

The likely size and sustainable development impact of South Africa's Wind Energy Sector in 2050

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Motivation

The economies of renewable energy is dictating an accelerated transformation of the energy sector. An opportunity presents for the associated infrastructure investment and economic/socio-economic development to be approached holistically, to ensure sustainable development is achieved during this clean energy transition. It is important that South Africa not miss this opportunity.

Problem Statement

Maximising the development potential requires a longer-term view of market growth prospects, looking beyond the short-term ups and downs of the economic and political cycle – that are indeed very difficult to forecast. What is the likely size of the wind energy market in South Africa by 2050? What investment is required for and what are the potential, associated ED/SED benefits in achieving this projected market growth?

Methodology

The study considers technology developments, global commitments, international and local planning projections and the context created by various, relevant South African policy developments to suggest a most likely growth trajectory. The concomitant environmental, employment and economic and socio-economic development benefits for South Africa are also projected, drawing on global benchmarks and indicators from the local experience, where available. This will be placed in the context of global efforts to imbed sustainable development in the clean energy transition.

Results

If no artificial constraints are imposed, the South Africa wind sector is likely to reach 85MW by 2050, creating in the order of 120,000 employment opportunities within the wind industry. Similarly, water saving, emission reductions, economic and socio-economic benefits can be realised. Given this long-term vision, the authors will share thoughts on the status quo of wind energy procurement in the country and how wind industry stakeholders might think about planning for the short, medium and long term.

Conclusions

The international community is on a journey towards a low carbon future that imbeds sustainable development. South Africa has explicitly joined these twin objectives in the procurement system for renewable energy under the REIPPPP. A considered transition can move the country further towards its energy justice and sustainable development ambitions.