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Securing energy, jobs and Australia's export advantage

A low emissions coal future for the Latrobe Valley

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Former CEO Loy Yang A
Council Member, Federation University Australia

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POLICY PAPER

Minerals Council of Australia

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The Minerals Council of Australia is the peak national body representing Australia's exploration, mining and minerals processing industry, nationally and internationally, in its contribution to sustainable economic, and social development.

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Executive summary

The closure of Hazelwood Power Station in March this year has focused attention on the social and economic costs of losing a major baseload power station. This is a multi-faceted problem.

A gap in baseload power supply is looming. Over the past five years, more than 5,300 MW of baseload plant has closed. Between now and 2030 another 8,000 MW of baseload plant is likely to retire. Yet there is nothing to replace these closures with equivalent 24/7 power.

Australia has lost its low energy cost advantage as power prices have moved from some of the lowest to some of the highest in the developed world. Reliability is now also a major concern. The broader economic consequences are already being seen with a number of major businesses openly questioning their future viability because of energy costs and a lack of reliability.

The hollowing out of Australia's industrial base over the next decade is a real prospect with severe consequences for living standards if this issue is not addressed.

In the Latrobe Valley and more broadly the Gippsland region, Hazelwood's closure has meant the loss of around 750 direct jobs. In a region already suffering high levels of unemployment, the flow-on impacts are exacerbated. This is contributing to an erosion of the local skills base as people seek better opportunities elsewhere.

There is a need to start building new baseload power stations. The issue is not whether it should be coal or gas, but what would deliver the best economic outcome of delivering reliable energy while improving Australia's international competitiveness.

Given the current gas market challenges in eastern Australia, the Latrobe Valley offers a good option. Not only is the fuel source – brown coal – readily available, there is an existing and underutilised power network system in place.

Australia has lost its low energy cost advantage ... major businesses [are now] openly questioning their future viability because of energy costs and a lack of reliability.

Germany offers important lessons for Victorian and Australian policy makers. Brown coal power generation forms an integral part of the country's energy supply and will do so for decades to come.

RWE, a major German power company, is at the leading-edge of brown coal technologies that currently deliver cheap and reliable baseload power at emissions levels 25 per cent lower than the cleanest power stations in the Latrobe Valley.

The latest proposed power station, currently in the license approval phase, offers even better performance: 35 to 40 per cent lower emissions compared to the best generators in the Latrobe Valley like Loy Yang A and flexible operations critical for integrating higher levels of renewables and storage.

With a levelised cost of energy of around A$55-A$65/MWh, a similar power station located in the Latrobe Valley would offer the lowest cost new baseload power, significantly cheaper than gas or renewables and storage. It would help place downward pressure on electricity prices, ensure reliability while also reducing emissions from the power sector.

Locating a new power station near existing power infrastructure and mines would reduce costs by optimising the use of existing power network and mine assets. It would also make use of the existing heavy transport, road network infrastructure and skills base in the Latrobe Valley region.

There is strong local support from a wide range of community and regional groups, business organisations and local governments for a new state-of-the-art power station.

They recognise that a multi-billion dollar investment would assist in addressing economic, employment and social challenges confronting the Latrobe Valley region by providing thousands of jobs during construction and hundreds in the long term.

Financing a project of this size, which can be impacted by changes in government policy, requires consideration to be given to new approaches such as using government finance, as already occurs for other power generation technologies.

A Clean Energy Target (CET) must not exclude investment in low cost, low emission and highly reliable power sources like the latest brown coal technologies.

A major challenge will be the planning and approval process.

The Victorian and Australian governments should investigate, as a matter of priority, what would be required to build a new power station in the Latrobe Valley. This includes addressing issues of how best to attract the required investment.

Energy affordability is hurting Victorian businesses and households

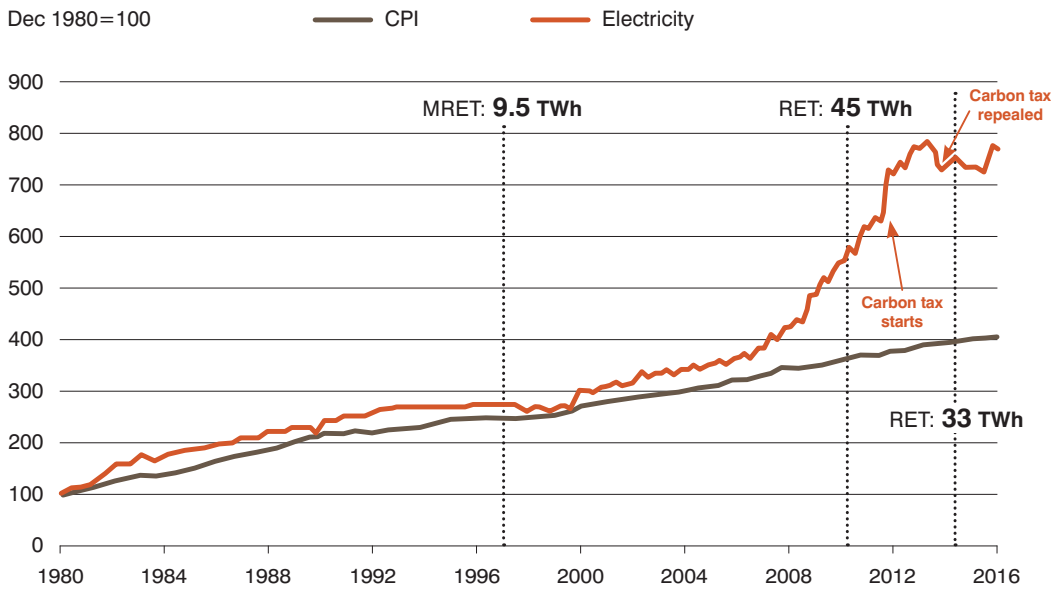
In just over a decade Australia has moved from having some of the lowest cost electricity and gas in the OECD to among the most expensive.

Household electricity prices in Australia have increased by 113 per cent over the past decade, more than four times the rate of inflation.[1] Electricity prices in Australia have grown at more than three times the OECD average.[2]

Victorian and Australian energy consumers – businesses and households – are now paying more for electricity than businesses and households in the United States, Canada, New Zealand, Japan and most of Europe.

More recently the reliability of Australia's energy supply has imposed hundreds of millions of dollars in costs on Australian businesses and badly damaged the nation's reputation as a destination for investment. Victoria and Australia have lost their low cost energy advantage.

Chart 1 **Rising Australian energy costs**



Source: ABS cat. no. 6401, *Consumer price index*, December 2016.

Household electricity prices in Australia have increased by 113 per cent over the past decade, more than four times the rate of inflation.

The looming gap in baseload power

Baseload power operates 24/7. It is critical to providing reliable power that does not fluctuate in quality – a fundamental requirement for modern electrical equipment that underpins a modern economy like Australia.

In Australia, baseload power has been and still is provided by coal-fired power generators. Gas also plays an important role. Hydro power, such as that in Tasmania and the Snowy scheme, also provides baseload power.

Solar and wind renewable power sources only operate when the sun shines or the wind blows. That is why solar and wind power effectively operate around 20 to 25 per cent and 30 to 40 per cent respectively of the actual time. In contrast, Victorian coal baseload generators have traditionally operated on a 24/7 basis irrespective of the prevailing climatic conditions, with capacity factors above 90 per cent.

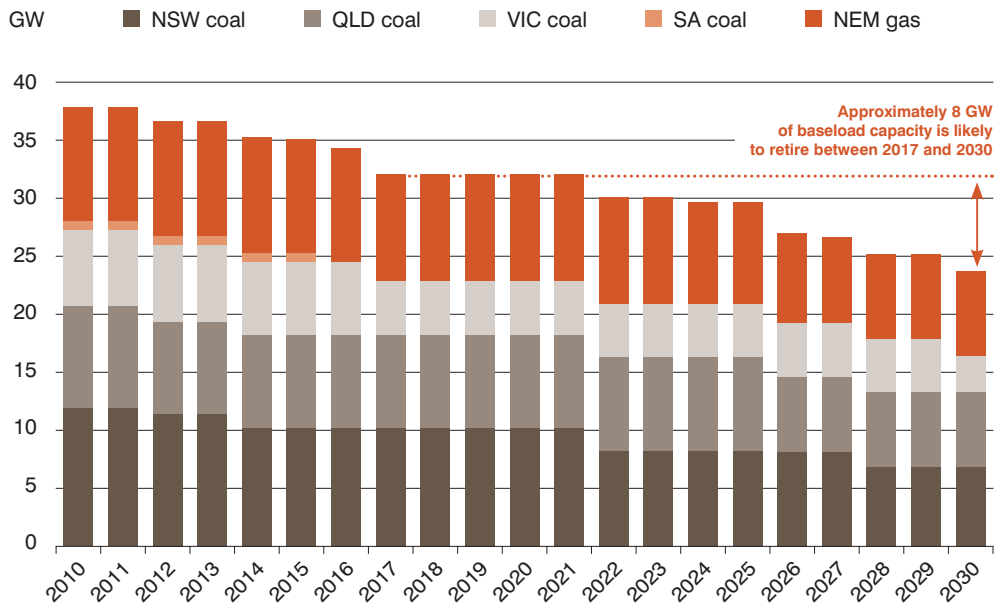
Approximately 8,000 MW of baseload coal and gas capacity is likely to retire between now and 2030. This represents a decrease of about 27 per cent in baseload capacity – that is power which is provided 24/7. This is in addition to the 5,300 MW of baseload coal and gas plant which has retired in the past five years. Overall, this represents a 38 per cent decrease in baseload capacity over the period 2012-2030. Yet there has been no new gas or coal baseload power built in the last eight years, and none is planned.

If this baseload capacity is not replaced by reliable energy sources Australia will face major energy security issues. The impact of the recent closure of Hazelwood on prices and grid stability is a portent of the difficulties Australia's energy system will face if baseload is not replaced.

Unless new investment in baseload generation capable of operating 24/7 is made in the near term and energy prices start to stabilise and fall, Australian manufacturing, minerals processing and other energy intensive activities will find themselves priced out of international markets.

A hollowing out of Australia's industrial base over the next decade is a real prospect with severe consequences for living standards. Accordingly, there is an urgent need for a clear focus on where, when and how new baseload generation will be built to replace the retiring fleet.

Chart 2 **Looming baseload power generation gap**



Source: MCA analysis based on company data.

Impact of Hazelwood's closure

The 1,600 MW Hazelwood Power Station provided up to 25 per cent of Victoria's power supply. It employed about 750 people on site with significant increases during periods of scheduled maintenance. It was the state's second largest power station.

Hazelwood's closure was announced in November 2016. Victorian families and businesses are already paying higher power prices. Victorian average monthly wholesale electricity prices have increased almost 200 per cent from $36.07/MWh (average spot price November 2016) to $107.95 (average spot price May 2017).[3]

As Chart 3 shows, forward wholesale prices jumped around the time market rumours started to emerge in October 2016 about Hazelwood's possible closure. The substantial increase in forward prices from January reflected the realisation that Hazelwood's closure was not going to be reversed.

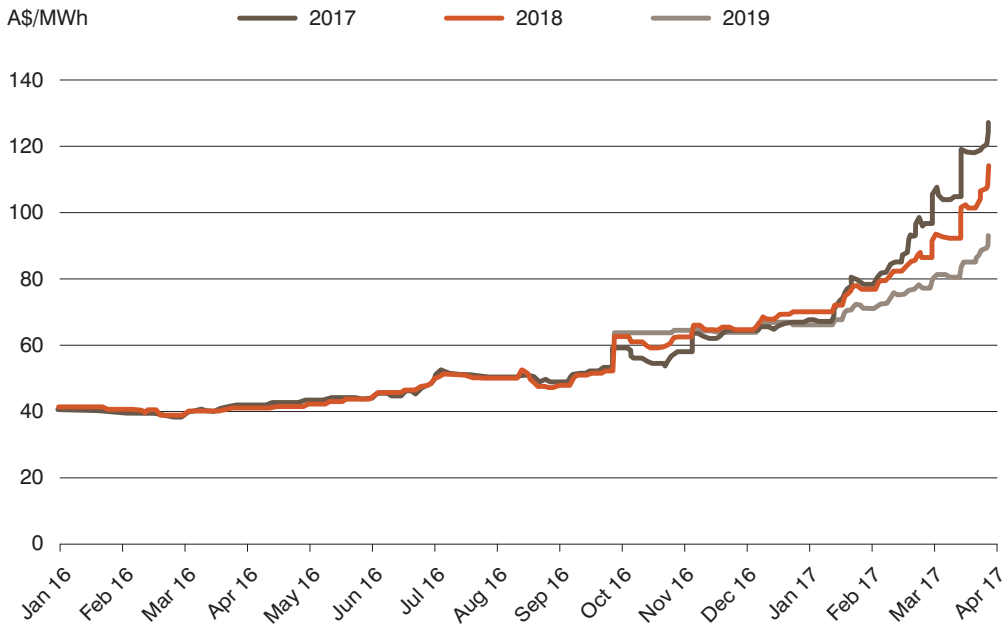
While forward curves change, the increase in wholesale prices seen with Hazelwood's closure will remain for some time. At the same time, the prospect of load shedding (blackouts) has increased.

Victoria is heading into another summer during which the power system will be called on to deliver electricity reliably. Except this time, it will have to do so without Hazelwood.

While the power system may cope this summer, without replacement baseload 24/7 power the impact of Hazelwood's closure is like a car losing its spare wheel. The power system cannot afford to have another part of the system fail, whether it is transmission lines or other generators.

At a local level, Hazelwood's closure has seen unemployment levels rise despite programs aimed at redeployment and proposed mine rehabilitation works. This has exacerbated an already high regional unemployment rate.

Chart 3 **Victorian wholesale forward prices for 2017, 2018 and 2019**



Source: Over the Counter price curve, April 2017.

Victoria should be looking at a new baseload coal power station

The Latrobe Valley has one of the great brown coal reserves in the world. Estimates vary, but there is around 500 to 1,000 years of easily accessible reserves.

Currently the Latrobe Valley hosts the three remaining coal baseload power stations in Victoria: Yallourn (1,480 MW), Loy Yang A (2,210 MW) and Loy Yang B (1,050 MW). Between them they provide 85 to 90 per cent of Victoria's electricity. The power from these stations is the lowest cost power in the National Electricity Market (NEM).

Yallourn Power Station, which started operation in 1974, is already more than 40 years old. Loy Yang A is approaching 30 years, with Loy Yang B just over 20 years old. With Hazelwood's closure, there is now more pressure being placed on the remaining power stations. At some point, and perhaps earlier than expected (as was the case with Hazelwood), they will start to close.

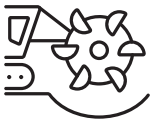
What is not fully appreciated is the extent of the power network and mine infrastructure in place in the Latrobe Valley. Extensive transmission network connections which already exist have un-used capacity with Hazelwood's closure.

Similarly the existing mine at Hazelwood is still operational, with a potential expansion to the west-Driffield site. All of these contribute to a significantly lower establishment cost for new power generation in the Latrobe Valley compared to anywhere else in Victoria or the Snowy Mountains.

Yallourn

Loy Yang A

Loy Yang B



What is not fully appreciated is the extent of the power network and mine infrastructure in place in the Latrobe Valley.

Local community support for a new power station in the Valley

There is a solid base of local support for heavy power generation in the Latrobe Valley, which has hosted coal-fired stations for nearly 100 years.

In the preparation of this report, local groups including the Committee for Moe, Advance Morwell and a number of other local organisations and businesses were approached for their views on the concept of a new low emissions coal-fired power station being located in the Latrobe Valley. Committee for Moe and Advance Morwell are prepared to publically state their support for such a proposal. Latrobe City Council has also articulated its public support for a new low emissions power station in the Latrobe Valley.[4]

The Latrobe Valley has the existing infrastructure and an increasing focus on low emissions technology. For example, one of the first Carbon Capture and Storage (CCS) pilot projects in Australia was based at a Latrobe Valley power station, and last year Federation University's Churchill campus officially opened its CCS laboratory, where it is developing the technology alongside Victorian and Commonwealth government partners, as well as Australia's leading research organisation on CCS, the C02CRC.

Local community and businesses are particularly concerned about job losses and the flow on economic impact from a declining large quantum of heavy industry.

The Committee for Gippsland's *Our Region Our Future: Securing an Economic Future for Gippsland and the Latrobe Valley* provided economic and employment modelling on the financial interaction between Latrobe Valley power stations and the broader community.[5] It demonstrated that around $500 million is injected into the Victorian economy every year through flow on economic benefits of the then four Latrobe Valley power stations.

A report from the National Institute of Economic and Industry Research found that the impact of the closure of Hazelwood power station would result in a $340 million loss from Latrobe City's Gross Regional Product, and a loss of nearly 2,000 jobs.[6]

Hazelwood's owner Engie has been able to redeploy a number of these jobs into the decommissioning process of Hazelwood, and the Victorian Government has negotiated a Worker Transfer Scheme that could see up to 150 former Hazelwood workers redeployed to other Latrobe Valley power stations.

However, the Latrobe Valley's unemployment rate was already high before Hazelwood's closure, including the youth unemployment rate which was the highest in regional Victoria. In December 2016 the town of Morwell's unemployment rate was 20.3 per cent, before Hazelwood's closure.[7]

The large quantum of heavy industry power stations and other heavy manufacturing such as Australian Paper's Maryvale mill sustains a smaller economy of retail and service businesses, as well as sporting and community organisations. Among local businesses, community groups and individuals consulted in the preparation of this report, power station closures elicited the following concerns:

- Job losses and increased unemployment
- Loss of highly skilled workers from the region
- Loss of discretionary spending into local economy from a highly paid workforce
- Impact on household electricity prices
- Impact on businesses, particularly energy intensive, trade exposed businesses
- Dislocation of family units.

More broadly, there is significant concern about the impact rising energy prices are having on the competitiveness of energy intensive, trade exposed businesses in Gippsland and beyond.

Manufacturing businesses that export internationally have historically relied on their access to cheap energy inputs to make them cost competitive with international firms able to engage cheaper input costs such as labour that Australia can't compete with.

Burra Foods is a South Gippsland based dairy processing business that exports to Asia. Its CEO Grant Crothers writes a monthly blog on key issues in his business and the dairy sector. In his March 2017 blog, Grant wrote:

> Burra's experience in the last six months has been brutal where we have seen a 90 per cent increase in electricity costs and an 80 per cent increase in the cost of natural gas. This amounts to an additional expenditure on energy of millions of dollars. And is an unexpected headwind.[8]

Feedback from businesses has been that traditionally low electricity prices have been a competitive advantage for Australia. Once near the top for lowest cost electricity in the world, Australia has now slipped down the list with soaring cost increases.

In the lead up to the closure of Hazelwood Power Station, the Victorian Government commissioned work found that its closure would only impact prices by between 4 and 8 per cent.[9] It has proved to be substantially more than that already.

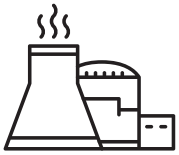
In February 2017 the Australian Industry Group released a report that found:

> The closure of Hazelwood Power Station in Victoria will also have a significant impact. Victoria's existing coal-fired generators are among the cheapest sources of power in the National Electricity Market (NEM) and Victoria often exports to NSW, SA and Tasmania. Thus the average price across all NEM regions is likely to increase as 1.6 GW of cheap generation is withdrawn from the market. As a case in point, South Australian power prices have increased significantly since the removal of the northern coal-fired power station from the grid in May 2016.[10]

The Latrobe Valley has more than 500 years of coal resource on current usage rates. It has the existing infrastructure, a skilled workforce, and community support for large scale energy generation. Its broad based economy is largely energy intensive and its competitiveness and efficiency is reliant on low energy input costs. A new, low emissions coal-fired power station in the Latrobe Valley is warranted, wanted, needed and necessary.

DOWNLOAD

Our Region Our Future: Securing an economic future for Gippsland and the Latrobe Valley
Committee for Gippsland, 2016



If the 8,000 MW expected coal plant closures were replaced by state-of-the-art super-efficient coal technology, annual emissions savings of 25 to 30 million tonnes of CO_2 would be delivered.

Proven low emissions coal technology will reduce Australia's emissions

New super-efficient coal generation replacing older coal plant would reduce Australia's greenhouse emissions and help Australia meet its 2030 Paris commitments.

If the 8,000 MW expected coal plant closures were replaced by state-of-the-art super-efficient coal technology, annual emissions savings of 25 to 30 million tonnes of CO_2 would be delivered.

In 2005 Australia's emissions were 595 million tonnes of CO_2. With the government committing to a reduction of 26-28 per cent by 2030, emissions need to be around 435 million tonnes CO_2 per annum in 2030.

According to the Australian Government's December 2016 projections, Australia's total annual CO_2 emissions in 2020 are projected to be about 560 million tonnes per annum (about 20 per cent lower than the official 2012 projections).[11] Put another way, annual emissions need to fall by 125 million tonnes of CO_2 between 2020 and 2030.

In 2020, Australia's electricity sector emissions are projected to be 176 million tonnes of CO_2, or about 30 per cent of Australia's total CO_2 emissions. If taken as a proportion of Australia's emission reduction task, the electricity sector would be responsible for about 38 million tonnes CO_2 reduction by 2030.

Even greater reductions could be achieved by upgrades to the remaining coal generators, with an estimated cost of less than $10 tonne per tonne of CO_2.[12]

As investment bank Morgan Stanley notes:

> This technology can aid the world's transition toward lower emissions. In contrast with the commonly held views often encountered, we think coal-fired power can provide a cost-effective means of reducing carbon pollution.[13]

Latest coal power generation technology

Developments in coal powered technology have seen the widespread deployment of Ultra Super Critical (USC) black and brown coal plant around the world. USC plant is characterised by higher boiler temperature, pressure and greater efficiency compared to Super Critical (SC) coal plant.

Recent developments in materials science, control technologies and build techniques have seen Advanced-Ultra Super Critical (A-USC) plant being offered to the market. These potentially have the ability to deliver efficiency levels of more than 50 per cent.

As Chart 4 shows, the improved plant efficiency leads to the lower CO_2 emissions. Utilising an A-USC plant combined with coal drying technology, which is currently commercially deployed on brown coal (lignite) plant in Germany, will further increase power station efficiency to between 47 and 49 per cent. It will reduce the CO_2 intensity of plant burning brown coal to approximately 750 g CO_2/kWh.

General Electric's Steam Power Systems is now offering A-USC plant capable of continuous operations at 650 °C, with pressure of more than 330 bar delivering a plant efficiency of more than 49 per cent. This technology builds on a proven USC design and actual performance. According to GE data, the USC Neurath plant (described below) has been operating at temperatures in excess of 600 °C for about five years.

Another advantage of this type of power generation plant is its capability to cater for significant changes in electricity demand (ramp rates). This is especially important in an electricity market with increasingly higher levels of intermittent (part time) renewable energy, as is being seen in Victoria.

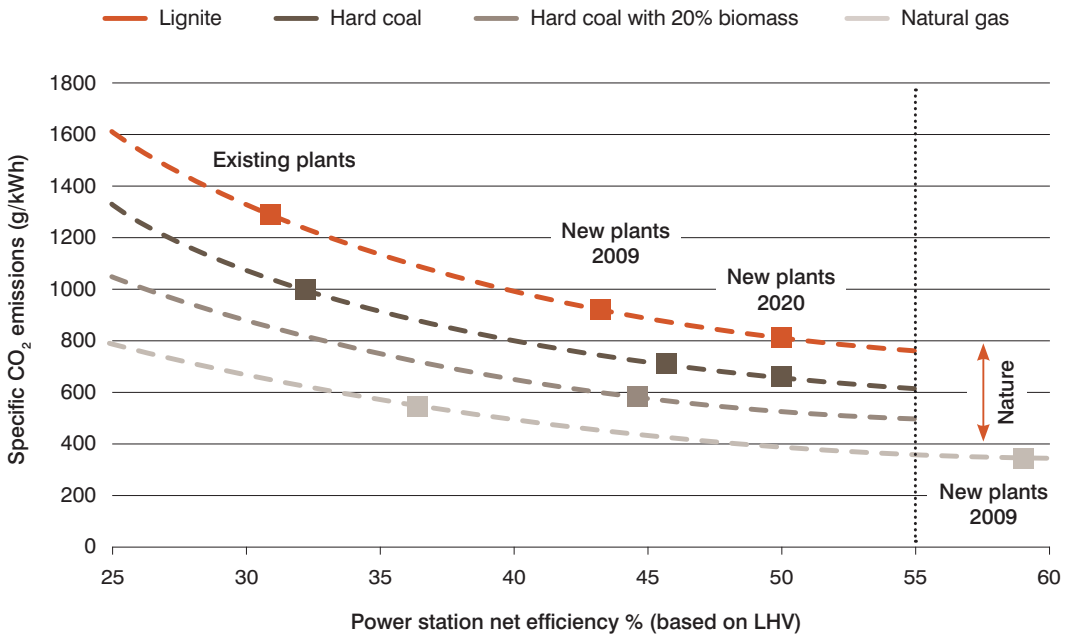
Table 1 **Efficiency rates of low emissions coal technologies**

	Pressure (bar)	Temperature main (˚C)	Temperature reheat (˚C)
Supercritical	>221	>550	>550
Ultra Super Critical	>240	≥ 593	≥ 593
Advanced-Ultra Super Critical	>320	>620	≥ 630

Source: General Electric Steam Power Systems, Baden Switzerland.

Another advantage of this type of power generation plant is its capability to cater for significant changes in electricity demand ... especially important in an electricity market with increasingly higher levels of intermittent renewable energy, as is being seen in Victoria.

Chart 4 **Relationship between plant efficiency and emissions reduction**



Source: General Electric Steam Power Systems, Baden Switzerland.

Comparative costs of new baseload plant

While Victoria's older power stations continue to provide the cheapest unsubsidised power in the NEM, new build baseload – whether USC or A-USC – still remains the cheapest option for new capacity.

Table 3 **Comparison of LCOE of various baseload technologies**

	BOA Plus[a]	GAS CCGT[b]	Gas open cycle[c]	Wind and storage[d]	Solar and storage[e]
LCOE (A$MWh)	$55-$65	$89	$269	$135-$215	$155-$215

Notes: [a] Calculations based on expected investment level for BOA Plus and Latrobe Valley coal costs; [b] CO2 CRC, *Australian Power Generation Technology Report*, Nov 2015 – based on gas price of A$8/GJ; [c] ibid.; [d] Data from GE Steam Power Systems, Baden Switzerland; [e] ibid.

Germany is the world leader in super-efficient brown coal generation

Germany is the world's largest producer of lignite (brown coal), with 178.1 million tonnes mined in 2015.[14] With more than 20,000 MW of brown coal generation Germany's brown coal generators provided about 23 per cent the country's electricity in 2016.[15]

RWE, a major German power company, operates over 10,000 MW of brown coal plant, mostly in the Rhenish Lignite Area.[16] The company is at the leading-edge of high efficiency low emissions brown coal technology.

RWE's 2,200 MW Neurath Power Station (BOA 2-3) has been operating since 2012. The latest proposed power station (BOA Plus) is in the license approvals phase and it will deliver even greater levels of efficiency.

While Germany is undergoing an ambitious energy transformation through its Energiewende policy framework through which it seeks to be carbon neutral by 2050, there is still an important role for brown coal generation as key part of placing downward pressure on energy costs and ensuring supply reliability, especially with nuclear power being phased out by 2022.

As Germany makes this transition, it is assisted by having electricity interconnections with a range of neighbours. Table 2 shows the primary sources of electricity for Germany's neighbours with which it has electricity interconnections

Unlike Germany, Australia's National Electricity Market does not have the fall-back position of being able to import electricity from neighbours.

Table 2 **Top electricity sources of Germany's neighbours, 2016**

Country[a]	Electricity source 1	(%)	Electricity source 2	(%)
France	Nuclear	72.3	Hydro	12
Begium	Nuclear	51.7	Coal & gas	36.2
Austria	Hydro	62.9	Coal & gas	27.9
The Netherlands	Coal & gas	82.6	Wind	7.4
Denmark	Coal & gas	53.2	Wind	44.2
Sweden	Nuclear	40.0	Hydro	40
Poland	Coal & gas	90.1	Wind	7.0
Switzerland[b]	Hydro	62.4	Nuclear	34.5

Notes:
a EU data: http://ec.europa.eu/eurostat/statistics-explained/index.php/Electricity_production_and_supply_statistics
b Swizterland data: http://www.bfe.admin.ch/themen/00526/00541/00542/00630/index.html?lang=en&dossier_id=00769

RWE's High Efficiency Low Emissions plant

Neurath F&G Power Station, Germany

BOA Plus, Germany

Neurath F&G Power Station

Beginning operations in 2012, RWE's 2,200 MW Neurath F&G Power Station is the most efficient brown coal power station in the world. Classed as an Ultra Super Critical plant, Neurath has an efficiency of more than 43 per cent. This is around 25 per cent better than Loy Yang A.

As a result of its higher efficiency, Neurath's CO_2 emissions are around 900 g CO_2/kWh. This is about 25 per cent lower than the best in the Latrobe Valley.

Built at a cost of €2.6 billion (A$3.95 billion at the current exchange rate of €0.66/A$1)[17], Neurath F&G has an installed cost of between A$1.95 million/MW. A 2014 study by the International Energy Agency's Coal Industry Advisory Board estimated that the total economic benefit during the construction phase (2006 to 2012) was €5.344 billion (A$6.7 to A$7.1 billion), with 7,000 full time jobs.[18] Moving into the ongoing operation phase, the economic benefits in 2013 were estimated to be at 1,524 full time roles (power station and related mines), €93 million (A$141 million) in wages and €72 million (A$109 million) on broader economic benefits.[19]

BOA Plus

RWE has a new 1,100 MW power station in the license approvals stage. BOA Plus (Braunkohlekraftwerk mit Optimierter Anlagentechnik) refers to Brown Coal Power Plant with Optimised Technology.

An A-USC technology combined with an integrated fluidised bed coal drying facility, the plant is expected to achieve an efficiency rate of around 47 to 49 per cent. It would be CCS ready. CO_2 emissions from the plant would be around 750 g CO_2/kWh. This would a represent a 35 to 40 per cent improvement on Loy Yang A, and almost 55 per cent lower than Hazelwood.

The plant is leading-edge design, with significantly smaller boiler house and cooling towers. Estimated to cost around €1.5 billion (A$2.3 billion), the cost per installed MW is A$2 million. The estimated LCOE of energy is around A$55 to A$65/MWh.

Construction time for new baseload plant

There is a need for new baseload plant now and the problem will get worse over the next decade. The immediate issue is not whether it should be coal or gas, but what would deliver the best economic outcome of delivering reliable energy while improving Australia's international competitiveness.

Combined Cycle Gas Turbine

Under normal circumstances, building a new gas plant would require four to five years. This reflects a planning and design time of around two to three years and construction period of two years. But the real challenge will be accessing sufficient quantities of gas at a price level that is commercially sustainable.

The current issues with the east coast Australian gas market are well documented elsewhere, but they are critical to estimating the lead time for construction. Without long term gas contracts locked-in, the risk would be too great for a private sector investor to begin construction of a new baseload gas plant.

Accessing long term gas contracts could take some time and is related to the speed with which new gas supplies are brought to market. As such, the four to five year time period for a new gas baseload plant could be extended to six to eight years.

Further, a new gas plant may not place downward pressure on wholesale electricity prices. Even assuming the availability of a long term gas contract at A$8/GJ, the LCOE of a new gas plant would still be around A$89/MWh. A gas price of A$10/GJ would result in a LCOE of more than A$100/MWh.

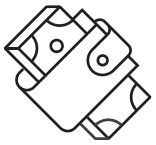
New low emissions coal plant

In contrast, if a decision was taken to build a new coal plant, and it had the support of the State Government and major project status, a build time of five to six years is feasible.

Using sites such as the Hazelwood mine and the existing power network infrastructure would be critical to achieving this time frame.

A new coal-fired baseload power station would place downward pressure on wholesale prices. With a LCOE of around A$55-$A65/MWh, this would represent a significant decrease on observed forward prices.

Also, it would likely have the impact of placing downward pressure on forward prices by incentivising existing producers to "lock in" customers prior to a new plant becoming operational.



A new coal-fired baseload power station would place downward pressure on wholesale prices.

Financing a new baseload coal plant

The Australian energy market is at tipping point. Unless new investment in baseload generation is forthcoming in the near term and energy prices start to fall, Australian manufacturing, minerals processing and other energy intensive activities will find themselves priced out of international markets.

While investment – driven by the RET – is being attracted to high cost intermittent renewable energy sources, it is not being directed at baseload generation. The challenge for policy makers is to understand why.

There is concern that ongoing policy interventions in the energy market over the past decade have made investment in new long-life assets too risky. Examples of this include:

- The five-fold increase in the RET in 2010, multiple changes to the way the target would be met and its reduction in 2015
- The introduction of the Carbon Pollution Reduction Scheme in 2008, its subsequent abandonment in March 2010, the introduction of the carbon tax in July 2012 and its repeal in June 2014
- The South Australian Government announcing its intention to build, own and operate a 250 MW gas peaking plant in March 2017
- The Commonwealth's proposed upgrade of Snowy Hydro announced in March 2017.

The issue for any investor is whether to invest in assets whose value can be fundamentally impacted by changes in government policy. This is a problem well understood by the mining and resources sector.

The Victorian and Commonwealth governments need to urgently address how best to attract investment in new baseload power generation, especially in the Latrobe Valley.

All options need to be considered, including:

- Making available Clean Energy Finance Corporation funds for all power generation types, especially HELE technologies such as USC and A-USC, and carbon, capture and sequestration opportunities
- Setting an emissions intensity and efficiency standard for new power stations, such as occurs in Japan, and, like Japan, that emissions standard should be set at the world class, state-of-the-art, Ultra Super Critical coal generation
- Governments using financing mechanisms which address the policy risk issues. These could underpin new investment in baseload power generation where actual investment is required to drive down power prices.

A Clean Energy Target may provide a mechanism to drive investment. However, as with all policy proposals, the design and implementation details will be critical. Moreover, a CET can still be altered by future governments.

At the least, a CET must not exclude investment in low cost, low emission and highly reliable power sources like the latest brown coal technologies.

The design of these policies is fundamental to ensuring Victoria and Australia's on-going economic prosperity and international competitiveness. Any policy which effectively precludes new brown coal baseload will have a detrimental impact.

The Victorian and Australian governments should investigate, as a matter of priority, what would be required to build a new power station in the Latrobe Valley.

Conclusion

Given the looming gap in baseload power, building new baseload generation is vital in order to lower energy costs, ensure reliability and enhance Australia's internationally competitiveness.

A new low emissions brown coal plant offers the lowest cost baseload power. It would help keep power prices under control while also providing critical system reliability.

Replacing existing coal-fired generation with new low emissions coal plant would help Australia meet its greenhouse emissions targets.

If located near existing power infrastructure and mines, it would reduce the need for additional infrastructure by optimising the use of existing power network and mine assets. This would reduce costs.

More broadly, a new power station located in the Latrobe Valley would utilise existing maintenance facilities, skills base and transport infrastructure in the region.

In doing so, it would assist in addressing economic, employment and social challenges confronting the region.

There is strong support from a wide range of community and regional groups, business organisations and local governments for a new state of the art power station.

Financing a project of this size, which can be impacted by changes in government policy, requires consideration to be given to new approaches such as government providing debt or equity.

A major challenge will be the planning and approval process. Any new project would need to receive major project status from the state government.

The Victorian and Australian governments should investigate, as a matter of priority, what would be required to build a new power station in the Latrobe Valley. This includes addressing issues related to how best to attract the required investment.

Endnotes

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