NBI 30 Years
National Business Initiative

Analysis of the South African wholesale electricity market

AND ITS IMPLICATIONS FOR BUSINESSES AND MUNICIPALITIES

February 2026

Developed in collaboration with

CLIMATE GROUP
RE100

Contents

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INTRODUCTION AND CONTEXT OF POWER MARKET REFORMS IN SOUTH AFRICA

South Africa's electricity sector is undergoing its most far-reaching reform in decades. The creation of the South African Wholesale Electricity Market (SAWEM) represents a fundamental shift from Eskom's historical monopoly as generator, transmitter, and single buyer to a competitive, transparent, and rules-based market structure. This transition is designed to improve competition and efficiency, restore reliability, re-allocate risks, attract private capital, and modernise the country's power system governance.

The purpose of this briefing note is to explain SAWEM's design and transitional arrangements and to evaluate its operational, financial, and risk implications for two key constituencies:

1. **Businesses** — including independent power producers (IPPs), energy traders, aggregators and large mining, industrial and commercial customers; and
2. **Municipal electricity distributors** — including metros and other municipalities who might consider qualifying to be market participants.

The analysis focuses on what SAWEM means in practice: how it will function, how businesses and municipalities can participate strategically, and what capabilities they will need to succeed. It follows a previous Note on South Africa Policy Recommendations for Renewable Electricity, developed by NBI and RE100, which supported power market reforms, integrated planning, scaling of corporate procurements, wheeling and power purchase agreements, the roll-out of transmission infrastructure, and trading of green attributes.

The Electricity Regulation Amendment Act (2024), signed into law by the President on 1 January 2025, provides the legislative foundation for current power sector reforms. It enables the establishment of a Transmission System Operator (TSO), responsible for transmission, system and market operation, and the administration of a Central Purchasing Agency (CPA). In the interim, a subsidiary of Eskom Holdings, the National Transmission Company South Africa (NTCSA), will fulfil the functions of the TSO but must evolve within five years into a fully independent state-owned company outside of Eskom.

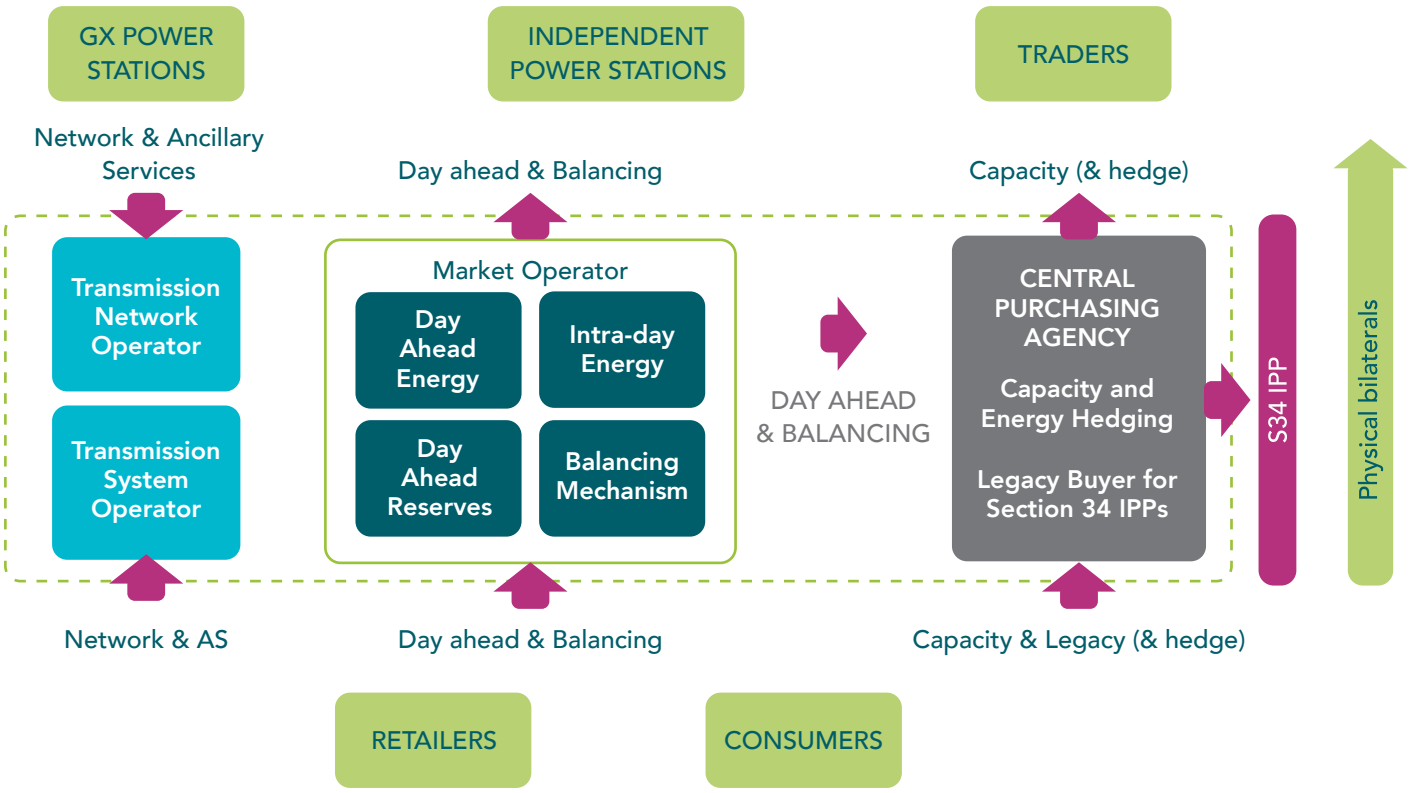
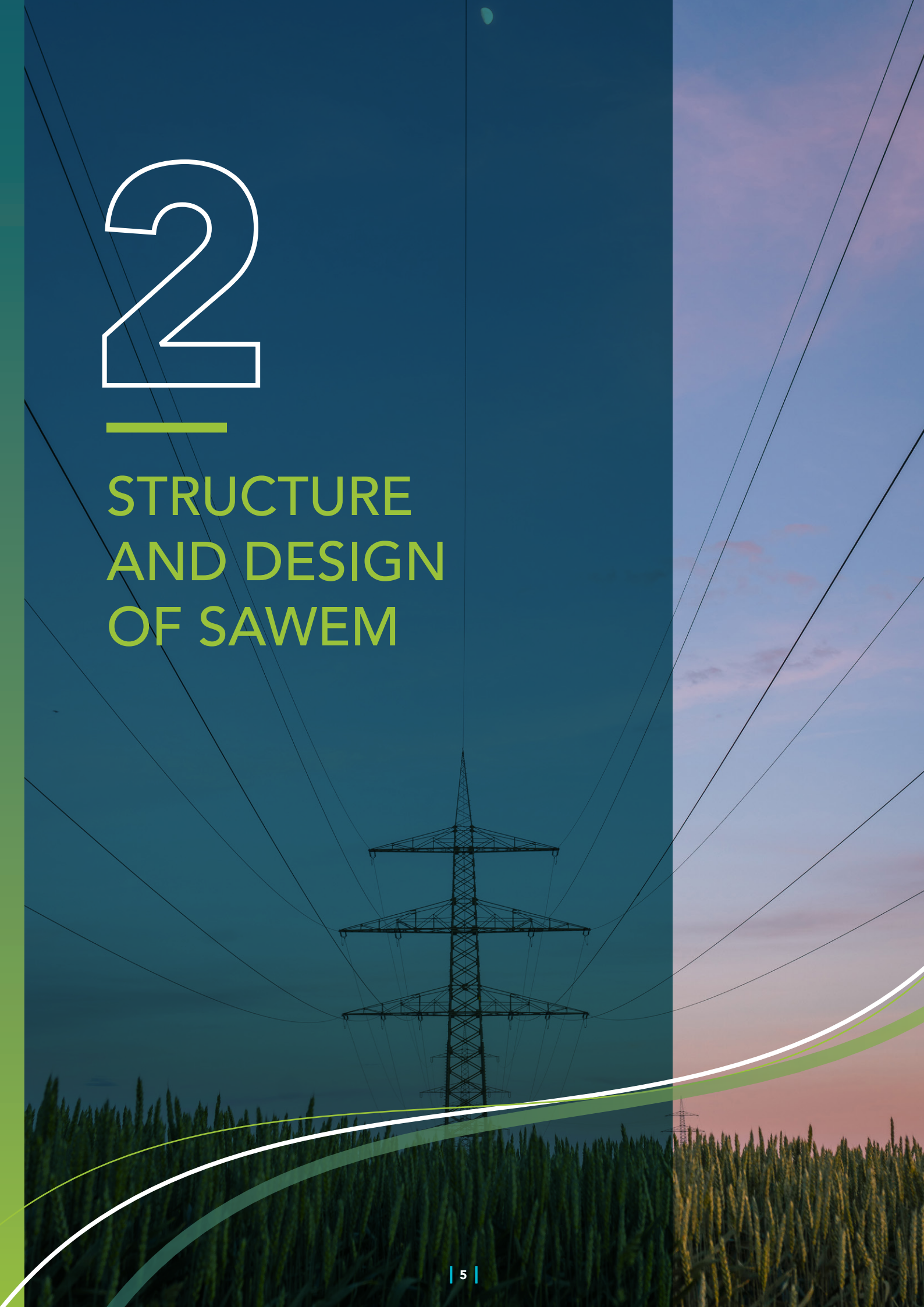


Figure 1: Proposed Multi-Market Model (source: NTCSA)

The same Act also provides for the Market Operator to provide for a transparent, non-discriminatory trading platform and for the development of a Market Code, including qualifying criteria for power market participants, approved by the Regulator (NERSA). The trading platform and trading mechanism is envisaged to be a competitive multi-market structure, which provides for market transactions, physical bilateral transactions and regulated transactions. The Market Code outlines the rules, roles, and processes governing trading, balancing, settlement, and prudential management.

Implementation is already well advanced. The Market Operator licence has been submitted to the National Energy Regulator of South Africa (NERSA), and the Market Code has undergone extensive consultation through numerous workshops, opportunities for submission of comments, engagements with stakeholders, and subsequent revisions. A shadow market phase is planned for late 2025 and early 2026, during which participants will be able to test forecasting, scheduling, and settlement systems, without financial exposure. Full market operations are targeted for April 2026, though some slippage to 2027 remains possible.

SAWEM is therefore not a single event but a phased process of licensing, rules development, testing, market launch and, if required in the future, rule amendments or additions — allowing the sector to build confidence and capability as the market develops.



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STRUCTURE AND DESIGN OF SAWEM

2.1 Institutional framework

The institutional design of SAWEM clarifies the distinct functions required for an efficient and credible electricity market:

- **Market Operator (MO)** – Responsible for running the Day-Ahead Market (DAM), Intraday Market (IDM), Day-Ahead Reserves Market and Balancing Mechanism. This includes executing market price clearing and settlement, producing initial merit-based dispatch schedules and publishing transparent market data. It administers prudential requirements, maintains trust accounts for market participants and ensures compliance with collateral and credit cover rules.
- **System Operator (SO)** – Oversees real-time balancing and secure operation of the power system, issuing dispatch instructions and coordinating ancillary services.
- **Central Purchasing Agency (CPA)** – Acts as financial counterparty for Eskom generation vesting and legacy IPP contracts. It trades the latter volumes into the DAM and recovers any difference between contract and market prices via the Legacy Charge, approved annually by NERSA.
- **Regulator (NERSA)** – Licenses and regulates the MO and SO as well as non-exempt generators, the national transmitter, distributors, traders, importers and exporters, approves the Market Code and any amendments, and ensures transparency and fairness.
- **Market Governance Bodies** – The MO will establish a Market Surveillance Unit for compliance and conduct monitoring and a Market Governance Committee (MGC) for rule oversight. The MGC will establish a Modifications Subcommittee for rule changes and a Dispute Resolution Board to facilitate simple, quick and inexpensive dispute resolution.

The implementation of a competitive market is facilitated by a Transmitter, which maintains and operates the high-voltage transmission system, develops and implements transmission development plans, ensures reliable grid services to generators and customers, provides non-discriminatory access to the transmission power system to third parties, and develops and implements transmission use of system charges and transmission charges subject to the approval of the Regulator.

The proposed threshold and qualifying criteria (subject to approval by NERSA) to become a Market Participant in the SAWEM are:

- licensed or registered generators with a capacity of 100 kW or more, connected either directly to the transmission or distribution grid at medium- or high-voltage;
- licensed Trading, Distribution and Transmission entities;
- holders of import/export licences; and
- large consumers connected at medium or high voltage.

Market participants are Balance Responsible Parties (BRP), acting either directly or through an agent, who must forecast, nominate, and settle imbalances. Generators outside the organised market — such as IPPs with long-term bilateral power purchase agreements (PPAs), above a threshold capacity — are also deemed balance-responsible and must nominate schedules to the MO and assume financial responsibility for any imbalances from its schedules.

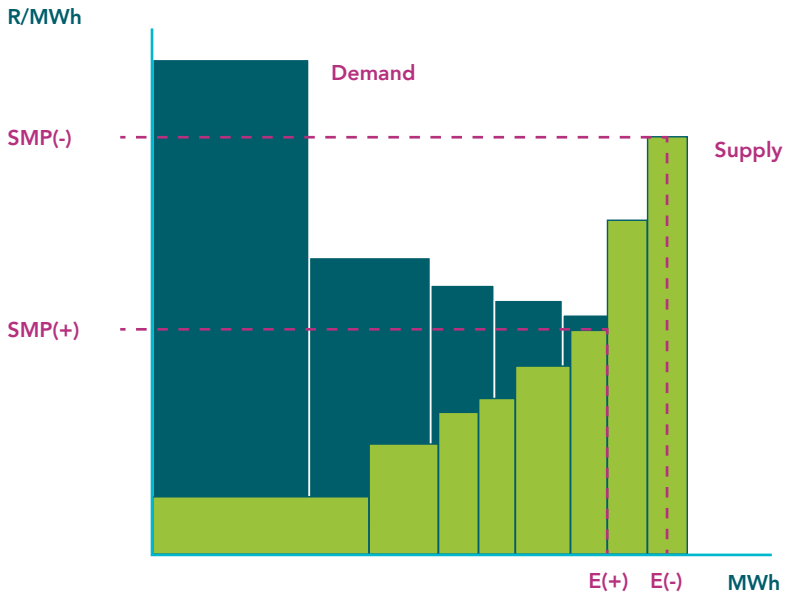
2.2 Market architecture

SAWEM operates as a hybrid "net pool" market, combining features of bilateral contracting and centralised dispatch. It is primarily an energy and reserves market. It is envisaged that in the future a capacity market or capacity remuneration mechanism will also emerge.

Day-Ahead Market (DAM)

The Day-Ahead Market forms the cornerstone of SAWEM. It establishes a System Marginal Price (SMP) and assists in producing the initial dispatch schedule for the following day, matching expected generation and consumption. The SMP is a national clearing price.

Market Participants submit bids and offers to the Market Operator by the day-ahead gate closure at 10:00 on the day prior to delivery. These submissions include energy price–quantity pairs, declared technical parameters (such as minimum stable generation and ramping rates), and reserve offers where applicable. The Market Operator then conducts an unconstrained market clearing to determine the SMP and the corresponding volumes of energy and reserve to be dispatched. This unconstrained run reflects purely economic merit order and ignores network limits, ensuring that all market participants face a single transparent price signal.



- **Supply curve:** price increments offered by generators / traders, bound by technical parameters
- **Demand curve:** expected demand for consumers / traders / retailers adjusting for price responsive capability
- **Price** set by marginal generator (after accounting for price responsive demand and technical parameters / constraints)

Figure 2: Day Ahead Market – Supply, Demand and System Marginal Price (source: NTCSA)

Immediately following the unconstrained run, the Market Operator executes a security-constrained schedule that incorporates transmission limits, losses, and reserve requirements supplied by the System Operator through the definition of network zones. Any differences between the unconstrained and constrained schedules are published and affected market participants are subject to a "lost opportunity payment" for the difference between the unconstrained and constrained result, providing transparency on where system bottlenecks or transmission congestion occur. The Market Code stipulates that both schedules (unconstrained and constrained) must be published by 14:00 on the day before the Trading Day, giving all participants four hours to review results before the first Intraday Market auction begins that evening.

A distinctive feature of the SAWEM design is co-optimisation of energy and reserve products within the same clearing process. In the day-ahead auction, the Market Operator simultaneously determines the least-cost combination of energy dispatch and reserve procurement to meet demand and reliability criteria set by the System Operator. This means that a generator's opportunity cost of providing reserve capacity (for example, holding back a portion of capacity from the energy market to be available for regulation or contingency) is directly reflected in its total revenue stream. The co-optimisation process produces two output prices: an energy SMP and a corresponding reserve price for each type of reserve (Instantaneous, Regulating, and Ten-minute) as well as the individual market participant´s schedule for both energy and reserves.

Day-Ahead schedules serve as binding energy positions for all Balance Responsible Parties (BRPs) unless modified through the Intraday Market. In addition, each BRP's submitted nominations based on bilateral agreements in total define its energy commitment for each hour of the Trading Day, forming the reference point for later imbalance settlement. The DAM results therefore establish not only financial outcomes—such as day-ahead revenues and costs—but also operational obligations that carry through to real-time dispatch.

The day-ahead process under SAWEM mirrors international best practice, providing the essential price discovery and scheduling foundation for efficient power system operation. **It delivers transparency, encourages competition between generators, and creates clear incentives for accuracy** in forecasting and bidding.

By linking energy and reserve markets through co-optimisation, the DAM also supports greater integration of variable renewable generation and storage, ensuring that the South African power system moves towards a more flexible, reliable, and cost-reflective market framework.

Intraday Market (IDM)

The Intraday Market allows participants to refine their energy positions closer to real time, reducing exposure to imbalance charges and helping the system operator maintain balance as demand and supply forecasts evolve. While the Day-Ahead Market (DAM) establishes the initial energy schedule and System Marginal Price, the IDM provides structured opportunities for market participants to adjust their declared availability or consumption as actual system conditions become clearer during the trading day.

Under the Market Code, the IDM operates through a series of auction clearings every six hours, ensuring regular opportunities for participants to update their positions. Gate-closures for these auctions occur at 18:00 on the day before the Trading Day, and then at 00:00, 06:00, 12:00, and 18:00 on the Trading Day itself.

Before each gate-closure, participants may re-declare their Declared Available Capacity or Declared Consumption for each Trading Unit and for each remaining hour of the Trading Day. These re-declarations are included in the corresponding IDM auction clearing, after which the Market Operator issues revised schedules that take effect for the relevant trading block.

A participant may also elect for its Day-Ahead schedule not to be re-scheduled in the IDM. Balance Responsible Parties (BRPs) that are not registered as Market Participants cannot change their own schedules directly in the IDM, though adjustments may still occur if the System Operator applies network or system constraints, in which case those changes are treated as "on instruction."

Following each intraday auction, the Market Operator publishes the updated schedule within one hour of the auction clearing. These schedules reflect the revised availabilities, a constrained dispatch that respects network limits, and any adjustments to reserve allocations if units previously assigned to Instantaneous Reserve become unavailable. In those cases, other resources may be scheduled to restore reserve capacity and receive an additional reserve payment at the day-ahead reserve price.

By allowing re-declarations at fixed six-hour intervals and maintaining firm gate-closures before each auction, **the IDM balances flexibility with operational discipline**.

It gives participants a transparent mechanism to respond to short-term forecast changes while ensuring that the Market Operator and System Operator can preserve system reliability and manage risk effectively in the hours leading up to dispatch.

Balancing Mechanism (BM)

After the Day-Ahead and Intra-Day markets close, the Balancing Mechanism enables the System Operator (SO) to keep electricity supply and demand in real time precisely matched. It is the final market stage before physical dispatch, allowing the SO to instruct generators or demand-side resources to adjust their output or consumption so that the system frequency remains stable and network constraints are respected.

At the start of each trading period, the SO compiles balancing stacks from bids and offers already submitted in the Day-Ahead Market. The Balancing Energy Sold Stack ranks resources that can increase generation or reduce consumption in order of ascending price. The Balancing Energy Bought Stack ranks those that can decrease generation or increase consumption in descending order of price.

When the system requires upward or downward regulation, the SO dispatches units from these stacks according to economic merit, starting with the least-cost options consistent with operational constraints.

Each instruction issued by the SO constitutes a balancing action. Generators or demand resources that follow such instructions are remunerated through Balancing Payments (on instruction), calculated using the Balancing Price (Selling) for upward actions and the Balancing Price (Buying) for downward actions. Deviations that occur without instruction are settled under Balancing Payments (against instruction), which can attract penalties if they worsen the system imbalance. Smaller deviations that fall within the Metering Accuracy Band (±5%) are not subject to the relevant balance price payments, recognising the practical limits of metering precision.

The balancing prices themselves are derived from the marginal accepted bids or offers in the respective stacks, but they may be capped by the Market Price Cap and adjusted by a Balancing Penalty Factor to discourage deliberate imbalances. All balancing transactions are aggregated into the Market Balancing Account, which the SO manages and later recovers as an ancillary-service cost.

In essence, the Balancing Mechanism provides a **transparent and rules-based means of fine-tuning the power system close to real time**, ensuring that the inevitable deviations from scheduled positions are corrected promptly, cost-effectively, and on fair commercial terms for all participants.

Balance Responsibility

Balance Responsibility lies at the heart of the SAWEM. It ensures that every megawatt generated (above the minimum MW threshold), traded, scheduled, or consumed is ultimately accounted for by an entity legally responsible for maintaining balance between its forecasted and actual positions. In simple terms, each Balance Responsible Party (BRP) must predict how much electricity in total it will generate or consume (taking into account both market trades and bilateral trades), nominate any bilateral schedules to the Market Operator (MO), and then manage its operations to stay close to that plan. Any difference between what was scheduled and what was physically delivered becomes a financial exposure settled through the Balancing Mechanism. BRPs can form groups to net deviations, lowering imbalance exposure.

Under the Market Code, balance responsibility is not optional. All participants above the qualifying threshold, generators with a maximum export capacity of 10 MW or more, traders, distributors not purchasing from another BRP, and large end-users participating directly in the market—must either register as BRPs or designate a third party to assume the obligation on their behalf. At market commencement, Eskom Generation and Eskom Distribution, the Central Purchasing Agency (CPA), and all qualifying IPPs and traders are automatically deemed balance responsible. Smaller generators and loads below the 10 MW *de minimis* threshold are exempt to avoid unnecessary administrative complexity.

The essence of balance responsibility is forecasting discipline. Each BRP must forecast its expected production or demand for every trading period and submit these nominations to the MO during the Day-Ahead Market. As real-time conditions change, the BRP can fine-tune its position in the Intraday Market, but once gate closure passes, deviations are settled financially.

Over-generation results in the MO buying surplus energy from the BRP; under-generation requires the BRP to buy shortfall energy at the prevailing balancing price. During the transition to full market operation, these imbalance prices are temporarily pegged to the System Marginal Price (SMP) ± 5%, cushioning participants as forecasting and metering systems mature.

Balance responsibility is designed to introduce commercial discipline into the power system. By internalising the cost of forecast errors, it encourages **more accurate scheduling, promotes investment in flexibility such as storage, and reduces the need for costly system balancing** by the System Operator.

To support this, the Market Code requires BRPs to conclude a Balancing Agreement with the MO, post sufficient credit cover, and maintain operational readiness, real-time metering, telemetry integration, and the ability to respond to dispatch instructions within statutory timeframes.

Practically, balance responsibility transforms the behaviour of market actors. IPPs that once sold their output under fixed-price, take-or-pay PPAs must now manage production risk, with the possibilities of blending long-term contracts with partial market exposure. Traders and aggregators may take on BRP obligations for portfolios of smaller generators or customers, optimising them collectively to minimise imbalance charges. Large industrial consumers with flexible processes can use load management to stay balanced, or even earn revenue by offering reserve services.

In short, balance responsibility converts forecasting accuracy and operational agility **into a competitive advantage**, aligning commercial incentives with the physical stability of the South African power system.

Imbalance Settlement

Imbalance Settlement is the financial process through which deviations between a Balance Responsible Party's (BRP's) contracted and actual positions are reconciled. It closes the loop of the market chain, following the Day-Ahead and Intra-Day markets, and the Balancing Mechanism, by ensuring that every megawatt generated or consumed is ultimately paid for at the appropriate price.

At the close of each Trading Day, the MO calculates each BRP's net energy position using metered Actual Energy data, validated schedules (based on market and bilateral trades), and System Operator dispatch instructions. Any variance between a BRP's Instructed Energy and its Actual Energy constitutes an imbalance. Where a BRP generates or consumes more than scheduled, the surplus is treated as Imbalance Energy Sold; where it generates or consumes less, it is Imbalance Energy Bought. These quantities are settled using the corresponding Balancing Price (Selling) or Balancing Price (Buying) derived from the marginal actions of the System Operator in the Balancing Mechanism. Prices are capped by the Market Price Cap and subject to imbalance price differentials designed to incentivize accurate forecasting.

The settlement process unfolds over a defined Settlement Cycle. Within five business days of each Settlement Day, the MO issues Initial Settlement Statements, supported by Indicative Statements that allow BRPs to verify data within the Data Verification Period. Each BRP's obligations are netted to produce a Self-Billing Invoice (where the MO owes payment) or an Invoice (where the BRP owes payment). Payments and receipts flow through Trading Clearing Accounts held with approved banks, ensuring ring-fenced treatment of funds. All balancing-related inflows and outflows accrue to the Market Balancing Account, managed by the System Operator and recovered as part of ancillary-service costs.

The Market Code sets out detailed credit and prudential requirements to safeguard financial integrity. Each BRP must post sufficient Credit Cover, which must be sufficient to secure exposure over the calculated Settlement Risk Period, as determined by the Market Operator using methodologies approved by the Market Governance Committee. The MO monitors compliance daily and may issue a Warning Notice or Default Notice if credit levels fall below prescribed limits. Persistent default can lead to Suspension Orders, ensuring that systemic risk is contained and other participants are protected.

Through this structured framework, imbalance settlement transforms operational deviations into transparent financial outcomes.

BRPs that accurately forecast and operate within schedule avoid penalties and recover fair value for their energy, while those who deviate bear the cost of their imbalances. The clearing system ensures that the Market Operator remains a neutral intermediary, with all payments balanced and traceable. Together, imbalance settlement and market clearing provide the commercial discipline and financial stability essential for a credible, competitive electricity market in South Africa.

International trades

Parties wishing to trade internationally are required to hold **both an Import and Export Licence** issued by NERSA under the Electricity Regulation Act, and to be recognised Market Participants in the SAPP markets.

The System Operator (SO) determines the available transfer capacity on all interconnectors and acts as South Africa's Balance Responsible Party towards the Southern African Power Pool (SAPP), reporting all scheduled cross-border flows to the Market Operator (MO). The MO represents SAWEM participants collectively in regional markets by constructing a Net Export Curve (an aggregated export or import offer derived from all day-ahead orders in SAWEM) and submitting it into the SAPP Day-Ahead Market. Trades cleared in SAPP are treated as deemed flows in SAWEM's own market clearing, meaning that regional imports and exports directly affect South Africa's System Marginal Price (SMP) and dispatch schedules. If SAPP transactions produce a net benefit, where regional price differentials generate surplus value, this accrues to the Market Balancing Account to offset national balancing costs.

Participants without capacity-payment agreements may also trade directly in the SAPP Forward Markets (monthly and weekly) as well as the SAPP DAM and IDM , subject to SAPP's financial-settlement rules. These trades must be nominated to the MO and reflected in South Africa's interconnector schedules, ensuring operational coordination and financial integrity between the two systems. In this way, SAWEM functions as a nationally regulated market platform interoperable with the regional SAPP markets, enabling transparent and economically efficient cross-border electricity exchange while maintaining a single national price reference and consistent governance standards.

2.3 Contracts and transitional arrangements

Eskom Generation Vesting Contracts

Eskom's generation stations will operate under transitional vesting contracts that provide fixed cost recovery and a market-linked hedge. Each power plant will bid (at an agreed cost defined in the vesting contract) into the DAM, while the CPA manages financial hedges to stabilise prices during the transition. How these vesting contracts are structured and valued will be critical to the ensuring the future competitiveness of the market and to not locking in stranded costs to the disadvantage of customers.

Legacy IPP Contracts

Existing REIPPPP and private IPP contracts with Eskom will be transferred to the Central Purchasing Agency (CPA) as counterparty. The CPA will trade those volumes into the market and will recover any difference between the PPA price and the SMP via the Legacy Charge.

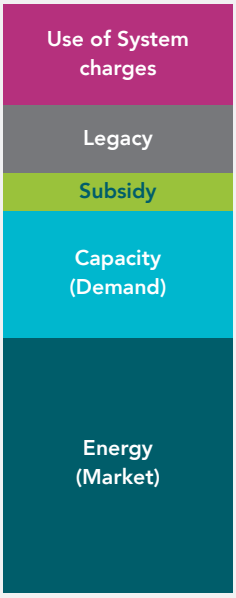
Municipal Vesting Contracts

Eskom Distribution will buy electricity through CPA vesting contracts with protection from SMP volatility by hedging the price towards a regulated wholesale tariff. Municipalities initially will continue to buy from Eskom Distribution, while a handful who meet financial and prudential qualifying criteria may elect to participate in part, or wholly, in the DAM and IDM. Over time, as they build financial sustainability and operational capacity, more municipalities may register as market participants and transact directly.

The CPA must publish annual reports on contract performance, recovery mechanisms, and adjustments to the Legacy Charge for NERSA approval.

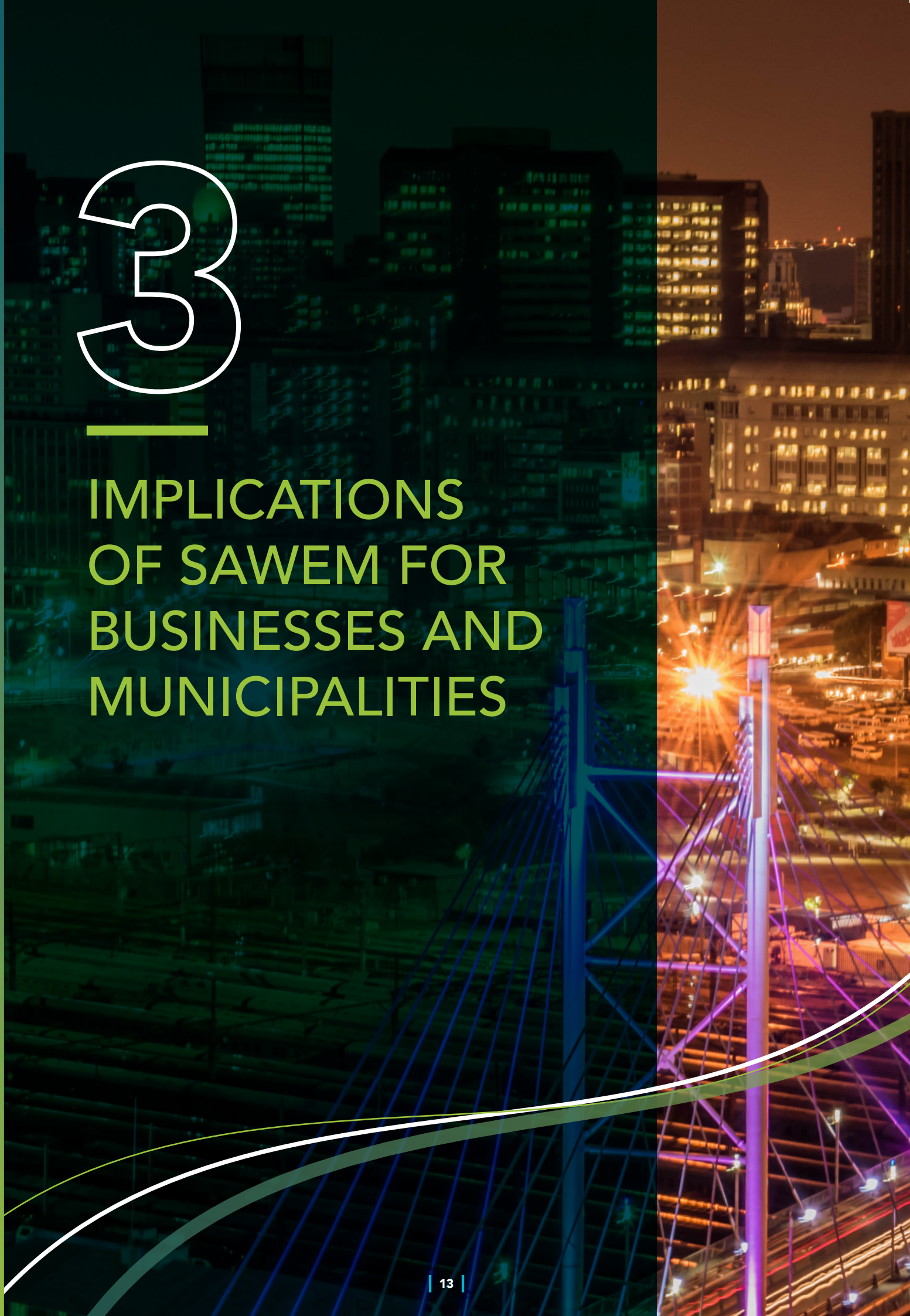
SAWEM (and bilateral contracts) will establish the energy price component of the wholesale tariff (which will be hedged for the majority of participants in the transition). **The rest of the wholesale tariff will be made up by the following components (Figure 3):**

- **Network charges (Tx & Dx)**
  Connection charges
  Network utilisation (demanded and fixed)
  Losses recovery charge
  Ancillary services
- **Legacy charges**
  Recovery of legacy costs (REIPPP, stranded assets)
  Potentially a fixed charge
- **Subsidy charges**
  Recovery of approved policy subsidies in tariffs, potentially including NPAs
  Potentially a fixed charge
  Requires a National Subsidy Framework
- **Generation Capacity or Standby charge**
  Reflects the fixed costs elements of standby for system support
  Charged as a demand charge on rolling 12-month maximum hour demand
  Could also have a Time of Use (TOU) component
  Impacted by diversity of usage
- **Energy tariff**
  Market price (or time-of-use differentiated tariff for downstream vesting contracts)



Proposed structure

Figure 3: Wholesale Tariff Buildup (source: NTCSA)



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IMPLICATIONS OF SAWEM FOR BUSINESSES AND MUNICIPALITIES

3.1 Businesses

Readiness

Successful participation in the South African Wholesale Electricity Market (SAWEM) requires a blend of technical, operational, and financial readiness. All IPPs, corporate buyers, energy traders, and aggregators must be capable of forecasting, nominating, and settling energy positions through the Market Operator (MO) and of managing the associated prudential and operational responsibilities.

The first requirement is forecasting and scheduling capability. Every participant must generate hourly forecasts consistent with SAWEM's Day-Ahead and Intraday timelines. Renewable generators, in particular, need integrated weather-to-power forecasting with automated data exchange to the MO. Balance Responsible Parties (BRPs), whether internal or contracted, must submit schedules, respond to dispatch instructions from the System Operator (SO), and reconcile outcomes through settlement.

Metering and telemetry infrastructure must meet the Market and Grid Code's performance standards. Certified meters are required at all registered points, with near-real-time telemetry accessible to both the MO and SO. Data integrity and cyber-secure communication are critical, as market schedules, dispatch signals, and settlement data will flow continuously across digital platforms.

Finally, prudential readiness is non-negotiable. Participants must maintain adequate credit cover to secure their potential settlement exposure. Credit cover is typically done through bank guarantees, cash collateral, or letters of credit. Smaller or project-financed IPPs will need to coordinate with lenders to ensure financing terms accommodate SAWEM's collateral and liquidity requirements. Treasury systems must be able to manage daily settlements, track exposures, and respond to Margin Calls promptly.

These readiness obligations, along with an understanding of market rule changes and dispute resolution mechanisms, collectively will assist in SAWEM participants meeting their operational and financial responsibilities, safeguarding market integrity.

Strategic Considerations

SAWEM's hybrid, voluntary market design, with mandatory balance responsibility, ushers in a new competitive landscape that rewards forecasting accuracy, flexibility, and financial sophistication.

- **Shorter-Term and Hybrid PPAs:** The shift from the single-buyer model and bilateral contracts to market-based trading is driving a new generation of shorter-term PPAs, typically spanning 5–10 years rather than the traditional 20-year contracts. Hybrid PPAs, combining fixed and market-linked components, are emerging as the preferred model for both corporate buyers and IPPs. These allow a share of output to be sold at a pre-agreed fixed price (providing a revenue floor) while the remainder is exposed to market prices in the Day-Ahead Market (DAM) or Intraday Market (IDM). This approach provides a natural hedge, stabilising income while enabling upside participation during high System Marginal Price (SMP) periods.
- **Storage-Hybrid Projects:** Rapid technological advances and cost reductions have made solar and/or wind plus battery configurations commercially compelling. Storage enables energy time-shifting to capture peak SMPs, provides firming capacity for variable renewables, and earns additional revenue through reserve and ancillary-service markets. Hybrid plants that co-optimise across energy and reserve products will be able to access new revenue streams, while providing valuable services to the System Operator.
- **Demand Flexibility and Aggregation:** Large industrial users and aggregators can monetise demand response by curtailing or rescheduling load in response to price signals or SO instructions. These flexible loads can participate in reserve markets, providing instantaneous or regulating capacity. Aggregators who pool smaller participants (renewable IPPs, SMEs, or behind-the-meter resources) will become key intermediaries, managing portfolios and optimising between DAM, IDM, and Balancing Mechanism (BM) positions.

- **Hedging and Financial Instruments:** As liquidity in SAWEM deepens, financial hedging will become an essential risk management tool. In the early phases, bilateral contracts and hybrid PPAs will serve as de facto hedges, providing price stability. Over time, formal contracts-for-difference (CfDs), forward contracts, and futures will emerge—either bilaterally or through organised exchanges. CfDs will allow participants to lock in a strike price for energy while continuing to trade physically in the DAM or IDM. The difference between the strike price and the SMP will then be settled financially between counterparties, separating physical delivery from price risk. Traders and retailers may also develop structured hedging products to stabilise revenues for smaller generators or consumers.
- **Carbon Cost Exposure:** SMP volatility will likely be closely linked to carbon-tax scenarios. As South Africa strengthens its carbon-pricing framework, participants will need to integrate carbon hedging, through carbon credits, offset agreements, or carbon-linked CfDs, into their procurement and investment strategies.

In combination, these strategic tools, shorter PPAs, storage hybrids, flexible demand, and sophisticated hedging, will underpin a competitive advantage in the evolving market.

Risks

Participation in SAWEM entails a spectrum of new risks:

- **Price Volatility:** The SMP will fluctuate hourly with demand, generation mix, and system constraints. This introduces earnings volatility for generators and procurement risk for buyers.
- **Imbalance Risk:** Deviations between scheduled and actual delivery are settled at the Balancing Price. Initially capped at ±5% around SMP, imbalance pricing will later become fully market-based, exposing BRPs directly to real-time market dynamics. BRPs will need to proactively manage being out of balance.
- **Credit and Liquidity Risk:** Participants must maintain adequate credit cover. Falling below thresholds triggers warnings or suspension. For smaller players, this could strain liquidity, requiring access to guarantees or pooled credit facilities.
- **Operational Risk:** Failures in forecasting, telemetry, or compliance with gate-closure timelines can result in penalties and settlement losses. Market participants will also need develop new trading capabilities.
- **Regulatory and Market Risk:** In SAWEM's early years, limited liquidity and evolving rules may constrain hedging and complicate pricing forecasts.

To manage these exposures, participants will need robust risk governance frameworks, integrating technical forecasting, financial modelling, and credit oversight.

Financial Implications

The move from administered tariffs to market-based trading redefines electricity as a financial asset. For IPPs, revenues will increasingly depend on SMP outcomes rather than fixed PPA tariffs, introducing variability but also opportunity. Projects with partial merchant exposure will require new financing structures, often blending fixed PPA revenues with market-linked cashflows, storage, or reserve income. Lenders will demand more sophisticated risk-mitigation mechanisms, including CfDs or revenue floors supported by corporate buyers.

For corporate buyers, market participation offers both volatility and potential savings. Businesses with flexible demand, energy-efficiency capacity, or on-site renewables can hedge naturally by adjusting operations around price signals. Sophisticated corporates will also explore financial hedging instruments (forward contracts, CfDs, and options) to stabilise electricity costs and budget certainty.

Liquidity and collateral management will be central to financial health. Daily settlements and margin requirements will affect cash flow, so efficient treasury operations and solid credit ratings will provide an edge. Aggregators and retailers may offer clearing or pooling arrangements to help smaller participants meet prudential standards.

As market depth grows, financial markets will emerge to support price discovery and risk transfer. Traders and financial institutions will facilitate CfDs, forward markets, and derivative products, providing the tools to stabilise revenues and costs.

In summary, SAWEM rewards participants who **combine operational precision with financial agility.** Those who build early capability in forecasting, flexibility, trading and hedging will gain competitive advantage; those who rely only on legacy contracting models may struggle to compete in South Africa's dynamic new electricity marketplace.

3.2 Municipalities

Market Access and Prudential Realities

Municipalities occupy a critical but complex position in South Africa's evolving electricity market. While they collectively distribute roughly 40 % of national electricity sales, the financial health of many municipal distributors has deteriorated sharply in recent years. Outstanding municipal debt arears to Eskom now exceeded R100 billion, and fewer than a dozen municipalities could meet basic creditworthiness or liquidity benchmarks.

Under the Market Code, participation in the SAWEM requires that all market entities satisfy prudential, technical, and operational criteria. These include:

- demonstrated financial solvency and capacity to post credit cover;
- capability to operate as or through a Balance Responsible Party (BRP);
- compliant metering, telemetry, and data management systems; and
- auditable billing and settlement processes aligned with Market Operator (MO) protocols.

Given these thresholds, only a handful of financially strong metros, and perhaps one or two larger municipalities (for example, those with strong balance sheets, established electricity-management divisions, and functional revenue collection systems) are likely to qualify as direct market participants at the SAWEM goes live.

Procurement and Tariffs

It is unlikely that any municipalities will be ready to be Market Participants when the SAWEM is launched and most will not be able to be for the foreseeable future given their solvency and credit worthiness challenges. The consequence is that they will continue to purchase their bulk electricity from Eskom Distribution who will be hedged in a vesting contract with the CPA. In the next few years, Wholesale and Retail Tariffs will need to be aligned with NERSA's Multi-Year Price Determination (MYPD6) Revenue Requirement Determination. Overtime, the energy component of the Wholesale Tariff will be exposed to DAM-cleared SMPs. The balance of prices will still be regulated, such as the wires, system operation and legacy charges.

As market participation expands and legacy contracts expire, the relationship between wholesale and retail tariffs will evolve.

Municipalities entering the market directly will begin to procure energy portfolios through a combination of bilateral contracts, DAM purchases, and, potentially, retailer or aggregator services. Their retail tariffs will then need to reflect actual market exposures which will introducing greater flexibility but also greater market volatility.

Revenue and Risk Management

For most municipalities, the immediate priority will be revenue protection rather than market trading. The unbundling of electricity prices and introduction of competitive wholesale markets potentially erodes the traditional revenue base built on energy-sales mark-ups. Fixed network and customer-service charges will increasingly need to replace variable energy margins in tariff design.

Key risks include:

- *Declining gross margins* as wholesale prices fluctuate and retail mark-ups shrink;
- *Bad-debt exposure* from existing arrears, which may limit access to credit or prudential participation;
- *Liquidity pressure* from shorter settlement cycles and the need for credit cover if registered as market participants; and
- *Regulatory risk* if tariffs are not updated in line with NERSA's evolving cost-reflective methodology.

Yet there are also emerging opportunities:

- **Wheeling revenues:** As private generators and corporates trade energy across municipal networks, municipalities can earn wheeling fees for the use of their infrastructure, provided they implement transparent and NERSA-approved wheeling frameworks.
- **Energy trading and aggregation:** Larger metros with strong technical capacity may evolve into local energy service providers, aggregating distributed generation, procuring from SAWEM, and selling to embedded customers.
- **Data-driven efficiency:** Advanced metering infrastructure and better load forecasting will allow improved loss management, reducing non-technical losses and freeing revenue.

Municipalities that invest early in these capabilities can offset declining energy margins with network-service income and new market-based revenues.

Transition for Market-Ready Municipalities

A small group of financially sound municipalities may choose to become direct market participants within the first few years of SAWEM operation. Their transition pathway involves several regulatory and operational milestones:

- **Municipal Finance Management Act (MFMA) exemptions:** The MFMA places a number of barriers to direct municipal participation in SAWEM, including but not limited to:
  - Purchases of electricity are purchases of goods and services as understood in the Supply Chain Management (SCM) System, Section 217 of the Constitution, the MFMA and SCM Regulations. It is unlawful to incur expenditure other than in terms of a Supply Chain Management (SCM) Policy. Transacting in day ahead and intraday markets could be regarded as "irregular expenditure".
  - Municipal expenditure is only lawful in terms of an approved budget (section 15 of the MFMA). It is not possible to budget accurately in advance for SAWEM purchases and the expenditure would be categorised as "unauthorised expenditure". Penalties for irregular and unauthorised expenditure include dire consequences for politicians and officials, including personal liability, dismissal and/or criminal charges.
  - In terms of section 41 of the MFMA, Treasury has monitoring obligations in respect of the pricing structure of the purchases by municipalities of electricity services (also water and other bulk resources). It is unclear how Treasury will view the purchase of energy in the day ahead and intraday markets by municipalities.
  - It is therefore critical that a review of the MFMA is undertaken, in light of the ERA and the SAWEM Market Code to enable direct municipal participation in SAWEM.
- **Registration and Licensing:** They must conclude Market Participation and Balancing Agreements with the MO, either as a BRP or through an appointed agent.
- **Technical Integration:** Metering, forecasting, and IT systems must integrate with the MO's scheduling and settlement platforms.
- **Prudential Compliance:** Credit cover and collateral must be posted, proportional to expected trading volumes.
- **Tariff Redesign:** Retail tariffs must be restructured to separate market-driven energy costs from regulated network charges, allowing clearer pass-through of SMP-linked components.
- **Financial and Operational Planning:** Municipal treasuries must develop liquidity buffers to manage daily settlements, with treasury functions able to handle market exposure, hedging, and reconciliation.

While this path offers potential benefits (access to lower-cost supply, improved procurement diversity, and greater autonomy) it also demands high governance standards. Municipalities unable to manage forecasting accuracy, settlement obligations, or credit risk could quickly accumulate new liabilities rather than savings.

Summary

In the near term, most municipalities will remain indirect participants, purchasing from Eskom Distribution under CPA-backed vesting arrangements. Retail tariffs will continue to be regulated, consistent with NERSA's MYPD6 framework, and largely insulated from short-term SMP volatility.

However, as SAWEM matures, financially resilient municipalities will gain options to procure directly, hedge through bilateral contracts or CfDs, and earn supplementary revenues from wheeling, energy shifting and ancillary services.

For all municipalities, the imperative is to prepare financially and institutionally: strengthen credit-worthiness, modernise metering and billing, adopt transparent wheeling frameworks, and restructure tariffs to recover fixed network costs. These steps will determine not only who can participate in SAWEM, but also which local distributors remain solvent and sustainable in South Africa.

4

RECOMMENDATIONS

4.1 Recommendations for businesses

Businesses (including IPPs, corporate off-takers, traders, and aggregators) are entering a fundamentally new commercial environment. The transition to SAWEM will reward participants who build appropriate capabilities, and combine operational precision, flexible assets, and sophisticated financial risk management.

To prepare effectively:

1 *Invest early in market readiness*

- Attend SAWEM Training School sessions and Certification.
- Develop internal or contracted Balance Responsible Party (BRP) capabilities for forecasting, scheduling, and settlement.
- Upgrade metering, telemetry, and data systems to meet Market Operator (MO) and System Operator (SO) standards.
- Establish treasury procedures for daily settlements and credit-cover maintenance.
- Develop trading capabilities or start developing relationships and contracting traders.

2 *Adopt flexible contracting models*

- While long-term PPAs may continue, the option will now exist for some to transition to shorter-term and hybrid PPAs that blend fixed and market-linked components.
- Use these hybrid contracts to stabilise baseline revenue while capturing upside value during high System Marginal Price (SMP) periods.
- Negotiate PPAs that allow periodic repricing or partial merchant exposure consistent with lender and off-taker risk appetite.

3 *Leverage storage and flexibility*

- Incorporate battery energy storage or hybrid solar-and/or-wind-plus-storage configurations to firm variable output and participate in reserve markets.
- Use flexibility to arbitrage between Day-Ahead, Intraday, and Balancing Mechanism prices, enhancing revenue capture.

4 *Develop hedging and risk-management instruments*

- Establish internal market analytics teams capable of forecasting SMPs, carbon prices, and system constraints.
- Implement Contracts-for-Difference (CfDs) and bilateral hedges to manage price volatility while retaining physical trading options.
- Engage with emerging financial intermediaries or exchanges once forward and futures products become available.
- Integrate carbon-cost hedging into broader procurement strategies as carbon pricing increasingly influences SMP dynamics.

5 *Build portfolio and aggregation strategies*

- Traders and aggregators should develop diversified portfolios of generation and load to net imbalances internally.
- Explore opportunities in demand response and ancillary services to monetise operational flexibility and reduce exposure to balancing penalties.

6 *Strengthen governance and compliance*

- Implement robust risk-governance frameworks linking technical operations with financial oversight.
- Review insurance, financing, and corporate-governance arrangements to ensure alignment with Market Code obligations.
- Participate in Market Governance consultations to stay current with rule modifications and evolving prudential requirements.

Strategic Outlook:

Over the next three to five years, competitive advantage will accrue to market participants that integrate data analytics, flexible assets, and structured financial products. Early movers will shape liquidity, price formation, and contractual norms in South Africa's emerging wholesale market.

4.2 Recommendations for municipalities

Municipalities face a dual challenge: preserving financial stability while preparing for progressive exposure to wholesale market dynamics. For most, the near-term focus is on strengthening fundamentals; for a smaller group of financially robust metros, the opportunity is to begin building direct participation capability.

1 *Stabilise finances and creditworthiness*

- Prioritise debt recovery and settlement of arrears with Eskom to restore credit standing.
- Improve billing accuracy and revenue collection, supported by upgraded IT and customer-management systems.
- Establish ring-fenced electricity revenue accounts and transparent financial reporting to meet prudential criteria.

2 *Modernise infrastructure and data systems*

- Deploy advanced metering infrastructure (AMI) capable of half-hourly data reporting and integration with MO systems.
- Strengthen load forecasting and energy-management functions to improve accuracy and reduce losses.
- Adopt cyber-secure data interfaces to comply with Market Code telemetry standards.

3 *Optimise tariff and revenue models*

- Redesign tariffs to reduce dependence on variable energy mark-ups and increase fixed network and service charges.
- Ensure tariff applications remain consistent with NERSA's MYPD6 revenue determinations and cost-reflective methodologies.
- Introduce transparent wheeling-fee frameworks to monetise third-party use of municipal networks.

4 *Plan for phased market participation*

- A review of the MFMA will need to be undertaken and amendments adopted such that electricity purchases from SAWEM are exempt from the MFMA and its Supply Chain Management Regulations, and from the Public Procurement Act once it comes into operation.
- For financially sound municipalities, prepare for eventual registration as market participants by:
  - attending SAWEM's Training School and Certification;
  - securing credit cover and liquidity facilities;
  - developing BRP capability, either in-house or through an agent; and
  - aligning internal systems with MO settlement requirements.
- Begin with shadow participation or simulated scheduling during SAWEM's early operation phase to build institutional experience without financial exposure.

5 *Manage revenue and market risks*

- Conduct scenario analyses on how SAWEM wholesale prices could affect bulk-supply costs and retail tariffs.
- Use CPA vesting contracts as a transitional hedge against SMP volatility.
- Establish internal risk policies covering liquidity buffers, credit exposure, and contingency funding for balancing penalties.

6 *Explore new opportunities*

- Capitalise on wheeling and trading revenues by facilitating private generation and energy exchange within municipal networks.
- Investigate participation in local reserve or ancillary-service markets as technical and regulatory frameworks evolve.
- Partner with the private sector on energy-service concessions (such as distributed generation, demand response, or storage) creating shared value and municipal resilience.

Strategic Outlook:

In the near term, most municipalities will remain indirect participants under Eskom Distribution's CPA-backed arrangements. Nonetheless, early investment in financial recovery, metering systems, and tariff reform will determine future eligibility for direct market access. Over time, municipalities that combine fiscal discipline with innovation in service provision, wheeling facilitation, and local energy trading will transform from passive distributors into active energy-service platforms, anchoring a sustainable municipal electricity future.

National Business Initiative

The National Business Initiative (NBI) is a voluntary coalition of local and multinational companies committed to sustainable growth and development in South Africa.

Established in 1995 and launched by former President Nelson Mandela, the NBI works to promote responsible business practice, support socio-economic transformation and address the key challenges facing South Africa, including:

- **Environmental sustainability**
- **Inequality and inclusivity**
- **Unemployment and skills development**
- **Local government capacity building**

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