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Time to rethink monopoly state utility model of power generation

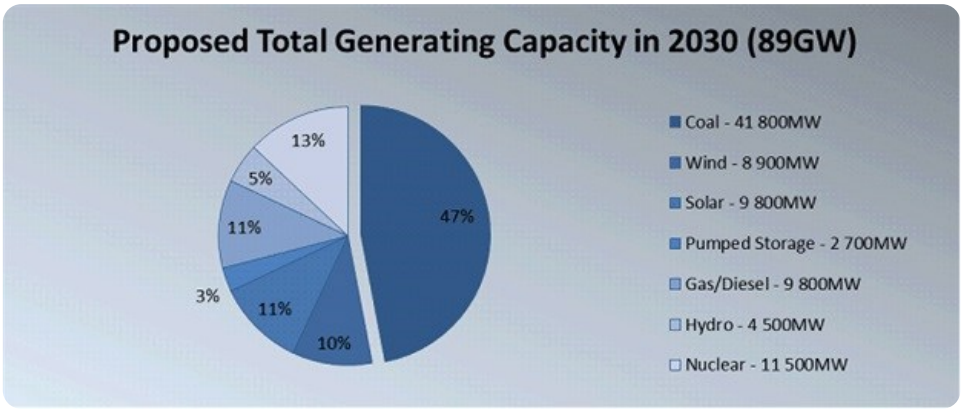
By Peter Marais 18 Feb 2016

President Jacob Zuma's State of the Nation Address (SoNA) gave little indication of how it plan to afford 9,600MW of new nuclear power capacity in the next decade. He hinted that nuclear would only be rolled out on a scale and pace that South Africa can afford, but who determines that affordability?

Nuclear is an expensive energy resource compared to coal, which South Africa has an abundance of, and even solar PV and onshore wind are cheaper per kWh than nuclear at current market prices. Internationally nuclear build programmes cost as much as $7,000/KW which - considering our current exchange rate environment - is extremely costly. There is no doubt that South Africa needs a diversified energy mix and needs to look beyond coal to satisfy its signature of the Kyoto Protocol, but what should that energy mix lo like?

The Integrated Resource Plan (IRP) was penned in 2010 and is a roadmap for South Africa's energy futu It dictates what the desired energy mix will be in the year 2030. It was intended to be updated every two years and following an update in 2013, we are still waiting on the next.

Intended Energy Mix According to the IRP 2010 - 2030



Source: Department of Energy 2011

The IRP held various assumptions such as 6% annual economic growth and viewed megaprojects, such a the Kusile and Medupi coal-fired power stations, coming online in time and on budget. We now know that those were both rather optimistic views with neither of them ringing true anymore.

Scenario planning is sometimes at best a shot in the dark and when it comes to the IRP it's a similar situation. The document was intended to be a "living one" that was updated to incorporate current trends, economic indicators and the exchange rate but if that isn't happening, how much of the IRP should we believe and is the proposed mix a realistic view of what South Africa should be generating in 2030?

Nuclear is a feasible energy source in terms of resource availability and South Africa has a 5.5% share of global proven uranium sources according to the most recent update. However, nuclear power generation has declined from a peak of 17.8% of global commercial electricity generation in 1996 to just above 10% 2014 according to the World Nuclear Report 2015. So why is South Africa so focused on it as a major

source of power generation?

Critics speculate

The answer isn't clear from government and over the festive season break a government gazette stated th the process for procurement of nuclear power has begun with countries such as China, Russia, France, South Korea, Japan and Canada all vying for the lucrative contract. That leaves critics to speculate what th driving forces for nuclear are in South Africa.

The Renewable Energy Independent Power Producer Programme (REIPPP) has been a shining light for South African economy and has racked up more than R194bn in investment to date. It has procured more than 6,000MW of clean, carbon-free energy, of which 1,500MW is operational. Programmes like this have been run as competitive tenders that help the country procure power at competitive rates instead of smok and mirror type bidding rounds where the most connected companies win the bid.

It is time to rethink the monopoly state utility model of power generation where a single organisation decid what, who and how our energy is produced.

ABOUT THE AUTHOR

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