POLICY BRIEF

National Business Initiative

Changes in South Africa's Renewable Electricity Policies and Regulations, and Implications for Business

Prepared by Bowmans with
National Business Initiative (NBI)

September 2025

Contents

Acronyms and Abbreviations

BESIPP	Battery Energy Storage IPP Procurement Programme
CBAM	Carbon Border Adjustment Mechanism
CDM	Clean Development Mechanism
CSP	Concentrating Solar Power
DFFE	Department of Forestry, Fisheries and the Environment
DMRE	Department of Mineral Resources and Energy
EAP	Energy Action Plan
EG	Embedded generator
ERA	*Electricity Regulation Act 4 of 2006*
ERAA	*Electricity Regulation Amendment Act 38 of 2024*
ESA	Electricity Supply Agreement
IPP	Independent Power Producer
IRP	Integrated Resource Plan
JSE	Johannesburg Stock Exchange
kW	kilowatt
MW	megawatt
NECOM	National Energy Crisis Committee
NEMA	*National Environmental Management Act 107 of 1998*
NERSA	National Energy Regulator of South Africa
New Gen Regs	Electricity Regulations on New Generation Capacity
NSP	Network Service Provider
NTCSA	National Transmission Company of South Africa SOC Limited
OUTA	Organisation Undoing Tax Abuse
PPA	Power Purchase Agreement
PV	photovoltaic
REI4P / REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
RMF	Resource Mobilisation Fund
SOP	Standard Offer Programme
SSEG	Small-scale embedded generation
VCS	Verified Carbon Standard

Executive Summary

This Policy Brief reviews the recent changes in South Africa's renewable electricity policies and regulations, and considers the implications of these changes for businesses with renewable electricity ambitions, particularly those interested in exploring the following:

- The procurement of renewable electricity;
- The generation of renewable electricity; and
- The prospects for feeding excess electricity back into the national or municipal grids or for providing excess electricity to other corporate businesses.

The analysis provides insights into the current landscape, identifies potential challenges and opportunities, and offers recommendations for businesses to navigate the evolving renewable electricity and broader climate environment in South Africa. We consider this from the perspective of a private sector business, whose primary business is not renewable energy generation on a 'utility scale'.

Among other, this brief addresses the following policies, plans and legislation:

- The Energy Action Plan (EAP);
- The Integrated Resource Plan (IRP);
- The Renewable Energy Independent Power Producer Procurement Programme (REI4P);
- The *Electricity Regulation Act 4 of 2006* (ERA) and the *Electricity Regulation Amendment Act 38 of 2024* (ERAA);
- The Electricity Regulations on New Generation Capacity (new generation regulations);
- The Roadmap for Eskom in a Reformed Electricity Supply Sector (Roadmap)
- The Interim Grid Capacity Allocation Rules;
- The *Climate Change Act 22 of 2024* (*Climate Change Act*); and
- The *Carbon Tax Act 15 of 2019* (*Carbon Tax Act*).

1. Overview of the Policy and Regulatory Framework for Private Sector Renewable Energy

Introduction

One of the most significant changes in the electricity regulation landscape in the past few years has been the development of the generation licensing regime and the registration regime, which now applies to most, if not all, private generation facilities. This was announced at a Presidential level in 2021.

The last comprehensive policy document in the sector was a 1998 Energy Policy White Paper.[1] The key policy documents regarding electricity released in the last few years in the sector are the Roadmap for Eskom in a Reformed Electricity Supply Sector (Roadmap) published by the Minister of Public Enterprises in 2019,[2] and the Energy Action Plan (EAP) released by President Cyril Ramaphosa in 2022. These are discussed within this chapter.

Formal electricity planning is undertaken through the Integrated Resource Plan (IRP) prepared historically by the Department of Mineral Resources and Energy (DMRE). The last approved version of the IRP was published in 2019,[3] and a draft updated IRP was published in 2023.[4] Since taking over policy in this area in 2024, Minister Ramokgopa of the Department of Electricity and Energy has announced that he does not accept the premise and assumptions in this document, and will be reconsidering it before it is published in a final form. Nevertheless, the draft updated IRP is briefly considered within this document.

1 See: https://www.gov.za/sites/default/files/gcis_document/201409/whitepaperenergypolicy19980.pdf

2 See: https://www.gov.za/sites/default/files/gcis_document/201910/roadmap-eskom.pdf

3 Integrated Resource Plan 2019, Government Gazette 42778 (No. 1359), available at https://www.gov.za/sites/default/files/gcis_document/201910/42778gon1359.pdf

4 Integrated Resource Plan 2023, published for public comments, January 2024, Government Gazette 49974 (No. 4238), available at https://www.dmre.gov.za/Portals/0/Energy_Website/IRP/2023/IRP%20Government%20Gazzette%202023.pdf

Key Role-players in the Electricity Sector

Policymaking in the electricity sector is in flux, as control over the sector transfers from the former Minister of Minerals and Energy (now the Minister of Minerals and Petroleum), Gwede Mantashe, to the new Minister of Electricity and Energy, Dr Kgosientsho Ramokgopa (Minister Ramokgopa).

The following are the additional key role players in this sector who are relevant to private sector generation:

The Presidency	The Office of the Presidency played a role in driving a number of the changes made in the sector in the last four years, as discussed below.
The Department of Mineral Resources and Energy (DMRE)	DMRE will be replaced with the Department of Electricity and Energy and the Department of Mineral and Petroleum Resources (once the legislative, human and financial resources are appropriately transferred). DMRE plays a role in policymaking in the sector. The Independent Power Producer Office (IPP Office) is a division of the DMRE which has run successive rounds of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP).
The National Energy Regulator of South Africa (NERSA)	NERSA is an independent regulatory authority which plays a role in approving licences and administering registrations under the ERA, as well as in rule-making in the electricity sector.[5]
Eskom and its recently established subsidiary, the National Transmission Company of South Africa SOC Limited (NTCSA)	Eskom remains responsible for the distribution of electricity in areas not covered by municipal distribution networks, and the NTCSA will operate and control the national transmission system.
South African municipalities	Municipalities have a constitutional obligation under Schedule 5 of the Constitution of the Republics of South Africa, 1996 to reticulate electricity within their jurisdiction.

5 Established by section 3 of the *National Energy Regulator Act 40 of 2004*.

Key Electricity Sector Policies, Plans and Legislation

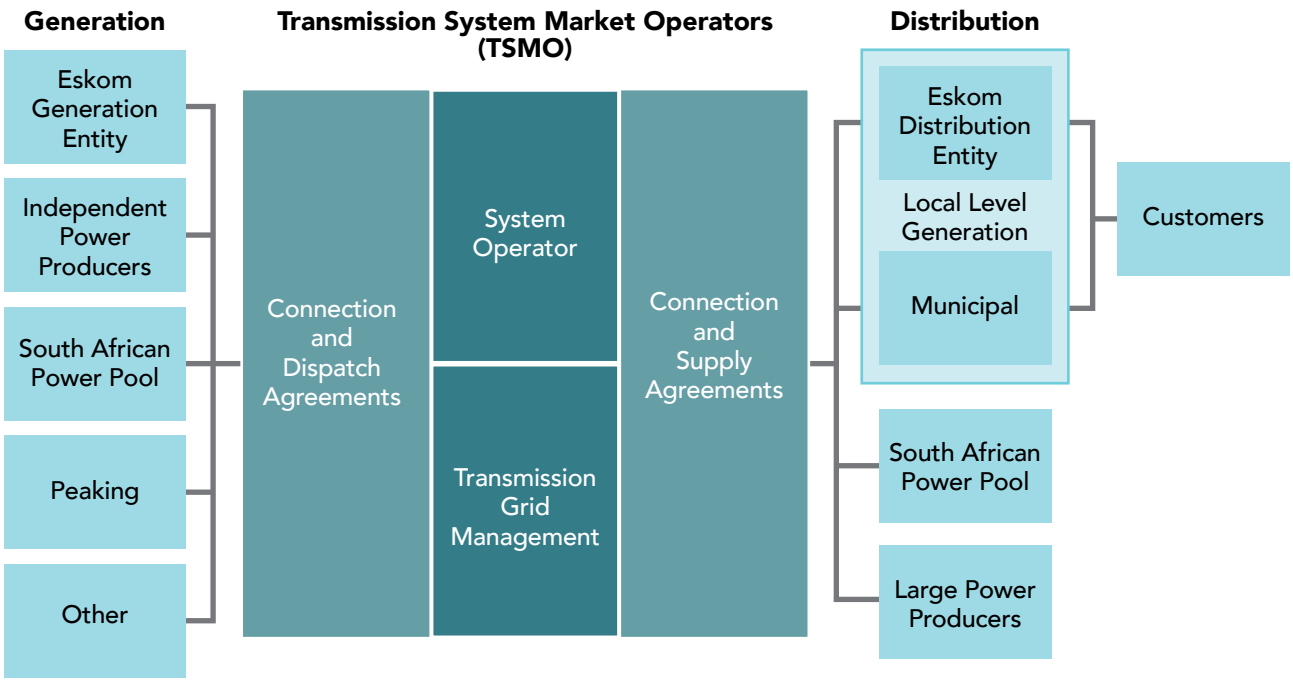
The Roadmap

This document sets out a vision for the overall structure of the electricity supply industry going forward, with Eskom separated out into three divisions of generation, transmission and distribution. The 1998 Energy Policy White Paper indicated the intention to divide Eskom into generation, transmission, and distribution companies. The intention was to create an Independent System and Market Operator to carry out the Eskom Transmission or National Transmission Company (NTCSA) functions. This process stalled for many years but received new impetus in 2019 when President Ramaphosa announced the new system in his State of the Nation Address, and when Minister Gordhan of Public Enterprises released the Roadmap for this unbundling process.[6]

Figure 1 illustrates the new structure of Eskom post implementation of the divisional split.

This policy is now being carried forward through the separation of the transmission business from Eskom, and its transfer to the newly established NTCSA as a separate company, albeit as a subsidiary of Eskom.[7] Furthermore, amendments to the ERA[8] enacted in 2024, provide for the transfer of various powers with regard to transmission

Figure 1: The Reformed Electricity Supply Industry in South Africa



Source: Department of Public Enterprises, 2019

6 See: https://www.gov.za/speeches/statement-eskom-24-aug-2019-0000# and https://www.gov.za/sites/default/files/gcis_document/201910/roadmap-eskom.pdf.

7 See: https://www.ntcsa.co.za/https-www-ntcsa-co-za-wp-content-uploads-2024-10-media-statement_ntcsa-official-launch_07102024_approved_final_07102024-pdf/ and https://www.eskom.co.za/department-of-public-enterprises-eskom-and-the-national-transmission-company-south-africa-announces-commencement-of-trade-by-ntcsa/ and https://www.news24.com/citypress/news/unbundling-of-eskom-ntcsa-a-step-towards-a-democratised-energy-sector-20241010.

8 *The Electricity Regulation Amendment Act 38 of 2024.*

planning and development to this new entity, as well as the establishment of a Transmission System Operator.

The Energy Action Plan (EAP)

In July 2022, the EAP was announced by President Ramaphosa as a plan to end loadshedding and achieve energy security. It includes five key pillars: (a) fix Eskom and improve the availability of existing supply; (b) enable and accelerate private investment in generation capacity; (c) fast-track the procurement of new generation capacity from renewables, gas and battery storage; (d) unleash businesses to invest in rooftop solar; and (e) fundamentally transform the electricity sector to achieve long-term energy security.

The following developments were implemented to enable private investment in generation capacity under the EAP:

Schedule 2 of the ERA was amended to make it possible for the private sector to invest in energy projects without any limitation on size. This has unlocked a massive pipeline of new energy projects which are currently in development or construction.

Eskom can buy power from companies that want to sell, for three years, through the Standard Offer Programme,[9] or buy excess power when the grid is under strain through an Emergency Generation Programme.[10]

Approval processes for new renewable energy projects are being fast-tracked. Transmission infrastructure no longer needs an environmental authorisation under the *National Environmental Management Act 107 of 1998* (NEMA) in areas with low environmental impact. Environmental permits are now issued within 57 days for Strategic Infrastructure Projects, and registration with NERSA was reduced to an average of 19 days.[11]

Schedule 2 of the ERA was amended to make it possible for the private sector to invest in energy projects without any limitation on size – unlocking a massive pipeline of new projects now in development or construction.

Further, connection to the electricity grid was reduced to six months instead of nine; land-use authorisations reduced to 30 days instead of 90; and Eskom prioritised 25 projects for the transmission network, to add 12 GW capacity to the grid by 2028.

With regards to enabling businesses to invest in rooftop solar, government introduced special tax incentives for businesses who install solar, and a revised bounce-back loan scheme to help small businesses transition to solar. As an added benefit, businesses can now sell any surplus electricity generated back to the grid in certain areas.[12]

A National Energy Crisis Committee (NECOM) has been established to ensure that the EAP is implemented. It is tasked to address barriers to new generation capacity and unlock energy from different sources in addition to Eskom, including Independent Power Producers (IPPs), businesses and households.

9 This allows Eskom to procure energy on a short-term basis (less than three years) from companies with excess generation capacity. The benefit of the Standard Offer is the simplicity by establishing a price upfront, calculated at the avoided cost of own generation, at which applicants can offer energy to Eskom. See: https://www.ntcsa.co.za/wp-content/uploads/2024/06/StandardOfferProgrammeBrochure.pdf.

10 This allows Eskom to procure more expensive power during periods when the grid is significantly constrained. The programme allows for independent generators to provide energy monthly, weekly or daily to compete with the Eskom generators in the internal market. See: https://www.ntcsa.co.za/wp-content/uploads/2024/06/EmergencyGenerationProgrammeBrochure.pdf.

11 See: https://www.stateofthenation.gov.za/takechargesa/energy-action-plan/.

12 See: https://www.stateofthenation.gov.za/takechargesa/energy-action-plan/.

A Resource Mobilisation Fund (RMF) was established by Business for South Africa following a request from the President for the private sector to help capacitate NECOM. The RMF was set up to source private sector funding to procure and then donate capacity into government, and specifically NECOM, on an expedited basis. Expertise provided to NECOM to date includes a project management office, with specialist legal, energy modelling, and engineering expertise, over a one-to-two-year period.[13] The private sector has also provided expertise and assistance in kind through the Energy Council of South Africa.

The EAP is considered successful in many respects. Successful initiatives relevant to the business sector include those reported in March 2024, 18 months after the launch,[14] including that:

- The Electricity Regulation Amendment Act (ERAA) has been passed;
- The Eskom Standard Offer Programme has been implemented with a total of 1 136.5 MW approved to date, exceeding the initial target of 1 000 MW;
- Following the introduction of tax incentives and financing mechanisms, the amount of rooftop solar installed by businesses and households has more than doubled to over 5 000 MW, helping to reduce demand on the grid; and
- The National Wheeling Framework was submitted to NERSA in December 2023. The framework sets out principles for non-discriminatory rights of access to wheel electricity and the charges to be raised and will enable a standardised approach to wheeling across the country once approved by the Regulator.

The amount of rooftop solar installed by businesses and households has more than doubled to over 5 000 MW, helping to reduce demand on the grid.

The Integrated Resource Plan (IRP)

The ERAA defines the IRP as:

> *". . . an indicative, forward-looking plan for electricity generation, which reflects national policy on electricity planning, which plan specifies the types of energy sources and technologies from which electricity may be generated and indicates the amount of electricity that is to be generated from each of such sources or technologies."*

The current IRP was published in 2019 and as such is outdated.[15] The ERAA provides that no generation licence may be issued unless it conforms to the IRP.[16]

Several key assumptions used in the IRP 2019 have significantly changed, including the electricity demand projection, Eskom's energy availability factor, Eskom's coal-fired power plants shutdown plan, as well as the cost of new power generation technologies. As a result, on 4 January 2024, the

13 See: https://www.stateofthenation.gov.za/assets/downloads/Update_on_energy_action_plan_AUG23.pdf and https://www.stateofthenation.gov.za/assets/downloads/Update_EnergyActionPlan_18Months.pdf.

14 See: https://www.gov.za/news/media-statements/presidency-releases-18-month-progress-report-energy-action-plan-27-mar-2024

15 Government Notice 1360 in *Government Gazette* 42784 on 18 October 2019.

16 Section 10(1)(g) of ERA.

Draft IRP 2023 was published for public comment and consultation. It covers two-time horizons – 2030 and 2050.

The IRP confirms that renewable technologies have large potential for the creation of new industries across the energy value chain. The rollout of renewable energy is set to increase rapidly through public and private procurement programmes as the country aims to achieve energy security, while decarbonising electricity supply. Small-scale embedded generation installations are expected to rise significantly because of loadshedding and high electricity prices.

However, the Draft IRP 2023 has been criticised in many quarters. Since taking control of the electricity portfolio, Minister Ramokgopa is on record as saying that the government is reconsidering the Draft IRP 2023 but gave no timeline for this.[17]

Although the current IRP is outdated, there is no direct impact on businesses seeking to procure or construct renewable energy facilities. This is because the main point at which the IRP has previously impacted on new generation facilities was at licensing, and changes have already been made to reduce the licensing burden. The first reforms introduced by President Ramaphosa in 2019 saw the licensing requirement removed for most generation facilities that the private sector would procure or construct. As such, conformance with the IRP is not required for these.

The Renewable Energy Independent Power Producer Procurement Programme (REI4P)

Since 2011, utility-scale independent power producers (IPPs) have been introduced through various rounds of the Independent Power Producer procurement. The most well-known of these is the REI4P, which has seen approximately seven rounds to date.[18] The REI4P and other IPP procurement programmes are run by the IPP Office, previously within the DMRE, and now within the Department of Electricity and Energy. Through these procurement programmes, IPPs can bid to secure a Power Purchase Agreement (PPA) with Eskom.

The REI4P Procurement Programme focuses on 'utility scale' renewable generation facilities, which are large enough to supply multiple off-takers, including wind, conventional solar, Concentrating Solar Power (CSP), green hydrogen and landfill gas.

The procurement processes are empowered through Ministerial Determination, with NERSA, and concurrence under section 34 of the ERA. These determinations empower the IPP Office to run the procurement process, which is done through the opening of 'bidding rounds'.

The various REI4P bidding rounds have been the major driver behind South Africa's growing sector of IPPs and as of April 2024, the programme had 95 IPPs supplying 7 336 MW into the national grid.[19] The REI4P is structured into rolling bid windows

17 See: https://www.sanews.gov.za/south-africa/government-deepening-conversation-draft-irp-2023.

18 Set out the date of each round, including the .5 rounds.

19 See: https://www.dmre.gov.za/news-room/post/2581.

that allow for continued market interest and increased competitive pressure among bidders to participate and offer reduced pricing. According to the IRP 2019, a total of 20 400 MW of new capacity from renewable energy needs to be added to the electricity mix by 2030 – 14 400 MW from wind (45.7% of total new capacity by 2030), and 6 000 MW from solar photovoltaic (PV) (19.1% of total new capacity by 2030).

In addition to the REI4P, procurement programmes from other sources of energy have been implemented by the IPP Office. These include, most recently, the Battery Energy Storage IPP Procurement Programme (BESIPP)[20] for the procurement of utility scale battery storage facilities and the Gas to Power Procurement Programme[21] for the procurement of power from utility scale gas-fired power stations.

20 See: https://www.ipp-storage.co.za/.

21 See: https://www.ipp-rm.co.za/#:~:text=THE%20GAS%20IPP%20PROCUREMENT%20PROGRAMME,GENERATION%20CAPACITY%20FROM%20GAS%20TECHNOLOGIES.&text=THE%20DEPARTMENT%20LAUNCHED%20THE%20REQUEST,WINDOW%20ON%2014%20DECEMBER%202023.

2. Developments in the Legislative Framework Around Renewable Energy

Introduction

The primary legislative instruments in regulating electricity generation include:

- The ERA and various regulatory instruments published under the ERA, including the Schedules to the ERA which have been amended a number of times in recent years;
- The Electricity Regulation on New Generation Capacity, which are mostly relevant to utility scale procurement programmes;[22]
- The Grid Code;[23]
- The Interim Grid Capacity Allocation Rules;[24] and
- The 'Registration Procedure in terms of Schedule 2 of the [ERA]'[25] published by NERSA.

In addition, legislation supportive of South Africa's climate change commitments has been introduced recently including the *Climate Change Act 22 of 2024* and the *Carbon Tax Act 15 of 2019*.

Electricity Regulation Act (ERA) and Schedule 2

The ERAA will establish an open market platform that promotes competitive electricity trading – opening the way for more choice and potentially lower prices for private sector operators.

The ERA was promulgated to establish a national regulatory framework for the electricity supply industry; to empower NERSA as the custodian and enforcer of the framework; to provide for licences and registration for generation, transmission, distribution, reticulation, trading and the import and export of electricity; and to regulate the reticulation of electricity by municipalities.

In terms of the Act, no person may generate or sell electricity without a licence granted by NERSA. This is, however, subject to the exemptions in Schedule 2 to the ERA, which have been significantly extended

22 *Government Gazette* 34262 (No. 399). These regulations primarily support procurement through IPP programmes, aligned with capacity allocations specified in Ministerial Determinations under section 34 of the ERA. On 16 October 2020, the Minister of Mineral Resources and Energy gazetted amendments to the Electricity Regulations providing scope for municipalities to develop their own power generation projects, subject to certain requirements (*Government Gazette* 43810 (No. 1093)).

23 The South African Grid Code as approved by NERSA.

24 Interim Grid Capacity Allocation Rules, 2023.

25 Version 3 is dated 10 October 2021.

in the last four years, particularly in the context of private generation.

Schedule 2 provides that the following activities are exempt from the requirement to apply for and hold a licence under the ERA. These activities also do not need to be registered with NERSA.

Activities exempt from licensing and registration	
a)	The operation of a generation Facility[26] with or without energy storage for the sole purpose of providing standby or backup electricity in the event of and for a duration of no longer than an electricity supply interruption;
b)	The operation of any generation Facility with or without energy storage, irrespective of capacity (MW), where the Facility does not have a Point of Connection;[27]
c)	The generation Facility is operated to supply electricity to one or more customers and there is no wheeling[28] of that electricity; and
d)	The operation of a Facility with a capacity of no more than 100 kW, which complies with the Code[29] and has a Point of Connection; the Distributor has prescribed the conditions relating to the continued use of the Point of Connection; and NERSA has prescribed the manner in which the Distributor shall keep a register of each facility.

Schedule 2 would apply to many rooftop installations and 'within the fence' own generation facilities, i.e. facilities located at the business premises supplying power to the business. This would also apply to the procurement of electricity from an IPP located on the business premises.

In addition, the following activities are exempt from the requirement to apply for and hold a licence under the ERA, but these activities must be registered with NERSA:

Activities exempt from licensing but must be registered with NERSA	
The operation of any generation Facility with or without energy storage, irrespective of size or capacity, with a Point of Connection on the transmission or distribution power system, in the following circumstances:	
a)	The generation Facility is operated to supply electricity to one or more customers by wheeling; and
b)	The generator has entered into a connection agreement with the holder of the transmission or distribution licence in respect of the power system over which the electricity is to be wheeled; or
c)	The generation Facility has a Point of Connection but does not export or import any electricity onto or from the transmission or distribution power system.

26 'Facility' means the generation or distribution facility or energy storage as applicable, located at the site and comprising all plant, machinery and equipment, all associated buildings, structures, roads on the site that are not national, provincial or municipal roads, and other appurtenances, together with all required interfaces to be constructed for the safe, efficient and timely operation of that facility and, for the avoidance of doubt, excluding the transmission connection works or distribution connection works, as the case may be.

27 'Point of Connection' means the electrical node on a distribution or transmission system where a customer's assets are physically connected to the licensed Distributor's or Transmitter's assets.

28 'Wheeling' means conveyancing of electricity from the Point of Connection to a Point of Consumption through a third-party transmission or distribution network.

29 'Code' means the Distribution Code, the Transmission Grid Code, or any other Code approved by NERSA.

These exemptions would apply to electricity procured through Power Purchase Agreements with an IPP, where the generation Facility is located somewhere other than the business premises to which the electricity is being supplied. Such electricity would require wheeling arrangements to deliver the power to the customer. In such circumstances, registration with NERSA is required for this Facility.

The NERSA Registration Procedure

Most private generators are exempt from licensing but must register with NERSA if wheeling electricity. This process is straightforward, requiring a standard application and approval within seven days. For detailed procedures, refer to Appendix 1.

Electricity Regulation Amendment Act 38 of 2024 (ERAA)

The ERAA was assented to by the President on 16 August 2024 and will come into operation on a date still to be proclaimed. It will continue the process of restructuring Eskom and the liberalisation of the electricity supply system in South Africa. Government's goals in this regard include:

> *"addressing current challenges in the electricity sector and to foster greater competition, lower energy costs, boost investment in new generation capacity for energy security, establish an independent transmission company to manage the national grid, and impose strict penalties for infrastructure damage and sabotage."*[30]

The ERAA will transform South Africa's electricity sector in several ways. It will establish a Transmission System Operator, managed by the NTCSA, which will be responsible for developing, maintaining, operating, and ensuring non-discriminatory access to the national transmission grid. It will empower NERSA with the authority to oversee regulatory functions during the shift to a competitive electricity market. Further, it will create an operational open market platform that facilitates competitive electricity trading.[31]

The Transmission System Operator will serve as the electricity transmitter, system operator, market operator, and central purchasing agency, as follows:

- **As a transmitter**, the Transmission System Operator will oversee the creation of the transmission development plan, implement infrastructure projects, maintain and operate the transmission grid, and ensure third parties have non-discriminatory access to it.
- **As a system operator**, it will manage the integrated power system to ensure it operates safely, securely, efficiently, and sustainably. It will also collaborate with the Minister of Electricity and Energy to establish new generation capacity or transmission infrastructure, as mandated by section 34 of the ERAA.
- **As the market operator**, upon receiving a licence from NERSA, the market operator will create a transparent and non-discriminatory trading platform for power market participants, without owning the traded energy. This operator must also develop a market code that includes qualifying criteria for participants, subject to NERSA's approval. The market code will address financial and prudential requirements, as well

30 GN 5139 in GG 51100 of 20 August 2024; The Presidency "President Ramaphosa assents to Electricity Regulation Amendment Bill". See: https://thepresidency.gov.za/president-ramaphosa-assents-electricity-regulation-amendment-bill.

31 Section 34A of ERAA; section 3 of ERAA; E. Roberts, "Electricity Regulation Amendment Act 'transformational' for South Africa".

as the types of markets necessary for effective industry operation, including both physical and financial transactions.

- **As the central purchasing agency**, it will establish transaction agreements to procure electricity, ensuring sufficient capacity and supply.

The ERAA allows for the establishment of an open market platform, that the market operator will create, to enable competitive electricity trading among qualifying participants. This platform will be designed as a competitive multi-market structure, allowing for various types of market transactions, including physical bilateral transactions and regulated transactions.[32] The creation of a multi-market system marks a shift from Eskom's vertically integrated model.

The new structure envisions multiple IPPs, as well as traders, competing with each other and Eskom, selling energy to various buyers, including individual, commercial, and industrial consumers. While IPPs already sell power to industrial and commercial users, the ERAA aims to provide a legal framework to formalise this existing practice.[33]

Despite the ERAA not yet being in force, the process of unbundling Eskom's transmission business into the NTCSA is far advanced. NTCSA was formally established as a subsidiary of Eskom in July 2024, and was launched on 7 October 2024,[34] and holds certain key licences (for example, the NTCSA has been issued with a transmission licence).[35] It is in the process of establishing timelines to become fully operational.

Anticipated changes to South Africa's electricity market

Once the ERAA enters into force and the reforms indicated have become effective, this should create a number of changes in the South African electricity market.

The ERAA will in due course establish an open market platform that promotes competitive electricity trading. This will allow trading by IPPs and other generation participants in the market.[36] For private sector operators, this should open the way for more choice regarding the purchase of electricity and may serve to lower prices. However, it is likely to be some time before this is up and running and is unlikely to have a 'spot' market for some time. As such, this is most likely to still be based on long-term contracts.

The establishment of a Transmission System Operator confirms non-discriminatory access to transmission infrastructure. This is already the premise for the transmission grid system, but Eskom was able to effectively have preference. The formation of NTCSA and its assumption of the powers of the Transmission System Operator as a separate entity, will level the playing field regarding grid access for private sector developers.

The formation of the NTCSA will level the playing field regarding grid access for private sector developers.

32 Section 34B of ERAA; E. Roberts, "Electricity Regulation Amendment Act 'transformational' for South Africa".

33 E. Roberts, "Electricity Regulation Amendment Act 'transformational' for South Africa.

34 NTCSA Media Statement: "National Transmission Company South Africa (NTCSA) outlines the next steps to provide reliable, fair and affordable access to the electricity grid and market to enable sustainable, inclusive economic growth." 7 October 2024. See: https://www.ntcsa.co.za/https-www-ntcsa-co-za-wp-content-uploads-2024-10-media-statement_ntcsa-official-launch_07102024_approved_final_07102024-pdf/.

35 See: https://www.eskom.co.za/eskom-welcomes-nersas-granting-of-the-transmission-licence-to-ntcsa/.

36 Section 34A of the ERAA.

The ERAA amendments will continue to allow generation businesses to engage in electricity import and export, with opportunities for cross-border trade, especially with neighbouring countries.

Interim Grid Capacity Allocation Rules

Section 21(4) of the ERA empowers Eskom to develop and publish interim grid capacity allocation rules. According to this section, access to the grid must be provided on conditions set out in the licence of a distributor or transmitter, and must relate to circumstances under which access may be granted or refused.

The rules apply to generation facilities seeking new connections to the grid. The need for these rules has arisen from significant grid capacity constraints in key regions, such as the Northern Cape, Eastern Cape, and Western Cape, which may limit the ability of some projects to connect to the grid.[37]

These rules were controversial when introduced and a legal challenge was brought to the rules.[38] Thereafter, the rules were relaxed, but grid access remains a significant issue for new large-scale generation facilities. The rules are intended to ensure an orderly processing of connection quotations.

Key principles of Grid Allocation Rules are:[39]

Non-Discrimination	All grid connection applications must be treated fairly, transparently, and equitably to allow open access to the grid.
First-Ready, First-Served	Eskom will allocate grid capacity based on a project's readiness to construct the generation facility and connect to the grid.
Capacity revocation	Eskom reserves the right to revoke or reallocate grid capacity if an applicant fails to meet specified timelines in relevant agreements.
Government procurement programme	Eskom can prioritise capacity reservations for the government IPP procurement programme, pending regulatory approval.
Information requests	Eskom may request additional information from applicants to ensure the completeness and adequacy of their submissions, based on the project's specifics.

37 Item 1(2) of the Interim Grid Capacity Allocation Rules.

38 See: https://www.moneyweb.co.za/moneyweb-radio/safm-market-update/eskom-taken-to-court-over-grid-rules/.

39 Interim Grid Capacity Allocation Rules, 2.2(1).

Projects that can demonstrate readiness and secure necessary approvals (for example, environmental and land use authorisations and PPAs) will benefit from faster grid allocation, allowing businesses to bring new generation capacity quickly. This can be an advantage for businesses prepared to act efficiently.[40] A significant aspect of the rules is that Eskom reserves the right to revoke grid capacity if project timelines are not met.[41]

Climate Change Act 22 of 2024

The *Climate Change Act* and *Carbon Tax Act* are two legislations that have been introduced which have direct implications for businesses undertaking renewable energy activities and striving to meet goals that have been set in this regard. Businesses should be aware of this legislation and the implications which are detailed further below.

The *Climate Change Act* was assented to by the President on 23 July 2024, though it is not yet in force. It introduces for the first time, a comprehensive legal framework in South Africa to regulate the effects of climate change, with the primary aim of reaching net zero emissions by 2050.[42] South Africa is working to fulfil its international climate commitments, which aim to limit global temperature rises to below 2 °C, with an aspirational target of 1.5 °C, by transitioning to a low-carbon economy.[43] The Act aims to facilitate the harmonisation of policies that impact South Africa's climate change efforts, ensuring the country is not hindered by conflicting policies.[44]

The most significant impact of the *Climate Change Act* for the private sector is the framework to regulate greenhouse gas emitting sectors. It provides, *inter alia*, that the Minister of Forestry,

The Climate Change Act introduces, for the first time, a comprehensive legal framework in South Africa to reach net zero emissions by 2050.

Fisheries and the Environment (Minister) must do all of the following:

- Publish the greenhouse gas emitting sectors and sub-sectors that will be subject to sectoral emissions targets, within one year of the Act coming into effect.
- Determine the prescribed framework and the sectoral emissions targets for sectors and sub-sectors, in consultation with the Minister responsible for each sector,
- Publish the list of greenhouse gases that the Minister believes cause or are likely to cause or exacerbate climate change; and allocate a carbon budget to any person who conducts the list of activities that emit, or have the potential to emit, one or more greenhouse gases in the abovementioned list.
- A carbon budget must have a duration of at least three successive five-year periods.

40 Interim Grid Capacity Allocation Rules, 3.2

41 Interim Grid Capacity Allocation Rules, 2.2(1)(c).

42 Section 2 *Climate Change Act*; S Thorne "What South Africa's new climate change laws mean for businesses" https://businesstech.co.za/news/government/784466/what-south-africas-new-climate-change-laws-mean-for-businesses/.

43 Section 2 *Climate Change Act*; S Thorne "What South Africa's new climate change laws mean for businesses" https://businesstech.co.za/news/government/784466/what-south-africas-new-climate-change-laws-mean-for-businesses/.

44 Section 2, *Climate Change Act*; S Thorne "What South Africa's new climate change laws mean for businesses" https://businesstech.co.za/news/government/784466/what-south-africas-new-climate-change-laws-mean-for-businesses/.

Offences and penalties are also introduced Although missing from the list of offences is any consequence for a failure to achieve a carbon budget or sectoral emission target.[45]

Until the sectoral emission targets and carbon budgets are published, businesses should continue to submit progress reports on their pollution prevention plans,[46] which will form the basis for the greenhouse gas mitigation plans in terms of the *Climate Change Act*.

Carbon Tax Act 15 of 2019 (CTA)

The CTA came into effect on 1 June 2019. The carbon tax forms part of government policy to mitigate climate change by introducing a tax on local entities that operate emissions generation facilities, at a combined installed capacity equal to or above the carbon tax threshold. This aligns with South Africa's commitments in terms of the National Climate Change Response Policy, National Development Plan, and its Nationally Determined Contribution commitments under the 2016 Paris Agreement.

The CTA seeks to achieve its objectives through several mechanisms, such as: the introduction of a carbon tax which is defined as a tax on the carbon dioxide (CO_2) equivalent of greenhouse gas emissions imposed in terms of section 2;[47] and incentivising companies to reduce their greenhouse gas emissions through allowances, which is an amount taken into consideration for the purposes of determining the carbon tax payable by an entity.

An additional objective of the CTA is to save on costs which may be potentially incurred by the government, as the principle of 'polluter pays' dictates that those responsible for environmental degradation must cover the costs of remediation and prevention. The CTA gives effect to the principle of polluter pays, aiming to ensure that the negative and adverse costs are taken into account by businesses in their future production, consumption and investment decisions. The costs of damages caused by emissions are captured in the prices of goods and services.

There are several implications for businesses from the CTA. The carbon tax is imposed on any person who conducts business within South Africa which results in greenhouse gas emissions above the threshold (which may be determined by looking at schedule 2 of the CTA).[48]

In terms of section 15:[49]

> *"The Commissioner must administer the provisions of this Act as if the carbon tax were an environmental levy as contemplated in section 54A of the Customs and Excise Act, 1964,[50] that must be collected and paid in terms of the provisions of that Act."*

45 Section 35, *Climate Change Act*.

46 Under the existing, less comprehensive, climate change regulatory framework (which is somewhat fragmented but includes the *National Environmental Management: Air Quality Act, 2004* (NEMAQA)), industries must submit annual progress reports on their approved pollution prevention plans to the Minister if they emit the greenhouse gases published in terms of the Declaration of Greenhouse Gases as Priority Air Pollutants (GN 710 of 21 July 2017) (GHG Declaration).

47 Section 2 of *the Carbon Tax Act 15 of 2019*.

48 Schedule 2 of the *Carbon Tax Act*.

49 Section 15 of the *Carbon Tax Act*.

50 *Customs and Excise Act 91 of 1964*.

A company that fails to pay its carbon tax for a specified tax period may be in violation of the *Customs and Excise Act*, potentially facing:

1. Monetary penalties,
2. Criminal prosecution, and/or
3. Suspension or cancellation of its deferment account, registration, license, accreditation, or designation.

The CTA also provides companies with the opportunity to reduce their carbon tax liability through any of the allowance provisions provided for. Section 7 provides for a 60% general allowance for all emissions,[51] and an additional 10% allowance for process and fugitive emissions.[52]

There are four additional allowances which taxpayers can access depending on whether they meet the requirements:

1. The **trade exposure allowance** of up to 10%, which is dependent on how trade exposed the sector is in which a company operates;[53]
2. The **performance allowance**, in terms of which a person can claim a 5% allowance if their processes are less emission-intensive than a benchmark that has been submitted to and Gazetted by National Treasury;[54]
3. The **carbon budget allowance** similarly provides for an allowance for those who have voluntarily participated in the development a carbon budget with the Department of Forestry, Fisheries and the Environment (DFFE). DFFE has been developing a carbon budget system and to make it mandatory for large emitters to have a carbon budget;
4. The **carbon offsets allowance** makes provision for an allowance for those that invest in emission-reducing projects.[55] Projects that reduce emissions in South Africa, but are not directly subject to carbon tax, may be able to register the emissions reductions as carbon offsets. These can then be purchased by carbon taxpayers and retired to reduce the amount of emissions they are liable to pay tax on. This allowance is regulated by the regulations on the carbon tax promulgated in terms of section 19(c).[56]

51 Section 7 of the *Carbon Tax Act*.
52 Section 8 & 9 of the *Carbon Tax Act*.
53 Section 10 of the *Carbon Tax Act*.
54 Section 11 of the *Carbon Tax Act*.
55 Section 13 of the *Carbon Tax Act*.
56 Section 19(c) of the *Carbon Tax Act*.

Claiming offsets against carbon tax liabilities

Regulations published under section 19 of the CTA allow taxpayers to claim offsets against their carbon tax liabilities, provided the projects are approved and meet certain criteria. Offsets can be created from projects initiated after 1 June 2019, or from existing projects that become subject to tax after this date. The creation and utilisation of offsets are governed by specific timeframes, with different durations applicable to various project types. The offset will normally be applied after the date on which the project causes the reduction of greenhouse gas emissions.

To claim the allowance for an offset under the regulations, specific criteria must be met. There are limitations on the types of offsets that can qualify for an allowance. Offsets related to energy activities under certain PPAs, renewable energy technologies exceeding specific capacities, and activities that have already received allowances under other regulations, are excluded.

Businesses can strategically align with the CTA to mitigate risks and leverage opportunities through several key approaches:

Understanding compliance requirements	Companies should familiarise themselves with the regulations and the CTA, particularly regarding the eligibility and claiming of carbon offsets. Businesses can avoid penalties and enhance their operational sustainability by ensuring compliance with the requirements for registration, documentation submission, and obtaining the necessary approvals.
Investing in approved projects	Engaging in projects that qualify as approved under the CTA – such as Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), or Gold Standard projects – can provide businesses with the opportunity to generate carbon offsets. These offsets can then be claimed against carbon tax liabilities, effectively reducing overall tax burdens while contributing to environmental sustainability
Leveraging carbon offsets	By developing or investing in carbon offset projects, businesses can create a new revenue stream. This not only helps in mitigating their carbon tax liabilities but also positions them as environmentally responsible entities, which can enhance brand reputation and customer loyalty.
Monitoring and reporting	Implementing robust monitoring and reporting systems for greenhouse gas emissions can help businesses track their carbon footprint accurately. This data is crucial for making informed decisions about emissions reduction strategies and for ensuring compliance with the CTA.
Engaging stakeholders	Collaborating with stakeholders, including government bodies, environmental organisations, and industry peers, can provide businesses with insights into best practices and emerging trends related to carbon management. This engagement can also facilitate access to resources and support for developing carbon offset projects.
Adapting to market changes	As the regulatory landscape evolves, businesses should remain agile and ready to adapt their strategies in response to changes in carbon pricing and environmental regulations. This proactive approach can help mitigate risks associated with non-compliance and market volatility.

3. Current Trends in the Procurement and Generation of Renewable Energy

Introduction

The changes in the regulatory regime for electricity in the last four to six years have created opportunities for private businesses to self-generate or procure at least a portion of their electricity demand from private sector suppliers. Two broad trends have driven recent changes.

First, businesses have seen a number of benefits from generation or procurement of power from renewable sources including: improved energy security and business continuity; and long-term fixed electricity pricing.

Second, local electricity generation is largely coal based and is by far the largest contributor to greenhouse gas emissions in South Africa. Internal and external company targets to reduce carbon emissions are driven by several factors including:[57]

- The introduction of a national carbon tax and carbon budgets under the *Carbon Tax Act* and the *Climate Change Act,* discussed above.
- International commitments to achieve 100% renewable electricity usage, particularly for multinational business.
- Growing awareness of climate concerns from customers.
- Trade requirements (including the introduction of the EU Carbon Border Adjustment Mechanism (CBAM)).[58]
- And for listed companies, the Johannesburg Stock Exchange (JSE), which has promoted the adoption of clean energy by listed companies.[59]

57 C. Meintjies, '10 Driving Forces Spearheading the Rise in Private Procurement of Renewable Energy in South Africa', July 2024, available at https://smartprocurement.co.za/10-driving-forces-spearheading-the-rise-in-private-procurement-of-renewable-energy-in-south-africa/ and https://greencape.co.za/wp-content/uploads/2024/08/Large-scale-RE-MIR-2024-digital.pdf.

58 This aims to put a fair price on the carbon emitted during the production of carbon-intensive goods that are entering the EU, and to encourage cleaner industrial production in non-EU countries, i.e. a tax would be imposed on imports into EU, placing the same CO_2 costs to a product, as if the product had been manufactured in the EU. If South Africa fails to move towards a carbon-neutral energy supply and the CBAM is successfully introduced across all industries and sectors, South African agricultural exports to the EU may be adversely affected. See: https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en.

59 The JSE's King IV Code on Corporate Governance mandates that listed companies disclose sustainability metrics as part of their environmental, social, and governance (ESG) reports, thereby incentivising companies to prioritise the sourcing of renewable energy and enhance their overall sustainability performance.

Power Purchase Agreement (PPA) for on-site generation

Private purchases of electricity are undertaken through a PPA with an IPP. Since the renewable energy market opened in South Africa 10 years ago, the first wave of PPAs were generally limited to one-on-one arrangements with an IPP located on site or 'in the fence'. The IPP would be responsible for constructing, operating, and maintaining a power plant (such as a rooftop solar array) at its own risk, supplying only that business with electricity under a long-term PPA. The term would match at least the period needed to pay for the construction, operation, and maintenance of the facility plus a reasonable profit.

The IPP would hold the risk if the plant was not constructed on time or was not functioning during the term of the PPA and would generally be responsible for obtaining all required authorisations and approvals including, if necessary, wheeling and generation registration or licensing. The prices at which the parties sell and buy electricity for a 'registered' power plant would not be regulated by NERSA; the price at which a 'trader' sells electricity would be regulated. The private sector purchaser would only pay for power produced and delivered, and the private sector purchaser would have an obligation to 'take' whatever power was produced to pay for this (i.e. a 'take or pay' arrangement). The private sector purchaser would generally not have the benefit of any 'excess' electricity (although for a very large purpose-built plant there may be a sharing of excess energy sales).

Such an arrangement would be a contract between the private business and the IPP as a 'generator' under the ERA. Schedule 2 of ERA exempts such a generator from obtaining a licence and does not require registration by the operator of such a generation facility if; (i) it has an installed capacity of less than 100 MW; and (ii) it is on the site of consumption and there is no wheeling needed for the delivery of the power.[60]

An on-site PPA has the advantage of including 'energy security', as if the local grid is offline through loadshedding or an unplanned outage, the on-site generator is able to continue supplying the business.

Power Purchase Agreement for off-site generation

A one-on-one PPA with an off-site generator would in the past only have been an option for a very large consumption need (such as a mine, refinery, etc.). These arrangements were difficult to navigate, because the 'wheeling' of electricity from the site of generation to the site of offtake was not properly supported from a regulatory perspective.

Schedule 2 of the ERA requires registration by the generator for any generator supplying to one or more customers through a wheeling arrangement. The registration process is not an onerous one but the key to such an arrangement is a 'wheeling' arrangement between the generator and the relevant grid providers, to enable it to deliver power to the off-taker.

Initially such arrangements were only possible if the generator and offtaker were located on the same grid. For example, within what was then Nelson Mandela Bay, PowerX was an early mover in securing a wheeling arrangement with the

60 ERA, Schedule 2, paragraph 2.3.

municipality enabling it to put power onto the grid on one part of the metro and allowing customers to draw power off the grid in a different part of the metro.[61]

Previously most PPAs on offer were with generators and were mostly for power offtake needs that were long-term in nature, requiring a commitment of sufficient term to fund the construction of the power facility. However, the market and regulatory framework has evolved to enable multiple customers to be supplied by one power plant.[62]

In addition to dealing with generators, there are several traders offering power purchase options. Operating as a trader in electricity still requires a licence under the ERA and is not subject to the exemptions that apply to generators. There are several licence applications with NERSA currently for traders which aggregate both generation supply and demand to create more flexible options for purchases.[63]

One example among many is the 'Discovery Green' platform, which describes its offer as follows:

> *"Rather than a single renewable energy generator supplying a single business, the Discovery Green renewable energy platform brings together a wide variety of businesses and their consumption profiles and connects them with leading international and local renewable energy providers. The platform uses traditional insurance principles like risk pooling and diversification to supply as much as 100% of a business's energy needs with renewable energy while protecting businesses from paying for wasted energy costs. This is achieved by reallocating excess energy across the platform, which allows businesses to meet their financial and decarbonisation goals in a single, simple transaction.*
> *Discovery Green expertly manages the platform to unlock the full benefits of renewable energy for businesses in South Africa. The platform is backed by Discovery's 30 years of experience in bringing innovation and actuarial expertise to market for positive change."*[64]

Further changes, expected once the NTCSA is fully functional, are expected to increase the opportunities for off-site generation.

61 In July 2023, the South African Local Government reported that Nelson Mandela Bay Metro has been wheeling to commercial and industrial customers for over 10 years. All wheeling is currently facilitated via energy trading companies, PowerX and Etana. The metro has been a front runner in the wheeling space – roughly 2.5% of the energy flowing in the metro is wheeled energy. See: https://www.sseg.org.za/wp-content/uploads/2023/07/SALGA-Status-of-Wheeling-Report-July-2023.pdf.

62 ERA, Schedule 2, paragraph 2.3 and 3.1.

63 See: https://partners.24.com/notice-of-application-for-a-licence-to-trade-electricity/index.html; and https://www.apolloafrica.co.za/tradinglicense; https://www.discoverygreen.co.za/assets/microsites/dgr/discovery-green-nersa-trading-license-application.pdf.

64 See: https://www.discoverygreen.co.za/portal/dgr/our-approach.

Wheeling

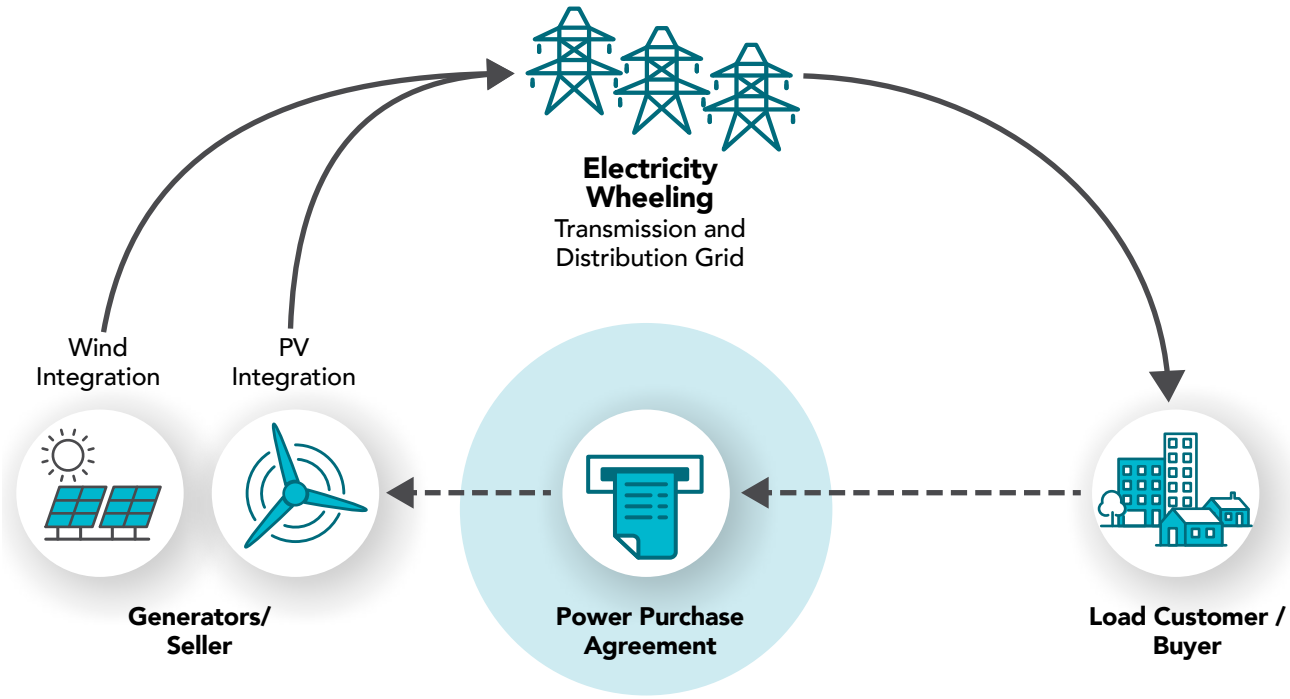
The figure below provides an overview of wheeling in South Africa:

A key driver of the increased access of private business to offsite renewable energy PPAs are the advances in the regulatory framework for 'wheeling'.

Wheeling arrangements are regulated by the ERA, South African Distribution Code,[65] and the NERSA Regulatory Rules on Network Charges for Third Party Transportation of Energy.[66] Wheeling of electricity is allowed, subject to the generator receiving its approvals from NERSA (such as registration) to sell to a third party and the signing of the network service provider's Connection and Use-of-System Agreement.[67] NERSA has recently published a consultation Paper on Network Charges for Third Party Wheeling of Energy and has indicated it intends publishing updated rules regarding this in late 2024, early 2025.[68]

The advent of 'virtual wheeling' facilitated by Eskom, is a significant milestone in simplifying arrangements between private customers and remote generators or traders. Eskom describes the

Figure 2: Electricity Wheeling



Source: Eskom

65 The South African Distribution Code as published by NERSA.

66 Regulatory Rules on Network Charges for Third Party Transportation of Energy published by NERSA (2012). Note that draft Regulatory Rules on Network Charges for Third-Party Wheeling of Energy were published for comments on 9 August 2024.

67 To wheel electricity utilising the distribution or transmission system owned by a licensed distributor/transmitter, the generator would have to enter into a CUOSA with the licensed distributor/transmitter. In terms of the CUOSA, the generator would pay a connection fee (to connect to the system) and a use of system fee to the licensed distributor/transmitter (for the use of the system). The buyer (end user) would be nominated as the offtaker and the nominated point of supply under the CUOSA.

68 https://www.nersa.org.za/invitation-to-comment-on-the-regulatory-rules-on-network-charges-for-third-party-wheeling-of-energy/

differences between traditional wheeling and virtual wheeling as follows.[69]

Traditional third-party wheeling involves a one-to-one relationship between the IPP and the offtaker or customer and requires an amendment to the Electricity Supply Agreement (ESA) that may be in place between the offtaker and Eskom, and where applicable, an amendment of the ESA between Eskom and a municipality.

Third-party wheeling led to limited uptake, and in the past generally only occurred between larger Eskom-connected buyers. The offtaker under this arrangement paid twice for the electricity usage (once to the IPP and once to the grid provider at the point of offtake) and had to wait for a rebate to balance the energy usage with the payments. Rebates are supplied from Eskom to the municipality and then from the municipality to the user.

Attempts to address concerns with this system have led to the 'virtual wheeling platform', which allows Eskom to calculate the off-taker's wheeled electricity refund. The off-taker continues to pay Eskom or their municipality as normal, with Eskom providing a wheeled energy refund at the end of the month, for the power put into the system by the generator. This allows wheeling to take place without an amendment to the ESA.

The private business off-taker would generally not be responsible for making wheeling arrangements and obtaining other approvals. This would be the responsibility of the PPA counterparty.

An offsite PPA with a renewable energy IPP or trader, will give long-term price certainty and allow the business to meet carbon reduction and green energy commitments.

Virtual wheeling allows for wheeling to take place without an amendment to the ESA.

Wheeling and loadshedding arrangements

The purchase of power from an offsite IPP does not generally allow the purchaser to avoid loadshedding or continue generating if the local grid is offline due to scheduled (loadshedding) or unscheduled (maintenance) outages.

This is because the Grid Code requires that loadshedding take place on a non-discriminatory basis[70] and there is currently no means to isolate particular parts of the gird to continue receiving power in the event of an outage.

69 https://www.eskom.co.za/distribution/wp-content/uploads/2023/07/20230710_-9553-Virtual-Wheeling-Digital-Brochure-FINAL.pdf.

70 The South African Grid Code as approved by NERSA.

Conclusion regarding procurement options

The options available to the private sector for procurement of power through a PPA have significantly expanded in recent years to promote private procurement of renewable energy.

Customers can enter into PPAs for renewable energy. Wheeling of electricity through the transmission network allows IPPs to sell directly to customers (while still paying for the use of the electricity grid). In this manner, businesses can ensure sustainable electricity supply which aligns with environmental goals and reduces their carbon footprint.[71]

Previous 'red tape' requirements set by the ERA that constrained the ability to generate electricity without a licence have been removed. There is therefore opportunity to undertake generation projects without a licence, which reduces regulatory hurdles and delays.[72]

The registering of energy traders and virtual wheeling[73] enables large-scale projects to have access to small, private off-takers or low-energy users (and vice versa). This allows for diversification away from single off-taker agreements with large energy users, providing a more robust and resilient revenue stream for project developers,[74] and allows private sector off-takers more flexibility and a better risk balance.

The establishment of the NTCSA will in future enable it to operate as a single-buyer entity to purchase power from Eskom and IPPs. This will allow IPPs to directly compete with Eskom and will allow private off-takers flexibility to select an electricity seller.

Loadshedding and its severe impacts on businesses has led to a need for energy security. Energy-intensive users have increasingly preferred investing in battery storage systems combined with solar PV and onshore wind projects, the combination of which offers a more cost-effective and sustainable solution.[75]

71 GreenCape, "Large-scale renewable energy market intelligence report", 2024. Available at https://greencape.co.za/wp-content/uploads/2024/08/Large-scale-RE-MIR-2024-digital.pdf.

72 GreenCape, "Large-scale renewable energy market intelligence report", 2024. Available at https://greencape.co.za/wp-content/uploads/2024/08/Large-scale-RE-MIR-2024-digital.pdf.

73 This will enable companies with multiple offtake sites to connect to generators using the Eskom or municipal grids and is anticipated to be rolled out by the end of 2024. This requires an automated process to collect, aggregate, and report time-of-use data for energy generated and consumed by generators and buyers in order to provide a refund to the buyer for wheeled energy delivered to all of its offtake sites on a consolidated basis. (see: https://www.eskom.co.za/distribution/wp-content/uploads/2023/07/20230710_-9553-Virtual-Wheeling-Digital-Brochure-FINAL.pdf).

74 GreenCape, "Large-scale renewable energy market intelligence report", 2024. Available at https://greencape.co.za/wp-content/uploads/2024/08/Large-scale-RE-MIR-2024-digital.pdf.

75 GreenCape, "Large-scale renewable energy market intelligence report", 2024. Available at https://greencape.co.za/wp-content/uploads/2024/08/Large-scale-RE-MIR-2024-digital.pdf.

Contractual and regulatory framework for own generation

In the case of own generation of electricity, a business would purchase the power plant and installation from a third party. The business can also purchase operations and maintenance services. It may arrange project-based funding for the plant or fund it from the balance sheet. There are differences in the regulatory and contractual regime from a PPA arrangement, and these would include:

- The business would own the plant (and have the plant on their balance sheet), it would as such be able to receive income for any excess electricity that it was able to on-sell.
- The business would have the risk if the plant was not constructed on time or was not functioning during the term of the PPA (in some instances, however, an operations and maintenance contract with the construction company could mitigate this risk).
- The business would generally be responsible for obtaining all required authorisations and approvals, including if necessary, wheeling and generation registration or licensing. In some instances, this obligation could be passed down to the construction company installing the facility, but as the site and facility owner the business is likely to retain some risk.
- The construction price of the power plant and any operations and maintenance is not regulated by NERSA.
- The business would generally pay upfront for the plant and not for power produced and delivered.

The business would be the 'generator' under the ERA. Schedule 2 of ERA exempts such a generator from obtaining a licence.[76] Most municipalities however require registration of the generation facility with the municipality and require the business to switch to a 'time of use' tariff.[77] This is particularly the case if the business wishes to 'export' excess electricity or take advantage of net billing. Similarly, registration with Eskom will be required if the system can feedback power on to the Eskom grid.[78]

Sales of excess energy

When the EAP was published, one of the measures included was that Eskom would be allowed to procure power from existing private generators that have installed solar panels and can supply their excess power to the grid. The EAP indicated that the DMRE was working closely with Eskom to ensure that the necessary approvals were waived or granted to enable this approach. The 18-month update on the EAP stated that NECOM's current focus is on implementing measures that will incentivise businesses to feed excess power into municipal and Eskom distribution grids and drive increased uptake.[79]

There have been significant advances in the regulatory framework, as well as the appetite by Eskom and municipalities for sales of excess energy from on-site facilities. A key constraint for the willingness of Eskom and municipalities to accept and compensate a private generator for excess energy is that excess energy is generally created by businesses at 'off peak' times when the system is not in fact in need of additional energy.

As such, 'time of use' tariffs are an important aspect of an enabling framework for excess energy sales. As the 'off-peak' value received is generally low, businesses need to consider the benefits of off-

76 ERA, Schedule 2, paragraph 2.

77 See Metropolitan Municipalities: Buffalo City, Cape Town, Ekurhuleni, eThekwini, Johannesburg (see the connection application process), Mangaung, Nelson Mandela Bay, Tshwane.

78 See the SSEG guidelines published by Eskom: https://www.eskom.co.za/distribution/small-scale-embedded-generators/.

79 See: https://www.stateofthenation.gov.za/assets/downloads/Update_EnergyActionPlan_18Months.pdf.

peak sales and may be better off increasing their own battery storage facilities to release the excess electricity during peak periods.

As excess electricity is delivered into the local network, it is the specific municipality or Eskom with whom any arrangement for sales of excess energy must be made. This will be the network provider currently billing the customer.

Net billing is a mechanism that is used to compensate a customer when their electricity generation is synchronised or tied with the grid, and electricity is exported. The compensation is based on an export tariff. In other words, these customers are 'credited' for the electricity added to the grid and this is offset against consumption charges. In general, the Network Service Provider (NSP) does not make an actual payment for power.

Net billing is the first step to enabling excess electricity sales. As this can be done by municipalities and Eskom without a formal procurement approval, it is generally the first aspect of enabling excess energy sales. In April 2023, NERSA published the draft Net Billing Guidelines for public comment. The objective of the guideline was to advise distributors on how best to develop net billing tariffs to compensate embedded generator (EG) customers for feeding into the grid, and to set out the principles under which net billing tariffs could be developed.[80]

While the Net Billing Rules are yet to be finalised, many municipalities are implementing net billing in line with the draft guidelines.[81] These aim to provide guidance to distributors of electricity as to how they should develop net billing tariffs and sets out the principles under which net billing tariffs can be produced using a standardised approach.

Eskom implements net billing ('energy offset') in terms of small-scale embedded generation (SSEG). This involves balancing exported surplus to offset current billed consumption, or banking surplus to offset future billed consumption within the financial year, through appropriate tariffs and agreements.[82] In other words, customers can use the exported surplus to credit their electricity bill. An amendment to the Electricity Supply Agreement is required to stipulate this offset credit.

Embedded generation export credits are typically around half the rate that customers pay for electricity purchased from the municipality. So, an embedded generation customer would need to export at least double the amount of electricity into the grid than what they purchase from the municipality.[83] It is for this reason that consideration should be given to increasing on-site battery storage capacity to utilise excess electricity during peak times as an alternative.

If total payments to a customer in a year by Eskom or a municipality are more than the customer spends on electricity in the year, this would amount to 'procurement' of electricity by the municipality or Eskom from the customer. This would only be done through a procurement process or a deviation approval or exemption under the Public Finance Management Act 1 of 1999 or the Municipal Finance Management Act 56 of 2003. As such, this is the upper limit on net billing arrangements. The NSP or grid operator can never make an actual

80 See: https://www.nersa.org.za/wp-content/uploads/2023/04/Draft-net-billing-framework.pdf.

81 See, for example, eThekwini, Nelson Mandela Bay, Ekurhuleni: https://ee-services.durban.gov.za/onlineservices/pages/eg/about.html ; https://nelsonmandelabay.gov.za/DataRepository/Documents/nmbm-electricty-tariff-book-2023-2024_1Em12.pdf ; https://www.ekurhuleni.gov.za/wp-content/uploads/2024/04/A-F-20-2024Annexures-F-Tariffs.pdf.

82 See compensation for energy exported to the grid: https://www.eskom.co.za/distribution/small-scale-embedded-generators/.

83

payment but can only net-offset consumption charges without formal procurement approval. There are currently not many formal procurement programmes for excess electricity at municipal level or from Eskom.

In January 2023, the City of Cape Town announced that people and businesses with SSEGs would be able to receive cash for selling excess power into Cape Town's grid.[84] This was enabled by the National Treasury exempting the city from competitive bidding processes that may otherwise apply to this process.

Eskom developed the Standard Offer Programme in 2022[85] (SOP) to facilitate and compensate excess electricity sales. The SOP is specifically referenced under the EAP. However, it only had a target of 1 000 MW, which has already been met. As this would be a procurement programme, it would need to get updated approvals to continue.

Own generation of renewable energy

The EAP encourages the installation of rooftop solar PV.[86] The 18-month progress report on the EAP announced that rooftop solar PV installations have exceeded expectations, with small-scale embedded generation (SSEG) now contributing at least 4% of South Africa's electricity generation.[87]

A significant factor in the expansion of rooftop solar installations was the tax rebate for solar panels implemented in the 2023/24 tax year. It was announced during the 2023 budget speech that:

> *"Individuals who install rooftop solar panels from 1 March 2023 will be able to claim a rebate of 25 per cent of the cost of the panels, up to a maximum of R15 000. This can be used to reduce their tax liability in the 2023/24 tax year. This incentive will be available for one year."*

'Feed-in' of electricity has also been used to incentivise greater uptake of rooftop solar. Feed-in means the feeding of unused electricity back into the grid, where a person may receive credit on their electricity bill or receive payment as per the agreed feed-in tariff.

84 See: https://www.itweb.co.za/article/capetonians-to-sell-excess-electricity-to-local-grid-for-cash/WnxpE74YdKKMV8X.

85 See: https://www.eskom.co.za/distribution/standard-offer/.

86 See: https://www.gtac.gov.za/wp-content/uploads/2022/08/Keynote_an-overview-of-the-renewable-energy-landscape-in-South-Africa_Chanda-Nxumalo.pdf.

87 See: https://www.stateofthenation.gov.za/assets/downloads/Update_EnergyActionPlan_18Months.pdf.

4. Conclusion

The energy sector is evolving at a rapid pace in South Africa. Many of the policy and legislative changes introduced support investment in renewable energy procurement or own generation by businesses or individuals.

As this is a contentious space and developments can be difficult to keep track of, businesses are advised to keep up to date with developments in this sector, so that they can best manage their operations and other such environmental-related obligations.

Legislation supportive of South Africa's climate change commitments will further assist businesses in understanding and meeting their own environmental commitments and obligations.

Appendix 1

The NERSA Registration Procedure

NERSA has published a "Registration Procedure in terms of Schedule 2 of the [ERA]"[88] (Registration Procedure), which is aimed at enabling NERSA to evaluate and effect registration of qualifying applications as mandated by the ERA and in accordance with Schedule 2.

The owner or operator of a facility required to register it, must complete the application for registration of an electricity generation facility in terms of Schedule 2 of the ERA (the Registration Form), which is a standard form. The form must be accompanied by a registration fee. Applications are required to be evaluated and within seven working days of receipt, approved entities will be notified by NERSA and provided with a registration certificate. The registered facilities must comply with a number of technical standards and/or specifications issued in terms of the ERA.[89]

The registration process is not automatic. According to section 9(3)(b) of the ERA, NERSA may refuse to register a person or activity:

(i) If the application is not made within the prescribed period or is not accompanied by the prescribed fee; or
(ii) If the application is contrary to the objectives of the ERA.

Procedurally, entities are required to provide information or obtain the approvals set out in clause 7 of the Registration Procedure in order to be registered.

The Network Service Provider (NSP) could be either Eskom or a municipality, depending on the distributor in the area in which a facility is intended to operate. The approvals required are:

- A consent letter from the licensed NSP confirming that there is network capacity to accommodate the proposed generation facility and that it meets the NSP's requirements; and
- A wheeling agreement with the NSP, if applicable.

The NSP however may not unreasonably deny grid connection to an eligible generator. This accords with the obligation that licensed distributors have under ERA to allow access to any person wanting to connect to the network and may not refuse an embedded generation facility connection, provided such access does not violate any technical and safety requirements as set out in the relevant Grid Codes, licence conditions, and tariff schedules.[90]

88 Version 3 is dated 10 October 2021, see: https://www.nersa.org.za/wp-content/uploads/bsk-pdf-manager/2021/11/Registration-Application-Procedure.pdf.

89 (a) NRS 097 Parts 1 and 2: Grid Interconnection of Embedded Generation; (b) South African Grid Codes; (c) South African Grid Code Requirements for Renewable Power Plants; (d) SANS 10142 Parts 1 to 4: The Wiring of Premises; (e) NRS 047: Electricity Supply: Quality of Service; (f) NRS 048: Electricity Supply: Quality of Supply; (g) NRS 057/SANS 474: Code of Practice for Electricity Metering.

90 See: https://www.greenbuildingafrica.co.za/wp-content/uploads/2024/02/Status-of-EG-in-South-African-Municipalities-2023-FINAL_140224.pdf.

NBI
National Business Initiative

5th Floor, 61 Katherine Street, Dennehof, 2196
PO Box 294, Auckland Park, Johannesburg 2006, South Africa
0861 123 624 (0861 123 NBI)
www.nbi.org.za
Reg. No. 1995/003141/08 Association Incorporated under Section 21 I Vat Number: 4070158433