

Accelerating Renewables Roll-Out in South Africa

Potential temporary emergency
procurement programme

23. June 2023

Document overview

Objective

This document provides a proposal for a temporary, emergency solution to accelerate the roll-out of renewables to help address South Africa's current energy crisis.

Methodology

The temporary, emergency solution to accelerate the roll-out of renewables is developed using a defined set of boundary conditions including deployment speed, compliance with legislation, utilising only the existing grid as well as unallocated capacity, investment security for Independent Power Producers, and reasonable production cost. Multiple design dimensions have been considered as a part of the potential emergency solution, and the proposed selections for each design dimension consider South Africa's legal framework and energy system characteristics.

Disclaimer

This programme presented in this document is a proposal. The specifics of the programme, and whether the programme is implemented remains the discretion of the South African National Government and will require further analysis.

Contributors

This document was developed by the Climate Neutrality Foundation, with input from Norton Rose Fulbright South Africa Inc. and Boston Consulting Group. Lessons learned from the Feed-in Tariff in Germany have been incorporated.

Executive Summary

Introduction

South Africa currently faces a short-term energy crisis with regular loadshedding due to a 6-10 GW effective generation capacity gap. This has a severe economic impact and could cause a 2% Gross Domestic Product (**GDP**) decrease in 2023. This document provides a potential solution to accelerate renewable capacity deployment as an emergency, temporary programme to help alleviate this short-term energy crisis. If implemented successfully, the proposed programme could bring up to 17 GW of renewables (4 GW of solar Photovoltaics (**PV**) and 13 GW of wind) online within 2.5 years.

The objective of this proposed programme is not to replace the Renewable Energy Independent Power Producer Procurement Programme (**REIPPPP**) nor the Risk Mitigation Independent Power Producer Procurement Programme (**RMIPPPP**) but to rather complement these programmes to bring additional capacity online quickly. The REIPPPP should continue to be streamlined to allow it to bring capacity online faster, and the RMIPPPP bids must be resolved to bring new capacity online rapidly. Fundamental market reform must also continue to ensure the long-term sustainability and efficiency of South Africa's energy system.

Overview of proposed emergency Feed-in-Tariff

Feed-in-Tariff for up to 17 GW of utility-scale solar PV and wind with a 15% premium over REIPPPP

A Feed-in-Tariff (**FiT**) is proposed to minimise the time required to bring new utility-scale capacity online by removing the time-consuming process of selecting preferred bidders. The programme would offer a non-negotiable 20-year Power Purchase Agreement (**PPA**) with a fixed FiT, with a 15% premium over REIPPPP, of 630 R/MWh for solar PV and 910 R/MWh for wind projects greater than 50 MW. The premium is designed to attract developments in the northeast of the country, where load factors are expected to be on average 15% lower for wind, and to compensate for curtailment which will be required to optimise grid utilisation. The programme would be limited to a maximum of 16.8 GW, as additional capacity will either require determinations for the procurement of new electricity generating capacity outside of the guardrails set by the existing IRP or updating the IRP, both of which have long lead times.

Incentivised commercial operation date 2.5 years after programme launch for Independent Power Producers (IPPs) to obtain full Feed-In-Tariff

For IPPs to obtain the full FiT, the output of the rated capacity that is in production must be within 2.5 years of the programme launch. The FiT would decrease by 2% per month for the output of the rated capacity that comes into production after the target commercial operation date, up to a maximum of 12 months, after which, any additional capacity would not benefit from the FiT.

A first-come-first-serve allocation process, with the FiT capacity being allocated to whichever IPPs start producing first, is proposed coupled with a high programme capacity (e.g., 17 GW). This would ensure that no pre-screening, selection, or queuing needs to take place and incentivises IPPs to develop capacity rapidly.

Economic development criteria (e.g., local ownership, community participation) could also be required, but compliance would need to be assessed retrospectively to prevent timeline delays.

To enable producers to assess their business case effectively, information on the unallocated programme capacity, including a list of the size and location of projects, should be made publicly available to reduce uncertainty for interested IPPs.

Curtailment allowed, but disincentivised, to encourage grid optimisation

The proposed concept implies a grid connection obligation by Eskom. This means that there might be local grid situations where a large number of projects will connect (which is desirable) with resulting high levels of curtailment (which needs to be handled). A sliding scale payment regime, which allows for curtailment, but pays less for curtailed energy, is proposed to incentivise IPPs to optimise the use of the current constrained grid capacity, whilst limiting high system costs. Moreover, the model gives an incentive to IPPs to move to regions which are less curtailed. The proposed sliding scale pricing regime is:

- 100% of the fixed rate for energy added to the grid
- 100% of the fixed rate for 0-10% curtailed energy annually
- 50% of the fixed rate for curtailed energy exceeding 10% annually

This regime incentivises IPPs to consider grid capacity in their business case and take on a reasonable share of risk. To mitigate this risk, IPPs are provided a price premium over REIPPPP, allowed to self-consume and sell curtailed energy, as well as use energy storage to resell to the grid at the FiT during periods of no curtailment.

Successful government support under REIPPPP to be applied to mitigate concerns over Eskom's credit rating and attract IPPs

Under the REIPPPP the implementation agreements make provision for the Department of Mineral Resources and Energy (**DMRE**) to bind itself and/or the National Revenue Fund to future financial commitments and provide indemnities to the sellers of electricity under the PPAs entered into with Eskom under the REIPPPP. It is recommended that similar government support be adopted for the FiT as it falls within the current Public Finance Management Act (**PFMA**) framework applied under the REIPPPP (being section 66 and 70(1) of the PFMA).

Estimated impact of proposed emergency Feed-in-Tariff

The proposed emergency, temporary FiT is anticipated to result in at a minimum 12-month faster deployment than the REIPPPP. However, this increased speed comes at an additional estimated cost of approximately 110 R/MWh. Nonetheless, with an estimated cost of 850 R/MWh, the programme is still significantly below Eskom's average WEPS Tariff of approximately 1130 R/MWh and helps rapidly alleviate the severe cost of loadshedding. If the programme adds 17 GW of renewables, this would be four times the maximum 4.2 GW allocation from a Bid Window in the REIPPPP and would almost triple South Africa's 2022 installed solar PV and wind capacity of 5.7 GW.

Risks, interdependencies and their mitigation

There are key risks and interdependencies associated with the FiT, which will need to be managed:

1. Uncertain implementation of the curtailment operating regime

Eskom is currently considering the development of a curtailment operating regime and therefore the curtailment sequence is currently unclear. The uncertainty on the operationalisation of the curtailment regime needs to be addressed as a priority and the process is to be shared with the public transparently.

2. Interdependency with REIPPPP, and its capacity allocation

The FiT, although separate to, may impact the capacity that the REIPPPP may be able to attract. Therefore, collaboration and engagement between the FiT and the REIPPPP is necessary. Key decisions that must be made include the closing of Bid Window 6, determining the capacity and structure of Bid Window 7, and setting the launch date for the FiT.

3. Legal implementation risks

The FiT will require government support similar to the government support provided under the REIPPPP, being the indemnities given by the DMRE under the implementation agreements. The DMRE can only bind the Revenue Fund if it receives consent and concurrence from the Minister of Finance and Minister of Energy under section 66 and section 70(1) of the PFMA. Given the urgency to implement the FiT, the timing of receiving the approvals for the FiT under section 66 and section 70(1) will need to be accelerated.

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1. Context

South Africa currently faces a short-term energy crisis with regular loadshedding due to a 6-10 GW effective generation capacity gap. This capacity shortfall has severe economic consequences and could result in a 2% decrease in GDP in 2023¹. In the mid- to long-term, South Africa needs to install approximately 190 GW of renewables by 2050, or 6-7 GW per year², to ensure its long-term energy security as its aging coal fleet is retired. Therefore, South Africa needs to take action to address both its short-term energy crisis and long-term sustained capacity growth to ensure its energy security.

The RMIPPPP was introduced with the intent of reducing the short-term effective capacity gap by procuring 2 GW of new generation capacity. However, nearly three years after its announcement in August 2020, no new capacity has been connected to the grid through the RMIPPPP, even though preferred bidders were allocated in March and June 2021³. The RMIPPPP has been unable to reduce this short-term capacity gap at the required pace needed to address the energy crisis.

South Africa has primarily utilised auctions to add new renewable capacity to its electricity system through the REIPPPP. The REIPPPP has achieved great success in allocating approximately 11 GW of new renewable capacity to South Africa's electricity system since it was initiated in 2011. However, this total renewable capacity has taken more than a decade to install and is less than half of the 6 - 7 GW that is needed every year for the next 30 years to ensure South Africa's long-term energy security. The REIPPPP's ability to provide a short-term solution is also currently limited given that the time between bid announcement and the preferred bidders reaching commercial operation is three to four years.

South Africa's ability to address the short-term energy crisis has been further limited by the current conservative approach to grid connection and curtailment. The current grid connection rules allocate a generating assets' entire rated capacity to the grid. The utilisation of the grid is not maximised under this approach, since renewables are variable, they will only operate for a limited period at their rated capacity. An example of the impact of the current approach can be seen in the REIPPPP Bid Window 6, where the 3.2 GW of wind power could not be allocated. By relaxing the grid allocation rules and allowing for some overbuild, 3.2 GW of REIPPPP Bid Window 6 preferred bidders, as well as approximately 0.8 GW of private projects, could have added to the grid with only 8-10%⁴ of estimated curtailment. This could be an acceptable cost to bear when considering the far greater costs of loadshedding.

Therefore, to address its short-term energy crisis, South Africa needs a new temporary, emergency programme that can rapidly reduce the current capacity gap while maximising the utilisation of its current grid. The primary priority of this programme is to urgently address the capacity shortfall. Since the primary priority is speed, a trade-off is that the programme may not deliver prices as low as could be obtained through a lengthy auction process.

In the long-term, a streamlined REIPPPP auction process or fundamental market reform is required. Currently, the REIPPPP remains a key part of South Africa's energy capacity growth, and efforts to streamline and improve its efficiency should continue. This needs to be supported through rapid grid expansion to accommodate the new generation capacity. Furthermore, to achieve the scale required, government guarantees need to be replaced with a scalable mechanism to provide investment security (e.g., power market liberalisation to leverage private offtakes as investment guarantees).

¹ Statement of Monetary Policy Committee, South African Reserve Bank (2023)

² It all hinges on renewables, NBI (2022)

³ <https://www.ipp-rm.co.za/>

⁴ EGI Curtailment Study (2023)

This document proposes a potential temporary emergency programme to help address the short-term energy crisis through accelerating the roll-out of new renewable capacity.

2. Proposed temporary emergency programme

This section outlines the key boundary condition inputs into the programme design to enable the objective of rapid deployment. Thereafter, the proposed temporary emergency programme is presented, outlining why the design options were selected. Finally, the anticipated outcome of the proposed programme is compared against the RMIPPPP and the REIPPPP.

2.1 Boundary conditions to allow rapid capacity deployment

The primary objective of the temporary, emergency programme is to add new generation capacity rapidly. To achieve this objective, boundary conditions are needed across six dimensions. These boundary conditions are outlined below.

1. Deployment speed

The programme needs to be faster than both the RMIPPPP and REIPPPP, where commercial operation has been, at the earliest, three years after the bid announcement.

2. Legislation

The programme needs to comply with existing legislation, as new legislation will have a long lead time to implement.

3. Upper limit of 17 GW unallocated capacity available from existing policy

IRP2019, which outlines the new generation capacity for South Africa through to 2030, has unallocated capacities of up to 4 GW solar PV and up to 12.8 GW of wind that could be used. However, accessing this capacity for the programme may require a Ministerial Determination.

4. Grid

The programme is assumed to use only the currently installed grid for new generation capacity. However, the way the current grid capacity is utilised will need to be adjusted. This includes, for example, introducing a curtailment operating regime.

5. Investment security

Eskom's credit rating may not be sufficient to provide the necessary investment security to attract IPPs. Therefore, the programme needs to provide IPPs with investment certainty that mitigates the risk caused by revenue flowing through Eskom.

6. Cost

While the priority of the programme is speed, the programme should ideally add capacity at a lower cost than the current Eskom average WEPS Tariff of 1130 R/MWh⁵ to ensure that it is affordable⁶.

⁵ Eskom Tariffs & Charges Booklet 2023/2024. After the tariff increase of 12.74% increase in 2024 the WEPS will be approximately 1300 R/MWh.

⁶ Note that the effect of reducing load shedding will increase the Eskom's sales and therefore have a dampening effect on the tariff compared to a loadshedding scenario.

2.2 Overview of proposed emergency Feed-in-Tariff

2.2.1 Feed-In-Tariff for up to 16.8 GW of utility-scale solar PV and wind with a 15% premium over REIPPPP

A non-negotiable 20-year PPA between Eskom and renewable energy IPPs is proposed at a standard fixed rate. This standard offer Feed-in-Tariff increases the speed of new renewable energy capacity deployment by removing the process of selecting preferred bidders that occurs in an auction process. In the REIPPPP, this auction process takes 18-24 months from the Request for Proposals to financial close⁷.

The proposed fixed rate for this programme is 15% premium on the maximum tariff for the preferred solar PV and wind⁸ bidders from the REIPPPP Bid Window 6. This results in 630 R/MWh for solar PV and 910 R/MWh in 2022 prices for wind. These rates are sufficient to attract IPPs to this programme, as the Bid Window 6 rates account for the recent global price increases and are profitable for IPPs. This premium will also compensate IPPs for the curtailment risk that could arise in the programme.

Most importantly, the 15% premium accounts for the wind load factor difference between the provinces with high load factors where the REIPPPP projects have typically been installed, and the lower, but still good load factors achievable in the northeast where the grid is less constrained. This difference in load factors is seen in Figure 1. Solar has a up to a 25% difference in load factor between the Cape Provinces, and the northeast⁹. The lower load factor difference for wind is proposed to be used, to avoid unnecessary costs and since the majority of the capacity for this programme would likely be from wind, based on the unallocated capacity from the IRP2019.

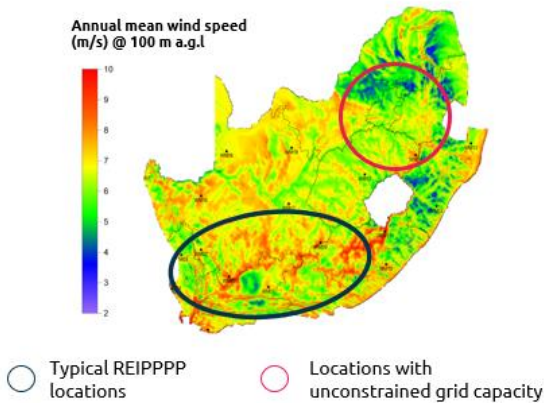


Figure 1: Variation in the wind resource quality throughout South Africa¹⁰

⁷ IPP Office Press Centre: RFP under BW5 of REIPPPP, REIPPPP BW5 – Bids Received on 16 August 2021, REIPPPP BW5 – Preferred Bidders Announced 29 October 2021, Bidders’ Conference – REIPPPP BW Timelines, Delay in REIPPPP BW5 Signing (supplemented by IPP financial closure announcements)

⁸ Although the wind capacity was not allocated in Bid Window 6, the bidders were ranked up to the target capacity of 3.2 GW to determine the price

⁹ Photovoltaic Electricity Potential, Solaris, 2020

¹⁰ Wind Atlas South Africa, SANEDI 2020

Only solar PV and wind technologies are considered for this programme, as they have the fastest deployment rate and lowest cost of all renewable technologies, as seen in Table 1. The minimum asset capacity qualification criterion for the programme is proposed to be same as the REIPPPP, namely 50 MW for both solar PV and wind, to ensure that this programme includes utility-scale capacity only. Since there is an estimated 12 GW of projects that met this criterion but were unsuccessful in the REIPPPP Bid Windows 5 and 6, keeping this qualification unchanged means that these projects may be implemented as is, so that rapid deployment may occur.

Table 1: Renewable technologies deployment time and cost

Technology	Wind	Solar PV	Concentrated Solar Power (CSP)	Biogas
Construction period¹¹	15 – 28 months	13 – 24 months	28 -40 months	24 months
Cost¹²	790 R/MWh	550 R/MWh	1650 R/MWh	940 R/MWh

It is proposed to run the programme based on the total of the unallocated capacity specified by the IRP2019 up to 2030 and aim to add up to 4 GW of solar capacity and 12.8 GW of wind capacity, totalling to 16.8 GW. It would be an important, and much needed, acceleration of the expansion of renewables, corresponding to approximately one third of the renewable energy allocation recommended by the Presidential Climate Commission (60 GW by 2030)¹³.

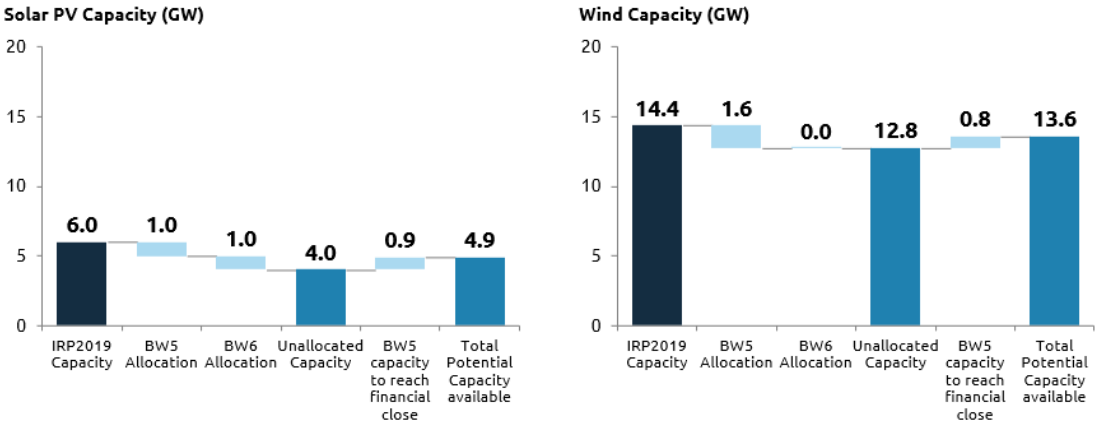


Figure 2: Unallocated Solar PV and wind capacity from IRP2019 ¹⁴

There is currently 0.9 GW and 0.824 GW of solar PV and wind, respectively, that did not reach financial close from the REIPPPP Bid Window 5. If this can be brought into the programme, the total capacity

¹¹ Wind and Solar PV – Clean Energy Pipeline; CSP and Biogas – IPP Office REIPPPP BW3
¹² Wind – REIPPPP BW6 max tariff for top 3.2GW of unsuccessful bidders; Solar PV – REIPPPP BW6 max tariff for preferred bidders; CSP and Biogas – REIPPPP BW3 max tariffs for preferred bidders
¹³ Recommendations from the PCC on South Africa’s Electricity System; Presidential Climate Commission (2023)
¹⁴ Integrated Resource Plan 2019; IPP Office – REIPPPP BW5

then increases to 4.9 GW of solar PV and 13.6 GW of wind. This is the maximum capacity that the programme can deploy currently, as additional capacity would require the Minister to make determinations for the procurement of new electricity generating capacity outside of the guardrails set by the existing IRP or updating the IRP, both of which have long lead times. Once the IRP is updated, the FiT capacity could be expanded in line with the new IRP.

2.2.2 Incentivised commercial operation date 2.5 years after programme launch for IPPs to obtain full Feed-In-Tariff

IPPs would obtain the full FiT for the output of the rated capacity that is in production within 2.5 years of the programme launch. The 2.5-year commercial operation target date allows for approximately six months of planning and two years of development, which is an ambitious, but feasible target for wind and solar PV. To incentivise this target commercial operation date, the FiT would be decreased by 2% per month for the output of the rated capacity that comes into production after the target commercial operation date, up to a maximum of 12 months, after which, any additional capacity will not benefit from the FiT tariff. A first-come-first-serve allocation process, with the FiT capacity being allocated to whichever IPPs start commercial operation first, is proposed for a high programme capacity (e.g., 18 GW). This would ensure that no time-consuming pre-screening, selection, or queuing needs to take place and incentivises IPPs to develop capacity rapidly. Since there are approximately 12 GW of shovel-ready projects, based on the unsuccessful bidders from the REIPPPP Bid Window 5¹⁵ and 6¹⁶, under a high programme capacity it is unlikely that the full programme capacity for both technologies will be reached prior to the target commercial operation date of 2.5 years from the programme launch.

To enable producers to assess their business case effectively, it is necessary that IPPs first register their project that meets qualification criteria (e.g., minimum asset capacity, secured environmental authorisation and existing land rights) to secure their ability to try to achieve the FiT programme cut-off deadline. Further information to be shared at registration needs to include the anticipated size of the project as well as the location. The information should be publicly available at all times to all IPPs. Furthermore, during the programme, the information on the unallocated programme capacity should be made publicly available to reduce uncertainty for interested IPPs.

If economic development criteria are to be included in the FiT application (e.g., local ownership, community participation), the applicant would need to confirm that it would comply with such criteria. Compliance with such criteria would be assessed under the implementation agreements to prevent delays in the developments coming online due to lengthy application assessments.

2.2.3 Curtailment allowed, but disincentivised, to encourage grid optimisation

The current approach to grid connection and curtailment limits the new generating capacity that can be added to the grid. For example, in the REIPPPP Bid Window 6, none of the 3.2 GW of wind power could be allocated even though there would only have been low to moderate levels of curtailment¹⁷. Therefore, curtailment is required to maximise the energy added to the grid.

An obligation to connect IPPs to the transmission infrastructure would allow the shovel-ready projects in grid-constrained areas to be connected to allow rapid capacity deployment. The obligation to connect IPPs to the transmission grid differs from the current grid connection rules, where grid

¹⁵ Press release: Minister Gwede Mantashe announces 5th Bid Window of Renewable Energy IPP Procurement Programme. Only 7 GW capacity exceeding Bid Window 5 target included in oversubscription

¹⁶ REIPPPP Press Release: REIPPPP Bid Window 6- List of all bids received; Only 5.4 GW capacity exceeding Bid Window 5 target included in oversubscription

¹⁷ EGI curtailment study (publication pending)

allocation is based on the rated capacity of generating asset. A grid connection obligation provides the IPPs certainty that they will be able to receive the FiT if they complete their development within the timeline of the programme. IPPs would remain responsible for building the infrastructure to connect to the transmission infrastructure.

To prevent unaffordable system costs under curtailment, an appropriate pricing mechanism is needed.

For a conventional take-or-pay regime to be implemented, Eskom would likely be required to determine the target capacity per region, based on a defined curtailment threshold. This analysis and decision making would result in a timeline delay. On the other hand, a sliding scale pricing regime, which pays less for curtailed energy, would incentivise IPPs to perform this optimisation themselves and take on a reasonable share of risk.

Under a sliding scale pricing regime, IPPs would aim to avoid excessive curtailment and develop in regions in which more grid capacity is available. Since Eskom is still developing its curtailment operating regime, there remains uncertainty on how curtailment will be implemented (i.e., according to which curtailment rules). This uncertainty would require a risk premium. This can be achieved through the proposed 15% premium over the maximum REIPPPP Bid Window 6 tariffs, and by allowing IPPs to self-consume and sell curtailed energy, as well as use energy storage to resell to the grid at the FiT during periods of no curtailment.

The proposed sliding scale pricing system is:

- 100% of the fixed rate for energy added to the grid
- 100% of the fixed rate for 0-10% curtailed energy annually
- 50% of the fixed rate for curtailed energy exceeding 10% annually

By paying 100% of the fixed rate at less than 10% curtailment, IPPs have certainty that minor curtailment will not impact their revenue and business case. For curtailment exceeding 10%, the tariff is proposed to reduce to 50% of the fixed rate. This amounts to 320 R/MWh and 455 R/MWh for solar PV and wind, which is less than the lowest REIPPPP Bid Window 5 tariffs of the projects that reached financial close of 470 R/MWh and 500 R/MWh for solar PV and wind respectively¹⁸. Curtailment greater than 10%, even in the best renewables regions, is not a profitable investment when considering that the Bid Window 5 tariffs do not account for the observed 2022 price increases. This disincentivises IPPs from installing renewables in a region where curtailment over 10% is likely to occur, especially under an uncertain curtailment regime. Consequently, development in the northeast of South Africa is more attractive since curtailment over 10% is unlikely because the grid in this region is significantly less constrained.

2.2.4 Successful government support under REIPPPP to be applied to FiT to mitigate concerns over Eskom's credit rating and attract IPPs

The FiT will require government support to overcome Eskom's credit rating. This support would be similar to the government support provided under the REIPPPP, namely the indemnities given by the DMRE under implementation agreements. These implementation agreements make provision for the DMRE to bind itself and the National Revenue Fund to future financial commitments and provide indemnities to the sellers of electricity under the PPAs entered into with Eskom. This process has been successfully applied through the REIPPPP in all six Bid Windows since the programme's inception in 2011, and the market is comfortable with this process.

¹⁸ <https://www.ipp-projects.co.za/ProjectDatabase>

2.3 Estimated impact of proposed emergency Feed-in-Tariff

The FiT is anticipated to result in capacity being added approximately 12-18 months faster than both the RMIPPPP and REIPPPP, with new solar PV and wind developments in commercial operation within the 2.5 year bounds of the programme. Although the proposed programme is not comparable to the RMIPPPP, as it does not require dispatchable technologies, or load factors of greater than 50%, the programme can complement RMIPPPP to bring on new capacity online rapidly and affordably to help alleviate South Africa's short-term energy crisis.

Compared to the REIPPPP, the increased speed of the FiT would come at an estimated additional cost of approximately 110 R/MWh. Nonetheless, with an average cost of 850 R/MWh, the programme still is significantly below Eskom's FY2023 average WEPS Tariff of 1130 R/MWh¹⁹. In a cost-optimal new-build mix that supplies customer load with 30% solar PV, 50% wind and 20% dispatchable energy source from battery and gas, the calculated cost with capacities procured through the FiT would approximately equal or be slightly below the actual average WEPS Tariff.

This cost savings is even more significant when compared to Eskom-owned Open Cycle Gas Turbine (OCGT) average cost of 4708 R/MWh²⁰, which the new renewable generation capacity from this programme could help reduce. Most importantly, meeting unserved demand will increase Eskom's sales base and therefore have a dampening effect on the tariff compared to a loadshedding scenario.

Table 2: Timelines and costs of Feed-in-Tariff versus existing programmes

Programme	Feed-in-Tariff	RMIPPPP	Current REIPPPP
Speed to commercial operation²¹	1-6 months estimated for planning, plus construction time of: Solar: 13 – 24 months Wind: 15 – 28 months	Target: 16 – 22 months Expected: > 36 months	Target: 24 - 30 months Expected: 36 - 48 months
Potential installed capacity²²	Solar PV: 4 GW Wind: 12.8 GW	2 GW	4.2 GW
Programme average tariff²³	850 R/MWh	1600 R/MWh	750 R/MWh
Eskom average WEPS Tariff²⁴		1130 R/MWh	

¹⁹ Eskom Tariffs & Charges Booklet 2023/2024

²⁰ Eskom 2022 Integrated Report

²¹ FiT – Clean Energy Pipeline; RMIPPPP – The RMIPPPP in Context, RMIPPPP Press Centre and Programme Milestones; REIPPPP – PP Office, REIPPPP Press Centre and Programme Milestones

²² FiT – IRP2019; RMIPPPP – The RMIPPPP in Context; REIPPPP – REIPPPP BW6 targeted capacity

²³ RMIPPPP – Tariff calculated from preferred bidders and the targeted capacity; REIPPPP – Tariff calculated on max BW6 solar PV and wind tariffs and targeted capacity

²⁴ Calculated based on Eskom's WEPS tariff from Tariffs & Charges Booklet 2023/2024. WEPS is used to represent the cost of a new-build mix that supplies customer load. It reflects energy cost without grid losses and hence from the perspective of a generator.

3. Risks, interdependencies and their mitigation

There are key risks and interdependencies associated with the Feed-in-Tariff programme, which will need to be managed:

3.1 Interdependency with REIPPPP, and its capacity allocation

The FiT, although separate to, may impact the capacity that the REIPPPP may be able to attract. Therefore, collaboration and engagement between the Feed-in-Tariff and the REIPPPP is necessary. It is of particular importance to decide whether the unallocated wind capacity from REIPPPP Bid Window 6 is reassigned, as well as the capacity allocated to Bid Window 7, as this will impact the maximum capacity that may be assigned to the FiT.

The objective of the FiT is not to replace the REIPPPP nor the RMIPPPP, but to rather complement these programmes to bring additional capacity online quickly. The REIPPPP should continue to be streamlined to allow it to bring capacity online faster, and the RMIPPPP bids must be resolved to bring new capacity online rapidly.

3.2 Programme capacity threshold being exceeded before target production date by solar PV

The maximum solar PV capacity that can be allocated under this proposed programme is 4 GW due to the limits from IRP2019. This limit could be exceeded prior to the target production date of 2.5 years after the programme launch, as there are 4.5 GW²⁵ of unsuccessful solar PV bidders from REIPPPP Bid Window 6, which are shovel ready projects. This risk could be mitigated by introducing an earlier target production date (e.g., 2 years after the programme launch, or the minimum project capacity can be increased above 50 MW for solar PV) or by increasing the FiT capacity once the IRP is revised. The Minister could also make determinations for the procurement of new electricity generating capacity outside of the guardrails set by an IRP. However, the Minister would need to be astute to demonstrate rationality of such a determination.

3.3 Enabling legislation under REIPPPP that could apply to the proposed Feed-in-Tariff programme

The Requests for Proposals under the REIPPPP state that the primary enabling legislation for the programme is the Electricity Regulation Act. In conjunction with this act, the New Gen Regulations, and the IRP 2019 should be considered alongside the PFMA and the Treasury Regulations. This enabling legislation creates the competency of the DMRE to procure and implement the REIPPPP, as well as governing the procedures the programme must follow. This section of the proposal considers the application of the PFMA and the Preferential Procurement Policy Framework Act (**PPPFA**) and 2022 Regulations (Regulations) to the Feed-in-Tariff.

3.3.1 Competitive bidding process

It has been publicised that in March 2009, the National Energy Regulator of South Africa (**NERSA**) approved the 'Renewable Energy Feed-In-Tariff (2009 REFIT)' programme and guidelines. However, this programme was not implemented, and instead, replaced by the REIPPPP. There have been a number

²⁵ REIPPPP Press Release: REIPPPP Bid Window 6- List of all bids received; 5.5 GW of solar PV bids were received, compared to an allocated capacity of 1 GW

of suggested reasons, by interested parties, as to why the 2009 REFIT programme was not implemented, the most common being that the concept of “Feed-in-Tariffs” constituted anti-competitive procurement and therefore contravened the PFMA and the Constitution of the Republic of South Africa (Constitution).

Section 217 of the Constitution states that when an organ of state in the national, provincial, or local sphere of government, or any other institution identified in national legislation, contracts for goods or services, it must do so in accordance with a system which is fair, equitable, transparent, competitive, and cost-effective. The PFMA was enacted to give effect to this. Eskom, the procurer of the electricity in terms of the FiT, is considered a Schedule 2 major public entity in terms of the PFMA.

In a South African context, competitive bidding is often utilised to ensure a procurement process that complies with section 217 of the Constitution and section 51(1) of the PFMA, despite that both the Constitution and the PFMA do not make any specific reference to ‘competitive bidding’. Goods and services can also be procured by public entities through other processes other than competitive bidding, the only condition being that that process is fair, equitable, transparent, competitive and cost effective. Quotations are an example of an alternative procurement process.

The FiT complies with these requirements, even though it is understood that in 2011, the National Treasury may have received a legal opinion to the effect that a FiT programme did not meet the competitive requirement. A FiT differs from the REIPPPP primarily on the basis that bidders under the REIPPPP compete on price. Under a FiT programme, the price (tariff) is pre-determined and fixed. Applicants under a FiT only compete on the product or service that they can provide, as well as any specific preferential procurement goals set by Eskom. The differentiating factors do not contravene the principle of competitiveness under the PFMA or the Constitution because applicants under the FiT will still be evaluated on these criteria.

Section 51(1)(a)(iii) of the PFMA requires that an accounting authority for a public entity must ensure that that public entity has, and maintains, an appropriate procurement and provisioning system which is fair, equitable, transparent, competitive and cost effective.

The FiT does not contemplate a bidding process by way of submission of a response to a Request for Proposal, and subsequent tender evaluation, and ultimately award. Instead, IPPs will be required to submit an application to Eskom and the DMRE (as the department responsible for the procurement of energy) at the fixed price on a first-come-first-serve basis. Whilst the PFMA does not expressly require that a competitive bidding process takes place, it was noted above that it has become common practice in South Africa for procurement by public entities to be implemented by way of a competitive bidding process.

Since the application process contemplated for the FiT is susceptible to being challenged on the basis that it contravenes the PFMA on account of not being a competitive bidding process, an exemption may be applied for under section 79 of the PFMA or section 92 of the PFMA to deviate from a competitive bidding process. Since Eskom will be the procurer, its accounting authority, the board of directors of Eskom, will make the requests for the deviations required from the National Treasury and the Minister of Finance.

It is worth noting that the procurement principles under the PFMA in terms of section 51 are separate from the government support provisions under the PFMA in terms of section 66 read with section 70(1).

3.3.2 Government support

In respect of the FiT, should government support be provided, such government support will need to be done in compliance with section 66 and section 70(1) of the PFMA.

Section 66 of the PFMA read together with section 70 provides that a state-owned entity (which is subject to the constraints of the PFMA) may only issue a guarantee, indemnity, or security with the written concurrence of the Minister of Finance, given either specifically in each case or generally with regard to a category of cases and subject to conditions approved by the Minister. As such, any guarantee, indemnity, or security given or other financial backing required by Eskom would need to be approved by the Minister of Finance.

To ensure that this government support is provided expeditiously on account of the urgency and emergency of the FiT, it is requested that government look to provide government support (i) at the outset of the FiT and (ii) not specifically in each case but generally with regard to the capacity allocated under the FiT and for which indemnities will be provided by the DMRE under the proposed implementation agreements to be entered into following the application process under the FiT.

3.3.3 Application of the PPPFA

The PPPFA and Regulations apply when an organ of state decides to procure goods and services through a tendering process. Since the FiT envisages a different method for procuring, being procurement through an application process, arguably the PPPFA and Regulations will not apply.

However, even if the PPPFA and Regulations are not applicable, its provisions, in so far as specific goals are concerned, could still be included in the FiT application (for e.g., contracting with persons or categories of persons historically disadvantaged by unfair discrimination) and the applicant would need to confirm that it would comply with such criteria. Compliance with such criteria would be assessed under the implementation agreements to prevent delays in the developments coming online due to lengthy application assessments.

To avoid a potential challenge that the FiT is not in compliance with the PPPFA and Regulations, Eskom may seek, from the Minister of Finance, an exemption from the provisions of the PPPFA and the Regulations. It should be noted that the PPPFA and its Regulations will be repealed when the Procurement Bill becomes law. The Public Procurement Bill aims to consolidate the rules that have been developed over time regulating procurement in South Africa. For purposes of this proposal, there is nothing in the Public Procurement Bill that materially changes the current procurement framework, but that this may well change if the Minister of Finance issues Regulations under that Act, as he is empowered to do.

4. Next steps to implement the Feed-in-Tariff

There are several steps that would need to be taken on an integrated basis to implement the Feed-in-Tariff programme. The proposed next steps to implement the FiT broadly follow or align with electrical energy procurement programmes implemented previously, such as the REIPPPP and RMIPPPP, so as to foster understanding and application through familiarity, and to ensure rapid implementation. The key next steps are proposed in Table 3.

Table 3: Key next steps to programme implementation

Step	Action Detail	Responsible
Feed-In-Tariff	The FiT is set by NERSA, in consultation with the National Treasury, DMRE, and Eskom. The authority for NERSA to determine such tariff lies under section 4(1)(a)(ii) and (b)(iii) read with section 3(1) of the Electricity Regulation Act. It is envisaged that the Feed-In Tariff be determined in the same manner and adopting the same methodology as applied in setting the tariff caps in previous electricity procurements, but mindful of the need to incentivize IPPs to develop projects in areas where there is ready grid connection but renewable energy resource factors are not optimal.	NERSA National Treasury DMRE Eskom
PFMA	<p>Competitive bidding process</p> <p>Whilst the PFMA does not make a competitive bidding process mandatory in all procurements, it has become practice in South Africa for procurement by public entities to be implemented by way of a competitive bidding process. Given the current short-term energy crisis that South Africa faces, the procurement of new generation capacity through competitive bidding is arguably impractical, and the proposed solution of procuring new renewable capacity through the process under the FiT would be justifiable and reasonable in the circumstances. The justifications for this are both urgency and emergency.</p> <p>Government support in terms of section 66 and 70(1) of the PFMA</p> <p>To ensure that this government support is provided expeditiously on account of the urgency and emergency of the FiT, we would request that government look to provide government support (i) at the outset of the FiT programme and (ii) not specifically in each case but generally with regard to the capacity allocated under the FiT and for which indemnities will be provided by the DMRE under the proposed implementation</p>	Eskom Minister of Finance National Treasury

	agreements to be entered into following the application process under the FiT.	
PPPFA exemptions	<p>Since the FiT envisages procurement through an application process as opposed to a bidding or tender process, arguably the PPPFA and Regulations will not apply.</p> <p>If the non-application of the PPPFA and Regulations is challenged, Eskom can seek from the Minister of Finance an exemption from the provisions of the PPPFA and the Regulations.</p>	
Template PPA	<p>A bespoke non-negotiable power purchase agreement is required for successful and expeditious implementation of the programme. It is suggested that a 'streamlined' version of the current template PPA applied in REIPPPP Bid Window 6 be applied. 'Streamlining' may be affected through consideration of the necessity for all provisions pertaining to construction monitoring and facility testing (by way of example).</p> <p>The 'penalty' regime for failure to reach targeted commissioning date would require specific attention, having regard of the recommendations made under 2.2.2 of this proposal.</p>	Eskom IPP Office
Curtailement	<p>The curtailment framework for IPPs participating in this programme, as set out under 2.2.3 of this proposal, must be structured by Eskom. It is assumed that NERSA would be required to approve such framework.</p>	Eskom NERSA
Government Support	<p>Government is requested to provide government support in terms of section 66 and section 70(1) of the PFMA.</p> <p>To ensure that this government support is provided expeditiously on account of the urgency and emergency of the FiT, it is requested that government look to provide government support (i) at the outset of the FiT and (ii) not specifically in each case but generally with regard to the MW allocated under the FiT and for which indemnities will be provided by the DMRE under the proposed implementation agreements to be entered into following the application process under the FiT.</p>	Minister of Energy Minister of Finance IPP Office/DMRE National Treasury
New Determinations	<p>In the event capacity under current Ministerial section 34 determinations is insufficient, a new</p>	Minister of Electricity NERSA

	Ministerial determination for this programme be made.	
Design and implementation of the Feed-in-Tariff programme	<p>The proposed FIT programme is designed utilising the essential elements of prior procurements (REIPPPP and RMIPPPP) to ensure no new learning and to promote efficiency and rapid deployment.</p> <p>The FIT Programme would incorporate all of the outcomes of the steps outlined above and further essential aspects as may be necessary:</p> <ul style="list-style-type: none"> • Technologies – Solar PV and Onshore Wind • Allocable capacity cap and application of ‘First-Come-First-Serve’ principle for qualifying projects • Standard template non-negotiable PPA (streamlined as appropriate from the PPA utilized in prior procurements) • FIT tariff, expressly set at a premium aligned to incentivise development of projects in areas where grid capacity exists but renewable energy resources are lower than the optimal areas where grid capacity is oversubscribed • Curtailment mechanism structured i to disincentivise development in grid congested areas • Government support mechanism • PFMA exemption, if required • Shortened timelines to ensure expeditious implementation <p>Implementation should be in strict accordance with programme requirements and timelines, to ensure expeditious development, connection, and commercial operation.</p>	IPP Office DMRE (in consultation with National Treasury, NERSA, and Eskom)