

Crookwell 3 Wind Farm Landscape & Visual

Purpose

Green Bean Design was engaged to prepare a landscape and visual impact assessment (LVIA) of the Crookwell 3 Wind Farm. The report was updated in June 2012 in response to the *Draft NSW Wind Farm Planning Guidelines*.

Green Bean Design assessed the potential visual impact of the wind farm for the residential view locations within the 10 km viewshed.

Photomontages from 21 view locations were selected and prepared to represent the views to the proposed wind farm, including photomontages from non-associated dwellings located within 2km of the proposed turbines.

The assessment adopted a theoretical wind turbine with the maximum dimensions from each turbine model under consideration. This ensures that the LVIA has adopted a 'worst case scenario' and should be considered conservative in nature.

Key Findings and Impacts

The landscape surrounding the Crookwell 3 Wind Farm has an overall 'medium sensitivity' to accommodate change. Large portions of the Southern Tablelands landscape have been heavily modified post European settlement.

The LVIA determined that the Crookwell 3 Wind Farm would not be an unacceptable development within the NSW/ACT Border Region Renewable Energy Precinct.

A total of 124 residential view locations were identified within the 5km Crookwell 3 Wind Farm viewshed. In addition, 87 residential view locations were identified within the 5km to 10km Crookwell 3 Wind Farm viewshed.

Tables 1 and 2 outline the visual impact rating on residential view locations within the Crookwell 3 Wind Farm 5km viewshed and 10km viewshed respectively.

Table 1: Summary of visual impact rating within 5km viewshed

Visual Impact Rating within 5km viewshed (total from 124 residential dwellings)						
	Nil	Low	Low to Moderate	Moderate	Moderate to High	High
Crookwell 3 South	71 (57%)	30 (24.5%)	5 (4.5%)	8 (6%)	7 (5.5%)	3 (2.5%)
Crookwell 3 East	33 (27%)	55 (45%)	10 (8%)	8 (6%)	4 (3%)	14 (11%)

Table 2: Summary of visual impact rating between the 5km to 10km viewshed

Visual Impact Rating within 5km to 10km viewshed (total from 87 residential dwellings)						
Areas A and H	Nil	Low	Low to Moderate	Moderate	Moderate to High	High
Crookwell 3 South	30 (34%)	57 (66%)	-	-	-	-
Crookwell 3 East	87 (100%)	-	-	-	-	-

The findings show that:

- 19 of the 124 residential view locations within the 5km viewshed would have a potential High or Moderate to High visual impact from the Crookwell 3 East site.
- 10 of the 124 residential view locations within the 5km viewshed would have a potential High or Moderate to High visual impact from the Crookwell 3 South site.
- The residential view locations between the 5km and 10km viewshed would experience a Nil to Low visual impact.

A total of 16 public view locations were identified in the assessment. It was found that all of the public view locations have been determined to have a Low or Nil visual impact.

While there are opportunities for direct and indirect views from residential dwellings, and sequential views from some road corridors, there is unlikely to be a significant increase in visual impact arising from cumulative impacts. This is due to screening and partial filtering of views from residential locations and the undulating landform and tree cover alongside road corridors.

Night time lighting

Night time obstacle lighting has the potential to create a visual impact for a small number of residential view locations.

It is important to note that night lighting of the turbines may not be required.

Visual impacts caused by safety lighting at night would be greater from exterior areas rather than from within homes, as room lights tend to reflect and mirror internal views in windows, and curtains/blinds tend to be drawn.

The intensity of night time lighting is considered to diminish over 3 to 4km from the lit turbines, and would likely be screened by topography and vegetation.

Pre-construction and construction

The majority of pre-construction and construction activities are temporary in nature and are restricted to certain areas. Therefore, it is unlikely to result in an unacceptable level of visual impact for their duration and temporary nature.

Response to Findings

The following mitigation measures are intended to reduce the potential visual impacts of the Crookwell 3 Wind Farm:

- Consider options for use of colour to reduce visual contrast between turbine structures and the background, e.g. off white rather than white, and a matt finish.
- Avoid use of advertising, signs or logos mounted on turbine structures, except those required for safety purposes.
- Design and construct site control building and facilities sympathetically to the setting.
- Consider options for planting vegetation for screening purposes in the vicinity of nearby residences and along roadsides to screen views of turbines, in consultation with local residents and authorities.
- Undertake revegetation and offset planting at areas around the site in consultation and agreement with landholders.
- Enforce safeguards to control and minimise dust emissions.
- Restrict the height of stockpiles to minimise visibility from outside the site.
- Minimise activities that may require night time lighting, and if necessary use low lux (intensity) lighting designed to be mounted with the light projecting inwards to the site to minimise glare at night.
- Minimise cut and fill for site tracks and revegetate disturbed soils as soon as possible after construction.
- Maximise revegetation of disturbed areas to ensure effective cover is achieved.
- Consider the transmission line route selection process to avoid sensitive view locations and loss of existing vegetation where possible.

Existing View



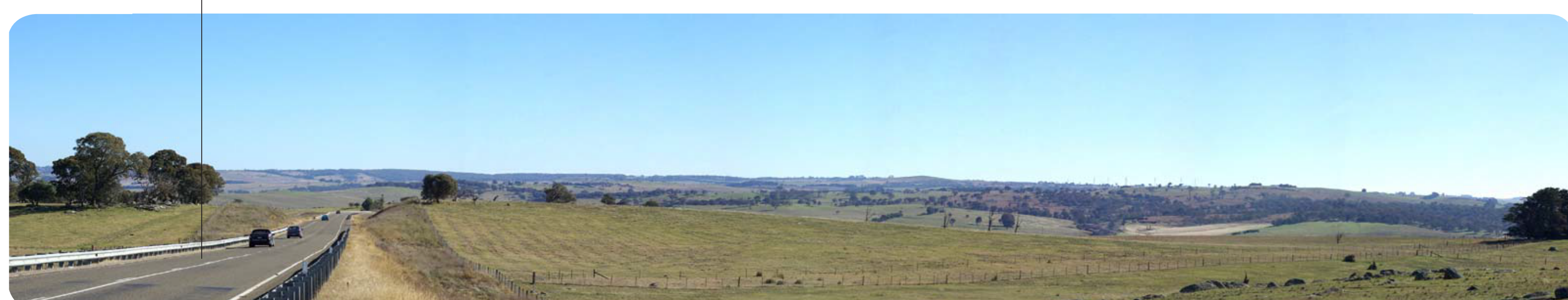
Photomontage Location P: Residential dwelling, Winddalee (R65) (Distance to closest turbine - 1km*)

Mount Wayo



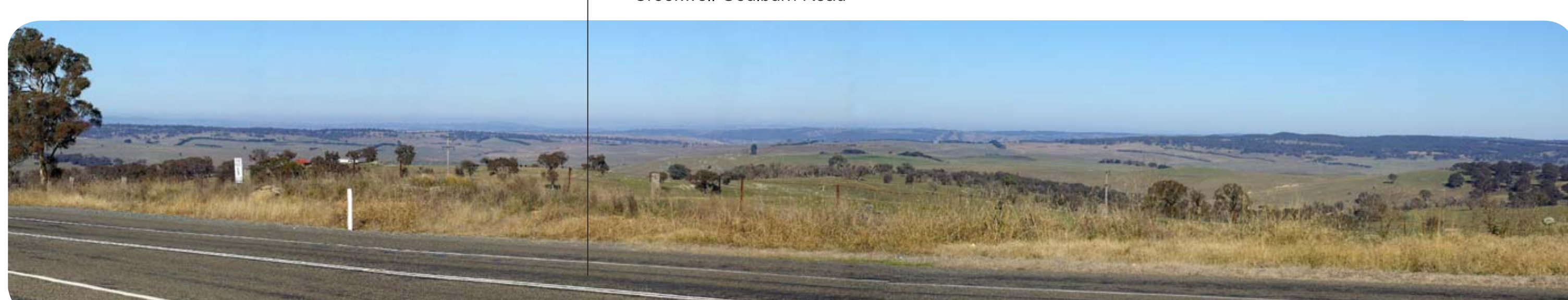
Photomontage Location B: 'Narangi' non associated property (R8) (Distance to closest turbine - 1.1km)

Crookwell Goulburn Road



Photomontage Location D: Goulburn to Crookwell Road (view from road corridor) (Distance to closest turbine - 2.5km)

Crookwell Goulburn Road



Photomontage Location L: Crookwell to Goulburn Road (view from road corridor) (Distance to closest turbine - 1.9km)

Proposed View (includes other known approved wind farms)



Photomontage Location P: Residential dwelling, Winddalee (R65) (Distance to closest turbine - 1km)

Mount Wayo



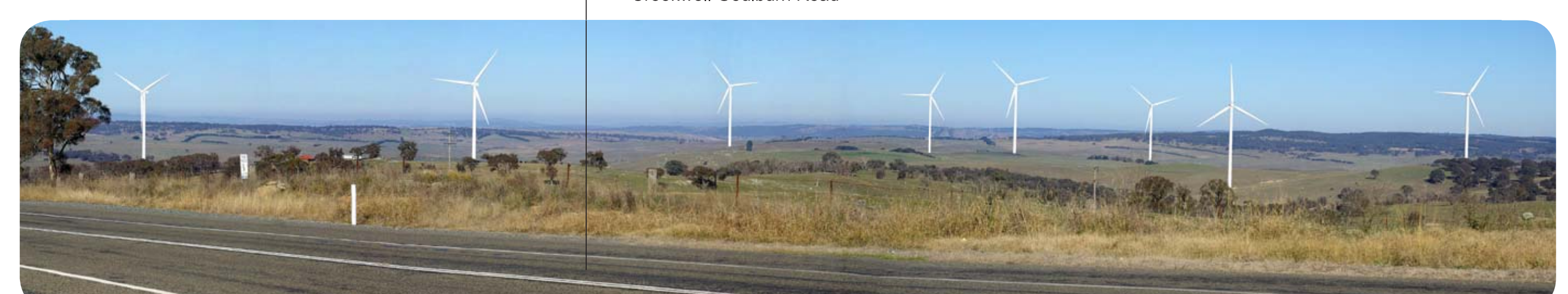
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Photomontage Location L: Crookwell to Goulburn Road (view from road corridor) (Distance to closest turbine - 1.9km)

* This is a correction from the Landscape and Visual Impact assessment Photomontage Location P