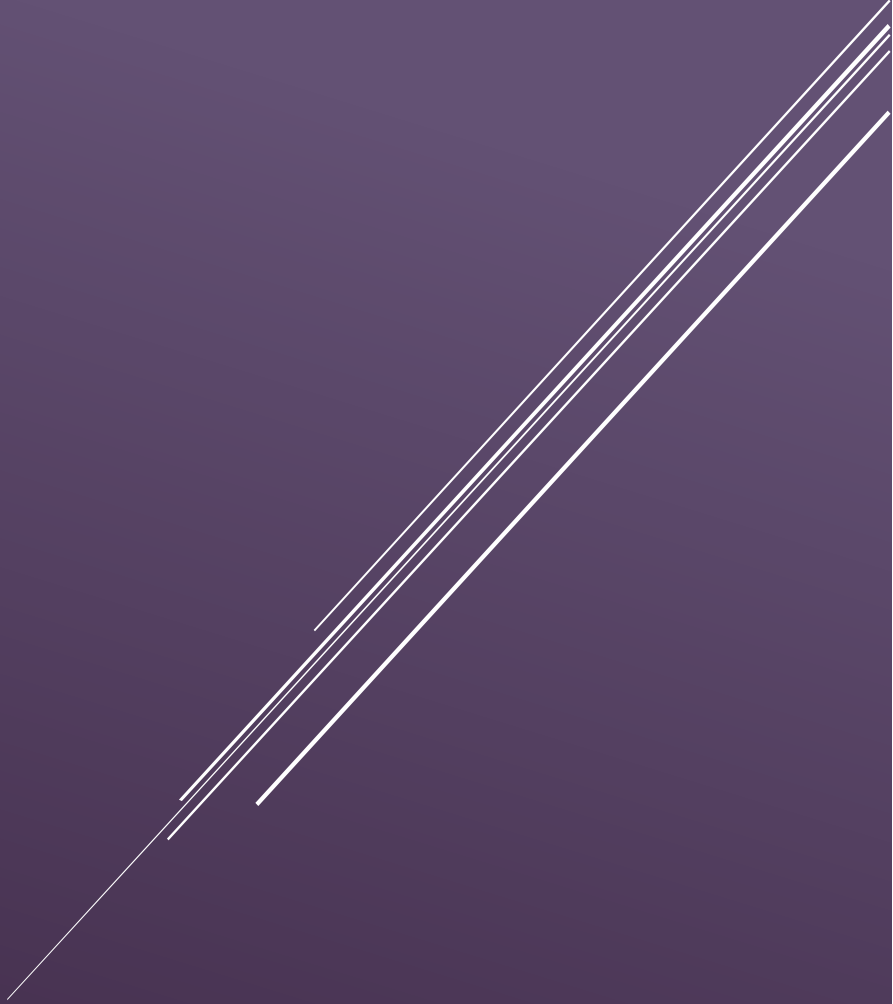
Source: Commodity Insights.

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The overall Asian demand import forecast for 2025 and 2030 remains close to the 2018 forecast, but some country forecasts have changed. The drivers of these changes are:

1. **Base year effect.** Commodity Insights applies an incremental model when forecasting import demand (i.e. estimated incremental demand for each year is added to demand from the previous year). The base year for the current forecasts was 2019, while the base year for the previous forecasts was 2017.
2. **Timing of new capacity additions.** In the short-term (i.e. to 2025), Commodity Insights estimates demand growth based on the additional coal-fired capacity being commissioned in each country. Plant-level data is applied for this exercise, and since the previous forecast some plants have been added/removed or have different development schedules. This is where the impact of COVID-19 is evident.
3. **Changes in government policy.** In the long term, government policy in relation to both energy sources and emissions reduction are important drivers of coal's share of power generation and therefore import demand. Since the previous forecast, several governments have announced new policy targets for the electricity mix.



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