Chapter 8 – Mitigation

Clouston's inadvertently agree that wind farms effectively destroy the view and that vegetative screening is a flawed mitigation option in **one word**:

> "whilst screening planting can be highly effective in blocking or filtering views, the impact is often of a highly local nature and can remove parts of the view that may still be considered desirable."

The sentence above appears three times in the Jupiter LCVIA. That word of course is "still"
What Clouston's expert is saying is that after radically changing the view you love, there **still** may be parts of it between, above or below turbines that you might **still** have an attachment for and hence, vegetative screening may not be an acceptable mitigation strategy.

This from a landscape consultancy that is apparently assessing the Visual Impacts from their second Australian wind farm, Biala being their first, and have no experience assessing the visual impacts on residences less than 2kms from a turbine for an Australian wind farm, of which Jupiter has 63 (Biala had no non-associated residences within 2km of a turbine), and have no experience in vegetative screening using Australian flora in Australian rural conditions for Australian wind farms.
Of the 59 residences rated by this inexperienced consultancy as having a High or Moderate/High Visual Impact, the effectiveness of the proposed vegetative screening was assessed from the residence, let alone the residence and its curtilage, <u>for only 19 of them.</u>

The original EIS was rejected by departmental letter signed October 16, 2015[1] for a number of reasons including:

> "there is insufficient consideration of specific mitigation measures that could be implemented to avoid and/or minimize the high or moderate/high visual impacts of the project: the assessment relies on generic planting measures and there is little evidence of any meaningful consultation with the affected landowners or the consideration of alternative mitigation measures such as the use of negotiated agreements"

That sentence is as true today as it was 15 months ago. What has changed? What has the developer done to address this rejection issue that caused the Department to reassess the revised EIS as "satisfactory"
I guess all they had to do was to "consider" specifics and alternatives.

The Visual Impacts of wind farms on surrounding non-associated residences can be mitigated to various degrees by the following strategies:

- Removal of the whole wind farm
  Normally the province of the PAC.
- Removal of one or more turbines or groups of turbines
  Normally the province of the PAC or the Department although some DAs are submitted with the developer having this fall-back strategy in mind.
- Resiting of turbines
  Not an option here, as Epyc has little Project Area flexibility
- Resizing
  Not common for a new wind farm. The damage to the landscape in a pristine area commences with the first turbine, whatever its height or power
- Voluntary acquisition of highly impacted residences
- Meaningful benefit sharing schemes (negotiated agreements)

[1] Please see Appendix A for the rejection letter. This letter was obtained under a GIPAA request which was fought by the developer. The Department's GIPAA staff were supportive. The whole process took many months.

Fourteen months after initial EIS rejection, there is no mention in the accepted EIS of any successful takeup of the Epyc Benefit Sharing Scheme. There is either no such takeup, or Epyc is withholding relevant data from the EIS.

- Vegetative screening

  Fourteen months after initial EIS rejection, there is no mention in the accepted EIS of any successful takeup of "vegetative mitigation agreements"

- Correctly coloured, non-reflective turbines

  Forget it. That will happen, but be of little use as turbines will be above or below the ridgelines, depending on the elevation of the multiple close private viewpoints.

For all practical purposes, Epyc has put all its chips on "generic" vegetative screening.

What do various parties say about vegetative screening?

The Planning Assessment Commission:

> "The Commission agrees that the increased proximity of the turbines to non-associated residences will result in visual impact on these properties. The proposed vegetation screening may in some instances be ultimately sufficient to reduce/block the view when it has achieved adequate height, but the vegetation screen itself will change the outlook and vista of the residence. In other cases, the screen will not be adequate to mitigate the imposing view of a close-by turbine. "[2]

The Department:

> "Vegetation screening, or the planting of trees and shrubs, to visually screen wind turbines or other potential visual impacts from view may be an option for selected viewpoints. However, this mitigation option should not be the first that is considered. A key reason for this is that visual impact issues often cause conflicts between the community or individual residents and the proponent's proposed wind energy project, and people value landscapes and particular views of the landscape. Vegetation screening can potentially remove such views. Given this, it should be kept in mind that mitigation using vegetative screening will be subject to further consideration by the consent authority. However, in appropriate situations and where residents have requested vegetative screening of proposed wind turbines, this mitigation option can be useful.
>
> Due to the great height of most wind turbines compared to that of surrounding trees, generally the vegetation must be relatively close to the viewer to be effective.
>
> In addition to vegetation as a mitigation tool to screen views to wind turbines, consideration should also be given to the potential for existing vegetation to be lost, removing visual screening that may have been relied upon to ensure reduced visual impacts from wind turbines. Loss of vegetation can occur through circumstances such as trees falling over due to senescence, trees blowing over in wind storms, trees being chopped down, or trees burning down in bushfires."[3]

This last phrase is prophetic. The Department and its advisors should look at all the trees planted on "Red Hill", just north of Barnet on the Braidwood/Goulburn Rd, over the last 15 years. They would have provided some visual mitigation. Few will survive the Capital wind farm fire of January 2017. The house site, marked by the container, is no longer protected. (This property, with residential rights, will now have sweeping views of Jupiter North and Jupiter Central, 38 turbines being within 5kms. It has been ignored in the EIS, seemingly with Departmental approval, in spite of the requirements in the Jupiter SEARs)

Also, the 33 kV powerline along the Braidwood/Goulburn Rd, whether above or below ground will be constructed at the expense of the existing roadside screening.

---

[2] Page 6. NSW Planning Assessment Commission Determination Report, Gullen Range Wind Farm Project (MP07_0118), Upper Lachlan Shire LGA, 2 October 2014

[3] Page 39.Wind Energy: Visual Assessment Bulletin, December 2016

The developer and their consultants:

> "Whilst screen planting can be highly effective in blocking or filtering views of the WTGs, the impact is often of a highly local nature and can remove parts of the view that may still be considered desirable. New screen planting around affected dwellings would likely reduce some of the visual impact ratings recorded within the assessment however, may not be acceptable to the landholders."[4]

The LCVIA Executive Summary notes (with my interspersed comments):

> "E8 MITIGATION
>
> • WTGs are by their nature tall and visually prominent[5]. The turbine design and location is limited by functional requirements and minor changes such as colour choice and reflectivity are unlikely to change the visual impact enough to alter any impact ratings recorded within this report."

Turbine locations are really limited by a combination of insufficient host leases and the 63 residential dwellings/appoved DAs within 2 kms.

> "• new screen planting around affected dwellings would likely reduce some of the visual impact ratings recorded within this report. This solution may be effective for some landowners based on the location of their dwelling"

Note the qualifiers "likely", "may be" and "some" in this and previous sections. The author is not showing much confidence in the only mitigation strategy offered.

> "• the expected unmitigated and mitigated (through screen planting) visual impacts of the 59 dwellings identified as having Moderate/High to High visual impacts are shown in Figure E2 and E3
>
> • whilst screening planting can be highly effective in blocking or filtering views, the impact is often of a highly local nature and can remove parts of the view that may still be considered desirable. The extent and nature of appropriate mitigation measures for private receptors should be subject to consultation and agreement with individual property owners."

So far it would appear no such mitigation agreement has been reached with anyone. The author is still showing a total lack of confidence in the team solution.

The fact that any landscape architect can propose that <u>all</u> HIGH Visual Impacts on residences in the Jupiter ZVI can be ameliorated by vegetative screening is not credible.[6]

Most of the above quotations in the Jupiter LCVIA were copied, virtually word for word, from the Biala LCVIA. It is always interesting to note what is left out. The very next sentence was:

> "The most effective mitigation measures will involve siting, design and screening of ancillary facilities such as the substation and access roads."

A tame statement for Biala with no residences within 2 kms, became impossible to leave in the Jupiter EIS with the implication that vegetative screening next to residences was ineffective.

It is a clear admission that there is no effective mitigation strategy for the turbines that is acceptable to this developer. All other infrastructure can and should cause no visual impact to viewers. Substations should be placed remotely and directly shielded by topography and adjacent screening, similarly with buildings. Onsite and connecting power transmission lines should be underground. We'll have to live with access tracks on the host property. It is something most of us have become used to within our current rural views. Those looking down on the turbines and their new access tracks may have a revised opinion.

---

[4] Jupiter EIS. Main Report. Page 11.35

[5] In a number of places in the Biala EIS and the RTS, this sentence reads: "WTGs are by their nature tall and visually intrusive". Why was it changed?

[6] For this chapter we will assume the VI ratings and numbers as offered by Cloustons are correct, which they of course, are not.

Interestingly, from the Moorebank Intermodal Terminal LVIA, the Jupiter LCVIA author Matthew Knight, "verified"**:**

> "4.1.4 Off Site Mitigation
> Any attempt to provide mitigation in the way of screening vegetation off site such as within the public domain in Carroll, Leacock and St Andrews Parks runs a risk of limiting existing regional views and the value to the community. It is recommended that this is not pursued."[7]

Let us examine further what Clouston Associates say about vegetative screening in the Jupiter LCVIA:

> **Screen Planting**
> The potential visual impact of the Project from specific view locations could be mitigated by planting vegetation close to the view location. For instance, tree or large shrub planting close to a dwelling can screen potential views to individual or groups of turbines. Similarly roadside tree planting can screen potential views of turbines from particular sections of road.
> The location and design of screen planting used as a mitigation measure is site specific and requires detailed analysis of potential views and consultation with surrounding landowners during the detailed design phase. Planting vegetation would not provide effective mitigation in all circumstances and can reduce the extent of existing desirable views available from dwellings and public areas.
> **Screen Planting Effectiveness**
> It is important to acknowledge the following key points regarding screen planting:
> • the species and type of vegetation used will directly impact effectiveness. Dense foliage and branch structure will screen views better than thinner branches and fewer leaves. Denser plantings would, however, also block more light leading to greater over shadowing - refer Image 6.1 and 6.2
> • evergreen species will screen views throughout the year whilst deciduous trees will allow filtered views during winter months
> • trees can take many years/decades to reach maturity. Planting should be of advanced stock to create an instant screening effect
> • quick growing hedges may offer a better screening outcome than trees
> • screen planting will be more effective where it bolsters existing planting to fill in gaps
> • screen planting tends to be less effective on elevated dwellings with panoramic views. In these situations the large view frame requires a much greater quantity of screen planting, increasing the potential for plant failure
> • screen planting mitigation is often of a highly local nature and can remove parts of the view that may still be considered desirable.[8]

Not very convincing, is it? As if we'd consider deciduous trees (although eucalypts after being ravaged by Christmas beetles run them a close second)

Also, in describing viewpoints which are subject to High sensitivity in the VIA (page 60), Mr Knight defines:

> "living areas or gardens/balconies of residential properties with direct views of Project."

This urban variation of the departmental term "curtilage" implies that vegetative mitigation must be impossibly wide and dense on day 1 of operation or before.

<u>The Land and Environment Court</u>

In a number of sections of the Jupiter EIS, ERM has cited Taralga Landscape Guardians Inc v Minister for Planning and RES Southern Cross Pty Ltd [2007]
ERM, conveniently of course, leaves out sections of the judgement that do not support their case.
Regarding the property "Cloverlee" (one of the two properties Chief Justice Preston determined should be

[7] Page 90. Moorebank Intermodal LCVIA, 23/02/2015
[8] P126. LCVIA

offered voluntary acquisition – also conveniently omitted from the Jupiter EIS as a mitigation measure) his Honour said:

> "199 Although it was suggested to me that such a house could, effectively, be constructed within what amounted to a vegetated compound to shield it from the visual impact of the turbines, I do not consider that such a design option which shut out all parts of the otherwise pleasant rural aspect would be appropriate."[9]

This residence would effectively have to be surrounded by screening vegetation, just like some non-associated properties on Lower Boro Road.

I also note that the Cloverlee property did not have an approved DA.

Southern Tablelands LGAs

Even some of our local councils understand the issue.

> "Existing and proposed screenings may be used to minimise visual impacts to non-related properties. However, due to the height of turbines, screening is not the preferred method of minimising visual impact.
> Turbines shall be located in positions so as to have minimal visual impact on nearby properties, especially existing dwellings and lots on which dwellings may be constructed;"[10]

This Council also recognises that the impact should be minimal on the whole property, not just the residence.

Other jurisdictions

The most recently published guidance document on wind farms in Australia outside of NSW is "Policy and planning guidelines for development of wind energy facilities in Victoria" released in June 2015, published by the Department of Environment, Land, Planning & Water.
Under the section headed:

> "The following measures are suggested to reduce the visual impacts of wind energy facilities" (pages 32 and 33),

It **does not mention** the additional planting of screening vegetation. The closest it gets is the recommendation:

> "minimising removal of vegetation"

Jupiter LCVIA consultants in another life.

Clouston Associates, then more so an urban landscape architect, in its peer review study of the Collector wind farm LVIA for the NSW Department of Planning, quoted this mitigation recommendation from the original LVIA done by Green Bean Design, without comment:

> "Planting of vegetation close to key view locations which have high visual impact rating."

Don't these landscape architects realise the incompatible nature of these statements. So we have a key view location which will see the wind farm so we block out the view of the wind farm and the view from the key view location at the same time.

Screening of views from public roads is equally ineffective, especially in this location where the rainfall is modest and the soil not conducive to rapid growth. This can be seen along the Braidwood Rd, near Barnet Drive where hosts planted the fast growing weed Cupressocyparis Leylandii some years ago. Growth has

[9] http://www.austlii.edu.au/cgi-bin/sign.cgi/au/cases/nsw/NSWLEC/2007/59
[10] Upper Lachlan Development Control Plan 2010, Page 93

been spasmodic and unhurried, if at all. Besides, roadside planting of conifers is only effective until the next cigarette butt is thrown.

It is time for the Department and developers to recognize what we all know: wind turbines cannot be screened by future plantings.

New screening next to residences, by definition, has a visual impact as great as the industrial visual pollution it is trying to hide.

It is time to move on to alternative mitigation strategies, towards which the Department has been unsuccessfully trying to move Epyc.

The ultimate mitigation strategy, of course, is to move the wind farm to an area where the Visual Impact is minimal (or not build it at all). Failing that, offending turbines can be shifted to where they are not visually intrusive, or removed altogether.
If the developer can't provide these mitigation measures, the resultant visual impact on many properties will be high enough to warrant "Benefit Sharing Agreements", but only at compensation levels commensurate with the losses sustained.

For owners of residences where the overall impact (including noise pollution) is even more severe, the Department knows, and has endorsed, the solution: buyout rights at independently assessed pre-wind farm valuations plus transaction costs plus a margin for disruption.

<u>Some final thoughts for the Department</u>.

Given that, for a given screening tree height,
- the closer the residence to the turbine, the closer the tree has to be to the house, and,
- the taller the turbine, the closer the tree has to be to the house, and,
- turbines are 200 metres tall in some yet to be built NSW wind farms:

Has the Department considered whether the recommended planting of large eucalypts or conifers next to residences is consistent with best practice fire safety?
Has the Department considered whether the suggested vegetation screening strategy aligns with the RFS and NSW Government endorsed 10/50 Vegetation Clearing Scheme?
Has the Department considered whether the recommended planting of large eucalypts or conifers next to residences is consistent with property insurance contracts?
Has the Department considered that the planting of vegetative screening next to some dwellings is in contravention to their original DA?
Can the Department point to any instance of successful vegetative mitigation in NSW wind farms for multiples of initially unscreened residences?

The consultants for the Jupiter wind farm have admitted that the Visual Impact on a record number of non-associated residences is High. In the absence of any successful mitigation strategy, the DA must be rejected in finality. No developer, especially Epyc, deserves three chances.

Appendix A – Letter of rejection

Planning Services
Resource Assessments
Phone: 9228 6487
Email: david.kitto@planning.nsw.gov.au

Mr Ibrahim Eid
Project Manager
EPYC Pty Ltd
Level 5, 44 Miller Street
NORTH SYDNEY NSW 2060

Dear Mr Eid

Jupiter Wind Farm Project (SSD 13_6277)

The Department has reviewed the Environmental Impact Statement (EIS) for the Jupiter Wind Farm Project to determine whether it is suitable for public exhibition, and whether the Department should accept the Development Application (DA) for the project.

During this review, the Department has identified several matters that must be addressed prior to the EIS being placed on public exhibition.

These matters include:

1. Inadequate consultation with affected non-host landowners, particularly in relation to the development of potential mitigation measures to address predicted exceedances of relevant criteria or significant impacts. This is particularly important given the fact that there are 59 non-host residences and 4 approved non-host residences located within 2 kilometres of the project's turbines.
2. Inadequate landscape and visual impact assessment:
    - the assessment does not include a detailed assessment and photomontages of the potential impacts of the project on all of the non-host residences within 2 kilometres of any turbine, as required by the Secretary's Environmental Assessment Requirements, nor some of the critical non-host residences beyond this area where high visual impacts are predicted (particularly the Roseview Road and Lakeview Road areas);
    - there is insufficient consideration of the specific mitigation measures that could be implemented to avoid and / or minimise the high or moderate - high visual impacts of the project: the assessment relies on generic planting measures and there is little evidence of any meaningful consultation with the affected landowners or the consideration of alternative mitigation measures such as the use of negotiated agreements.
3. Flaws in the noise impact assessment:
    - The assessment does not comply with *ISO 9613-2 Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation*, and uses a modified method that has not been endorsed for use in NSW by the Department or the Environment Protection Authority;

- the assessment uses the IEC 61400-11 standard rather than ISO 1996.2 standard to assess the potential tonality impacts of the project, as required by the draft *NSW Planning Guidelines Wind Farms* (2011);
- failure to provide the minimum quantity of worst case data points in accordance with the relevant South Australian guidelines, and to justify the low data coefficients (R^2 values); and
- insufficient consideration of the specific mitigation measures that could be implemented to avoid any exceedances of the relevant noise criteria, including the use of negotiated agreements.

4. Lack of consultation or evidence of agreement with Airservices Australia about the scope of the study for air navigation facilities, and that a detailed study could be deferred to the post approval stage of the project.
5. Insufficient detail on the proposed 33 kV transmission line to enable its potential impacts to be properly assessed, and no land owner's consent from the relevant road authorities for the lodgement of the DA in areas where the transmission line is located within public road reserves.
6. Lack of detail on the nature of the agreements with involved landowners, and the extent to which these agreements cover the potential impacts of the project.

Under the *Goulburn Mulwaree Local Environmental Plan* (LEP), the northern portion of the project is prohibited. While Clause 89 of the *Environmental Planning and Assessment Act 1979* allows a consent authority to approve a State Significant Development application that is not wholly prohibited, the EIS contains insufficient consideration of:

- the project against the aims, objectives and other provisions of the LEP, or reasons why the project should be approved notwithstanding the prohibitions in the LEP; and
- the suitability of the site, paying particular attention to the growing rural - residential character of the surrounding area.

For these reasons, the Department has decided to reject the DA under Clause 51 of the *Environmental Planning and Assessment Regulation 2000*.

I would appreciate it if you would revise the EIS to address these issues, and submit the DA and revised EIS to the Department as soon as practicable.

The Department would be happy to meet with you to discuss any of these matters in more detail.

Yours sincerely

DKitto 16/10/15

David Kitto
Executive Director
Resource Assessments and Business Systems