

White Rock wind farm Modification 6 submission.

Visual Impact Assessment (VIA)

The Department approved 150 metre turbines in the original DA, not in Modification 3 as falsely claimed by Mr Homewood from Green Bean Design (GBD)

However, and there are always “however’s” in a GBD VIA, GBD’s (L)VIA for the original DA was done on the assumption of 140 metre turbines.¹ How the Department, in 2011, assessed the Visual Impact of a wind farm with 150 metre turbines based on an LVIA assessing 140 metre turbines is a question that can never be answered in 2018.

Any statement in this Mod 6 VIA that relies on a comparison to the VI of the approved 150 metre turbines is therefore invalid.

Any VI comparisons must be done between a turbine with a rotor swept area (RSA) of 9856 sq m for the original VIA and the mod 6 RSA of 22698 sq m, an increase in RSA of 130%. In other words the Mod 6 RSA is 2.3 times the RSA of the turbines in the original VIA from GBD. No diagrams provided by GBD in this VIA show this comparison.

There has never been a NSW wind farm physical modification this large and significant. The RSA increase of just this modification is 2/3 of the RSA of all the 70 turbines already constructed in stage 1.

The general comments apply, but more so.

The ZVI diagrams lack clarity and are therefore useless as evidence.

The photomontages and wireframes are so small as to be meaningless.

Photographs of the wind farm stage 1 do not represent the view that the local community sees daily in that they are not worst case.

All photomontages and wireframes are grossly misleading in that they do not show Stage 2 turbines with 170 metre diameter blades, but some other option supposedly being considered by Goldwind.

Introducing multiple Stage 2 configuration options into a VIA can only confuse.

The Stage 2 build specifications will be determined by the maximum extraction of energy from the wind. All things being equal, that will be the configuration with the biggest Rotor Swept Area and therefore 200 metre turbines with 170 metre diameter blades. A VIA must only consider the worst case.

It would be laughable if the Department showed the same naivety it displayed in its original 2011 Determination.

“The tallest tip height under consideration is 150m, with tip height generally expected to be approximately 125 - 135m.”

The great thing about GBD and their contribution to the wind industry is that they leave a detailed audit trail. Take, for instance, their two recent VIAs for Coppabella Mod 1² and White Rock Mod 6 which are

¹ Mod 6 VIA, Page 14 and in a number of places in the 2011 LVIA

The statement, also on page 14:

“The VIA for the approved wind farm was based on an 85.5 metre hub height and 112 metre rotor blade diameter with a maximum wind turbine height of 150 metres”

is therefore FALSE. Perhaps Mr Homewood was thinking about Coppabella.

² There are some serious flaws in the Coppabella VIA. Please see my submission 228747. Mr Homewood chose not to rebut any of the points made, instead, leaving it to Goldwind to arrogantly dismiss the submission unanswered (and one from my colleague Dr Michael Crawford) because the “Coppabella wind farm would not be visible from their residences.” As you would expect, a number of those criticisms apply to this VIA as well, given their similarity. I will not repeat them here.

conceptually identical but for the expected differences. Each has approved 150 metre turbines with requested increases to 171 and 200 metres respectively.

Sometimes, when you expect a change, it doesn't happen. The two VIAs are more identical than expected. For instance, the two diagrams at the top of page 25 of the White Rock VIA have been copied from the Coppabella VIA, and are therefore out of scale. HINT, the before and after hubs are depicted at the same height. Also, does the difference in height look to be a third of the approved turbine height or much less? Misleading.

(The two diagrams below them on the same page and the two on the next page are also misleading in that they do not show Stage 2 turbines with 170 metre diameter blades. As mentioned above, this is a VIA and therefore must consider and depict "worst" case.)

Also, both VIAs have the same statement:

Sensitivity Levels from rural dwellings. Visibility distance zones have been classified from near- middle ground to far middle- ground views.³

For White Rock, this is of course False, as there are a number of residences defined as being in the far fore-ground.

Both VIAs have a similar statement:

Wind turbine rotor diameter up to approximately 140 metres (100 metres for previous VIA)
(Coppabella Mod 1 VIA Page 7))

Wind turbine rotor diameter up to approximately 140 or 170 metres (100 metres for previous VIA)
(White Rock Mod 6 VIA Page 7)

For White Rock, this is of course False as the initial VIA was done for a rotor diameter of 112 metres. How many more statements from the Coppabella Mod 1 VIA are falsely repeated for White Rock?

We read in relation to Figure 6:

At a view distance of 4 kilometres the WRWF approved and modified Stage 2 wind turbines would be perceived at less than half the height of the wind turbines when viewed at a distance of 2.7 kilometres.

We asked, but received no answer to the similar claim in the Coppabella Mod 1 VIA:

Could Mr Homewood please cite the paper on which the above statement is based, containing the formulae that allowed him to make that claim?

We ask again, being genuinely interested in the geometry. We just can't find a reference that confirms his claim.

Sometimes, when you expect a change, the comparison is nonsense:

In a key conclusion:

Whilst the modified WRWF Stage 2 wind turbines would extend above the WRWF Project Approval tip height of 150 metres; this VIA has determined, using the methods described in this section, that the overall scale of the modified WRWF Stage 2 wind turbines at a 4km (and beyond) view distance would not result in an order of visual magnitude that is significantly greater than the visual magnitude of the WRWF Project Approval wind turbines.

compared with:

Whilst the proposed wind turbines for the modified wind farm would extend above the approved CWF wind turbine tip height of 150 metres; this VIA has determined, using the methods described in this section, that the overall scale of the proposed CWF wind turbine modifications at a 5- kilometre (and over) view distance would not result in an order of visual magnitude that is significantly above the visual magnitude of the approved CWF.

³ Coppabella Page 32 and White Rock Page 38

So Mr Homewood is saying that the Visual Impact (or whatever he calls it these days) is greater for a 171 metre turbine at 4.9 km than a 200 metre turbine at 4.1 km.
Can't be right can it?

Sometimes in this VIA, Mr Homewood can't agree with himself, only two pages apart (bolding added).

A total of 20 WRWF Stage 2 wind turbines would be relocated from the Project Approval locations largely in response to ongoing consultation with **non- associated landowners**. (page 7)

The modified WRWF Stage 2 wind turbines have been relocated from the Project Approval locations following discussions with **the associated landowners** (page 9)

What does either statement have to do with a VIA? Besides, how would Mr Homewood know, in either case?

In his 2011 VIA Mr Homewood declared (**in bold**) that for "view location sensitivity", residential properties had the "**Highest Sensitivity**"

In this VIA, for the same rural residences, and likely the same residents, Mr Homewood rates them as "level 2" (Moderate). What changed your professional judgment Mr Homewood?⁴

That same professional judgment talks, once again, about the possibility that some residences will see some extra blade tips. Just a reminder that these tips, up to 50 metres long, are nearly as large as the whole blade on the currently approved and constructed turbines (<60.5 metres) and even closer to the size of the turbine blade on which Mr Homewood based his previous White Rock VIA (<56 metres – blade length being less than half rotor diameter)

And finally, on the last page of the VIA, in Mr Homewood's professional judgment,

This VIA notes that a number of approved WRWF Stage 2 wind turbines have been relocated away from non-associated dwellings which results in a significant reduction in both the magnitude and level of visual effect for dwellings to the east of the WRWF project site

Could Mr Homewood please share his professional judgement as to why turbines with a 2.3 RSA multiplier, moved a relatively short distance away from a residence will result in a significant reduction in visual impact? It is not clear from the VIA.

In Goldwind's Main Report, the Visual summary states:

Visual. The visual impact of the modification has been assessed as acceptable, resulting in a low-level change in visibility. This outcome is a result of location of the infrastructure in a sparsely settled area with significant proportion of associated landowners, suitable setbacks from non-associated residences and the ability of the landscape to visually absorb the development. One approved turbine has been removed and some approved turbine sites have been relocated to give increased set back from non-involved landowners to minimise visual impact;

Can the main report author point out where in the VIA is the evidence to support the conclusion that the modification is "acceptable" and that the setbacks are "suitable" and where this statement is proven -

⁴ Another example. GBD was hired by DPE to review the LVIA for the Biala wind farm. In his December 2016 Independent Expert Review, Mr Homewood said:

Whilst the overall methodology is considered to be applicable, GBD note that some of the rating categories outlined in Appendix A of the Biala Wind Farm LVIA are not necessarily in accordance with best practice. Key issues include:

- Within the category of sensitivity it would be expected that views from residential dwellings to be the most sensitive locations.

“ability of the landscape to visually absorb the development” and where the layout changes made will “minimize visual impact”

and finally for the Department.

A major modification to a staged construction provides DPE with an ideal opportunity to do a detailed assessment of important factors missing from the project to date or from our broader knowledge of wind farm EIS methodology.

Given what we have come to expect from DPE, you are going to impose on the local community 48 massively upsized turbines. They are entitled to some facts in return.

Both the original DGRs and the 2016 Wind Energy Visual Assessment Bulletin require the proponent to determine the views of the local community regarding their landscape and views. It has not been done.

We now have a chance to get not only the local community’s opinion, as required, but also to get feedback now that stage one is nearing completion. You could ask whether the VI as determined in 2011 by GBD was accurate, or whether the 2011 photomontages depicted what you would see in an accurate fashion. You could also ask whether the visual impacts are not as great as expected, or otherwise.

It is an ideal opportunity to do a dynamic photomontage. One will be enough. DPE can pick a residence that is impacted by both stages, video the moving stage 1 turbines and superimpose a simulated stage 2 turbine. In this day and age, it should be pretty easy.

It is also an ideal opportunity to commission a peer review by a truly independent expert or a panel including DPE and community members to verify that the visual impacts as determined by GBD in 2011 were correct.

There is no evaluation of the social or economic impacts of this massive change. Property devaluation is a significant negative economic impact as all reasonable people agree.

This staged construction offers a perfect opportunity for the Department to insist that Goldwind hire a truly unbiased and independent valuer to assess all non-associated properties in the view shed in a before and after valuation.

Also, please send Mr Homewood away to do what he is required to do, and that is to evaluate the VI on all non-associated affected properties, whether they have a residence or not, inhabited or not.

In any genuine merit assessment of this modification, you will have to consider the ultimate mitigation strategy, voluntary acquisition. Unfortunately the VIA, with its model produced wireframes will offer you little assistance.

Finally, where is the required disclaimer from both Goldwind and GBD (and probably others) that these key documents in relation to a planning matter do not contain any false or misleading statements and that all relevant information has been considered.

Overall, the Department must end up with a merit assessment that is equivalent to one that would be evaluated now for the both stages and their impact on all surrounding properties, with and without residences.

As Green Bean Design’s VIAs have progressed over the years, critiques have forced Mr Homewood to abandon any semblance of “science”.

With this VIA, all we are left with is an opinion, typically:

The modified WRWF Stage 2 is not considered to be of a magnitude that would significantly increase visual effects relative to the WRWF Project Approval.....

The modified WRWF Stage 2 would not introduce elements that are any more prominent or out of character with the approved WRWF Project, and the potential for the modified Stage 2 wind turbines to result in any additional significant cumulative visual effects is considered to be low. The proposed WRWF Stage 2 would result in an overall low- level change in visibility and a largely unchanged visual impact rating in accordance with the White Rock Wind Farm Project Approval. (page 8)

with nothing to support that opinion but the seriously flawed Visual Assessment Bulletin 2016.

Mr Homewood has gained his undisputed prominence within the wind industry by his ability to come up with the answers that his clients want. He has done it again.

However, few would agree that introducing 48 turbines into the landscape with a swept area (the bit that captures our attention) 2.3 times that studied in his previous VIA would have the minimalist impact he describes above.

By approving this modification, the DPE planner will be one of the few..

This VIA should be rejected until it is drastically improved.