

# Invest strategically in wind and solar farms in Africa, study recommends

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A sustainable future for Africa can be achieved through strategic investment in wind and solar farms, reveals an Africa-wide study from the Environmental Change Institute, University of Oxford.

The analysis shows investments by multilateral financial institutions and

development banks in Africa can significantly contribute to decarbonising the continent's power systems. Solar and wind sites are identified for investment based on favorable climate, grid reliability, socio-economic conditions, suitable landscape, and political stability.

Egypt and South Africa currently provide the most favorable sites for renewable investment. Investments in solar in optimum sites identified in Egypt, for instance, would cost 29.7% less per unit of energy generated than gas power stations. In South Africa, windfarms in optimum locations would cost the country 16.7% less per unit of energy than if it were to build more coal power plants.

"Investments in the continent must also be geared towards improving grid infrastructure and reliability to handle utility-scale renewable energy investments, notably in Sub-Saharan Africa," states co-author Nick Eyre, Professor of Energy and Climate Policy.

The findings are vital because investments made in African power so far have been "distinctly uncoordinated."

"Coordination among donors and knowledge of where to invest in order to make a significant impact, are crucial," says Oxford Environmental Change and Management former researcher and lead author Dr. Jay Doorga. The European Union, World Bank and African Development Bank should take heed of the findings, he says.

Dr. Doorga concludes, "A diversification of the energy mixture away from [fossil fuels](#), brought about by strategic utility-scale renewable energy investments at optimum sites and improvement of infrastructures and administrative frameworks, would help avert a potential fossil fuel lock-in and constitute a milestone in the African power sector decarbonisation issue."

"Geospatial multi-criteria analysis for identifying optimum wind and solar sites in Africa: Towards effective power sector decarbonization" was written by Dr. Jay R.S. Doorga, Professor Jim W. Hall, and Professor Nick Eyre.

**More information:** Jay R.S. Doorga et al, Geospatial multi-criteria analysis for identifying optimum wind and solar sites in Africa: Towards effective power sector decarbonization, *Renewable and Sustainable Energy Reviews* (2022). [DOI: 10.1016/j.rser.2022.112107](https://doi.org/10.1016/j.rser.2022.112107)

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