# RAJwt Biala Wind Farm PAC Submission 

# Protecting NSW and the NSW Government 

Dr Michael Crawford<br>February $2^{\text {nd }} 2017$

The Department's recommendations to the PAC put the NSW Government, its taxpayers and its citizens at risk in a number of ways that is both wilful and scandalous. In particular they include:

1. Contributing to increased grid insecurity;
2. Virtually guaranteeing the NSW Government will eventually have to pay for decommissioning the Biala wind farm; and
3. Exposing the NSW Government to ISDS sanctions should it ever attempt to protect the health and sleep of residents affected by the Biala wind farm.

The PAC should refuse to make a decision on this proposal until it has received a thorough, professional review by the NSW Government of the impact of wind farm approvals on future grid security and identifying the conditions that need to be imposed on wind farm approvals to ensure grid security is protected.

The other two points can be dealt with by imposing appropriate consent conditions as described in this paper.
Failure by the PAC to take those steps will constitute misfeasance by the PAC members and a wilful decision to create harm to NSW and the NSW Government to benefit a developer.

There are many serious grounds for objecting to the Department's assessment and recommendations. This submission focuses on three of them:

1. Failure to determine the impact of the proposal on electricity grid security for NSW and to guarantee grid security;
2. Failure to recommend action necessary to ensure decommissioning will actually occur, leaving a very high likelihood it will not unless paid for by taxpayers; and
3. Failure to recommend straightforward conditions to guarantee protection of residents' health and sleep, and to protect against ISDS penalties being imposed on the NSW Government.

No wind farm proposal should be approved unless there has been a thorough assessment of the consequences for grid security over time in order to provide certainty the proposal will not contribute to NSW in a few years having South Australian levels of electricity security. The proposal should be returned to the Department until the Department provides a rigorous analysis demonstrating that approval of this proposal, in conjunction with other existing and proposed NSW wind farms, will not adversely affect NSW grid security.

The other two matters, decommissioning and health, do not require either rejection or referral back to the Department. Each can be adequately covered by inclusion of straightforward consent conditions.

Actively deciding to not take the action appropriate for each of these matters would constitute misfeasance.

## Electricity Grid Security

## Real Planning

Wind farms and indeed any major power plants are wholly unlike any other projects considered by government. The reason is that they normally operate as part of a complex, integrated system, connected by the grid, where their outputs have to be continuously in synchronisation not just in terms of volume but in terms of particular characteristics (e.g. frequency and phase). That synchronisation has to be on a second-by-second basis and when it fails there can be major consequences throughout the whole of the grid.

In addition, since the power plants connected to the grid compete economically, and "renewable energy" power plants are given a large subsidy, over time the ones with the strongest subsidy tend to drive the others out of the system and, in so doing, progressively degrade the robustness of the grid.

Real planning involves the anticipation of such problems and not approving anything that may have such widespread dire effects without ensuring (not hoping) arrangements have been instituted to ensure the dire effects will not happen.

## NSW Electricity System

Since the recent system-wide blackout in South Australia, and the subsequent other blackouts in that state, one would have hoped the NSW Government and its Planning Department would have recognised the threat and instituted a thorough technical and economic assessment to
determine under what conditions wind farms can be added to the NSW electricity system without degrading the integrity and security of that system.

The project assessment provided by the Department makes no reference to such analysis, though it does contain the usual guff about how many homes will allegedly be powered by the wind farm. Since there is little growth in Australia's demand for electricity from the grid, this means that, in order to power those homes, the Biala wind farm would be contributing to the displacement of existing generation capacity from the system.

The unsubsidised capacity in the system is mainly coal-fired generators that provide inertia and stability to the grid. So what the Department lauds as a positive, is almost certainly a negative in terms of grid security.

What the Department has been, and appears to be still proposing, is a total laissez-faire approach to wind farm approval and construction without concern for how the output, the location and the timing of construction will affect the stability of the electricity grid in NSW and the supply of electricity to all the people and businesses in the state.

The NSW Government may outsource the actual production and transmission of electricity but the electorate expects the Government to properly plan our electricity system so it is highly reliable and provides cheap electricity. If we have South Australia's experience they will not be blaming the producers. The anger at the Government will make the greyhound issue look like a storm in the proverbial tea cup.

Wind power is inherently expensive and inherently unreliable. Due to the RECs subsidy, renewable energy facilities gradually drive low cost thermal plants out of the electricity system.

Note that last point. Subsidised renewable electricity gradually reduces the availability of non-subsidised production as plant becomes too unprofitable to operate and is decommissioned some time after introduction of the renewable plant that ultimately forced its closure. So at the point a new wind farm is opened, the system may still look reasonably robust - so long as all the existing thermal generating plants remain, except that eventually they will not.

However, if you are determined to inflict higher electricity prices on the people of NSW there are at least some things that can be done in planning to reduce the risks that accompany this policy.

As can be seen from the map below, almost all South Australia's wind farms are concentrated in a small part of the state. That makes it particularly vulnerable to a local absence of wind or excessive levels of wind. It is, in fact, begging for the sort of wind farm outage that recently occurred in that state when most of them stopped simultaneously.

The map also makes clear that concentration in NSW (as in Victoria) is even worse. We have an enormous state area that allows the dispersion of wind farms in a way that would make the portfolio much more robust against wind volatility.


Source: http://www.thewindpower.net/country_maps_en_16_australia.php
That will not happen without conscious planning and control about where and when future wind farms are constructed in NSW.

Developers site to maximise their returns. The fact that the wind farm and the state's electricity system may be out for a day or two, and that electricity-dependent process industries may then experience weeks of disruption (because of spoilage and damage during the outage, as happened in South Australia), is irrelevant to the wind farm proprietors.

They bear none of the costs for their harmful siting of wind farms. All the costs fall on the community while the developers walk off with the profits.

South Australia has relied on backup from coal-fired production in Victoria and NSW. That works, to a degree, as long as other states maintain an excess of such capacity. But as you no doubt know, under Premier Andrews, Victoria is now engaged on a path of eliminating some of its coal-fired capacity and South Australia has wiped theirs out. There will be no external backup for NSW if its wind farms all have an off day. The State needs to ensure that it is not at risk of all its wind farms going out at the same time.

Electricity is unlike any other industry. Almost every other activity in our society depends on the instantaneous availability of electricity. No other industry produces output so pervasive and so extensively time critical. The Government can afford to take a relatively hands-off position about the location and timing of most other industrial developments. It cannot do so
with electricity supply and in particular when concentrated placement of generators can imperil the operation of the whole system.

The NSW Government needs to plan the placement, across the State, of all future wind farms to minimise the risk of simultaneous outages due to weather. The greater the number of wind farms the greater the need for widespread dispersion.

The Government needs to have a plan for the geographic dispersion of wind farms and advertise what area of the state each new wind farm is to go to in order to ensure that dispersion. The Government also needs to have a strict time requirement for building approved wind farms, such as three years, so that the plan cannot be disrupted by the decision of a wind farm developer to get approval and then bank it.

The PAC needs to defer consideration of this proposal until the Department of Planning has provided a well thought out, thoroughly investigated plan to ensure the placement of all future wind farms will minimise the risk to NSW electricity supply; and a set of conditions to be applied to the Biala wind farm which will ensure its approval will not in any way lead to a reduction in grid security.

## Decommissioning

The Department's recommended decommissioning consent conditions is:
"Within 18 months of the cessation of operations, unless the Secretary agrees otherwise, the Applicant must rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must comply with the objectives in Table 4."

This is recommended without any means to ensure that the operator will in fact do so. Any operator with half a brain cell will ensure that the corporate entity owning the wind farm is broke at the end of life and has no money with which to decommission.

Either the Department's officials are totally clueless about this (which I doubt) or they are knowingly and deliberately kicking the decommissioning can down the road to be picked up by taxpayers long after those officials have taken their pensions and retired - and they expect the PAC members to engage in the same rip off of the NSW taxpayers.

It is commonly accepted in business in the developed world that:
"it is the responsibility of directors to maximise the value of the business to shareholders, subject to the requirement to comply with the law"

Nowhere is it accepted that it is the responsibility of directors to comply with what Departmental officials would like them to do, unless those wishes are backed up by law and regulation.

At the end of life of the Biala wind farm, the corporation (ParentCo) that then owns the corporate entity (OperatingCo) which owns the turbines and the leases and contracts with hosts, will ensure that OperatingCo has no liquid assets (i.e. no cash). In fact the chances are that ParentCo will also sell OperatingCo to another entity outside its control (BrokeCo), which also has no assets either.

Then OperatingCo will turn off whatever turbines are still turning and everyone disappears, leaving the hosts with massive, rusting turbines on their lands and neighbours with a perpetual eyesore that continues to devalue their properties.

The Department has told us that under those circumstances the responsibility for decommissioning falls on the landowners, something the Department tries to keep very quiet.

In its EIS for Liverpool Range Wind Farm, Epuron (which has a good deal of wind farm experience) estimated ${ }^{1}$ decommissioning costs at $\$ 380,000$ per turbine. Epuron said "This estimate is on par with other wind farm developments that have recently been approved in New South Wales." These estimates were for turbines up to 165 m high, i.e. 20 m shorter than for the Biala wind farm.

In many, perhaps all, cases the landowners are not going to be able to afford this without going broke. The cost of decommissioning each turbine will certainly exceed all that the host ever earned from the turbine and it is unlikely they will have been banking it for the happy day they could pay to dismantle the turbines.

So the community will be stuck with the cost. The Departmental officials who made this recommendation know that is the case and hopefully the PAC officials also know it is the case. It will therefore be misfeasance to approve this proposal without consent conditions which ensure funding will, with certainty, be available for decommissioning.

The Department has told us they cannot impose a decommissioning bond on the developer (despite having claimed for years they could) because the consent is actually in relation to the land and the developer does not own the land.

In which case it must surely be possible to impose a condition on the landowner, which they must meet before they can allow each turbine to be built on that land. After all, a whole lot of other conditions are imposed to protect birds, bats and moss.

The PAC needs to impose a consent condition on the landowners for each turbine that, before the turbine is constructed, the landowner must obtain and provide to the Department a guarantee of decommissioning funding from a corporate entity with an investment grade credit rating.

The NSW Treasury can, at any point in time, readily inform the Department which corporate entities have investment grade credit ratings.

If there is some regulatory or other current constraint on so doing, the PAC must reject the proposal until the NSW Government has made it legally possible to impose that condition. Failure to do so is to wilfully stick the future NSW Government with the decommissioning costs in order to benefit the developer.

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## Health and ISDS Protection

Noise conditions imposed on this development need to be robust over the project's lifetime and allow the NSW Government to strengthen specific terms in the conditions if the Government subsequently decides that is important.

The NHMRC has called for further research on the effect of wind farms on sleep and health. The NHMRC is itself funding some of that research, and doing so without any restrictions on how far the turbines are from people.

The Department, in its assessment, claims the NSW Government is alert to that research and the Government will change conditions if research indicates that to be appropriate. However, the consent conditions recommended by DPE will make any such future action impossible without imposing penalties on a NSW Government that makes such changes.

DPE should be aware of the restrictions and penalties that can now be applied, as part of international trade and other agreements (see Annex A), on governments which change conditions applying on the assets of foreign owners, which is common with wind farms and likely to apply to Biala.

It is possible and practical to express noise conditions in simple terms which preserve the NSW Government's future discretion. Unless that is done, the DPE/PAC are likely to create a situation where a future NSW Government has the invidious choice of allowing known harm to occur to citizens, or acting to prevent it but incurring a commercial penalty of tens of millions of dollars, or even being prohibited from such action.

## Ex Ante Retention of Government Responsibility to Protect

The NSW Government can fully retain discretion to later enact quantified noise (or other) conditions for this and other wind farm projects by including consent conditions such as:

1. The wind farm must cause no material harm to the health of residents and no recurrent sleep disruption for residents, without the informed consent of those residents, and that consent for harm to health or sleep disruption cannot be given for minors, nor breach any other law relating to health and safety; and
2. The wind farm will be bound by any revised, quantified, noise (or other) conditions the NSW Government may subsequently impose, based on reasonable research evidence, to protect the health and sleep of residents.

These are conditions wind farm proponents cannot oppose in good faith. The wind industry and wind farm owners all insist they do not cause harm to health or sleep - in which case the addition of these consent conditions will never actually cause them a problem. And they will surely agree that in the unlikely (from their perspective) event that strong evidence emerges of harm to health or sleep, they would not want to continue to operate in a way that causes such harm.

The NSW Government repeatedly refers to application of the precautionary principle to proposed developments and their potential impact. The recommended conditions are totally consistent with the precautionary principle. In fact, they impose no restrictions from project inception other than existing standards and the requirement to not cause material harm to

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health or recurrent sleep disruption (with which surely no one can disagree), while protecting from any restrictive impact of trade or other international agreements the NSW Government's discretion to in future formalise if necessary, on the basis of evidence, specific conditions whose effect is to better protect residents.

## DPE Deliberately Understating Health Risks and Ignoring ISDS Risk

DPE has been previously advised of the ISDS risk, including in a previous objection to this proposal. There is no mention of it in the Department's advice to the PAC and no discussion of the constraints ISDS may place on future government regulation of the wind farm.

That is consistent with a persistent practice of the Department of minimising health risks and, where there is any uncertainty, giving the benefit to the wind farm developer rather than to the potentially affected community.

Consider this egregious example from the Department's assessment.
Deliberate Misstatement by the Department about NHMRC Advice
Attached is the full text of the document NHMRC Statement: Evidence on Wind Farms and Human Health released by the NHMRC in February 2015

The third bolded point in that document says:
"high quality research into possible health effects of wind farms, particularly (emphasis added) within 1,500 metres (m), is warranted"

However, the Department claims in its assessment document (page iii) the NHMRC said:
"any further health-based studies should be limited to (emphasis added) areas within 1.5 km of wind turbines"

Unless English is your second language or you are being deliberately obtuse, you do not interpret a statement that something should be done "particularly" in a certain area as saying it "should be limited to" that area.

This is like a parent telling their child to "clean up your room, particularly under the bed" and the child interpreting it as "clean up under the bed and nowhere else".

In March 2015, the NHMRC issued ${ }^{2}$ a Targeted Call for Research into Wind Farms and Human Health, with the NHMRC offering several million dollars of funding. The NHMRC document detailing the nature of research required stated:
"The aim of this TCR is to support the development of an evidence-based understanding of the effects, if any, of wind farms on human health."

Nowhere in the document was there any statement about limiting the research to "areas within 1.5 km of wind turbines", contrary to the DPE claim in this assessment report.

[^1]The Department has been advised previously about this mis-statement and persists with it, which demonstrates a wilful intent to make a false statement. How many other such wilful false statements are parts of the Department's recommendations?

This wilful falsehood is not arbitrary. The Department tells us (page iii):
"In this case, there would be no non-associated residences within 2 km of a wind turbine."

So, given the Department's false claim that the NHMRC has said "further health-based studies should be limited to areas within 1.5 km of wind turbines", the Department can claim there must be no health risks to anyone from the wind farm, and none will be found in future, because all residents are past the distance to which the Department, falsely, claims the NHMRC has restricted further study.

This appears a deliberate attempt by the Department to mislead the PAC and to induce the PAC to assume no need to act in any way that might protect the health and sleep of residents.

## PAC Obligation to Protect NSW Government Where Practical

The NHMRC has called for "high quality research into possible health effects of wind farms". The NHMRC is spending millions of dollars itself funding such research. There are no distance (from turbines) limits either in what the NHMRC has called for or in what it is funding.

So on the basis of NHMRC action it is clearly quite possible that research may reveal there are significant adverse health and sleep impacts from wind farms, and that they may be further than 1,500 metres or further than 2 kms .

The Department's assessment report claims:
"The Department will continue to monitor contemporary scientific research outcomes to ensure its position reflects robust evidence on any health effects, including any advice released from the National Wind Farm Commissioner and the Independent Scientific Committee." (page 37)
which seems to at least acknowledge the possibility that evidence of harm may be found and, if so, the NSW Government may need to impose some ex-post restrictions on Biala wind farm in order to protect the public.

At that point Biala wind farm will sensibly call on ISDS to protect the value of their assets. If they weren't foreign owned at the time, they will become so (as Phillip Morris did when the Australian Government imposed plain-paper packaging on the tobacco industry).

ISDS is outside the Australian legal system and its decisions cannot be appealed to the Australian legal system. It exists to protect the interests of investors, not to protect the interests of governments or their citizens.

This PAC is being hereby advised to include a protective consent condition requiring the wind farm to not harm residents' health or sleep. If the PAC now decides to not include such a condition, it will be successfully argued before an ISDS tribunal that there was an
informed, conscious and explicit decision by the PAC to not make the operations of the Biala wind farm subject to any requirement to protect health and sleep of residents.

Consequently, a subsequent NSW Government decision to impose conditions with that purpose will be quite clearly contrary to the explicit conditions imposed at the time of consent and the ISDS tribunal will almost certainly declare that restitution by the NSW Government is required.

The NSW Government at the time will be unable to argue it was always understood that the wind farm was not to harm sleep or health. It will not be able to make such an argument because the matter has now been put to the PAC and any failure now to impose such conditions cannot be inadvertent but rather an intentional act on behalf of the Government.

Note that the recommended consent condition does not refuse permission for the project. Presumably the developer shares the avowed wind industry belief that there can be no harm to health from this project. If so, and they are right, then the developer and their wind farm will suffer no adverse consequences from the consent condition.

Adverse consequences for the wind farm will occur only if it becomes apparent the wind farm is actually causing harm to sleep or health, or if the NSW Government sees research evidence that requires it to impose restrictions on this wind farm, and others, to protect residents.

It is hard to see how deliberately refusing to protect the NSW Government's future freedom of action in protecting resident sleep and health can be anything other than misfeasance, whose purpose would be to benefit the developer at the expense of both the NSW Government and potentially affected residents.

## Summary

The Department's recommendations to the PAC put the NSW Government, its taxpayers and its citizens at risk in a number of ways that is both wilful and scandalous. In particular they include:

1. Contributing to increased grid insecurity;
2. Virtually guaranteeing the NSW Government will eventually have to pay for decommissioning the Biala wind farm; and
3. Exposing the NSW Government to ISDS sanctions should it ever attempt to protect the health and sleep of residents affected by the Biala wind farm.

The PAC should refuse to make a decision on this proposal until it has received a thorough, professional review by the NSW Government of the impact of wind farm approvals on future grid security and identifying the conditions that need to be imposed on wind farm approvals to ensure grid security is protected.

The other two points can be dealt with by imposing appropriate consent conditions as described in this paper.

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## Annex A. Investor-State Dispute Settlement (ISDS)

Investor-State Dispute Settlement (ISDS) creates uncertainty about the effective sovereignty of national and state governments, and their courts, wherever they make decisions that affect existing, foreign-owned, investments within their jurisdiction. This uncertainty has been highlighted by the Chief Justice of the Australian High Court and is likely to grow over time.

The Australian Department of Foreign Affairs and Trade (DFAT) describes ISDS as:
ISDS is a mechanism that is included in a Free Trade Agreement (FTA) or an investment treaty to provide foreign investors, including Australian investors overseas, with the right to access an international tribunal if they believe actions taken by a host government breach its investment obligations. ${ }^{3}$
and
An investor can have their claim determined by an independent arbitral tribunal without having to rely on domestic legal remedies. ISDS cases are usually decided by three arbitrators who are independent of both the government and the investor. ${ }^{4}$

So the rulings are outside the legal framework of the countries involved, with no appeal to their legal systems, and not bound by their laws.

According to DFAT:
Australia has ISDS provisions in six FTAs: China-Australia Free Trade Agreement (not yet in force), Korea-Australia Free Trade Agreement, AustraliaChile Free Trade Agreement, Singapore-Australia Free Trade Agreement, Thailand-Australia Free Trade Agreement, and ASEAN-Australia-New Zealand Free Trade Agreement. ${ }^{5}$
It also has "ISDS provisions in its 21 Investment Protection and Promotion Agreements (IPPAs)" ${ }^{6}$
and ISDS is part of the Trans Pacific Partnership to which the Australian Government has now agreed.

DFAT claims this imposes little policy constraints on governments, asserting:
ISDS does not prevent the Government from changing its policies or regulating in the public interest. It does not freeze existing policy settings. It is not enough that an investor does not agree with a new policy or that a policy adversely affects its profits. ${ }^{7}$
and
The Australian Government is opposed to signing up to international agreements that would restrict Australia's capacity to govern in the public interest -

[^2]including in areas such as public health, the environment or any other area of the economy. ${ }^{8}$

While DFAT under the current Government believes ISDS "does not prevent the Government from changing its policies or regulating in the public interest", the Gillard Government apparently took a different view, at least of the risks ISDS poses to the ability to regulate in the public interest. The "Gillard government declared it would never enter into another ISDS provision after the Philip Morris case". ${ }^{9}$

While DFAT, under the current Government, is sanguine about the legal consequences of ISDS, in assessments of legal implications it is more appropriate to rely on the views of Chief Justice RS French AC of the Australian High Court, who in a recent paper commented:

- "Arbitral tribunals set up under ISDS provisions are not courts. Nor are they required to act like courts. Yet their decisions may include awards which significantly impact on national economies and on regulatory systems within nation states." ${ }^{10}$
- "It has not been unusual for investors to claim that decisions of courts in a Respondent State constitute a breach of a provision of the investment treaty to which the State is a party." ${ }^{11}$
- "However, the significance of ISDS arbitral processes is global. They have general implications for national sovereignty, democratic governance and the rule of law within domestic legal systems. Their long-term consequences for national judiciaries cannot be stated with confidence (emphasis added)." ${ }^{12}$

DFAT points to the fact that, to date, Australia has been subject to only one instance of ISDS, i.e. the as yet unresolved case brought by Philip Morris. However, the existing FTA with the United States does not provide for ISDS while the TPP does. As ANU Law Professor Thomas Faunce has pointed out, "America is not just Australia's largest source of foreign investment, it's also the nation whose corporations are the most frequent users of ISDS." ${ }^{13}$

Faunce has drawn attention to the situation of Canada foliowing its signing of NAFTA, which includes ISDS, and that under NAFTA, "Canada has been sued nearly 20 times and has lost or settled seven times, paying American corporations at least \$US158 million in compensation." 14 and now "There are eight cases pending against Canada, with damages claims totalling almost $\$ 6$ billion." ${ }^{15}$ Simply defending the cases is expensive.

There is a further important factor, which is the opportunity for "treaty shopping". After the Austraiian Government announced it would introduce tobacco plain packaging iaws, Philip Morris Australia Ltd was acquired by Philip Morris Asia Ltd, a company incorporated in Hong Kong. That meant the matter affected an overseas investor (Philip Morris Asia Ltd), which was domiciled in Hong Kong, and because Hong Kong has an Investment Protection

[^3]and Promotion Agreement with Australia, including ISDS, the new owner of Philip Morris Australia Ltd could pursue the matter against the Australian Government through ISDS.

The issue here is not whether ISDS as part of trade agreements is a good thing or not. What is relevant is the potential for ISDS to be used to challenge legal and regulatory changes that governments may make, and for that challenge to occur outside the Australian legal system through tribunals established to protect investors, not governments, and certainly not the public.

## Investor-state dispute settlement cases worldwide



Source: "Trade treaties expose Australia to costly litigation, experts warn", Sydney Morning Herald, August 30, 2014.
As the graphic above shows, the number of ISDS cases being brought worldwide is escalating. Even if Australia chose not to enter into any more agreements including ISDS, the existing 27, and now TPP, together with "treaty shopping", leave a high level of exposure for government decisions that adversely affect foreign investors, particularly given a range of issues in the way ISDS operates that were identified by the European Parliamentary Research Service in January 2014:

- "vague formulation of major treaty provisions leaving a wide range of interpretations open to arbitrators;
- loopholes which enable abuses such as nationality shopping by companies which create subsidiaries abroad specifically to take advantage of the agreements;
- lack of transparency with varying degrees of secrecy attaching to arbitral processes depending upon the institutions or rules which are applied;
- a relatively small pool of arbitrators - arbitrators appointed to ISDS arbitrations are said to be mostly male ( $95 \%$ ) and from Europe and North America;
- role-swapping by arbitrators who appear from time to time as counsel in ISDS cases;
- the high cost of ISDS arbitrations - estimated by OECD as averaging about $\$ 8$ million each;


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- associated with the high cost and potentially high awards, a growing phenomenon of third party funding of claims by banks, hedge funds and insurance companies in exchange for a share of the proceeds ranging from $20 \%$ to $50 \%$;
- absence of effective review or appeal processes;
- inconsistency in decisions on similar provisions." ${ }^{16}$

So, even if the Australian Government never signs another trade agreement that includes ISDS:

- "treaty shopping" by investors from countries not directly covered by an ISDS agreement with Australia allows them to not only attain that status but do so with the benefit of the treaty most advantageous to them.
- Whether a dispute falls under ISDS and a particular treaty is up to the arbitration tribunal assigned the dispute. It is not under the control of governments impacted by such claims. And there is no appeal from these decisions.
- Thus it is quite possible that ISDS tribunals will evolve the scope of what they consider a legitimate claim under ISDS, to become more encompassing. Given the financial interests of those involved as ISDS arbitrators and/or counsel, it is highly unlikely they will choose to limit the scope of ISDS cases and thereby their income.

So, if in the words of Australian High Court Chief Justice French, "Their long-term consequences for national judiciaries cannot be stated with confidence" ${ }^{17}$, that is equally true of the long-term consequences for state and national governments and regulations they impose.

[^4]
## Examining whether wind farm emissions may affect human health is complex, as both the character of the emissions and individual perceptions of them are highly variable.

## After careful consideration and deliberation of the body of evidence, NHMRC concludes that there is currently no consistent evidence that wind farms cause adverse health effects in humans.

Given the poor quality of current direct evidence and the concem expressed by some members of the community, high quality research into possible health effects of wind farms, particularly within 1,500 metres ( m ), is warranted.

This Statement updates previous work by NHMRC and is based on the findings of a comprehensive independent assessment of the scientific evidence on wind farms and human health, which is summarised in the NHMRC Information Paper: Evidence on Wind Farms and Human Health.

The Statement reflects the results and limitations of the studies that considered the possible relationships between wind farm emissions and health outcomes (direct evidence) and also takes into account evidence on the health effects of similar emissions from other sources (parallel evidence).

There is no direct evidence that exposure to wind farm noise affects physical or mental health. While exposure to environmental noise is associated with health effects, these effects occur at much higher levels of noise than are likely to be perceived by people living in close proximity to wind farms in Australia. The parallel evidence assessed suggests that there are unlikely to be any significant effects on physical or mental health at distances greater than $1,500 \mathrm{~m}$ from wind farms.

There is consistent but poor quality direct evidence that wind farm noise is associated with annoyance. While the parallel evidence suggests that prolonged noise-related annoyance may result in stress, which may be a risk factor for cardiovascular disease, annoyance was not consistently defined in the studies and a range of other factors are possible explanations for the association observed.

There is less consistent, poor quality direct evidence of an association between sleep disturbance and wind farm noise. However, sleep disturbance was not objectively measured in the studies and a range of other factors are possible explanations for the association observed. While chronic sleep disturbance is known to affect health, the parallel evidence suggests that wind farm noise is unlikely to disturb sleep at distances of more than $1,500 \mathrm{~m}$ from wind farms.

There is no direct evidence that considered the possible effects on health of infrasound or low frequency noise from wind farms. Exposure to infrasound and low-frequency noise in a laboratory setting has few, if any, effects on body functions. However, this exposure did not replicate all of the characteristics of wind farm noise as it has generally been at much higher levels and of short duration.
Although individuals may perceive aspects of wind farm noise at greater distances, it is unlikely that it will be disturbing at distances of more than $1,500 \mathrm{~m}$. Noise from wind farms, including its content of low-frequency noise and infrasound, is similar to noise from many other natural and human-made sources.
NHMRC urges authorities with responsibility for regulating wind farms to undertake appropriate planning, in consultation with communities, and be cognisant of evidence emerging from research.

Although it is unlikely that there are significant health effects at a distance of more than $1,500 \mathrm{~m}$ from wind farms, concern has been expressed by people living near wind farms about perceived impacts on their health. NHMRC recommends that any person experiencing health problems consult their General Practitioner.
Given these reported experiences and the limited reliable evidence, NHMRC considers that further, higher quality, research is warranted. NHMRC will issue a Targeted Call for Research into wind farms and human health to encourage Australia's best researchers to undertake independent, high quality research investigating possible health effects and their causes, particularly within $1,500 \mathrm{~m}$ from a wind farm.

Further information can be found in the NHMRC Information Paper and on the NHMRC website at:
www.nhmrc.gov.au/your-health/wind-farms-and-human-health.

# Biala Wind Farm PAC 

## Residents Against Jupiter wind turbines

Submission
Dr Michael Crawford
February 2, 2017

## DPE, Biala \& PAC

The Department's recommendations to the PAC put the NSW Government, its taxpayers and its citizens at risk in a number of ways that is both wilful and scandalous. In particular by:

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Failure by the PAC to rectify this will constitute misfeasance by the PAC members and a wilful decision to harm NSW and the NSW Government to benefit a developer.

## Electricity Grid Security

Electricity generating developments are fundamentally different from all other development proposals

They must be evaluated in terms of contribution to, and impact on, the total electricity system

A high proportion of solar or wind power creates grid instability (see SA)

A high geographic concentration of solar or wind power creates grid instability (see SA)

## Wind Farm Geographic Concentration



## Electricity Grid Security

DPE has failed to consider or bring forward a thorough evaluation of this proposal in terms of its long term impact on grid stability.

The PAC needs to defer consideration of this proposal until DPE has provided a thoroughly investigated plan to ensure the placement of all future wind farms will minimise the risk to NSW electricity supply; and a set of conditions to be applied to the Biala wind farm which will ensure its approval will not in any way lead to a reduction in grid security.

## Decommissioning Pea \& Thimble Trick

- DPE says the WF operator will be responsible for decommissioning
- BUT no mechanism to ensure funds will be available for that purpose
- It is the responsibility of directors to maximise shareholder value of their company, within the law
- A dutiful director will therefore ensure the entity owning Biala WF is broke before decommissioning
- The decommissioning cost will fall on NSW Govt
- DPE pretends it does not understand this


## Decommissioning Funding Certainty

According to DPE, a funding obligation cannot be imposed on the developer, because consent conditions apply to the land. Therefore:

The PAC needs to impose a consent condition on the landowners for each turbine that, before the turbine is constructed, the landowner must obtain and provide to the Department a guarantee of decommissioning funding from a corporate entity with an investment grade credit rating.

## Misstatement of NHMRC Advice

The NHMRC actually said:
"high quality research into possible health effects of wind farms, particularly within 1,500 metres ( m ), is warranted" *

DPE claims the NHMRC said:
"any further health-based studies should be limited to areas within 1.5 km of wind turbines" **

This deliberate false statement allows DPE to pretend there can be no health risk to residents at 2 km

* NHMRC Statement: Evidence on Wind Farms and Human Health, February 2015
** DPE Biala Assessment Report and Recommendations, page iii.


## DPE Understates Health Risks Every Time

- NHMRC has called for further research on effect of wind farms on sleep and health
- NHMRC is funding some of that research
- So future findings of harm are clearly possible
- DPE claims it is alert to that research and NSW Govt will act in accordance with research findings
- DPE ignores ISDS penalties if conditions are later changed on a foreign-owned wind farm reducing its profits

Necessary Protective Consent Conditions

1. The wind farm must cause no material harm to the health of residents and no recurrent sleep disruption for residents, without the informed consent of those residents, and that consent for harm to health or sleep disruption cannot be given for minors, nor breach any other law relating to health and safety; and
2. The wind farm will be bound by any revised, quantified, noise (or other) conditions the NSW Government may subsequently impose, based on reasonable research evidence, to protect the health and sleep of residents.

## Inaction is a Decision to Harm NSW

- If the PAC refuses now to impose such conditions, after being explicitly warned, any future ISDS tribunal in relation to changed conditions on Biala wind farm will inevitably take the view the NSW Government, at this time, deliberately excluded the wind farm from having to protect health and sleep
- Consequently any restrictive conditions subsequently imposed to protect health and sleep must be a breach of the terms under which the wind farm was approved
- That will cost the NSW Government money.


## DPE, Biala \& PAC

The Department's recommendations to the PAC put the NSW Government, its taxpayers and its citizens at risk in a number of ways that is both wilful and scandalous. In particular by:

1. Contributing to increased grid insecurity;
2. Virtually guaranteeing the NSW Government will eventually have to pay for decommissioning the Biala wind farm; and
3. Exposing the NSW Government to ISDS sanctions should it ever attempt to protect the health and sleep of residents affected by the Biala wind farm.

Failure by the PAC to rectify this will constitute misfeasance by the PAC members and a wilful decision to harm NSW and the NSW Government to benefit a developer.

## DPE Precautionary Principle

If facts or reasonable behaviour may imperil approval of a wind farm, avoid them.

## NHMRC Statement: Evidence on Wind Farms and Human Health

## Examining whether wind farm emissions may affect human health is complex, as both the character of the emissions and individual perceptions of them are highly variable.

After careful consideration and deliberation of the body of evidence, NHMRC concludes that there is currently no consistent evidence that wind farms cause adverse health effects in humans.
Given the poor quality of current direct evidence and the concern expressed by some members of the community, high quality research into possible health effects of wind farms, particularly within 1,500 metres ( m ), is warranted.

This Statement updates previous work by NHMRC and is based on the findings of a comprehensive independent assessment of the scientific evidence on wind farms and human health, which is summarised in the NHMRC Information Paper: Evidence on Wind Farms and Human Health.
The Statement reflects the results and limitations of the studies that considered the possible relationships between wind farm emissions and health outcomes (direct evidence) and also takes into account evidence on the health effects of similar emissions from other sources (parallel evidence).

There is no direct evidence that exposure to wind farm noise affects physical or mental health. While exposure to environmental noise is associated with health effects, these effects occur at much higher levels of noise than are likely to be perceived by people living in close proximity to wind farms in Australia. The parallel evidence assessed suggests that there are unlikely to be any significant effects on physical or mental health at distances greater than $1,500 \mathrm{~m}$ from wind farms.

There is consistent but poor quality direct evidence that wind farm noise is associated with annoyance. While the parallel evidence suggests that prolonged noise-related annoyance may result in stress, which may be a risk factor for cardiovascular disease, annoyance was not consistently defined in the studies and a range of other factors are possible explanations for the association observed.
There is less consistent, poor quality direct evidence of an association between sleep disturbance and wind farm noise. However, sleep disturbance was not objectively measured in the studies and a range of other factors are possible explanations for the association observed. While chronic sleep disturbance is known to affect health, the parallel evidence suggests that wind farm noise is unlikely to disturb sleep at distances of more than $1,500 \mathrm{~m}$ from wind farms.

There is no direct evidence that considered the possible effects on health of infrasound or low frequency noise from wind farms. Exposure to infrasound and low-frequency noise in a laboratory setting has few, if any, effects on body functions. However, this exposure did not replicate all of the characteristics of wind farm noise as it has generally been at much higher levels and of short duration.
Although individuals may perceive aspects of wind farm noise at greater distances, it is unlikely that it will be disturbing at distances of more than $1,500 \mathrm{~m}$. Noise from wind farms, including its content of low-frequency noise and infrasound, is similar to noise from many other natural and human-made sources.
NHMRC urges authorities with responsibility for regulating wind farms to undertake appropriate planning, in consultation with communities, and be cognisant of evidence emerging from research.
Although it is unlikely that there are significant health effects at a distance of more than $1,500 \mathrm{~m}$ from wind farms, concern has been expressed by people living near wind farms about perceived impacts on their health. NHMRC recommends that any person experiencing health problems consult their General Practitioner.
Given these reported experiences and the limited reliable evidence, NHMRC considers that further, higher quality, research is warranted. NHMRC will issue a Targeted Call for Research into wind farms and human health to encourage Australia's best researchers to undertake independent, high quality research investigating possible health effects and their causes, particularly within $1,500 \mathrm{~m}$ from a wind farm.

Further information can be found in the NHMRC Information Paper and on the NHMRC website at: www.nhmrc.gov.au/your-health/wind-farms-and-human-health.


[^0]:    ${ }^{1}$ Liverpool Range Wind Farm EIS, Appendix G Decommissioning and Rehabilitation Plan, section 2.2, February 2014.

[^1]:    2 https://www.nhmrc.gov.au/grants-funding/apply-funding/targeted-and-urgent-calls-research/targeted-call-research-tcr-wind-farm

[^2]:    ${ }^{3}$ http://dfat.gov.au/trade/topics/pages/isds.aspx
    ${ }^{4}$ http://dfat.gov.au/trade/topics/pages/isds.aspx
    ${ }^{5} \mathrm{http}$ ://dfat.gov.au/trade/topics/pages/isds.aspx
    ${ }^{6} \mathrm{http}: / /$ dfat.gov.au/trade/topics/pages/isds.aspx
    ${ }^{7} \mathrm{http}: / /$ dfat.gov.au/trade/topics/pages/isds.aspx

[^3]:    $8 \mathrm{http}: / /$ dfat.gov.au/trade/topics/pages/isds.aspx
    ${ }^{9} \mathrm{http}: / / \mathrm{www} . \mathrm{smh} . c o m . a u / b u s i n e s s /$ trade-treaties-expose-australia-to-costly-litigation-experts-warn-20140828109ht7.html
    10 "Investor-State Dispute Settlement - A Cut Above the Courts?", Chief Justice RS French AC, Supreme and Federal Courts Judges' Conference, 9 July 2014, Darwin
    ${ }^{11}$ Chief Justice French, op cit, p. 3.
    ${ }^{12}$ Chief Justice French, op cit, pp. 3-4.
    ${ }^{13} \mathrm{http}: / /$ www.abc.net.au/radionational/programs/backgroundbriefing/isds-the-devil-in-the-trade-deal/5734490
    ${ }^{14} \mathrm{http}: / /$ www.abc.net.au/radionational/programs/backgroundbriefing/isds-the-devil-in-the-trade-deal/5734490
    $15 \mathrm{http}: / / \mathrm{www} . a b c . n e t . a u /$ radionational/programs/backgroundbriefing/isds-the-devil-in-the-trade-deal/5734490

[^4]:    ${ }^{16}$ Chief Justice French, op cit, pp. 1-2.
    ${ }^{17}$ Chief Justice French, op cit, pp. 3-4.

