

Mineral Resources (Galilee Basin) Amendment Bill 2018 Submission

This bill is a step towards reconciling the contradiction between Australian policy on climate change and on coal production. It should be supported in the absence of a more comprehensive policy, such as a nation-wide moratorium on new coal mines.

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Summary

There is a contradiction between Australian policy on climate change and on coal production. Australia is committed to the Paris Agreement, which requires reductions in global demand for coal. Yet the Australian and Queensland governments promote growth in coal production. This bill is a step towards reconciling these policies.

The Bill's goal of limiting coal supply could be achieved in many ways and could be improved by expanding its scope. However, given the lack of a more comprehensive approach, such as a nation-wide moratorium on new coal mines, it should be supported.

Climate policy generally focuses on demand for fossil fuels and greenhouse emissions. Too little attention is given to supply side options such as the Bill's proposal to restrict thermal coal development. Combining supply and demand policies will help 'cut with both arms of the scissors'. Advantages to supply side policies include:

- Price and efficiency effects
- Low administrative and transaction costs
- Avoiding infrastructure lock-in
- Greater potential to mobilise public support
- Potential to mobilise fossil fuel industry support
- Potential for international policy cooperation

The economic impact of the bill would be minimal, as Australia already has large volumes of coal production approved in existing mines. Research by The Australia Institute and Victoria University's Centre of Policy Studies has modelled the impact of a nation-wide moratorium on new coal mines, including but not limited to the Galilee Basin, finding that changes to economic indicators are almost imperceptible:

- GDP is affected by just 0.6% in 2040
- Difference in employment peaks at 0.04% in 2030
- Reduction of export value of around 1% in 2040

The social cost of the development of the Galilee Basin however would be enormous.

Restricting Galilee Basin development provides benefits to existing coal regions such as the Hunter Valley, Bowen Basin and Surat Basin.

While submissions regarding this Bill are not yet available for review, we here provide comments on submissions to a similar federal inquiry *Galilee Basin (Coal Prohibition)*

Bill 2018 by coal industry bodies. The coal industry submissions rely on misinterpretations of statistics from the International Energy Agency (IEA) and the Office of the Chief Economist (OCE). The IEA scenario consistent with the Paris Agreement sees rapid decline in coal demand and trade. Consistent with this scenario Australian coal exports peaked in the year to March 2015, Newcastle's fourth coal terminal has been abandoned, while under capacity issues are ongoing at the Wiggins Island Coal Export Terminal.

The OCE's does not publish forecasts of Galilee Basin employment, but basic, unsourced project level estimates. Even these estimates have been revised down in the latest publication. We would encourage the Committee to seek clarification from the OCE on these estimates and other aspects of this Bill. The OCE could provide research useful for a wide range of policies by assessing Australian resource trends under various global decarbonisation scenarios.

Introduction

The Australia Institute welcomes the opportunity to make a submission on the *Mineral Resources (Galilee Basin) Amendment Bill 2018*.

There is a fundamental contradiction between Australian federal and state governments' policies on climate change and on coal production. Australia is committed to the Paris Agreement, which is forecast to reduce global demand for coal, while Australian governments all promote growth in coal production and exports. The Bill should be supported as it would be a step towards reconciling climate policy and coal policy.

Although the Bill's focus is on the Galilee Basin and a nation-wide approach to reducing fossil fuel development is preferable, this Bill is a big step in the right direction for Queensland.

Claims by the coal industry that the Bill would result in significant lost employment opportunities are misguided, self-interested and exaggerated. Claims in submissions to inquiry into a similar federal bill, *Galilee Basin (Coal Prohibition) Bill 2018*, by the Minerals Council of Australia and the Queensland Resource Council are addressed in this submission.

We also attach to this submission several relevant Australia Institute research reports:

- *Cutting with both arms of the scissors: the economic and political case for restrictive supply-side climate policies*
- *Never gonna dig you up! Modelling the economic impacts of a moratorium on new coal mines*
- *The impact of Galilee Basin development on employment in existing coal regions*

Supply side climate policy

Climate policy in Australia and internationally has traditionally focused on reducing greenhouse gas emissions, largely caused by the demand for coal and other fossil fuels. Economists and policymakers regularly debate policy instruments such as cap-and-trade schemes and carbon taxes, and to some extent policies that support the supply of or demand for substitutes such as renewable energy. Increasingly, however, attention is turning to instruments that aim to restrict the supply of commodities and products whose downstream consumption produces greenhouse gas emissions.

The relative lack of attention to date on supply side policies is surprising given their widespread use in other policy areas. Most governments restrict the supply of illicit drugs, tobacco and alcohol, while environmental examples include chlorofluorocarbons, asbestos and leaded petrol.

The attached paper *Cutting with both arms of the scissors: the economic and political case for restrictive supply-side climate policies* explains these issues in more detail and highlights several economic advantages of supply-side fossil fuel policy such as this Bill proposes:

- **Low administrative and transaction costs.** Policies such as carbon taxes and cap-and-trade schemes require detailed and complex rules, procedures and regulatory institutions for the monitoring, reporting and verification of, often across hundreds or even thousands of locations. Policies such as those proposed in this bill, by contrast, are likely to have relatively low administrative and transaction costs as they target a relatively small number of large, easily identifiable projects.
- **Price and efficiency effects.** Restricting the supply of a product, all else equal, increases the market price of that product. Restricting coal supply will thus raise the price of products that use coal as an input – in this case electricity from thermal coal combustion. To the extent that higher prices discourage consumption of coal-fired electricity (the premise on which restrictive demand-side policies such as carbon pricing is based), the higher fossil fuel prices will cause a reduction in the quantity consumed.
- **Avoiding infrastructure lock-in.** When production processes require a large, upfront investment in fixed costs, such as the construction of a port, pipeline or coalmine, future production will take place even when the market price of the resultant product is lower than the long-run opportunity cost of production. This is because rational producers will ignore “sunk costs” and continue to

produce as long as the market price is sufficient to cover the marginal cost (but not the average cost) of production. This is known as “lock-in”. Developing the Galilee Basin requires significant infrastructure investment, which could lock-in future coal production.

- **Mitigating the ‘green paradox’.** The risk of future policy change to the current value of a resource—for example, the risk of a future carbon price reducing the current value of coal resources—can induce resource owners to bring forward their extraction of that resource, thereby reducing its market price, causing an increase in its consumption (a phenomenon dubbed “the green paradox”). The push for Galilee Basin development even during a prolonged period of wider coal industry expansion and low coal prices appears to be an example of green paradox.

Supply side policies such as this bill also have political advantages, explained further in the attached article *Cutting with both arms of the scissors*:

- **Greater potential to mobilise public support.** Few voters are interested in, or across the detail of, emissions policies such as cap-and-trade schemes. By contrast, supply side policies are easy to understand and likely to gain support. For example, 49% of Australians support a moratorium on new coal mines, compared to just 20% that oppose such a policy.¹
- **Potential to mobilise fossil fuel industry support for policy.** Emissions reduction policies are generally opposed by fossil fuel producers as they all suffer from reduced demand for their products. By contrast, existing coal miners benefit from restrictions on new mines being developed, as prices are higher and there is less competition. Examples can be seen in major coal producer Glencore’s opposition to Adani and the Port of Newcastle’s opposition to Galilee Basin development.²
- **Potential for international policy cooperation.** The relative ease with which supply-side policies can be monitored and verified makes international cooperation more likely. Countries are more likely to participate in international policies if compliance can easily be verified. Note also the many

¹ Bennett (2018) *Climate of the Nation 2018: Tracking Australia’s attitudes towards climate change and energy*, <http://www.tai.org.au/sites/default/files/180911%20-%20Climate%20of%20the%20Nation%202018%20%5BPRINT%5D.pdf>

² McCarthy (2017) *Port of Newcastle executive under fire for breaking ranks with mining industry over Adani*, <https://www.theherald.com.au/story/4626993/adani-threatens-hunter-jobs/>

calls by Pacific leaders for Australia to restrict coal supply and Galilee Basin development in particular.³

Cutting with both arms of the scissors was written by Australia Institute Chief Economist Richard Denniss and London School of Economics researcher Fergus Green and published in the academic journal *Climate Change*.⁴

³ Morgan (2016) *Pacific pariah: how Australia's love of coal has left it out in the diplomatic cold*, <http://theconversation.com/pacific-pariah-how-australias-love-of-coal-has-left-it-out-in-the-diplomatic-cold-64963>; Cox (2015) *Pacific Island nation challenges Tony Abbott on coal*, <https://www.smh.com.au/politics/federal/pacific-island-nation-challenges-tony-abbott-on-coal-20150813-giy4wo.html>

⁴ Green and Denniss (2018) *Cutting with both arms of the scissors: the economic and political case for restrictive supply-side climate policies*, <https://link.springer.com/content/pdf/10.1007%2Fs10584-018-2162-x.pdf>

Economic impacts

The economic impact of restricting Galilee Basin development would be minimal. The many delays to Adani's commencement and long debate around subsidisation of Adani and other mines shows what most economists and financial analysts have long argued – that the Galilee Basin mines are financially marginal and economically unsound. The Bill would end uncertainty around the Galilee Basin, enabling the resources of companies, state government agencies and community members to be redirected towards more productive activities.

The attached paper *Never gonna dig you up! Modelling the economic impacts of a moratorium on new coal mines* examines in detail the economic impacts of a moratorium on new coal mines and expansions of existing mines nation-wide. In summary, with some updated figures:

- GDP is affected by just 0.6% in 2040. With or without a moratorium on new coal, Australian GDP is estimated to reach \$3 trillion in 2040, around twice the size of the economy today.
- As the coal industry is capital intensive, and a small employer, the impact of a moratorium on building new coal mines on employment is so small as to be imperceptible at a national level. The difference in employment peaks at 0.04% in 2030, before the gap closes again as more labour intensive industries expand.
- Coal mining is a small employer even in Queensland. ABS data shows that coal mining employs only around 1% of Queensland's population.⁵
- Coal exports do account for a large portion of Australia and Queensland's exports, around 12% nationally in 2015. However, overall export values are not projected to differ significantly as a result of introducing a moratorium on new coal mines — there is an estimated small reduction of growth resulting in exports around 1% lower than expected in the final years of the analysis period. This small impact is due to the gradual phase-out and the ability of other industries to increase exports.⁶

⁵ ABS (2016) *ABS Census Tablebuilder*, <https://auth.censusdata.abs.gov.au/webapi/jsf/tableView/tableView.xhtml>, Cat no. 6202.0 for coal mining jobs

⁶ Denniss et al (2016) *Never gonna dig you up! Modelling the economic impacts of a moratorium on new coal mines*,

The report also goes into impacts on Australia and Queensland's existing coal producing regions – the Hunter, Mackay and Fitzroy region. All experience lower growth than the national or state economies, but still grow substantially through the modelled period under a full moratorium.

Under the proposed restrictions on Galilee Basin only, impacts on the national, state and local economies would be less than those in *Never gonna dig you up* would. The existing coal regions would not only still be able to produce coal, but to expand production. Coal producers in these regions would benefit from certainty that a potentially large, subsidised competitor will not appear in the Galilee Basin.

The effects of Galilee Basin development on existing coal regions such as Queensland's Bowen and Surat Basins were assessed by coal industry analysts Wood Mackenzie in a report commissioned by the Port of Newcastle. Wood Mackenzie found that thermal coal output in both regions would decline, with eight mining projects or expansions delayed or shelved in Queensland. Importantly, it also projected that output in the Bowen Basin could fall by a third, while no thermal mines in the Surat Basin would be developed.⁷

Wood Mackenzie did not estimate the employment impacts of the changes in coal volumes they modelled from Galilee Basin development. The Australia Institute assessed the likely changes to jobs, finding employment reduction of 9,100 in the NSW Hunter Valley, 2,000 in the Bowen Basin and 1,400 in the Surat Basin. The report *The impact of Galilee Basin development on employment in existing coal regions* is attached to this submission.

The Queensland state government estimated it received around \$3.5 billion in royalty revenue from the coal industry over 2017-18. When considering the \$58.2 billion budget for the same year this amounts to only 6.5% of revenue. This figure is also projected by the government to fall nearly a quarter by 2021-22.⁸

<http://www.tai.org.au/sites/default/files/P198%20Never%20gonna%20dig%20you%20up%20FINAL.1.pdf>

⁷ Long (2017) *Galilee Basin mines will slash coal output, jobs elsewhere, Wood Mackenzie says*, <https://www.abc.net.au/news/2017-07-06/galilee-basin-mining-project-will-reduce-coal-output:-research/8682164>

⁸ Queensland Government (2018) *Budget Strategy and Outlook 2018-19*, <https://budget.qld.gov.au/files/BP2-2018-19-4%20Revenue.pdf>

Social costs of carbon

The development of the Galilee Basin would have a damaging impact on the social wellbeing of Queenslanders by fuelling increased climate change. Fossil fuel usage is well known to cause harm to the health, ecosystems and economies through local pollution. To limit the increase of global temperatures, thermal coal use must be reduced as a matter of priority.

The recent spate of heat resulting in Australia's hottest month ever is a manifestation of this trend.⁹

The Australia Institute has released recently a collection of reports, using CSIRO and Bureau of Meteorology data, showing how failing to limit fossil fuel emissions will increase extreme heat days in Queensland cities such as Gladstone, Rockhampton, Roma, Sunshine Coast and Gold Coast. These reports detail projected increases in extreme heat days – in some cities as much as tenfold - without strong climate policies to reduce emissions.¹⁰

Estimates of the economic cost of climate damage per tonne of CO₂ emitted is called the social cost of carbon (SSC).

The US Environmental Protection Agency has calculated that the SSC is US\$42 2020.¹¹ This is \$58 in Australian dollars.

This is a highly conservative figure. The literature on SCC includes a wide range of estimates, some in the hundreds or thousands of dollars per tonne.

Using these figures, we can calculate the social cost of the carbon emitted from burning the coal that would be exported from the Galilee Basin. The Commonwealth government's Office of the Chief Economist releases a *Major Projects List* which shows planned production from major coal mines, including in the Galilee Basin.¹² It uses the

⁹ ABC (2019) *Australia swelters through hottest month on record, with January mean temperature exceeding 30C*, <https://www.abc.net.au/news/2019-02-01/australian-weather-hottest-month-on-record-in-january/10769392>

¹⁰ The Australia Institute (2018) *HeatWatch*, <http://www.tai.org.au/heatwatch>

¹¹ EPA (2017) *The Social Cost of Carbon*, <https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon.html>

¹² OCE (2018) *Major Projects List December 2018* <https://publications.industry.gov.au/publications/resourcesandenergyquarterlydecember2018/index.html>

US Government SCC and a 2.1 tonnes of CO2 per tonne of coal.¹³ It shows that the climate damages from the Galilee Basin are very large.

Figure 1: Estimating the social cost of carbon from the Galilee Basin

Project	Mt coal	Mt CO2	SCC (millions, using \$58/ tCO2)
Carmichael Coal Project			
<i>Initial</i>	15	31.5	\$1,827
<i>Ramp up</i>	27	56.7	\$3,289
<i>Full approval</i>	60	126	\$7,308
China First (Galilee Coal Project)	40	84	\$4,872
China Stone	38	79.8	\$4,628
Alpha Coal Project (mine and rail)	30	63	\$3,654
Kevin's Corner	30	63	\$3,654
Annual total SCC			
<i>low production</i>	153	321.3	\$18,635
<i>high production</i>	198	415.8	\$24,116

It should be noted that this figure does not include direct air pollution damage, health costs and other direct environmental damages.

According a study for the IMF, post-tax energy subsidies for coal are dramatically higher than previously thought.¹⁴ These energy subsidies include health damages and premature death, which include large fiscal costs that often need to be financed by higher public debt and tax burden. Total fossil fuel subsidies globally were \$5.3 trillion or 6.5% of global GDP; coal

¹³ Climate Accountability (2014) *Summary of Emissions from identified coal production*
http://climateaccountability.org/pdf/SumCoalEmissions%2010p.pdf_using

¹⁴ IMF (2015) *IMF Survey: Counting the Cost of Energy Subsidies*,
<https://www.imf.org/en/News/Articles/2015/09/28/04/53/sonew070215a>

Comments on coal industry submissions to federal inquiry

COAL DEMAND

The Commonwealth Parliament is currently considering a similar bill, the *Galilee Basin (Coal Prohibition) Bill 2018*, which would achieve the same outcome as the present bill although using a different legal mechanism.

Submissions from both the Minerals Council of Australia (MCA) and Queensland Resource Council (QRC) claim that the International Energy Agency (IEA) has forecast increasing coal demand:

The Galilee Basin coal projects target export markets in Asia where demand for thermal coal remains strong for the foreseeable future. ...

In the IEA's New Policies Scenario, demand for coal in India and Southeast Asia more than doubles in both regions in the forecast period.¹⁵

Thermal coal demand across the Asia Pacific is set to continue. The IEA, in its central scenario, forecasts India to nearly double its coal-fired power capacity by 2040. This investment will mean coal remains the dominant generation source for India in 2040 at around 50% of total generation. More widely across the Asia Pacific, coal is forecast to provide around 40% of total power generation by the year 2040.¹⁶

These submissions misrepresent the IEA's World Energy Outlook report and Australia's international obligations. The IEA does not make forecasts:

[The] World Energy Outlook (WEO)... does not aim to forecast the future, but provides a way of exploring different possible futures, the levers that bring them about and the interactions that arise across a complex energy system.¹⁷

¹⁵ MCA (2018) Submission to the Senate Environment and Communications Legislation Committee inquiry into the Galilee Basin (Coal Prohibition) Bill 2018, <https://www.minerals.org.au/news/submission-galilee-basin-coal-prohibition-bill-2018>

¹⁶ Macfarlane and Smyth (2018) Submission, <https://www.qrc.org.au/media-releases/qrc-and-cfmeu-make-joint-submission-against-greens-anti-jobs-bill/>

¹⁷ IEA (2018) World Energy Outlook 2018, www.iea.org, p23

The IEA reports use possible scenarios, not forecasts. The MCA and QRC selectively use scenarios and data point that suit their purpose. They do not mention the IEA's *Sustainable Development Scenario*, which is broadly in line with the Paris agreement, an agreement that Australia is a signatory to and which both the MCA and the QRC claim to support. Under that scenario world coal demand goes into immediate decline from 5,357 million tonnes (Mt) in 2017 to 4,350Mt in 2025 and 2,282Mt in 2040. International trade in coal follows a similar trend, declining from 1,102MT to 915MT and 518MT in the same years.

Fortunately, coal demand appears to have flattened. Australian coal exports peaked in the year to March 2015, with 393Mt. In the year to September 2018 the same figure was 381Mt.¹⁸ The weaker outlook for Australian coal demand is shown by events such as the abandonment of Newcastle's fourth coal terminal and the ongoing under capacity issues at the Wiggin Island Coal Export Terminal.¹⁹

EMPLOYMENT

Both submissions make the claim that:

The Office of the Chief Economist estimates that the Galilee projects will result in 18,275 construction jobs and, once developed, 14,533 operation jobs.

The Office of the Chief Economist (OCE) does not estimate employment in the Galilee Basin, it simply lists estimates of all major mining project construction and operation employment. It is unclear where these estimates come from, as most are inconsistent with even proponent claims. For example Adani's listing in the 2017 OCE document is for 3,920 operational employees. Adani's 2013 environmental impact statement said:

The operations workforce will ramp up from 789 in 2015 to a peak of approximately 3,800 by 2024. It is expected that the workforce will remain above 3,400 from 2021 til 2048.²⁰

¹⁸ OCE (2019) *Resource and Energy Quarterly December 2018*, <https://publications.industry.gov.au/publications/resourcesandenergyquarterlydecember2018/index.html>

¹⁹ Hannam (2018) *Newcastle's T4 coal port expansion scrapped as demand fails to rise*, <https://www.smh.com.au/environment/climate-change/newcastle-s-t4-coal-port-expansion-scrapped-as-demand-fails-to-rise-20180531-p4zinx.html>; Stephens (2018) *Another WICET*, <https://www.afr.com/business/energy/big-coal-seasoned-to-chinas-winter-bans-20181119-h182kb>

²⁰ GHD (2013) *Report for Carmichael Coal Mine and Rail Project SEIS - Economic Assessment*, <http://eisdocs.dsdirp.qld.gov.au/Carmichael%20Coal%20Mine%20and%20Rail/SEIS/Appendices/Appendix-E-Economic-Assessment-Report.pdf>

In court in 2015 Adani's estimate of operational employment was less than 2,000 people in all years modelled.²¹ OCE have since revised their estimate of employment on Adani's project to 1,500.²²

We encourage the committee to seek clarification from the OCE in relation to the claims in the QRC and MCE submissions.

As discussed above and in the attached reports, development of the Galilee Basin will be likely to negatively impact on employment in other coal mining regions. The employment potential of the Basin is small and insignificant compared to the employment challenges faced by regional Queensland.

SUPPLY AND DEMAND

The MCA submission misunderstands basic economic theory:

[The] proposed Bill will not affect thermal coal demand as forecasts clearly suggest that growth remains strong in Asia. Other coal producers will fill any market gap that Australia does not supply, and limiting the supply of coal from the Galilee Basin could inflate market prices and deny millions of people from accessing reliable and affordable energy.

This is not logically consistent.

Coal demand will only be unaffected if limiting Galilee Basin coal has no impact on price. If market prices are inflated, demand for electricity from coal will decline, other things being equal. There cannot simultaneously be no change in demand, but millions less people using coal-fired electricity.

Beyond this logical problem, the MCA ignores that there are cheaper and cleaner alternatives to coal-fired energy and a wide body of research showing alternative solutions to energy poverty.²³ The IEA itself emphasises the role of decentralised renewable generation in achieving universal energy access, climate goals and continued economic growth.

²¹ Fahrer (2015) *Carmichael coal and rail project: Economic assessment*, Expert report to the Queensland Land Court, See Figure 4.

²² OCE (2019) *Resource and Energy Quarterly December 2018*, <https://publications.industry.gov.au/publications/resourcesandenergyquarterlydecember2018/index.html>

²³ Campbell et al (2014) *All talk, no action: the coal industry and energy poverty*, http://www.tai.org.au/sites/default/files/All%20talk%20no%20action%20FINAL%20Nov2014_0.pdf

Conclusion

This Bill should be supported as a first step towards reconciling the contradiction between Australia and Queensland's climate policies and our policies to increase coal production.

Other easy policy changes that could help resolve this contradiction relate to state resources planning and projections. State agencies should publish a comprehensive annual publication considering Queensland resource trends under various global decarbonisation scenarios.

State agencies should compile and update key statistics on coal proposals, operating lives, projected volumes, suspended operations, and rehabilitation, to enable a better understanding of Australia's current coal capacity, infrastructure lock in and facilitate a transition to a low carbon future.