

AB's WIND ENERGY FACILITY (WEF): EASTERN CAPE PROVINCE COMPARATIVE VIEWSHED ANALYSES

Dear Sir/Madam

Rainmaker Energy wishes to amend the dimensions of their wind turbine infrastructure for the AB's wind energy facility.

Analysis of the wind resource, as well as technology changes have resulted in proven turbines that capture more energy for a given wind speed. These turbines would be better suited to the site and more electricity will be able to be produced at the wind energy facility.

The intended amendment includes:

- The increase of the maximum hub height of the wind turbines from 90m to a maximum hub height of up to 95m
- The increase of the rotor diameter from approximately 100m to a maximum of 118m.

These increased dimensions translates to a practical comparison of the original turbines with a tip-height of 140m above ground level, to the amended turbines with a tip-height of 150m above ground level. These dimensions are considered as a worst-case-scenario in the comparative viewshed analyses.

Please see attached map for a Comparative Viewshed Analysis that addresses the potential visual exposure of both the original wind turbines and the proposed amended (increased dimensions) wind turbines.

The Comparative Viewshed Analysis indicates the potential visual exposure of the wind turbine infrastructure at 140m tip-height and the potential additional visual exposure at 150m tip-height.

The total surface area potentially visible (utilising the 140m tip-height wind turbines) is 281km² and is expected to increase by only 6km² when utilising the 150m tip-height option. This implies a virtually negligible 2.1% increase in potential visual exposure. The **area of additional visual exposure** is not expected to encompass any additional sensitive visual receptors (observers at residences and homesteads within the region), as indicated in the Visual Impact Assessment report.

The proposed increase in wind turbine dimensions is also not expected to significantly alter the influence of the WEF on *areas of higher viewer incidence* (observers travelling along national, arterial/main or major secondary roads within the region).

The proposed increase in turbine height is consequently not expected to significantly influence the anticipated visual impact, as stated in the original Visual Impact Assessment report.

Kind regards

LM du Plessis (PrGISc)
Director: MetroGIS (Pty) Ltd.