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SUBMISSION TO THE ENERGY SECURITY BOARD

National Energy Guarantee

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Summary

- Government policies, largely involving renewable subsidies, have caused Australian electricity costs and prices to escalate and to become among the highest in the world. The NEG shifts the basis of the deleterious subsidy regime to become an emissions intensity scheme or carbon tax.
- Though ostensibly responsive to the Paris Agreement, the NEG is actually an industry policy proposal designed further to shift Australia to an “inevitable transition to a clean energy future”.
- On the basis of harmful and crippling expensive subsidies, renewables have much increased their market share. But their on-going need for subsidies, as well as undermining the industry as a whole and increasing prices, indicates an on-going lack of commercial competitiveness.
- The NEG’s claim to bring about policy certainty is not credible:
 - The Paris Agreement is dysfunctional, applies to at best 20 per cent of global emissions and will inevitably collapse.
 - The political forces within Australia have vastly different aspirations for renewable energy and coal.
- The NEG will not promote reliability since the absence of this is a consequence of the many interventions it seeks to pursue by alternative means. In attempting to proceed along this well-trodden path many billions of dollars will be wasted and prices to households and businesses will remain crippling high.
- The only sensible policy approach is for the government to unwind all subsidies and to call for tenders for new despatchable electricity generation on the basis of long term contracts.
- All these issues aside the NEG is seriously remiss, even within its own framework because it:
 - Does not reduce emissions at least cost.
 - Discriminates in favour of some electricity customers and suppliers in favour of others

Introduction

The National Market introduced over 20 years ago introduced competitive provision of electricity to the Australian market. The effect was an immediate de facto increase in supply as privatised generators sought profitable opportunities by being available more of the time and state owned generators responded by following similar practices. For generators, competition brought an intensified focus on cost savings and this also occurred in the privatised distribution/transmission businesses.

It is uncontroversial that Australian electricity prices have shifted from being just about the lowest to among the highest within developed countries. It is hardly credible to claim that this is caused by anything other than political intervention in the market. The base of that intervention is the undermining of the economics of coal based electricity generation resulting from renewables being awarded a subsidy equivalent to around \$80 per MWh, double the previous and underlying cost of coal generated electricity. Coupled with this is the vilification of coal as a power source or an export commodity by political action groups and politicians themselves, a vilification that translates into elongated and costly approval regimes, increased taxes on coal and reticence of the Australian financial sector to invest.

Claiming to be founded on three pillars: low cost and reliable electricity from which lower emission will be emitted, the NEG contains no information on how the low priced energy will be achieved and no goals as to what that might be.

The NEG as a mechanism setting the framework for the future

Emission reductions

The NEG is fundamentally an emissions intensity scheme, previously and accurately described by the current government as a “carbon tax”. Contrary to some government statements it is not technologically neutral. It is a scheme that penalises generators in relation to their emissions of carbon dioxide.

The NEG, like the Gillard Government’s “carbon pricing scheme” and the many other subsidies to green and renewable energy, represents an attempt to accelerate progress to what its initiators regard as an inevitable march of history to an energy future in which fossil fuels play no role. In promoting the NEG, Minister Frydenberg said, “Unless we effectively manage the inevitable transition to a cleaner energy future, we will not deliver the lowest cost, market-base outcomes that are in the interests of consumers.” He also said, “With no new taxes, subsidies or trading schemes, the NEG could not be more different to a clean energy target of an emissions intensity scheme”. He must have known that this was false.

All people with a knowledge of history would be aware of the damage governments have done in seeking to accelerate claimed inexorable outcomes both in the wider political order and in the narrower sense of “picking winners”. In this respect, the minister’s “market based” description of the NEG can no more mean an absence of regulatory direction and support than was the case with tariffs on imports or the renewable energy subsidies the NEG is designed to replace.

If the progression to a green future is, indeed, inevitable, the best public policy response is to ensure there are no obstacles in the road of this and not, as is the intention, providing positive support by penalising alternative means of meeting demand. However, a stated policy objective is to “preserve

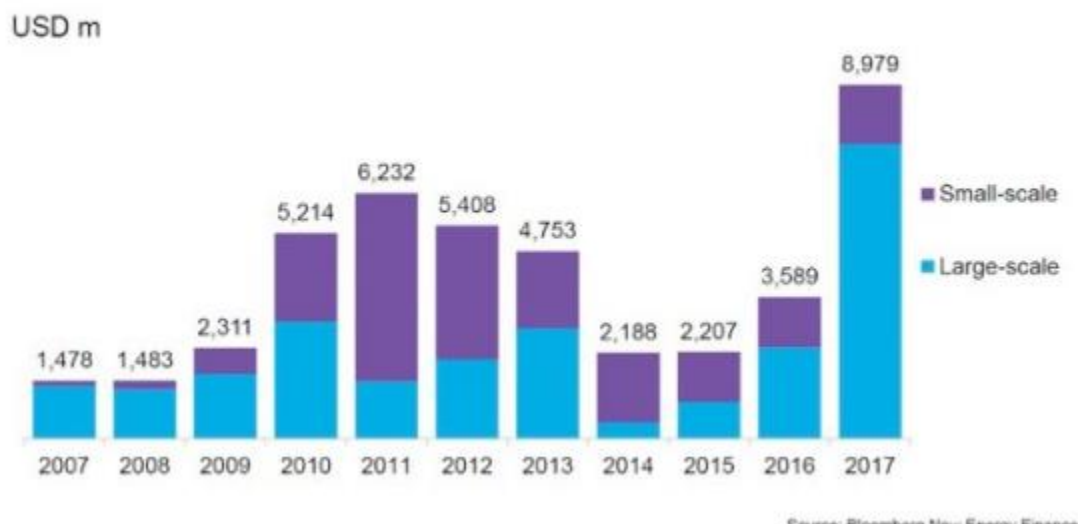
investment incentives by limiting offsets” which, is an industry policy tool rather than one aimed at the professed goal of contributing to a global environmental goal.

The appropriate policy approach of a “level playing field” remains so even if the “legacy” generators the new energy is to replace are impeding the parade to the future by dint of their costs being low as a result of their capital having been largely written off. We do not, after all, scrap all telephones once a new version is developed, require aeroplanes that have been made obsolete by a new models to cease operations or force all Microsoft users to transfer to the latest version of MS Word as it hits the market. To do so would be wasteful of capital and bring costs to the economy.

This is all the more pertinent given the history of projections about the triumph of renewables. Notions that renewables will shortly become cheaper than fossil fuel and nuclear generated electricity have been prominent since the 1980s but renewables still, judging by the lobbying of the suppliers, need a price support of \$50 per MWh. According to work by [Solstice](#) for the Minerals Council, new coal could be available at under \$50 per MWh, a price consistent with the costs of developing the new coal capacity in Queensland and Victoria 12-16 years ago and that behind the many hundreds of coal units planned and underway across the world.

Current policy is to achieve a 23 per cent share for renewables (15-16 per cent of which would be wind/solar). The great benefit claimed of the NEG is that it progress these goals and will pave the way for policy stability on the basis of which investment decisions can be made with greater confidence. As renewable proponents ceaselessly tell us, there has been no shortage of investment in wind and solar. Such investment has been given confidence as a result of government mandated cross-subsidies stemming from large and small scale renewable targets. Investment based on government subsidies and “winner picking” has seldom proved fruitful in the past. Here is the recent data compiled by BNEF.

Total New Clean Energy Investment in Australia



Moreover, it is hard to see policy stability emerging from the NEG.

Within Australia, the ALP and The Greens have rather more ambitious goals for renewable energy than those of the Government. Furthermore, many elements within the government seek a far

diminished goal, indeed no goal, for subsidised renewables or other sources of supply that owe their place from a tilting the field away from fossil fuels.

Outside of Australia the situation is even more fluid, bringing a fragility to the Paris Agreement on which the abatement target at the heart of the NEG was devised. Of the nations which ratified the Paris Convention, only the developed countries have any commitments to take emission restraining measures, at least for the next 12 years. Led by China, at 30% of emissions, the developing countries, including India, the Middle East oil producers and the former USSR, account for some two-thirds of emissions. Those signing on to restraints account for only 30% of total emissions.

Almost half of the emissions being restrained under the agreement are from the US. But the Trump administration has revoked the US signature and is dismantling programs that favour renewables or discriminate against coal. Now, the government of Canada's biggest province, Ontario, is dismantling its \$2 billion a year program of support for the Paris Agreement goals and the size of that government's election victory must cast into doubt the longevity of the Trudeau Government with federal elections scheduled in a year or so. Other nations are finding difficulty in meeting their obligations and Japan is in the process of building some 36 new coal generation units.

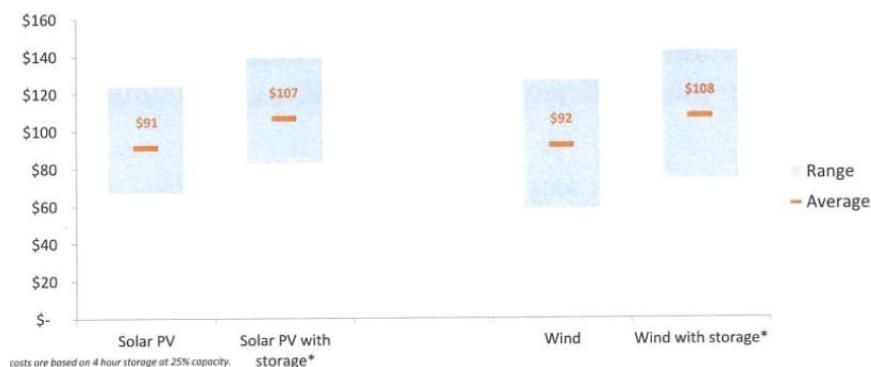
The Australian 2015 commitment to the Paris Convention was

*“Under a Paris Agreement **applicable to all**, Australia will implement an economy-wide target to reduce greenhouse gas emissions by 26 to 28 per cent below 2005 levels by 2030.”*

The commitment is therefore no longer binding purely as a result of the US developments. Still less is the redefinition meaning that meeting the goals is via an annual increase in reductions rather than the 2030 target that was the original intent.

The NEG as a promoter of reliability

The consultation paper has some information on how the increased levels of unreliable renewable electricity would be “firmed up” by purchasing insurance from more dependable sources. That firming cost was, in June 2017, stated to be around \$16 per MWh by Minister Frydenberg.



More recent estimates including by the [Grattan Institute](#) place the cost at \$20-30 per MWh.

However, government requirements in this regard are largely unnecessary since the retailers themselves have very considerable incentives to avoid incurring high costs from high price events by ensuring they are covered when the renewable energy they are obliged to buy is not available. Retailers' risk departments normally insist on contracts that place the unreliability of wind as requiring 95 per cent of its contracts to be covered.

Renewable energy is fundamentally unreliable. This is evident from the reduced value it obtains in the national market compared with other sources. The following table prepared by the Australian Energy Council illustrates the price discount earned by wind. Because they are non-despatchable, last year wind generators in South Australia earned 17 per cent less than the average price; wind generators in Victoria earned 10 per cent less.

Financial Year	Wind Price		TW average price		Wind discount (%)		Wind market share(%)	
	SA	VIC	SA	Vic	SA	Vic	SA	Vic
2011-12	\$ 26.56	\$ 26.10	\$30.32	\$ 27.29	12.4%	4.4%	27.5	2.4
2012-13	\$57.52	\$53.41	\$69.76	\$ 57.44	17.6%	7.0%	27.8	3.7
2013-14	\$54.05	\$48.79	\$61.74	\$ 51.50	12.5%	5.3%	34.8	5.1
2014-15	\$31.38	\$27.83	\$39.30	\$ 30.36	20.1%	8.3%	36.8	5.2
2015-16	\$ 48.19	\$43.10	\$61.67	\$ 46.14	21.9%	6.6%	37.7	6
2016-17	\$ 76.42	\$55.51	\$108.70	\$ 66.62	29.7%	16.7%	43.2	6.4
2017-18	\$ 81.13	\$ 82.93	\$ 97.81	\$ 92.28	17.1%	10.1%	42.5	9

The discount has tended to increase as the renewable share has increased and has tended to be higher in South Australia where wind has a greater share than in Victoria.

This suggests that there are other factors in addition to the inability of wind to supply on hot windless days. It is likely that the growing share of wind is itself creating more high priced events by reducing the amount of baseload available to cover predictable demand changes. Hence the interest in batteries and \$10 billion plus Snowy2 to help paper over the deficiencies of electricity dependent upon the elements.

The disparity between wind and other sources is also likely to be further enhanced by the price bidding of dispatchable generators. Responding to weather events that reduce the ability of wind farms to generate, other suppliers are likely to adjust their bidding upwards. Such behaviour is fully consistent with the way the market is designed to operate – the higher bids would attract more electricity from sources (i.e. coal and maybe gas) that are able to take advantage of such situations. The problem is, of course, that governments have made such sources highly risky by subsidising their competitors, wind, batteries and Snowy2.

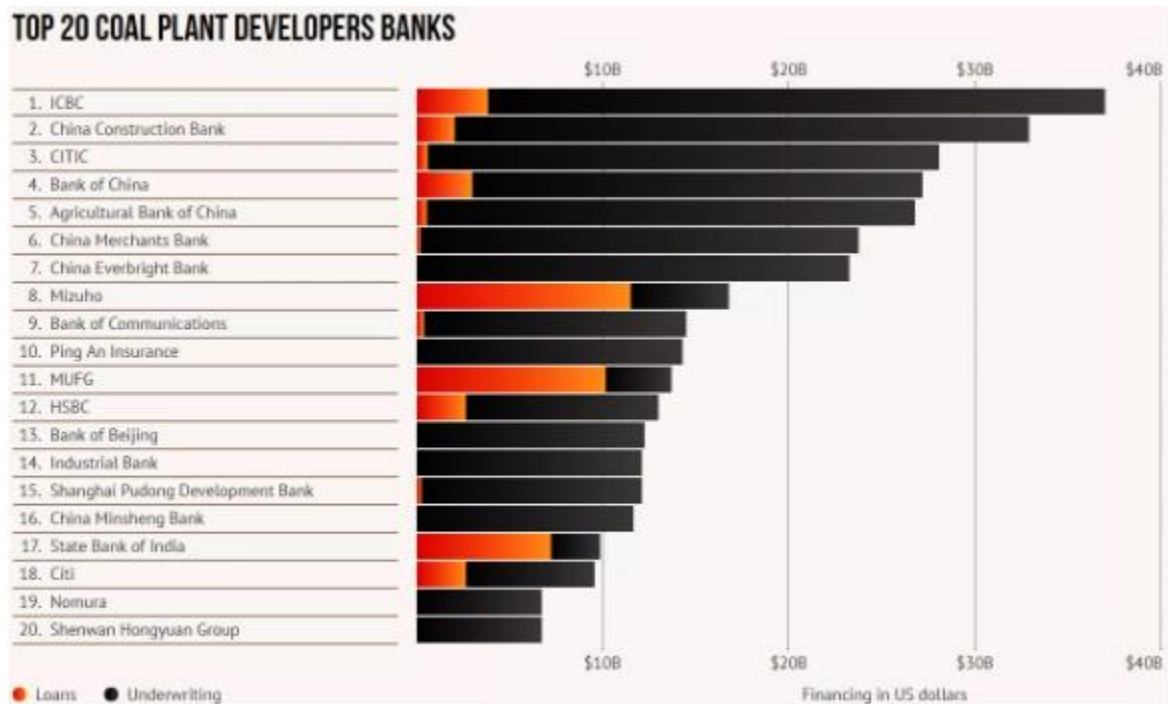
So, while a surfeit of subsidised wind drives down prices, the distress this causes brings about closures of reliable generators, forcing up prices. In addition, the inability of wind and solar generators to operate when the market requires them to do so is also lifting prices by incentivising other power sources to adjust their bid prices upwards in situations when they anticipate wind will not be available.

Greater reliability could be ensured by new despatchable generators. The cheapest would be coal. It is often claimed that there is no possibility of financing new coal because of the “social licence” concerns of financial intermediaries.

It is certainly the case that Australian banks, perhaps having received considerable opprobrium evident in the present Hayne’s Inquiry, will avoid financing (or even refinancing) any investments associated with coal.

Much the same may be true of the Australian superannuation funds. Though of the top 20 funds, only one, Victoria Super Saver, is absolutely opposed to investing in coal, a number of others have policies that avoid coal. Further details are available [here](#).

There are however many other sources of finance for coal based developments. Chinese banks, now with access to the world’s greatest supply of investable funds, have no compunction about investing in coal. The same is true of Japanese banks, also a source of considerable investment capital. The top lenders are as follows.



Even so, the policy climate that Australian governments have created in opposing the investment in more reliable and lower cost electricity supplies provides a strong case for government action to facilitate new coal generation. This involves measures that offset the damage government policies have brought about over a considerable period.

As outlined previously, that damage is a result of the subsidies government regulations have introduced to wind/solar and the grid priority they receive. The harmful effects of such subsidies need to be redressed. In view of the “must-run” wind presently in the system, only by having a very high level of customer commitment can a new coal facility operate at optimal capacity and therefore at prices similar to those of the past.

Accordingly, the best way to ensure the national energy guarantee’s reliability is for the government to put out to tender on a long term contract – of the order of 20 years – a firm contract for perhaps two stations each of 2000 MW located in the Victoria/South Australia and NSW/Queensland regions. The contracted electricity would be traded at arms-length from the government.

Many would argue that this would further undermine the private sector and free market provision. But there is now little alternative to redress the damage progressively brought about by the policies followed over the past 20 years.

Naturally, few participants within the industry would welcome such proposals. But that is because participants have a fundamental interest in maximising the wealth of their shareholders and new participants would reduce the price of electricity and hence their profits. Customers have a different set of goals, as does the national interest.

The NEG and prices

The Government has welcomed a reduction in process over the June 2018 quarter. The year on year outcomes comparing year ending June 2018 with the three previous years is as follows.

	NSW	QLD	SA	TAS	VIC
18/17	1%	-22%	-10%	15%	39%
18/16	59%	21%	59%	-15%	100%
18/15	134%	39%	150%	134%	204%

[Forward prices](#) are falling over the next three years in Victoria and South Australia but not in Queensland and NSW. This trend is likely to be reversed if Liddell closes, as planned, in 2022.

Prices depend upon the costs of the electricity. It is possible to engineer price reductions by subsidising new entrants especially when existing suppliers have a large proportion of their costs as sunk. Of course, such actions by government amount to expropriation and, in the absence of firm assurances that similar policies will not be repeated, new investments in the disadvantaged forms of generation would require a steeply increased risk premium.

At the present time, costs of renewables are very much higher than those of fossil fuel generators. Some contracts have been settled at seemingly low prices. Origin Energy sold its 530MW Stockyard Hill wind farm in Victoria to China's Goldwind and is said to be buying the power and renewable energy credits for about \$52/MWh. AGL did a deal ostensibly with similar conditions with regard to its Silverton wind farm in NSW at a price of \$65 /MWh. But the actual contract conditions have not been made public and the numbers seem unrealistic. Thus, if the Origin deal is really for \$52 per MWh, because the forward price of renewable credits is \$45, it is getting the energy for only \$7 per MWh!

One can only speculate what the future price might be but the renewable lobby is strongly pressing for continuing subsidies which suggests that technology remains uncompetitive. Even if wind generation developers factor in the price of renewable credits at as little as \$40 per MWh, see the power price as being the "new normal" of say \$80 per MWh and have to factor-in a reliability firming contract at \$25, the anticipated renewable cost remains nearly \$100 per MWh.

The current policy involves subsidies to renewables of over \$4 billion per year. In addition, we have the proposed expenditure on Snowy2, which with associated transmission lines is likely to cost \$10 billion. It is hard to see that the costs entailed in the NEG proposals will see a reduction in these tremendous outlays, which have undermined the previously low cost electricity system that has been a cornerstone to Australian prosperity.

The future cost of the NEG would be modest if the optimism of the green energy supporters and entrepreneurs proves well founded. However, in that event no NEG would be necessary and we can avoid the costs, which all seem to agree are present at least in the early years.

The NEG as a means of reducing greenhouse gas emissions at lowest cost

The NEG is totally misconceived in terms of its goals. The Paris Climate Change Agreement is voided by the absence of abatement measures by developing countries, the US's rejection of the treaty signed by the Obama Administration and the growing evidence that key abatement "committed" countries are failing to reach their goals.

1. This aside, the NEG does not faithfully adhere to its stated goal of achieving the emission reductions at least cost. Instead it is a thinly veiled attempt to advance a governmental re-engineering of the electricity industry that has been underway for many years. It replaces subsidies for specific types of electricity generation (wind and solar) with an emission intensity carbon tax.

If the objective were genuine, instead of a plan that treated the electricity industry as self-contained, the NEG would be developed in the context of a national system of emission reductions and not confined to one sector which is responsible for only around 30 per cent of emissions. Moreover, as the objective is global, achieving it at least cost would entail buying credits from those countries which can reduce their emissions more cheaply than Australia.

2. In the detailed proposals, there are limits imposed on carry forward of savings. This is totally contrary to the objective of reducing emissions at least cost. The government, rather than adopting a 2030 target, has adopted a sculptured annual reduction plan. How is this compatible with disallowing some emission reduction activities in some years?

3. The Energy-Intensive Trade-Exposed (EITE) sectors are supposedly not obligated to reduce their levels of emissions. This is a fraudulent notion since those sectors are caught up in the price escalation that the NEG and its previous policy measures have created. The smelters, responsible for one fifth of the national load, cannot compete with the price of electricity escalating from the \$30 or less per MWh of their legacy contracts to doubled prices. Unless subsidised, as has already happened with Portland aluminium, (a policy with its own adverse consequences) they will close and, in doing so, relieve the price pressure on other consumers. This however is a de facto deindustrialisation – we would be sending overseas our most productive businesses.

Needless to say, the net effect on global emissions from such self-harm is negligible – it may even increase global emission levels in so far as the destination countries for the departing Australian capacity are likely to use more carbon dioxide emitting energy.

All this aside, if the EITE policy were to prevail and the energy intensive industries were to remain, it would represent a subsidy to those industries from households and other industries. It is a modern reincarnation of the harmful protectionist policies that prevailed prior to the early 1980s and which were dismantled by reforming government on both sides of politics.

4. The additional reliability obligations placed on large users means an additional cost is placed on these firms to contract for dependable electricity supplies. This is on top of the costs that they and other customers incur as a result of retailers passing on their own firming costs.

It is presumably naively assumed that large firms, being large, can effortlessly absorb these extra costs. This is not the case. In fact, most large firms are subject to much greater import and export competition than small firms and cannot pass on costs.

5. Small retailers are similarly assisted by the proposed first 50,000MWh of load being exempt from the reliability obligation. Again such "industry policy" interventions in the market are not justified and have adverse efficiency effects.