



**THE ENERGY SECURITY WORKSTREAM DIALOGUE SESSION/ROUNDTABLE ON  
UNLOCKING GENERATION IN SOUTH AFRICA  
SUMMARY REPORT  
05 JULY 2022**

The National Economic Development and Labour Council (NEDLAC) Energy Security Workstream (ESWS) held a roundtable on the 5<sup>th</sup> of July 2022. The ESWS is responsible for the implementation of the Social Compact to Support Eskom which was agreed to by all social partners in September 2020. The theme of the roundtable was on how South Africa can unlock electricity generation. The roundtable provided the social partners with the opportunity to engage on the critical challenges to increasing generation capacity and possible solutions to these challenges in South Africa.

Despite implementation of some of the commitments in the Eskom Social Compact, changes to Schedule 2 to the ERA, progress on the procurement of renewable energy capacity and other developments, additional generation capacity is being added to the electricity supply too slowly. Therefore, the objective of the roundtable was to identify tangible short, medium, and long-term solutions to accelerate the addition of generation capacity to the grid.

This report firstly, summarises the problem statements identified by participants at the round table. Secondly, the current and proposed emerging solutions to unlock electricity generation including proposals on action steps that should be incorporated into a revised implementation plan of the Eskom Social Compact. These action steps require the endorsement of government and social partners.

This report has been produced before the anticipated announcement of the President on measures to address the energy crisis and the action steps may be amended in line with this announcement.

## **1. Problem statements**

The roundtable identified the following problem statements arising from the three sessions:

### **1.1. Accelerating electricity generation**

Earlier this year, the electricity supply gap was estimated to be between 4 000 and 5 000 MW of electricity generation capacity, which is exacerbated by the low Energy Availability Factor (EAF) of Eskom's coal fleet and the decommissioning of coal-fired plant that have outlived their economically useful life. The Integrated Resource Plan 2019 (IRP 2019) assumed a system EAF of 75% however Eskom's current actual system EAF is 59%. The build defects at Medupi and Kusile have contributed to this deterioration of the system.

The Social Compact to support Eskom indicated that the IRP 2019, which provides for the least cost generation of electricity, requires significant amounts of new electricity generation. Government has procured emergency power through the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP), of which several large projects are stalled and approximately 800 MW is ready to proceed. Further, another 500 MW from the remaining projects in Bid Window 4 of the Renewable Energy Independent Power Producers Programme (REIPPP) has been procured as well as 2 600 MW of Bid Window 5. Bid Window 6 for 2 600 MW of renewable energy has been prepared and is scheduled to be concluded in 2022.

There are significant delays with the preferred bidders from the procurement programmes reaching financial close and achieving commercial operations. With respect to the RMIPPPP, project agreements have only been signed with 3 projects for 150MW of capacity (Scatec Kenhardt 1,2, and 3) with the remaining 1 845 MW yet to signed. The issues holding up the finalisation of the agreements are that the remaining bidders have not agreed to the rebasing of their pricing from 24 hours to 16.5 hours and some bidders have requested extensions in the last Commercial Operation Date (COD) due to delays resulting from Eskom's required changes and timelines. With respect to the Karpowership projects, the Eskom Board requires joint and several indemnity agreements from the Department of Mineral Resources and Energy (DMRE) and Karpowership against potential legal actions. However, the DMRE does not support the required indemnification.

The date for the commercial close of the REIPPP Bid Window 5 projects was postponed from April to July 2022. However, it appears that many of the bidders are not ready to reach commercial close by the revised deadline. This was primarily due to issues with the provision of Budget Quotations (BQs) by Eskom to the various bidders. Only 5 of the 25 preferred bidders have been issued with their BQs. In addition, the relevant parties are still in the process of finalizing the project agreements.

Business in the social compact to support Eskom committed to expedite the implementation of 2500 MW of self-generation capacity. Capacity of a further 2500 MW was to be procured through the DMRE emergency procurement process.

Despite these commitments, electricity generation is being added to the grid too slowly. The social partners highlighted several obstacles to accelerating electricity generation including the lengthy process of reviewing and updating the IRP, the onerous and ambiguous regulations and authorisations required for new generation projects, significant stalling in the award and implementation of the RMIPPPP and REIPPP and issues faced by municipalities in procuring electricity generation.

## **1.2. Electricity generation outside of section 34 processes**

Enabling electricity generation outside of the Electricity Regulation Act (ERA) s34 procurement by government is crucial to address the current crisis and generation shortfall. The licensing threshold for private energy generation was raised from 1MW to 100MW in August 2021. Despite some enquiries made, to date, there have been few applications submitted to NERSA however for projects significantly lower than the 100MW threshold. The Department of Forestry, Fisheries and Environment (DFEE) has developed streamlined processes for environmental impact assessments to facilitate generation projects. In addition, Operation Vulindlela has also begun work on outlining a regulatory process map for electricity generation projects.

While welcoming the above developments, the Business constituency has identified a range of further obstacles to self-generation including cumbersome registration processes for generation below 100MW despite the changes to the licensing threshold, the lack of a national wheeling framework, the lack of a speedy and clear process for municipalities on processing wheeling applications and the determination of wheeling charges.

Amendments to the electricity regulations on New Generation Capacity 2020<sup>1</sup>, was introduced to, inter alia, facilitate municipal procurement of new generation capacity. An update from Operation Vulindlela indicated that several municipalities are in the process of procuring generation capacity / electricity following changes to the regulations on New Generation Capacity. However, key challenges for municipalities are the lack of clarity on the regulatory framework to enable the procurement of electricity generation capacity and the required licensing and authorisations required to do so. The Constitution grants municipalities wide authority over electricity distribution in the municipal jurisdiction. Municipal procurement of electricity generation capacity can be a crucial way to unlock additional generation capacity outside of Eskom's balance sheet and without the need for government guarantees.

Despite changes to the regulatory framework to enable procure of new generation capacity by municipalities, clarity is required on whether municipalities require a Ministerial determination prior to procuring generation capacity. NERSA has been unwilling to grant a licence to a generation facility

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<sup>1</sup> Electricity Regulation Act 2006: Amendment of Electricity Regulations on New Generation Capacity, 2011, Government Gazette No. 43810 of 16 October 2020

supplying a municipality without a determination. DMRE and NERSA need to clarify whether such a determination is necessary.

In addition, there is a suite of other approvals and authorisations required for municipalities to procure generation capacity. Issues of concurrent jurisdiction between authorities, the timeframes for processing applications and a 'chicken and egg' problem where approvals from one entity is required for another approval to be granted by a different entity. These issues have the potential to significantly delay and derail efforts by municipalities to procure generation capacity. Specifically, the issues with approvals and authorisations are as follows:

- Approval for long term contracts – Municipal PPAs are likely to be for longer than 3 years and such contracts will require public participation (due to section 33 of the MFMA), Council approval as well as consultation with National Treasury, the DMRE and CoGTA. There would need to be alignment between all these entities to facilitate timeous and effective decision making.
- Approval of electricity prices and tariffs – The addition of renewable energy to the municipal grid may require changes to the municipal tariff structure. NERSA will require a cost of supply study to approve any changes to the municipal tariff structure. Further, clarity on the pass-through of the price of electricity procured through a PPA is required.
- Other authorisations and approvals – New generation facilities may require several other authorisations and approvals including environmental authorisations, land use and planning authorisations, civil aviation approvals, and various authorisation and permits required by municipal by-laws.

### 1.3. Transmission and distribution network challenges

The limited capacity of the national electricity transmission grid is a major challenge to the further development of the electricity supply industry and the bringing online of additional generation capacity including that from renewable resources. Renewable energy projects are located where the solar and wind resources are the strongest however it is where the South African transmission network is at its weakest. Based on current estimates, in excess of R 140 billion will be required to build new and upgrade the existing transmission network between 2022 and 2031. Such a large infrastructure project typically takes between 8 and 10 years to complete.

The primary challenge to building and upgrading the transmission network is obtaining sufficient capital to fund this project given the already constrained Eskom balance sheet and government's limited ability to provide sovereign debt guarantees. Other challenges include delays in obtaining the required servitudes and the limited technical, supply chain and construction capability and capacity that is required. The impact of not upgrading the transmission network will be the undermining of South Africa's energy transition and security of supply.

In addition, Eskom's processes to effect transmission connections or grid enhancements are lengthy, including the need in some instances for expropriation of land and that Eskom is not effectively resourced to create transmission capacity.

With respect to the distribution network, the lack of frameworks, tariffs, and application procedures for wheeling of electricity on distribution networks severely limits municipalities to procure generation capacity and enable electricity trading. A cohesive (potentially national) wheeling framework together with guidance on application procedures and wheeling tariff setting is required by municipalities.

## 2. Proposals for a way forward

The emerging consensus from the roundtable on the steps to be taken forward by the ESWS to address the challenge of electricity generation in South Africa can be clustered around the following seven key themes:

1. **Increase Eskom's Energy Availability Factor** – Improving Eskom's EAF has the potential to yield immediate results of increased generation capacity and reduce the probability of load shedding;
2. **More responsive Integrated Resource Plan development process** – A more dynamic and responsive process to review to changes in the electricity supply industry should be considered including in respect of the process for the updating of the IRP.

3. **Accelerate S34 procurement of electricity generation** – Obstacles to the finalisation of the agreements for successful projects from the existing REIPPP bid Windows and RMIPPPP programmes should be resolved urgently. Additional procurement windows should also be expedited;
4. **Enable independent generation** – An enabling environment for self-generation should be created by removing the obstacles for such projects and the potential for small-scale embedded generation and the roll-out of roof top solar PV should be investigated;
5. **Enable local government generation and procurement** – Challenges faced by municipalities in procuring generation capacity need to be addressed. Clarity on the regulatory framework needs to be provided including whether Ministerial approval is required for procurement of generation capacity. Guidance on the regulatory processes and approvals including that for long term contracts needs to be provided to municipalities.
6. **Address transmission and distribution network challenges** – Significant investment in the transmission network is required and should be expedited. In addition, municipalities require a clear framework, application process and tariffs for wheeling on their distribution networks; and
7. **Streamlining of regulatory processes and approvals** – The various regulatory processes and approvals required for electricity generation projects need to be streamlined and shortened to enable more timeous issuing of the required regulatory approvals and licences.

Each of these themes will be discussed in more detail.

### 1. Increase Eskom’s Energy Availability Factor

Improvement in the system EAF will yield immediate results of increased generation capacity and significantly reduce the probability of loadshedding. DMRE suggested that various interventions can be undertaken by Eskom in the short term to improve the EAF and potentially unlock 2 500MW of generation capacity.

*Proposed additional/revised commitments to the implementation plan of the Social Compact:*

Solution/Commitment	Responsibility	Timeframe
1.1 Resolve the design defects of the Kusile and Medupi power stations	Eskom	Ongoing; Update – September 2022
1.2 Eskom to prioritise power station maintenance with potential engagements with Original Equipment Manufacturers	Eskom	Ongoing; Update – September 2022

### 2. More responsive Integrated Resource Plan (IRP) development process

The social partners lamented the lengthy and cumbersome process for reviewing and updating the IRP. The current IRP 2019 took around 5 years to be finalised. The DMRE is currently engaged in the process of reviewing and updating the IRP. It is anticipated that the draft IRP will be published for public consultation towards the middle of 2023. This timeframe was also noted to be too long.

The long time between the modelling to support the provisions of the IRP and the approval of the IRP means that the provisions quickly become irrelevant or inappropriate due to changes in generation technology, the prices of such technologies, and developments and changes to the electricity supply industry. The social partners noted that there is a need to review and streamline the IRP development process to enable it to be more dynamic and responsive to changes in the electricity generation technologies, prices and other changes to the IRP assumptions.

*Proposed additional/revised commitments to the implementation plan of the Social Compact:*

Solution/Commitment	Responsibility	Timeframe
2.1 Allow for additional generation capacity to come online outside of the IRP 2019 provisions including procurement by municipalities	DMRE	ASAP; Update – October 2022
2.2 Engagement with DMRE in respect of IRP process including how consultation with social partners can be fast tracked	Energy work stream	September 2022
2.3 More frequent updates of the IRP as per the current provisions in the ERA Amendment Bill	DMRE	Ongoing; Update – October 2022

### 3. Accelerate S34 procurement of electricity generation

There are significant delays with the finalisation of the contracting for the RMIPPPP and REIPPP programmes due to various issues. The following solutions have been identified to resolve these issues including:

*Proposed additional/ revised commitments to the implementation plan of the Social Compact:*

<b>Solution/Commitment</b>	<b>Responsibility</b>	<b>Timeframe</b>
3.1 Agreement on the scheduled COD and COD for the remaining RMIPPPP preferred bidders	DMRE	Ongoing; Update October 2022
3.2 Resolution of the deadlock regarding the Eskom Board's requirement of an indemnity agreement in respect of the Karpowership projects	DMRE; Eskom	Ongoing; Update October 2022
3.3 Finalisation of the Project Agreements with the remaining preferred bidders	DMRE	Ongoing; Update October 2022
3.4 Streamline the process of issuing Budget Quotes by Eskom (also, see item 7)	Eskom	Ongoing; Update – September 2022
3.5 Finalise PPAs with successful bidders	DMRE	Ongoing; Update October 2022
3.6 Eskom to provide comments on Government Support Framework Agreement (GSFA) including PFMA approval from the DPE and concurrence of the National Treasury	Eskom; DPE; National Treasury	Ongoing; Update – September 2022
3.7 Expedite the procurement process for additional generation capacity as per provisions of the IRP 2019 including REIPPP Bid Window 6 and 7, 3000MW of gas to power and 513 MW of battery storage	DMRE	Ongoing; Update October 2022

### 4. Enable independent generation

Generation capacity outside of Eskom and government procurement processes is critical to address the current electricity supply shortage. However, an enabling environment needs to be created to facilitate investment in independent generation either self-generation or small-scale embedded generation. The key challenges to large scale independent generation projects are the lengthy and cumbersome regulatory processes that projects need to comply with. This is addressed specifically under Theme 7. In addition, small scale embedded generation could potentially have a significant negative impact on municipal revenue generation.

*Proposed additional/ revised commitments to the implementation plan of the Social Compact:*

<b>Solution/Commitment</b>	<b>Responsibility</b>	<b>Timeframe</b>
4.1 Declare certain self-generation projects Strategic Infrastructure Projects which reduces the regulatory burden	Operation Vulindlela	Urgent; Update – October 2022
4.2 Increasing the 100MW threshold requirement for licensing of generation facilities (Minister to amend schedule 2 of the ERA)	DMRE	Urgent; Update – October 2022
4.3 Investigate the potential rollout of solar rooftop PV and microgrids with connections to the grid including related mechanisms (in particular, feed-in and other tariffs) to reduce the negative impact on revenue generated by municipalities	Operation Vulindlela; DMRE; Community	Ongoing; Update – October 2022
4.4 Promote off grid electricity and other renewable energy solutions in rural areas including through looking at public, private and social funding/ownership of off-grid solutions	Eskom; Community;	Ongoing; Update – October 2022

## 5. Enable local government generation and procurement

Despite changes to the regulatory framework to enable procure of new generation capacity by municipalities, significant uncertainty exists regarding municipalities authority to procure generation capacity. In addition, there is a suite other approvals and authorisations required for municipalities to procure generation capacity. The following solutions have been identified to resolve these issues.

*Proposed additional/revised commitments to the implementation plan of the Social Compact:*

<b>Solution/Commitment</b>	<b>Responsibility</b>	<b>Timeframe</b>
5.1 Clarity on whether a Ministerial determination is required for municipalities to procure electricity generation	DMRE; NERSA	Urgent; Update – September 2022
5.2 Clarity on the requirements for electricity generation license applications by municipalities or projects where a municipality is the off-taker	NERSA	Urgent; Update – September 2022
5.3 Clarity on the requirements to obtain approval of long term PPA entered into by municipalities	National Treasury	Update – October 2022
5.4 (7) Streamlined regulatory processes for electricity generation projects (For details, see item 7.1 to 7.3)	Operation Vulindlela; NERSA	Ongoing; Update - October 2022

## 6. Address transmission and distribution network challenges

Significant investment in the transmission network will be required to ensure additional renewable energy and other generation capacity can be brought online. In addition, the lack of a cohesive regulatory framework for wheeling severely limits municipalities' ability to procure generation capacity and enable electricity trading. The following solutions have been identified to address these challenges:

*Proposed additional/revised commitments to the implementation plan of the Social Compact:*

<b>Solution/Commitment</b>	<b>Responsibility</b>	<b>Timeframe</b>
6.1 Identify options for the funding of new transmission network capacity	National Treasury, Operation Vulindlela, Eskom; Business	Ongoing; Update – November 2022
6.2 Identification of the problems with and possible solutions to obtaining of servitudes required for the transmission network	Eskom	Ongoing; Update – November 2022
6.3 Build the technical, supply chain and construction capacity required for upgrading the transmission network	Eskom; DMRE; SALGA/AMEU	Ongoing; Update – November 2022
6.4 The development of a cohesive wheeling framework (national)	NERSA; SALGA/AMEU; Business	Ongoing; Update – November 2022
6.5 Guidance for municipalities on the determination of wheeling charges	NERSA	Ongoing; Update – November 2022
6.6 Guidance for municipalities on the application procedures and requirements for wheeling	NERSA; SALGA	Ongoing; Update – November 2022
6.7 Investigate the current state of the electricity distribution network and the need for further investment	Eskom; SALGA	Ongoing; Update – November 2022

## 7. Streamlining of regulatory processes and approvals

The lengthy and cumbersome administrative processes required for new generation projects is a key hindrance to timeous investment in additional capacity. Operation Vulindlela tasked with supporting priority structural reforms in South Africa has begun work on a regulatory process map of the various licences, approvals and authorisations new generation projects require to be compliant. Once this exercise is complete, it will consider ways to streamline and shorten the regulatory processes and identify the ones that can be run in parallel to enable more timeous issuing of the required regulatory approvals and

licences. The ESWS will monitor the progress on this initiative and provide support to Operation Vulindlela if required.

*Proposed additional/revised commitments to the implementation plan of the Social Compact:*

<b>Solution/Commitment</b>	<b>Responsibility</b>	<b>Timeframe</b>
7.1 Regulatory Process map for electricity generation projects	Operation Vulindlela; Business (support)	Urgent (Update – October 2022)
7.2 Options for streamlining and shortening the regulatory process for electricity generation projects	Operation Vulindlela; NERSA; DMRE and other relevant agencies and government departments	Urgent (Update – October 2022)
7.3 Streamlining the Eskom High Level Renewable Energy Grid Integration Process including the issuing of Budget Quotes and Cost estimate letters	Eskom	Urgent (Update – October 2022)
7.4 Identifying regulatory and other obstacles to building and upgrading the transmission and distribution network (also, see item 6)	Eskom; SALGA/AMEU	Ongoing; Update – November 2022