

OBJECTION TO PROPOSED SOLAR FARM

This proposal for intermittent power is another of a continuing threat to electricity security for NSW and a cause of increased wholesale and consumer power prices.

The proponent has provided no evidence that this project will not further raise NSW electricity prices and not increase the threat to the stability and security of NSW electricity supply.

As a consequence of similar projects, consumer prices in real (i.e. inflation-adjusted) terms for the people of NSW have doubled since 2000. This project, depending as it does, on revenue from renewable energy certificates, which all electricity consumers are forced to pay for, will further increase NSW electricity prices.

The Department already has detailed submissions from me as to why addition of intermittent energy generators (solar and wind) are a threat to NSW electricity security.

The PAC has admitted in response to a GIPA request that it has been approving similar installations without the PAC having any analysis or evidence that they pose no threat to NSW electricity security.

The Secretary of DPE, in a letter to me, has admitted that the Department also has no such analysis and no plan for adding such facilities to the grid without causing threats to the grid.

Both DPE and the PAC have been in breach of the EP&A Act for their wilful disregard of the impact of such projects on the public interest and specifically for not carefully evaluating the impact on utilities.

Approval of this intermittent electricity project would be another decision contrary to the provisions of the EP&A Act.

In relation to impact on grid security, this proposal cannot be evaluated in isolation. DPE knows there is a pipeline of currently approved but not yet built wind and solar farms in NSW. You can do the maths and work out the approved capacity yet to come into operation in NSW. You should also be able to ascertain the pipeline of approved wind and solar farms yet to be built in other states in the NEM. AEMO does most of the work for you, if you don't know.

On previous occasions when I have pointed out the problems for grid security, the planners involved have professed ignorance about how adding further intermittent electricity generators (wind and solar) to the grid could harm grid security and force up electricity prices.

In the interest of helping your education (which would be unnecessary were DPE doing its job), I have attached copies of open letters to

- Dr Finkel, re his report
- Minister Frydenberg re advice he received from AEMO; and
- Minister Frydenberg re the new Federal Government plan announced earlier this year.

These letters have been distributed to members of Federal Parliament as well as the named addressees. Should you take the time to read them you will find explanations of how intermittent power harms grid security and raises electricity prices so that many citizens of NSW are now forced into energy poverty.

OBJECTION TO PROPOSED SOLAR FARM

As well as attending to the matter of intermittency of output, I suggest you also take the time to learn about “essential frequency control, system strength and inertia services necessary to keep the system secure”, which AEMO, in its advice to Minister Frydenberg, noted are not provided by intermittent generators (AEMO *Advice to Commonwealth Government on Dispatchable Capacity*, p. 2).

The adage “none so blind as those who will not see”, which has been written for millennia, has characterised the Department’s previous approach to this matter. Perhaps it is time a DPE planner decided to break the mould and worry about the effect of these proposals on the people of NSW.

Dr Michael Crawford

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June 23rd 2017

Open letter re your Review into the Future Security of the National Electricity Market

I have read your recent report with interest. Over about half a century I have observed that government reports are sometimes dishonest, ideological, obfuscatory, authoritarian, bureaucratised, wanting in courage, illogical and sometimes downright stupid.

I have to salute you sir. Your recent report appears to have set new heights in this respect.

Let me take some time to explain why your report so qualifies.

Dishonesty

Under section 137.1(1) of the *Criminal Code Act 1995*, a person commits an offence if they give information to (i) a Commonwealth entity, or (ii) a person who is exercising powers or performing functions under, or in connection with, a law of the Commonwealth, AND the person (the source of the information) does so knowing that the information (i) is false or misleading; or (ii) omits any matter or thing without which the information is misleading.

As will be seen below, your report appears to meet all of these conditions. Now I know that holding government officials to the same legal standards as apply to other citizens is considered, in official circles, to be unsporting. I also appreciate that the Prime Minister and sundry Ministers and other officials would find it enormously embarrassing were the author of your report to be taken before the courts. So I suspect the chance of you actually having to face charges is pretty slim.

That does not alter the fact that your report appears in breach of section 137.1(1) of the Act in a way that would lead to penalties for less privileged mortals.

So as to the details. The document is false and misleading in numerous ways, but for brevity we will stick with the following:

- the ***big lie*** of the “Clean Energy Target”;
- omission of an accurate explanation of how and why coal-fired, on-demand plants are being driven from our electricity system;
- grossly misleading statements about relative costs of various forms of electricity generation;
- omission of any mention of the minute effect, if any, that your proposed policy will have on temperatures for Australia and the earth as a whole;
- omission of details of the broad social and economic impacts and different balance of payment consequences of the alternative forms of generation considered.

The Big Lie of the “Clean Energy Target”

The word “clean” occurs about 50 times in your report, particularly in conjunction with what you label a “Clean Energy Target”. This nomenclature is a stroke of which Josef Goebbels would be proud.

It clearly implies that the alternative, in particular our fossil-fuel based legacy system, which is still the source of the vast majority of Australia’s electricity production, is dirty and thus ought to be replaced.

It is reputed that you are a scientist. As such, you must be aware that the main emissions from fossil-fuel generators are water vapour and carbon dioxide (CO₂) and not the element carbon in molecular or particulate form. After all, the whole Anthropomorphic Global Warming thesis is about the purported impact of elevated levels of atmospheric carbon dioxide on global climate, not elevated levels of carbon.

As a scientist, you must be aware that this nefarious substance, implicitly labelled “unclean” in your report, does not actually blacken or discolour clothes on the washing line; does not degrade our physical infrastructure; does not interfere with the operation of machinery; does not cause unfortunate odours; does not obscure the sky; does not irritate the skin or eyes; and does not cause harm to our lungs or other parts of the human body. In short, it does nothing that fits with what people normally understand as “unclean” or “pollution”.

Indeed, you are no doubt aware that every breath you, and the rest of us, exhale has a concentration of CO₂ about 100 times higher than in the atmosphere. Perhaps you intend to claim that all mankind has unclean breath on this basis.

You are also undoubtedly aware that without carbon dioxide there would be no life, as we know it, on earth; that it is as essential for our life as are water, oxygen and light. You must know that, together with light and water, it is the critical input for plant life, to be converted into carbon compounds upon which our own sustenance then depends.

Do you claim that water, light and oxygen are also “unclean”?

The simple fact is that carbon dioxide in no way meets any criteria for being “unclean” and ***you know that you have intentionally used a false label to emotionally mislead the broad majority of the community***, including many politicians, about the true nature of the emissions from fossil-fuel plants.

Omission of accurate reason for the displacement of coal-fired generators

Your report refers to the closure of coal-fired power stations and anticipates continuing closures. In fact you realise this is rapidly becoming disastrous for the total electricity system so you propose a draconian rule that operators of such plants must give three years notice of closure, an authoritarian action which appears to have real problems at law.

It is clear you realise the problem. But it is only possible to offer a proper solution if you are honest about the cause. And you surely know that these closures are due to the RET scheme and the massive subsidies it offers to unpredictable, intermittent electricity devices (**IEDs**) (i.e. the ones you quaintly call VREs), which your report does not honestly admit.

Under the RET scheme, fossil-fuel generators have a single source of income, which is the money paid for the electricity they sell into the grid. IEDs have two sources, money paid for electricity sold into the grid and money paid (ultimately by electricity consumers) for the RECs the federal government authorises them to print and which electricity distributors are compelled to buy.

Last year the average AEMO NSW electricity price was \$51.60 per MWh. (It was \$28.27 in 2000 and \$81.40 so far for 2017.)¹ Over the last six months, the spot price for Large-Scale Generation Certificates (LGC), mandated under the RET, has varied around \$85 per MWh².

So, in that period (using rounded numbers for illustration), a coal-fired generator selling into the grid at spot prices might receive \$80 per MWh supplied. However, an IED would receive the same spot price of \$80 per MWh AND a further \$85 per MWh from selling the RET-mandated LGC it is authorised to create for each MWh supplied into the grid. So, for selling the same amount of electricity, the coal-fired generator receives \$80, while the IED receives \$165.

Of course, as you know, the system is even more weighted to the benefit of the IED. The spot price varies greatly even within a day but in a way that guarantees the IED provider will always receive more in total per MWh than the fossil-fuel generator because of that LGC subsidy which electricity consumers are all forced to pay.

Because of the combination of the subsidies and the AEMO's rules for supply of electricity into the grid, IEDs are effectively guaranteed to be able to sell into the grid all the electricity they produce (when the wind is blowing right or the sun is shining) while fossil-fuel generators are allowed to supply only the balance needed to meet demand, despite their capacity to provide reliable power 24/7.

So, thanks to federal and state governments, we have a combination of market structures and subsidies which pay more money for electricity from the least reliable and most expensive generators and gives those generators privileged access to the grid, guaranteeing their proliferation while making fossil-fuel generators uneconomic. The more IEDs added to the grid, the less economic fossil-fuel generators will become, thus driving them from our electricity system and increasing both the price to electricity consumers and the unreliability and insecurity of the grid.

It would be hard to devise a more perverse system if the aim is to provide low cost, secure and reliable electricity for the people of Australia – as your terms of reference specify.

Failing to spell that out in a report on “the future security of the national electricity market” is clearly a material omission whose effect is to mislead and thus breach s137.1(1) of the *Criminal Code Act 1995*.

Misleading statements about relative costs of various forms of electricity generation

Given that electricity prices and costs to consumers and industry are part of your terms of reference, it seems strange that your report ignores the history of electricity prices in Australia

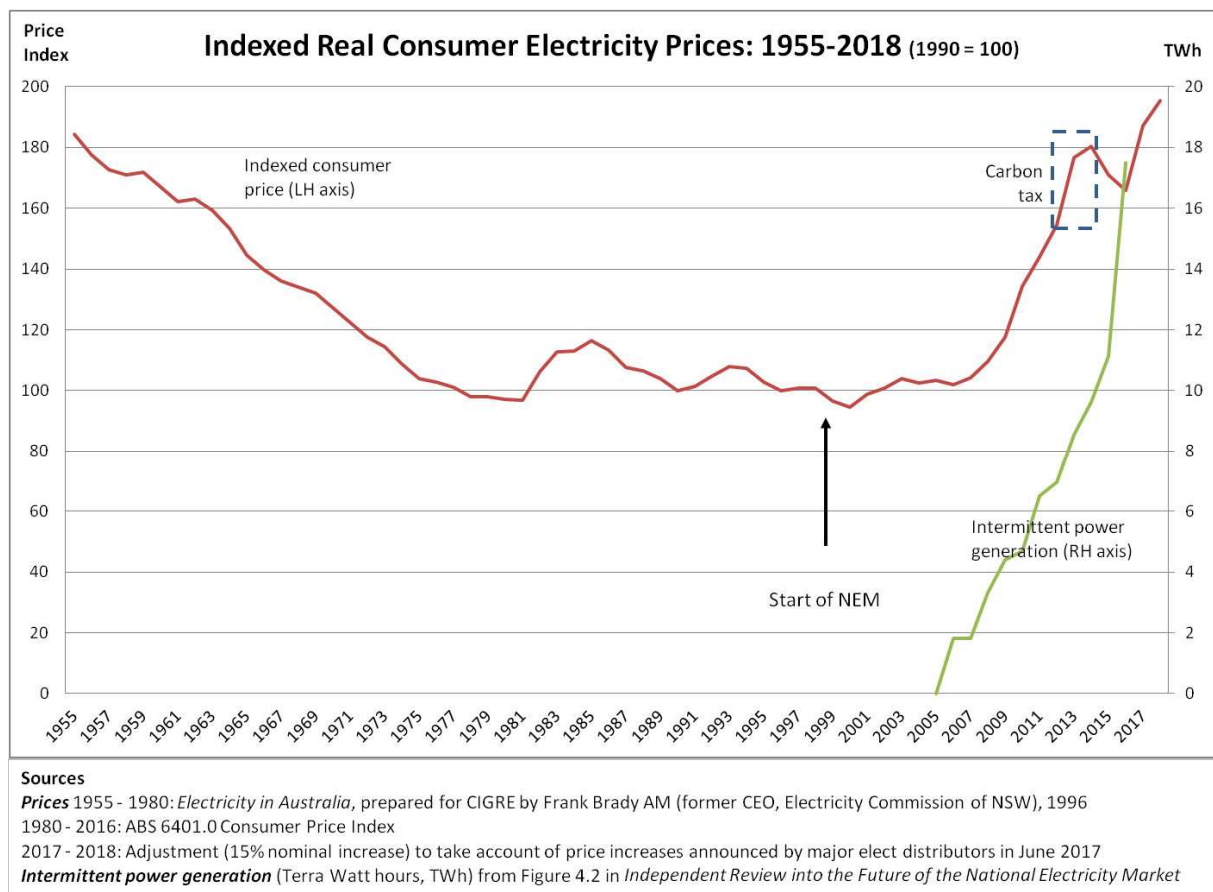
¹ Source: <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Data-dashboard#average-price-table>

² Source: <http://greenmarkets.com.au/resources/lgc-market-prices>

and prefers, instead, to dabble in price forecasts despite the forecasters having a history of being badly wrong.

Presumably you are familiar with the general historical pattern of consumer electricity prices shown in the graph below, which shows real prices as an index for the period 1955 – 2018. The highlights are:

- During the four decades covered in which state governments were independently responsible for producing and distributing electricity in their states, *real* electricity prices *fell* by about 45%, providing a large benefit to consumers and industry.
- In the two decades since the inception of the National Electricity Market, which was supposed to further reduce prices, Australia has had a *more than 90% increase* in *real* electricity prices, so that they have wiped out all the gains made between the 1950s and 1990s, now exceed the real price in 1955, and appear headed “to the moon”.
- Most of the increase in *real* prices has occurred over the last decade or so and is *strongly correlated with the increase in production from IEDs*.



I appreciate that correlation is not causation but normally in science when a correlation exists people do at least look closely to try to determine whether this is a spurious correlation or whether there is a real connection. Your report appears to intentionally avoid such a normal practice.

Most people considering the history shown in the graph would at least set out to evaluate the hypothesis that the electricity supply arrangements Australia had, in the period before the

NEM and intermittent energy, were in fact superior to what now exists in terms of price, reliability and security.

Yet you have eschewed laying out this information for governments and the community, information which might lead to very different conclusions than advocated in your report. You provide no analysis as to why Australia is prevented from reverting to the benefits of low cost, reliable electricity supply and the means through which that was delivered.

Instead you simply assert, without any logical argument or evidence, “There is no going back from the massive industrial, technological and economic changes facing our electricity system.” (p. 3) Yet in your own report you tell us that in 2016, 76% of electricity in the NEM came from coal-fired generators (p. 87).

Including hydro and gas-fired stations, which also are on-demand, over 90% of Australia’s electricity production is still from non-intermittent generators. Despite that, you want to claim it is impossible to call a halt to the lemming-like rush to install more IEDs because “there is no going back”.

It is patently obvious that if Australia wants to regain a low cost, reliable electricity supply it is in a position to do so. Certainly some of those generators will have to be replaced over time. That is the case with any industrial facility, even wind turbines.

You note (p. 91) that the weighted cost of capital for coal-fired stations is now much higher than for intermittent generators. That has nothing to do with the technology per se. Cost of capital is always related to risk. The pro-intermittent, anti-fossil-fuel policies of governments, together with oscillating policies as emission fantasies keep colliding with reality, has now caused extreme risk for any private generator not backed by subsidies.

Our coal-fired electricity infrastructure before the NEM actually had low cost of capital, because it was a low risk activity in government hands.

Because of the uncertainty created by governments, Australia will only build more low cost, reliable electricity generators when it is either done by government or done with a take-or-pay contract with government. The only way Australia will be able to regain a low cost reliable and secure electricity supply is through the means that produced it in the past.

Of course that also means abolition of the NEM and the massive army of well paid paper-pushers which have come with it. They have added nothing to the security of Australia’s electricity supply but have, as the data shows, massively inflated the cost of Australia’s electricity. They are themselves an additional expense for which consumers are forced to pay.

The fact that you have failed to present and explain how Australia provided secure, low cost electricity with generally declining real prices in the more than four decades before the NEM is a major instance of presenting misleading information through omission thus a breach of s137.1(1) of the *Criminal Code Act 1995*.

Destructive complexity and lack of accountability

Increased organisation complexity tends to degrade performance. Australia’s electricity system pre-NEM was much simpler than that which now exists. In each state there was a unitary organisation responsible for the efficient and secure production of electricity, using a

small number of high capacity plants. Likewise the transmission system was relatively simple, being focused on moving electricity from that small number of plants to end users. In addition, there was strong accountability for performance though state governments each of which was wholly in charge of producing and distributing the state's electricity and accountable to the electorate for the reliability and price of doing so.

The NEM fragmented the production components and overlaid that with multiple other organisations, each of which has an interacting role with others and each of which adds to the complexity of the whole industry.

In addition, accountability to electorates has been destroyed. The industry is now notionally overseen by COAG – but citizens don't get to vote on COAG and the results citizens experience may be predominantly determined by members of COAG other than their own state representatives. There is no direct accountability to voters by the multiple bodies each of which fiddles with the electricity system but none of which has actual overall control.

Electricity supply is inherently a monopoly or oligopoly activity, especially in a small economy such as Australia's. Pre-NEM there was a state monopoly in the hands of each state government, responsible to its voters for the discharge of that monopoly, and those local monopolies were in competition with one another to attract industry to their states. When the NEM came into being, those local monopolies were broken up but they are now reforming as an oligopoly spanning the country and not under the control of voters.

You report (p. 81) that “In the period from 2009 to 2017, the major retailers have increased their share of NEM generation capacity from 15 per cent to 48 per cent”. The logic of their action, from their perspective, is unassailable. So we are in the process of replacing what were state monopolies under the control of state voters, with a three member oligopoly not under control of the voters. We are heading for greater concentration in control of electricity generation than we have in financial services, with that oligopoly being exploited to the benefit of its owners, with greater foreign control, rather than that of the citizens of states.

In a chapter heroically entitled *Stronger Governance*, you refer to multiple institutions needing to have “shared accountability”. Anyone with the least understanding of organisations knows this is an oxymoron. “Shared accountability” means no one can actually be held to account, i.e. penalised for bad performance. Arguing for “shared accountability” to produce stronger governance is pious cant. Either there is some identified party with authority, who can be dismissed by the voters, or no one is accountable.

Your “solution” to this problem is the addition of more institutions that will make the whole system even more complex and even further removed from the control of citizens.

Coercing consumers

Part of your perverse “solution” is to make consumers adjust their electricity demand to fit the vagaries of production by IEDs, something which was unnecessary before subsidised IEDs were introduced to our electricity system.

In a masterpiece of Orwellian language, worthy of *1984*, you claim to propose “rewarding consumers” (Chapter 6) when in reality your plan is all about punishing Australians who wish to consume electricity but you will punish them a little less if they consume only at times

which suit the vagaries of your system whose purpose is to foster the introduction of more IEDs.

You state that “An increasing proportion of investment in new generation assets comes from individual consumers.” (p. 137) Perhaps you imagine consumers just want to adorn their rooftops with solar panels.

The real reason is, of course, shown in the earlier graph, i.e. the massive and continuing increase in real electricity prices through the grid as a consequence of the explosion of IEDs, together with the incentives governments provided for people to install solar panels.

That in turn leads to inefficient use of the electrical distribution infrastructure which still must be paid for. So under the Finkel grand plan, anyone connected to the grid will have escalating costs for being connected to it, while many spend money on home-based generation because of the ever-rising price of power purchased through the grid.

What Australians want from an electricity system is pretty simple: *low cost electricity which is reliably available whenever they want it*. We had electricity on that basis for decades and we still want it on that basis.

Instead you offer an authoritarian system in which consumers and industry are to be coerced to adjust their demand to suit the requirements of your IED-fostering system, while paying continuously increasing *real* prices, already double what we once paid. This is to be provided through a fascist system of a tight oligopoly, with increasing foreign ownership, hand-in-hand with a plethora of government agencies and bureaucrats tending the needs of IEDs and the oligopoly, and wholly removed from any democratic control by the voters of either individual states or the country as a whole. It is an edifice truly worthy of 1984 or Mussolini and not the form of society for which I and many others have fought on behalf of Australia.

Your emissions fetish

Your report is larded with mentions of emissions and emission reduction, which do not appear in your terms of reference.

The preface of your report says “COAG Energy Council asked the Review Panel to recommend enhancements to the National Electricity Market to optimise security and reliability, and to do so at lowest cost.” No mention of emissions or emission reduction in that task – but note the reference to “***lowest cost***”.

You were asked to do so consistent with the *National Energy Objective* which, according to the *National Electricity Law* is:

to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to price, quality, safety, reliability, and security of supply of electricity; and the reliability, safety and security of the national electricity system.

Again, no reference to emissions or emission reduction. Despite that, your report is built around reducing emissions of carbon dioxide.

Given that intent plays so large a part in your report, and drives the whole structure of the electricity system you propose, it is incumbent on you to be publicly clear about what will be

the actual benefit to Australia and its citizens if Australia's carbon dioxide emissions fall as you propose.

There is plenty of public evidence that even were your proposed targets to be achieved, the consequences for global temperatures and Australian temperatures would be so minute as to be effectively unmeasurable. It is also beyond dispute that your total target reductions for Australia are swamped by the increased emissions, *each and every year*, by both China and India, not to mention the increased emissions by other undeveloped countries with rapid increases in population.

Indeed, at a Senate hearing on June 1 this year, in answer to a question from Senator Ian MacDonald, you said that ***totally*** abolishing Australia's emissions of carbon dioxide would make virtually no difference to the world's climate. This is information that the government and public surely need to have.

Yet that fundamentally important piece of information, and the corollary that restricting carbon dioxide production in Australia will have no material benefit for the country, does not make its way into your emissions-centric report.

Failing to provide honest information about that matter, which goes to the heart of the IED-driven electricity system you propose, appears to be another material omission whose effect is to mislead and thus breach s137.1(1) of the *Criminal Code Act 1995*.

Ignores safety

Part of the *National Electricity Objective*, cited above, is to produce and distribute electricity safely. You must surely be aware that there are ongoing claims of harm from wind farms to members of local communities. Certainly some members of your panel are aware of it.

I appreciate that the matter is still one of contention. However, it has been deemed significant enough by the NHMRC for that body to commission studies of the matter, as are also occurring around the world.

It would be unreasonable to expect you to make a definitive statement on this point, but equally you are not in a position to be sure there are not health problems which will become more widespread if your IED-fostering policy is adopted and which might then render that policy unviable.

Your report is similar to someone decades ago evaluating building materials, lauding the benefits of asbestos products for building purposes without mentioning that there are some known grounds for suspecting they may be harmful to health.

It is telling that your report refers to possible safety issues in relation to battery technology, development of gas reserves, and in relation to small modular nuclear reactors but makes no mention in relation to wind farms, despite that the health effects of wind farm emissions is the only one for which the NHMRC appears to have awarded research grants.

This appears to be a deliberate decision on your part to make no mention of the matter lest it be some threat to your proposed policy, and thus to be another instance of misleading by omission.

Omission of broad economic impact

Your terms of reference were focused on cost, reliability, safety and security of Australia's electricity system. However, you chose to make emissions reduction the corner-stone of your review. That implies you impute some significant benefit from reductions in carbon dioxide emissions, though you apparently did not see the need to explain or quantify that impact.

If you are broadening the scope, then reasonably you can be expected to discuss the wider economic and social impacts of your proposals and advice, something you apparently decided to ignore.

The Australian economy and its people received a very large benefit from the big reduction in *real* electricity prices from the 1950s to the 1990s, including support for industrial development. Conversely, they have experienced a very large disbenefit over the last decade as *real* electricity prices have doubled, de-industrialising the country with consequent loss of jobs and skills and with adverse balance of payment effects.

Your IED-cossetting policy will inevitably further increase real electricity prices and further destroy Australian industry and jobs.

There is another aspect of this policy. Not only is the full cost of IED electricity much greater than that from fossil-fuels, as our history has shown, but electricity from intermittent electricity generators is more capital intensive than from fossil-fuel generators. Since we make none of those generators, and will not, all must be imported.

In the case of fossil-fuel sourced electricity, part of the cost is imported plant and part is locally produced coal or gas, of which Australia has a massive supply. In the case of IEDs, the cost is predominantly imported plant. Consequently the latter create a larger deficit on our balance of payments while the former provide good jobs, in Australia, mining and distributing the fuel used.

Failure to discuss these important effects in any way again misleads about the likely consequences of the policy you advocate. It appears to subordinate the welfare of the Australian people to the interests of those associated with or for other reasons supportive of IEDs.

Summary

Your report appears to breach section 137.1(1) of the *Criminal Code Act 1995* in multiple, highly material, ways whose effect is to mislead while advocating a policy which lengthy historical evidence shows has created harm to the people of Australia and creates more harm the longer it is pursued.

It is exemplified in the *big lie* about "Clean Energy" as though our fossil-fuel power sources are unclean when their predominant emissions are water vapour and carbon dioxide which is no more "unclean" than oxygen and nitrogen which, together with carbon dioxide and water vapour, form most of our atmosphere.

You fail to clearly explain the perverse nature of the system which pays more money for electricity from the least reliable and most expensive generators (intermittent wind and solar) and gives those generators privileged access to the grid, guaranteeing their proliferation while

making fossil-fuel generators uneconomic and driving the latter from our electricity system despite the fact that they are the ones that provide low cost, reliable power.

You fail to draw attention to Australia's history of electricity supply and its implications. That history was of a 45% reduction in *real* electricity prices, over about 4 decades, when state governments were responsible for the production and distribution of electricity. It has been followed by a doubling of *real* electricity prices since the inception of the NEM and particularly over the last decade as IEDs have become a material, though still small, part of our electricity system.

You have offered no evidence that this explosion in consumer prices is going to abate under your policy. Indeed as we have seen in the last month, they are about to jump 15% or more in real terms from July 2017, something not forecast in your report.

Thanks to the NEM, we already have an extremely complex electricity industry structure, which has brought no benefits to consumers, and is unaccountable to the voters of states and the country as a whole. Your policy is to make it even more complex and less accountable, which guarantees it will serve consumers even more poorly.

You advocate a policy which will not only make consumers subject to even higher prices and system insecurity but require they be behaviourally coerced, despite their preferences, to fit in with the vagaries of electricity supply under your IED-cossetting policy.

You ignore potential adverse safety consequences of your policy, especially involving wind farms. You also ignore the ongoing deindustrialisation of Australia driven by this policy and the adverse balance of payments effects.

All of these things appear to be ignored because of your focus on reducing the emission of carbon dioxide, which was not actually part of your terms of reference, and despite the fact that you are apparently unable to quantify any material benefit to the people of Australia from such reductions.

Given the opportunity to do a great service for the people of Australia and clarify the bankruptcy of energy policy over the last two decades, you have chosen to advocate more of what is failing badly, to obfuscate with more government agencies outside the control of the citizens who are being forced to pay you for this, and to advocate more authoritarian control over them.

In short, your report is a travesty of what you were asked to do.

Perhaps this is the best of which you were capable. Or perhaps you were overcome by a religious desire to limit atmospheric carbon dioxide, irrespective of other considerations. Or perhaps there was a want of courage to explain to the political establishment why the electricity policies of the last two decades have been so disastrous and will become even more so.

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cc: Members of Australian Parliament and other interested parties

Hon. Josh Frydenberg MP
Minister for the Environment & Energy
PO Box 6022
House of Representatives
Parliament House
Canberra ACT 2600

18th October 2017

Minister

Open letter re your Monty Pythonesque electricity plan

I understand you have devised an ingenious plan to rectify the current government-directed destruction of our once reliable and affordable power system. According to media reports, your scheme will require electricity retailers to do essentially what they are currently doing, while the “renewable” rosters do what they are currently doing, and electricity distributors continue to do what they are currently doing.

Despite the fact that everyone will be continuing as at present (except of course that we will now pay for some more government officials to oversee this plan, and for some more band-aids), I understand that you and the Prime Minister are confident that electricity prices will fall in maybe ten years time, by a paltry amount, and the lights will stay on because you have willed it so.

Could you please clarify whether your advisers got the script for this plan from Monty Python or from Blackadder. Attribution should go to the right source.

I understand the crux of your ingenious scheme is that retailers will be obliged to purchase at least 1MW of electricity from baseload sources for each 1MW of unreliable (i.e. wind and solar) electricity they purchase. What exactly do you think they are doing at present?

Dr Finkel’s report was grossly misleading in multiple ways. However, he did provide some basic facts pertinent to your plan. On p. 87 of his report, he noted that “In FY2016, 76 per cent of electricity produced in the NEM came from coal-fired generators.”

So the ratio of electricity from coal-fired baseload sources to all other sources was 3:1 in 2016 – and those other sources included gas and legacy hydro. Dr Finkel’s projections (Figure 3.8 in his report) are for the ratio of baseload to intermittent sources to be 3:1 in 2020 and 1.5:1 in 2030 under his Big Lie “Clean” Energy Target, and 2:1 in 2030 under current arrangements.

Consequently, your mandated 1MW:1MW requirement would make no difference to the behaviour of wholesale purchasers of electricity in the immediate future and indeed for decades. Consequently it will not deter the “renewable energy” rosters from building more unreliable, intermittent power stations causing increased variability across the grid and more expensive power which your government forces electricity consumers to purchase.

Your ingenious plan demonstrates a complete lack of understanding of how the introduction of intermittent power generation has created system unreliability and doubled real electricity prices in Australia, and how it will continue to do so.

In short:

- Intermittent wind and solar is highly expensive electricity, requiring the combination of high wholesale prices plus LRET subsidies (paid by consumers) of a roughly similar amount, to make them viable.
- Because of the subsidies and the nature of the NEM, subsidised generators are able to always place their output into the grid, at the expense of baseload generators, with the latter then being turned into intermittent generators – not because of any deficiency on their part but because they keep getting shut out of the grid on an intermittent and unpredictable basis.
- Since they are thus prevented from operating at full capacity, baseload generators then also require high prices per MWH in order to be viable, and those necessary prices increase as the intermittency forced on them increases.
- Given that the proportion of intermittent generators is continuing to increase under your policy, and thus also the intermittency forced onto baseload generators, and given Australian government is driven by irrational ideology, no independent party will invest in new baseload plant or in the refurbishment of existing plant.
- Wind and solar generators are not just intermittent, they also fail to provide the frequency control and other functions essential to a widespread grid and which are an intrinsic part of baseload generators. Thus the increasing proportion of intermittent generators also adds increasing instability to the grid.
- Because of the multiplicity of intermittent generators mushrooming around the country, much more transmission infrastructure is required. Each of those generators requires an expensive substation to convert its output into a form suitable for the grid, plus new transmission links. The cost of this comes out of the pockets of electricity consumers.
- Many members of the public have responded to your high electricity prices (and in many cases encouraged by government subsidies) by placing solar panels on their roofs. Most of them remain connected to the grid because they also want electricity at night (adequate battery storage is very expensive) which cannot come from solar farms, and only sometimes will it come from wind farms, so you need additional investment (either legacy baseload or new gas-fired installations) to back up those private investments. All that investment has to be paid for by end-users. In addition, local distribution networks have consequent less demand on them, so their owners are requiring increased per household connection charges to meet their costs.
- You and previous governments have produced a Rube Goldberg structure of government agencies to oversee the NEM, which have destroyed affordable and reliable electricity, and whose failure is rewarded with expansion. In addition, you have duplicated at the national level government officials that once existed only at state level. Electricity consumers and taxpayers pay for this mess.
- The financial sector has got in the act offering hedging instruments so various parties can cope with the financial uncertainty caused by this system, uncertainty we never had before the NEM and intermittent power. The financial sector employs people and capital to provide those hedging instruments. That is a real cost which again ultimately comes out of the pockets of electricity consumers.
- Where once electricity in each state was produced by a state government responsible to its electorate, it is now produced by an unscrupulous oligopoly whose members use

every tactic they can to game the fake market Australian governments have created and thereby add further costs to consumers in order to pad the profits of their largely foreign owners.

As I pointed out in an earlier letter to you, this complex mess over which you are presiding and which you refuse to correct is costing the Australian community an *excess* and wholly unnecessary cost of between ***\$30Bn and \$50Bn per annum***. Yes, that is measured in *tens of billions of dollars each year*. It is increasing each year and it is destroying tens of thousands of jobs.

Despite that knowledge, while presiding over a system where real consumer electricity prices are now twice what they were before your NEM started, you insult the Australian people by claiming you'll deliver them a reduction of less than 5% in maybe a decade's time, when you will be long gone from office. In other words ***you are telling them the country will have to suffer unaffordable power prices now and for decades*** – because you and the Prime Minister are too gutless or incompetent to fix it.

And all of this is done supposedly to limit the beneficial trace-gas carbon dioxide, despite your Chief Scientist having testified to the Senate that ***totally*** abolishing Australia's emissions of carbon dioxide would make virtually no difference to the world's climate.

More of the detail behind these points is explained in my letter to you re AEMO's recent misleading advice to you and in my open letter to Dr Finkel, of which you also have a copy.

I pointed out previously what is now being commonly recognised. There is only one way to ***restore*** affordable, secure electricity to Australia and its citizens. It has two parts:

- Abolish ***now*** all subsidies for particular forms of electricity supply. That means the RET-based subsidies for wind and solar in particular but also the various other forms like preferential funding for intermittent power generators.
- Offer long-term government contracts for low cost dispatchable electricity supply which is also able to provide the other characteristics needed for stable supply (e.g. frequency control) sufficient to meet Australia's electricity requirements with the safety margin we once enjoyed.

If you do not understand that, you are too clueless to be worth feeding. If you do understand it, then the policies you are following are outright treachery against Australia and its people – and all the Liberal and National party members who support this treachery are also culpable.

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cc: Members of Australian Parliament and other interested parties

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Minister for the Environment & Energy
PO Box 6022
House of Representatives
Parliament House
Canberra ACT 2600

28th September 2017

Minister

Open letter re recent dishonest and misleading advice from AEMO

You recently received a report from AEMO (*Advice to Commonwealth Government on Dispatchable Capacity*) which rivals the earlier report by Dr Finkel in its total aversion to explaining what lies behind the electricity security and price calamity being inflicted on the Australian people.

However, the AEMO report differs from Dr Finkel's in a couple of significant aspects.

- It takes steps to put itself beyond even theoretical exposure to the *Criminal Code*, though in reality it is nearly as dishonest and misleading as Dr Finkel's; and
- Unlike Dr Finkel, who has no operational responsibility for our electricity supply and is never going to be called to account for its continuing failure, the AEMO officials know that when the power goes off, many people will be pointing the finger at them. So, in self protection, they have been forced to be a bit more honest about the nature of the immediate threat – though they refuse to discuss what is causing that threat.

Dishonest and misleading – and no warranties

In a detailed letter to Dr Finkel in June, none of which he has repudiated, I pointed out that his document appeared to breach section 137.1(1) of the *Criminal Code Act 1995*, in relation to giving false or misleading information to someone exercising powers of the Commonwealth Government.

AEMO and its American CEO have avoided this risk, not by being markedly less misleading than Dr Finkel, but rather by covering the report with caveats. The very first page has a disclaimer telling you that:

“AEMO and its officers, employees and consultants involved in the preparation of this document:

- make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information in this document; and
- are not liable (whether by reason of negligence or otherwise) for any statements or representations in this document, or any omissions from it, or for any use or reliance on the information in it.”

In multiple places throughout the document there are repeated statements about the uncertainties.

So you have a report that AEMO is willing for you to rely on but AEMO will not guarantee its accuracy and will take no responsibility if it turns out to be wrong and you waste a few billion dollars more, or the power goes out more often or earlier than they suggest at various points.

As you read the document you were probably impressed to see many figures with an appearance of great accuracy, frequently with 3, 4, or even 5 significant digits. I hope when you read them you kept remembering that caveat up front, that AEMO makes no warranty “as to the currency, accuracy, reliability or completeness” of that information.

Hopefully you know the Australian vernacular phrase for such statements, so I won’t spell it out here.

Given the inaccuracy of some of AEMO’s past predictions, it certainly would be unwise of you to rely on any now presented. After all, ***if they really understood the NEM and were honest about it, they would have forecast the current problems years ago.***

The self-serving AEMO report:

- fails to mention actual electricity prices for users and what has caused the doubling of real consumer electricity prices and the continuing increase;
- fails to mention that AEMO’s proposed solution will increase system costs and thus prices to end users;
- ignores the absolutely central past and continuing role of federal and state government policies, including the LRET, in creating the havoc that has destroyed our once affordable and secure electricity;
- refuses to mention that the NEM over which AEMO presides has been a total dud and has become a paradise for rorters, many of them foreigners;
- while it cannot completely hide the electricity security consequences of what it calls variable generators (wind and solar), promotes the dishonest impression that those generators provide lower cost electricity despite their existence being wholly dependent on subsidies and them being allowed to externalise numerous costs onto the rest of the system.

The purpose of the report is to protect the jobs of the bureaucrats who run this shonky system and the profiteers who exploit it, while destroying the lifestyles of Australians and their jobs. It presents the bare minimum of reality necessary in order to provide a rationale for adding some high cost fiddles to the NEM to reduce the likelihood of imminent blackouts and mass sackings of high-priced AEMO management. It conceals most of the facts and understanding necessary to re-establish an electricity system whose purpose is to serve electricity users and our society as a whole rather than a plague of profiteers.

That is totally consistent with AEMO’s statement that it makes:

“no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information in this document”

Climate

I notice that the letter to you by the American lady you imported to run the Australian national energy market (you apparently having concluded no Australian was up to it) is garnished with the requisite PC phrases about weather and climate.

She notes the electricity system is “at risk from increased vulnerability to *climatic events*, such as *extended periods of high temperatures*” and she is concerned about having to “manage the potential impacts of *severe weather* on the power system” (*emphases mine*).

Perhaps you might send her one of Dorothea Mackellar’s poems. Hopefully you know the one that includes:

*I love a sunburnt country,
A land of sweeping plains,
Of ragged mountain ranges,
Of droughts and flooding rains.*

and point out to her that it was written more than 100 years ago, by an Australian lady who knew tough “climatic events”, such as “*extended periods of high temperatures*”, are just part of Australia’s normal climate, well before today’s global warming hysteria.

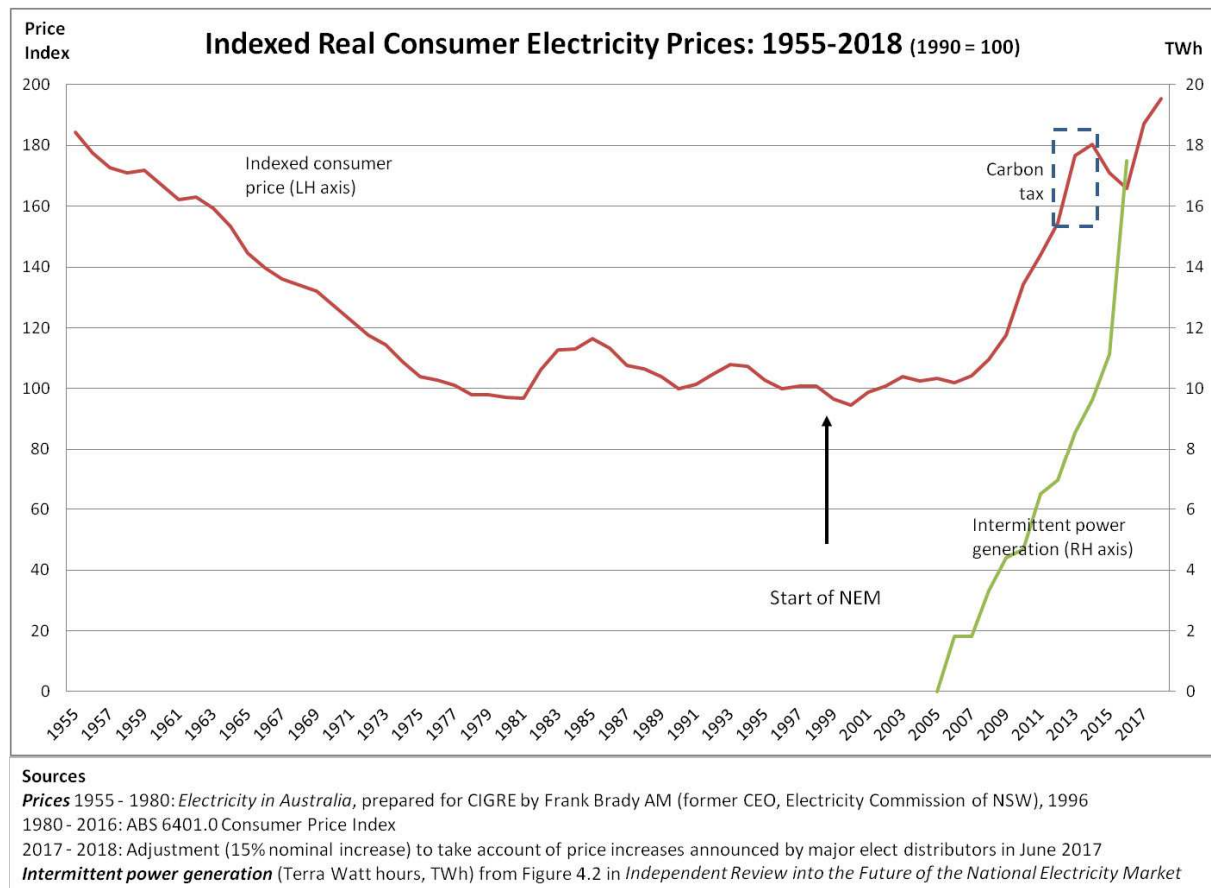
The state governments which built Australia’s power generation and distribution system, before the NEM, were likewise familiar with our climate, which they took for granted, and they created systems which operated reliably, efficiently and at low cost in that environment – before the federal government got involved in turning one of the world’s best and cheapest electricity systems into a basket case presided over by multiple unaccountable, expensive and incompetent bureaucracies.

Market Nonsense

In one very self-serving paragraph, your American correspondent claims:

“AEMO’s view is that optimal approaches towards ensuring an efficient balanced system must target mechanisms that allow the greatest practical level of competition and innovation. This will allow AEMO to operate a NEM, which along with the external financial markets, produces the most economically efficient results for consumers.”

I suggest you share the following graph with your adviser and ask her to present her real-world **evidence** (not theories) to support her claim that the NEM, over which AEMO is presiding, “produces *the most economically efficient results for consumers*”, or will do so.



The graph shows that real consumer electricity prices (i.e. inflation adjusted) have actually doubled since the NEM was formed. I suggest you take a few moments to think about that absolutely central piece of information and its consequences for all Australians. For all the families in Australia taking power from the grid, the inflation-adjusted rate per KWH is now basically twice as high as a decade ago, and it seriously affects their lives.

What does that mean in dollars?

Excess household expenditure on electricity (compared to holding real energy prices at 2000 rates) by Australian consumers is approx ***\$12.7Bn in 2017 and will be \$14.4Bn in 2018.***

The additional \$12.7Bn which consumers have to spend on electricity, due entirely to real electricity price increases, is removed from expenditure on other goods and services. ***That has eliminated about 44,000 jobs elsewhere in Australia and it will be about 49,000 by end of 2018¹.***

This is without including jobs lost because businesses also have faced massive increases in wholesale electricity prices, which has caused many to cease operating in Australia and others to cut back employment to offset the increased electricity costs. AEMO data shows business uses about 73% of total Australian electricity production, with 27% going to household use. Thus business uses almost three times as much electricity as do households. The excess cost

¹ Australian businesses, on average, employ one person for just under each \$300,000 of income (extrapolated from ABS 81550DO001_201314), so \$12.7Bn diverted from other expenditure destroys 44,000 jobs.

to Australian households is now about \$12.7Bn p.a. In addition, a **larger** electricity cost burden is falling directly on Australian businesses, which also destroys jobs.

Perhaps you can get one of your advisors to do the sums on the total Australian excess electricity expenditure (at current real prices compared to 2000 real prices). Adding the excess expenditure for business to the excess expenditure for consumers, the total must be somewhere between \$30Bn and \$50Bn *per year*.

Despite that reality, your American correspondent has the gall to claim that this AEMO controlled market “produces *the most economically efficient results for consumers*”. The historical evidence shows the statement is a massive falsehood.

Your American correspondent also claims in that paragraph that:

“an efficient balanced system must target mechanisms that allow the greatest practical level of competition and innovation”

That is another self-serving statement by AEMO which is repudiated by reality. From 1955 until the formation of the National Energy Market, real electricity prices in Australia *fell* by about 45%, particularly until the early 1980s. Throughout that period generation and distribution were in the hands of state governments.

Low cost, reliable, electricity was provided without the benefit of the markets your American correspondent thinks we need and without innovation away from coal-fired power stations which provided electricity that was dispatchable, cheap and reliable.

Has your American correspondent provided any credible plan to halve the real cost of our electricity supply so it equates with what state governments provided before the formation of the NEM and indeed achieved four decades ago? If not, why not, and why are you taking advice from someone who fails to recognise that the current system is a disaster for all Australians except those who like you and her are cushioned by hefty salaries.

The Nonsense of “The transformation challenge”

Your American correspondent tells you that “Australia's energy system is undergoing unprecedented transformation” which is “radically changing the dynamics of the power system”. That is certainly true – which is why real consumer electricity prices have doubled and we are now having a national conversation about electricity security which was previously unheard of in this country.

She unfortunately neglects to tell you that this has been, and continues to be, entirely driven by federal and state government policies, especially the massive subsidies they have forced electricity consumers to pay to the rorters who provide intermittent and unpredictable energy supplies.

She assures you this is happening in other countries, as indeed it is – but only in those countries whose governments have stupidly decided to mandate intermittent electricity supplies which are having precisely the same effect for them as for Australia. Any rational person not blinded by ideology would find a lesson in that commonality worth mentioning – but it is a lesson your American correspondent is either blind to or wishes not to draw to your attention.

This misinformation by your correspondent is compounded by the statement:

“older baseload units find it increasingly difficult to compete in this environment. These units have historically relied on relatively constant high production levels and stable revenues. In general, they are not well suited to respond to rapidly varying energy system needs. Their business model will be further challenged by the increasing variability in the system and falling costs of competitive sources of energy.”

The first sentence in that paragraph is true. The rest is dishonest misinformation.

She says “These units have historically relied on relatively constant high production levels and stable revenues”, as if that is a defect. Anyone with a modicum of knowledge of economics and business understands that achieving high capacity utilisation of productive assets of all kinds is the way to get low production costs, which is exactly what those baseload units gave, and will continue to give if run to match actual demand.

Is your American correspondent ignorant of this aspect of production economics – or is she just trying to mislead you?

She goes on to say “they are not well suited to respond to rapidly varying energy system needs”. That is probably true, but the country does not have “rapidly varying energy system needs”. It did not have it in the past and it does not have it now.

What Australia now has, is rapidly varying electricity supply from the intermittent power generators which, because federal government policy gives them pre-emptive access to the grid when they do generate power, forces rapid and large amplitude variations in the residual demand for power from baseload plants.

And the more of those unpredictable intermittent generators you add to the grid, to satisfy Finkel and other ideologues, the stronger will be the fluctuations in demand for electricity to be supplied by dispatchable sources and thus the less economic will those sources be unless electricity prices rise further to cover the inefficient way in which they are used. AEMO has not bothered to tell you this.

Incidentally, you might think from the words of your American correspondent that wind and solar farms are, unlike coal-fired plant, “well suited to respond to rapidly varying energy system needs”. That is a reasonable inference from her words. Unfortunately, like much of what you might understand from her letter and the AEMO report, it is totally false.

In order to be “well suited to respond to rapidly varying energy system needs”, a plant must be able to provide power that matches those supposed “rapidly varying energy system needs”. Of course, neither wind nor solar can do that. They can provide power only when the wind is blowing and the sun is shining – irrespective of what electricity consumers want. Surely even your American correspondent understands the sun does not shine at night and wind farm output is sporadic and unpredictable and overall averages about one third of rated capacity.

The business model of baseload, coal-fired power stations is “challenged”, as she quaintly puts it, because the federal government has mandated a massive subsidy and preferential grid access for intermittent electricity generators – at the expense of efficient forms of electricity generation and Australian electricity users.

Their business model would not be “challenged” were they being run to provide continuous power output as was the case when owned by state governments, at which time they provided us with reliable electricity at half the current real price.

And her statement about “falling costs of competitive sources of energy” is just pathetic propaganda for intermittent power sources and shows the gross biases of the people you have running AEMO. If the cost of electricity from those sources was falling in any way material to Australian consumers, those sources would not need enforced subsidies and real electricity prices would be going down, not up.

The solution to actually provide affordable, reliable electricity

There is only one way to *restore* affordable, secure electricity to Australia and its citizens. It has two parts:

- Abolish all subsidies for particular forms of electricity supply. That means the RET-based subsidies for wind and solar in particular but also the various other forms like preferential funding for intermittent power generators.
- Offer long-term government contracts for low cost dispatchable electricity supply which is also able to provide the other characteristics needed for stable supply (e.g. frequency control) sufficient to meet Australia’s electricity requirements with the safety margin we once enjoyed.

If wind and solar operators, who claim to be innovators, can figure out some way to provide competitive, low cost, unsubsidised dispatchable power on that basis, fine. In reality, they, AEMO, you and I know they can’t – but the two-pronged approach does not discriminate against them. Physics and reality do.

The main sources likely to meet the dispatchable provision are, as AEMO itself notes, coal, gas, liquid fuel, hydro and biomass, and of course nuclear, which AEMO fails to mention despite being used successfully in most of the developed world.

Of course the rorters will squeal like stuck pigs. But Australian governments totally ignored the effect of current energy policies on Australian companies forced out of business and the loss of value in their investments, and on the Australian citizens forced to go without power and those who were forced to cut back consumption of food and other goods and services to pay for vastly inflated electricity prices.

Nothing in the Australian Constitution or even the bible says we have to keep fleecing our population to benefit rorters – though your reticence to do something about it suggests you feel some imperative to protect the latter.

And let’s not have the red herring about “sovereign risk”. Through the “renewable energy” fantasy, Australian governments have destroyed the value of a massive amount of pre-existing industrial production, which was there in accordance with previous government policies, without anyone suggesting that created a “sovereign risk” problem. There is no “sovereign risk” problem from treating the intermittent electricity rorters in the same way. In fact there is a true “sovereign risk” if by persisting with this stupidity we continue to destroy our economy and thus Australia’s future capacity to pay its debts.

Politicians of all parties have totally destroyed any rational market for investment in electricity generators. It doesn't matter what you or the PM or the leader of the Opposition says, no one will now make an investment that depends on continuous rational behaviour by Australian governments, which have shown themselves too often driven by clueless irrationality and fantasy.

All generator investment is now dependent on an expectation of massive subsidies (RET) or on having long-term, take or pay, contracts with government which cannot be set aside.

AEMO recommends you enter supply contracts – but not in a form that would reduce electricity costs and prices. Rather its recommendation is for some contracted “backup” provision which must inevitably be a cost on top of the subsidy-based, high cost system currently driven by destructive government policies.

In other words, having failed to see the problem coming and done anything about it, AEMO proposes to add further costs to our electricity system and further real prices increases to electricity consumers.

That might be a “solution” good for AEMO. It is not a solution good for Australia and its people.

The simple fact is you have received from AEMO advice which is self-serving and grossly dishonest and misleading. At least they have told you in their caveats that they don't claim the advice is *accurate, reliable or complete*.

You can follow their advice and go down in Australia's history as being even more destructive for our country than the Rudd/Gillard governments. In so doing, you will continue to impose on the people and businesses of Australia a massive and wholly wasteful cost currently somewhere between \$30Bn and \$50Bn p.a.

Or you can just do the job the people of Australia are paying you for, and take the steps necessary to restore to our country a genuinely affordable and reliable electricity supply, as once we had.

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cc: Members of Australian Parliament and other interested parties