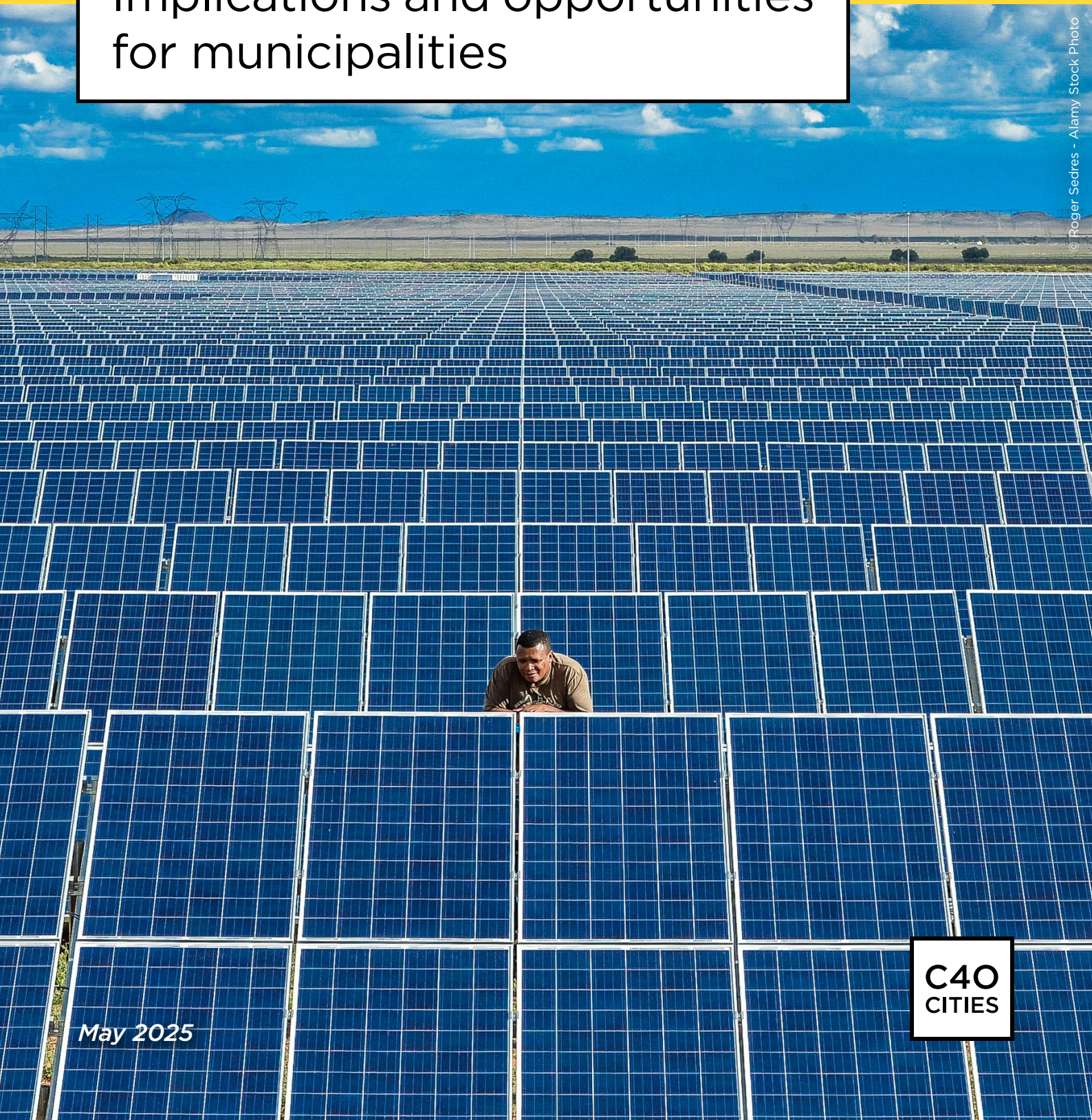


ELECTRICITY REFORM IN SOUTH AFRICA

Implications and opportunities
for municipalities



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Table of contents

Executive Summary	4
1. Introduction and Background	8
1.1 Purpose and Scope	8
1.2 Study Objective and Methodology	9
1.3 Literature Review	10
2. Overview of South Africa's Electricity Reform	11
2.1 Implications for Municipalities	12
3. Impact on Municipalities	16
3.1 Shifts in Municipal Roles	16
3.2 Financial Implications	16
3.3 Infrastructure Requirements	16
3.4 Balance Responsibility and Operational Risk	16
3.5 Socio-Economic Impact	17
3.6 Risk Matrix and Mitigation Measures	17
4. Regulatory Changes and Compliance	19
5. Scenario Analysis Framework	21
5.1 Municipal Typologies	21
5.2 Scenario Outcomes	22

6. International Benchmarks	23
7. Socio-Economic and Just Transition Considerations	31
8. Opportunities for Municipalities in the Changing Energy Landscape	33
8.1 Future and Present Opportunities	
8.2 Enablers and Success Factors for Municipalities in the Changing Energy Landscape	34
8.3 Trading and Market Participation	35
9. Enabling Actions and Roadmap	36
9.1 Short-Term Priorities (0-12 months)	36
9.2 Medium-Term Priorities (1-3 years)	36
10. Conclusions and Strategic Recommendations	38
11. Appendix	41
11.1 MISA	41
11.2 Gauteng COGTA	41
12. References and Further Reading	43

Executive Summary

South Africa's electricity sector is undergoing transformative reform to create a more competitive, resilient, and sustainable energy system. This transition is anchored in the Electricity Regulation Amendment Act (ERAA) and supported by the Just Energy Transition Investment Plan (JET-IP), and the Integrated Resource Plan (IRP).

Latest reforms include:

- Unbundling of Eskom
- Establishment of a multi-Buyer South African Wholesale Electricity Market (SAWEM)
- Diversified generation mix with a growing share of cleaner technologies and increased participation of private Independent Power Producers (IPPs).

For municipalities, as they collectively manage approximately 40% of national electricity distribution, these changes present both profound risks and new opportunities.

This study assesses how electricity reform impacts the municipal electricity business model, focusing on financial sustainability, operational readiness, socio-economic mandates, and long-term strategic positioning.

Key Risks include:

- The erosion of bulk resale revenue due to wheeling and Distributed Energy Resources (DERs).
- New operational requirements to forecast electricity demand and manage grid imbalances (balance responsibility).
- Uncertainty over municipal authority under evolving definitions of “reticulation” and market participation.

A typology-based scenario analysis shows that without targeted support, many municipalities, particularly smaller and under-resourced ones, risk falling behind. Progressive metros, however, are well-positioned to lead through IPP procurement, wheeling frameworks, and tariff reform. Drawing on international studies from Chile, Germany, the Netherlands, Australia, India, Mexico, and Guatemala, this study highlights the importance of delegated authority, structured national procurement, and community-owned energy models.

This study outlines a roadmap of actionable steps, including the development of municipal energy strategies, adoption of cost-reflective tariffs, investment in smart infrastructure (AMI, SCADA), and structured skills development programmes. It further recommends the establishment of a knowledge exchange platform between municipalities and Eskom's Just Energy Transition (JET) Office to build municipal capacity.

Ultimately, municipalities must shift from being passive resellers to active energy service providers, balancing financial viability with service delivery and climate resilience. Enabling this transition will require regulatory clarity, capacity-building, and coordinated support from national institutions such as the Department of Electricity and Energy (DEE), the National Energy Regulator of South Africa (NERSA), the South African Local Government Association (SALGA), and the Municipal Infrastructure Support Agency (MISA). Without this, South Africa risks deepening municipal inequality and undermining the goals of electricity reform.

The goals of energy reform:

The goals of energy reform include ensuring long-term energy security, tackling climate change, and stimulating economic growth (African Energy Commission, 2025).

These goals include the following:

- **Achieving long-term energy security** - Energy reform is required to ensure a reliable energy supply and address power outages.
- **Growing the economy and job creation** - South Africa's transition to a low-carbon economy aims to drive economic growth, create jobs, and increase energy security.
- **Increasing renewable energy** - Energy reforms aim to increase investment in renewable energy sources (South Africa's National Treasury, 2024).
- **Decarbonising the energy sector** - The Energy transition programme aims to put countries on a low-to-zero carbon energy trajectory and fulfil commitments under the Paris Agreement (African Energy Commission, 2025).
- **Developing energy infrastructure** - building energy infrastructure is important for economic and social development, especially in agriculture (African Energy Commission, 2025).
- **Establishing a competitive electricity market** - Energy reform seeks to establish a competitive multi-market structure where multiple electricity generators can compete, increasing generation capacity and enhancing energy reliability (South Africa's National Treasury, 2024).
- **Integrating renewable energy into the energy economy** - A legal and regulatory framework for pricing and tariff structure is needed to support the integration of renewable energy and attract investment (Department of Minerals and Energy, 2002).



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Acronyms and abbreviations:

AMI	Advanced Metering Infrastructure
COGTA	Cooperative Governance and Traditional Affairs
COS	Cost-of-Supply
CPA	Central Purchasing Agency
DBSA	Development Bank of Southern Africa
DHET	Department of Higher Education and Training
DEE	Department of Electricity and Energy
DER	Distributed Energy Resources
ECT	Electricity Credit Tokens
EDI	Electricity Distribution Industry
EPWP	Expanded Public Works Programmes
ERAA	Electricity Regulation Amendment Act
FBE	Free Basic Electricity
IDP	Integrated Development Plans
IPP	Independent Power Producers
IPPO	Independent Power Producer Office
IRP	Integrated Energy Plan
ITSMO	Independent Transmission System and Market Operator
JET	Just Energy Transition
kV	Kilovolts
LED	Local Economic Development

LLCEI	Local Low-Carbon Energy Initiatives
MFMA	Municipal Finance Management Act
MISA	Municipal Infrastructure Support Agency
MW	Megawatt
NDC	National Determined Contribution
NECOM	National Energy Crisis Committee
NEM:AQA	National Environmental Management: Air Quality Act
NERSA	National Energy Regulator of South Africa
NTCSA	National Transmission Company of South Africa
PCC	Presidential Climate Commission
PPA	Power Purchase Agreements
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SAREM	South African Renewable Energy Masterplan
SALGA	South African Local Government Association
SAWEM	South African Wholesale Electricity Market
SCADA	Supervisory Control and Data Acquisition
SDF	Spatial Development Framework
SETA	Sector Education and Training Authority
SWOT	Strengths, Weaknesses, Opportunities and Threats
TVET	Technical and Vocational Education and Training
VAD	Value-Added Distribution

1. Introduction and Background

1.1 Purpose and Scope

South Africa's electricity supply industry is undergoing a historic restructuring process aimed at fostering competition, ensuring sustainability, and expanding access to cleaner energy. Anchored in the Electricity Regulation Amendment Act (ERAA) and driven by national government commitments under the Just Energy Transition (JET), the reforms include:

- The legal and functional unbundling of Eskom.
- Establishment of an Independent Transmission System and Market Operator (ITSMO).
- Development of a multi-buyer, multi-seller electricity market platform.
- Enabling private sector participation in generation and trading.

These measures aim to address longstanding sectoral inefficiencies, reduce systemic risk, and accelerate the deployment of cleaner generation technologies. South Africa's electricity reform is further driven by both national and international climate commitments. The country's Nationally Determined Contribution (NDC) outlines a pathway to reduce carbon emissions in line with the Paris Agreement, supported by the Climate change Act for high-emitting sectors. Legislative instruments such as the Carbon Tax Act and air quality regulations under the National Environmental Management: Air Quality Act (NEM:AQA) place increasing pressure on Eskom's coal fleet, to reduce emissions.



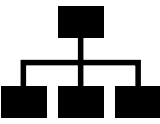
Municipalities which manage approximately 40% of South Africa's electricity distribution play a pivotal role beyond the supply of electricity; it includes socio-political functions, such as cross-subsidisation, local economic development, and service delivery mandates. However, the current reform trajectory presents challenges for local government stakeholders such as risking losing their position as financially viable redistributors of electricity. These include but are not limited to the following:

- Direct supply agreements between generators and end-users, enabled by wheeling arrangements¹.
- Uncertainty over municipal roles in market trading and grid services.
- Revenue erosion from distributed energy resources (DERs) and prosumer models.

¹ Wheeling is the delivery or transmission of electricity from a power generator to an end-user located in a different area by using an existing transmission or distribution network owned by a third party such as Eskom.

1.2 Study Objective and Methodology

This study assesses how electricity market reform impacts the municipal electricity business model, with a focus on:

Thematic Focus Areas	Study Area	Critical Questions Explored
Revenue stream 	Revenue Sustainability	How will reform affect bulk resale margins, cost recovery, and tariffs?
Institutional Roles 	Institutional role clarity	What functions will municipalities retain, lose, or gain under a liberalised market?
Service delivery Matrix 	Service delivery risk	How could the reforms exacerbate or alleviate backlogs, reliability of supply, maintenance gaps, and affordability challenges?
Policy Tools Framework 	Policy and regulatory options	How do the current policies and regulations impact the municipal business? What policy tools and fiscal reforms can ensure a just transition for municipalities?

The study employs a mixed-methods approach which includes:

- Desktop analysis of legislative frameworks, market design proposals, and the prevailing tariff regime.
- Stakeholder interviews with municipalities, regulators, and reform champions.
- Scenario modelling frameworks that can be employed to test impacts of different market configurations on municipal revenues and roles.

1.3 Literature Review

South African municipalities play a critical role in the national electricity reform trajectory. According to (South African Local Government Association, 2024), municipalities must be empowered to engage effectively in the evolving energy market, particularly in contracting with Independent Power Producers (South African Local Government Agency, 2022). The Presidential Climate Commission (Presidential Climate Commission, 2023) reinforces this view, stressing that regulatory clarity and support are vital to ensure consistent implementation across the three spheres of government national, provincial, and local (Presidential Climate Commission, 2025).

The private sector has also weighed in with practical guidance for municipal readiness. (PricewaterhouseCoopers, 2023) underscores the importance of regulatory predictability and streamlined procurement in unlocking green infrastructure investment, noting that municipalities capable of offering bankable project pipelines are more likely to attract concessional finance and blended capital. (McKinsey, 2023) highlights the need for municipalities to develop integrated energy strategies that align renewable deployment with infrastructure readiness, land use planning, and fiscal sustainability. The report further stresses that municipalities capable of presenting credible, investment-ready pipelines, supported by regulatory clarity and consistent permitting, are more likely to attract long-term private capital and development finance.

The Electricity Regulation Amendment Act (ERAA) explainer (Just Energy Transition Africa Initiative, 2024b) outlines critical institutional and legal shifts, including market unbundling, the introduction of balance responsibility, and licensing changes that directly affect municipal operations. The draft Integrated Resource Plan 2024 (IRP) provides the national energy mix outlook, against which municipal

planning must align, while the Just Energy Transition Investment Plan (Just Energy Transition Investment Plan, 2023) reinforces the imperative for socially inclusive, climate-aligned infrastructure decisions. Additional reports including those from (Meridian Economics and the Market Code Draft, 2024) highlight urgent concerns around municipal wheeling readiness, revenue risks, and the need for targeted capacity-building and regulatory clarity across all spheres of government.

This report conducted international benchmarking across seven countries: Chile, Germany, the Netherlands, Australia, India, Mexico, and Guatemala. It draws lessons on market liberalisation, decentralised energy access, and municipal utility leadership that are relevant to South Africa's electricity reform context.



2. Overview of South Africa's Electricity Reform

Key electricity reforms that South Africa is undergoing are driven by the ERAA of 2024 and the launch of the South African Wholesale Electricity Market (SAWEM) among others. These reforms are designed to improve competition, enable private sector participation, and decentralise the electricity

Eskom Unbundling

The unbundling of Eskom represents the most significant structural reform in South Africa's electricity sector since its inception. The reform process involves the separation of Eskom into three legal entities under a new holding company:

- **Eskom Generation:** Responsible for producing electricity from Eskom's fleet of coal, nuclear, hydro, renewables and peaking power stations, participating as a generator.

- **National Transmission Company of South Africa (NTCSA):** Oversees the national transmission grid and houses the System Operator, Market Operator, and Central Purchasing Agency (CPA): responsible for delivery of power throughout the country, grid stability, energy market operations, and transitional power purchasing.
- **Eskom Distribution:** Manages the delivery of electricity from transmission substations to end-users, including licensed municipal distributors and large industrial customers, and maintains networks with voltages from 132kV and below.

This restructuring is intended to create a competitive wholesale market that will eventually drive the generation cost down.



Regulations and the Evolving Procurement Framework

The Renewable Energy IPP Procurement Programme (REIPPPP) laid the groundwork for private generator participation. The ERAA expands this further by enabling bilateral contracts and providing a centralised trading platform managed by NTCSA. The CPA plays a transitional role by signing vesting contracts² and power purchase agreements for public procurement to maintain system stability.

However, challenges remain regarding tariff transparency and National Energy Regulator of South Africa (NERSA's) regulatory oversight in a liberalised environment. The draft Market Code outlines rules for market participation, and financial settlements, but raises concerns about renewable energy prioritisation and environmental safeguards.

Municipal Wheeling Frameworks

Municipalities face a dual challenge: revenue erosion and limited readiness for market participation. Traditional wheeling models require significant adjustments to electricity supply agreements and billing systems. These challenges are compounded by limited technical capacity and the risk of customer non-payment, making implementation even more difficult.

Innovative mechanisms, such as **Electricity Credit Tokens (ECTs)** have been proposed to help overcome these barriers. ECTs serve as secure, trackable payment instruments that allow municipalities to recover payments from customers while ensuring that Eskom is paid for bulk electricity purchases. This approach enables wheeling participation without disrupting existing municipal billing systems.

Municipal participation in wheeling has historically been constrained by the absence of a national framework—particularly in areas such as tariff-setting and standardised agreements.

² Vesting contracts are transitional power purchase agreements used in electricity market reform to ensure stability, manage pricing risks, and provide a predictable revenue stream to incumbent generators during the shift to competitive market structures.

However, the recent adoption of the national wheeling framework by the National Energy Regulator of South Africa (NERSA), developed in collaboration with the National Energy Crisis Committee (NECOM), marks a pivotal shift. The framework provides clear, standardised rules for network access, cost-reflective tariffs, and wheeling agreements, enabling municipal distributors to participate more confidently and consistently in a liberalised electricity market.

2.1 Implications for Municipalities

Municipal electricity distributors have historically operated under Schedule 4B of the South African Constitution, granting them executive authority over **electricity reticulation**. However, the Electricity Regulation Amendment Act (ERAA) introduces a limiting, technical definition of “reticulation,” limiting it to systems operating at 11kV and below. This change has raised significant concern among municipalities, as it creates uncertainty over their role in managing parts of the electricity network that operate above this threshold.

Some municipalities, supported by the South African Local Government Association (SALGA), have challenged this redefinition, arguing that it erodes their constitutionally protected authority and could undermine their ability to fulfil service delivery mandates (Just Energy Transition Africa Initiative, 2025).

In addition to constitutional uncertainty, municipalities are expected to face the following operational and financial challenges:

- Increased operational complexity as they assume balance responsibility obligations under market reform.
- Uncertainty around the future of tariffs, subsidies, and cross-subsidisation mechanisms.
- Greater financial exposure to price volatility as hedge pricing mechanisms are phased out by 2030.

Table 1 below summarises the implication that the key reforms will have on municipalities.

Table 1: Municipal Reform Implications

Reform Element	Municipal Implications	Support Required
Eskom Unbundling	Municipalities will need to engage with newly established entities, such as the NTCSA and CPA, which may lead to changes in how they contract for electricity, access the transmission system, and carry out their operational responsibilities.	Clear guidance on municipal roles, points of engagement, and contracting procedures with new market entities.
IPP Procurement	IPP procurement involves legal and procedural complexities, with smaller municipalities often lacking the capacity and resources to participate effectively.	• Standardised procurement documents; targeted support from SALGA and Municipal Infrastructure Support Agency (MISA). • Reforms to the MFMA to enable easier participation. • Alignment with the Independent Power Producer Office's (IPPO) established processes.
Wheeling	• Wheeling requires adjustments to billing systems, electricity supply agreements, and network operations. • Limited technical capacity and credit risk from customers can pose implementation challenges.	• Technical assistance for system upgrades and tariff design. • Credit risk mitigation tools. • Standardised wheeling frameworks supported by NERSA, SALGA, and industry partners.
Market Participation (SAWEM)	• Participating in SAWEM is technically demanding and requires new skills & systems. • Municipal readiness varies significantly.	• Capacity-building programmes. • Simplified participation pathways • Financial safeguards to protect against early market risks.
Tariff Reform	Municipalities face a decline in resale margins and increased exposure to price volatility in a liberalised market environment.	Stronger National Energy Regulator of South Africa (NERSA) oversight, targeted subsidies for vulnerable households, and a shift from energy resale tariffs to network service-based tariffs.
Balance Responsibility	New obligations for accurate demand forecasting & metering with financial penalties for imbalances.	Tools, training, and operational support for demand forecasting, real-time data management, and system balancing.

Table 2 outlines the key actors in the reformed electricity market, their core functions, and why they are relevant to municipal planning, procurement, and operations.

Table 2: Key Market Entities and Their Roles in South Africa's Reformed Electricity Market

Entity	Function in Reformed Market	Relevance to Municipalities
Eskom Distribution Business	Facilitation of grid connection via the Grid Access Unit; safeguards connection standards such as power quality and reliability.	Municipalities reliant on Eskom supplied networks must engage for wheeling approvals, connection agreements, and compliance with service quality standards. Eskom Distribution remains a key counterpart for municipalities that do not own distribution networks, or have customers embedded in Eskom's supply area (e.g., eThekweni).
NTCSA	Operates the national transmission grid and houses the System Operator, Market Operator, and Central Purchasing Agency.	Key point of engagement for wheeling, trading, and balancing services.
System Operator	Manages real-time grid stability, electricity dispatch, and system adequacy.	Accurate dispatch and metering data accuracy may impact municipal balancing obligations and grid operations.
Market Operator	Facilitates Day-Ahead & Intra-Day ³ electricity trading through SAWEM.	Enables municipalities to trade directly or buy/sell via brokers or retailers through the SAWEM platform.
Central Purchasing Agency (CPA)	Acts as a transitional buyer of IPP-generated power on behalf of Eskom, signs vesting contracts, and manages system hedging to ensure supply and price stability during market reform.	Contracts with CPA may define early cost and supply structures for municipalities to ensure affordable supply. Municipalities have raised concerns about potential conflicts if the CPA remains housed within NTCSA.

³ Day-Ahead and Intra-Day trading refer to electricity market mechanisms that allow buyers and sellers to trade energy in advance (the day before) or within the same day, respectively

Table 2: Key Market Entities and Their Roles in South Africa's Reformed Electricity Market

Entity	Function in Reformed Market	Relevance to Municipalities
NERSA	Regulates tariffs, licensing and registration, market oversight, and dispute resolution.	Serves as the key authority for approving municipal tariff structures, issuing licenses, and endorsing wheeling frameworks.
IPP Office / Department of Electricity and Energy (DEE)	Runs competitive procurement programmes (e.g., REIPPPP) and oversees policy direction on IPP participation.	Primary source of new IPP capacity. Municipalities may contract directly or participate through aggregated procurement models.
SALGA	Represents municipal interests; supports capacity building, policy advocacy in the electricity sector.	Key ally in navigating reforms and advocating for equitable municipal participation. Plays a critical role in capacitating municipalities to effectively participate in the reformed electricity market.
MISA (Municipal Infrastructure Support Agent)	Provides technical assistance, capacity building, and infrastructure planning support to municipalities, particularly in under-resourced or rural areas.	Key partner for developing electricity master plans, supporting grid infrastructure alignment with national standards, and equipping municipalities to participate in reform initiatives such as IPP procurement and market access.
Balance Responsible Parties (BRPs)	Entities that are financially accountable for mismatches between contracted and actual electricity supply or demand.	Municipalities may be required to take on the role of BRPs or contract this responsibility to intermediaries to avoid exposure to penalties.

3. Impact on Municipalities

3.1 Shifts in Municipal Roles

Municipalities have historically acted as electricity redistributors under Eskom's vertically integrated model. As reforms progress, this role is evolving. Instead of reselling electricity, municipalities are expected to coordinate service delivery, overseeing grid access, managing supplier diversity, and ensuring accurate metering and forecasting. However, ongoing regulatory uncertainty, particularly regarding the 11kV threshold, continues to cloud their mandate (Just Energy Transition Africa Initiative, 2025).

3.2 Financial Implications

Electricity reform presents serious financial risks, especially for municipalities dependent on surplus revenue. Customer defection via self-generation and wheeling, erodes sales volumes, while wholesale market entry introduces new cost centres such as credit cover, advanced metering systems, and skilled operational personnel. Additionally, transitioning to market-based tariffs exposes municipalities to price volatility, complicating revenue planning and affordability protection.

3.3 Infrastructure Requirements

The traditional one-way, Eskom-to-consumer model was never designed to accommodate bidirectional flows from prosumers, wheeled IPP power, or embedded generation.

To keep pace, municipalities must upgrade substations, control centres, and local feeders.

Advanced Metering Infrastructure (AMI) will be critical not just for billing accuracy, but for balance responsibility, forecasting, and real-time energy management. Municipalities lacking SCADA systems or integrated GIS mapping tools will face operational blind spots under the new regime.

3.4 Balance Responsibility and Operational Risk

As part of their evolving role, municipalities may be designated as Balance Responsible Parties (BRPs) under the emerging wholesale electricity market. This requires municipalities to accurately forecast electricity demand and settle imbalances, with penalties applying for deviations. For most municipalities, this introduces a new layer of operational complexity. It demands robust data systems, real-time metering infrastructure, and internal skills in load forecasting and energy accounting. Without targeted support and tools, smaller municipalities may struggle to comply, potentially exposing them to financial penalties and reputational risk within the market. Provisions for shared BRP services or aggregated balancing structures by third parties may offer a practical alternative.

While municipalities are not obligated to act as Balance Responsible Parties (BRPs), this responsibility becomes relevant when they participate directly in electricity markets — for example, by contracting with Independent Power Producers (IPPs) or trading through SAWEM. In such cases, balance responsibility is a standard requirement to ensure that participants accurately forecast demand and do not destabilise the grid.



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Municipalities lacking internal capacity may contract this role out to third-party aggregators or service providers. However, doing so may reduce transparency and control over their energy costs and operational decisions. As such, larger or more capable municipalities may opt to take on this role directly to retain flexibility and protect their strategic interests in a liberalised market environment.

3.5 Socio-Economic Impact

Electricity reforms risk weakening the role of the sector in promoting social equity. Programmes like Free Basic Electricity (FBE) and cross-subsidisation may be undermined if cost-recovery models and market-linked tariffs aren't balanced with targeted protections. At the same time, reform creates job opportunities in new energy services, however it may displace legacy workers unless upskilling and inclusion strategies are implemented.

CASE INSIGHT: City of Cape Town's FBE Crossroads

The City of Cape Town has warned that increased adoption of private solar PV could undermine its ability to fund Free Basic Electricity for indigent households. A new service charge model is under consideration to help recover grid maintenance costs and protect equity-linked subsidies.

3.6 Risk Matrix and Mitigation Measures

The transition to a competitive electricity market introduces multiple risks for municipalities: financial (revenue erosion, cost volatility), technical (balancing, infrastructure readiness), institutional (capacity, regulatory clarity), and social (tariff affordability, service equity). Table 3 below presents a high-level risk matrix identifying key vulnerabilities, alongside proposed mitigation measures to ensure municipal readiness and resilience.

Table 3: Risk Matrix and Mitigation Measures

Risk Category	Description	Potential Mitigation Measures
Revenue Erosion	Reduced sales volumes from large customers with self-generation or wheeling arrangements.	Introduce network access charges, modernise tariff structures to reflect service costs, and explore alternative non-energy revenue streams.
Creditworthiness Gap	Inability to meet credit cover or financial preconditions for market participation.	Establish municipal aggregator models or pooled procurement facilities backed by national credit guarantees to improve access to the market.
Technical Inadequacy	Technical trading personnel, metering, forecasting, and dispatching tools needed under the SAWEM model.	Scale up Advanced Metering Infrastructure (AMI) roll-out, national data platforms, and expand shared digital infrastructure support.
Regulatory Ambiguity	Uncertainty over municipal mandates and responsibilities (e.g. 11kV vs. reticulation functions).	Clarify municipal roles through Ministerial directives and ERAA-aligned transition guidelines that define responsibilities across all grid voltage levels.
Socio-economic Fallout	Inability to fund Free Basic Electricity or lifeline tariffs due to the loss of profitable customers.	Protect cross-subsidies through ringfencing and embed pro-poor tariff design and affordability safeguards into future market and tariff frameworks.
Operational Fragmentation	Disparate readiness across municipalities worsens inequality and limits coordination.	Develop differentiated transition pathways tailored to the capacity levels of metros, intermediate cities, and rural municipalities, with coordinated technical support.

4. Regulatory Changes and Compliance

This section outlines the key legal instruments and their implications for municipal licensing, procurement, compliance, and grid operations.

South Africa's ERAA of 2024 establishes the legal foundation for an open, competitive electricity market. It introduces new institutional actors such as the Transmission System Operator, Market Operator, and Central Purchasing Agency (CPA), under the National Transmission Company of South Africa (NTCSA). While participation in the wholesale market is technically voluntary, municipalities face new obligations, including demand forecasting, balancing, and potential penalties if designated as Balance Responsible Parties (Just Energy Transition Africa, 2024a).

Reforms to Schedule 2 of the Electricity Regulation Act allow municipalities to procure power directly from Independent Power Producers (IPPs). This requires Ministerial approval, licensing through NERSA, and compliance with the Municipal Finance Management Act (MFMA). The process introduces legal and procedural complexity. Larger metros are better placed to manage these demands, while smaller municipalities may require pooled procurement and dedicated support (Just Energy Transition Africa Initiative, 2024b).

Municipal tariff regulation is also evolving. Municipalities must adopt cost-reflective tariffs, supported by Cost-of-Supply (CoS) studies submitted to NERSA. These studies underpin both retail tariffs and wheeling charges. Without CoS compliance, municipalities risk tariff rejection and misalignment with national pricing principles (National Energy Regulator of South Africa, 2022). The financial implications are considerable, especially as customer defection from municipal supply threatens the sustainability of FBE and other subsidies.



To participate in wheeling, municipalities must establish compliant frameworks, including transparent technical standards and tariff methodologies compatible with NTCSA systems. Yet most lack the internal systems or metering platforms to manage this. For those seeking to enter the South African Wholesale Electricity Market (SAWEM), readiness will depend on their ability to meet thresholds for market registration, credit cover, and data reporting (Meridian Economics, 2023).

Finally, institutional ambiguity persists. The ERAA's redefinition of "reticulation" as systems below 11kV has raised constitutional concerns among municipalities and SALGA, who argue that it erodes their Section 156 executive authority over electricity distribution (South African Local Government Association, 2024). This underscores the need for clearer intergovernmental guidance and a coordinated regulatory framework that respects local mandates.

Municipalities must comply with overlapping legal and regulatory instruments across the following domains in the table below.

Table 4: Municipal Compliance Summary

Compliance Area	Key Obligation
Licensing	NERSA licensing/registration for own-generation, wheeling, or IPP procurement
Procurement	MFMA-aligned tendering processes and S34 Determinations for IPP contracts
Tariff Setting	Submission of Cost-of-Supply studies; NERSA tariff applications
Grid Access and Connection	Technical compliance with NTCSA and Eskom Distribution; transparent grid code compliance testing, use of system agreements and wheeling processes
Market Participation	Registration and performance as Balance Responsible Party under SAWEM (if opted in)
Planning and Reporting	Alignment with Eskom Distribution, NTCSA, IRP, municipal Spatial Development Frameworks (SDFs) and Integrated Development Plans (IDPs); planning integration forums in line with the SA Grid Code (Information Code)



5. Scenario Analysis Framework

This section presents a framework to help municipalities navigate the evolving energy landscape. Municipalities are encouraged to start by defining their goals — identifying whether they aim to be proactive reformers, status quo maintainers, or at-risk operators. The framework concludes with a SWOT analysis to assess each pathway's strengths, weaknesses, opportunities, and threats.

5.1 Municipal Typologies

Municipalities vary widely in their reform readiness. This report categorises the municipalities into three broad groups based on their current conditions and anticipated responses:

- **Proactive Reformers** (e.g. metros, secondary cities): Already piloting IPP procurement, wheeling, and tariff reform with dedicated internal capacity.



- **Status Quo Maintainers:** Aware of reform but constrained by limited capacity, risk aversion, and political caution, remaining primarily reliant on Eskom supply.
- **At-Risk Operators:** Smaller municipalities with weak financial and technical foundations; at risk of being left behind as customers seek private supply alternatives.

5.2 Scenario Outcomes

To assess how reform might unfold across these typologies⁴, a set of three comparative outcomes scenarios are presented in the table below. Each scenario combines different assumptions about reform uptake, enabling support, and institutional responsiveness.

Municipalities positioning themselves as Proactive Reformers stand to gain improved energy access through IPP partnerships, enhanced revenue streams via wheeling and service fees, and increased eligibility for climate finance aligned with Just Energy Transition goals.

Municipalities may apply a **SWOT analysis** to assess their reform readiness in relation to the typologies outlined in this section. By evaluating

- internal **strengths** (e.g., customer base, distribution infrastructure, constitutional mandates)
- **weaknesses** (e.g., outdated systems, skills gaps)
- external **opportunities** (e.g., IPP procurement, tariff reform)
- **threats** (e.g., revenue loss, regulatory uncertainty)

Municipalities can position themselves within the reform landscape and identify priority interventions. This initial analysis, when applied to each scenario or reform pathway, will serve as a decision-making tool for internal planning.

⁴ While this framework presents three distinct reform pathways, most municipalities may not fit neatly into a single category. Reform readiness often exists on a spectrum, and municipalities may transition between typologies over time. The purpose of this tool is to guide self-assessment, planning, and prioritisation — not to serve as a rigid classification.

Table 5: Comparative Outcomes by Reform Scenario and Municipal Typology

Performance Area	Proactive Reformer	Status Quo Maintainer	At-Risk Operator
Energy Access	Expands through IPPs and DERs	Stable but limited to Eskom supply	Declines due to underinvestment
Revenue Sustainability	Strengthened via tariff reform and wheeling fees	Flat or declining due to cost pressures	Severely eroded; high debt risk
Reform Compliance	High: licensing, wheeling, and market ready	Medium: delayed or partial compliance	Low: regulatory non-alignment
Climate and JET Alignment	High RE share and local green jobs	Limited decarbonisation, minor DER uptake	Coal-reliant, no JET planning capacity

6. International Benchmarks

South Africa's electricity reform process as marked by the unbundling of Eskom, the introduction of a competitive wholesale market, and the drive for a Just Energy Transition, can benefit from international experience. This section draws on reform case studies from Chile, Germany, Netherlands, India, Mexico, Australia,

and Guatemala. These countries were selected for their relevance in areas such as electricity market liberalisation, decentralised energy access, and municipal utility models. Each offers practical insights for how municipalities can navigate reform while advancing service delivery and energy equity.

CHILE: Market Liberalisation with Structured Procurement

Chile's electricity sector was among the first in the developing world to undergo full-scale liberalisation. Beginning in the 1980s, the Chilean government introduced structural reforms that unbundled generation, transmission, and distribution, while opening up the generation market to private investment. The country established a competitive wholesale electricity market and encouraged long-term bilateral contracting through Power Purchase Agreements (PPAs), which helped attract investment and reduce costs over time.

While municipalities in Chile do not operate their own utilities, they engage indirectly through local economic development planning, renewable energy permitting, and by facilitating access to national programmes. The Chilean model ensures that local governments are not excluded from reform benefits. For example, **small municipalities can benefit from national procurement platforms** that standardise contracts, provide financial guarantees, and reduce exposure to market volatility.

For South Africa, Chile's experience underscores the importance of national coordination in reform implementation. Municipalities with limited technical or financial capacity may be unable to procure independently, but they

can still participate meaningfully if supportive national mechanisms such as central purchasing agencies are in place. **Long-term contracting also emerges as a key tool to manage price volatility and infrastructure investment, especially in contexts where municipalities lack forecasting expertise or tariff-setting authority.**



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GERMANY: Local Utilities at the Heart of Energy Transition

Germany's Energiewende (Energy Transition) represents a decentralised, citizen-driven reform model where municipalities are not only service beneficiaries but also key implementers. The country has over 1,000 municipal utilities, or Stadtwerke, many of which were re-municipalised after public dissatisfaction with privatised service delivery in the early 2000s. Over 60% of Germany's electricity distribution is managed by municipal utilities responsible for local generation, distribution, customer service, and increasingly, renewable energy integration and energy efficiency programmes.

Germany has supported municipal utilities through a stable regulatory environment, feed-in tariff mechanisms, and incentives for citizen energy cooperatives. Stadtwerke are often co-owned by local governments and residents, allowing revenue to be reinvested into local services, infrastructure, and workforce development. These utilities are not only technically competent but also politically accountable, making them well suited to manage decentralised energy systems and support long-term climate targets. Municipal utilities also proved more resilient during energy price shocks, maintaining service while reinvesting profits locally.

For South Africa, **Germany's model demonstrates the value of local control, institutional stability, and community ownership in navigating energy reform.** While full municipal ownership of utilities may not be viable in all

contexts, elements such as public-private co-management, local procurement, and integrated service planning can be adapted. Germany shows that decentralised governance and national coordination can effectively coexist with national coordination provided municipalities are empowered through policy, finance, and planning support.



NETHERLANDS: Municipal Leadership in a Liberalised Market

The Netherlands offers a compelling case for how municipalities can actively shape a decentralised and liberalised electricity market. Since the 1998 Electricity Act, the Dutch power sector has undergone significant liberalisation, including the unbundling of generation, transmission, and distribution functions. The national grid is managed by TenneT, while regional distribution remains under public ownership. Within this framework, municipalities have emerged as key actors driving the local energy transition.



Particularly in regions such as Overijssel and Fryslân, municipalities have supported local low-carbon energy initiatives (LLCEIs), often in partnership with citizen cooperatives. These local governments have established “energy front offices” to provide technical advice, navigate regulatory processes for permits, and in some cases provide direct financial support to community-led projects. Their success lies not only in emissions reductions but also in enhanced citizen engagement, local economic development, and energy resilience. **The Dutch model highlights how municipalities, when given a conducive national framework can leverage their proximity to citizens to implement inclusive, decentralised energy systems.**

The Netherlands demonstrates how municipalities can be empowered to play a proactive role in a liberalised electricity market. By equipping municipalities with institutional tools and autonomy, Dutch municipalities have been instrumental in enabling citizen-led renewable energy initiatives. Through structured national policy support, municipalities provide permitting support, technical advice, and financial incentives, often through local “energy front offices.” These efforts have enabled communities to actively participate in the energy transition, fostering local ownership and strengthening public trust in the reform process. **For South Africa, the Dutch example underscores the importance of aligning national electricity reform with local planning frameworks and equipping municipalities with the institutional tools and autonomy necessary to facilitate decentralised energy initiatives that serve both climate and developmental goals.**

AUSTRALIA: Decentralised Energy Access through Community Power Models

Australia's energy sector operates in a liberalised and competitive environment, yet municipalities and communities have played a leading role in expanding decentralised energy access, particularly in rural and regional areas. The most prominent example is the Hepburn Wind Project in Victoria, Australia's first community-owned wind farm. Established in response to perceived government inaction on climate change, the project was initiated and funded by local residents with support from the local council and the Victorian state government.

The project consists of two wind turbines generating electricity for over 2,000 households, and it operates under a cooperative model that redistributes financial returns to the local community. The success of Hepburn Wind catalyzed a broader movement of community energy groups across Australia and contributed to policy discussions on citizen-led renewable energy generation. Municipalities have supported these efforts through planning approvals, awareness campaigns, and local energy strategies. The case demonstrates how local governments can act as facilitators in liberalised markets, enabling distributed generation and ownership models that align with energy justice and community empowerment.

Australia offers valuable insights into how municipalities can support decentralised energy access through community energy models. The Hepburn Wind Project, a community-owned wind farm supported by local government and state policy, exemplifies how municipal facilitation can catalyse citizen-led renewable energy development. Australian municipalities have played a key enabling role by providing planning support, assisting with regulatory compliance, and helping secure funding.

This has contributed to broader public engagement and localized economic benefits. **In the South African context, this approach highlights the value of municipalities acting as enablers of community-driven energy projects, particularly by supporting citizen ownership models and ensuring that energy planning is rooted in the specific needs of local communities.**



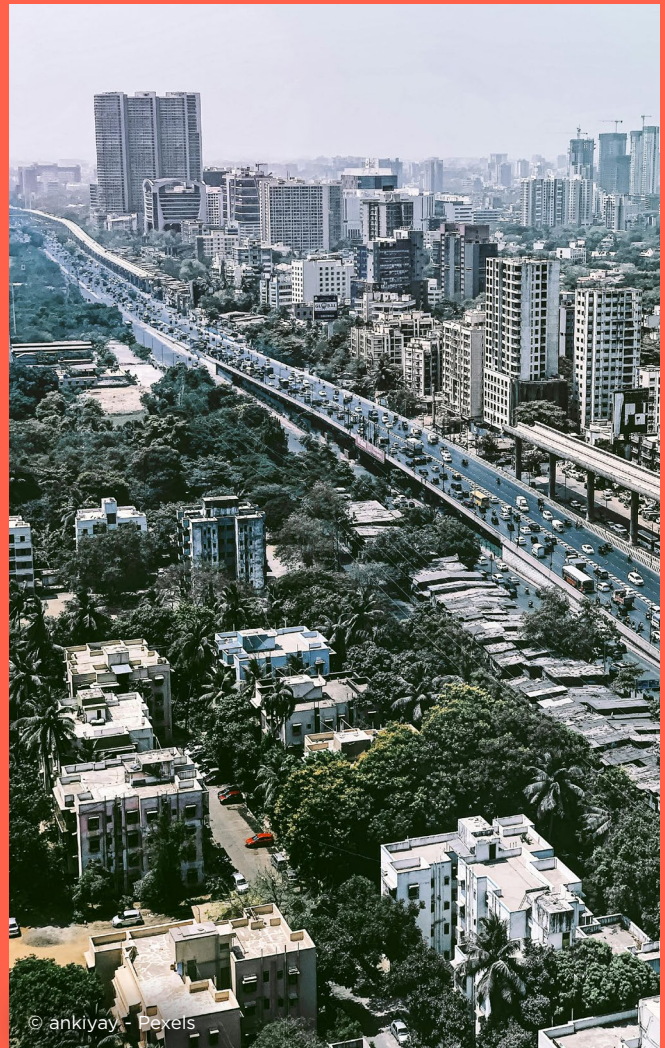
INDIA: Municipal Utility Innovation in Power Distribution Reform

India's experience with power sector reform provides valuable insights into how municipalities and state governments can drive improvements in energy equity and service delivery. One of the most influential initiatives is Jyotigram Yojana (JGY), launched in Gujarat in 2003. The program aimed to address widespread issues of poor quality and unreliable rural electricity supply, which were hampering agricultural productivity and rural livelihoods.

Under JGY, Gujarat implemented a major technical and institutional reform: it separated feeders for agricultural use from those for residential and commercial users in rural areas. This allowed for more targeted power supply, 24/7 electricity access for households, and better management of peak loads. Importantly, the reform was supported by strong political will, infrastructure investment, and tariff rationalisation. Although implemented at the state level, municipal bodies played a key role in coordinating implementation, especially in terms of community engagement and monitoring.

The Jyotigram model has since been replicated in several other Indian states and has become a reference point in discussions on how to achieve reliable and equitable electricity distribution in developing contexts. It shows how reform, if locally adapted and clearly targeted, can both improve efficiency and serve developmental goals.

India's experience, particularly with the Jyotigram Yojana in Gujarat, illustrates how **targeted distribution reforms can dramatically improve electricity access and reliability in rural areas**. By separating electricity feeders for agricultural and non-agricultural uses, the program improved service quality for households while reducing technical losses and subsidy



burdens. Municipal and local authorities played a central role in implementing the infrastructure and maintaining engagement with rural communities. **For South African municipalities, this case study highlights the importance of distribution-level reforms that are explicitly designed to improve energy equity. It also shows the value of using local governance structures to ensure that infrastructure upgrades and service reforms reach historically underserved areas such as informal settlements and rural communities.**

MEXICO: Retail Market Structuring and Risk Allocation

Mexico's electricity sector reform provides useful lessons on how to phase liberalisation while maintaining a strong public interest mandate. The wholesale electricity market in Mexico is operated by an independent system operator, with private and state-owned generators competing in nodal pricing markets. A key feature of Mexico's reform is the segmentation of retail customers into three categories: basic service users (served by a regulated state affiliate), qualified users (>1 MW demand), and qualified market participants (>5 MW demand). This structure allows for progressive retail market participation, while safeguarding small consumers under regulated tariffs and subsidised supply.

Crucially, Mexico uses long-term auctions (15-year contracts) to procure capacity, energy, and clean energy certificates, thereby reducing fossil fuel dependence and de-risking private investment through contractual certainty. These contracts are backed by regulated entities, providing stability and protecting consumers from spot market volatility. Mexico's approach illustrates how retail protection, **clean energy integration, and investment bankability can be simultaneously achieved through careful sequencing and institutional design** (Regulatory Assistance Project, 2025).



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GUATEMALA: Auctions, Credit Risk Mitigation, and Social Tariffs

Guatemala represents a smaller but instructive case of electricity market reform tailored to institutional capacity constraints. Following the unbundling of its vertically integrated utility in 1998, the country introduced a wholesale market with day-ahead trading and bilateral contracts. Notably, distribution companies in Guatemala are required to conduct long-term and short-term auctions to secure power, enhancing transparency and price competitiveness. This auction mechanism is paired with a regulated value-added distribution charge (VAD), which reflects fixed and operational costs.

To manage payment risks in a liberalised market, wholesale participants must maintain credit lines equivalent to two months of expected liabilities, and regulators monitor financial solvency closely. **Guatemala also introduced a social tariff for low-income users, ensuring that price liberalisation did not compromise access or affordability.** These tools demonstrate how even emerging economies with limited resources can adopt liberalisation while protecting vulnerable groups and ensuring financial discipline across the value chain (Regulatory Assistance Project, 2025).



The table below provides a comparative summary of international energy reform experiences, highlighting mechanisms that may be transferable to the South African context.

Table 6: Summary of International Case Studies

Country	Reform Focus	Municipal Role	Key Transferable Practice
Chile	Market liberalisation, IPP access	Municipalities engage via national PPA platforms.	Capacity support is essential to avoid market exclusion of under-resourced municipalities.
Germany	Municipal utility revival (Stadtwerke)	Local utilities drive renewables and efficiency.	Community-owned models build trust and embed local economic benefits in the energy transition.
Netherlands	Municipal Leadership	Provide permitting support, technical advice, and financial incentives.	Aligning national electricity reform with local planning frameworks to implement inclusive, decentralised energy systems.
Australia	Decentralised Energy Access	Awareness campaign, planning, approvals, local energy strategies.	Key enablers by supporting citizen ownership models and ensuring that energy planning is rooted in the specific needs of local communities .
India	Municipal Utility Innovation	Coordinating implementation through community engagement.	Distribution reforms to improve electricity access.
Mexico	Retail Market Structuring and Risk Allocation	Municipalities operate within segmented retail classes; state-owned utility serves basic users under regulated tariffs.	Use long-term power auctions to provide pricing stability , while maintaining social protection through state-supported retail tiers .
Guatemala	Auctions, Credit Risk Mitigation, and Social Tariffs	Municipalities act as distribution entities that must comply with transparent procurement rules.	Mandated long-term auctions combined with social tariffs ensure affordability and reduce procurement risk, even in low-capacity settings.

Relevance for South Africa

While South African municipalities face specific constraints such as Eskom debt exposure, uneven technical capacity, and overlapping legal mandates, international examples demonstrate that reform success depends on clear municipal empowerment frameworks, flexible procurement tools, and long-term planning support. Lessons from Chile and Kenya in particular suggest that

sub-national enablement is a precondition for equitable energy transition outcomes. While these models cannot be adopted wholesale, their core principles — including regulatory clarity, decentralised innovation, and capacity-building — can be adapted to suit South Africa’s context, especially for under-resourced municipalities navigating complex reforms.

7. Socio-Economic and Just Transition Considerations

Electricity reform must strike a balance between technical progress and social equity. South Africa's Just Energy Transition (JET), guided by the Presidential Climate Commission and the JET Investment Plan, emphasises decarbonisation, resilience, and inclusive development (Just

Energy Transition Investment Plan, 2023). Municipalities are expected to advance these goals by expanding access to clean, affordable energy, supporting local jobs, and ensuring reforms do not widen inequality.



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As the energy system shifts toward decentralisation, new opportunities arise in solar PV, battery energy storage, energy auditing, and grid digitisation, especially for youth and local enterprises. Municipalities can unlock these benefits by integrating energy skills into Expanded Public Works Programmes (EPWP), partnering with Technical and Vocational Education and Training (TVET) colleges, and supporting community-owned energy projects. However, without targeted support, under-resourced municipalities risk being excluded from these gains.

Municipalities can access Just Energy Transition (JET) financing through national funding windows, such as those managed by the Just Energy Transition Project Management Unit (JETPMU) or via international climate finance mechanisms like the Green Climate Fund. Gender inclusion is critical to a truly just transition, with targeted support needed for women-owned renewable energy enterprises and equitable access to employment opportunities, including through initiatives like the Expanded Public Works Programme (EPWP).

Without targeted support, reform risks deepening structural inequality.

Existing research, including the South African Renewable Energy Masterplan (SAREM) and the Power Up program, has highlighted significant skills gaps in the renewable energy sector. These studies underscore the need for investment in training and workforce development to fully realise the job creation potential of the energy transition and accelerate electrification.

Labour Market Intelligence Research

Programme: Commissioned by the Department of Higher Education and Training (DHET), this comprehensive report identifies critical skills shortages in the RE sector, emphasizing the need for targeted education and training programs to align with industry demands.

Power Up Platform: Launched to bridge the gap between industry needs and educational offerings, this platform aims to align curricula with the evolving requirements of the RE sector, ensuring that graduates possess relevant and practical skills.

Global Energy Alliance for People and Planet (GEAPP)

GEAPP is actively working to build a skilled workforce in Africa by supporting technical and vocational training programs tailored to the RE industry, thereby enhancing local capacity and employment opportunities.

Frontiers in Sustainable Energy Policy Study:

This research highlights the underinvestment in technology transfer and capacity building within South Africa's RE sector, advocating for increased funding and support for innovation hubs and living labs to foster skill development.

Reform also threatens existing social protections. Cost-reflective tariffs and customer defection may reduce the ability of municipalities to supplement Free Basic Electricity (FBE) beyond national grants. If not addressed, this could deepen energy poverty, particularly in informal and rural areas. Municipalities must safeguard affordability and rethink electrification as a mix of grid, off-grid, and mini-grid solutions that prioritise inclusion over coverage alone.

8. Opportunities for Municipalities in the Changing Energy Landscape

8.1 Future and Present Opportunities

The unbundling of Eskom and the transition to a liberalised electricity market provide municipalities with a strategic opening to redefine their role in South Africa's energy future. No longer restricted to bulk resellers of Eskom power, municipalities can become energy orchestrators, shaping procurement pathways, facilitating market access, and enhancing local resilience.



Table 7: For and Present Opportunities for Municipalities

Opportunities	Description
Direct IPP Sourcing	Municipalities can now contract directly with Independent Power Producers (IPPs), enabled by Schedule 2 amendments and Section 34 Ministerial approvals. This allows for cleaner, cost-competitive electricity sourcing, particularly in metros facing Eskom supply constraints (Just Energy Transition Africa, 2024b). Uptake remains limited however, due to procurement complexity and legal uncertainty. National support, including standardized contracts and regulatory clarity, is essential to scale adoption.
Embedded Generation and Wheeling	Municipalities can enable rooftop solar and storage through feed-in tariffs and net billing. Grid-owning municipalities may also collect wheeling fees when third-party energy is routed through their networks. Realising this opportunity requires simplified connection protocols and wheeling frameworks that are technically and financially sound.
Tariff Innovation and Revenue Resilience	As customers turn to private supply, municipalities must evolve their tariff models. Cost-reflective pricing, fixed network charges, and time-of-use tariffs can help sustain infrastructure funding despite lower energy volumes. Cities like Cape Town have begun implementing such reforms, though public buy-in and regulatory alignment are key (Meridian Economics, 2023).
Trading and Market Participation	Although still emerging, some metros are positioning themselves to participate in the South African Wholesale Electricity Market (SAWEM) as traders, brokers, or aggregators. This could enable revenue diversification, but will require system upgrades, forecasting tools, and financial readiness.

8.2 Enablers and Success Factors for Municipalities in the Changing Energy Landscape

Clear National Policy and Regulatory Certainty	• Consistent, enabling policy frameworks such as the Electricity Regulation Amendment Act (ERAA) and the National Wheeling Framework help municipalities plan and invest with confidence. • Regulatory clarity around municipal rights to procure, generate, and sell electricity supports proactive local planning and investment.
Institutional and Technical Capacity	• Municipalities must build internal capacity to manage energy procurement, power purchase agreements, tariff design, and grid operations. • Investment in skills development and technical training, especially through partnerships with TVET colleges, the Power Up platform, and Labour Market Intelligence initiatives, is critical. • Success hinges on having dedicated energy units or municipal energy offices to coordinate local energy strategy.
Data, Planning Tools, and Integrated Energy Strategies	• Municipalities benefit from accurate demand forecasting, tariff modelling, and network planning tools. • The development of Municipal Energy Master Plans or Integrated Resource Plans aligned with national transition goals enables coordinated and resilient local strategies.
Standardised Procurement and Legal Templates	• Access to template contracts, legal toolkits, and standardised documentation especially for wheeling, PPA negotiation, and tariff adjustment helps reduce transaction costs and legal risk.
Revenue Model Innovation	• Reforms must support new municipal revenue streams beyond the traditional energy resale model. • Municipalities can adopt grid access charges, services-based tariffs, and local energy market facilitation as new revenue pathways. • Ring-fencing distribution businesses and improving cost-of-supply alignment are critical for long-term sustainability.
Stakeholder Engagement and Social Buy-in	• Success depends on inclusive planning with residents, business, labour, and civil society, particularly as energy choices impact affordability and livelihoods. • Engaging communities around energy access, tariff changes, and local job creation strengthens the legitimacy of municipal reform efforts.

Pilots, Peer Learning, and Demonstration Projects	• Learning from leading municipalities such as the City of Cape Town, eThekweni, and Stellenbosch which are piloting wheeling, rooftop solar frameworks, and energy trading helps fast-track municipal readiness. • Peer learning platforms and support through SALGA, C40 Cities, and PCC programs provide critical exposure and technical exchange.
Alignment with the Just Transition Principles	• Municipal energy strategies should integrate gender inclusion, youth employment, and equity goals. • Supporting women-owned energy enterprises, local job creation via EPWP, and skills transfer ensures that reforms are inclusive and just.

8.3 Trading and Market Participation

Although still emerging, some metros are positioning themselves to participate in the South African Wholesale Electricity Market (SAWEM) as traders, brokers, or aggregators.

This could enable revenue diversification, but will require system upgrades, forecasting tools, and financial readiness.

The table below compares municipal procurement models by control, risk, and technical requirements under the reformed electricity market.

Table 8: Comparative Procurement Models for Municipal Electricity Access

Model	Description	Control Level	Risk Level	Typical Users
Direct IPP PPA	Municipality procures from IPP via S34 Determination	High	Medium	Large metros, reform leaders
Piggyback on IPPO	Access national procurement pool via CPA or DEE	Medium	Low	Smaller or risk-averse municipalities
Aggregated Municipal Tenders	Joint tender with SALGA or provincial support	Medium	Medium	Clustered intermediate municipalities
Embedded Generation	Enable rooftop PV, storage behind-the-meter	Low-Medium	Low	Licensed municipal distributors
Wheeling Facilitation	Enable third-party use of local grid	Medium	Low-Medium	Grid-owning municipalities
Market Trading (future)	Purchase/sell via SAWEM platforms	High	High	Future-ready metros only

9. Enabling Actions and Roadmap

Municipalities need a structured, phased approach to respond effectively to electricity reform. This roadmap outlines short- and medium-term actions to support reform readiness, regulatory compliance, and long-term resilience.

9.1 Short-Term Priorities (0–12 months)

In the immediate term, municipalities should establish an internal Reform Task Team drawing on planning, finance, infrastructure, and legal departments to coordinate compliance and engagement. Key early actions include:

Key early actions include:

- **Training staff** on procurement, trading and wholesale market participation, and tariff reform through institutions such as Sector Education and Training Authority (SETA), MISA, SALGA or other partners.
- **Conducting a gap** analysis across systems such as metering, planning, and procurement.
- **Engaging national stakeholders** (DEE, NERSA, Eskom) to track evolving requirements.
- **Mapping stakeholders**, including communities, developers, IPPs, traders, and aggregators.

9.2 Medium-Term Priorities (1–3 years)

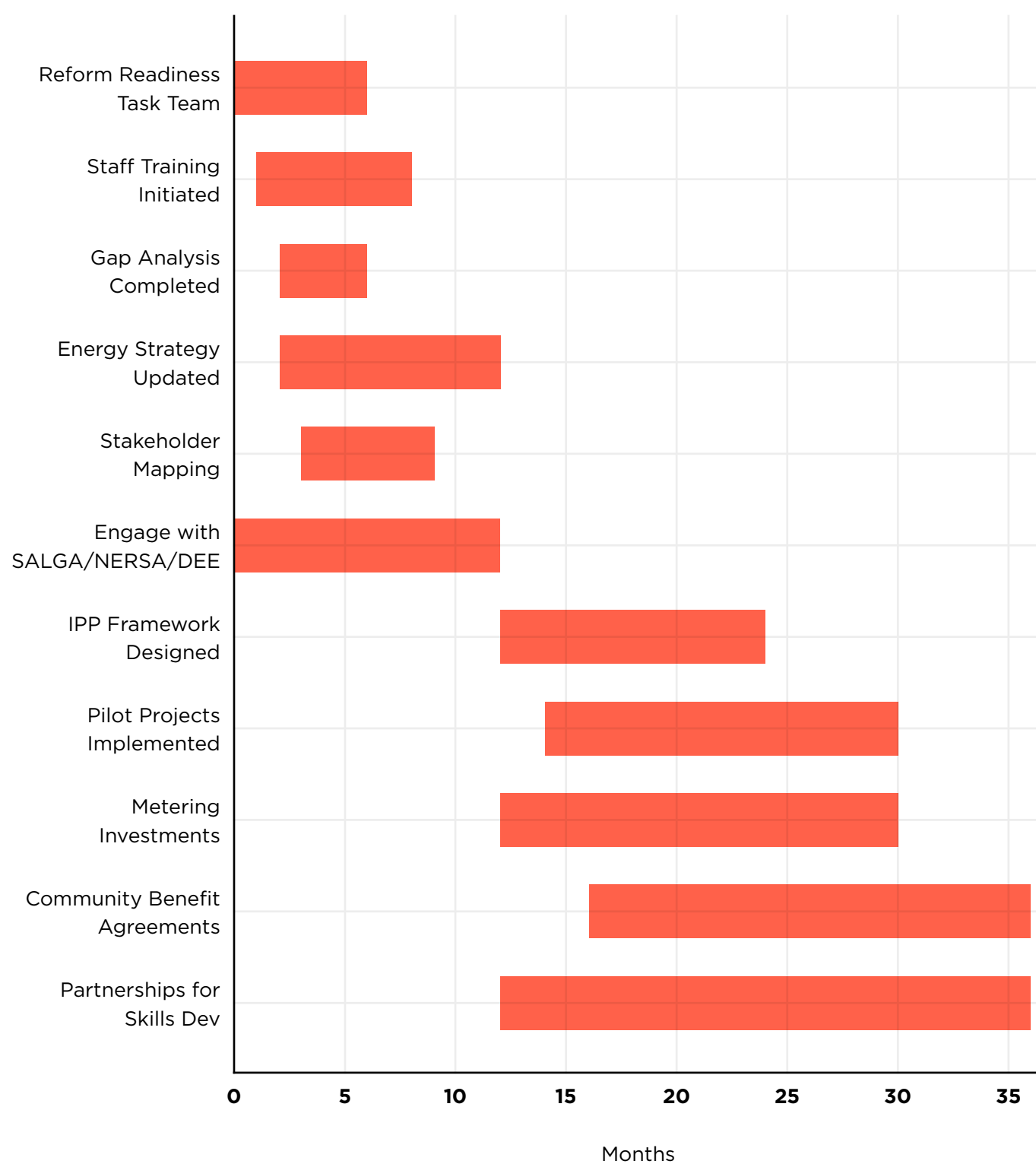
As capacity grows, municipalities should move to implementation. This includes:

- **Designing an IPP procurement framework** aligned with MFMA and local climate goals. Look at opportunities to leverage existing DEE Independent Power Producer Procurement Program (REIPPPP);
- **Piloting small-scale renewable or wheeling projects** to test internal systems;
- **Investing in metering and data systems** to support forecasting, wheeling, and tariff reform;
- **Embedding community benefit agreements** in procurement to promote jobs and inclusion;
- **Partnering with skills providers** (e.g., TVETs, universities) to support workforce transition

The figure on the following page presents a 36-month Gantt-style roadmap that outlines the phasing of key reform actions, helping municipalities prioritise tasks by department based on available capacity



Figure 1: Municipal Electricity Reform Roadmap Gantt Chart



10. Conclusions and Strategic Recommendations

The evolving electricity landscape presents a critical opportunity for South African municipalities to reposition themselves as central actors in driving energy resilience, affordability, and inclusion. However, this shift requires more than technical reforms—it calls for deliberate alignment of policy, planning, and institutional capacity at the local level. International case studies underscore that meaningful municipal participation depends on clear mandates,

access to enabling tools, and sustained support from national structures. To ensure that reform outcomes are both effective and equitable, municipalities must be equipped to navigate new roles in procurement, tariff reform, grid integration, and community engagement. The table below outlines strategic recommendations designed to support municipalities in advancing a just and locally grounded energy transition.

Table 9: Strategic Recommendations by Theme

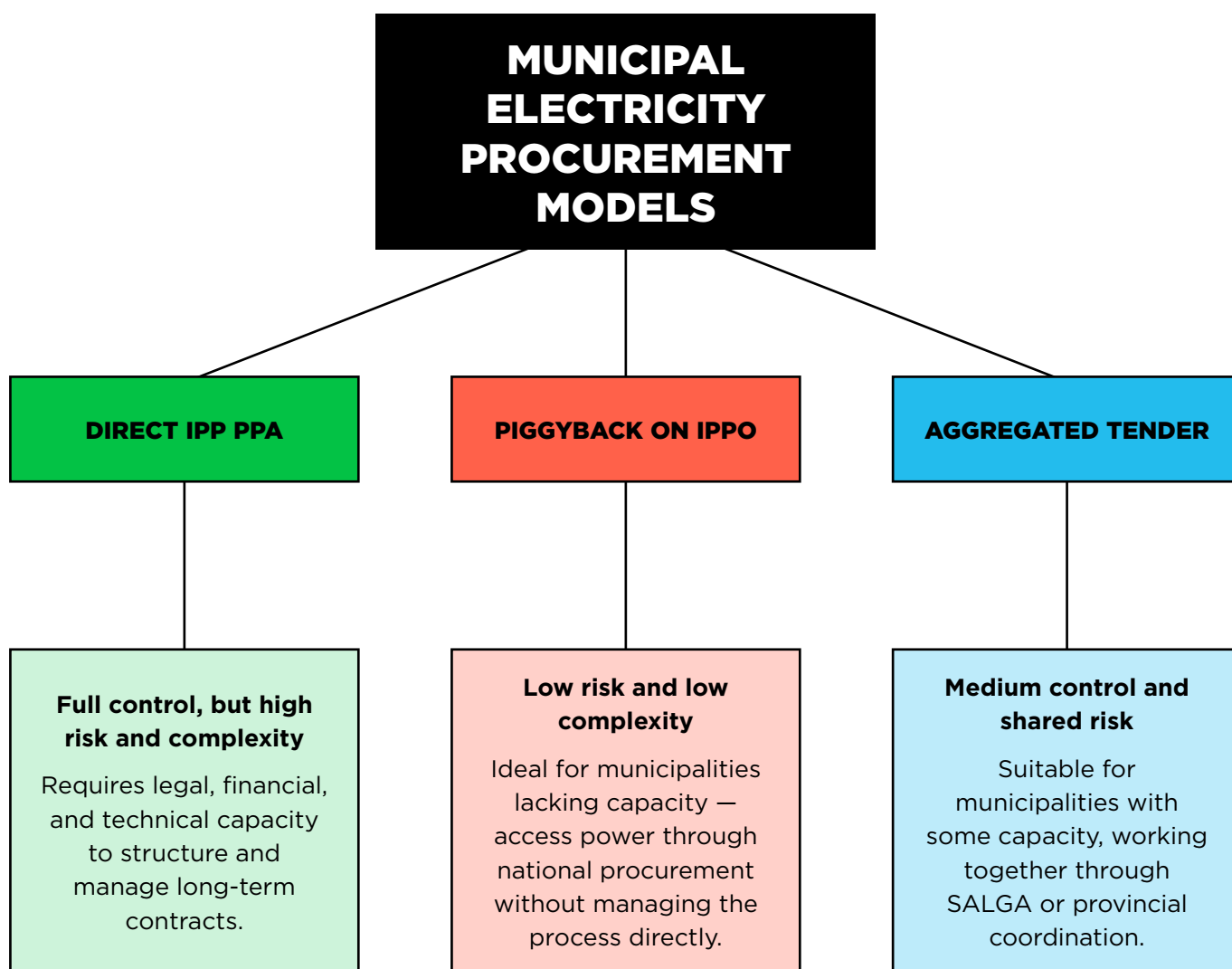
Strategic Recommendations	Description
Planning and Infrastructure Readiness	Municipalities must urgently align their electricity master plans with the South African Grid Code to ensure that all infrastructure upgrades including substations, feeders, control centres are technically and regulatorily ready, compliant and financially budgeted. In parallel, investments in Advanced Metering Infrastructure (AMI) , SCADA systems , and GIS mapping tools are essential not just for modernisation but for enabling participation in a future electricity wholesale market that demands precision in forecasting, balancing, and metering. Municipalities that fail to modernise these systems will face critical operational blind spots and risk being locked out of new market mechanisms.
Financial and Regulatory Alignment	Municipalities must begin or accelerate the migration toward cost-reflective tariffs, underpinned by Cost-of-Supply (CoS) studies approved by NERSA. These studies form the basis for not only retail tariff adjustments but also wheeling framework design, which are two critical components of a financially sustainable electricity business. In parallel, municipalities must prepare for the regulatory and procedural requirements of the Municipal Finance Management Act (MFMA) when entering into long-term Power Purchase Agreements (PPAs). Where MFMA requirements are found to be limiting, appropriate adjustments or improvements should be initiated at the right levels of government. These agreements are complex and time-intensive, and municipalities should begin aligning internal procurement and legal teams early in the process.

Table 9: Strategic Recommendations by Theme

Strategic Recommendations	Description
Grid and Market Integration	Grid and Market Integration: Municipalities that wish to enable wheeling must establish comprehensive wheeling frameworks, including technical standards, tariffs, and commercial protocols that align with NERSA and Eskom requirements. These frameworks must be transparent, auditable, and accessible to third-party generators and off-takers. Regulatory bodies and government institutions such as DEE, NERSA, SALGA, etc. should clearly define the municipal mandates, roles, and thresholds. This will be essential to avoid regulatory conflict and ensure coherent implementation of municipal electricity reform, especially under the evolving definitions of “reticulation” and “distribution” introduced by the ERAA. In the medium term, municipalities should explore transitioning toward value-added utility services, including aggregation, peak shaving, and participation in capacity markets. This marks a shift from being traditional energy resellers to becoming platform operators and service providers, which is a role that is consistent with international best practice in liberalised energy systems.
Institutional Leadership and Reform Positioning	Given their scale, capacity, and influence, metropolitan municipalities such as City of Tshwane, City of Cape Town, City of Ekurhuleni, City of Johannesburg, and eThekweni Metropolitan Municipality are advised to adopt the Proactive Reformer approach, ensuring they are not only compliant with national reform directives but lead their implementation pathways. Proactive municipalities will have first-mover advantage in piloting reforms, shaping policy, grant funding, and attracting private sector investment.
Just Transition and Skills Development	To support a just and inclusive transition, municipalities should embed energy-related skills development within local economic programmes. This includes integrating energy roles into Expanded Public Works Programmes (EPWP), partnering with TVET colleges and SETAs, and promoting community-led energy projects where ownership and employment are intentionally built into project design. These measures help ensure that reform benefits are equitably distributed and that municipalities contribute to long-term socio-economic resilience.

The figure below provides a visual summary of three municipal electricity procurement models, highlighting key differences in control, risk, and suitability based on municipal capacity.

Figure 2: Municipal Electricity Procurement Model Comparison



11. Appendix

Stakeholder Insights and Perspectives

MISA

The Municipal Infrastructure Support Agent (MISA) plays a central role in enabling municipalities to respond to electricity reform by offering technical support, capacity development, and infrastructure planning assistance. MISA's core objective is to strengthen municipal infrastructure delivery through the deployment of skilled professionals, training, and funding support mechanisms.

MISA provides direct technical assistance to municipalities on a wide range of electrical infrastructure projects, including electrification, substation upgrades, community lighting, and energy master planning. The agency also assists with operations and maintenance (O&M) issues and collaborates with Eskom during the planning stages to ensure alignment on infrastructure capacity and the timely energising of projects. Additionally, MISA supports the Department of Electricity and Energy (DEE) with planning and project management for electrification and substation programmes.

To address skills shortages, MISA runs several initiatives:

- Training programmes and short courses (with CPD accreditation) for municipal officials,
- The Young Graduate Programme (ECSA-aligned) and Artisan Development, which deploy graduates and learners directly into municipal technical departments,

- Long-term support to improve the technical depth and performance of municipal Electrical Departments, many of which remain under-capacitated.

From a market reform readiness standpoint, MISA is assisting municipalities to develop Energy Master Plans that integrate transition and market alignment components. It also provides support in drafting business plans for grant funding applications, particularly those focused on sustainable energy infrastructure.

In terms of market participation and transition risk, MISA has highlighted that municipal entry into the wholesale electricity market could enhance energy affordability, improve revenue performance through access to bulk pricing, and assist in load-shedding mitigation.

redefine their role in South Africa's energy future. No longer restricted to bulk resellers of Eskom power, municipalities can become energy orchestrators, shaping procurement pathways, facilitating market access, and enhancing local resilience.

Gauteng COGTA

Gauteng COGTA has been actively supporting municipalities across the province to navigate electricity reform since 2020. Through a **multi-disciplinary technical assistance programme**, the department has conducted electricity business assessments, helped identify capacity gaps, and provided guidance on reform-aligned energy planning. These efforts form part of the **Gauteng Energy Response Programme**, which promotes coordination between municipalities, Eskom, the NTCSA, and the Department of Electricity and Energy (DEE).

A key component of COGTA's approach is the upcoming **Sustainable Energy Workshop** in June 2025, which will bring together stakeholders to address policy alignment, market readiness, and transition risk. Breakaway sessions will explore regulatory reform, decentralised planning, IPP readiness, and financing models to support embedded generation and grid resilience. This workshop will also feed into the development of the **Gauteng Long-Term Energy Roadmap**.

COGTA has flagged critical capacity and skills gaps across municipalities, especially in smaller jurisdictions. These include limited technical knowledge on wheeling, IPP contracting, market rules under ERAA, financial modelling, and tariff design. The department is currently identifying appropriate interventions that range from regulatory support to training programmes, despite energy not being a core provincial mandate.

In terms of regulatory advocacy, COGTA is using the workshop as a platform to consolidate municipal voices on issues like NTCSA licensing, market design, and energy security. The

department supports the formation of regional energy planning partnerships and is exploring models such as provincial energy aggregators.

COGTA has also highlighted key transition risks for municipalities not yet prepared to enter the wholesale market. These include revenue loss, exposure to volatile pricing, stranded assets, and non-compliance with new regulatory obligations. In response, COGTA is advocating for a phased and just transition, including:

- Financial buffers for vulnerable municipalities,
- Incentives for early participation (e.g., wheeling revenue sharing),
- Debt ringfencing mechanisms to separate legacy debt from future investments,
- Policy levers to ensure no municipality is left behind.

Lastly, the department is supporting municipalities to align their energy strategies with the **Gauteng Energy Security Strategy**, ensuring coherence with national policy frameworks such as ERAA, the IRP, and JET-IP.



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