

## Assessment of Private PPA Market Opportunities in South Africa



Developed in conjunction with the Africa New Energy 2017 Conference and Exhibition

This article contains an assessment of private PPA market opportunities and challenges within the corporate & industrial (C&I) segment in South Africa with insight into current and future development potential for wind and solar projects.

### Introduction

South Africa's renewable energy market, the most highly developed in Africa, is in flux. Earlier this year, public utility Eskom appeared to call a halt on further power-purchase agreements (PPAs) with independent power producers (IPPs).

The utility later confirmed South Africa's Renewable Energy Independent Power Producer Procurement program (REIPPPP) was still open for business.

But "it was a scare," according to Tilden Hellyer, research analyst for energy and environment at Frost & Sullivan in Africa. "It put the whole program into a standstill."

Since Eskom is the dominant off-taker in the country, no PPAs from the utility would mean no further opportunities for IPPs. Or would it? One obvious alternative market for IPPs is large power consumers in South Africa's commercial and industrial (C&I) sector.

Since the tariffs bid in round 4 and 4.5 of the REIPPPP were 50% lower than the retail electricity price from Eskom, many C&I electricity consumers are keen to cut costs by buying energy from IPPs instead of from the utility. Many of these consumers also want a more secure source of supply.

The bulk of C&I projects today are roof-mounted solar but there is growing demand for PV on carport structures. As the market for larger projects picks up, there is also likely to be a growing focus on wind, which so far has had a negligible presence in the C&I segment.

While this looks like a great opportunity for IPPs, those pursuing PPAs in South Africa are facing several challenges. This paper outlines the key barriers to this market and why, despite everything, it could boom.

## Regulatory framework

South Africa's regulatory framework is not set up to encourage private PPAs. It is illegal to sell electricity in the country without a generation license issued by the National Energy Regulator of South Africa (NERSA).

Yet, while NERSA has a clear-cut process to award licenses, IPPs report that getting a license is almost impossible in practice because the regulator requires a special letter of dispensation from the Ministry of Energy.

Until now these have only been granted for projects in the REIPPPP.

"I've spent almost two years trying to get that letter signed by the Ministry," said Deepak John, director of Cape Town-based IPP New Southern Energy. "Nobody in the Ministry wants to sign it."

This regulatory roadblock has led to only a small number of very high-profile private PPAs being signed to date.

There are currently only around 10 private PPAs in place, representing some 5 MW of power and about 2-3% of the total C&I capacity in operation, according to Richard Doyle, general manager and chief executive of Mulilo Energy Partners.

## Market challenges

As well as red tape, IPPs face three other significant challenges when contemplating the private PPA market.

### Municipalities

South Africa has eight metropolitan, 44 district and 226 local municipalities. Each municipality benefits from grid electricity surcharges imposed on wealthier consumers. This money subsidizes power supplies to poorer segments of the population.

Municipalities therefore stand to lose out from private PPAs, since electricity surcharge revenues will be affected when consumers choose to produce their own energy and reduce their reliance on the grid.

Furthermore, South Africa does not have specific safety codes for rooftop solar installations, which makes some municipal authorities reluctant to approve projects.

Consequently, municipalities have been found to exhibit an ambiguous attitude towards permitting C&I renewable power projects. "There are some that really open to it and some that make it really difficult," John said.

Municipalities known to be well disposed towards private PPAs include Johannesburg, which has a dedicated department for approvals, and Cape Town, which allows rooftop solar to be fed into the grid.

Durban and Port Elizabeth are also believed to be considering proactive measures for rooftop solar.

### Wheeling charges

Off-takers wishing to consume energy away from the point of production have to rely on Eskom's distribution network to 'transport' the electricity from site to site.

In practice, Eskom admits the energy onto the network and then awards credits against electricity consumed elsewhere. At the same time, though, Eskom imposes so-called 'wheeling charges' to cover the cost of the transport.

These charges depend on factors such as the time of use and points of production and consumption, and can potentially be significant enough to make PPAs uneconomical.

Even where they may not pose a problem at present, off-takers may be concerned about the possibility of the charges going up in future.

### Lack of a secondary market

With the development of private PPAs still in the early stages, there is as yet no secondary market for contracts. This can make it hard to obtain funding since backers may be nervous about possible exit plans for their projects.

### Business models

Since selling electricity onto the grid is a fraught process, the main incentive for installing C&I renewable energy projects is to offset grid electricity fees.

Even then, the regulatory hurdles in the South African market require developers to be imaginative when it comes to business models. The options available include:

- Following the official process for private PPA approval, prescribed by NERSA. As noted above, this option has so far only had limited success.
- Adopting a leasing scheme. This involves a developer paying for a system to be installed on a customer's property and then leasing that system to the customer, with appropriate maintenance charges and guarantees. This is the most common option seen to date.
- Ignoring the approval process all together. This has been a popular option for many small-scale project developers. Up to half of all C&I installations in South Africa may lack approval, according to Lee Smith, senior consultant at OST Energy in Cape Town.

Smith said a possible further option, being considered by some developers, was for the customer to pay for and own a project and then split the savings with the developer once the original debt had been paid off.

## Major players

Developers focusing on the private PPA market tend to be South African IPPs such as Bellmall Energy, BrightBlack, Energy Partners Solar, Evolution Africa, Mettle Solar, Next Renewable Generation, Renpower Group, Romano Sustainable Solutions, Solareff and Weave Energy.

To date only a couple of international players, most notably Juwi and Terra Firma Solutions, have taken an interest in this area.

In terms of off-takers, the biggest customer segment to date has been shopping malls, which have a seven-days-a-week daytime load curve suited to rooftop solar. Hospitals have a similar load curve and represent a growing opportunity for IPPs.

Finally, large industrial power users, such as mining operations, are increasingly looking to deploy renewable energy.

## Current projects

Although there is no publicly available list of private PPAs in South Africa, some of the known projects are listed in Table 1.

Table 1: Known private PPAs in South Africa.

PROJECT	IPP	OFF-TAKER	SIZE (kWp)
Germiston, Johannesburg	Avelar	Dawn Group	166
Klerksdorp Mills	Energy Partners	Pioneer Foods	752
Clayville Plant	Energy Partners	Pioneer Foods	446
Sova Building	Energy Partners	Pioneer Foods	390
Teco Plant	Energy Partners	Pioneer Foods	50
Smollan, Johannesburg	Next Renewable Generation	Smollan Group	140

Sibanye, one of the top 10 gold producers in the world, is currently tendering a project that may be characteristic of larger private PPA deals to come.

Sibanye's power bill represents about 20% of total operational costs and the company has suffered in the past from shutdowns imposed by Eskom.

It is now looking to deploy a range of energy generation technologies, including wind, gas and biomass, starting with a 150 MW solar plant. This will be the first utility-scale private PPA project in South Africa, says Jevon Martin, manager for energy projects at Sibanye.

Sibanye expects its IPP partner to finance, build and operate the solar plant. "Regulations do make it difficult, but not impossible," says Martin.

"The main challenges are that there is no secondary market and it is not very easy to distribute power privately from one entity to another."

## Market forecast

In 2016, up to 100 MW of small-scale (sub-1 MW) plants could be installed in South Africa, according to Lee Smith. This compares to 50 MW installed last year, and is mostly made up of the rooftop PV segment.

As mentioned above, the portion of the installed capacity to date that corresponds to true private PPAs is minimal.

That portion is expected to grow, however, due to the Sibanye tender and others being considered by large industrial concerns such as British American Tobacco and SAB Miller. Richard Doyle estimates around 50% of the C&I market could ultimately be private PPA-based.

Deepak John estimates the C&I segment could become saturated with private PPAs within the next five to 10 years, with up to 15 GW of capacity being installed across South Africa. The market for residential-scale installations could continue growing for longer, he said.

Finally, it is likely that IPPs may increasingly look beyond South Africa for private PPA opportunities. This is particularly the case for international developers.

“We’ve looked at certain projects in South Africa and opted not to do them, primarily because of the country currency risk,” says Ira Green, managing partner at GG Energy Holdings, a developer focused on sub-Saharan African markets.

Because of this, GG Energy Holdings is interested in markets such as Zambia, where it is possible to close US-dollar denominated PPA deals, Green said.



## Next steps

This article has been produced in conjunction with the **Africa New Energy 2017 Conference and Exhibition** taking place in Cape Town on March 7-8, 2017.

The private PPA market is set to boom in South Africa as many IPP's look beyond the REIPPPP for wind and solar development opportunities. To drive the market forwards, executives from Mulilo Energy Partners, New Southern Energy, Nedbank, Eaglestone, Rand Merchant Bank, IDC, DBSA, Metier and others will be discussing Private PPA's and Funding Beyond the REIPPPP at the Africa New Energy 2017 conference and exhibition.

Plan to attend the event and you will join 500 wind and solar executives from leading IPP developers, financiers, EPC's, regulators and local suppliers to unlock new development potential in South Africa and beyond.

**GET THE EVENT BROCHURE HERE**

For details contact organizer Adam Minkley at [adam@newenergyupdate.com](mailto:adam@newenergyupdate.com)

### Top reasons to be in Cape Town for the event:

- Develop business strategies for **Private PPA's and captive power markets** in South Africa and beyond
- **Solve your challenges associated with the REIPPP program**, including local content requirements, IPP grid connection solutions and financing
- Receive **case study updates about all of the flagship CSP, Solar PV and Wind projects in South Africa** – covering all phases of financing, development, construction, operations and maintenance successes
- **Co-located** with the 6th Annual CSP Today South Africa, 4th Wind Energy Update South Africa and 3rd PV Insider South Africa events ensures in-depth technical discussions in the 3 x technology-specific conference tracks

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