

August 5th, 2021

Director Energy and Resources Policy
NSW Department of Planning, Industry and Environment

RE: Hawkins Rumker Preliminary Regional Issues Assessment

Attention: Director Energy and Resources Policy,

The Institute for Energy Economics and Financial Analysis (IEEFA) is submitting the following report on Australia's thermal coal export outlook to the Hawkins Rumker Preliminary Regional Issues Assessment.

The 2020 NSW Government Strategic Statement on Coal Exploration and Mining in NSW (the 'Future of Coal Statement') identified 14 potential coal exploration areas including Hawkins and Rumker. However, the coal demand forecasts used in the Future of Coal Statement are out of step with the NSW Treasury's own forecasts released in 2021 in support of the latest NSW Government Intergenerational Report.¹

The NSW Treasury has concluded that "global demand for coal is expected to weaken considerably", further noting that "Declining global demand for coal will reduce New South Wales' economic growth over the projection period and will have impacts both on employment and the fiscal outlook."

Under the NSW Treasury's low global coal demand scenario for the 2021 Intergenerational Report, coal production in NSW reaches zero by 2042. The risk the thermal coal sector now faces is that the accelerating global energy transition, driven faster by increasing action on carbon emissions, is pushing the world towards such a low demand scenario.

The NSW Treasury also projects a major decline in coal mining jobs – between 75% and 100% fewer jobs in the sector by 2061. Under its central reference case, NSW Treasury projects that employment in coal mining will decline by an average of 600 jobs per year over the next two decades.

The accelerating pace of the energy technology transition has significant implications for the Australian coal industry and questions the sense of adding more coal mining capacity into a market set for long term decline. In such a market, new mining capacity only steals market share from existing operations, putting existing coal mining jobs at risk.

¹ NSW Treasury. [The Sensitivity of the NSW Economic and Fiscal Outlook to Global Coal Demand and the Broader Energy Transition for the 2021 NSW Intergenerational Report](#). May 2021

I hope this report will be useful to the Preliminary Regional Issues Assessment in highlighting that these new coal exploration areas are not required and are actually potentially damaging to existing jobs given the long term market outlook.

Regards,

A handwritten signature in black ink, appearing to read 'S. J. Nicholas'.

Simon Nicholas
Energy Finance Analyst
Institute for Energy Economics and Financial Analysis

Australian Thermal Coal Exports Outlook

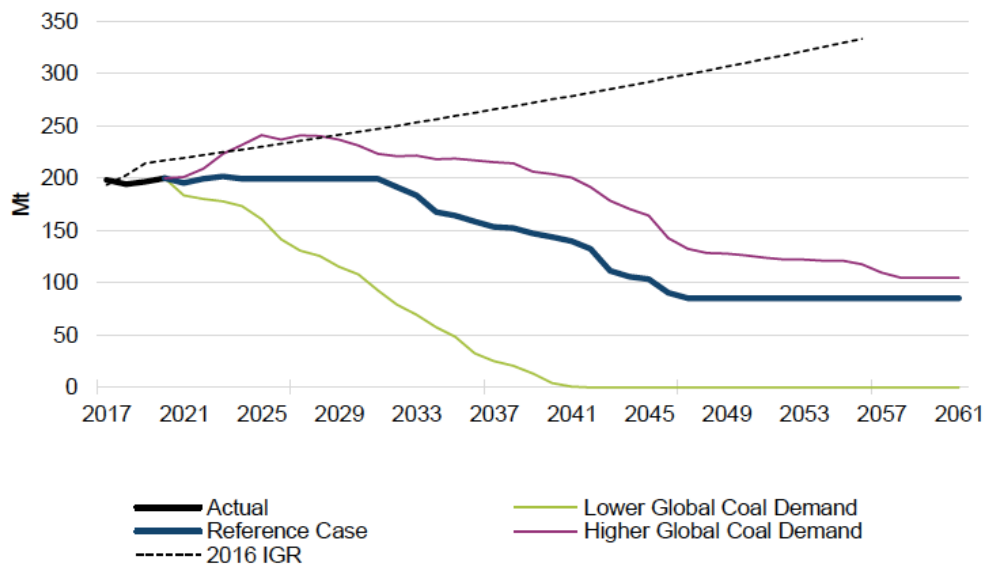
Volumes Set to Fall Amid Accelerating Energy Transition

Executive Summary

Global demand for seaborne thermal coal declined around 8% in 2020 as the world economy slumped during the height of the COVID-19 pandemic. Although a recovery in global volumes can be expected in 2021, it seems unlikely that a sustained recovery to pre-COVID levels will be seen. Global coal demand likely peaked in 2018 and will never again reach that level. The NSW Treasury has concluded that “global demand for coal is expected to weaken considerably” (Figure A), further noting that “Declining global demand for coal will reduce New South Wales’ economic growth over the projection period and will have impacts both on employment and the fiscal outlook.”

The coal power project pipelines in South and Southeast Asia – supposedly the new demand centres of Australian thermal coal to replace the biggest markets of Japan, China and South Korea which have all committed to reaching net zero emissions – are drying up rapidly after an 80% decline since 2015.

Figure A: NSW Treasury and Department of Regional NSW projected coal volumes 2021 vs 2016 (Million tonnes)



Source: NSW Treasury; Department of Regional NSW.

Ultimately, demand for Australian thermal coal will be set by the policies and actions of governments and companies in coal-importing Asian nations. The current status and outlook for coal-fired power in these nations has far more impact on the future of Australian thermal coal than the policies and ambitions of the Australian coal industry and state and federal governments.

Australian thermal coal operations were loss making in 2020 when prices reduced to US\$50/t although they have recovered now that prices are well above US\$100/t. However, higher coal prices are now a double-edged sword for thermal coal miners - from this point of the energy transition onwards, high thermal coal prices will kill long term demand as it makes coal-fired power even more expensive compared to ever-cheaper renewable energy.

Thermal Coal Exports Long Term Outlook

Under the NSW Treasury's low global coal demand scenario for the 2021 Intergenerational Report, coal production in Australia's main thermal coal producing state reaches zero by 2042 (Figure A). The risk the thermal coal sector now faces is that the accelerating global energy transition, driven faster by increasing action on carbon emissions, is pushing the world towards such a low demand scenario.

Australia's traditional thermal coal export markets are all shifting away from coal-fired power in the long term.

Japan: Japan is Australia's largest thermal coal export destination which makes its pledge to achieve net zero carbon emissions by 2050 highly significant. Japan also increased its 2030 emissions reduction target from 26% to at least 46% at the April 2021 climate summit hosted by the U.S. As a result, Japan's new 2030 power plan increases focus on renewables and will see reliance on coal- and LNG-fired power reduce significantly. Australia will be particularly impacted by this shift.

The new power plan will see coal power's share of the generation mix drop from 32% in 2019-20 to 19% in 2030. As a result, Japan's consumption of coal will fall by almost 54 million tonnes per annum by 2030 according to calculations by Argus Media, a drop of 46%. To fill the gap, Japan is planning that renewable energy will make up 36%-38% of the power mix by 2030, up from 18% in 2019-20.

China: China was Australia's second biggest thermal coal export destination in 2019. This changed significantly in the second half of 2020 when a diplomatic spat led to a ban on coal imports from Australia. However, the bigger risk to Australian thermal coal exporters is not diplomatic tensions but China's clear plan to become self-sufficient for thermal coal in the medium term. China is increasing domestic coal production and rail capacity with the intention of replacing imports.

The Chinese government surprised many in September 2020 when it announced that it was targeting net zero emissions by 2060. Increased emphasis on renewable energy will also squeeze out thermal coal imports. The nation added more than 72GW of wind power in 2020, more than double the previous record. It also added

48GW of solar, the most since 2017. President Xi Jinping has stated that China's coal consumption will peak in 2025 and decline thereafter.

South Korea: In October 2020, the South Korean government announced its target to reach net zero emissions by 2050, in line with Japan. Under the government's ninth basic electricity plan, coal-fired power generation is expected to decrease 23% by 2030, reducing thermal coal consumption by around 19 million tonnes per annum. A total of 30 coal-fired power plants are expected to be shut down by 2034. Renewable energy will make up 35% of total capacity by 2030 and 42% by 2034 according to the new plan. Offshore wind will play a major role and South Korea plans to build the world's largest offshore plant (8.2GW) by 2030.

Taiwan: In January 2021, the Taiwanese parliament passed a resolution that will see the 5.5GW Taichung coal power plant decommissioned by 2035 at the latest, and possibly two years earlier. The plant consumed more than 12 million tonnes of thermal coal in 2020. In addition, over the last five years the pipeline of proposed coal-fired power plants has shrunk from 2.4GW to zero after a series of project cancellations. Most recently, the 1,200MW Shenao power proposal was cancelled in October 2018. This was the last major coal-fired power plant in Taiwan's pipeline.

Other Markets

Other nations have been previously identified as growth markets for Australian coal exporters. However, with the pace of the energy technology transition accelerating, and finance for coal power increasingly hard to come by, the opportunity for export growth into these markets is rapidly falling away:

India: Like China, thermal coal imports into India make up only a fraction of total consumption with far more thermal coal mined domestically. India has made it clear it intends to become self-reliant for thermal coal as it approaches peak coal consumption amid its rapid renewable energy roll-out.

India is looking to replace 110-120 million tonnes of thermal coal imports with domestic fuel "in the next few years." In March 2021, Coal India announced an investment of US\$6.4 billion on further coal mining projects to boost domestic output and replace imports. The 32 projects will have a combined production of almost 200 million tonnes per annum. India's coal imports totalled 249 million tonnes in the last fiscal year. NTPC – India's biggest power generator – will not import coal for the second straight fiscal year in response to the government's drive to reduce imports and thanks to ample domestic coal availability.

Vietnam: The Vietnamese government has significantly pared back plans to build coal-fired power; from a previous target of 55.3GW of coal-fired power, it now intends to reach only 37.3GW by 2030, although only 20.4GW will be fuelled by imported coal. However, many of the proposed coal power plants are in the early development stages and many may never proceed to construction.

With coal-fired power unable to meet power demand growth expectations in a timely and affordable manner, Vietnam's new long term power plan increases focus

on quicker-to-build and cheaper renewable energy. Vietnam has already seen a recent boom in renewable energy installations including an astonishing 9GW of rooftop solar added in 2020. In the first quarter of 2021, increased renewables and hydro output reduced coal-fired power generation in Vietnam despite an overall increase in power generation.

Bangladesh: Prompted by the increasing difficulty in getting finance for coal-fired power as more banks withdraw lending for coal, Bangladesh's power minister revealed in late June 2020 that the government is reassessing its plans for coal-fired power development. In June 2021 it was confirmed that the government had decided to cancel ten proposed coal-fired power projects.

Pakistan: the Prime Minister of Pakistan announced that Pakistan "will not have any more power based on coal" at the December 2020 Climate Ambition Summit. However, Pakistan had already turned away from coal power fuelled by imported thermal coal in favour of its own domestic coal reserves. Several plants that were intended to have been fuelled by imports have been cancelled. Other coal power proposals have had their plans changed to use domestic rather than imported coal. Furthermore, the government is considering converting existing plants using imported coal to domestic coal meaning there is potential for Pakistan's thermal coal imports to actually decline in the medium term.

Philippines: In October 2020, the Philippines Department of Energy called a moratorium on further coal-fired power development. Following this announcement, the nation's coal power developers and banks have also been distancing themselves from coal. In December 2020, the CEO of Rizal Commercial Banking Corporation stated "No more coal, no more coal. I'll say that slowly - NO MORE COAL".

Impact on Coal Royalties and Jobs

Under the NSW Treasury's lower global coal demand scenario for the 2021 Intergenerational Report, coal royalties decline to zero by 2042. Even in the base case, annual coal royalties decline to around a third of current levels over the coming decades. Similarly, the NSW Treasury forecasts a major decline in coal mining jobs – between 75% and 100% fewer jobs in the sector by 2061. Under the base case, NSW Treasury forecasts that employment in coal mining will decline by an average of 600 jobs per year over the next two decades.

The accelerating pace of the energy technology transition has significant implications for the Australian coal industry and questions the sense of adding more coal supply into a market set for long term decline. In such a market, new mining capacity only steals market share from existing operations, putting existing coal mining jobs at risk.

A transition away from reliance on coal over the coming decades is now certain, the only question remaining is whether that transition will be orderly or chaotic. A moratorium on new thermal coal mine capacity is required to avoid chaotic impact on coal mining employment.

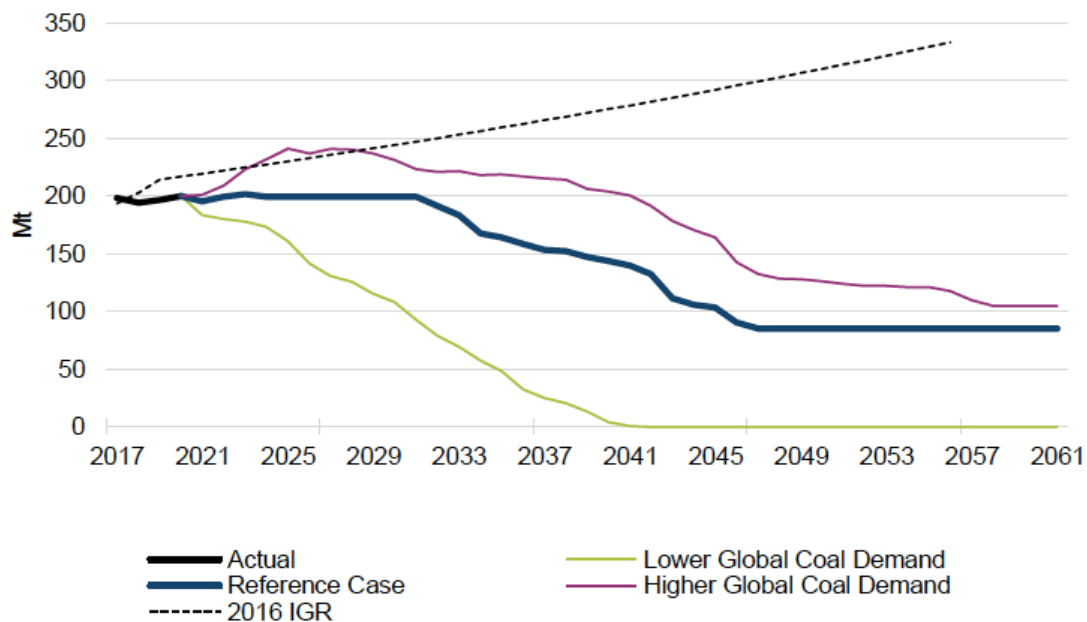
Long Term Thermal Coal Demand in Asia Coal is Drying Up

Global demand for seaborne thermal coal dropped around 8% in 2020 as the world economy slumped during the height of the COVID-19 pandemic. Although a recovery in global volumes can be expected in 2021, it seems unlikely that a sustained recovery to pre-COVID levels will be seen.²

The drop in 2020 volumes was led by the EU, India and South Korea – all of which have policies in place to reduce thermal coal imports in the long term. Furthermore, far from slowing down the global energy transition, COVID-19 has accelerated it. Global coal demand likely peaked in 2018 and will never again reach that level.³

The NSW Treasury has concluded that “global demand for coal is expected to weaken considerably” (Figure 1), further noting that “Declining global demand for coal will reduce New South Wales’ economic growth over the projection period and will have impacts both on employment and the fiscal outlook.”⁴

Figure 1: NSW Treasury and Department of Regional NSW projected coal volumes 2021 vs 2016 (Million tonnes)



Source: NSW Treasury; Department of Regional NSW.

² Argus. [Seaborne thermal coal imports drop by 8pc in 2020](#). 1 March 2021

³ Bloomberg New Energy Finance. [New Energy Outlook 2020](#). October 2020

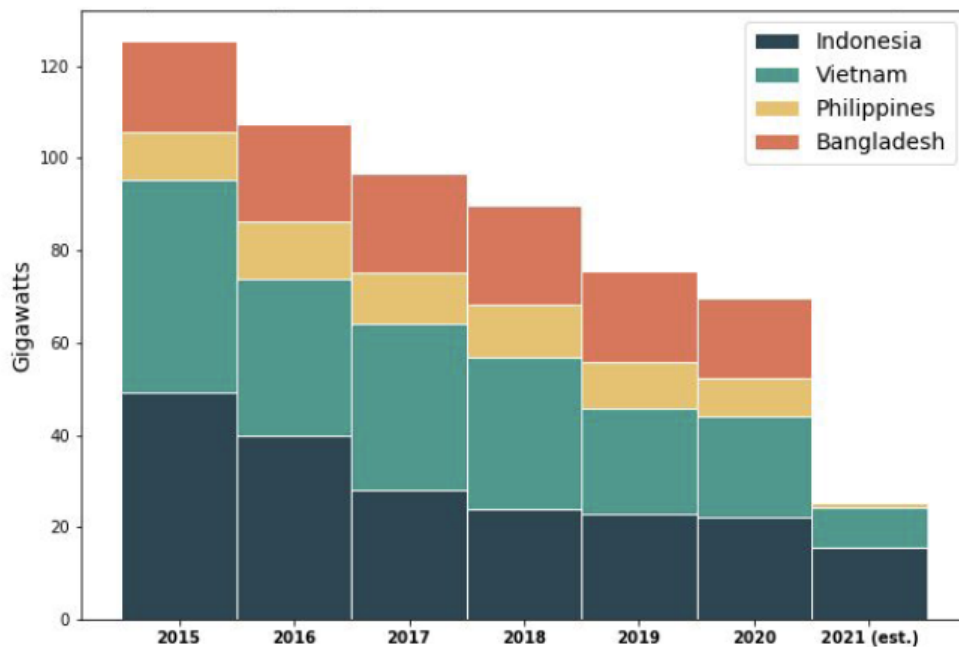
⁴ NSW Treasury. [The Sensitivity of the NSW Economic and Fiscal Outlook to Global Coal Demand and the Broader Energy Transition for the 2021 NSW Intergenerational Report](#). May 2021

The NSW Treasury acknowledges that thermal coal’s worsening outlook “is being driven by a combination of policy measures at a global scale aimed at reducing greenhouse gas (GHG) emissions, and technological development which is lowering the cost of renewable generation. This will impact the New South Wales economy and budget, and because it is driven by global factors, is largely outside the control of the New South Wales Government.”

Under the NSW Treasury’s low global coal demand scenario for the 2021 Intergenerational Report, coal production in Australia’s main thermal coal producing state reaches zero by 2042 (Figure 1). The risk the thermal coal sector now faces is that the accelerating global energy transition, driven faster by increasing global action to reduce carbon emissions, is pushing the world towards such a low demand scenario.

Australian thermal coal operations were loss making in 2020 when prices reduced to US\$50/t⁵ although have recovered now that prices are above US\$100/t. However, higher coal prices are now a double-edged sword for thermal coal miners. From this point of the energy transition onwards, high thermal coal prices will kill long term demand as it makes coal-fired power even more expensive compared to ever-cheaper renewable energy.

Figure 2: Coal Power Capacity Planned for Construction, 2015-2021



Source: Global Energy Monitor

The coal power project pipelines in South and Southeast Asia – supposedly the new demand centres of Australian thermal coal to replace Australia’s biggest thermal

⁵ Argus. [Australia’s coal miners unprofitable at US\\$50/t](#). 2 March 2021

coal export markets Japan, China and South Korea (which have all committed to reach net zero emissions) – are drying up rapidly after an 80% decline since 2015 (Figure 2).

Investors and Financiers Shifting Away from Coal

Nations like Vietnam and Bangladesh have noticed that it is increasingly difficult to finance their coal power plans as more and more financiers shift away from coal funding. This is driving them to cancel planned coal power plants. The list of banks that have new coal policies distancing themselves from further coal financing is now growing faster than ever and numbers well over 100 financial institutions.⁶

Recent additions to the list of financiers leaving thermal coal behind include major Japanese banks such as Mizuho and Sumitomo-Mitsui⁷ that have historically been amongst the most significant financiers of coal-fired power in Asia.

In a highly significant moment in the history of coal power development, March 2021 saw the government-owned Japan Bank for International Cooperation (JBIC) state that it will stop funding coal power projects overseas.⁸ JBIC has been a key lender and enabler of coal power finance across developing Asia.

Outside of Japan, companies involved in coal-fired power plant construction are now facing difficult questions from major investors. BlackRock – the world’s largest asset manager – contacted Korean power utility and coal power developer KEPCO in May 2020 “seeking a clear strategic rationale for its investments in coal energy”.⁹ In October 2020, KEPCO announced that it will stop coal-fired power development overseas.¹⁰

COVID-19 did not slow down the rate at which banks continue to turn away from coal finance. As the list of banks that have abandoned coal expands, further coal-fired power development around the world will become increasing unlikely.

Thermal Coal Exports Long Term Outlook – Australia’s Big Four Markets

As the NSW Treasury has accepted, demand for Australian thermal coal will be set by the policies and actions of governments and companies in coal-importing Asian nations. The current status and outlook for coal-fired power in these nations has far more impact on the future of Australian thermal coal than the policies and ambitions of the Australian coal industry and state and federal governments.

⁶ IEEFA. [Financial institutions are restricting thermal coal funding](#)

⁷ Reuters. [Japan’s SMFG likely to halt all new lending for coal power, sources say](#). 3 March 2021

⁸ NHK. [JBIC backs away from funding coal-fired plants](#). 3 March 2021

⁹ IEEFA. [Question time for KEPCO’s board](#). 2 June 2020

¹⁰ GCR. [“No more overseas coal power projects,” says South Korea’s KEPCO](#). 16 October 2020

Australian thermal coal exports have historically been dominated by four key markets.

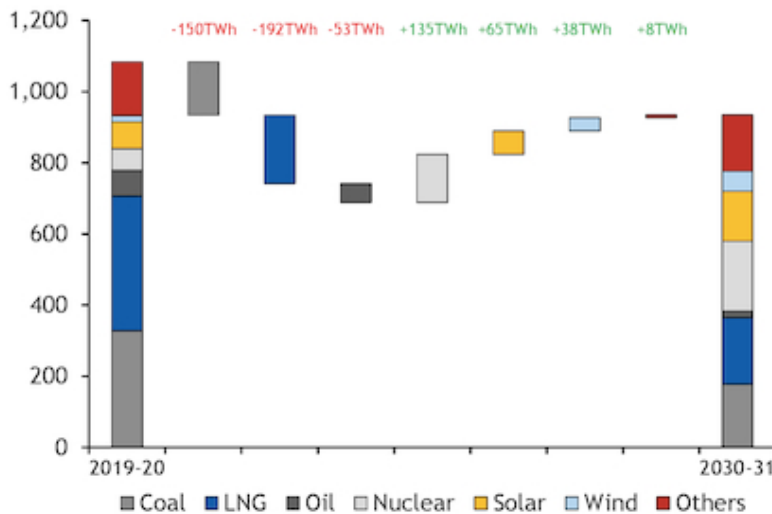
Japan

Japan is Australia’s largest thermal coal export destination which makes its pledge to achieve net zero carbon emissions by 2050 highly significant.¹¹ At the April 2021 Earth Day climate summit hosted by the U.S., Japan increased its 2030 emissions reduction target from 26% to at least 46%¹² - a move that will necessitate a further acceleration in Japan’s shift away from coal-fired power.

The age profile of its operating coal power fleet means Japan was on track for a significant reduction in coal-fired power capacity in the long term even before the net-zero emissions announcement. This has now been confirmed by Japan’s new power plan which increases focus on renewables and will see reliance on coal- and LNG-fired power reduce significantly. Australia will be particularly impacted by this shift.¹³

Japan’s new power plan will see coal power’s share of the generation mix drop from 32% in 2019-20 to 19% in 2030 (Figure 3). This suggests that Japan’s consumption of coal will fall by almost 54 million tonnes per annum by 2030 according to calculations by Argus Media, a drop of 46%. To fill the gap, Japan is planning that renewable energy will make up 36%-38% of the power mix by 2030, up from 18% in 2019-20.¹⁴

Figure 3: Changing Power Mix In Japan’s New Power Plan (TWh)



Source: Argus Media

¹¹ The Guardian. [Japan’s net zero by 2050 pledge another warning to Australia on fossil fuels, analysts say](#). 27 October 2020

¹² Reuters. [Key takeaways from the Biden Earth Day summit](#). 23 April 2021

¹³ Reuters. [Japan’s power plan will rattle coal, LNG exporters, especially Australia: Russell](#). 22 July 2021

¹⁴ Argus Media. [Japan cuts 2030 coal/gas power share targets](#). 21 July 2021

Meanwhile, the pipeline of pre-construction coal-fired power plants under development has disappeared after all remaining projects were cancelled. From almost 12.7GW of project proposals in Japan's pipeline in January 2015, the figure is now zero with the last two projects cancelled in April 2021. J-Power and Ube's Yamaguchi coal power proposal was cancelled with J-Power citing the unprofitability of the project and the global shift from coal as reasons for the cancellation.¹⁵ The final project in pipeline was Marubeni and Kansai Electric's 1.3GW Akita proposal which was cancelled in the same month.¹⁶ It is clear that no new coal plant proposals will ever be made in Japan.

Furthermore, with Japanese power demand expected to fall by 2030-31¹⁷, coal-fired power in Japan will face increased competition from other sources. Japan is planning a hugely ambitious scale up of offshore wind, batteries, hydrogen technology and solar to help meet its net zero by 2050 goal. Japan has ramped up its 2030 solar installation target to 108GW.¹⁸

Japanese corporations are already following the governments lead on emissions. In addition to stating that it will shut down all of its older, inefficient coal power stations by 2030¹⁹, JERA – the nation's biggest power generator – is targeting offshore wind and the conversion of all remaining coal power plants to run on ammonia in a bid to meet its own net zero by 2050 goal.²⁰ Tokyo Electric Power Company (TEPCO) announced in June 2020 an investment of up to US\$18 billion on clean energy projects including offshore wind.²¹

Deregulation of the Japanese power market is also attracting new entrants to power generation with a focus on renewable energy. Telecommunications group NTT announced in June 2020 that it will invest US\$9 billion to add more than 7GW of renewable energy in Japan by 2030.²²

Meanwhile, the major Japanese trading houses are continuing to reposition their energy businesses by abandoning thermal coal mining – including their Australian mine investments – as well as coal-fired power.²³ Most recently, Mitsubishi Corporation withdrew from a coal power proposal in Vietnam as the latter reduces its emphasis on coal-fired power development.²⁴

Japan is planning to invest US\$19 billion to help make hydrogen a major power source for the country by 2030.²⁵ The production cost of green hydrogen is expected

¹⁵ Nikkei Asian Review. [Japan's top coal power company scraps plan for new plant](#). 17 April 2021

¹⁶ Argus. [Kansai, Marubeni scrap Akita coal-fired power project](#). 27 April 2021

¹⁷ Argus. [Japan's power demand forecast to fall by 2030-31](#). 22 January 2021

¹⁸ Bloomberg. [Every Roof in Japan Could Have Solar Panels in the Future](#). 6 July 2021

¹⁹ Reuters. [Japan's JERA to shut inefficient coal-fired power plants by 2030](#). 13 October 2020

²⁰ Bloomberg. [Japan to Use Wind, Batteries to Meet Lofty 2050 Carbon Goal](#). 22 October 2020

²¹ Reuters. [TEPCO Renewable to spend \\$9-18 billion by 2035 on green power](#). 9 June 2020

²² Nikkei Asian Review. [NTT to join Japan's renewable energy sector with \\$9bn investment](#). 29 June 2020

²³ Reuters. [Japan traders speed up coal asset cuts amid global decarbonisation push](#). 5 February 2021

²⁴ Reuters. [Mitsubishi pulls out of Vinh Tan 3 coal project in Vietnam – sources](#). 26 February 2021

²⁵ Reuters. [Japan to make hydrogen major power source by 2030: Nikkei](#). 8 December 2020

to drop 60% by 2030²⁶ and global investment in the technology accelerated sharply in 2020, unincumbered by the COVID-19 pandemic.

By the beginning of 2021 over 200 industrial hydrogen projects had been announced, more than 30 countries had released hydrogen roadmaps and governments have committed more than US\$70 billion in public funding. The total investment of all announced projects will be US\$300 billion through to 2030, should they all proceed.²⁷ This sudden increase in global hydrogen investment will see the cost of green hydrogen production fall even faster than recently predicted.

Transportation of hydrogen over long distances is likely take place in the form of ammonia which has a higher volumetric energy density than hydrogen whilst ships that can transport ammonia are already commercially available. The Japanese government is planning a role for ammonia in its thermal power fleet, replacing coal. Originally aiming for a 20% ammonia co-firing rate at the nation's coal-fired power plants by 2030 with the aim of expanding beyond 50% thereafter, the government has now brought forward its target and wants to see demonstration of 50% co-firing by 2030.²⁸ Australia's Fortescue Future Industries has signed a Memorandum of Understanding with Japan's IHI Corporation to examine potential imports of green ammonia from Tasmania.²⁹

JERA is currently testing ammonia co-firing at its 1,000MW Hekinan coal-fired power plant with the intention to reach 20% ammonia co-firing by 2024³⁰ and is working with Norwegian fertiliser producer Yara International on increased blue and green ammonia supply for power generation.³¹

100% ammonia-fired power generation is then planned be developed to help achieve net zero by 2050.³² Mitsubishi Power has commenced development of the world's first 100% ammonia-fired power turbines, with commercialisation expected around 2025.³³

China

China was Australia's second biggest thermal coal export destination in 2019. This changed significantly in the second half of 2020 when a diplomatic spat led to a ban on coal imports from Australia. April 2021 marked the fourth straight month of zero thermal coal exports to China, contributing to a 10% year-on-year decline in total Australian thermal coal exports over the January to April period.³⁴

²⁶ McKinsey & Co., Hydrogen Council. [Hydrogen Insights](#). February 2021

²⁷ McKinsey & Co., Hydrogen Council. [Hydrogen Insights](#). February 2021

²⁸ Argus Media. [Japan to advance ammonia co-firing technology](#). 24 June 2021

²⁹ PV Magazine. [Fortescue Future Industries investigating green ammonia supply chain between Australia and Japan](#). 21 May 2021

³⁰ Reuters. [Japan's JERA aims to use 20% ammonia at coal power plant in 2024](#). 24 May 2021

³¹ Argus Media. [Jera, Yara explore creating clean ammonia partnership](#). 11 May 2021

³² Argus Media. [Japan targets 3mn t/yr of ammonia fuel use by 2030](#). 8 February 2021

³³ Mitsubishi Power. [Mitsubishi Power Commences Development of World's First Ammonia-fired 40MW Class Gas Turbine System](#). 1 March 2021

³⁴ Argus Media. [Australia exports record high thermal coal to India](#). 3 June 2021

However, the bigger threat to Australian thermal coal exports comes from China's moves to become self-reliant for thermal coal in the medium term, and its accelerating renewable energy roll-out, which threaten the balance of the entire Asian seaborne thermal coal market given it is the world's largest coal importer. The Australian thermal coal industry will be heavily impacted by this even if it is not exporting to China.

Significantly, the vast majority of thermal coal consumed in China is mined domestically with imports making up only a small percentage of total consumption. China produced 3.8 billion tonnes of coal domestically in 2020 whilst coal imports totaled 304 million tonnes.³⁵

China's latest five-year plan made clear that the nation intends to keep working to reduce the carbon intensity of its economy. However, at the same time China is intending to increase domestic coal production in order to improve energy security – an important concern for the world's largest importer of raw materials.³⁶ The implication for thermal coal exporters is clear – China wants to replace imported coal with domestic production.

Improvements to domestic coal mining efficiency and output, coal rail logistics and power transmission infrastructure are underway to increase reliance on domestic coal and reduce imports. China's 2020 domestic coal output was the highest since 2015³⁷ following expansions in coal mining capacity. China claims to have added a further 140 mtpa of new coal mining capacity in the first half of 2021 and intends to add another 110 mtpa in the second half.³⁸

Chinese rail transport capacity for coal was planned to be increased by more than 60 million tonnes in 2020. The new Haoji rail line transported 10 million tonnes of coal in the first half of 2020 but the capacity is planned to be ramped up to 200 million tonnes per annum. China's total bituminous and sub-bituminous coal imports in 2020 was 224 million tonnes.³⁹

China will also seek to take more coal from Mongolia which it considers to be a more energy secure source than seaborne coal. The giant Tavan Tolgoi coal mine is currently seeking to raise finance to develop the project intended to replace Australian exports to China on a more permanent basis.⁴⁰ Tavan Tolgoi is one of the world's largest coal deposits.

The world's longest ultra-high voltage transmission line is under construction to link coal-rich Xinjiang province in the west to the country's highly populated east. Coal transportation out of Xinjiang has proved difficult and the new transmission

³⁵ Reuters. [China's coal consumption seen rising in 2021, imports steady](#). 3 March 2021

³⁶ Bloomberg. [This is How Top Polluter China Plans to be Greener by 2025](#). 5 March 2021

³⁷ Reuters. [China's 2020 coal output rises to highest since 2015, undermining climate pledges](#). 17 January 2021

³⁸ Mining Weekly. [China to add 110Mt coal production capacity in H2 2021](#). 19 July 2021

³⁹ Argus. [White Paper: Chinese ban on Australian coal disrupts Asia-Pacific trade](#). January 2021

⁴⁰ Reuters. [Seeking to unseat Australia, Mongolia's giant coal mine plans \\$700 mln bond](#). 21 April 2021

line is expected to reduce thermal coal imports into eastern China by about 30Mt per annum.⁴¹

Meanwhile, at the April 2021 climate summit hosted by the U.S., President Xi Jinping announced that China would “strictly control coal-fired power generation projects”⁴² and that China’s coal consumption would peak in 2025 and decline thereafter.⁴³

In addition, increased emphasis on renewable energy will also squeeze out thermal coal imports. The Chinese government surprised many in September 2020 when it announced that it was targeting net zero emissions by 2060.⁴⁴ COVID-19 did not hold back China’s accelerating renewable energy additions. The nation added more than 72GW of wind power in 2020, more than double the previous record. It also added 48GW of solar, the most since 2017.⁴⁵ Wood Mackenzie forecasts that China will add 619GW of solar by 2030.⁴⁶

Following the government’s lead, State Grid Corporation – the world’s largest utility – revealed its own plan to reach carbon neutrality. State Grid is planning a major upgrade to its power grid over the next few years – including ultra-high voltage transmissions lines and power storage - in order to enable a move away from coal-fired power and reach peak carbon emissions as soon as possible.⁴⁷

The major power generation utilities are also supporting the government’s renewable energy drive. Huaneng is planning to add 80GW of wind and solar in order to reach 50% renewable energy capacity by 2025. State Power Investment Corporation is aiming for 60% renewable energy capacity by 2025. China Energy Investment and Datang have similar 2025 renewable energy addition and total capacity targets.⁴⁸ Huadian plans to add 75GW of renewables over the next five years whilst closing 3GW of coal-fired power with the intention of bringing its carbon emissions to a peak by 2025.⁴⁹

South Korea

In May 2020 the South Korean government unveiled a US\$62 billion “New Deal” designed to refocus its post-coronavirus economy. The plan is based on two pillars –

⁴¹ S&P Platts. [Chinese thermal coal demand to fall with launch of new power transmission line](#). 4 July 2019.

⁴² Reuters. [Key takeaways from the Biden Earth Day summit](#). 23 April 2021

⁴³ S&P Platts. [China to curb coal demand growth in economic plans as part of climate targets](#). 23 April 2021

⁴⁴ S&P Platts. [China’s long march to zero carbon](#). 10 December 2020

⁴⁵ Bloomberg. [China Blows Past Clean Energy Record with Wind Capacity Jump](#). 20 January 2021

⁴⁶ PV Magazine. [China to add 619 GW of solar this decade](#). 14 July 2021

⁴⁷ Bloomberg. [China Power Giant Wants to Get Ahead on Xi’s Emissions Goals](#). 2 March 2021

⁴⁸ Argus. [China’s State Grid sets peak emissions plan](#). 2 March 2021

⁴⁹ Reuters. Exclusive: [China Huadian to shut 3 GW of coal-fired power capacity by 2025 – chairman](#). 8 March 2021

a “Digital New Deal” and a “Green New Deal” with the latter intended to move the nation away from coal-fired power and towards renewable energy.⁵⁰

In addition to post COVID-19 recovery, this economic overhaul is also driven by South Korea’s major air pollution problem, ranked the worst in all OECD countries. The government had already been taking action on the air pollution issue prior to COVID-19 by curtailing coal-fired power generation. Having previously suspended operations at older coal-fired power plants during March to June periods to reduce seasonal pollution extremes, the decision was taken at the end of November 2019 to extend closures to the December-February period as well. These anti-pollution measures led to the lowest first-quarter thermal coal imports into South Korea for 10 years during the Jan-March 2020 period, prior to the impact of COVID-19 on power demand.⁵¹

This decision on winter coal plant operation came only a few weeks after the South Korean government confirmed that six coal plants totalling 2.6GW will be retired by 2021, a year earlier than previously indicated, in an effort to reduce air pollution.⁵²

In April 2019, South Korea’s coal import tax was increased by another 28% to KRW46/kg (US\$40/t). At the same time, the tax on LNG imports was cut by 75%.⁵³ This followed a 20% increase in the coal tax in April 2018. Even before COVID-19, the South Korean government was clearly attempting to prompt a shift away from coal use in power generation as part of an overall move away from coal and nuclear power and towards LNG and renewable energy. The third phase of South Korea’s emissions trading scheme – which covers the 2021-2025 period – could also incentivise switching from coal thanks to a lower cap on emissions and a reduction in free allowances.⁵⁴

Following South Korea’s “Green New Deal”, the government has announced its target to reach net zero emissions by 2050 in October 2020⁵⁵ in line with Japan. At the April 2021 climate summit hosted by the U.S., South Korea committed to end public finance for coal-fired power overseas and to set a more ambitious schedule for reducing domestic emissions. A new long term power plan has also been revealed.

Under the government’s ninth basic electricity plan, coal-fired power generation is expected to decrease 23% by 2030 (Figure 4), reducing thermal coal consumption by around 19 million tonnes per annum. Coal-fired power capacity and utilisation will both go into decline over the period. A total of 30 coal-fired power plants are

⁵⁰ Forbes. [South Korea Embraces EU-Style Green Deal For COVID-19 Recovery](#). 16 April 2020

⁵¹ Reuters. [South Korea’s first-quarter thermal coal imports set for 10-year low on anti-pollution measures](#). 26 March 2020

⁵² Reuters. [S. Korea to close 6 older coal-fired power plants by 2021, from planned 2022](#). 1 November 2019.

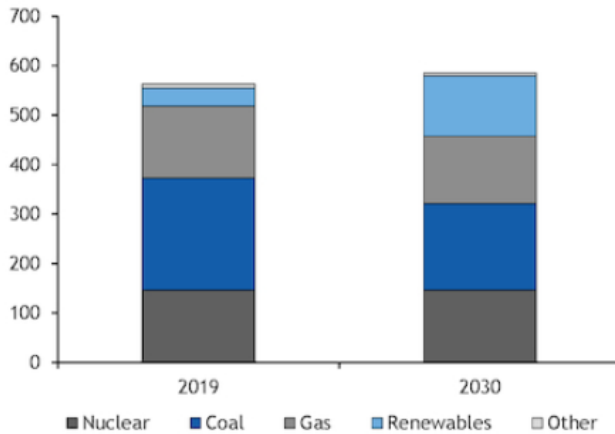
⁵³ S&P Platts. [South Korea to cut LNG taxes by 74% in April, raise thermal coal tax by 27%](#). 1 February 2019.

⁵⁴ Argus. [Next phase of S Korea ETS boosts fuel-switch potential](#). 13 October 2020

⁵⁵ Reuters. [South Korea’s Moon targets carbon neutrality by 2050](#). 28 October 2020

expected to be shut down by 2034⁵⁶. LNG-fired power capacity is set to increase but generation will actually drop as LNG plants change role from baseload to peaking plants that support higher renewable energy capacity.⁵⁷

Figure 4: South Korean Power Generation Outlook (TWh)



Source: Argus Media

Renewable energy will make up 35% of total capacity by 2030 and 42% by 2034 according to the new plan. To meet this target, South Korea's current renewable energy capacity of 20GW will need to be quadrupled.⁵⁸ Offshore wind will play a major role and South Korea plans to build the world's largest offshore plant by 2030. At 8.2GW, the plant will be almost seven times larger than the UK's Hornsea project which is currently the largest in the world.⁵⁹ There are also plans for a 6GW floating offshore wind plant which would also be the world's largest of its type.⁶⁰ South Korea added a record 4.1GW of solar in 2020, taking the total solar PV installations to more than 15GW.⁶¹

Taiwan

Taiwan is also dealing with air pollution issues. State-owned power generator Taipower has initiated winter coal power generation restrictions to address air pollution as South Korea has done. At the beginning of 2021, the 5.5GW Taichung coal-fired power plant was running at less than 40% capacity amid air pollution concerns. In January 2021, the Taiwanese parliament passed a resolution that will see the 5.5GW Taichung coal power plant decommissioned by 2035 at the latest,

⁵⁶ Yonhap News. [S. Korea to close 30 coal plants by 2034 amid shift to renewable energy](#). 24 December 2020

⁵⁷ Argus. [Seoul reaffirms its commitment to reduce coal reliance](#). 6 January 2021

⁵⁸ Korea Herald. [Korea to quadruple renewable power by 2034, downsize nuclear, coal](#). 15 December 2020

⁵⁹ Wood Mackenzie. [South Korea's ninth Basic Plan for electricity – a step closer to carbon neutrality?](#)

⁶⁰ Yonhap News. [Moon vows support for floating offshore wind farm in Ulsan](#). 6 May 2021

⁶¹ PV Magazine. [South Korea deployed 4.1GW of solar in 2020](#). 25 March 2021

and possibly two years earlier. The plant consumed more than 12 million tonnes of thermal coal in 2020.⁶²

In addition, over the last five years the pipeline of proposed coal-fired power plants has shrunk from 2.4GW to zero after a series of project cancellations. Most recently, the 1,200MW Shenao power proposal was cancelled in October 2018.⁶³ This was the last major coal-fired power plant in Taiwan's pipeline.

Taiwan's renewable energy target requires a roll-out of 27GW of renewables by 2025.⁶⁴ Much of Taiwan's renewables development will be driven by offshore wind and solar. Major global offshore wind players are already present in the Taiwan market including Danish power utility Ørsted and offshore wind turbine manufacturers MHI Vestas and Siemens Gamesa. Taiwan looks like becoming a major hub for offshore wind as the industry builds its Asia focus in the next stage of global offshore wind development beyond Europe. Taiwan's 2035 offshore wind capacity target has now been raised from 15.5GW to 20.5GW.⁶⁵

Offshore wind across Asia has the potential to displace a significant proportion of global seaborne thermal coal volumes. The IEA expects global offshore wind installations to more than triple to over 60GW by 2025,⁶⁶ and Asian nations have the potential to build a combined 100GW of offshore wind by 2030. With utilisation rates of offshore wind having the potential to reach 55%, if only 70% of this 100GW target is installed, this could still displace 300m-350m tonnes of thermal coal annually—about 35%-40% of the global seaborne thermal coal trade.⁶⁷

Other Export Markets

The following nations have been previously identified as growth markets for Australian coal exporters which will fill the gap left by declining imports by Australia's big four thermal coal export destinations. However, with the pace of the energy technology transition accelerating, and finance for coal power increasingly hard to come by, the opportunity for export growth into these markets is rapidly falling away.

India

India is the world's second largest thermal coal importer but, until recently, was not a major destination for Australian thermal coal. Indonesia and South Africa are India's principle sources of the thermal coal imports but the Chinese ban on Australian coal imports saw more Australian thermal coal exported to India in 2020.

⁶² Argus. [Taichung coal plant to be moved to grid reserve](#). 8 February 2021

⁶³ Taiwan News. [Government to scrap Shenao power plant project: Taiwan premier](#). 12 October 2018.

⁶⁴ Australian Government Trade and Investment Commission. [Renewable energy and natural resources to Taiwan](#)

⁶⁵ Offshore Wind. [Taiwan Drafts Plan for Further 5GW of Offshore Wind](#). 11 May 2021

⁶⁶ IEEFA. [IEA: Offshore wind capacity could top 200GW by 2040](#). 26 September 2018.

⁶⁷ IEEFA. "Offshore wind power: the underexplored opportunity to replace coal in Asia", 30 August 2018.

However, like China, thermal coal imports make up only a fraction of total consumption with far more thermal coal mined domestically by Coal India – the world’s largest coal miner by volume. India has made it clear it intends to become self-reliant for thermal coal as it approaches peak coal consumption amid its rapid renewable energy roll-out.

In the past, India’s coal self-reliance intention has yielded little result but COVID-19 has held back power demand growth and given India an opportunity to make progress in reducing imports. According to Indian coal secretary Anil Kumar Jain, India’s decision to scale up efforts to reduce imports has come straight from Prime Minister Modi and is motivated by a desire to protect local coal mining jobs amid the global economic slump.⁶⁸

State-owned Coal India, the world’s largest coal miner, has been mandated by the government to replace at least 100 million tonnes of coal imports in the current fiscal year 2020-21.⁶⁹ The company has claimed that various measures it has taken to promote domestic coal use reduced imports by 71 million tonnes over the April 2020-February 2021 period.⁷⁰ In March 2021, Coal India announced an investment of US\$6.4 billion on further coal mining projects to boost output and replace imports. The 32 projects will have a combined output of almost 200 million tonnes/year. India’s coal imports totalled 249 million tonnes in the last fiscal year.⁷¹

A secretary to the Coal Ministry has stated that India is looking to replace 110-120 million tonnes of thermal coal imports with domestic fuel “in the next few years.”⁷² In an effort to free up the coal sector dominated by state-owned Coal India and to reduce thermal coal imports, the government has auctioned off large coal blocks for commercial mining. India’s Coal Minister has claimed the move could save India US\$5 billion of coal imports annually.⁷³

India has now made it mandatory for coal importers to disclose future shipments, a move that is seen as further indication of the government’s determination to reduce reliance on imports.⁷⁴ Companies have started to follow the government’s lead on reducing imports. NTPC – India’s biggest power generator – will not import coal for the second straight fiscal year in response to the government’s drive to reduce imports and thanks to ample domestic coal availability.⁷⁵ Jindal Power has stated

⁶⁸ Argus Media. [India steps up initiatives to cut coal imports](#). 4 May 2020

⁶⁹ Economic Times Energyworld. [CIL mandated to replace at least 100 MT of imports with domestic coal in FY21](#). 14 May 2020

⁷⁰ ET Energyworld. [Coal India helped cut 71MT costly coal imports in current financial year](#). 2 March 2021

⁷¹ Bloomberg. [Coal India Approves 32 Mining Projects Worth \\$6.4 Billion](#). 9 March 2021

⁷² Reuters. [India plans deep cut in thermal coal imports in coming years](#). 25 August 2020

⁷³ ET Energyworld. [Commercial mining likely to save Rs 30,000 crore annually on thermal coal import bill: Pralhad Joshi](#). 18 June 2020

⁷⁴ Reuters. [India makes future coal import disclosures mandatory](#). 24 December 2020

⁷⁵ Argus Media. [India’s NTPC plans no coal imports again in 2021-22](#). 21 June 2021

that its move into commercial coal mining in India will mean that it will soon no longer need to import thermal coal.⁷⁶

Any significant decline in Indian imports would send a major wave of knock-on impacts throughout the Asian seaborne thermal coal market, particularly for South Africa and Indonesia, but also for Australia as both Indonesia and South Africa would need to compete with Australia in other markets such as Vietnam.

Meanwhile, the Indian renewable energy rollout continues in pursuit of the government's target of 450GW of renewables by 2030. The plummeting cost of wind and solar is bringing forward the date of peak thermal coal consumption in India as it is around the world. Power Minister R. K. Singh has stated that India will replace retiring coal power capacity with renewable energy and that non-fossil fuel based power generation will make up 60% of total capacity by 2030.⁷⁷

In June 2021, NTPC doubled its renewable energy target and is now planning to reach 60GW of renewables by 2032.⁷⁸ Tata Power – India's largest integrated power company - is aiming to reach 25GW of renewables by 2030, up from 4GW at present. Tata will not invest in any further coal-fired power projects and intends to be out of coal-fired power generation by 2050, in line with its 2050 net zero emissions target.⁷⁹ JSW Energy announced in July 2021 that is targeting carbon neutrality by 2050 and will invest US\$10bn to add more than 15GW of renewables by 2030.⁸⁰

Vietnam

Vietnam has been cited as a key growth market for Australian coal exports but, while volumes have recently been increasing, the potential for Vietnam to replace export volumes lost to the four biggest markets as they transition away from coal imports is starting to look increasingly limited.

Most of the coal power projects in Vietnam's project pipeline have not reached financial close and Vietnam is finding it increasingly difficult to secure finance for coal power projects as banks abandon coal lending.⁸¹ The country's National Steering Committee for Power Development recommended in early 2020 that plans for coal power expansion should be scaled down.⁸² The long development times for coal projects – often running significantly over schedule – has also raised concerns that such projects won't be built quick enough to meet Vietnam's growing power demand.

⁷⁶ Argus Media. [India's Jindal Power looks to end coal imports](#). 5 November 2020

⁷⁷ Argus Media. [India seeks to cut reliance on coal power generation](#). 7 October 2020

⁷⁸ Bloomberg. [India's coal-dominated power market is tilting towards solar](#). 24 June 2021

⁷⁹ PV Magazine. [Tata Power vows to exit coal by 2050](#). 7 July 2021

⁸⁰ Bloomberg. [JSW Energy Plans to Spend \\$10 Billion on Clean Power by 2030](#). 14 July 2021

⁸¹ Bloomberg. [Banks Shunning Coal Financing Bodes Badly for New Plants in Asia](#). 25 February 2020

⁸² Bloomberg. [Coal's Sell-By Date Just Moved Closer](#). 12 March 2020

The Vietnamese government has significantly pared back plans to build coal-fired power; from a previous target of 55.3GW of coal-fired power, it now intends to reach only 37.3GW by 2030, although only 20.4GW will be fuelled by imported coal. However, many of the proposed coal power plants are in the early development stages and some may never proceed to construction.

Even if Australian exporters could capture all of this potential additional demand, it would not be enough to counter declining demand around the rest of Asia. In reality, Australian coal miners can only hope to capture part of this increased demand as they will face increasing competition from the likes of Indonesia, Russia and South Africa amid falling global coal demand. Australian thermal coal exports to Vietnam were down 42% year-on-year over the January to April 2021 period amid lower demand and competition from other suppliers.⁸³

Going forward, Australian coal exporters are likely to face increasing competition from Indonesia - the world's largest thermal coal exporter - as it loses demand from its own key markets of China and India. Indonesia's energy ministry stated in June 2020 that it is targeting increased exports to Vietnam, Pakistan and Bangladesh.⁸⁴ South African exporters have also been targeting Vietnam as they have seen exports to India and South Korea decline in 2020.

With coal-fired power unable to meet power demand growth expectations in a timely affordable manner, the new plan will increase focus on quicker-to-build and cheaper renewable energy. Vietnam has already seen a recent boom in renewable energy installations which put the slow development timeframes of coal power into full context.

The nation added more than 4GW of solar power within a 12-month period up to the end of June 2019. The average construction period for those solar plants was just 275 days.⁸⁵ Vietnam followed up this extraordinary growth in solar development with an even more astonishing figure - the nation added 9GW of rooftop solar during 2020, dealing another blow to the remaining coal power project pipeline.⁸⁶

Vietnam is also developing wind energy and has begun construction of offshore wind. Global wind turbine giant Vestas has an offshore wind project pipeline in Vietnam of over 1GW.⁸⁷ In July 2020, a memorandum of understanding was signed for development of another offshore wind project with a capacity of 3.5GW.⁸⁸ The government has so far approved a pipeline of 11.6GW of wind power capacity by 2025.

⁸³ Argus Media. [Australia exports record high thermal coal to India](#). 3 June 2021

⁸⁴ Reuters. [Indonesia eyes Vietnam as it seeks to diversify thermal coal exports](#). 31 July 2020

⁸⁵ Rystad Energy. [Vietnam overtakes Australia in commissioned utility PV](#). 4 July 2019.

⁸⁶ IEEFA. [Vietnam's extraordinary rooftop solar success deals another blow to the remaining coal pipeline](#). 12 January 2021

⁸⁷ IEEFA. [Latest deal pushes Vestas' near-shore wind turbine pipeline in Vietnam above 1GW](#). 13 August 2020.

⁸⁸ The Asset. [Consortium signs MoU on giant offshore wind project in Vietnam](#). 29 July 2020.

Bangladesh

There has been growing realisation in Bangladesh that its plan to expand power generation through imported coal-fired power plants was setting it on course for significant overcapacity, financially unsustainable capacity payments and increased cost of power generation.

Bangladesh already has far more power capacity than it needs with up to two-thirds of total power capacity lying idle at a time.⁸⁹ Overall utilisation of the nation's total power generation capacity was just 40% in fiscal year 2019-20 and is set to drop even lower over the next five years as more capacity is added in excess of power demand growth.⁹⁰

Prompted by the increasing difficulty in getting finance for coal-fired power as more banks withdraw lending for coal, Bangladesh's power minister revealed in late June 2020 that the government is reassessing its plans for coal-fired power development. Even China – was has increasingly looked like the last lender to coal projects globally – has now stated that it will no longer consider financing coal proposals in Bangladesh.⁹¹ In June 2021 it was confirmed that the government had decided to cancel ten proposed coal-fired power projects.⁹²

Bangladesh's new 8th five-year plan – released at the end of December 2020 – gives a clear insight into the nation's new power priorities and the direction that its new Power System Master Plan (due in 2021) will take.⁹³ The new plan is set to approach overcapacity via a new power demand growth projections and by emphasising better use of existing capacity instead of continued build-out of new power stations.

With the 8th five-year plan acknowledging that increased dependence on imported coal and LNG will increase the cost of power generation and worsen the financial position of the power system, renewable energy is also expected to become a new priority for Bangladesh. The plan acknowledges that subsidies for fossil fuels have held back the development of solar and wind power in Bangladesh and that such subsidies will need to be wound back to facilitate an increase in renewable energy ambition.

Bangladesh, along with Pakistan and Vietnam has been earmarked by thermal coal exporters as growth markets that could replace declining demand in traditional export markets. The end of Bangladesh's coal power project pipeline will disappoint exporters across the Asian seaborne thermal coal market.

⁸⁹ IEEFA. [Bangladesh's power system headed for financial disaster due to overcapacity in coal, LNG power](#). 18 May 2020

⁹⁰ IEEFA. [Bangladesh's power system overcapacity problem is getting worse](#). 20 January 2021

⁹¹ Daily Star. [\\$3.6b Chinese loan uncertain after Dhaka drops projects from agreed list](#). 4 March 2021

⁹² Daily Sun. [Govt scraps 10 coal power projects](#). 23 June 2021

⁹³ Government of Bangladesh. [8th Five-Year Plan: July 2020 – June 2025](#). December 2020

Pakistan

Like Bangladesh, Pakistan is similarly burdened by overcapacity and capacity payments within its power system.⁹⁴ In fiscal year 2019-20, the overall utilisation of Pakistan's thermal power generation fleet dropped to just 37% according to National Electric Power Regulatory Authority (NEPRA) data.

Capacity payments to power generators are on course to reach Rs1.5 trillion (US\$9.4 billion) per annum by 2023. The expense of overcapacity is making the build-up of debt within Pakistan's power system (known as circular debt) even worse. The debt build-up is to a large degree caused by subsidised power tariffs. It is expected that total circular debt across the power system will reach Rs2.8 trillion (US\$ 17.6 billion) by the end of June 2021. The inevitable consequence of expensive power generation and unsustainable debt is a rise in consumer power tariffs. A Rs1.95 increase in base tariff was approved in February 2021.

The unaffordable nature of surplus coal-fired power built under the China-Pakistan Economic Corridor program has also led the Pakistan government to seek debt relief from China. The request is likely to take the form of longer loan repayment terms in order to reduce capacity payments to the coal power generators.

With thermal power increasingly making the nation's power system financially unsustainable, the Prime Minister announced that Pakistan "will not have any more power based on coal" at the December 2020 Climate Ambition Summit.⁹⁵ This is a highly significant statement for a nation that was until then planning to add 27GW of coal-fired power between 2030 and 2047.

Significantly for Australian thermal coal exporters, all of that planned capacity was to have been fuelled by domestic coal. Pakistan has long since moved away from further reliance on imported thermal coal and has cancelled several plants⁹⁶ that were intended to have been fuelled by imports, most recently in June 2020.⁹⁷ Other coal power proposals have had their plans changed to use domestic rather than imported coal.

Furthermore, as part of a revised debt management plan to try and resolve the unsustainable financial crisis that Pakistan's power system is in, there are new proposals to cease further coal-fired power development and convert existing plants using imported coal to domestic coal.^{98 99} There is potential for Pakistan's thermal coal imports to actually decline in the medium term.

⁹⁴ Bloomberg. [Nation Plagued by Power Shortages Suddenly Has Too Much Electricity](#). 27 January 2021

⁹⁵ IEEFA. [Pakistan announces 'no new coal-fired power'](#). 14 December 2020

⁹⁶ Dawn. [Govt puts major CPEC power project on hold](#). 14 January 2019

⁹⁷ Express Tribune. [PTI government abandons K-Electric's coal project](#). 25 June 2020

⁹⁸ Dawn. [Circular debt to remain over Rs1.1tr by 2023](#). 26 April 2021

⁹⁹ Express Tribune. [Govt to revisit coal pricing formula](#). 12 May 2021

As with Bangladesh, thermal coal exporters who were hoping for increasing demand from Pakistan to offset declining offtake from traditional markets are set to be disappointed.

Philippines

In October 2020, the Philippines Department of Energy called a moratorium on further coal-fired power development.¹⁰⁰ This followed the Department of Energy's earlier caution against an overreliance on inflexible technologies such as coal that cause grid instability.¹⁰¹ The Philippines clearly sees the need to modernize its power system by shifting away from coal-fired power and towards renewables.¹⁰²

This move by the government followed actions by the Philippines largest conglomerates – that are also the major power generators. In April 2020, AC Energy – a subsidiary of Ayala Corporation - announced it would finalize coal exit plans by 2025 with full divestment from coal power to be completed by 2030.¹⁰³ San Miguel Corporation has also confirmed that it will stop developing new coal plants and switch focus to renewable energy.¹⁰⁴

Following the Department of Energy's moratorium announcement, the nation's banks have also been distancing themselves from coal. In December 2020, the CEO of Rizal Commercial Banking Corporation stated "No more coal, no more coal. I'll say that slowly - NO MORE COAL".¹⁰⁵

Malaysia

In March 2021, Malaysia launched its new long-term power plan which will see more than half (7GW) of the country's existing coal-fired power plants closed by 2039.¹⁰⁶ According to the plan 1.4GW of new coal-fired power plants will be added in both 2031 and 2037. Given the significant trend of banks and other financial institutions moving away from funding coal, this objective seems highly unlikely to be achieved.

Malaysia currently does not have any coal-fired power plants under development. As a result, it is almost certain that coal-fired power will have an even smaller role in Malaysia's power system than planned. To replace shrinking reliance on coal-fired power, the new plan increases Malaysia's renewable energy target from 20% of capacity to 31% by 2025.

¹⁰⁰ Department of Energy. [DoE Sec. Cusi declares moratorium on endorsements for greenfield coal power plants](#). 27 October 2020

¹⁰¹ IEEFA. [The Philippines considers a power sector future without new coal](#). 9 June 2020

¹⁰² IEEFA. [Philippines coal moratorium highlights dramatic pivot to renewable energy investment for lower prices and power system resilience](#). 3 November 2020

¹⁰³ IEEFA. [Conglomerate Ayala to finalize coal exit plans by 2025](#). 21 April 2020

¹⁰⁴ Manila Standard. [San Miguel drops more coal projects, favors renewables](#). 21 July 2021

¹⁰⁵ Manila Bulletin. [RCBC to stop funding coal power projects](#). 10 December 2020

¹⁰⁶ Argus. [Malaysia to reduce coal capacity by 4.2GW by 2039](#). 24 March 2021

Increasing Competition in a Declining Market

The energy transition is continuing at such pace that, not only are Australia's traditional thermal coal export markets turning away from coal power, but the so-called potential growth markets are shifting too. Some export markets will potentially phase out in the medium term rather than in the longer term.

China and India in particular - with their huge domestic coal mining industries - are threatening to squeeze out thermal coal imports in the medium term through domestic coal production increases and an accelerating roll out of renewable energy.

As demand in the Asian seaborne thermal coal market fades, Australia will not be the only exporter impacted. The other major exporters into the Asian market will also need to seek alternatives as their primary markets decline. The loss of the major destinations is likely to see significantly increased competition between Australia, Indonesia, Russia and South Africa for alternative Asian markets.

As the world's largest thermal coal importer, the future of China's thermal coal imports will have major knock-on effects around the Asian market. A decline in China's thermal coal exporters will impact Indonesia above all as it is China's major overseas supplier. Indonesia - the world's largest exporter of thermal coal - will seek other markets to fill the gap, at the expense of Australia, Russia and South Africa. The impact could be compounded if Indonesia's number two export destination - India - also begins to reduce imports.

Indonesia has already made it clear that it will be targeting Vietnam, Bangladesh and Pakistan to replace lower demand in China and India.¹⁰⁷ Recent moves by Vietnam, Bangladesh and Pakistan to significantly reduce emphasis on coal power development will disappoint Indonesian thermal coal exporters.

In addition, the idea that there will be less Indonesian coal in the seaborne market as more is needed to fuel Indonesia's fleet of new coal-fired power plants is starting to crumble. The Indonesia government has stated that the country will not approve any more coal power plants.¹⁰⁸ Furthermore, the nation's coal-dependent power utility - PLN - is planning to retire existing coal power plants. By 2035, 9GW will be retired as the company pushes towards its ambition of exiting all coal-fired power by 2056.¹⁰⁹ There is going to be plenty of Indonesian thermal coal available to compete with Australian coal in the Asian seaborne market.

Russia is also intending to increase competition in the Asian coal market. The nation is spending US\$10 billion on rail capacity increases as part of a plan to increase coal output and sell coal to Asian buyers whilst it still can (Figure 5).¹¹⁰ Russia will be

¹⁰⁷ Reuters. [Indonesia eyes Vietnam as it seeks to diversify thermal coal exports](#). 31 July 2020

¹⁰⁸ Bloomberg. [No New Coal Plants in Indonesia in Another Bid to Cut Emissions](#). 27 May 2021

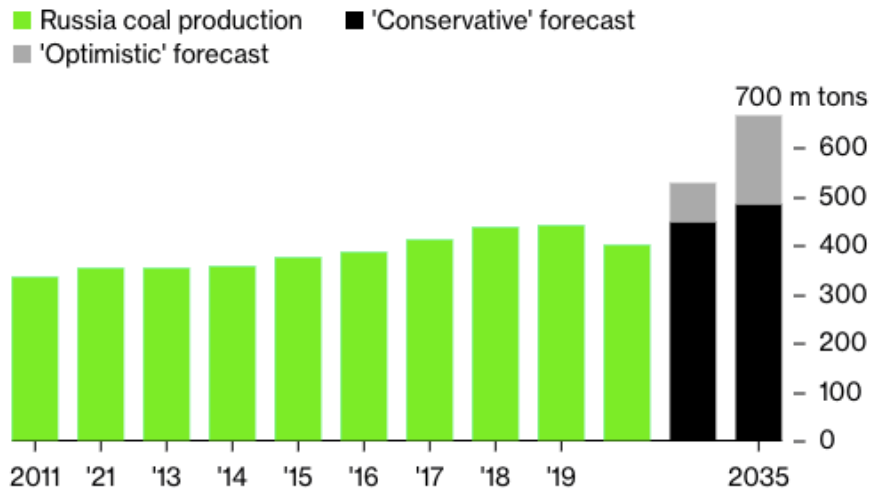
¹⁰⁹ Reuters. [Indonesia state utility to retire coal power plants gradually](#). 27 May 2021

¹¹⁰ Bloomberg. [Putin Is Betting Coal Still Has a Future](#). 30 May 2021

hoping that its land border and good relationship with China will allow it to fill the gap left by the Chinese ban on Australian coal.

Figure 5: Russia’s Coal Production Plans

Russia plans to ramp up coal production as others scale back



Source: Bloomberg, Russia Energy Ministry, IEA

Australia and South Africa may be hoping that the higher energy content of their exported coal may give them an advantage over lower energy Indonesian coal. However, there is little evidence that importers will favour higher energy coal in the long term unless the energy-adjusted price is favourable.

Impact on Coal Royalties and Jobs

The NSW Treasury acknowledges that the declining outlook for coal will have a significant impact on the state’s finances. Coal royalties are a significant source of revenue for the state, contributing A\$1.5 billion in 2019-20.

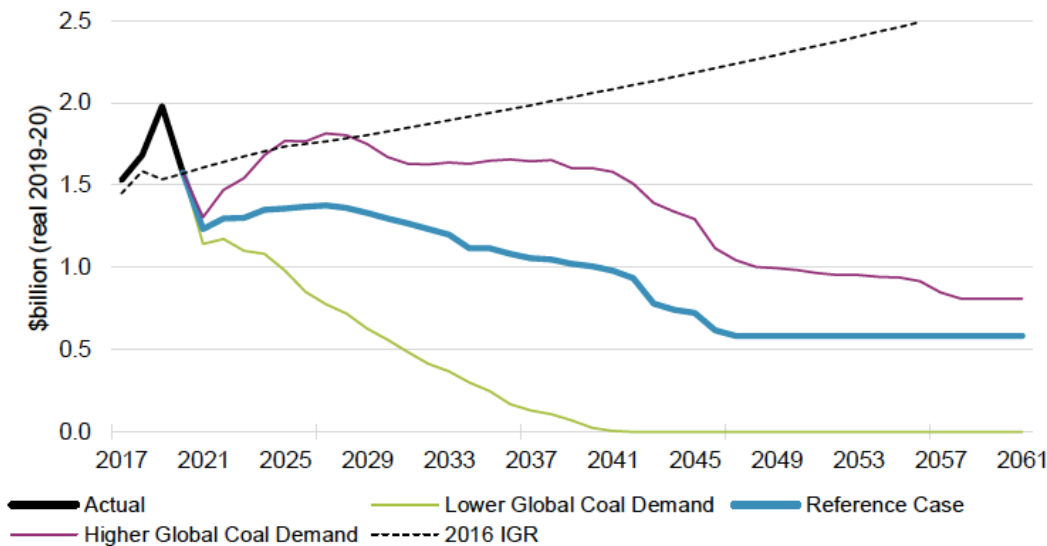
Under the NSW Treasury’s lower global coal demand scenario for the 2021 Intergenerational Report, coal royalties decline to zero by 2042. Even in the base case, annual coal royalties decline to around one third of current levels over the coming decades (Figure 6).¹¹¹

These projections are significantly below the royalty projections in the previous Intergenerational Report (2016), reflecting the dramatic shift in the NSW Government’s outlook for coal since then. The 2016 Intergeneration Report projected A\$73 billion of cumulative coal royalties between 2020-21 and 2055-56.

¹¹¹ NSW Treasury. *The Sensitivity of the NSW Economic and Fiscal Outlook to Global Coal Demand and the Broader Energy Transition for the 2021 NSW Intergenerational Report*. May 2021

This has now been revised down to A\$35 billion in the 2021 base case and A\$11 billion in the low coal demand scenario.

Figure 6: NSW Treasury Coal Royalties Revenue Projections 2021 vs 2016 (Real 2019-20 A\$ Dollars)



Source: NSW Treasury

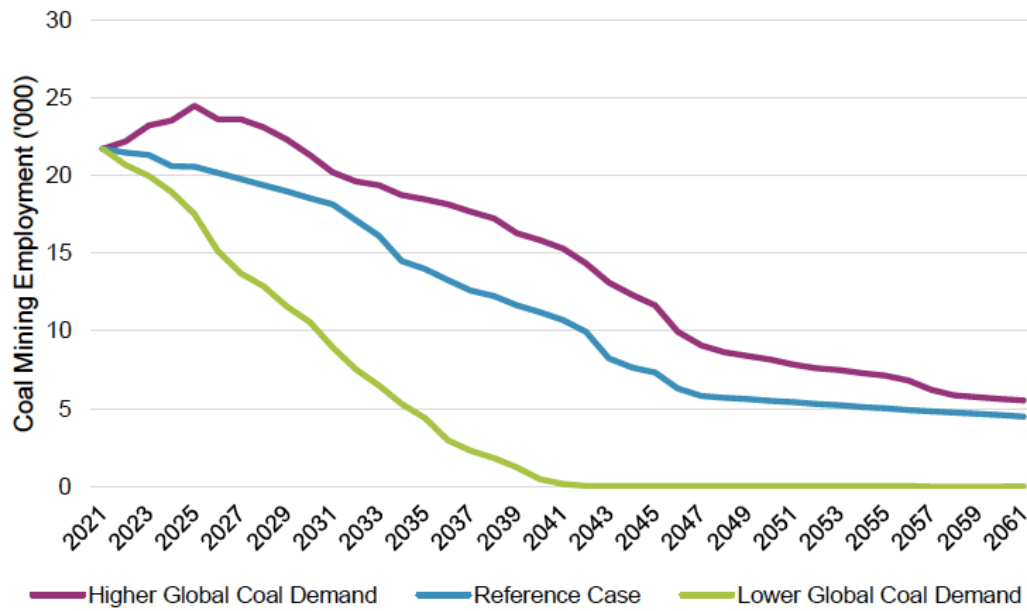
Similarly, the NSW Treasury projects a major decline in coal mining jobs – between 75% and 100% fewer jobs in the sector by 2061 (Figure 7). Under the base case, NSW Treasury projects that employment in coal mining will decline by an average of 600 jobs per year over the next two decades.¹¹²

The accelerating pace of the energy technology transition has significant implications for the Australian coal industry and questions the sense of adding more coal supply by opening new mines or extending existing ones. In a market set for long term decline, new mining capacity only steals market share from existing operations, putting existing coal mining jobs at risk.

A transition away from reliance on coal over the coming decades is certain, the only question remaining is whether that transition will be orderly or chaotic. A moratorium on new thermal coal mine capacity is required to avoid chaotic impact on coal mining employment.

¹¹² NSW Treasury. *The Sensitivity of the NSW Economic and Fiscal Outlook to Global Coal Demand and the Broader Energy Transition for the 2021 NSW Intergenerational Report*. May 2021

Figure 7: NSW Government 2021 Employment in Coal Mining Forecasts



Source: NSW Treasury and VURM

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