

## **REIPPP comes of age**

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**Date: February 2020 (1<sup>st</sup> published: May 2019)**

The Renewable Energy Independent Power Producer Procurement (REIPPP) programme was launched in 2011, out of a need and desire to procure alternative sustainable energy - while simultaneously contributing to social and economic development in South Africa. The programme continues to grow, and now, more than ever, needs to play a pivotal role in the provision of power and general growth of the economy.

### **1. BIRTH OF REIPPP**

The need to diversify South Africa's energy mix was conceived in the 1998 White Paper on Energy Policy in South Africa. The update in 2003 underlined the need for both diversification and cleaner energy sources, in line with South Africa's commitments to the Paris Accord. After several years of policy proposals, analysis and engagement with the private sector, the 2010 Integrated Resource Plan (IRP 2010) was developed. This sets out various technology targets over a 20-year horizon to 2030.

The REIPPP programme, launched in 2011, effectively implements the vision of IRP 2010, with the target of producing 17 800 megawatts (MW) of electricity from renewable energy sources by 2030.

#### ***How does this work?***

The REIPPP programme:

- is a locally honed plan designed to roll out a significant amount of power in a very short amount of time;
- uses a transparent procurement and implementation framework, with key risks mitigated;
- allows Independent Power Producers (IPPs) to submit competitive bids to design, develop and operate large-scale renewable energy power plants across South Africa;
- is driven and overseen by the Independent Power Producer office; and is cost neutral to Eskom, as the full costs associated with the renewable energy IPPs will ultimately be recovered from the users of that energy.

#### ***Other spin-offs***

In addition to the supply of clean energy, the REIPPP programme is designed to contribute to various developmental objectives:

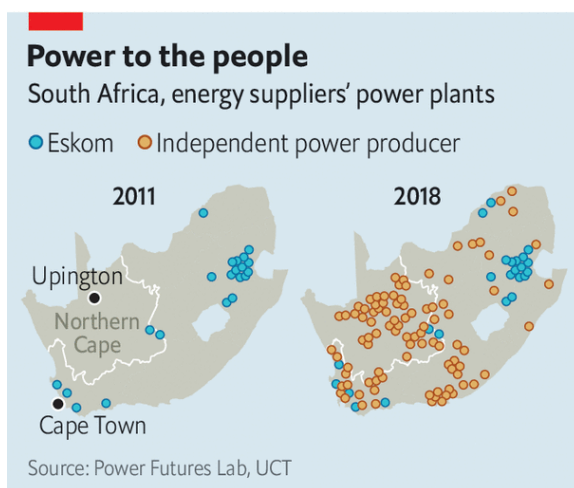
- job creation;
- social upliftment; and
- economic transformation, primarily through broader economic ownership.

The IPP office measures and monitors the performance of each project against these objectives on a monthly basis. If the objectives are not met over time, the power purchase agreement (PPA) could be terminated.

When bids are assessed, price receives a 70% weighting and other development factors 30% (this weighting is updated each bid window).



## 2. GROWTH OF REIPPP



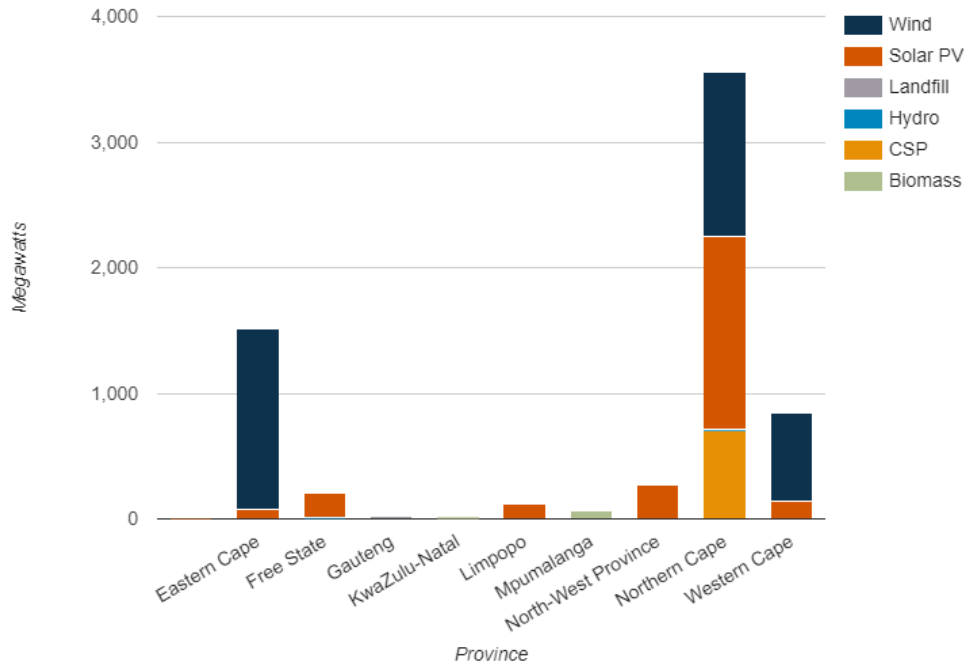
The Economist

**Figure 1** – Source: Power Futures Lab, UCT

To date, 102 IPP projects have been procured from four bidding round windows, with further windows expected to be announced in the future. The projects are spread across the country (as shown in Figure 1), using various technologies (see Figure 2).

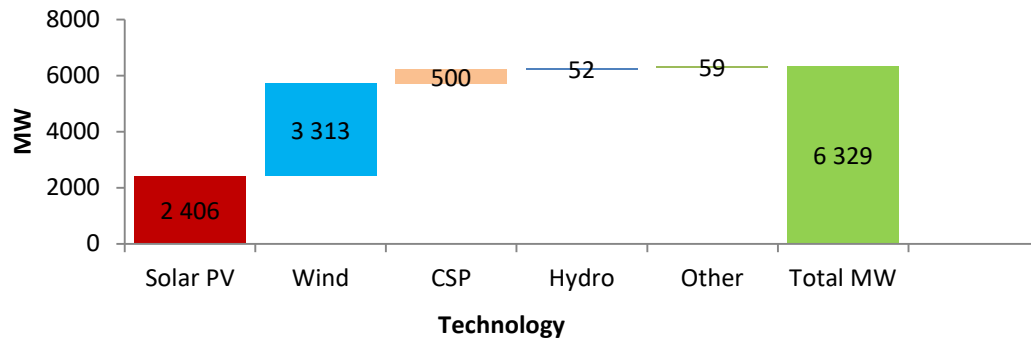
The geographical locations are driven by the strength of the resource used. That is why there is a concentration of solar photovoltaic (Solar PV) and concentrated solar power (CSP) plants in the Northern Cape (where there is plenty of sunshine) and, likewise, a strong presence of wind farms along the windswept Eastern and Western Cape coastlines. (For more information, see [Khubab Wind Farm: making a difference](#) and [CSP: a viable alternative to coal base load power](#) articles).

## SA utility scale RE technologies by province



**Figure 2** – Source: The Energy Blog

A total of 6 329 MW of renewable energy has been procured to date (See Figure 3). Of this, 3 876 MW are currently connected to the grid.



**Figure 3** Source: Department of Energy

### *Price trends positive for consumers*

Encouragingly for consumers (due to the competitive bidding process, innovation and cost reductions) bid window prices have recorded steep decreases with every cycle. As a result, South Africa is now producing renewable energy at some of the lowest tariffs in the world.

Wind technology has decreased from an average bid price of 151c/kWh in Round 1 to 68c/kWh in Round 4. Likewise, solar PV bid prices decreased from 329c/kWh to 82c/kWh in Round 4. Notably, more than 60% of the total power procured thus far has been from the cheaper, last two bid windows.

### *Developmental goals surpassed*

In a relatively short eight-year period, REIPPP has attracted R209.4 billion in committed private sector investment (24% of which is foreign direct investment). This has resulted in much-needed alleviation of some fiscal pressure.



Impact indicators include:

- More than 38 000 fulltime jobs (for one year) have been created for youth and women in the communities surrounding the plants.
- Local communities have benefited from over R1 billion spent by IPPs on education, by upskilling teachers, providing extra teachers and classrooms.
- Over 600 to students from disadvantaged communities have been awarded bursaries.
- The programme has provided health facilities, while contributing to social development through feeding schemes, supporting old age homes and early childhood development initiatives.
- It has helped to establish more than 1 000 small enterprises.

Notably, Black South African equity shareholding in the REIPPP programme has increased with each bidding round:

- On average, South Africans own 48% equity in all IPPs while black South Africans own, on average, 31% of project equity.
- Broad-based Black participation is also secured across the value chain through community participation in engineering, procurement, construction, operations and maintenance, where overall Black ownership amounts to 21%.
- Local community ownership is structured through the establishment of community trusts. Qualifying communities will receive R27.1 billion net income through the dividends from their shareholding over the 20-year life of the committed projects.

The REIPPP programme's contribution to the environment has also been significant. As at 31 December 2018:

- South Africa's carbon emission had been reduced by about 33.2 million tons; and
- water savings of 39.2 million kilolitres had been achieved.



### 3. THE NEXT CHAPTER FOR REIPPP

Problems encountered by REIPPP projects are rare. A developer reported one such occurrence in his case: when a bird dropped a tortoise on a solar panel, smashing the glass. Such issues, while distressing for tortoises, are minor compared with those faced by Eskom, the state-owned utility that supplies 95% of South Africa's electricity. Generally, at least one third of its power stations are broken or shut for maintenance at any one time.

#### *Eskom's woes - REIPPP not the villain (could be the saviour)*

Since 2008, the country has been subjected to episodes of "load-shedding", a euphemism for blackouts when Eskom output cannot meet demand. To date, December 2019 (ironically in the middle of the South African summer) was the worst-ever month for load-shedding, with 6 000 MW taken off the grid, about 13% of Eskom's total capacity (45 561 MW), or enough to power 4.5 million homes. It is frightening to imagine how much capacity would have been taken off the grid if not for REIPPP.

Although the harmful impact on the economy is clear, it appears that load-shedding will be an ongoing phenomenon in our lives, for at least the next 18 months. Eskom's new CEO, Andre de Ruyter, said as much in his recent announcement of a board-approved "philosophy maintenance" model, through which generation units will be serviced in strict adherence to manufacturer-prescribed maintenance schedules, in a bid to break the current vicious cycle of unplanned breakdowns. While this plan will increase the risk of load-shedding over the next 18 months, it will hopefully improve the longer-term performance of the infrastructure, which has been notoriously under maintained for years.

In February 2019, then Energy Minister Jeff Radebe stated that Eskom's financial problems were mostly related to cost increases, including increased interest incurred due to delays in the completion of the Medupi, Kusile, and Ingula projects. "It is therefore clear that the financial losses of Eskom cannot be attributable to the introduction of the renewable energy programme," he concluded. He also pointed out that, although coal jobs are at risk, this is not as a result of the REIPPP programme. Back in 2010 (before REIPPP had come on line),

Eskom had reported that it would be decommissioning some of the older coal-fired power stations that were reaching the end of their commercial and operational lives, and that 13 000 MW of coal-fired capacity was scheduled for decommissioning by 2030.

### ***Eskom unbundling – a glimmer of hope***

The utility is currently “vertically integrated”, meaning that it has a critical role in the three parts of electricity supply: generation (power plants), transmission (the national grid) and distribution (the final power lines). Most rich countries have ditched this monolithic model, as it blocks competition, reduces transparency and deflects accountability.

The intention to unbundle Eskom into three separate state-owned entities (corresponding to the three parts above) was announced in the President’s State of the Nation Address (SONA) in 2019. This would allow each entity to source funding on its own merits. The practical implications of this unbundling are a core part of the new CEO’s challenges. He has indicated that the unbundling will be done in a careful and structured way, in order to minimise risks that could ensue with regards to tax, covenants and employee relations.

If done in a prudent manner, the unbundling could offer a turnaround in some aspects:

- As most of the inefficiencies reside within the generation business unit (such as the construction of the Kusile and Medupi power stations) unbundling could isolate this business unit while allowing the other entities to attract funding at market-related costs.
- If the new distribution entity is allowed to buy electricity at the most cost-effective prices, from both Eskom and other suppliers, it would be able to pass these savings on to the consumer, thereby reducing the overall cost of electricity.
- A distribution entity that is able to buy electricity from whomever offers the most reliable and cost-effective prices would also open the market for smaller producers that are otherwise unable to attract funding without the benefit of Eskom-backed PPAs.

### ***Bilateral supply transactions – is this the answer?***

Eskom’s capacity to service the country’s energy needs will reduce as more coal-fired power stations reach the end of their lifespans between 2023 and 2030. The struggle to complete the Medupi and Kusile power stations is ongoing. Completion of the Thabametsi and Khanyisa coal-fired IPPs by 2023 remains uncertain in light of the continuing funding challenges.

As a result, several private sector companies are investigating opportunities to enter into bilateral supply transactions with IPPs to ensure security of their energy supply.

### ***A case in point:***

- PowerX was granted a license as an electricity trader in 2009, as a “proof of concept”, following a prolonged period of national load-shedding during which Eskom had asked large energy users in Nelson Mandela Bay to reduce their demand.
- PowerX procures (mainly renewable) energy from IPPs outside of the REIPPP and sells it directly to consumers in Nelson Mandela Bay at discounted rates.
- The company is able to procure energy from generators located anywhere in the country through a “Use of Systems/Wheeling arrangement” which allows it to use the respective municipalities’ or Eskom’s distribution network, for a fee.
- In addition to discounted tariffs, customers benefit from a more reliable supply of energy and are able to more accurately forecast tariff escalation rates. Further, customers are able to claim “Renewable Energy Certificates” which provide proof that the power is indeed from a renewable source.

Self generation by mining houses and other large power users who generate significant revenue for Eskom, has historically been prevented as it was viewed as a catalyst for the

death of Eskom, an employer of some 47 000 employees. In light of this, the significance of the very recent announcement by Energy and Natural Resources Minister, Gwede Mantashe, to allow mining houses to generate their own electricity with no limit in capacity and without obtaining a license cannot be ignored. This represents a paradigm shift in government thinking, and has been roundly welcomed by the mining industry. As responsible investors, we have been watching developments in this space with much interest.

### ***The new IRP 2019 – some gains***

After years of debate, the Department of Energy finally published the Integrated Resource Plan 2019 – 2030, in October 2019. While there are some concerns that the plan falls short in several areas, there are some encouraging features:

- In terms of IRP 2019, IPPs are encouraged to bring the commissioning date for new renewables forward from 2025 to 2022.
- The annual allocation for large-scale corporate power purchase agreements has been significantly increased.
- An annual commissioning of 1.6GW of wind energy between 2022 and 2030 has been introduced. This could create as many as 16 000 direct jobs annually over this eight-year period.



The investor community is keenly awaiting the request for proposals for round 5 of REIPPP. This has become urgent if these plants are to deliver electricity to the grid by 2022 as envisaged. Round 5 is set to include higher transformation, localisation and community upliftment requirements than previous rounds.

### ***SONA 2020 – platitudes or action-plans?***

Investors, the business community and ratings agencies alike waited with bated breath for President Cyril Ramaphosa's 2020 State of the Nation Address on 13 February, to see if tangible structural reforms would finally be implemented – with the energy debacle near the top of the list. Ultimately, while many of the stated aims in this regard were welcomed, the speech was long on intentions but short on implementation timelines, as has been the case in the past. This raises the usual concerns on whether the promises made will be seen through to completion. That said, the thrust of the President's words (see the sidebar on this page) signals a leap forward in the REIPPP trajectory.

## IN THE PRESIDENT'S WORDS: SONA 2020

"We are taking the following measures to rapidly and **significantly increase generation capacity outside of Eskom**:

- A Section 34 Ministerial Determination will be issued shortly to give effect to the Integrated Resource Plan 2019, enabling the development of **additional grid capacity from renewable energy**, natural gas, hydro power, battery storage and coal.
- We will initiate the **procurement of emergency power** from projects that can deliver electricity into the grid within 3 to 12 months from approval.
- The National Energy Regulator will continue to register small scale distributed generation for own use of under 1 MW, for which no licence is required.
- The National Energy Regulator will ensure that all applications by commercial and industrial users to produce electricity for own use above 1MW are processed within the prescribed 120 days.
- It should be noted that there is now no limit to installed capacity above 1MW, as long as this is for own use.
- We will **open bid window 5** of the renewable energy IPP and work with producers to accelerate the completion of window 4 projects.
- We will negotiate supplementary power purchase agreements to acquire **additional capacity from existing wind and solar plants**.
- We will also put in place measures to enable municipalities in good financial standing to **procure their own power from independent power producers.**"

*President Cyril Ramaphosa, 13 February 2020.*

## 4. REIPPP COMES OF AGE

It is becoming increasingly evident that Eskom, in its current structure, is not only outdated but also unsustainable. As such, it is inevitable that renewable energy will play an increasing role in the country's future energy mix – and be essential to the country's economic growth.

The restructuring of Eskom needs to be carefully addressed – as a matter of urgency - with a well thought-out and widely adopted strategy to achieve a fair transition from a coal-intensive economy to a low-carbon, climate-resilient economy and society.

Now more than ever, partnerships between corporates and governments need to be strengthened, so that sustainable energy solutions can continue to proliferate. The latest SONA announcements should stimulate a groundswell of pressure from civil society to make these a reality.

The REIPPP programme will continue to make a significant impact on the economy, job creation, community upliftment, economic transformation and climate change. It has already illustrated how socio-economic and enterprise development benefits can be delivered to local and often marginalised communities across South Africa while generating new, clean energy - complementing (rather than competing with) existing power sources such as Eskom and coal.

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