



SDI Review Form 1.6

Journal Name:	<u>Physical Science International Journal</u>
Manuscript Number:	2015_PSIJ_16699
Title of the Manuscript:	Estimation of wind power potential of six sites in Eastern Cape Province of South Africa
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<u>Compulsory</u> REVISION comments	1- In which hub turbine height was calculated all the parameters? 10 m? 50 m? This information is very important, because the data were collected at 10 m. The most turbines are installed at least at 20 m of the ground. For projects involving wind conversion system, it is required to estimate Wind speeds at various elevation (Safari & Gasore, 2010). For this, it uses the Logarithmic Law, which is the simplest way to estimate the wind speed at an elevation from measurements on a reference level. 2- Describe the type of turbine are being used to discuss the results (model??) 3- How much time the turbine must be working to be considered financially suitable? Furthermore, only the places where the turbines produce energy at least in 50% of the time are suitable for electric power generation (Goswami, 1986). 4- Is there in South Africa, some type of “wind potential map”, to compare the results? 5- Why put the Rayleigh distribution in the methodology? (line 201) It is unnecessary.	The hub height used for calculations has been added. The Logarithmic Law was not used since the data was collected at this height. No wind turbine parameters were used in the calculations. The calculations estimated the wind potential at 10 m height. Specific turbines and relevant heights would be considered for next paper. The wind turbines have to be operational for at least 50% of their time. This has now been included in the paper. The results have been compared with the South Africa WASA wind resource map. The Rayleigh distribution methodology has been removed.



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	6- Include in the discussion the influence of the local altitude difference, between the places, in the data collected.	The influence of local altitude was included in the discussion
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<u>Minor</u> REVISION comments	Line 40: write more about small and large turbines (cut-in, cut-off speed, hub height) Line 57: “According to Mostafaeipour et al. (2013) one year of wind speed data is sufficient to represent the long-term variations in the wind profile within an accuracy level of 10 percent”. It is not necessary has three years of data, one year is acceptable. Line 70 to 98 lines: should be in Methodology, including Figure 1 Improve the Figure 1: the names are illegible and the legend should be better Line 110: The Weibull distribution function was used <u>to</u> analyse the wind data to ascertain the wind power potential and obtain the wind speed characteristics for the province Line 117: which anemometer?? (model??) Table 1: the height differences had any effect on the results? Line 139 to 145: better explain which type of turbine is referring (commercial wind turbines???, size, MW) Line 147: put the unit in “c” (m s^{-1}) Line 190: the equation is unconfigured Line 191: separate kg m^{-3}	Line 40: Wind speeds have been added. Cut-in wind speeds have not been given since no specific wind turbine has been used in the calculations. Line 57: Other authors suggest use of more years to increase the reliability of results so I decided to use five years as suggested by reference 8. This part has been moved to methodology section Figure 1 has been improved Line 110: The missing word “to” has been added to the statement. Line 117: The cup anemometers used by the South African Weather Services (SAWS) to measure the wind speed are placed at 10 m height. No change was made. Effect of height on results has been discussed Line 139 to 145: Amended Line 147: Units have been put. Line 190: The equation has been configured Line 191: Separated
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	Line 122: the middle equation has a mistake (v_{cut-00}, double “o”???) Line 257: cannot be read Figure legends: the legends should be improved, because they are blocking reading of some data. Standardize the legend location. Figure 5: increase the value of the Y axis Characterize in terms of “W” (kW, MG) what is large turbines for grid connection and turbines for stand-alone systems. <u>All references used by reviewer are in the paper: Potential for wind energy generation in Piracicaba, SP, Brazil</u>	Line 122: corrected Line 257: Line moved down from under Figure 2 and can be read Figure legends have been repositioned Figure 5: Value of Y axis has been increased Rule of thumb for wind speeds has been used for characterisation instead of “W” (kW, MG) I am surprised by this coincidence. This is my first time seeing this paper.
<u>Optional/General</u> comments	Line 65: PDFs Line 165: separate “vi is” Line 180: 10 to 50 m	Line 65: Corrected Line 165: Separated Line 180: Corrected