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Senate Standing Committees on Environment and Communications
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14th August 2019

Submitted online to:

https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Coal-FiredProhibition

Dear Sir,

Coal-Fired Power Funding Prohibition Bill 2017

Thank you for inviting the Australian Energy Council (the “**Energy Council**”) to make a submission to the Environment and Communications Legislation Committee’s *Inquiry into the Coal-Fired Power Funding Prohibition Bill 2017*.

The Energy Council is the industry body representing 23 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia, sell gas and electricity to over ten million homes and businesses, and are major investors in renewable energy generation.

Introduction

The electricity supply industry in Australia is undergoing a transition, as the proportion of variable renewable energy supply increases, and aging conventional thermal generation reaches the end of its economic life and retires. According to AEMO’s *Integrated System Plan*, 14GW of coal-fired generation is expected to be decommissioned over the next 20 years,¹ as shown in the following graph.

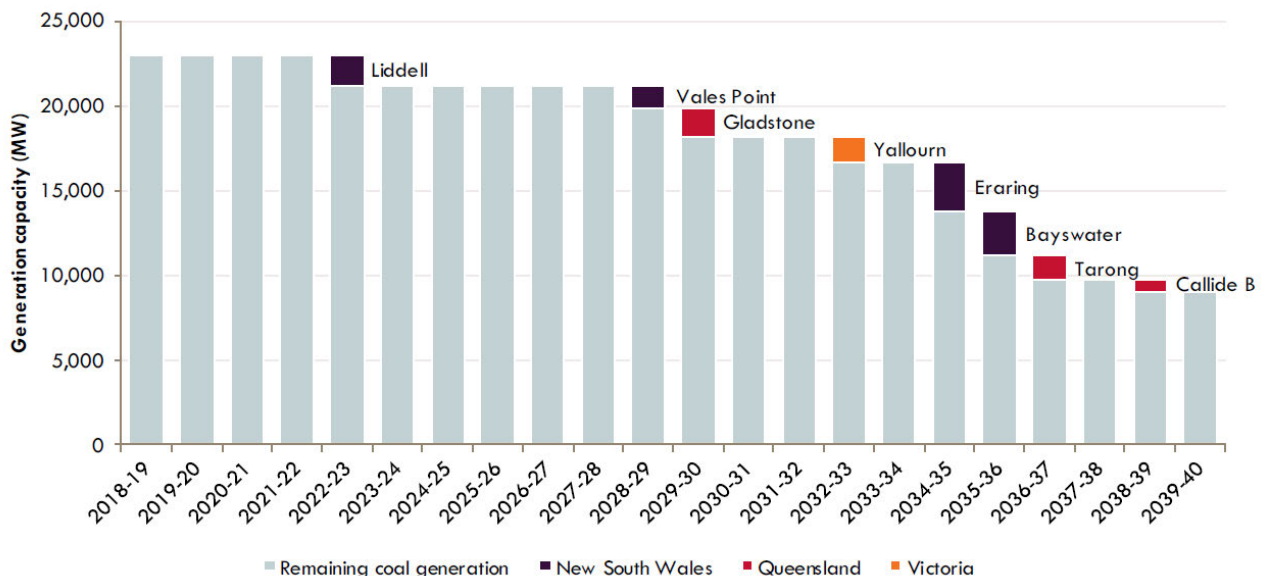


Figure 1: NEM coal-fired generation fleet operating life to 2040, by 50th year from full operation or announced retirement

Source: AEMO²

¹ AEMO, *Integrated System Plan for the National Electricity Market*, July 2018, p.21

² *bid.*, p.22, Figure 2

These market changes are occurring due to:

- the increasing age of the coal-fired plant;
- the initial subsidies provided to renewable energy via the Large-Scale Renewable Energy and Small-scale Renewable Energy schemes;
- the penetration of residential solar; and
- the overall reducing cost of renewable energy technologies, an example of which is shown in the following graph.

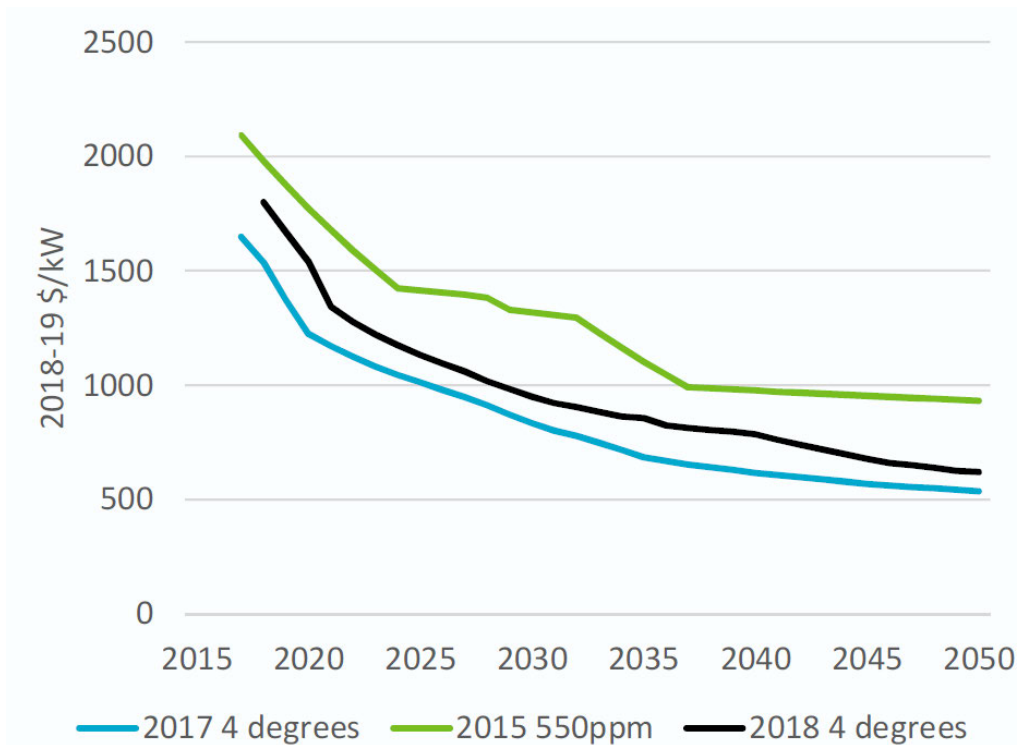


Figure 2: Projected capital costs for rooftop solar PV compared to two previous studies
Source: CSIRO³

The Energy Council supports Australia reducing its emissions to meet its Paris Climate Change Conference commitment, and believes that the most economically efficient mechanism to facilitate the necessary reduction in national emissions is for the Commonwealth Government to provide a market mechanism which recognises carbon externalities across all sectors.

Having the electricity generation sector (both existing generation and new entrants) participate in such a mechanism is the most equitable means by which emissions can be reduced, in line with well-telegraphed targets as set from time to time.

While there would be companies advantaged and disadvantaged from such a mechanism, its basis would satisfy the principle of technology neutrality, and, with a tradable, technology-neutral mechanism used as the tool to reduce emissions, the question of eligibility of certain technologies for government support becomes irrelevant.

Discussion

The Bill as drafted prohibits the Commonwealth Government and any of its entities, including any incorporated companies in which it has a controlling interest, from supporting coal-fired power stations other than in

³ Graham, P.W., Hayward, J., Foster, J., Story, O., Havas, L., *GenCost 2018*, CSIRO, December 2018, p.18, Figure 3-12

association with their retirement or managed closure. While acknowledging the intentions of the Bill, the Energy Council opposes any legislation which unfairly targets specific assets within a sector of the economy.

The Energy Council has repeatedly espoused the view that government intervention in the investment process distorts the wholesale electricity market. An example of those views is the Energy Council's submission to the Department of the Environment and Energy's *Underwriting New Generation Investments Public Consultation Paper*, a copy of which is appended to this submission.

While government intervention can take the form of underwriting new generation, or providing a subsidy for particular technologies, it can also take the form of withdrawing support for a particular technology, as presented in this Bill.

The Commonwealth Government, through a range of mechanisms such as the Australian Renewable Energy Agency, the Clean Energy Finance Corporation, the Northern Australia Infrastructure Facility, the Regional Growth Fund, and the Building Australia Fund, provides assistance for industry, particularly in its formative stages. While these agencies exhibit their own project preferences depending on their individual investment priorities within their individual remits, it is better they are not constrained in the projects they support. Explicitly prohibiting funding for coal-fired power stations will potentially limit innovative projects that actually assist Australia's transition to lower emissions. For example, these could include demonstrations of:

- carbon capture or storage, or
- activities that improve plant efficiency and thereby reduce emissions.

On this basis, the Energy Council does not believe the Bill is necessary.

Conclusion

In conclusion, while the Energy Council recognises the aims of the proposed legislation, the interventionist nature of its scope, and its detriment to the operations of Government entities means it should be opposed.

Any questions about this submission should be addressed to the writer, by e-mail to
or by telephone on

Yours sincerely,

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ATTACHMENT

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9th November 2018

Via e-mail to: UnderwritingNewGeneration@environment.gov.au

Underwriting New Generation Investment

The Australian Energy Council (the “**Energy Council**”) welcomes the opportunity to make a submission in response to the Department of the Environment and Energy’s *Underwriting New Generation Investments Public Consultation Paper*.

The Energy Council is the industry body representing 22 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia, sell gas and electricity to over ten million homes and businesses, and are major investors in renewable energy generation.

Introduction

For many years the Energy Council has maintained a view that government intervention in the investment process distorts the wholesale electricity market. We have expressed this view most frequently in respect of subsidies granted to specific technologies by state and federal governments, but equally such distortion can come about through the de-risking of new generation through underwriting.

Consistent with that view, the Energy Council did not consider an adequate case had been made with respect to Recommendation Four of the Australian Competition & Consumer Commission’s (“**ACCC**’s”) *Retail Electricity Pricing Inquiry – Final Report*¹ (“**ACCC Report**”).

Instead the Energy Council considers that any apparent lack of competitiveness in the wholesale electricity market is directly due to repeated governmental policy failure over the past decade. This was recognised by the ACCC Report’s Recommendation Five.

The participation of government in the electricity market will not act to improve consumer outcomes, instead it will increase risks for market participants and thereby stifle new private investment and discourage re-investment in existing plant leading to retirement ahead of its potential lifespan. Whilst the Paper is rightly concerned about taxpayers bearing a burden through underwriting investments, the greater concern is that consumers will bear the costs of the Government action chilling investment, drawing the Government into a spiral of further interventions.

Discussion

The ACCC proposal

The ACCC Report indicated that, “[t]he NEM has, until recently, appeared to have operated well in respect of eliciting a market response to signals of an over- or under-supply of generation capacity”.² It expressed concern about recent high prices in the wholesale market, then went on to say, “[t]o the extent that higher prices are being driven by a tighter supply-demand balance, and these conditions are forecast to persist, we would expect these price signals to lead to an investment response”.³

¹ Australian Competition & Consumer Commission, *Retail Electricity Pricing Inquiry – Final Report*, June 2018

² *Ibid.*, p.98

³ *Ibid.*, p.98

The ACCC was therefore cautious about market intervention, and, in general, supportive of the market resolving the supply-demand balance itself, with a consequential reduction in wholesale prices.

However to assist project developers and large customers who anecdotally reported difficulty in securing long-term arrangements, the ACCC recommended assisting project developers in securing length in their supply contracts, by guaranteeing prices after the initial foundation customer contracts have expired. The market failure that the ACCC observed was narrow and specific, and the remedy was appropriately constrained. It was intended that coalitions of large customers would initially seek to arrange a supply contract with a new generator, and then, when they are ready to do so, approach the Government for an underwriting service to apply to the back end of the period. . At its core, it was a customer-led concept.

This is fundamentally different from the proposition in the Consultation Paper, which instead seeks to hurriedly underwrite new generation through a form of government tender. The successful generator will receive a kind of subsidy, albeit expressed in indirect terms such as low cost loans or contracts for differences. Thus, in the Government's version, long-term competitive supply to customers has become a secondary consideration. Tenderers will most likely not bother to secure market customers until after they have succeeded obtaining a subsidy at government tender. To the Energy Council's mind, this is a fundamental change to the the ACCC's recommendation, and at odds with the expectation of the ACCC Report that investment should occur in response to consumer demand. Instead, the Government, in its role in selecting the successful tenderer, has put itself in charge of planning generator investment, with the difficulties and distortions that such government involvement implies.

Timeframe

The proposal is being consulted and proposed for implementation in an excessively short time-frame considering the complex implications and design matters at stake. Again, this seems to contrast with the more considered customer-led concept proposed by the ACCC recommendation.

An appropriate approach for implementing such a policy would include:

- Initially researching and consulting on the underlying concern such that the claimed market failure can be properly defined;
- Having defined it, contemplating what type of physical investment and where would address the concern;
- Designing a mechanism that would most efficiently support that investment and cause the least distortion to the broader market; and
- Determining assessment factors by which the market failure can be re-tested ahead of implementation and success factors by which the policy can be assessed post implementation.

The steps above are informed by advice the Energy Council recently had completed on decision-making processes in the Energy Industry that provide the greatest investor and customer confidence. The report is available on the Energy Council's website at <https://www.energycouncil.com.au/media/12077/market-design-principles-final-report-180419.pdf>, and we wish to draw it to the Government's attention.

Reliability

The Consultation Paper identifies that one of the program objectives is to "improve reliability and security by increasing the level of firm and firmed capacity in the system".⁴ Again, this was not an objective of the ACCC recommendation four and its introduction confuses the purpose of the intervention.

However, under its "Neutral Demand, ISP Development Plans" scenario, the Australian Energy Market Operator's *2018 Electricity Statement of Opportunities* does not forecast the reliability standard being breached in any National Energy Market Region for the term of the analysis, which extends to 2027-28.⁵ Similarly the Wholesale Electricity Market is not expected to breach the reliability standard over the same period.⁶ This

⁴ Consultation Paper, p.5

⁵ Australian Energy Market Operator, *2018 Electricity Statement of Opportunities*, August 2018, Figure 30, p.63

⁶ Robinson Bowmaker Paul, *Australian Energy Market Operator Report: 2018 Assessment of System Reliability (Expected Unserved Energy), Development of Availability Curve and DSM Dispatch Quantity Forecasts for the SWIS*, 1st June 2018, Table 5, p.32

suggests that the reliability objective of this intervention has already been met, and is further reinforced by the work the Energy Security Board is conducting to establish a Retailer Reliability Obligation.⁷

De-linking the plant from important market incentives

The nature of technological change in the market is leading to one where there is likely to be regular periods of excess zero priced energy and other short-periods of very tight supply. In response to this dynamic, the market will need highly flexible options that are most responsive to these price fluctuations, which are also the optimal options for such a market. Experts usually point to the obvious technologies being peaking gas or diesel plants, storage and demand-side participation options.

Although nominally participating in the wholesale electricity market, the Government-underwritten plant would be isolated from its dynamics due to its guaranteed income stream, noting that some of the proposed subsidy designs do this in different ways as discussed later. The form of plant and its operating characteristics will be forever fixed by the design of the Government's mechanism rather than in response to market signals.

Rather than assisting with managing supply-demand changes, and working in conjunction with the rest of the power system to provide the most efficient outcomes, the underwriting will most likely immunise the plant from it. Whilst this is certainly a benefit for the owner, as a consequence the rest of the power system would become more imbalanced, with a significant supply source not participating in the balancing of supply and demand. This undermines the claimed reliability and security objectives of the proposed plant. In addition, it would create a burden for other generators which were participating in the market, as they need to absorb proportionally greater supply swings, and ultimately leading to increased costs of their participation, which would be passed on to consumers.

If, in time, an over-supply reemerges as was present in the first half of the current decade, it will necessary for some plants to mothball or retire. The underwriting has effectively removed any incentive for the considered plant to potentially do this, which may well be the most efficient option to occur at that time.

Another feature of the NEM's design is that it creates a broadly efficient locational incentive on generators, in that it is more likely that investment will occur in a pricing region where the customer need for that type of technology is greatest. Generators will also tend to locate away from areas of high congestion or losses which will otherwise inhibit their ability to supply customers. The underwriting proposal now puts the Government in the position of having to centrally determine what location is appropriate for a particular technology. It is extremely difficult for disinterested parties outside the market to perform such planning efficiently, and indeed the negative historic consequences of such planning were the predominant reason electricity markets were introduced in the 1990s.

Unintended consequences upon Consumers

Finally, the Energy Council strongly believes that the Government underwriting generation investments, in whatever form the underwriting takes, will stifle private investment and distort market outcomes. Rather than reducing wholesale prices for customers, increasing the risk of participation in the market will cause investors to think twice before commissioning new projects and deter them from developing innovative market solutions. This "chilling" of investment will have consequences for market prices, as a shortfall in new generation being brought online will resultantly cause price increases, therefore the new generation underwritten by the Government will have the opposite effect to that intended.

Response to Questions

1. Options

The options listed in order to subsidise the proposed plants all have varying impacts on the existing market:

Floor price:

- These tend to de-risk investments, skewing them towards higher-capital options than might otherwise be efficient, for example generation as opposed to demand-side.

⁷ See, for example, COAG Energy Council, *20th Meeting Communique*, 26th October 2018

- Whilst it is understood the ACCC intended to find a strike price that only protects debt rather than equity, the known presence of the floor price creates a natural incentive to inefficiently over-gear the finance such that it is fully protected and the strike price is maximised.
- If in the future the market is over-supplied and therefore low priced, the floor-price will artificially extend the operability of the benefiting plant, causing others to close first, even if their fixed operating costs are lower than the underwritten plant.
- Depending on how it is measured, e.g. if generator-output weighted, the floor price may discourage the plant from participating in the essential supply-demand balancing.
- A floor-price should presumably apply to the actual sales prices achievable by the plant, which are contract-based rather than spot prices. That then opens the question as to how to find a trustworthy source of appropriately risk-weighted contract prices.

Contracts for Differences:

- As the paper notes, a contract for differences settled on actual output of the plant would completely de-link the investment from market risk, but in doing so remove its:
 - Incentive to participate in supply/demand balancing;
 - Incentive to maintain its own reliability during tight market conditions.
- Any contract for differences design will remove this capacity from the contract markets and instead leave the Government with a “long” position of no value to it. Retailers will still need to contract from other generators to meet their own risk requirements or the new Reliability Obligation, in which case the generator has not lowered the prices retailers will need to charge customers.

Collar Contracts:

- These will remove the capacity from the competitive contract market in the same ways as a contract for differences.
- If output-weighted, these contracts similarly remove the generator from the supply/demand balancing as per output-weighted contracts for differences.
- Whilst the paper describes the potential “upside” to the Government in comparison to purely a floor price, its uncertainty is simply an extension of the Government’s trailing market exposure.

Capacity Payments:

- This design puts the Government most explicitly in the role of central planner in determining the type of capacity, location, reliability and other matters that it would take into account when choosing to subsidise capacity.
- The NEM has intentionally chosen the current energy-only design in order to avoid having a central party making these very difficult decisions about the amount and type of plant and how to recognise its actual performance.
- It is very difficult to compare capacity across technology types. For example, how should energy-limited capacity, such as storage, be compared against non-energy limited capacity? And what period of storage would constitute “firm” capacity?
- The design requires the Government to specify a reliability expectation, and then institute performance mechanisms to incentivise delivery of that reliability. It needs to deal with the complex problems of assessing reliability, processes for maintenance planning, and how to deal with outages outside the immediate control of the owner, such as fuel supply interruption.

2. Merit Criteria

The Energy Council questions whether the project merit criteria set out in the Consultation Paper will be able to be assessed adequately. For example, modelling of electricity market prices is a highly speculative exercise, highly dependent on input assumptions and very likely to be inaccurate in later years. In addition, criteria such as whether projects are greenfield, brownfield redevelopment, upgrades or life extensions of existing generation, are somewhat subjective and unable to be demonstrated clearly by proponents. Clearly the criteria are difficult to assess and the Energy Council suggests that a better means to obtain the desired result of Government would be to offer the underwriting scheme more broadly.

The paper has not considered one of the most critical questions, which is the location of the investment. The NEM is not homogenous, and judiciously locating investments will reduce future transmission costs and reduce electrical losses. Exactly how the Government proposes to select the optimal plant and location is unclear.

Alternatively, if the government attempts to follow the ACCC recommendation closely; i.e. coalitions of large customers independently forming and requesting a financial floor price for a long-term contracting arrangement with supply that they have arranged themselves; then the government's role in these difficult questions of merit diminishes. The customers will themselves have already identified the type and nature of the supply that meets their needs best. A customer driven solution is one that is more likely to be consistent with the true needs of the market than anything that the government can determine.

Conclusion

The Energy Council opposes Government underwriting new generation investment, and the proposals in the paper go considerably further than the limited market intervention proposed by the ACCC. At this time there is no demonstrable need for new generation nor the haste with which the proposal is being implemented. More importantly it represents a distortion to the market with the result being not to reduce wholesale electricity market prices, but to increase the risks of participation for both new and existing generation, consequently leading to higher prices over the longer-term.

Any questions about this submission should be addressed to the writer, by e-mail to
or by telephone on

Yours faithfully,

Ben Skinner

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Australian Energy Council