

A background image of a lit sparkler with bright orange and yellow sparks flying against a dark blue background. A large, semi-transparent blue rectangle is overlaid on the left side of the image, containing the main text.

# Accelerating renewables roll-out

Potential temporary emergency solution

JUNE 2023

# Executive summary

- 1** South Africa faces a short-term energy crisis. **A Feed-In-Tariff (FiT) could provide a temporary, emergency solution to complement existing initiatives** (RMIPPPP and REIPPPP) and bring new capacity online rapidly
- 2** **Proposed temporary, emergency FiT could bring up to 17 GW of renewables within 2.5 years**
  - **FiT for up to 17 GW**, based on unallocated capacity from IRP2019, of **utility-scale solar PV and wind with a 15% premium** over REIPPPP. The 15% premium incentivises IPPs to develop in the northeast and compensates curtailment
  - **Incentivised commercial operation date 2.5 years after programme launch** for IPPs to obtain full FiT. FiT would decrease by 2% per month for the output of the rated capacity that comes into production after target commercial operation date
  - **Curtailment allowed, but disincentivised, to encourage grid optimisation.** An obligation to connect IPPs to grid would maximise the energy added to the grid, but a sliding scale payment regime, which pays less for curtailed energy, would limit system costs
  - **Successful government support under REIPPPP to be applied** to mitigate concerns over Eskom's credit rating and attract IPPs
- 3** The proposed emergency, temporary FiT could result in a **more than 12-month faster deployment than REIPPPP**. However, this increased speed comes at an **additional estimated cost of 110 R/MWh**
- 4** To ensure that the FiT can be implemented rapidly, **key risks and interdependencies must be mitigated:**
  - **Curtailment operating regime needs to be defined** by Eskom, and shared with market to allow IPPs to build their business case
  - **FiT and REIPPPP are interdependent** and should be designed together, in particular, the capacities and launch of each
  - **Regulatory implementation support would need to be provided** given the urgency to implement the FiT

# South Africa needs to address both its short-term energy crisis and long-term sustained capacity growth

## Short-term energy crisis requires a temporary, emergency programme to reduce capacity gap



6-10 GW effective capacity shortfall is driving regular loadshedding



RMIPPPP has not been able to reduce the capacity gap at required pace



Conservative approach to curtailment underutilises limited grid capacity

*Focus of this document*

## Long-term large-scale capacity expansion requires streamlined auction or market reform



~190 GW of renewables need to be installed over the next 30 years as coal fleet is retired



REIPPPP has been successful, but does not yet add enough capacity at required speed



Grid needs to be rapidly expanded to accommodate new capacity



Government guarantees replaced with scalable mechanism to provide investment security

# 6

## boundary conditions to ensure rapid implementation



1

### Increase deployment speed

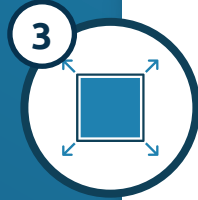
Programme needs to be faster than both RMIPPPP and REIPPPP, where commercial operation has been, at the earliest, 3 years after the bid announcement



2

### Comply with existing legislation

Programme needs to fit within existing legislation, as new legislation will require long lead time to implement



3

### Limit to 17 GW of unallocated capacity from existing policy

Programme could use the unallocated solar PV and wind capacity of up to 4 GW and 12.8 GW respectively, from the IRP2019. This may require a Ministerial Determination



4

### Utilise only existing grid

Programme needs to use the currently installed grid for new generation capacity. However, how grid capacity is utilised can be adjusted.



5

### Provide IPPs investment security

Programme needs to provide IPPs with investment certainty that mitigates the risk caused by revenue flowing through Eskom



6

### Ensure cost-effectiveness

Programme should add capacity at a lower cost than Eskom's average WEPS tariff of 1 130 R/MWh to ensure that it is affordable

# Overview of proposed temporary, emergency FiT



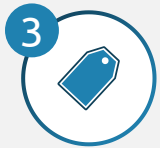
## **Feed-in-Tariff for up to 17 GW of utility-scale solar PV and wind with 15% premium over REIPPPP**

- Streamlined template, non-negotiable 20-year PPA proposed between Eskom and IPPs
- Fixed rate includes a 15% premium on the maximum tariffs from REIPPPP Bid Window 6 resulting in 630 R/MWh for solar PV and 910 R/MWh for wind
- IRP2019 has up to 4 GW solar PV and up to 12.8 GW of wind of new capacity, that has not yet been allocated, up to 2030



## **Incentivised commissioning operation date within 2.5 years for IPPs to obtain full Feed-In-Tariff**

- For IPPs to obtain full FiT, the output of the rated capacity that is in production must be within 2.5 years of the programme launch
- Fixed rate decreases by 2% for every month that project commissioning date misses targeted commercial operation date, up to a maximum of 12 months, after which, any additional capacity would not benefit from the FiT
- First-come-first-serve allocation process, with FiT capacity being allocated to whichever IPPs start producing first
- Economic development criteria (e.g., local ownership, community participation) could be required, but assessed retrospectively
- Information on the unallocated programme capacity, including a list of the size and location of projects, should be made public



## **Curtailment allowed, but disincentivised, to encourage grid optimisation**

- 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
- Self-consumption and selling of curtailed energy, as well as use of energy storage to resell to the grid at the FiT permitted



## **Successful government support under REIPPPP to be applied to mitigate concerns over Eskom credit rating**

- Indemnities given by the DMRE under implementation agreements
- Successful government support under REIPPPP to be applied to mitigate concerns over Eskom's credit rating and attract IPPs



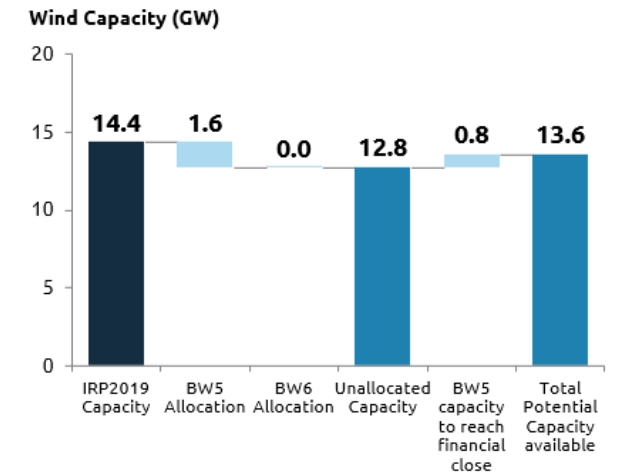
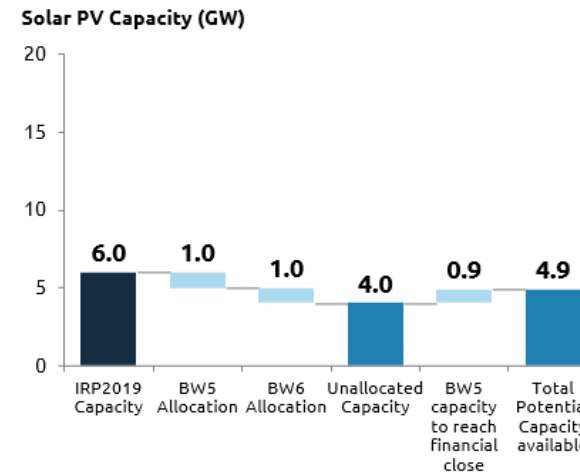
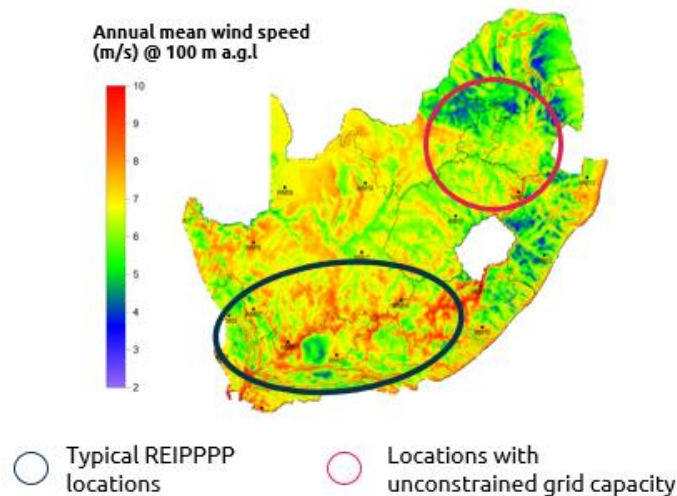
# FiT proposed to have a 15% premium to enable IPPs to accept some curtailment and operate in northeast and constructed with existing IRP2019

## 15% premium compensates for lower load factors in the northeast and curtailment risk

- Standard offer FiT negates the need for an auction to reach a tariff, increasing speed
- Maximum BW6 tariffs are profitable for IPPs, and take into account the recent global price increases
- 15% premium accounts for the load factor difference between provinces with high load factors where REIPPPP projects are usually installed and lower, but sufficient, load factors found in the northeast
- Premium to REIPPPP is needed for IPPs to accept curtailment risk

## FiT limited to 17 GW of unallocated capacity from existing policy (IRP2019)

- IRP2019 has up to 4 GW of solar PV capacity and 12.8 GW of wind unallocated capacity through to 2030
- 0.9 GW solar PV and 0.8 GW of wind did not reach financial close from REIPPPP BW5 – this capacity could also be brought into the FiT
- Maximum capacity the FiT could deploy under current policy is 4.9 GW of solar PV and 13.6 GW of wind



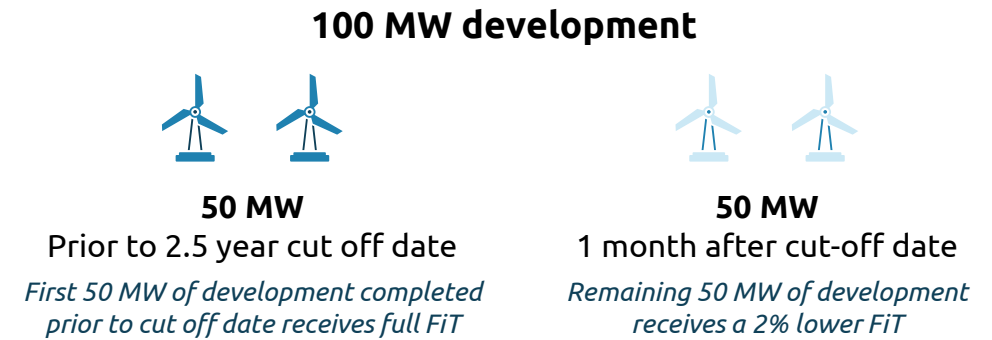




# Commissioning date of 2.5 years from programme launch incentivises rapid development and conveys premium price is temporary

## IPPs would obtain the full FiT for capacity that is in production within 2.5 years

- Commissioning date incentivise IPPs to have this in place and develop capacity rapidly
- Setting a 2.5-year target date allows for ~6 months planning and ~2 years development, which is ambitious but feasible for wind & solar PV
- FiT would be decreased by 2% per month for the capacity that comes into production after target commercial operation date to incentivise rapid deployment



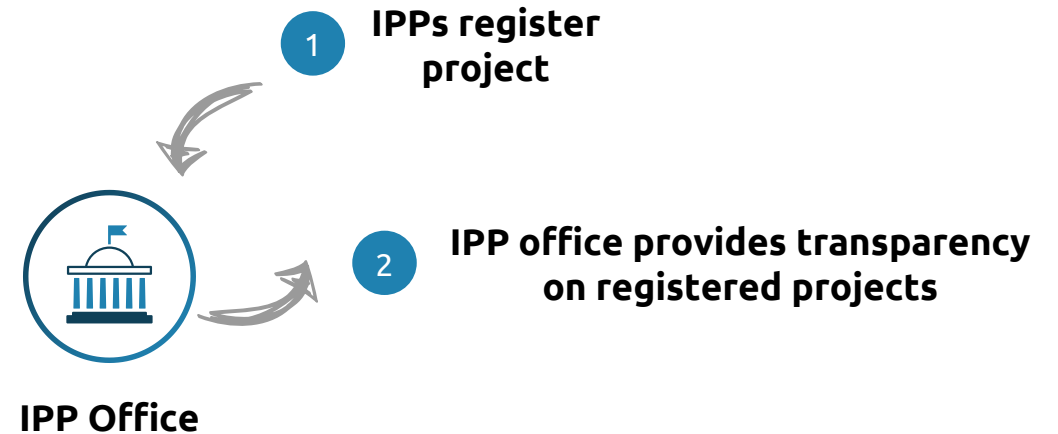
## IPPs provided with the latest programme information to effectively assess their business case

### 1. IPPs register their project with IPP office

- IPPs must register their projects that meet FiT criteria (e.g., minimum asset capacity, secured environmental authorisation and existing land rights)
- First-come-first-serve with high programme capacity (e.g., 17 GW) would not require pre-screening, selection, or queuing, but incentivise rapid deployment

### 2. IPP office makes information about FiT publicly available

- During registration, anticipated project size and location should be publicly available to all IPPs
- Unallocated FiT programme capacity should be made publicly accessible during the programme to reduce uncertainty for interested IPPs

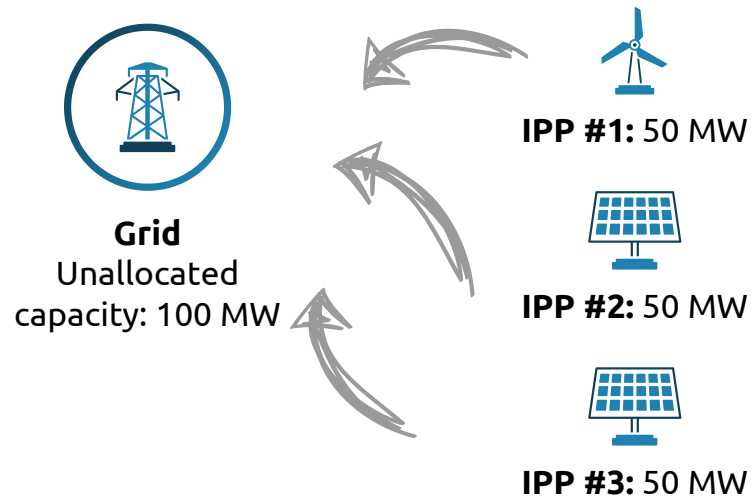




# Sliding scale pricing regime proposed to manage curtailment and incentivise utilising existing grid

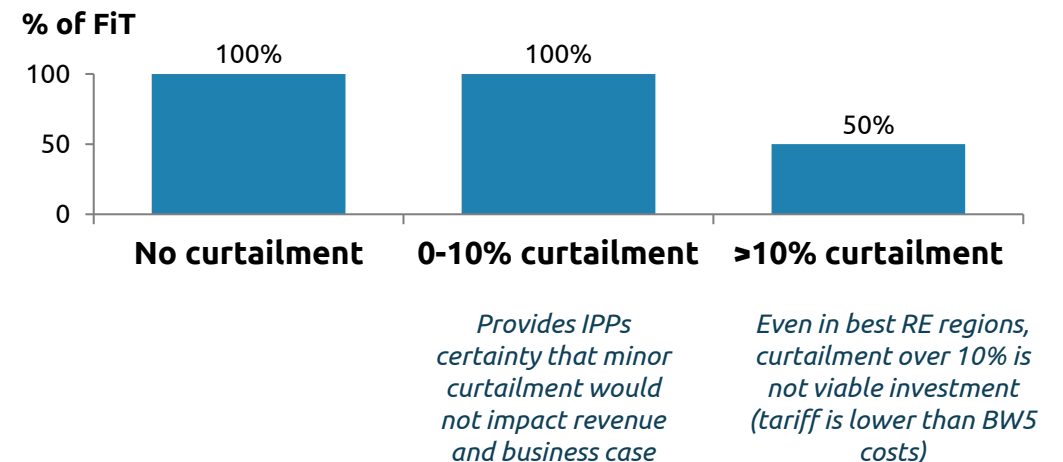
## Proposed FiT has obligation to connect, which could result in localised curtailment

- Obligation to connect IPPs to the transmission infrastructure allows shovel-ready projects in grid-constrained areas to come online rapidly
- The obligation provides IPPs with revenue certainty to attract them to the FiT
- This could result in IPPs building in grid constrained regions and could cause curtailment



## Sliding scale pay regime limits high system costs by paying less for curtailment

- Sliding scale pricing regime that offers lower compensation for curtailed power would incentivise IPPs to optimise the location of their operations and assume a reasonable share of risk
- Eskom and government do not have to define the regions to deploy new capacity, as would be required under a conventional take or pay regime







# Government support successfully implemented for REIPPPP could be expedited for the FiT

## Government support provided in REIPPPP would be required to be used in FiT

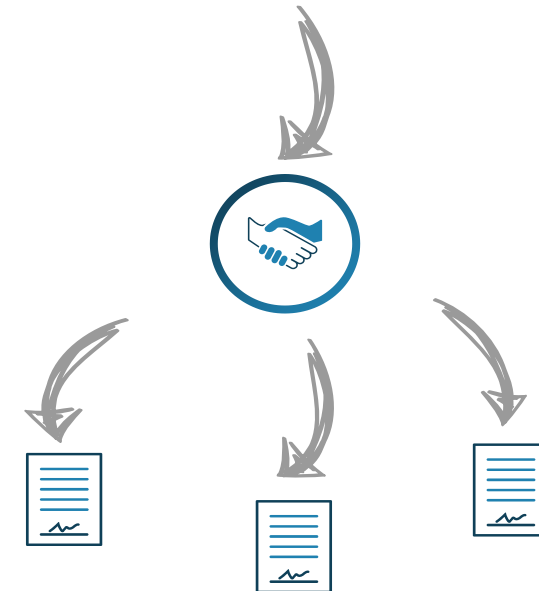
- Producers would require investment security to make their investment, which is challenging given that Eskom would be the source of their revenue
- Government support has been successfully provided to REIPPPP since the programme's inception in 2011 – the market is comfortable with this process

## Support could expedite support by securing approval for the full FiT

- Process can be expedited by securing Government support at the onset of the FiT, and for the full FiT capacity, not for each individual IPP
- Individual IPP indemnities would be provided to each IPP through implementation agreements following the registration process

















Approval for full FiT capacity at onset of programme



Indemnities provided through individual implementation agreements with each IPP

# Temporary emergency solution could rapidly roll-out RE and result in a savings vs. Eskom's Megaflex tariff

Output	Feed-in-Tariff	RMIPPPP	Current REIPPPP
 <b>Speed to commercial operation<sup>1</sup></b>	 <b>1-6 months estimated for planning, plus: Solar PV: 13 - 24 months Wind: 15 - 28 months</b>	 <b>Target: 16 – 22 months Expected: &gt; 36 months</b>	 <b>Target: 24 - 30 months Expected: 36 – 48 months</b>
 <b>Potential installed capacity<sup>2</sup></b>	 <b>Solar PV: 4 GW Wind: 12.8 GW</b>	 <b>2 GW</b>	 <b>4.2 GW</b>
 <b>Programme average tariff<sup>3</sup></b>	 <b>Estimated 850 R/MWh</b>	 <b>1 600 R/MWh</b>	 <b>750 R/MWh</b>
 <b>Eskom average WEPS Tariff<sup>4</sup></b>		<b>1 130 R/MWh</b>	

1. FiT – Clean Energy Pipeline; RMIPPPP – The RMIPPPP in Context, RMIPPPP Press Centre and Programme Milestones; REIPPPP – PP Office, REIPPPP Press Centre and Programme Milestones 2. Fit – IRP2019; RMIPPPP – The RMIPPPP in Context; REIPPPP – REIPPPP BW6 targeted capacity 3. RMIPPPP – Tariff calculated from preferred bidders and the targeted capacity; REIPPPP – Tariff calculated on max BW6 solar PV and wind tariffs and targeted capacity 4. Calculated based on Eskom’s WEPS tariff from Tariffs & Charges Booklet 2023/2024.

# Risk and interdependencies to be managed



## Areas of risk and interdependency



## Mitigating Action

- Capacity **that REIPPPP may be able to attract**
- Long timeline for and/or limited capacity of **government support**
- Solar PV capacity **exceeded before target production date** (4.5 GW shovel-ready projects compared to 4 GW limit)
- **PFMA** requires that procurement is **competitive**, which is typically achieved through bidding
- **PPPFA** could apply to procurement process
- **FiT and REIPPPP should be designed considering interdependencies.** Immediate decisions include how to close out BW5 (e.g., 3.2 GW of unsuccessful wind bids), capacity and structure of BW7, and launch date of FiT
- Government could provide support at the **onset of FiT, and for the full programme capacity**
- **C&I demand could potentially be aggregated for IPPs from the FiT to sell to**, provided that this can be legally implemented within a short period. However, this may overlap with ongoing commercial initiatives
- Introduce an **earlier target production date** for solar PV (e.g., 2 years after the programme launch), **increase minimum solar project capacity** above 50 MW, **increase the FiT capacity** outside of the guardrails set by the IRP2019, or increase the FiT capacity once IRP is revised
- **An exemption from PFMA may be applied for**, as FiT susceptible to be challenged on basis of not being competitive, as it is **common practice for public procurement to be implemented through bidding**
- IPPs **would compete** on the product or service they provide, as well as specific preferential procurement goals set, on a **first-come-first-serve basis** – this should meet the principle of competitiveness required by PFMA
- FiT procurement through application, not tendering – therefore PPPFA may not apply. Nevertheless **PPPFA goals (e.g., contracting historically disadvantaged groups/individuals) could still be included in FiT**
- To avoid potential challenge **an exemption from PPPFA may be applied for**

# Next steps to implement the Feed-in-Tariff

1

## Set Feed-in-Tariff Fixed Rate

- FiT to be set by NERSA, in consultation with the National Treasury, DMRE, and Eskom

2

## Seek Exemption from Public Finance Management Act

- Eskom to request exemption from PFMA due to the susceptibility of the FiT being challenged for not being a competitive auction

3

## Seek Exemption from Preferential Procurement Policy Framework Act

- PPFA and Regulations may not apply to the FiT as it is procurement through application
- If challenged, Eskom could seek an exemption from the PPFA and Regulations

4

## Define Power Purchase Agreement Template

- Eskom and IPP office to develop a streamlined version of the current PPA template used in REIPPPP BW6 for the FiT

5

## Develop and Approve Curtailment Operating Regime

- Eskom to define and share the curtailment framework for IPPs
- NERSA would be required to approve this framework

6

## Obtain Government Support

- Government requested to provide government support in terms of section 66 and section 70(1) of the PFMA
- This support can be obtained rapidly by securing it at the onset of and for the full FiT capacity

7

## Issue New Ministerial Capacity Determinations

- A new Ministerial determination should be made in the event of the capacity under current Ministerial determination being insufficient for the FiT

