Title of Article: Wind Power Potential and Integration in Africa

Author(s): COA. Awosope et al.

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Abstract: Wind energy penetration into power networks is increasing very rapidly all over the world. The great concern about global warming and continued apprehensions about nuclear power around the world should drive most countries in Africa into strong demand for wind generation because of its advantages which include the absence of harmful emissions, very clean and almost infinite availability of wind that is converted into electricity. This paper shows the power available in the wind. It also gives an overview of the wind power potential and integration in some selected Africa countries like Egypt, Morocco, South Africa and Nigeria and the challenges of wind power integration in Africa continent are also discussed. The Northern part of Africa is known to be Africa’s Wind pioneers having installed and connected the Wind Energy Converters (WEC) to the grid. About 97% of the continent’s total wind installations are located in Egypt, Morocco and Tunisia. Research work should commence on the identified sites with high wind speeds in those selected Africa countries, so that those potential sites can be connected to the grid. This is because the ability of a site to sufficiently accommodate wind generation not only depends on wind speeds but on its ability to interconnect to the existing grid. If these wind energy potentials are tapped and connected to the grid, the erratic and epileptic power supply facing most countries in Africa will be reduced; thereby reducing rural-urban migration and more jobs will be created.