

The Eskom Standoff and South African Renewables

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Eskom, South Africa's leading electricity provider, is responsible for generating around 95% of the country's electricity. The public firm mainly relies on coal for its power generation, and by extension so does South Africa – more than three quarters (77%) of the nation's energy needs are derived from coal.

In July 2016, Eskom caused alarm in the sector when it announced that it would not sign any independent power producers (IPPs) onto the South African power grid. Under the rationale that solar photovoltaic (PV) and wind-generated power were too expensive, the firm has since delayed the implementation of renewable energy contracts. Eskom stood by its coal-driven electricity programme "...due to lack of suitable alternatives"¹, whilst also pursuing an expensive nuclear build.

This refusal threatened to undermine the Department for Energy's targets. Through the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), the department aims to increase South Africa's renewable energy capacity to over 17 gigawatts (GW) by 2030. This would be achieved through independent private contracts, first procured in 2011. Great progress has been made towards the department's shorter-term goals, but the plan has stalled due to Eskom's refusal to sign on such projects. Therefore, there is still some way to go to meet goals for 2030, when it is aiming for 20% of the country's energy capacity to be sourced from renewables. Onshore wind power currently has a capacity of around 3.5GW, and photovoltaic power around 2.3 GW, mainly driven by projects from the REIPPPP.

Saying that investments in renewable energy projects resulted in a net loss of R9 billion to the South African economy in 2016², Eskom committed to its argument that renewable energy is too expensive, although its methodology has been criticised for not taking into account the long-term benefits of renewables over coal³.

While the first generation of renewable IPPs in South Africa was relatively costly, the price of renewables per kilowatt-hour (kWh) has fallen drastically since. In the first IPP bid window (up to November 2011), solar energy tariffs stood at a relatively expensive R3.65 and wind power cost R1.51 (per kWh). These prices have consistently fallen in successive rounds. In the latest IPP bid round, the kWh cost of both wind and solar fell to R0.62. This is significantly cheaper than Eskom's average cost of supply of R0.82/kWh⁴. It is also cheaper than nuclear power based on total cost⁴. The evidence that renewables are the cheapest source of grid power at the moment is indisputable; the question is now of how cheap they can get – recent bid prices (in Rand) for solar PV have been as low as R0.49 in Mexico, around R0.41 in Chile, and R0.34 in Abu Dhabi.⁵

Naturally, renewable energy sources can be variable and need to be complemented with more constant power sources such as gas or hydroelectricity. On favourable days, renewables can produce large amounts of energy, but a constant flow of energy cannot always be guaranteed, requiring supplements from a more constant source; but a mixed system can offer numerous price and environmental advantages.⁶

¹ http://www.eskom.co.za/AboutElectricity/ElectricityTechnologies/Pages/Coal_Power.aspx

² <https://www.moneyweb.co.za/news/south-africa/eskom-committed-to-renewables-at-affordable-cost-pace/>

³ <http://90by2030.org.za/2017/01/17/eskom-wrong-about-renewable-energy-costs/>

⁴ http://www.ee.co.za/wp-content/uploads/2016/10/New_Power_Generators_RSA-CSIR-14Oct2016.pdf

⁵ <https://www.dailymaverick.co.za/article/2016-10-18-comparative-analysis-the-cost-of-new-power-generation-in-south-africa/#.WLbonW-LS00>

South Africa has favourable solar and wind resources, with few land constraints. Furthermore, many other countries have developed a far more mixed energy strategy, with integration of renewables as per-unit costs continue to fall, helping to lower energy tariffs. Therefore, Eskom's choice to delay the uptake of renewable energy makes little economic sense. The firm's statement that they "...remain committed to renewables at a pace and cost the country can afford" seems at odds with its patent lack of commitment to such projects, stalling renewable uptake as these sources become ever cheaper compared to non-renewables.

Such delays could put the brakes on economic progress. South Africa's infrastructure is of slightly higher quality than sub-Saharan counterparts, but still compares poorly with developed economies. In particular, South Africa's electricity supply ranks well below those in developed European economies, as well as China and the US (see Figure 2). The quality of South Africa's infrastructure is only marginally above that of India, whose per-capita incomes are around four times less than in South Africa.

Poor infrastructure is costly to any economy, as connectivity, energy and transport are fundamental to efficient industries, but energy infrastructure is particularly important as energy costs are absorbed by almost all producers and consumers. Delaying progress of energy infrastructure and putting it behind government targets is likely to be particularly costly to the South African economy, as indirect costs of not adopting cost-effective renewables are felt across all sectors and industries. South Africa has a young, growing workforce, priming the country for further economic growth. However, poor quality infrastructure will undoubtedly delay this progress.

Infrastructure investment returns large benefits, and Cebr has found that every £1 spent on infrastructure boosts GDP by £1.30 in the UK, given various multiplier effects to boost economic activity through key supply chains such as construction and manufacturing. Furthermore, the cost of cancelling or delaying infrastructure projects comes at a considerable cost. Cebr estimates that the postponement of infrastructure investment leads to further negative knock-on effects and will discourage investment. In the UK, we calculate that a one-month transport infrastructural delay translates to around £2 billion worth of lost investment-related GDP over the following five years. In South Africa, the REIPPPP attracted R196BN of investment from 2011 to 2016 and aimed to attract another R550BN by 2020⁶. Subject to the same multiplier observed in the UK, these investments until 2020 would return around £715 billion in South Africa, however this will be significantly reduced if progress is delayed.

The postponement of infrastructural spending is also likely to delay investment in South Africa. Thus, Eskom's hold-up on the renewable energy sector in South Africa is likely to create similarly negative effects. One of the principal successes of the REIPPPP was its ability to encourage foreign direct investment (FDI), to the extent that South Africa was in the top 10 countries for renewables investment in 2014. Investment in South African renewables saw a more than twenty-fold increase between 2011 and 2012, the first year of the REIPPPP.⁷ In five years, the number of operational wind turbines in the country grew from eight to around 550.

Thankfully, the impasse now appears to have been broken, with South African president Jacob Zuma directing Eskom to sign outstanding PPAs last month in his State of the Nation Address. According to energy minister Tina Joemat-Pettersson, the standoff has now been settled.

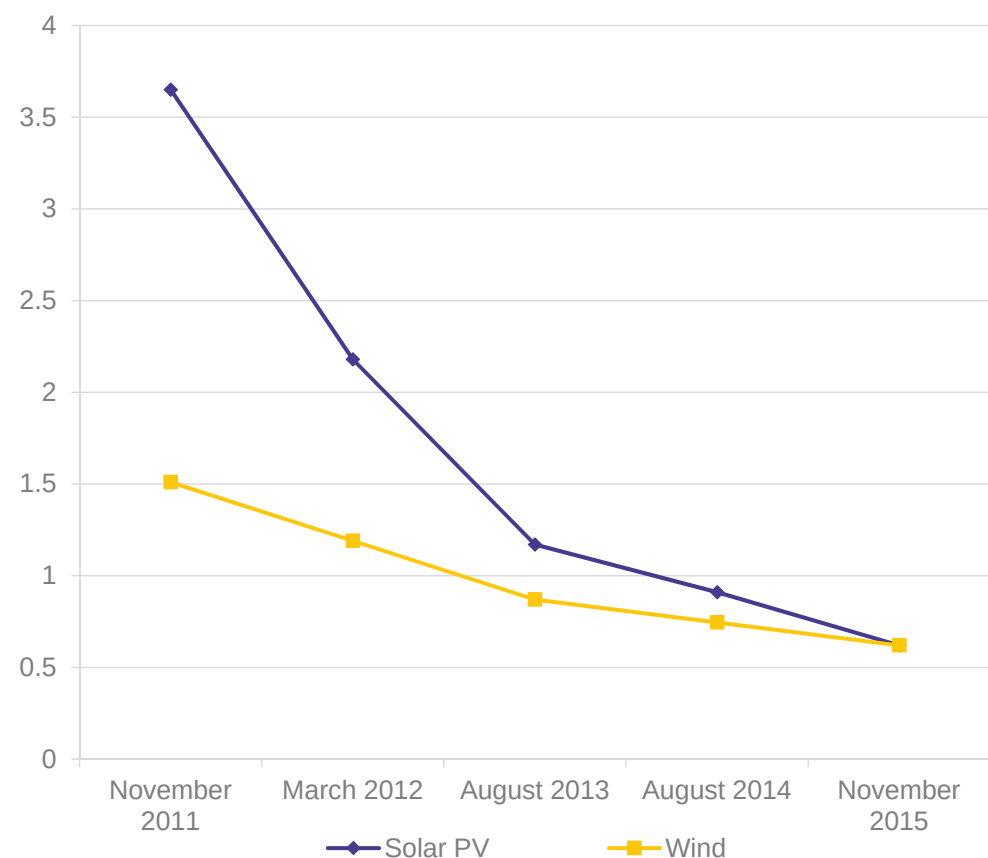
⁶ <http://www.fin24.com/economy/investing-in-renewable-energy-brightens-returns-in-sa-20160601>

⁷ <http://www.rechargenews.com/wind/1186457/south-africas-renewables-impetus-grinds-to-a-halt>

However, the reason for the standoff remains a concern. Through controlling the mechanism by which new suppliers can enter the market, Eskom is in control of the market in which it operates. This is problematic as the firm effectively holds the cards for South Africa's future energy mix. If Eskom's targets are ever at odds with policy planners, then standoffs seem likely. As one commentator puts it, Eskom "...cannot be a player and a referee".⁸

A form of power-sector restructuring is common in many Western and emerging economies. Many such reforms have opened the way for private generators to trade in power to the national grid, further boosting the capacities of alternative energy sources. This kind of restructuring and reform may be just what is needed to revitalise South Africa's energy sector.

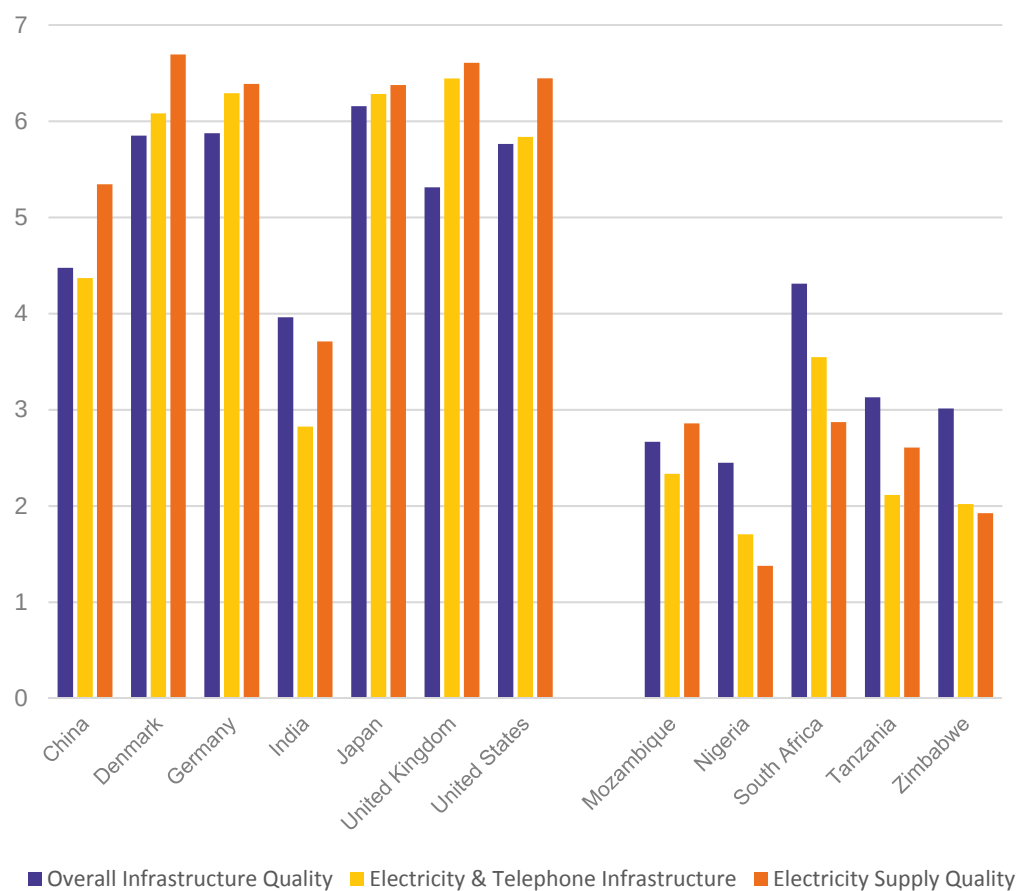
Figure 1: Average tariff in Rand/kWh, in different REIPPPP bid windows:



Source: Council for Scientific and Industrial Research, South Africa

⁸ <http://www.businesslive.co.za/bd/opinion/2016-10-25-expect-legal-challenge-if-eskom-sticks-with-its-irrational-procurement-course/>

Figure 2: Quality of overall and electricity infrastructure and electricity supply, five SSA economies and international comparators, 2015-16



Source: Global Competitiveness Indicators, World Bank

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