



electricity & energy

Department:
Electricity and Energy
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF ELECTRICITY AND ENERGY

STRATEGIC PLAN FOR 2025 – 2030

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DEPARTMENT OF ELECTRICITY AND ENERGY

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EXECUTIVE AUTHORITY STATEMENT

South Africa enters the 7th Administration at a moment of profound structural change in the global energy system. Across the world, energy is being repositioned, not only as a commodity, but as a strategic instrument of economic power, industrial development, and geopolitical influence. Nations are competing to secure supply chains, attract investment, and anchor new industries linked to the energy transition.

For South Africa, this moment presents both risk and opportunity. The risk is that we remain a price taker in global energy markets, constrained by infrastructure deficits and limited industrial depth. The opportunity is to use the transformation of our energy system as a platform to restructure the economy, drive inclusive growth, and assert a more competitive position in the global economy.

This Strategic Plan sets out a clear response to this moment.

At its core is a recognition that South Africa must resolve a more complex challenge than the traditional energy trilemma. While energy security, sustainability and affordability remain essential, they are insufficient to address the structural inequalities and economic constraints that define our society. The task before us is to advance an energy transformation that also delivers inclusive growth, reduces poverty and inequality, and broadens participation across the energy value chain.

This defines the energy transformation quadrilemma that underpins the work of the Department of Electricity and Energy.

To give effect to this, the state must play a central and enabling role. A capable and developmental state is required to plan with clarity, regulate with authority, and coordinate investment at scale. Market reform remains necessary, but it must be sequenced and designed in a manner that supports national development objectives, safeguards affordability, and ensures that the benefits of transformation are widely shared.

Over the next five years, the Department will lead the implementation of a comprehensive programme to stabilise and transform the electricity sector.

This includes securing generation capacity through a diversified energy mix, underpinned by the Integrated Resource Plan of 2025. It includes a significant expansion of the transmission network, recognising that grid capacity is the primary constraint to unlocking new investment. It includes the phased development of a competitive electricity market, anchored by a strong and independent system operator, and supported by a credible regulatory framework.

Transformation will also be pursued through deliberate industrial policy. South Africa will leverage its mineral endowment, existing industrial base, and strategic location to participate more actively in global energy value chains. Initiatives such as the South African Renewable Energy Masterplan, the Critical Minerals and Metals Strategy, and the Green Hydrogen Commercialisation Strategy will be used to drive localisation, beneficiation, and export competitiveness.

At the same time, the role of nuclear energy will be advanced as part of a balanced and resilient energy mix. South Africa will build on its established capabilities to support both power generation and industrial applications, guided by considerations of affordability, safety, and long term sustainability.

Universal access to energy remains a fundamental objective. The transition from the Integrated National Electrification Programme to a Universal Access Programme will accelerate progress towards near

universal access, supported by a combination of grid expansion, microgrids and off grid solutions. This is central to addressing spatial inequality and enabling economic participation across all communities.

A just transition is integral to this programme. The transformation of the energy system must be undertaken in a manner that protects workers and communities, particularly in regions historically dependent on coal. It must also ensure that women, youth and persons with disabilities are able to participate meaningfully in the emerging energy economy.

Crucially, social protection must be embedded within the design of the energy system. Affordability and access cannot be left solely to market dynamics but must be actively shaped through public policy to ensure that the benefits of transformation are inclusive and equitable.

This Strategic Plan is aligned with the Medium-Term Development Plan and the priorities of the Government of National Unity. It provides a clear framework for action over the next five years, and establishes the basis for coordinated implementation across government, industry and society.

The Department of Electricity and Energy will work with all stakeholders to deliver on this mandate. The objective is not only to resolve the immediate challenges of the electricity sector, but to lay the foundation for a transformed energy system that drives industrial development, supports inclusive growth, and secures South Africa's long-term prosperity.

Honourable Dr K. Ramokgopa (MP)

EXECUTIVE AUTHORITY

DEPARTMENT OF ELECTRICITY AND ENERGY

DEPUTY MINISTER STATEMENT

The Department's Strategic Plan 2025-2030 will serve as a catalyst for an industrial-led economic growth path, as set out in the Government's Medium Term Development Plan (MTDP).

The recent adoption of the South African Renewable Energy Master Plan (SAREM) codifies the Department's commitment to ensuring we use the nascent renewable energy sector, as a springboard for localisation and the expansion of economic activities, particularly for communities impacted and affected by our energy transition pathways.

Municipal viability is intrinsically linked to Eskom's financial sustainability. The Ministry will continue to support municipalities to strengthen their respective energy businesses, through the Distribution Agency Agreements (DAA's). This will include technical support, as well as improvements in billing and revenue management. In this regard, the deployment of smart metering capability is crucial to improving revenue collection, reducing energy losses and enabling real time monitoring of electricity usage.

The anticipated growth in infrastructure investments presents an unparalleled opportunity to transform the energy sector, by facilitating the participation of women, youth, and persons with disabilities in the mainstream of the energy ecosystem. This must include ensuring access to capital, skills development and innovation platforms that enhance a meaningful and substantive involvement.

Alongside the Eskom Generation Recovery Plan and initiatives to expand new generation, capacity, energy efficiency programmes will play an important role in managing demand and resource utilisation. During the 2025/26 financial year, the Department will review the National Energy Efficiency Programme, support the roll out of solar water heater technologies, and strengthen the institutional capacity of the South African National Energy Development Institute (SANEDI) to enforce energy audits and the issue energy performance certificates.

As South Africa transitions to a secure, diversified, and sustainable energy future, nuclear energy will play an important role in the country's energy mix alongside renewable energy, gas, and other emerging technologies. The Department is working with the South African Nuclear Energy Corporation (NECSA), the National Nuclear Regulator (NNR), and the National Radioactive Waste Disposal Institute (NRWDI) to advance the Nuclear Industrialisation Plan and assess the viability of re-establishing the nuclear fuel cycle. South Africa plans to implement an additional 10 GW nuclear power programme to underpin this ambition.

The Department will also undertake a comprehensive socio-economic and cost-benefit analysis to guide future nuclear procurement decisions. The just energy transition must be inclusive of all viable energy sources that strengthen long-term energy sovereignty while creating jobs and fostering technological innovation.

Honourable Ms S. Graham-Mare (MP)

DEPUTY MINISTER FOR ELECTRICITY AND ENERGY

ACCOUNTING OFFICER STATEMENT

The 2025 to 2030 Strategic Plan sets out the Department of Electricity and Energy's programme of action for the 7th Administration, and establishes the institutional foundation required to deliver on South Africa's energy transformation agenda.

In terms of the Public Finance Management Act, the Accounting Officer is responsible for ensuring that the Department exercises its mandate with discipline, integrity and accountability, in accordance with applicable legislative frameworks. This responsibility is discharged through the collective efforts of the Department's leadership and workforce, whose commitment to effective governance and service delivery underpins the achievement of its strategic objectives.

This Strategic Plan reflects that shared obligation, aligning policy intent with credible implementation, sound financial management, and measurable performance outcomes. The central task of the Department over this period is to build a capable, coordinated and execution driven institution. This requires strengthening our ability to plan with precision, regulate effectively, and manage complex programmes at scale across the electricity value chain.

The Department will focus on three core institutional priorities.

The first is the consolidation of an integrated planning framework. This includes aligning the Integrated Resource Plan 2025, the Transmission Development Plan, and associated sector strategies into a single, credible investment pipeline. Planning will be supported by strengthened modelling, data systems, and analytical capability to ensure that decision making is evidence based and responsive to changing system conditions.

The second is the development of a robust regulatory and market architecture. In partnership with the National Energy Regulator of South Africa, the Department will support the evolution of the electricity market through clear rules, effective licensing processes, and strengthened compliance and enforcement mechanisms. This is essential to ensure that market reform is underpinned by system integrity and investor confidence.

The third is the strengthening of programme and project execution. The Department will embed a disciplined project management approach across all priority interventions, supported by clear milestones, performance indicators, and risk management frameworks. Monitoring and evaluation systems will be enhanced to ensure transparency, accountability, and timely corrective action where required.

These institutional priorities will be applied to the delivery of key sector outcomes. This includes accelerating transmission expansion, enabling new generation capacity, and advancing universal access through a combination of grid and off grid solutions. It also includes stabilising the distribution segment through improved governance, financial management, and the implementation of Distribution Agency Agreements.

A capable and developmental state is central to the success of this programme. The Department will therefore prioritise the strengthening of internal capability, including financial management, audit outcomes, risk management, and organisational performance systems. Coordination across entities and spheres of government will be reinforced to ensure alignment, reduce fragmentation, and improve delivery.

This Strategic Plan reflects a deliberate shift towards an institution that is both strategically aligned and operationally effective. It provides a clear framework for delivery, supported by defined responsibilities, prudent resource management, and a commitment to measurable outcomes.

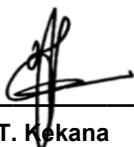
The Department remains committed to exercising its mandate with accountability and purpose. The focus over the next five years will be on strengthening institutional capability, ensuring financial and governance integrity, and translating strategic intent into sustained delivery across the energy sector.

Mr S. Pillay
ACTING DIRECTOR GENERAL
DEPARTMENT OF ELECTRICITY AND ENERGY

OFFICIAL SIGN OFF

It is hereby certified that this Strategic Plan for 2025/30:

- 1) Was developed by the management of the Department of Electricity and Energy, under the guidance of the Minister for Electricity and Energy, Dr Kgosientsho Ramokgopa
- 2) Takes into account all the relevant policies, legislation, and other mandates for which the Department of Electricity and Energy is responsible
- 3) Accurately reflects the outcomes and outputs which the Department Of Electricity and Energy will endeavour to achieve over the period 2025-2030"



Mr T. Kekana

DDG: Energy Programme and
Project Management



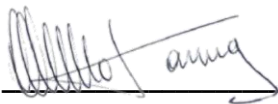
Mr Z. Mbambo

DDG: General Energy Nuclear Management
and Regulation



Dr K. Bhugwandin

DDG: State Owned Entities Oversight and Energy Planning and Policy



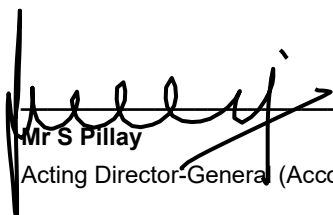
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Chief Director: Strategy and System



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Acting Director-General (Accounting Officer)



Ms S Graham-Mare (MP)

Deputy Minister for Electricity and Energy

APPROVED BY:



Dr K. Ramokgopa (MP)

Minister for Electricity and Energy (Executive Authority)

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Executive Summary

South Africa's energy sector stands at a pivotal moment. After years of supply disruptions, and structural challenges, the country has begun to turn the corner. South Africa has now gone consecutive months without load shedding, and Eskom has reported a profit for the first time in 17 years - clear signs of stabilisation and renewal. This marks an important inflection point: an opportunity for South Africa to double down on reform, accelerate investment, and unlock a new cycle of inclusive and sustainable economic growth.

"We now need to put the risk of load shedding behind us once and for all by completing the reform of our energy system to ensure long-term energy security." – President Cyril Ramaposa, State of the Nation Address 2025

Reliable, affordable, and sustainable energy can be the cornerstone of this economic growth trajectory. Across the world, energy availability and economic development are tightly linked - countries with secure, efficient energy systems enjoy higher productivity, stronger industrial output, and improved human development. For South Africa, energy security and affordability are therefore not just technical objectives; they are national imperatives for restoring growth, creating jobs, and building an inclusive and resilient economy.

At this critical juncture, the Department of Electricity and Energy (DEE) serves as the steward of South Africa's energy sector and a catalyst for economic growth. Established in 2024, the Department was created to bring focus, coherence, authority, and urgency to the sector - ensuring that the progress achieved to date translates into lasting, system-wide stability and economic growth.

The 2030 vision is clear: "A sustainable, inclusive, and efficient energy system that ensures security, affordability, and reliability, driving transformation for all South Africans and laying the foundation for a globally competitive¹ economy."

To achieve this vision, the DEE's plays a critical role as the sector orchestrator and policymaker, committed to coordinating across power, fuels, emerging energy carriers and infrastructure procurement; aligning planning, regulation, and investment; and driving the development of a reliable, sustainable, and competitive energy sector that supports industrialisation and economic expansion.

The Strategic Plan (2025 – 2030) sets out the Departments priorities and target outcomes leading up to 2030, directly aligned with ministerial and national priorities to:

Ensure universal access to reliable, affordable electricity that supports households, businesses, and social services by focusing on addressing energy poverty in rural and township areas, reducing the cost of electricity, and expanding off-grid and renewable solutions to drive inclusive economic growth, improve quality of life, and enable small enterprises to thrive in previously underserved communities.

"Access to electricity is not a privilege – it's the right to dignity, inclusion, and opportunity" - PCEE briefing, INEP, Minister Kgosiensho Ramokgopa, October 2025

Integrate electricity, gas, nuclear, and fuels within a single, credible long-term planning system that provides policy clarity, aligns with industrial priorities, and supports security of supply.

¹ In this document, competitiveness means shifting from a single, vertically integrated utility to a legally unbundled, multi-market model in which generation and supply compete under transparent rules, while transmission remains a regulated monopoly, i.e., market opening, not privatisation of the grid

“With an abundance of cheap, green energy, we can produce products that are competitive anywhere in the world and create hundreds of thousands of new jobs in the process.” – President Cyril Ramaposa, State of the Nation Address 2025

Promoting inclusive economic development through localisation of energy supply chains, community participation, and workforce reskilling by leveraging emerging clean energy industries - including renewables, gas, hydrogen, storage, and nuclear - to stimulate industrial growth and enhance regional competitiveness; ensuring predictable and cost-reflective tariffs that sustain affordability while enabling a fair and equitable transition where no one is left behind.

Accelerating investment in generation, transmission, and storage capacity, alongside gas infrastructure, to build a diversified and resilient energy mix; advancing technological innovation across nuclear, renewables, and green hydrogen, underpinned by efficient market frameworks such as the South African Wholesale Electricity Market (SAWEM) and the Southern African Power Pool (SAPP) (in particular, regional integration through interconnectors across the continent) and enhancing investor confidence across all energy subsectors.

“This year, we will put in place the building blocks of a competitive electricity market. Over time, this will allow multiple electricity generation entities to emerge and compete.” – President Cyril Ramaposa, State of the Nation Address 2025

Strengthening institutional performance, regulatory efficiency, and digital systems to improve transparency, permitting, and service delivery, and ensuring a high-performing Department that enables effective coordination across the energy system.

Together, these outcomes form the foundation for integrated delivery², ensuring that South Africa’s energy sector operates as a unified, efficient, and future-ready system. This is essential to secure reliable and affordable energy for all South Africans, drive industrial development, and enable the country’s broader economic transformation.

With this Strategic Plan, the Department of Electricity and Energy (DEE) sets out a credible pathway to move from stabilisation to sustained growth. It reflects a shared national commitment to build an energy sector that supports prosperity, inclusion, and competitiveness - powering South Africa’s next chapter of industrialisation and positioning the country as a globally competitive and industrialised energy hub.

² In this document, integrated delivery refers to the four-quadrant approach set out in the Energy Transition Roadmap. It aligns Supply (new and existing generation, storage), Infrastructure (Tx/Dx and fuel systems), Demand (efficiency and demand response), and Markets (market structure and tariffs) under a single delivery plan with shared milestones, risk-allocation rules, and reporting. The purpose is to sequence interdependent actions (e.g., grid, flexibility, permits, finance) so investments are bankable and system outcomes (i.e., security, affordability, emissions reduction, and jobs) are achieved together

PART A: OUR MANDATE

The Department of Electricity and Energy (DEE) is South Africa's newest policy and delivery institution, created in 2024 to provide coherence, authority, and urgency to the country's most pressing energy priorities: ensuring reliable supply, driving affordability, enabling the just energy transition, and anchoring industrialisation.

"The establishment of the Department of Electricity and Energy was not merely an institutional adjustment. It was a deliberate response to the urgent need for delivery, policy coordination and effective execution in the face of South Africa's most severe energy crisis since 1994." - Minister Kgosientsho Ramokgopa: Electricity and Energy Dept Budget Vote 2025/26, NCOP

Given the strategic importance of energy and electricity sector as a catalyst for South African economic growth and development, DEE has been established with a mandate:

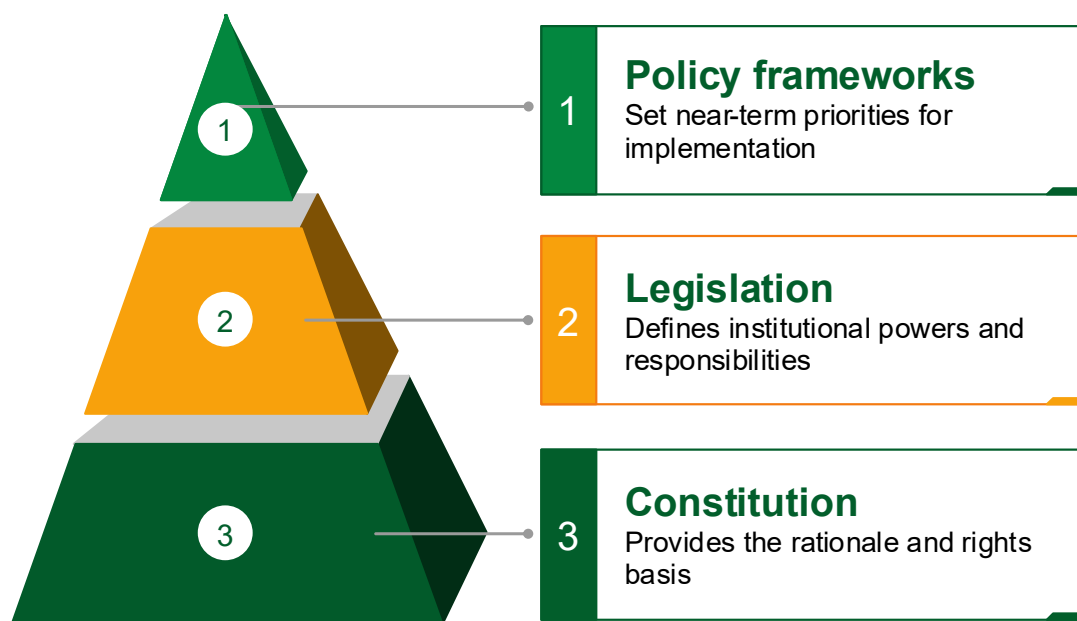
***To stabilise the electricity system, lead the just energy transition,
and anchor South Africa's industrial renewal.***

DEE provides dedicated institutional capacity and coherence, bringing together policy, planning, regulation, and delivery coordination across the energy value chain under one authority.

Beyond the mandate to ensure compliance with the law, the DEE is tasked with ensuring access to affordable, reliable, and sustainable energy for all citizens and businesses, and leveraging government instruments to promote an investment-friendly environment, support localisation and job creation, and secure a fair distribution of the benefits of the energy transition.

This section sets out the constitutional, legislative, and policy foundations that establish DEE's authority and explain how these position the Department as both the system architect and delivery orchestrator of South Africa's energy sector.

Figure 1: Overview of the DEE's Policy and Legal Framework



1. Constitutional Mandate

The Constitution of the Republic of South Africa, 1996 provides the supreme legal framework for democratic governance, defining the rights of citizens and the responsibilities of the state. It establishes the foundation for government institutions and mandates them to operate in a manner that promotes social and economic development, advances transformation, and ensures effective service delivery.

The Department of Electricity and Energy derives its mandate from the Constitution to advance a secure, sustainable, and affordable energy supply, promote industrialisation, and support economic transformation. In this context, DEE advances energy security, universal access, environmental sustainability, and sector regulation in alignment with national policy objectives. The Department's work contributes to a just energy transition that is inclusive, equitable, and sustainable, consistent with constitutional obligations.

The Department's constitutional mandate spans three broad responsibilities: 1) Rights and Access, 2) Governance and Coordination, and 3) Administration and Procurement Principles.

1.1. RIGHTS AND ACCESS AS CONSTITUTIONAL FOUNDATIONS

Chapter 2 (The Bill of Rights - Sections 24 and 27) established energy as an essential enabler of human rights:

- Section 24 guarantees the right to an environment that is not harmful to health or well-being, mandating the state to promote ecologically sustainable development while advancing economic and social progress
- Section 27 states that all citizens have the right to sufficient water, food, and social security, requiring the state to take reasonable measures to achieve progressive realisation of these rights.

These provisions frame DEE's role as progressively ensuring affordable, reliable, and sustainable energy supply in support of the realisation of constitutional rights, with energy access being central to dignity, inclusion, and opportunity.

Universal access and energy security are framed in the Constitution as fundamental imperatives. Energy reform is therefore not only an economic priority, but also a constitutional obligation linked to the rights framework that underpins South Africa's democracy.

1.2. GOVERNANCE AND COORDINATION OBLIGATIONS

The Constitution also enshrines cooperative governance (Chapter 3 - Section 41) and identifies electricity and gas reticulation as concurrent functions between national and provincial governments (Schedules 4 and 5):

- Chapter 3 (Section 41) on cooperative government and intergovernmental relations mandates collaboration between national, provincial, and local governments to ensure effective governance and service delivery. This provision situates DEE at the centre of a multifaceted intergovernmental system, where energy delivery is both a national and local responsibility supports coordinated planning, infrastructure development, and policy implementation across all levels of government
- Schedules 4 and 5: Define electricity and gas reticulation as functional areas of concurrent national and provincial legislative authority. This reinforces the department's responsibility to oversee, regulate, and support provincial and municipal energy initiatives

Accordingly, DEE acts as the **sector policy-setter and orchestrator**, aligning national planning, transmission development, and market reform with provincial priorities and municipal delivery models. This obligation includes a) the provision of targeted support to all municipalities to strengthen

distribution capacity and financial sustainability and b) effective inter-governmental coordination to mitigate the risk that local capacity constraints undermine electricity reforms.

1.3. ADMINISTRATION AND PROCUREMENT PRINCIPLES

Finally, the Constitution sets out values for public administration (Section 195) and procurement (Section 217):

- Chapter 10 (Section 195) on public administration outlines fundamental values and principles governing public administration, requiring all organs of state to be development-oriented, accountable, and transparent
- Chapter 13 (Section 217) on public finance establishes that all public procurement processes must be fair, equitable, transparent, competitive, and cost-effective

For the context of South Africa's energy sector as a catalyst for economic growth, these principles guide the use of procurement as a strategic lever. Through infrastructure investment, tariff and market design, and regulatory processes, procurement can support localisation, industrialisation, and broad-based empowerment across the energy value chain.

Procurement is applied not only to acquire capacity, but also to catalyse industrial policy, support job creation, and strengthen domestic supply chains, while upholding transparency and ethical governance.

In conclusion, the constitutional framework indicates that DEE's mandate extends beyond the operational management of supply **and** encompasses the realisation of rights, the coordination of a complex intergovernmental system, and the use of state instruments to advance transformation and fairness **to securing** energy as a public good that supports inclusion, industrialisation, and sustainability.

2. Legislative Mandate

The DEE operates within a comprehensive legal framework governing the development, regulation, and transformation of South Africa's energy sector. Collectively, these statutes establish the foundation for an integrated, secure, and competitive³ energy system - spanning electricity, gas, and nuclear energy - while embedding sustainability, safety, and accountability.

³ In this document, competitiveness means shifting from a single, vertically integrated utility to a legally unbundled, multi-market model in which generation and supply compete under transparent rules, while transmission remains a regulated monopoly, i.e., market opening, not privatisation of the grid

The existing legislative framework serves two primary purposes:

- **Core establishment legislation:** This formally establishes the DEE and provides the governance, financial, and administrative basis for the Department's effective functioning
- **Sector-specific and regulatory legislation:** This defines, structures, and regulates the national energy sector, setting the rules for market operation, investment, environmental compliance, and safety across all subsectors

Collectively, these laws give DEE both authority and responsibility to provide policy leadership, strategic oversight, and delivery coordination across South Africa's energy sector.

2.1. CORE ESTABLISHMENT LAWS

The following legislation provides the legal basis for the establishment of the DEE's, and its coordinating role across the state:

- *Proclamation No. 179 of 2024 (Government Gazette No. 51140, 30 August 2024):* Formally establishes the department, transferring the administration and powers of key energy-related legislation to consolidate energy policy, regulatory oversight, and strategic implementation under a single entity
- *Public Finance Management Act No. 1 of 1999 (PFMA):* Governs the financial management, accountability, and oversight mechanisms for the department's budgeting, expenditure, and controls.
- *Intergovernmental Relations Framework Act No. 13 of 2005:* Establishes a framework for national, provincial, and local government cooperation and thus guides collaborative planning and policy implementation in electricity and energy infrastructure development and service delivery

These laws establish DEE as the central authority for the energy portfolio, with budgetary accountability and intergovernmental reach to oversee the full electricity value chain.

2.2. KEY SECTOR-SPECIFIC AND REGULATORY LEGISLATION

The following legislation collectively defines the Department's functional responsibilities across South Africa's energy system:

2.2.1. Core Institutional and Governance Legislation

These laws lay the foundation for South Africa's energy governance system and define how national, provincial, and municipal authorities work together to plan and deliver energy services. They create policy and administrative structures that make coordinated energy management possible:

- *National Energy Act, 2008 (No. 34 of 2008)* mandates the development, regulation, and promotion of South Africa's energy supply, ensuring that energy resources are sustainable, affordable, and efficiently managed
- *Local Government: Municipal Systems Act, 2000 (No. 32 of 2000)* regulates municipal electricity distribution and mandates municipalities to develop and implement electricity plans in alignment with national energy priorities

For the DEE, these Acts have a number of key implications:

- **Establish the national framework for energy planning and policy coordination**, introducing instruments such as the Integrated Energy Plan (IEP) and national energy data systems to guide long-term energy strategy and align sector priorities with South Africa's economic, industrial, and environmental goals
- **Define principles for intergovernmental coordination**, setting the foundation for collaboration between the national department, provincial energy offices, and municipalities through mechanisms such as municipal energy planning and service delivery agreements
- **Introduce institutional and administrative structures** (including national policy coordination functions, energy information systems, and municipal energy planning frameworks) that support evidence-based decision-making, reporting, and performance monitoring across the energy sector
- **Create the governance arrangements that today enable a unified, system-wide approach to South Africa's energy development**, providing the policy architecture for aligning electricity, gas, and emerging technologies within a single, coherent national framework

2.2.2. Sector-Specific Energy Legislation

These laws define institutional responsibilities, market rules, and technical and safety standards that underpin the country's energy system. They provide the legislative foundation for modernising the electricity market, expanding gas infrastructure, ensuring nuclear safety, and enabling an integrated approach to energy security:

- *Electricity Act, 1987 (No. 41 of 1987)* governs the planning, generation, and transmission of electricity, including Eskom's role as a national utility. While many provisions have been superseded by newer legislation, certain sections remain relevant for legacy infrastructure and transitional market arrangements
- *Electricity Regulation Act, 2006 (No. 4 of 2006)* establishes the regulatory framework for electricity generation, transmission, and distribution, including licensing, tariff regulation, and technical standards
- *Electricity Regulation Amendment Act, 2024 (No. 38 of 2024)* introduces wholesale market reform, establishes the National Transmission Company of South Africa (NTCSA), and creates the independent market and system operators to facilitate competition and transparent grid access
- *National Energy Regulator Act, 2004 (No. 40 of 2004)* establishes the National Energy Regulator of South Africa (NERSA) and sets out its governance and accountability in regulating the electricity, piped gas, and petroleum pipeline industries

- *Gas Act, 2001 (No. 48 of 2001)* regulates the transmission, storage, distribution, and trading of natural gas to promote supply diversification and efficient gas infrastructure development
- *Gas Regulator Levies Act, 2002 (No. 75 of 2002)* outlines the levy system that funds NERSA's regulation of the gas industry
- *Nuclear Energy Act, 1999 (No. 46 of 1999)* governs the development and application of nuclear energy and associated materials, in compliance with international safety and non-proliferation obligations
- *National Nuclear Regulator Act, 1999 (No. 47 of 1999)* establishes the National Nuclear Regulator (NNR) to ensure radiation protection, nuclear safety, and regulatory compliance.
- *National Radioactive Waste Disposal Institute Act, 2008 (No. 53 of 2008)* creates the National Radioactive Waste Disposal Institute (NRWDI), which manages the safe and secure disposal of radioactive waste

For the DEE, these Acts have a number of key implications:

- **Provide the basis for integrated sector planning and coordination**, allowing DEE to align electricity, gas, and nuclear development with South Africa's broader energy transition, industrial policy, and regional energy trade ambitions
- **Strengthen the regulatory environment by clarifying roles and accountability** between different entities to ensure effective policy implementation and sector oversight
- **Enable market reform and private participation**, through the creation of the wholesale electricity market, open grid access, and transparent licensing processes under the Electricity Regulation Amendment Act (2024)
- **Promote diversification and energy security**, by supporting the development of gas infrastructure, expanding cleaner generation capacity, and maintaining high standards of nuclear safety

2.2.3. Climate, Infrastructure, and Compliance Legislation

These laws embed sustainability, safety, and accountability in the implementation of South Africa's energy policy. They empower the DEE to integrate climate resilience into planning, accelerate infrastructure delivery, enforce safety and environmental standards, and ensure fair and transparent procurement in the energy sector. Key Acts include:

- *Climate Change Act, 2024 (No. 22 of 2024)* provides the legal framework for South Africa's climate change response, establishing binding emission reduction targets and adaptation measures aligned with the country's Nationally Determined Contributions (NDCs) under the Paris Agreement. The Act mandates DEE to integrate climate resilience into energy planning, infrastructure investment, and regulatory frameworks
- *Infrastructure Development Act, 2014 (No. 23 of 2014)* enables fast-tracking of energy infrastructure projects, particularly grid expansion and transmission development
- *National Environmental Management Act, 1998 (No. 107 of 1998)* mandates environmental compliance in electricity generation and infrastructure development projects

- *Occupational Health and Safety Act, 1993 (No. 85 of 1993)* establishes safety standards for power plants, transmission systems, and energy infrastructure projects
- *Public Procurement Act, 2024 (No. 28 of 2024)* regulates fair, transparent, and competitive procurement in energy infrastructure projects, supporting Broad-Based Black Economic Empowerment (B-BBEE) in energy sector supply chains
- *Promotion of Administrative Justice Act, 2000 (No. 3 of 2000)* ensures fair and lawful administrative decisions in energy sector regulation and licensing processes.

For the DEE, these Acts have several key implications:

- **Integrates climate resilience into energy governance**, requiring DEE to embed adaptation and mitigation targets within planning, investment, and regulatory decisions across the sector
- **Enables accelerated and coordinated infrastructure delivery** by streamlining project approvals and aligning climate, environmental, and safety obligations across government entities
- **Strengthens compliance and accountability mechanisms**, ensuring environmental safeguards, worker safety, and transparent procurement underpinned by equity principles
- **Enhances institutional credibility and public trust** through lawful, evidence-based, and procedurally fair decision-making in energy regulation and project implementation.

3. Policy Mandate

Beyond its legislative mandate, the Department of Electricity and Energy operates within a comprehensive policy framework that directs its focus areas, strategic priorities, and sectoral interventions. Together, these policies shape the department's approach to ensuring secure, sustainable, and affordable energy supply for all South Africans while supporting industrial development, innovation, and economic growth.

3.1. GLOBAL AND REGIONAL COMMITMENTS

South Africa's energy and climate policy is embedded within international agreements that carry both opportunity and accountability:

- *United Nations Agenda 2030 (SDGs)*: Goal 7 (Affordable and Clean Energy), Goal 9 (Industry, Innovation and Infrastructure), and Goal 13 (Climate Action) frame DEE's duty to balance universal access, industrialisation, and decarbonisation
- *Paris Agreement (2015)*: South Africa's NDCs set binding emission targets, with the energy sector at the core of delivery
- *African Union Agenda 2063*: Emphasises industrialisation and cross-border infrastructure as drivers of continental growth

- *SADC Strategies (RISDP⁴ 2020–2030; Industrialisation Roadmap; Infrastructure Vision 2027)*: Place regional electricity trade, grid interconnection, and industrial localisation at the centre of Southern Africa's growth path

These frameworks position DEE within regional and international cooperation, including energy sovereignty considerations, regional integration, and climate leadership.

The DEE remains committed to aligning its policies and programmes with these global and regional frameworks to ensure that South Africa's energy sector remains competitive, sustainable, and well-integrated within the global economy.

3.2. NATIONAL DEVELOPMENT FRAMEWORKS

Domestically, South Africa's long-term and medium-term policy frameworks anchor DEE's responsibilities:

3.2.1. Core National Development and Planning Frameworks

These frameworks provide integrated, multi-level guidance on energy access, spatial investment, and localised service delivery to support inclusive economic growth and industrialisation.

- National Development Plan (NDP) Vision 2030* provides South Africa's long-term vision for economic transformation, poverty eradication, and infrastructure modernisation. The DEE contributes by:
 - a) Ensuring a secure, sustainable, and affordable electricity supply to support industrialisation and economic growth
 - b) Expanding energy infrastructure, including transmission networks, electrification projects, and renewable energy development
 - c) Strengthening governance, regulatory frameworks, and transparency in the electricity sector
- Medium-Term Development Plan (MTDP) 2024–2029*, packaged under three National priorities, operationalises the NDP and Government of National Unity priorities into five-year strategic interventions. The DEE contributes by:
 - a) Expanding access to reliable electricity to support inclusive economic growth
 - b) Driving energy affordability and sector transformation
 - c) Enhancing the energy regulatory framework to improve efficiency and oversight

⁴ *The Regional Indicative Strategic Development Plan (RISDP) 2020–2030 is the Southern African Development Community's (SADC) long-term strategy for achieving regional integration, industrialisation, and sustainable development over the decade from 2020 to 2030*

- iii. *National Spatial Development Framework (NSDF) 2050* ensures that energy planning is spatially aligned with economic growth, population dynamics, and industrial development priorities. DEE then integrates energy infrastructure into priority economic zones, rural electrification initiatives, and urban energy resilience projects
- iv. *District Development Model (DDM)* integrates energy planning across municipal, provincial, and national levels, ensuring coordinated energy investment, electrification, and localised solutions for off-grid and municipal supply. DEE collaborates with municipalities to develop decentralised energy solutions, support embedded generation, and improve energy resilience in rural, underserved areas
- v. *National Infrastructure Plan 2050 (NIP)* provides a roadmap for long-term energy infrastructure investment to meet economic expansion and industrial transformation needs. DEE is responsible for grid modernisation, expanding transmission capacity, and integrating renewable energy sources into the national grid

These national policies have key implications for the role of the DEE:

- **DEE to align national energy planning with economic and spatial priorities** by integrating electricity expansion targets into the NDP, MTDP, and NSDF, ensuring that infrastructure roll-out supports industrial growth zones and rural development
- **DEE to strengthen intergovernmental coordination through the DDM and NIP**, requiring DEE to ensure close planning with provinces and municipalities, and provide support, to accelerate electrification and improve local energy resilience
- **DEE to ensure linkages with infrastructure investment to national transformation goals** by embedding job creation, localisation, and equitable access objectives within long-term energy infrastructure programmes

3.2.2. Energy Governance and Regulatory Policies

These policies guides investment decisions, tariff regulation, and long-term sector viability by aligning economic efficiency with social protection objectives.

- *White Paper on Energy Policy (1998)* provides the overarching framework for energy policy direction, outlining principles for energy security, affordability, sustainability, and market reform
- *Nuclear Energy Policy (2008)* defines the strategic framework for developing and regulating South Africa's Nuclear Energy Programme, promoting the peaceful use of nuclear energy and supporting industrial capacity in nuclear technologies

- *National Radioactive Waste Disposal Management Policy and Strategy (2005)* establishes the principles and regulatory framework for safe, secure, and sustainable disposal of radioactive waste, ensuring compliance with international safety standards
- *Electricity Pricing Policy (EPP, 2008 and draft 2023)* sets out the principles for cost-reflective electricity pricing, financial sustainability, and equitable access

These energy governance and regulatory policies have key implications for the role of the DEE:

- **DEE to oversee financial and operational sustainability of the electricity sector** by implementing cost-reflective tariffs under the EPP while protecting vulnerable consumers through targeted subsidies and affordability mechanisms
- **DEE to ensure robust regulatory oversight and compliance** across nuclear, generation, and distribution entities, enforcing safety, environmental, and performance standards to maintain system reliability
- **DEE to continuously leverage policy and regulatory instruments** to promote fair competition, attract private investment, and improve governance transparency across the energy value chain

3.2.3. Climate and Energy Transition Policies

These sets of frameworks establish South Africa's climate and low-carbon transition agenda, ensuring energy sustainability and resilience, and drives investment in low-carbon energy solutions, energy-efficiency programmes, and carbon-reduction strategies aligned with the just energy transition.

- *National Climate Change Response Policy* ensures that the energy sector contributes to climate mitigation and adaptation, reducing emissions while enhancing resilience to climate change. This policy drives investments in low-carbon energy solutions, energy efficiency programmes, and carbon reduction strategies, all of which align with the just energy transition
- *Just Energy Transition Plan (JETP)* outlines South Africa's strategy for moving away from coal-based electricity towards renewable and clean energy sources. DEE oversees the phased repowering and repurposing of coal-fired power plants and coordinates national and international investment in renewable infrastructure and grid modernisation

- *Just Energy Transition Investment Plan (JET IP) 2023–2027* serves as the financial roadmap for South Africa's energy transition, mobilising international climate finance, concessional funding, and blended-finance models to support clean energy sources, grid modernisation, and socioeconomic transformation
- *Renewable Energy White Paper (2003)* provides the strategic framework for expanding renewable energy and integrating solar, wind, hydro, and biomass sources into South Africa's energy mix.

These climate and energy transition policies have key implications for the role of the DEE:

- Integrates climate objectives into electricity system planning by aligning generation mix, investment approvals, and infrastructure expansion with national emissions-reduction and resilience targets under the JETP and JET IP
- Accelerates grid and supply-side readiness for renewables by upgrading transmission capacity, enabling grid access for new capacity projects, and ensuring system reliability during the transition to clean energy sources
- Coordinates a just and orderly transition within the electricity sector by overseeing coal plant shut-down plans, facilitating worker and community support programmes, and ensuring continuity of affordable electricity supply throughout the transition

In summary, the DEE's mandate forms a layered architecture.

The Constitution provides the rationale and rights basis. Legislation defines institutional powers and responsibilities. Lastly, policy frameworks set near-term priorities for implementation. In combination, these tiers establish legitimacy, authority, and direction for DEE's work.

The implication is clear. DEE is not a passive policy setter or administrator. It is the policymaker and orchestrator of South Africa's energy future, responsible for translating policy intent into decisive action, coordinating across government and markets, and ensuring that the energy transition becomes a driver of industrialisation, social equity, and sovereign security.

3.3. RECENT CABINET-APPROVED FLAGSHIP MANDATES

3.3.1. Critical Minerals and Metals Strategy

In May 2024, Cabinet approved the Critical Minerals and Metals Strategy (CMMS), a national framework to position South Africa as a global hub for green-energy supply chains and advanced manufacturing. The strategy recognises that critical minerals, such as uranium, rare earth elements, lithium,

vanadium, platinum-group metals (PGMs) and copper, are central to the global transition toward clean energy and to South Africa's own industrial renewal.

For the Department of Electricity and Energy (DEE), the CMMS has two major implications:

- It provides the resource and industrial foundation for the Nuclear Industrialisation Plan, which aims to develop a sustainable nuclear-energy economy across the entire fuel-cycle value chain, including uranium conversion, enrichment, fuel fabrication, and waste-management capabilities
- It supports the broader green-economy agenda, ensuring secure local supply of the minerals required for renewable-energy technologies, grid components, hydrogen electrolyzers, and battery-storage systems.

DEE will collaborate with the Department of Mineral Resources and Energy (DMRE), the Industrial Development Corporation (IDC), and other partners to align implementation of the CMMS with energy-sector priorities, particularly localisation, beneficiation, and technology transfer in nuclear and clean-energy value chains. This alignment will strengthen South Africa's role as a strategic supplier of critical inputs to global green-energy markets while advancing domestic industrial capacity and job creation.

3.3.2. South African Renewable Energy Masterplan (SAREM)

In May 2024, Cabinet endorsed the South African Renewable Energy Masterplan (SAREM) as the national framework to drive local industrialisation, job creation, and investment across the renewable-energy value chain. SAREM represents a joint initiative between the DEE, the Department of Trade, Industry and Competition (DTIC), and the Department of Mineral Resources and Energy (DMRE), developed in close partnership with organised business, labour, and civil society through the Public–Private Growth Initiative (PPGI).

The Masterplan sets out a ten-year roadmap to build domestic manufacturing capacity in solar photovoltaic (PV), wind, battery energy storage, and grid infrastructure components. It outlines practical measures to localise renewable-energy supply chains, create skilled employment, and leverage public procurement to stimulate green industrial growth. SAREM's implementation is structured around four enablers:

- **Industrialisation and localisation:** building South African capability to produce key renewable-energy components (blades, towers, inverters, cables, and batteries)
- **Investment and finance mobilisation:** catalysing blended finance and industrial incentives to crowd in private investment
- **Skills development and transformation:** developing specialised technical skills and ensuring inclusion of youth, women, and SMMEs in renewable industries, and
- **Market creation and policy alignment:** linking industrial development to the Integrated Resource Plan (IRP 2025) and the Just Energy Transition Investment Plan (JET-IP) to ensure long-term demand visibility and policy certainty.

For the DEE, SAREM operationalises the Department's mandate to lead energy-sector localisation and green industrialisation as part of the Just Energy Transition. DEE will oversee coordination of the implementation programme, working with DTIC, DMRE, and industry stakeholders to monitor progress, align procurement schedules with manufacturing capacity, and integrate SAREM milestones into broader energy planning and market frameworks.

The Masterplan thus serves as a key pillar of DEE's green economy mandate, linking energy security with inclusive economic development and positioning South Africa as a competitive manufacturing hub for the global clean-energy transition.

3.3.3. Green Hydrogen and Green Economy

In August 2025, Cabinet approved the Green Hydrogen Commercialisation Strategy, affirming South Africa's commitment to building a globally competitive green economy anchored in renewable energy, hydrogen production, and low-carbon industrialisation. The DEE has been designated as the policy authority and delivery lead for this agenda, working in coordination with partner departments through the Inter-Ministerial Committee on the Just Energy Transition (JET-IMC) chaired by the Minister of Electricity and Energy.

DEE's mandate covers:

- Implementation of the Hydrogen Society Roadmap and the JET-IP
- Development of enabling energy, transmission and port infrastructure for green-hydrogen industrial clusters
- Mobilisation of international and domestic investment under the JET-IP and the Northern Cape Hydrogen Strategy, and
- Facilitation of skills, localisation and SME participation to ensure inclusive green-industry growth

This mandate positions DEE at the centre of South Africa's green-industrial transformation, aligning energy, climate and industrial policy to unlock investment, employment and export opportunities. Delivery of this work will be institutionalised through a dedicated Green Economy and Hydrogen Development Branch to coordinate national programmes and partnerships.

3.3.4. Universal access and the repurposing of the Integrated National Electrification Programme (INEP)

The Repurposing of the Integrated National Electrification Programme (INEP) was also approved in August 2025 by Cabinet as the cornerstone of South Africa's Universal Access to Electricity by 2030 agenda. The reform, led by SANEDI under DEE's oversight, modernises the electrification model to incorporate grid, off-grid and hybrid solutions that address access gaps efficiently and sustainably.

The resulting INEP Action Plan defines a clear set of objectives:

- Analysis of Electrification Programmes: Review of provincial electrification master plans, focus on financial expenditure, number of households connected, cost per connection.

- Technology and Future Plans Assessment: Analyse & evaluate future plan towards universal access, including technology options for grid expansion, off-grid and micro-grid solutions, emphasis on cost-benefit analysis and local supply chains.
- Affordability and Financial Sustainability: Assess affordability of electricity for low-income households, propose subsidy/support models, ensure financial sustainability of INEP through suggesting various financing options.
- Project Management and Implementation: Propose establishment of a Project Management Office (PMO) to oversee implementation of “Action Plan” and ensure project milestones are achieved efficiently and timeously.

The repurposed INEP is a flagship programme within DEE’s portfolio, implemented through Programme 3 (Energy Programmes and Projects). A dedicated Programme Management Office (PMO) is a key success factor and will coordinate delivery, monitor performance, and engage partners including municipalities, DFIs and the private sector. This mandate gives operational effect to the constitutional goal of universal, affordable and reliable energy access and directly supports the MTDP Outcome 5: Improved Energy Security and a Just Energy Transition (under Priority 1: Drive inclusive growth and job creation).

3.3.5. Integrated Resource Plan (2025)

In October 2025, Cabinet approved the Integrated Resource Plan (IRP) 2025, South Africa’s updated national electricity-generation blueprint. The IRP provides the long-term framework for balancing electricity supply and demand through to 2050, setting technology allocations, investment priorities, and emissions trajectories that ensure energy security, affordability, and environmental sustainability.

For the DEE the IRP serves as the central policy and planning instrument guiding system expansion and investment decisions across the public and private sectors. It reflects a diversified, least-cost energy mix that includes renewables, gas-to-power, nuclear, storage, and flexible generation, integrated within a competitive electricity-market structure.

The IRP 2025 provides several key directives for DEE implementation:

- Integration of planning, regulation, and procurement to ensure coordinated delivery of new capacity in line with system needs,
- Development of firm generation and flexible resources, including gas and nuclear, to maintain reliability as renewables expand,
- Alignment with the Just Energy Transition Investment Plan (JET-IP) to ensure decarbonisation that is economically inclusive, and
- Regular five-year reviews to maintain relevance amid technological advances, demand shifts, and evolving policy priorities

The IRP 2025 therefore anchors DEE’s strategic and operational programmes across planning, infrastructure investment, market reform, and just-transition implementation, ensuring that all sectoral actions are aligned with South Africa’s long-term energy-security and sustainability objectives.

4. Institutional Policies and Strategies Governing the Five-Year Planning Period

In addition to the broader policy frameworks that define national and sectoral priorities, the Department of Electricity and Energy is guided by specific institutional policies and strategies that shape its operational priorities, regulatory frameworks, and implementation focus over the 2025–2030 period.

For the next five-years, the Medium-Term Development Plan, Ministerial Priorities, and Operation Vulindlela priorities provide the cornerstones for the DEE's strategy.



Figure 2: Institutional priorities and strategies governing the five-year planning period

4.1. MEDIUM-TERM DEVELOPMENT PLAN (MTDP) 2024-2029 COMMITMENTS

The DEE plays a central role in delivering on the MTDP 2024–2029, ensuring energy security, infrastructure investment, industrialisation, and regulatory reform. The Department’s responsibilities span key MTDP priorities, including energy market reforms, generation expansion, grid development, and a just energy transition. The Department also contributes to broader economic transformation and public sector governance through state-owned enterprise (SOE) oversight and energy policy leadership.

- 1) **Driving an inclusive economy and creating jobs:** The department leads key structural reforms and energy investments that support economic growth, industrialisation, and job creation
 - a. **Investment in infrastructure:** The Department is overseeing the implementation of the Transmission Development Plan, ensuring 5,044 kilometres of new transmission lines and 41,325 megavolt amperes (MVAs) of transformer capacity by 2030. These projects contribute to the R350 billion public sector infrastructure investment target over the MTDP period. To accelerate project readiness, the DEE will coordinate the deployment of R1 billion in project preparation funding for large-scale energy infrastructure
 - b. **Procurement of new generation capacity:** The Department will oversee the procurement of ~105 GW of new electricity generation capacity through to 2039 in line with the *Integrated Resource Plan (IRP) 2025*. This includes expanding renewable energy projects, exploring the potential for future small modular reactor (SMR) technologies as part of the longer-term nuclear programme, integrating gas-to-power infrastructure, and facilitating the growth of green hydrogen investments as part of South Africa’s just energy transition. By 2030, additional generation capacity will include: 11,270 MW solar PV, 7,340 MW wind, 5,000 MW gas-to-power, 3,100 MW storage, and no new nuclear. By 2039, 5,200 MW of nuclear will be added, underpinned by a Nuclear Industrialisation Plan.
 - c. **Industrialisation and localisation:** A 30% increase in local procurement is targeted to be achieved through energy infrastructure projects, supporting local manufacturing in renewables, energy storage, and grid components. The Department will also ensure B-BBEE transformation by promoting Black-owned and women-owned enterprises in energy sector opportunities
 - d. **Energy market reform:** The DEE is currently focused on the legal separation of the Eskom Distribution business and establishing an ITSO to improve electricity market competitiveness. The development of the South African Wholesale Electricity Market (SAWEM) is underway, with a market design position paper
- 2) **Improving energy security and advancing the just energy transition:** The department is implementing the Energy Action Plan to stabilise the electricity supply and ensure long-term sustainability

The 2022 Energy Action Plan lays the groundwork to end load-shedding and secure reliable power, focused on addressing plant performance, adding new generation capacity, and fast-tracking private and renewable investments.

- a. **Grid modernisation and resilience:** Investments in transmission and distribution infrastructure are key to improving grid stability, efficiency, and reliability while enabling new energy sources to integrate seamlessly into the network
 - b. **Phased repowering and repurposing of coal-fired power stations:** As part of the JET IP, affected communities will be supported through alternative economic opportunities, ensuring an inclusive energy transition that does not leave workers or communities behind
 - c. **Carbon reduction and climate compliance:** The Department is responsible for enforcing climate targets under the Climate Change Act, ensuring the energy sector reduces emissions while maintaining energy security.
- 3) **Enabling a competitive and investment-friendly energy market:** The department plays a key role in improving the business environment and reducing regulatory barriers to investment in the energy sector.
- a. **Regulatory streamlining:** The Department has established single electronic window for energy project approvals, cutting red tape and reducing project authorisation timelines from over 1,000 days to more efficient approval processes
 - b. **Electricity distribution industry reform:** The Department is leading the implementation of the Electricity Distribution Reform (by implementing the Distribution Agency Agreements), addressing the financial instability and structural challenges of municipal electricity distribution
 - c. **Gas-to-power expansion:** The Department is finalising the Gas Masterplan and investing in gas-to-power infrastructure, including liquid natural gas (LNG) import capacity and gas pipeline development, to diversify the energy mix and support industrialization
 - d. **Expanding nuclear energy for sustainable development:** The Department is collaborating with stakeholders to develop an integrated value chain approach, including isotope SMRs, applications, fuel services, and waste management, to position South Africa for future participation in next-generation nuclear solutions as technology maturity increases
- 4) **Strengthening governance and oversight of state-owned energy entities:** As part of MTDP Priority 3 (Building a Capable, Ethical, and Developmental State), the DEE plays a key role in ensuring the governance, financial stability, and operational efficiency of state-owned energy entities

- a. **SOE leadership and accountability:** The department is responsible for ensuring that Eskom, National Nuclear Regulator (NNR), the National Energy Regulator of South Africa (NERSA), South African Nuclear Energy Corporation (NECSA), South African Energy Development Institute (SANEDI), and National Radioactive Waste Disposal Institute (NRWDI) are managed with professionalism, integrity, and efficiency
- b. **Financial and operational oversight:** the Department of Electricity and Energy is driving stability, accountability, and improved governance in energy-related SOEs, reducing inefficiencies and strengthening institutional performance
- c. **Reducing inefficiencies in energy project approvals:** The department is working to improve SOE service delivery and address regulatory and financial constraints that impact investment readiness

The Department's responsibilities within the MTDP framework position the energy sector as a driver of economic growth, investment attraction, and sustainable development. By leading market reforms, infrastructure expansion, energy security measures, and a just transition, the department is ensuring that South Africa's energy landscape is modern, competitive, and inclusive.

Department of Electricity and Energy: Strategic Plan 2025-2030.

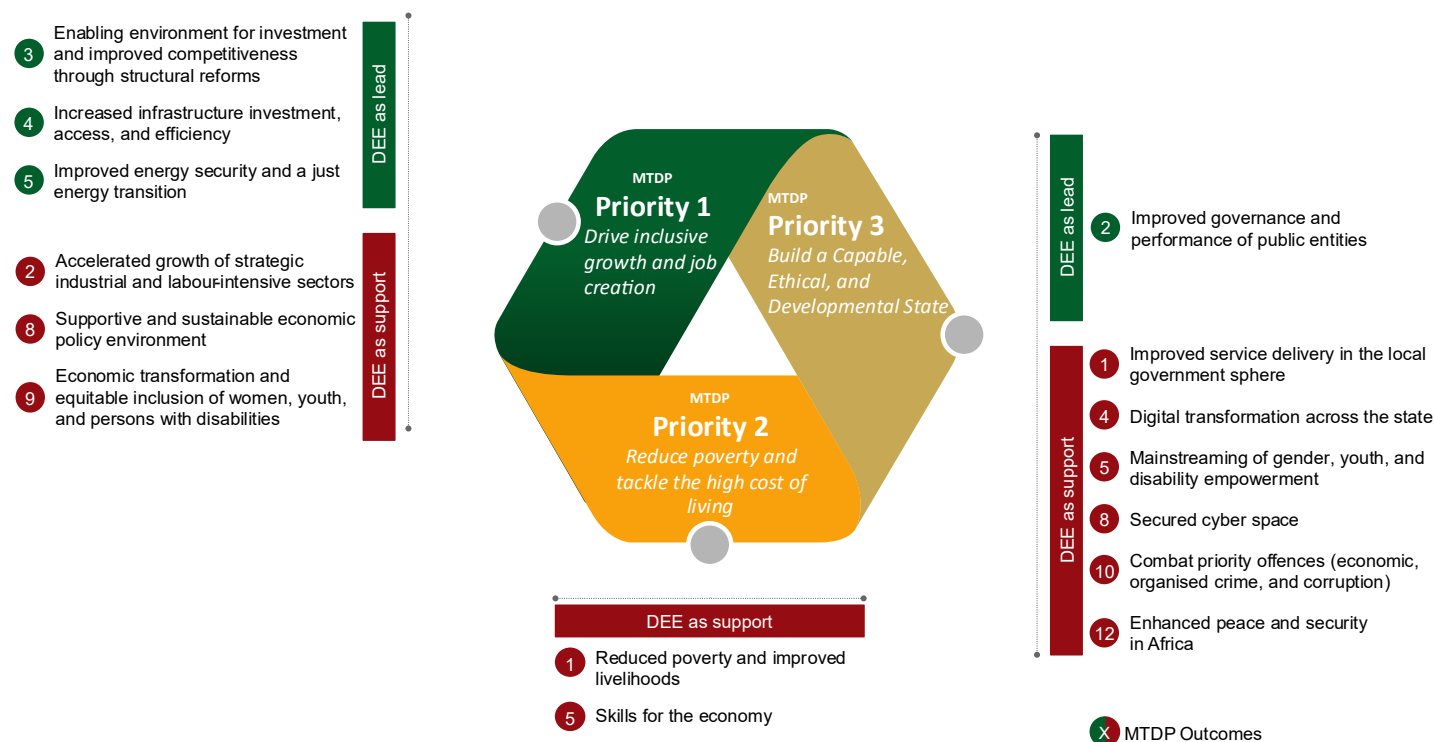


Figure 3: DEE's role either leads and or supports across MTDP's Strategic Interventions

4.2. MINISTER'S 2024-2029 DELIVERY

The Minister's Delivery Agreement with the President is a key institutional mechanism for ensuring that the Department of Electricity and Energy delivers on national energy objectives and aligns with the MTDP 2024–2029. The five strategic priorities will guide policy oversight, programme implementation, regulatory reform, and stakeholder coordination.

1) Achieving Universal, Affordable, and Reliable Access

DEE will ensure that every South African household has access to affordable, reliable, and quality electricity by expanding both grid and off-grid electrification, improving service reliability, and embedding affordability mechanisms for vulnerable consumers. This priority focuses on universal access by 2030, modernising distribution networks, and building resilience through decentralised and embedded generation

2) Securing Sovereign and Regional Energy Security

DEE will strengthen the security, diversity, and sovereignty of South Africa's energy supply. The Department will oversee Eskom's Generation Operational Recovery Plan, expand new generation capacity, and modernise grid infrastructure to enable integration of renewables and stabilise supply. Regionally, DEE will advance energy trade within the Southern African Power Pool (SAPP), and drive gas market development through the Gas Masterplan, LNG import infrastructure, and gas-to-power projects to support industrialisation and energy diversification

3) Driving Industrialisation and Energy Innovation

DEE will position the energy sector as a catalyst for industrial growth and technological advancement, leveraging the energy transition to drive localisation, manufacturing, and innovation. This includes expanding local production of renewable and storage technologies, and minerals beneficiation, supporting public-private investment in clean infrastructure, and advancing R&D in smart grids, digitalisation, and energy storage to build a globally competitive energy economy

4) Transforming Sector Demographics and Participation

DEE will lead a qualitative transformation of the energy sector, ensuring equitable participation by women, youth, persons with disabilities and previously marginalised groups across the value chain. Through B-BBEE measures, targeted skills development, and dedicated procurement for women- youth-, and people-with-disabilities- enterprises, DEE will embed transformation as a driver of innovation, employment, and inclusive growth

5) Strengthening South Africa's Continental and Global Energy Leadership

DEE will assert South Africa's leadership in Africa's energy transformation and the global clean energy transition. Through the Green Hydrogen Commercialisation Strategy, the Just Energy Transition Investment Plan (JET IP), and continued investment in nuclear and renewable capability, DEE will promote South Africa as a regional power hub and global supplier of low-carbon energy solutions. This aligns with the commitment to position energy as both a security imperative and an engine growth.

4.3. OPERATION VULINDLELA (PHASE II): DRIVING STRUCTURAL REFORM AND DELIVERY COHERENCE

Operation Vulindlela (OV) is a joint initiative of the Presidency and National Treasury, established in 2020 to accelerate structural reforms that address South Africa's growth constraints. OV Phase I (2020 – 2024) delivered measurable progress in electricity, freight logistics, water, telecommunications, and the visa system unlocking over R500 billion in private investment and enabling more than 22,500 MW of new generation projects.

Phase II (2025 – 2029), approved by Cabinet in March 2025, represents a “second wave of reform” to entrench implementation and deepen delivery. It aligns with the Medium-Term Development Plan 2024-2029 and the Seventh Administration’s priorities of inclusive growth, poverty reduction, and state capability. OV Phase II introduces seven priority reform areas, i.e., energy, water, freight logistics, visas, local government, spatial integration, and digital public infrastructure.

For the DEE Operation Vulindlela is the central coordination mechanism for achieving the national energy-security objective. Under Phase II, DEE leads and supports reforms that:

- Complete the restructuring of Eskom and operationalise the National Transmission Company of South Africa (NTCSA)
- Establish a competitive wholesale electricity market, governed by the Electricity Regulation Amendment Act (2024)
- Streamline regulatory and permitting frameworks to accelerate generation, storage, and grid investments
- Expand transmission infrastructure, including Independent Transmission Projects, and
- Reform the electricity-distribution industry, enabling financially sustainable, municipally anchored distribution utilities

OV Phase II gives institutional expression to DEE’s dual role as policy authority and delivery orchestrator. It provides the intergovernmental and analytical platform, through the National Energy Crisis Committee (NECOM) and the Operation Vulindlela Delivery Unit, to align planning, budgeting, and monitoring across government and the private sector. As reaffirmed in the 2025 State of the Nation Address, “we must now put the risk of load-shedding behind us by completing the reform of our energy system”. DEE’s participation in OV Phase II therefore operationalises this national commitment, ensuring that energy reform remains the cornerstone of South Africa’s economic renewal.

4.4. STATE OF THE NATION ADDRESS (SONA) 2025: NATIONAL PRIORITIES SHAPING THE ENERGY MANDATE

The 2025 State of the Nation Address (SONA), delivered by President Cyril Ramaphosa on 6 February 2025, sets the strategic direction for the Seventh Administration and the Government of National Unity (GNU). It establishes three overarching priorities:

1. Driving inclusive growth and job creation,
2. Reducing poverty and tackling the high cost of living, and
3. Building a capable, ethical, and developmental state

Within this national framework, energy security is positioned as the single most critical enabler of South Africa’s growth, industrial renewal, and social wellbeing. The President underscored that:

“We now need to put the risk of load-shedding behind us once and for all by completing the reform of our energy system to ensure long-term energy security” – President Cyril Ramaphosa, SONA 2025

Guided by this directive, DEE's 2025–2030 Strategic Plan translates the President's commitments into institutional priorities. Specifically, the Department is responsible for:

- Completing the reform of the electricity sector to guarantee reliable and affordable supply, including the operationalisation of the Electricity Regulation Amendment Act (2024) and the National Transmission Company of South Africa (NTCSA),
- Accelerating grid expansion and the integration of renewable, nuclear, gas-to-power, and storage capacity, in line with the Integrated Resource Plan 2025,
- Ensuring universal access to affordable electricity by 2030 through expanded grid and off-grid connections, in alignment with the President's pledge to *"bring reliable electricity to every household"*,
- Localising energy supply chains and developing new industrial hubs to drive job creation, as the President highlighted: *"With an abundance of cheap, green energy, we can produce products that are competitive anywhere in the world and create hundreds of thousands of new jobs"*, and
- Strengthening intergovernmental coordination and delivery, particularly the establishment of ring-fenced municipal utilities for water and electricity services to improve financial and operational sustainability

The SONA 2025 therefore provides both the political mandate and the performance expectation for the Department: to secure long-term energy reliability, reduce the cost of living through affordable electricity, and use the energy transition as a catalyst for inclusive growth. DEE's strategy directly operationalises these priorities, ensuring that energy policy serves as the foundation for a nation that works for all.

4.5. POLICIES AND STRATEGIES INFORMING PROGRAMME IMPLEMENTATION

The Department of Electricity and Energy implements national energy objectives through key institutional policies and strategies that drive infrastructure development, energy security, and industry transformation. These frameworks ensure that national priorities are translated into actionable programmes that support an inclusive, reliable, and sustainable energy sector.

A. Demand-side Management and Energy Access

- *Energy Efficiency and Demand-Side Management Strategy* promotes efficient electricity use and reduction of system demand peaks. The Department will implement national energy efficiency programmes, including industrial retrofits, public facility upgrades, and household demand management, to lower consumption and delay new generation needs

- *National Electrification Strategy and Affordability Frameworks* provide the roadmap for achieving universal, affordable access to electricity by 2030. The Department will accelerate both grid and off-grid electrification, strengthen affordability mechanisms, and coordinate with municipalities to extend access to rural and underserved communities.

B. Power Generation and Energy Supply

- *Integrated Resource Plan (IRP) 2025*, serves as South Africa's long-term electricity supply and demand framework. It provides a least-cost, diversified generation pathway to 2039 with 105 GW of additional total capacity and is designed to be a living policy that is updated regularly to reflect the needs of South Africa. Over the next five years, the department will prioritise renewable energy procurement, strengthen transmission infrastructure expansion, and enhance grid resilience for large-scale energy integration. The revised IRP 2025 will reflect updated energy mix projections, balancing affordability, security of supply, and environmental sustainability, while ensuring that transmission expansion is accelerated to support the integration of new generation capacity
- *The Gas Masterplan* will drive the development, regulation, and expansion of the gas industry. The Department will facilitate gas-to-power projects, expand LNG import terminals and gas storage infrastructure, and ensure competitive pricing frameworks to support industrial and energy security objectives
- *Renewable Energy and Green Hydrogen Strategies* aim to accelerate South Africa's clean energy transition and positions the country competitively in emerging global hydrogen markets. The Department will scale renewable energy procurement, support the implementation of the Green Hydrogen Commercialisation Strategy, and establish industrial corridors linking renewables to hydrogen production and export
- *Clean-coal strategies, such as Carbon Capture and Storage (CCUS)*, outline the policy direction for deploying carbon management technologies in hard-to-abate sectors. In alignment with climate commitments, the department will integrate CCUS technologies and clean coal strategies into industrial and generation planning frameworks to advance decarbonisation while maintaining industrial competitiveness

C. Market Development and Governance

- *Electricity Pricing Policy (EPP)* establishes principles for cost-reflective tariffs plus subsidies, financial sustainability, and equitable access. The Department will implement EPP reforms to improve revenue adequacy, promote efficiency across utilities, and ensure that pricing structures remain fair and transparent

- *Women, Youth, and Persons with Disabilities Responsive Planning and Budgeting Framework* ensures inclusive participation and equitable benefits in energy programmes. The Department will mainstream gender and social inclusion in planning and procurement, expanding training, entrepreneurship, and employment opportunities for women, youth and persons with disabilities in energy projects.

D. Infrastructure Expansion and System Modernisation

- *Transmission Expansion and Grid Resilience Strategy* provides the framework for expanding and strengthening South Africa's transmission grid to unlock new generation capacity and ensure system reliability. As part of this strategy, the Department will prioritise the Transmission Development and Investment Framework, ensuring that funding models for transmission expansion are strengthened, regulatory approvals are streamlined, and interconnections with regional power pools are enhanced
- *Energy Storage and Battery Infrastructure Development Strategy* supports investment in energy storage technologies and local battery manufacturing to stabilise renewable generation. The Department will expand energy storage capacity, promote smart-grid deployment, and strengthen policies that encourage local production of battery technology. A core focus will be on scaling lithium-ion battery production, investing in localised battery recycling initiatives, and advancing grid-scale storage technologies to stabilise variable renewable energy generation

4.6. POLICIES AND STRATEGIES INFORMING ORGANISATIONAL GOVERNANCE

The Department of Electricity and Energy is responsible for overseeing energy sector transformation, infrastructure development, and market stability. Strong governance policies ensure the department maintains compliance, transparency, and institutional efficiency.

- **Corporate governance and compliance frameworks:** To uphold accountability, transparency, and ethical management, the department will strengthen governance mechanisms, ensuring financial oversight, risk management, and compliance with regulatory standards. This includes adherence to the PFMA and the principles of King IV on Corporate Governance to enhance internal controls and financial reporting
- **Intergovernmental Energy Coordination Strategy:** As energy policy and regulation involve multiple government entities, including Eskom, the NERSA, municipalities, and national and provincial authorities, the department will implement a structured Intergovernmental Energy Coordination Strategy to align decision-making, investment planning, and infrastructure implementation. This will ensure coherent policy execution across spheres of government, reduce regulatory bottlenecks, and improve stakeholder engagement and collaboration

- **Public-Private Partnership Framework for Energy Infrastructure:** Given the scale and capital-intensive nature of energy projects, private sector participation is essential to infrastructure expansion. The Department is advancing a structured Public–Private Partnership (PPP) agenda to mobilise private investment, technology, and skills for priority energy infrastructure. These initiatives are central to achieving grid expansion, generation diversification, and financial sustainability, as outlined in the **Electricity Regulation Amendment Act 2024** and **Operation Vulindlela Phase II**

Progress is already visible through several flagship initiatives:

- **Independent Transmission Projects (ITPs):** A Ministerial Determination (March 2025) approved 1 164 km of 400 kV lines for procurement under the first ITP round, a landmark in opening transmission investment to private participation
- **Battery Energy Storage and Renewable IPP Programmes:** The Energy Storage IPP Bid Window 3 awarded five preferred bidders totalling 616 MW, complementing over 22 500 MW of private renewables now registered with NERSA, representing roughly R400 billion in unlocked investment since 2021
- **Gas-to-Power Infrastructure:** The IRP 2025 provides 6 000 MW of new gas capacity by 2030. DEE and National Treasury are designing PPP models for LNG import, pipeline, and generation assets to ensure system reliability and fiscal neutrality
- **Municipal Utility Concessions:** Guided by the 2025 State of the Nation Address, DEE is supporting the creation of ring-fenced municipal utilities that can enter performance-based PPPs for electricity distribution, improving investment flows and service delivery

Together, these initiatives position PPPs as a delivery mechanism for Outcomes 2 and 3 of the Strategic Plan, enhancing investment confidence, accelerating infrastructure rollout, and reducing fiscal burden

- **Regulatory oversight and market reform mechanisms:** The department will enhance its regulatory functions by ensuring effective oversight of the market and related reform activities. This includes monitoring compliance with the Electricity Regulation Act and guiding the transition to a more competitive energy market
- **Information and communication technology (ICT) and digital transformation in energy regulation:** The department will modernise regulatory oversight and operational efficiency through digital transformation initiatives. This includes automating energy market data systems, improving regulatory compliance tracking, and deploying digital forecasting models for electricity demand and grid stability. The adoption of digital platforms for monitoring energy project approvals and stakeholder engagement will improve decision-making and transparency in sector management

- **Risk management and institutional performance monitoring:** To strengthen institutional resilience, the department will implement risk mitigation frameworks that address financial, operational, and regulatory risks associated with the energy sector. This includes crisis response mechanisms for electricity supply disruptions, compliance with environmental and safety regulations, and performance monitoring systems to ensure alignment with national energy objectives

4.7. POLICIES TO BE REVISED TO SUPPORT THE PRIORITIES OF THE 7TH ADMINISTRATION

To align with the Government of National Unity's strategic direction and the priorities of the seventh administration, several key policies require revision and reformulation to modernise the energy sector, enhance regulatory efficiency, and improve affordability and access. These policy revisions will address gaps in existing frameworks, support energy transition goals, and strengthen governance mechanisms to ensure the department's ability to deliver on national priorities over the 2025–2030 period.

A. Demand-side Management and Energy Access

- **Regulatory reform for off-grid electrification and distributed energy solutions:** Existing regulatory frameworks have to be updated to enable the integration of off-grid electrification models, embedded generation, and distributed renewable energy solutions. The revised policies will introduce streamlined licensing procedures for embedded generation and electricity trading, expand incentives for community projects, and add incentives for community-led renewable initiatives.
- **Climate and environmental standards harmonisation:** The Department will integrate new emissions regulations and environmental compliance standards to ensure alignment between national climate targets and project approvals. This revision will harmonise emissions standards for coal-fired power plants, strengthen environmental oversight for new energy projects, and establish carbon accounting mechanisms.

B. Power Generation and Energy Supply

- **Integrated Energy Plan (IEP):** The IEP provides the overarching, cross-sectoral framework that integrates all elements of South Africa's energy system (i.e., electricity, fuels, gas, and renewables) to guide investment and policy decisions across the full energy value chain. The plan must be revised and aligned with the Integrated Resource Plan (IRP 2025) and the Just Energy Transition Investment Plan (JET-IP) to reflect updated demand projections, technology cost trajectories, and South Africa's decarbonisation commitments. The revision will strengthen policy

coherence between energy supply, industrial strategy, and climate goals, ensuring that long-term energy planning supports inclusive growth, energy security, and sustainability

- **Gas Masterplan revision:** As South Africa transitions to a diversified energy mix, the Gas Masterplan must be updated to reflect new market dynamics, ensure gas pricing affordability, and incentivise private sector participation in gas infrastructure development. The revision will result in regulatory certainty for LNG imports, pipeline expansion, and the role of gas in bridging South Africa's transition to a low-carbon economy.

C. Market Development and Governance

- **Electricity Pricing Policy review:** The Electricity Pricing Policy requires revision to improve affordability, enable cost-reflective tariffs, and introduce pricing mechanisms that support low-income consumers while ensuring the financial sustainability of the electricity sector. The revised policy will incorporate mechanisms to reduce energy poverty, expand targeted subsidy frameworks, and support progressive tariff models that balance accessibility with long-term sustainability.
- **Energy sector localisation and industrialisation policies:** Energy sector localisation and industrialisation policies require review, as the current framework lacks alignment with energy infrastructure priorities and provides limited targeted incentives for renewable and grid component manufacturing. Existing local content rules are fragmented across departments, creating implementation bottlenecks and insufficient support for emerging Black-owned suppliers. While localisation is not directly within the DEE's mandate, policy coherence and stronger coordination with DTI and DMRE are essential to ensure industrialisation objectives effectively support South Africa's energy transition.
- **Public–Private Partnership Framework:** To improve investment confidence, energy sector approval processes must be streamlined through the revised Public–Private Partnership Framework to improve investor confidence, energy approval efficiency, and the mobilisation of climate finance for energy infrastructure development.

D. Infrastructure Expansion and System Modernisation

- **Transmission Expansion and Investment Framework:** To fast-track grid expansion and ensure network readiness, the Transmission Development and Investment Framework must be updated to streamline environmental and regulatory approvals for new transmission

corridors. This revision will also focus on enhancing funding models for large-scale infrastructure projects and securing regional interconnectivity through expanded cross-border electricity transmission agreements.

4.8. SWOT ANALYSIS OF SOUTH AFRICA'S ENERGY AND ELECTRICITY SECTOR

South Africa's energy and electricity sector shows clear competitive advantages and growing reform momentum, while also facing persistent operational and financial constraints and intensifying global pressures. A clear view of strengths, weaknesses, opportunities and threats guides where national effort should concentrate, and how long-term competitiveness can be built as a renewable and industrial hub.

	STRENGTHS	WEAKNESSES
Demand	▪ Strong demand for industrial PPA and wheeling arrangements ▪ Expanding household electrification initiatives ▪ Competitive positioning from critical minerals reserves	▪ Affordability concerns linked to global uncertainties ▪ Revenue model pressure in parts of the public system as self-generation/wheeling expand ▪ Tariff trajectory uncertainty impacting investor confidence
Supply	▪ Significant natural endowment of renewable resources ▪ Advancements in hybrid and storage technologies ▪ Nuclear expertise and isotope leadership ▪ Green hydrogen programme with near-FID projects (Coega, Prieska)	▪ Ageing coal fleet with performance challenges ▪ Uncertain gas-to-power pathway (infrastructure, pricing, supply) ▪ Slower pace of renewable integration relative to targets (grid/system-strength limits)

	STRENGTHS	WEAKNESSES
		▪ Limited domestic manufacturing capacity creating import reliance
Market	▪ Market reform momentum (e.g., ERA 2024, NTCSA stand-up, pathway to SAWEM/ Market Code) ▪ Proven REIPPPP delivery track record ▪ Pioneering JET-IP mobilisation (blended/ concessional climate finance)	▪ Regulatory and policy uncertainty (IRP delays), information asymmetry ▪ Limited depth of financial markets for very long-dated PPAs/ hedges ▪ Governance challenges and procurement inefficiencies ▪ Shortage of technical skills capacity to build/ operate at required pace
Infrastructure	▪ SAPP regional trading hub anchor and interconnector base ▪ Expanding grid-upgrade and TDP pipeline; NIP 2050 alignment	▪ Grid bottlenecks in renewables zones; curtailment and queue-management risks ▪ Municipal-level institutional and revenue-model constraints ▪ OEM/ EPC capacity constraints; permitting/servitude delays

	OPPORTUNITIES	THREATS
Energy security	▪ Deliver TDP to unlock Renewable Energy (RE) and stabilise supply ▪ Strengthen regional interconnectors through SAPP ▪ Scale storage and flexible generation; operationalise ancillary-services markets ▪ Advance reform (ERA 2024, NTCSA, SAWEM/ Market Code) and Independent Transmission Projects (ITPs)	▪ Risk of intensified load shedding and grid instability ▪ Uncertainty regarding timing/sequence of the coal transition ▪ Delays in grid build and connections (permits, land, OEMs) ▪ Slippage in market-reform milestones could slow capital flows

	OPPORTUNITIES	THREATS
Energy access	▪ Broaden competition and tariff options through unbundling/clear use-of-system charges ▪ Expand industrial wheeling and long-term PPAs ▪ Support decentralised/off-grid solutions in weak municipal areas; Distribution Reform Roadmap (EDI)	▪ Rising tariffs, reduction of cross-subsidisation for vulnerable customers ▪ Organised crime and sabotage compromising energy infrastructure ▪ Municipal fragility affecting service delivery ▪ Climate shocks and asset fragility can create resilience gaps ▪ Possible capital flight if uncertainty persists
Job creation	▪ Develop new industries (data centres, EVs, batteries) ▪ Localise manufacturing components in RE, storage and grid equipment ▪ Mobilise jobs through REIPPPP, transmission and distribution build ▪ Leverage uranium value chain and isotope programmes	▪ Social pressures in mining regions during transition ▪ Dependence on foreign expertise could raise costs ▪ Missed industrialisation opportunities if pipelines are inconsistent ▪ Unequal socio-economic impacts across regions
Economic growth	▪ Attract large-scale private and blended finance into energy infrastructure (JET-IP; green bonds; guarantees /first-loss) ▪ Localise renewable, storage and grid components to grow domestic industry; predictable pipelines (TDP/ IRP)	▪ Erosion of export competitiveness (e.g., CBAM exposure) ▪ Policy/ approval delays could shift investment to other regions ▪ FX/ freight volatility and component shortages increasing costs

For the DEE, this analysis directly informs the Department's priorities. It further identifies near-term pressure points for 2026/27 (grid access and transparent allocation/queue rules; tariff reform and affordability instruments; flexibility procurement and ancillary services; one-stop/"single-window"

permitting; private-capital mobilisation via PPP/ITP; skills pipelines) and the enabling considerations needed to sustain reform to 2030 and beyond (Energy Security Bill; Operation Vulindlela actions; DDM/municipal support; market-readiness monitoring and disclosure).

4.9. PESTEL ANALYSIS

The macro environment is summarised in the PESTEL analysis, which reflects the external forces influencing the Department of Electricity and Energy's operations and strategic decision-making. The analysis enables the department to leverage regional energy growth opportunities, adopt sustainable practices, and drive innovation while managing cost pressures, energy security challenges, and regulatory shifts in an evolving global, regional, and national macro environment.

		Issue Identified	Planning Process
P	Political	- South Africa's political landscape is evolving following the formation of the Government of National Unity, aiming to ensure policy stability in energy governance. However, uncertainty around long-term energy policy still impacts investor confidence. - Regional political tensions, including instability in northern Mozambique and diplomatic strains with Rwanda, could impact energy trade and gas supply agreements. - Geopolitical instability, including the Russia-Ukraine conflict, Middle East tensions, and USA-China trade disputes, continues to disrupt global energy markets and impact South Africa's access to renewable energy technology, fossil fuel supply, and critical minerals. - The restructuring of SOEs remains a priority to improve financial stability, operational efficiency, and investment attractiveness.	- The department prioritises energy policy certainty and market reforms to ensure long-term investor confidence. - The department strengthens regional energy diplomacy, particularly with Mozambique and SADC, to secure gas supply and cross-border energy trade. - The department diversifies supply chains and promotes local manufacturing of renewable energy components to reduce dependence on imports. - The department accelerates Eskom's restructuring and SOE governance reforms to stabilise operations and improve market competitiveness
E	Economic	Global GOP growth is projected at 3.2% (International Monetary Fund,	The department facilitates international

		2025), while South Africa's National Treasury projects 1.1% growth in 2024, well below regional peers. - Persistent supply chain disruptions, inflationary pressures, and capital outflows are slowing investment into South Africa's energy sector infrastructure. - Rand depreciation is increasing the cost of imported renewable energy components and battery storage technology. - Electricity price increases are limiting competitiveness for small, micro, and medium enterprises (SMMEs) and increasing household energy poverty. - Business confidence remains weak due to infrastructure failures, unreliable energy and water supply, and security concerns	financing for energy transition projects, ensuring sustainability of energy investments. - The department promotes local energy manufacturing to reduce reliance on imported components. - The department drives reforms to stabilise electricity tariffs while maintaining affordability for low- income households. - The department strengthens SOE oversight and infrastructure recovery plans to accelerate operational stability.
S	Social	- High unemployment (32.1% overall, 45% youth unemployment) remains a significant challenge. - Rising electricity tariffs are increasing energy poverty, particularly in low-income communities. - Public frustration over service delivery failures, unreliable electricity supply, and municipal mismanagement is leading to growing social unrest. - The just energy transition is creating job losses in the coal industry. - Organised crime in the energy sector, including fuel theft, cable theft, and procurement fraud, undermines energy security and increases operational costs.	- The department expands workforce reskilling and job creation programmes to equip workers with renewable energy and grid management skills. - The department implements affordability mechanisms and municipal capacity-building to improve equitable access. - The department strengthens municipal engagements to improve transparency around energy tariffs and service delivery. - The department ensures just energy transition implementation is socially inclusive, targeting transformation in employment and supplier development. - The department enhances law enforcement collaboration and regulatory oversight to combat organised crime.
T	Technology	- Rapid advancements in artificial intelligence, smart grids, and battery storage are reshaping global energy markets, requiring South Africa to keep pace with new developments. - Cybersecurity threats to energy infrastructure have increased, with energy utilities being key targets for cyberattacks. - Slow adoption of electric vehicles and inadequate charging infrastructure	- The department develops a national smart grid strategy, integrating predictive analytics to enhance grid stability. - The department strengthens cybersecurity protocols to protect national energy infrastructure from cyber threats.

		are delaying transport sector electrification.	The department partners with private investors to accelerate electric vehicle infrastructure rollout and encourage adoption.
E	Environment	- South Africa faces rising climate risks, including droughts, floods, and extreme weather events, which affect energy infrastructure and water availability. - The country's NDC targets aim to cut emissions to 350–420 MtCO₂-eq by 2030, but grid constraints and financing barriers are slowing renewable energy deployment. - Water scarcity is increasingly impacting coal-fired power stations and energy-intensive industries, requiring efficiency improvements. - Green hydrogen and battery storage present major economic opportunities, but investment and skills development remain limited.	- The department integrates climate resilience measures into energy infrastructure planning. - The department facilitates private sector investment in renewable energy expansion and transmission upgrades. - The department promotes water-efficient energy generation technologies and solutions. - The department prioritises skills development and research in green hydrogen and energy storage. - The department ensures that all SOEs under its purview have implemented climate change adaptation and mitigation response strategies.
L	Legal	- The Electricity Regulation Amendment Act, IRP 2025, and Energy Efficiency Strategy are key regulatory updates shaping the energy market. - The NTCSA was established to facilitate a more competitive electricity market, but uncertainty around tariffs, regulatory approvals, and private sector participation still poses risks. - The Gas Masterplan is expected to provide clarity on the role of gas in South Africa's energy transition, but infrastructure development and pricing stability remain concerns.	- The department finalises regulatory updates to ensure investor confidence and policy stability. - The department strengthens implementation of the IRP 2025 and Gas Masterplan to accelerate energy transition projects. - The department ensures clear and transparent guidelines for private sector participation in energy generation and storage.

5. Relevant Court Rulings

At present, **there are no Constitutional Court or High Court rulings** that materially alter the Department's mandate or operational responsibilities. However, the courts have consistently reinforced key principles that shape DEE's approach to energy governance:

- **Transparency and fairness in procurement:** judicial review of past electricity procurement processes has underlined that all energy-related tenders and agreements must comply with Section 217 of the Constitution.
- **Environmental compliance:** court decisions related to environmental approvals (for example, in the renewables sectors) have reinforced the obligation that energy development must align with environmental and climate legislation.
- **Regulatory certainty:** litigation around tariff-setting and municipal revenue models has highlighted the importance of clarity, predictability, and coordination in the electricity sector.

In this context, the judiciary's role reinforces the embedding of compliance, public accountability, and procedural fairness across energy policy, planning, and procurement processes.

6. Capabilities Required to Deliver the Mandate

The DEE's constitutional, legislative, and policy mandates provide authority and tools. **To successfully realise these outcomes, the Department needs to develop the organisational capabilities to deliver on their mandate.**

These necessary capabilities can be grouped into two categories: 1) Policy Authority Capabilities and 2) Delivery Orchestration (and monitoring) Capabilities (*full detail in Part D: Capacity and Capability Building*).

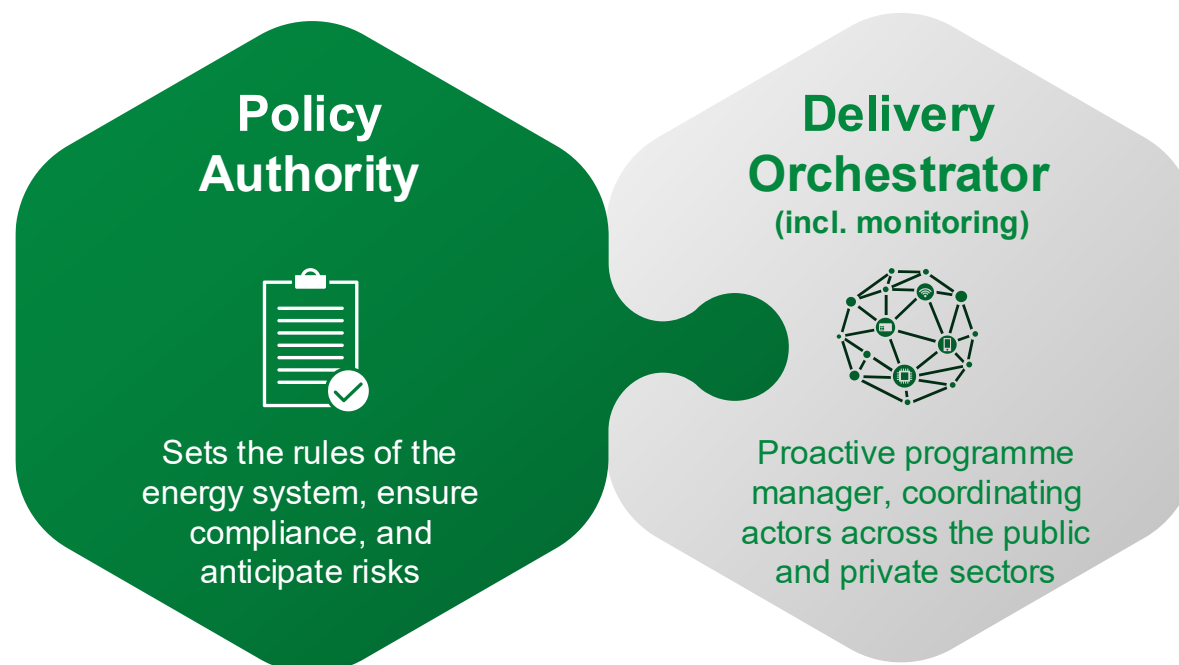


Figure 4: Key DEE functions

6.1. DEE AS A POLICY AUTHORITY

DEE must be able to set the rules of the energy system, ensure compliance, and anticipate risks.

This requires:

- **Strategic planning and system modelling:** Updating the Gas Master Plan and IEP, integrating climate obligations, and aligning with macroeconomic and industrial strategies.
- **Regulatory design and oversight:** Strengthening capacity to craft and enforce regulations (tariffs, wheeling, grid codes, market codes), and ensuring they are transparent and fair.
- **Evidence-based policy development:** Institutionalising SEIAS assessments, embedding data-driven analysis, and using digital platforms for decision-making.

- **Intergovernmental and market governance:** Mapping decision-rights, clarifying the roles of Eskom, NTCSA, NERSA, municipalities, and aligning incentives to national priorities.

These capabilities enable DEE to function as the system architect: structuring markets, providing predictable rules, and maintaining a clear planning horizon.

6.2. DEE AS A DELIVERY ORCHESTRATOR

DEE also needs to act as a proactive programme manager, coordinating actors across government, SOEs, municipalities, and the private sector.

This requires:

- **Programme and project management capacity:** Setting up a Delivery PMO (Programme 3) with the skills to oversee large-scale builds (transmission, gas, renewables) and rollout of government driven projects (e.g., Advanced Metering Infrastructure (AMIs))
- **Financial mobilisation and innovation:** Building capacity to convene DFIs, Treasury, and private investors to unlock innovative finance for TDP corridors and JET-IP projects.
- **Technical oversight:** Recruiting and retaining engineers, scientists, grid planners, economists, and digital analysts to monitor Eskom and NTCSA performance, de-risk project pipelines, and ensure delivery readiness.
- **Digital and data capabilities:** Establishing open-source platforms for grid and project data, digitising regulatory processes, and embedding digital analytics into planning and oversight.
- **Stakeholder and social engagement:** Strengthening capacity for social dialogue and early community engagement in transition regions, to prevent mistrust and disruption.
- **Active performance monitoring and intervention:** Instituting a system of continuous delivery tracking across all energy programmes and entities, using digital dashboards and regular progress reviews to surface implementation gaps early

These capabilities enable DEE to operate as an orchestrator of the energy transition: mobilising finance, coordinating delivery models, and addressing cross-value-chain constraints.

DEE's effectiveness rests on strengthening these capabilities. As policy authority, it sets credible rules and plans, and as orchestrator, it manages programmes, mobilises finance, and delivers results on the ground. **Together, these capabilities translate statutory mandates into outcomes that stabilise supply, advance the just transition, and support inclusive industrialisation** (*with detailed capacity measures in Part D*).

PART B: OUR STRATEGIC FOCUS

In giving effect to the legislative and policy mandate outlined in Part A, the Five-Year Strategic Plan 2025 to 2030 articulates Department of Electricity and Energy's strategic focus, namely its vision, mission, and values, as follows:

1. Vision

A transformed and resilient energy system that delivers universal access, affordability and sustainability, while advancing inclusive growth and industrialisation, anchored by a capable developmental state.

2. Mission

To lead the transformation of South Africa's energy system through integrated planning, accelerated infrastructure delivery, effective regulation and market design, while strengthening state capability and enabling investment, to achieve universal access, energy security, affordability and inclusive industrial growth.

3. Values

The Department of Electricity and Energy upholds the following organisational values, which are in line with the *Batho Pele* principles and guide how we serve South Africa's energy needs:

Value	What it Means in Practice
Sustainability	We balance economic growth, energy security, and environmental responsibility, ensuring a low-carbon, climate-resilient, and reliable energy future.
Innovation	We embrace cutting-edge technologies, digitalisation, and new approaches to modernise South Africa's energy sector and improve efficiency.

Accountability	▪ We uphold the highest standards of ethical leadership, transparency, and regulatory compliance, ensuring public trust and service excellence.
Inclusivity	▪ We seek to expand energy access and affordability, ensuring participation and benefit-sharing for women, youth and historically disadvantaged communities in the energy economy.
Collaboration	▪ We work across government, industry, and civil society to drive coordinated solutions that enhance energy security, economic growth, and equitable development.

4. Situational Analysis

4.1. EXTERNAL ENVIRONMENT ANALYSIS

The Department of Electricity and Energy operates in a dynamic and rapidly evolving environment, shaped by global and regional energy security challenges, both economic constraints and opportunities, the global energy transition and domestic policy reforms. South Africa's energy sector stands at a critical juncture, requiring bold and decisive interventions to secure a reliable, sustainable, and inclusive energy future.

Political

South Africa's political environment is evolving under the Government of National Unity (GNU), offering renewed stability and a shared commitment to reform but also requiring alignment across multiple coalition partners. Regional tensions (specifically, Mozambican gas field depletion) and global geopolitical volatility continue to affect gas supply, energy trade, and access to critical technologies. Domestically, Eskom's restructuring remains central to restoring operational stability and investor confidence.

The 2025 State of the Nation Address (SONA) provided the political and policy foundation for the establishment of the Department of Electricity and Energy (DEE) and confirmed energy security as the foremost national priority.

In his address, President Cyril Ramaphosa confirmed energy security as the foremost national priority and directed government to:

- End load-shedding permanently through accelerated implementation of the Energy Action Plan and completion of electricity-market reform
- Establish the DEE to bring coherence and accountability across policy, planning and delivery functions
- Operationalise the NTCSA and implement the Electricity Regulation Amendment Act (2024) to open a competitive wholesale market
- Advance the Just Energy Transition and localisation of clean-energy industries to drive job creation, and
- Ensure universal access to affordable, reliable electricity by 2030

Economic

Industrial clusters in mining and manufacturing add concentrated demand that require targeted transmission investment, however, infrastructure development must be addressed across the entire energy value chain. South Africa's infrastructure challenges extend beyond the electricity grid to include generation, transmission, and distribution assets, as well as critical gas, nuclear, and liquid-fuels infrastructure. Each subsector faces ageing assets, limited investment, and coordination gaps that constrain system reliability, energy security, and industrial growth.

DEE will therefore adopt an integrated infrastructure planning approach that links electricity, gas, and nuclear systems into a coherent national energy network. This approach will be reflected in long-term planning instruments, such as the Integrated Resource Plan (IRP), the Transmission Development Plan (TDP), and the forthcoming Nuclear Industrialisation Plan, ensuring alignment between infrastructure investment, technology innovation, and just-transition objectives.

Social

South Africa's demographic and spatial trends intensify these pressures. The national population is projected to reach over 70 million by 2035, with more than 70% living in urban areas. Demand is rising fastest in city-regions like Gauteng, while rural and municipal networks remain fragile. Around 86% of households have access to electricity, but many face unreliable supply. Electrifying the remaining 1.6 million unelectrified households remains a critical priority for the DEE over the 2025–2030 period, securing universal access while ensuring competitively priced, reliable and sustainable power in under-served areas.

In addition to demographic and spatial challenges, inclusion remains uneven across the sector. Youth unemployment exceeds 40%, women hold less than 30% of energy-sector jobs, and people with disabilities remain underrepresented. Ensuring skills development, targeted procurement, and community participation can turn the transition into a lever for equity as well as energy security.

The Department's strategic priorities are framed by the GNU's commitment to inclusive, sustainable, and industrial-led growth, as articulated in the MTDP and reinforced through Operation Vulindlela Phase II. Recent Cabinet guidance (June 2025) on growth and inclusion emphasizes a coordinated approach to unlock investment, enhance competitiveness, and expand participation across all segments of society, particularly women, youth, and persons with disabilities. DEE's policies and programmes give effect to this guidance by promoting energy as an enabler of inclusive economic

opportunity, strengthening localization and skills development through initiatives such as SAREM and ensuring that the JET supports equitable regional development, job creation, and empowerment.

Technological

Technological innovation is accelerating across the global energy system. The integration of renewables and other clean energy sources, battery storage, and smart-grid technologies is reshaping how power systems are designed and managed. South Africa's energy reform agenda must incorporate digitalisation, data analytics, and advanced control systems to improve efficiency, forecasting, and demand management.

In the nuclear sector, technology development is gaining momentum. The nuclear sector remains a strategic pillar of South Africa's long-term energy-security and industrial-development agenda. The country's current nuclear fleet, centred on the Koeberg Nuclear Power Station, has demonstrated high safety and operational reliability for over four decades, reflecting a mature domestic regulatory framework administered by the National Nuclear Regulator (NNR). South Africa's legacy of expertise, anchored in the Koeberg Nuclear Power Station and historic Pebble Bed Modular Reactor (PBMR) research, positions it to re-enter global nuclear innovation networks. The revival of PBMR technology aligns with rising international interest in small modular reactors (SMRs), offering opportunities for localisation, component manufacturing, and export of nuclear engineering services.

South Africa also maintains licensed radioactive waste storage and disposal infrastructure (managed by NECSA and the National Radioactive Waste Disposal Institute (NRWDI)) which will require ongoing modernisation and investment as the nuclear programme expands. To sustain this growth, South Africa will finalise the Nuclear Industrialisation Plan to support investment in next-generation nuclear projects.

More than 30 countries are expanding or restarting nuclear programmes, supported by new small modular reactor (SMR) designs that promise faster, safer, and more flexible deployment. A critical frontier in this resurgence is the application of artificial intelligence (AI) across the nuclear value chain. AI systems are increasingly used for predictive maintenance, reactor safety diagnostics, core optimisation, and fuel-cycle management, improving plant efficiency and extending asset lifespans. Beyond operations, AI-enhanced modelling is supporting nuclear siting, waste-handling simulations, and real-time monitoring of radiation environments. For South Africa, these developments signal the potential to integrate AI into Koeberg's life-extension programme and any future nuclear industrialisation roadmap, enabling safer, more cost-effective operations while building digital capabilities within the emerging Energy Data and Intelligence Hub. However, this opportunity must be approached pragmatically ensuring that AI adoption complements, rather than substitutes, rigorous governance, human expertise, and transparent regulatory oversight.

Environment

The energy sector is both a driver of and a solution to South Africa's environmental challenges. Decarbonisation commitments under the Paris Agreement, the Just Energy Transition Investment Plan (JET-IP), and the Hydrogen Society Roadmap frame the national shift toward a low-carbon energy system.

The Critical Minerals and Metals Strategy (2024) also underpin the transition by securing supply of materials essential for renewable technologies, grid infrastructure, and nuclear-fuel-cycle development.

At the same time, legacy infrastructure, environmental degradation from coal operations, and waste management from nuclear and industrial processes demand continued investment in cleaner technologies, efficient water use, and long-term radioactive waste disposal solutions.

Legal and regulatory

The ERA Amendment Act 2024 sets the framework for a competitive⁵ market, but successful implementation will depend on political alignment, institutional follow-through, and an integrated delivery⁶ approach that manages trade-offs and supports resilient decision-making amid uncertainty. Policy shifts, affordability concerns, and social pressures can slow progress unless benefits are clearly communicated and reforms are carefully sequenced.

The DEE operates in a complex and interconnected policy environment shaped by domestic reform imperatives, regional energy security dynamics, and global transition pressures. The Department will adopt an integrated infrastructure planning approach that links clean energy into a coherent national energy network supported by the IRP, TDP, and the Nuclear Industrialisation Plan.

The following analysis provides an evidence-based assessment of key trends, risks, and opportunities that shape the Department's policy direction, regulatory approach, and strategic priorities over the 2025–2030 planning period.

4.1.1. Global and local trends

The electricity and energy sector in South Africa is shaped by a range of global and local trends. These include growing industrial and digital demand, the drive for low-cost renewable energy, the need for greater system flexibility, the localisation of supply chains, the mobilisation of finance, and large-scale transmission expansion. At the same time, maintaining the performance and availability of the existing coal fleet remains critical to system stability during the transition period. Improving the energy-availability factor (EAF) of operational units is an immediate priority to ensure reliable supply while new capacity is added. The breadth of these trends underscores the importance of clear prioritisation and sequencing to balance security of supply, affordability, and decarbonisation objectives.

⁵ In this document, competitiveness means shifting from a single, vertically integrated utility to a legally unbundled, multi-market model in which generation and supply compete under transparent rules, while transmission remains a regulated monopoly, i.e., market opening, not privatisation of the grid

⁶ In this document, integrated delivery refers to the four-quadrant approach set out in the Energy Transition Roadmap. It aligns Supply (new and existing generation, storage), Infrastructure (Gx/Tx/Dx and fuel systems), Demand (efficiency and demand response), and Markets (market structure and tariffs) under a single delivery plan with shared milestones, risk-allocation rules, and reporting. The purpose is to sequence interdependent actions (e.g., grid, flexibility, permits, finance) so investments are bankable and system outcomes (i.e., security, affordability, emissions reduction, and jobs) are achieved together

After a rigorous analysis of the global and local trend landscape, 11 over-arching themes consistently and materially surfaced. These trends form the basis for South Africa's energy sector priorities and the DEE's system-wide leadership role:

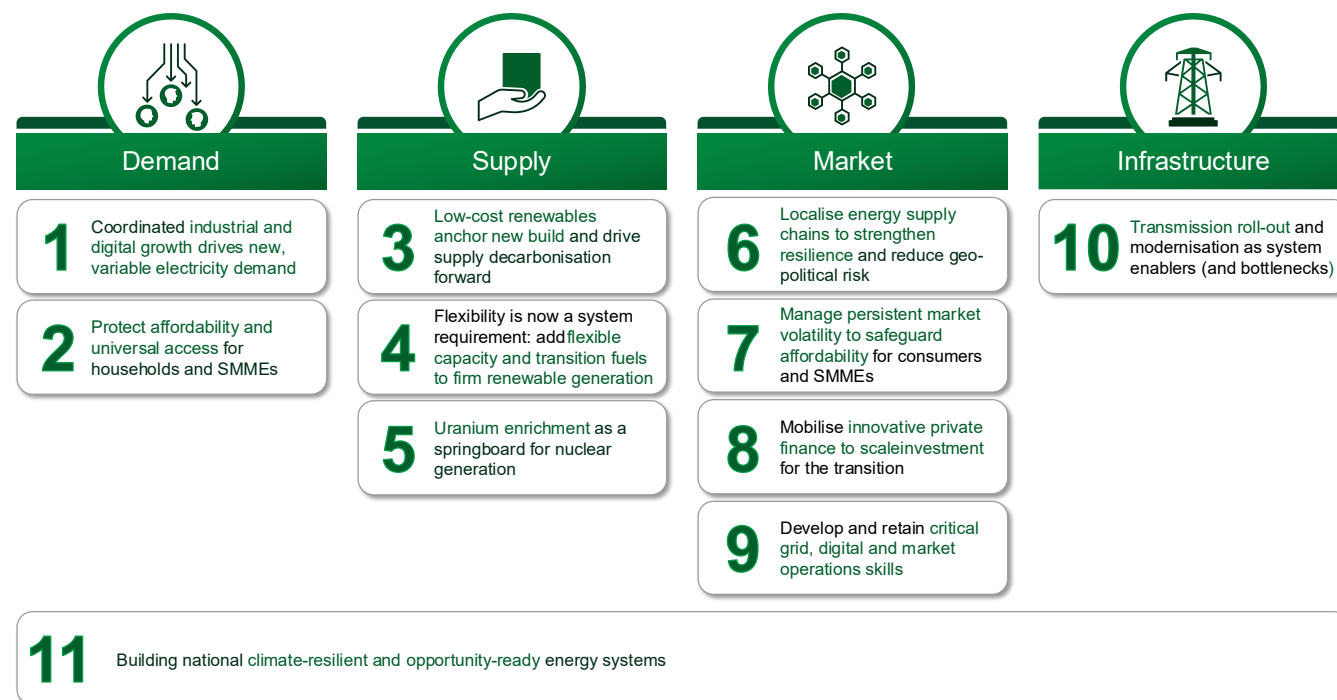


Figure 5: 11 mega-trends affecting energy globally

Focusing on only the most material themes supports sharper focus, enabling coherent, sequenced action across the energy sector.

In addition, an integrated transition is required to achieve South Africa's energy objectives. The sector cannot advance on demand-side or supply-side interventions, market reform, or infrastructure support in isolation. Each element is interdependent:

- Demand** growth and location signal where and when capacity is needed
- Supply** must shift to a reliable energy mix, scaling renewables and storage, adding flexible capacity where appropriate, and improving the energy-availability factor (EAF) of the existing fleet during the transition
- Market** and pricing reform provide bankable revenue models, cost-reflective tariffs and targeted protection for vulnerable users; and

iv. **Transmission** and distribution expansion and modernisation connect new resources and customers and maintain system strength and reliability. A coherent approach (i.e., integrated delivery) is needed to align these elements and guide investment and implementation across the value chain. Integrated delivery⁷ means coordinating planning, permits, grid build, market rules and finance with generation and demand measures so the right assets arrive in the right order and operate as one system, rather than as siloed projects. Progress will be measured on four factors, namely energy security, affordability, emissions reduction, and job creation.

DEE's contribution lies in defining this integrated system, setting the overarching policy direction, and coordinating with the NTCSA, Eskom, municipalities, and private developers to ensure that planning, regulation, and delivery are synchronised around shared objectives.

⁷ In this document, integrated delivery refers to the four-quadrant approach set out in the Energy Transition Roadmap. It aligns Supply (new and existing generation, storage), Infrastructure (Gx/Tx/Dx and fuel systems), Demand (efficiency and demand response), and Markets (market structure and tariffs) under a single delivery plan with shared milestones, risk-allocation rules, and reporting. The purpose is to sequence interdependent actions (e.g., grid, flexibility, permits, finance) so investments are bankable and system outcomes (i.e., security, affordability, emissions reduction, and jobs) are achieved together

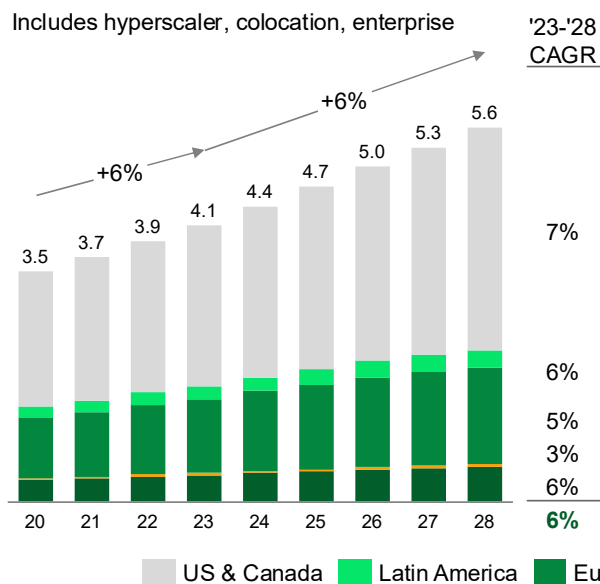
Trend 1: Coordinated industrial and digital growth drives new, variable electricity demand

Global trend

Digitalisation and artificial intelligence have emerged as the dominant incremental drivers of global electricity demand. Recent analysis indicates that global data-centre power consumption is expected to rise from roughly 60 GW in 2023 to about 125–130 GW by 2028, representing annual growth of ~16 percent. The number of facilities expands more moderately (from about 4 100 to 5 600), meaning that individual sites are becoming larger, denser, and significantly more power-intensive. Power availability, rather than construction capability, has therefore become the main constraint in the global expansion cycle.

A large share of this growth is concentrated in the United States and China, reflecting their capital depth, cloud-computing scale, and dependable grid access. This concentration is driving competition for “power-ready” sites in other regions. Countries able to deliver clean, reliable, and rapidly available electricity will be best placed to attract new digital and industrial investment. For emerging markets, the decisive differentiator will be speed to power, i.e., the ability to bring transmission, permitting, and generation online quickly and predictably.

Count of DCs (K) by geography



GW installed base by geography

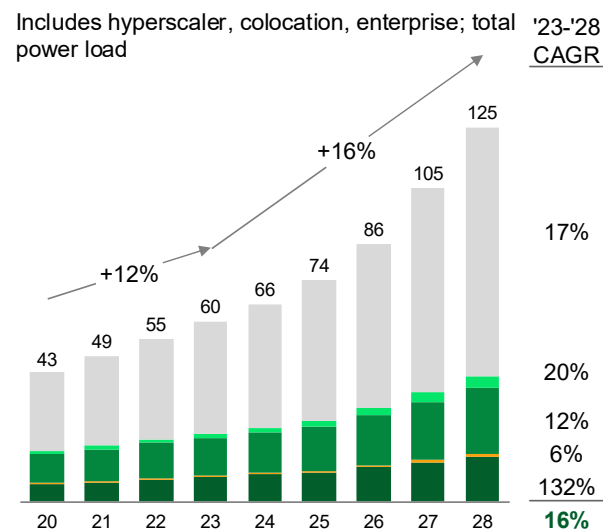
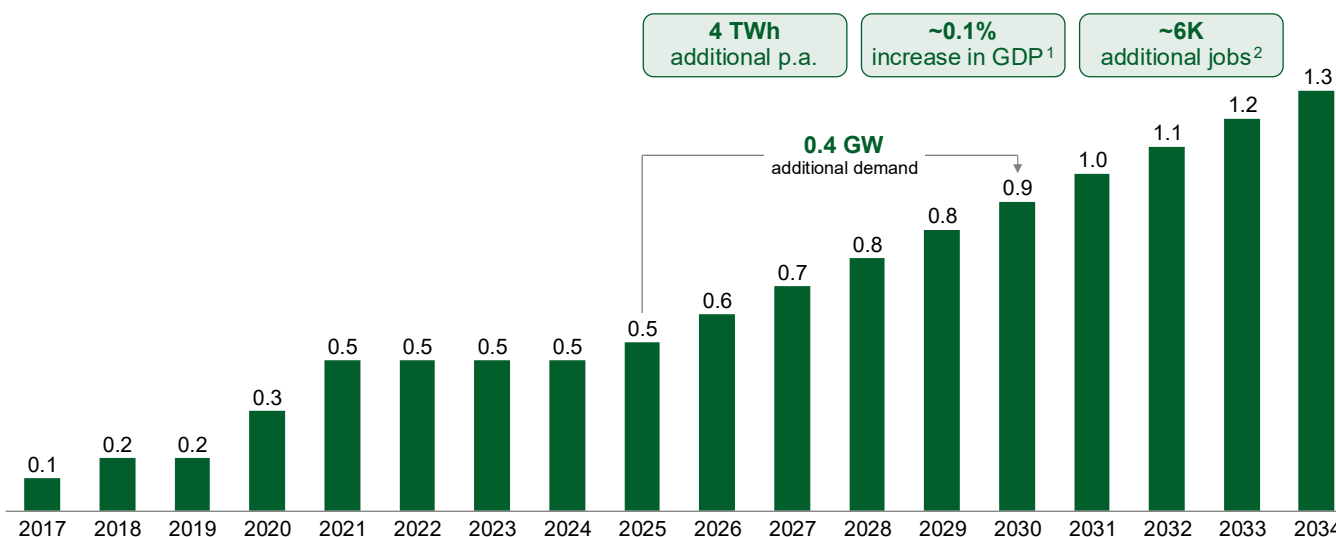


Figure 6: Data-centre growth, 2023-2028 (in data-centre thousands, and GW installed, respectively)⁸

Local trend

South Africa is entering a period of structural recovery in electricity demand, driven by renewed industrial activity and the rapid build-out of digital infrastructure. All major global cloud providers are already present, and national data-centre capacity is projected to reach around 1.3 GW by 2034, implying an incremental load of roughly 4 TWh per year. Growth will concentrate in Gauteng and the Western Cape, which also anchor advanced manufacturing and green-hydrogen projects co-located with data-centre and industrial demand. The emerging colocation of high-load data centres, electrolyzers, and manufacturing facilities enables shared infrastructure and grid-reinforcement synergies.

Gauteng's peak demand is expected to rise from about 9.3 GW (2023) to 12.5 GW (2034), while the national peak could increase from roughly 33 GW to 43 GW as supply reliability improves. Because South Africa is starting from a relatively low base, even a handful of new large-scale campuses (100–300 MW each) could deliver large growth in electricity demand and catalyse co-located industrial clusters. The country's load recovery therefore represents both an energy challenge and a growth opportunity: there are no income-rich, energy-poor economies, and capturing digital and industrial load can directly accelerate productivity, investment, and employment.



⁸ datacenterHawk; GlobalData; Industry interviews

Figure 7: Cumulative power demand of data centres in South Africa (in GW)⁹*Implications for South Africa*

South Africa's ability to capture emerging demand hinges on making a limited number of power-ready precincts investment-ready, with clear grid capacity, standardised approvals, and credible connection timelines. Delivering clean, firm electricity through a mix of renewables, storage, and flexible gas will be essential to anchor data-centre, industrial, and hydrogen users that value reliability over low tariffs alone.

Predictable, long-term contracting frameworks, such as power-purchase and wheeling arrangements, must provide price certainty and enable large private investments in high-load, co-located projects. Promoting co-location between data centres, electrolyzers, and manufacturing facilities can optimise grid reinforcements and turn surplus renewables into competitive hydrogen. Above all, delivery speed will be South Africa's differentiator: transparent reporting on site readiness and interconnection progress can build investor confidence and shorten decision cycles. Parallel investment in local technical capabilities, particularly in electrical, cooling, and EPC services, will ensure that new build programmes generate domestic value and skills development alongside power-system growth.

Trend 2: Protect affordability and universal access for households and SMMEs*Global Trend*

Across the world, governments are balancing the goals of energy security, decarbonisation, and affordability. Since 2020, household electricity prices have risen sharply, by around a third in advanced economies, driven by higher fuel costs, supply-chain pressures, and carbon-pricing adjustments. To protect vulnerable users, many countries have adopted targeted subsidies, social-block tariffs, and lifeline rates, ensuring that essential consumption remains affordable while cost-recovery is maintained for higher-use categories.

⁹ Source: Africa's Key Data Centre Markets; TDP 2025-2034

Universal access to electricity remains a global priority. More than 600 million people, the majority in Sub-Saharan Africa, still lack reliable electricity connections. The experience of peer countries shows that combining tariff protection with sustained investment in grid and off-grid solutions is essential to achieving inclusive access.

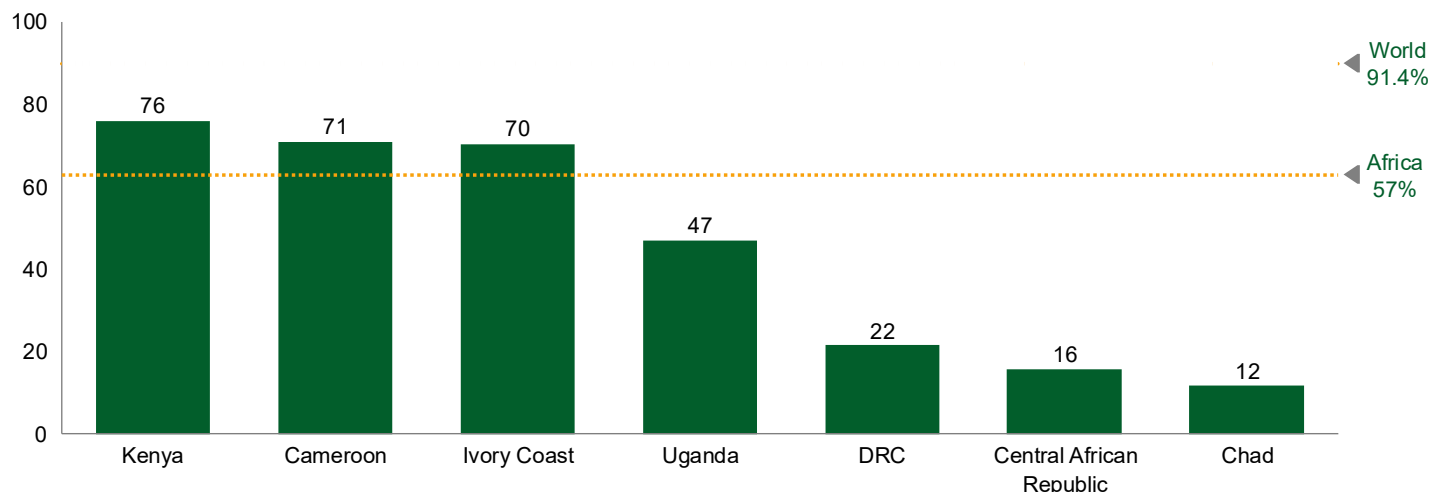


Figure 8: Electrification rate, 2022 (in %)¹⁰

Local Trend

South Africa's affordability and access challenges mirror these international patterns. Roughly 1.6 million households remain unconnected to the national grid. Meeting the universal-access goal by 2030 requires about 100 000 new on-grid and 15 000 off-grid connections each year. At the same time, rising tariffs, non-payment, and fuel-switching¹¹ continue to place pressure on households and small enterprises.

Government is advancing several interventions to strengthen financial sustainability and protect low-income users:

- Digitised distribution and telemetry to reduce losses and improve revenue stability,
- Verified lifeline and social-tariff blocks linked to metered consumption data, and

¹⁰ IEA, WEO 2023, Press search. Excludes South Africa

¹¹ Fuel-switching occurs when customers change their main energy source away from grid electricity because of price or reliability pressures. It erodes municipal/Eskom sales, can raise health/safety risks (paraffin/biomass), and shifts the load profile (daytime demand drops; evening peaks sharpen)

- Transparent, multi-year tariff paths to align cost recovery with protection for vulnerable consumers. Household electricity expenditure already exceeds 10 percent of disposable income for many low-income users, reinforcing the need for predictable, equitable pricing. These measures are supported by ongoing grid-extension and mini-grid programmes that expand access in under-served areas.

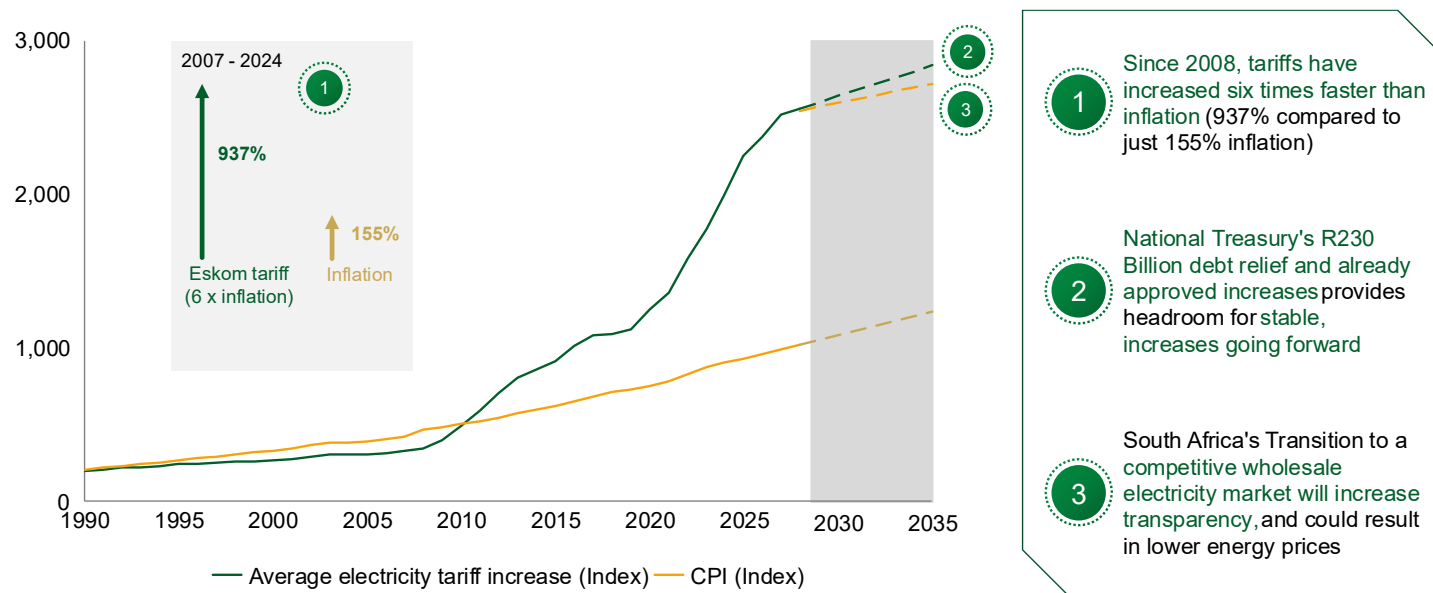


Figure 9: Electricity tariffs vs CPI in South Africa since 1990 (index relative to 1990, in %)¹²

Implications for South Africa

“Smart grid technologies help municipalities protect existing revenue and optimise overall revenue collection from their existing bases.” — Minister Enoch Godongwana, Budget Vote 2024/25

To maintain fiscal balance while safeguarding vulnerable consumers, South Africa must translate affordability goals into clear, measurable tariff actions. There is potential to explore smart-metering, i.e., meter-verified lifeline and social-block tariffs adjusted based on data to automate subsidy eligibility and reduce leakage, and introducing time-of-use pricing for higher consumption tiers. At the same time, predictable, multi-year tariff paths provide both

¹² SU Centre for Renewable and Sustainable Energy Studies, Enerdata, Eskom Schedule of Standard Prices 2025-2026; Eskom Annual Report (2024)

Department of Electricity and Energy: Strategic Plan 2025-2030.

consumer and investor-level confidence, with broader economic benefit. Achieving universal access by 2030 will require closer coordination between national and municipal distributors to accelerate both grid and high-quality off-grid connections, ensuring that the final unserved households are reached while revenue collection and technical performance are improved.

Trend 3: Low-cost renewables anchor new build and drive supply decarbonisation forward

Global trend

Renewable energy has become the principal source of new electricity generation worldwide. Continuous cost reductions in solar and wind technologies, driven by manufacturing scale, innovation, and supportive policy environments, have made renewables the most affordable option for new capacity in nearly all regions. The levelised cost of solar power has fallen by more than 80 percent since 2010, while onshore wind costs are about half those of new coal generation.

As renewable shares grow, power systems are increasingly investing in flexibility (i.e., battery storage, demand-response mechanisms, and fast-ramping generation) to maintain grid stability. Countries are coupling renewable expansion with large-scale transmission upgrades and flexible system services to ensure reliability as they decarbonise their electricity supply.

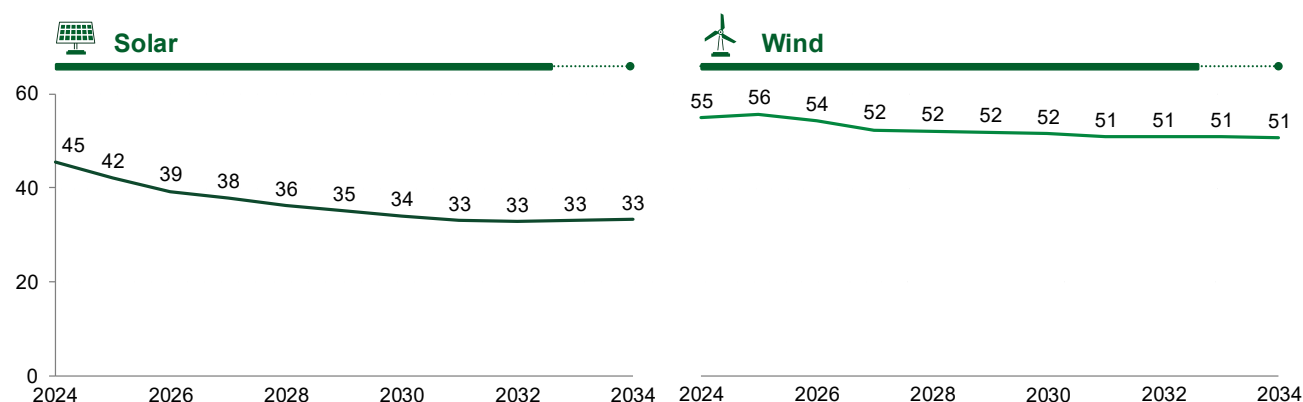


Figure 10: Levelised cost of electricity, solar and wind, 2024 - 2034¹³ (in USD/MWh)

Local trend

In South Africa, renewables have become the anchor of new-build generation. More than 85 percent of capacity added in 2023 came from wind and solar projects, and current planning scenarios indicate up to 30 GW of additional renewable capacity could be installed by 2034. The Northern, Western and Eastern Cape provinces account for over half of the country's permitted and advanced project pipeline, reflecting excellent resource quality but also highlighting the urgent need for expanded transmission infrastructure.

¹³ Energy Council Energy Transition Roadmap Power Sector Model, Lazard LCOE v16.0 and v15.0; IEA; IRENA; NREL

If these investments proceed as planned, renewables could reduce the variable cost of generation by about USD 8 per MWh by 2035, while cutting the overall emissions intensity of the power system. Achieving this outcome will require around 12 – 14 GW of new storage capacity and enhanced grid-stability services such as synchronous condensers and fast-start units to balance variability and avoid curtailment.

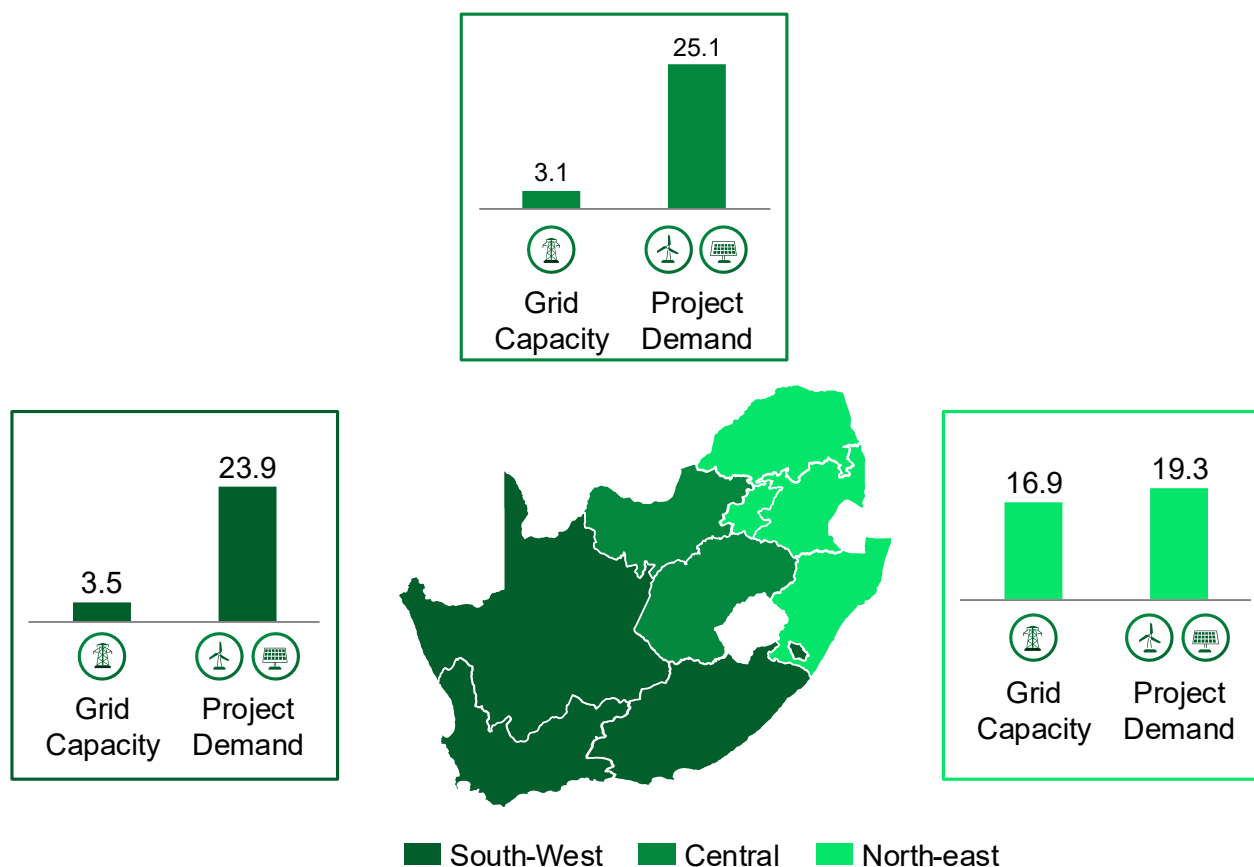


Figure 11: Grid connection capacity available and project demand as of 2025 (in GW of grid connection capacity and potential projects, respectively)¹⁴

Implications for South Africa

South Africa's transition pathway depends on treating transmission as the central enabler of least-cost generation. The country should accelerate the development of high-capacity corridors and substations in renewable-rich provinces, while pairing new solar and wind build-outs with battery storage and system-strength investments to mitigate curtailment and stabilise the grid. Transparent and predictable procurement schedules, combined with bankable wheeling and long-term power-purchase frameworks, will help crowd in private capital at scale and maintain the trajectory of declining system costs. By ensuring that infrastructure, regulation, and private investment are sequenced effectively, South Africa can expand renewable supply without compromising affordability or reliability.

¹⁴ Eskom Renewable Energy Connection Survey; Eskom 2025 GCCA

Trend 4: Flexibility is now a system requirement – adding flexible capacity and transition fuels¹⁵ to firm renewable generation

Global trend

As renewable energy becomes the main source of new generation worldwide, electricity systems are evolving to place a premium on flexibility. International experience shows that once variable renewable energy (VRE) reaches around 30 percent of annual generation, additional investments in battery storage, flexible thermal capacity, and grid-balancing services are essential to maintain reliability.

Globally, utility-scale battery installations are projected to exceed 250 GW by 2030, supported by fast-ramping gas and hybrid system's that can respond within minutes to fluctuations in renewable output. These flexible technologies provide the “firming” capacity that enables higher renewable penetration without compromising stability or affordability.

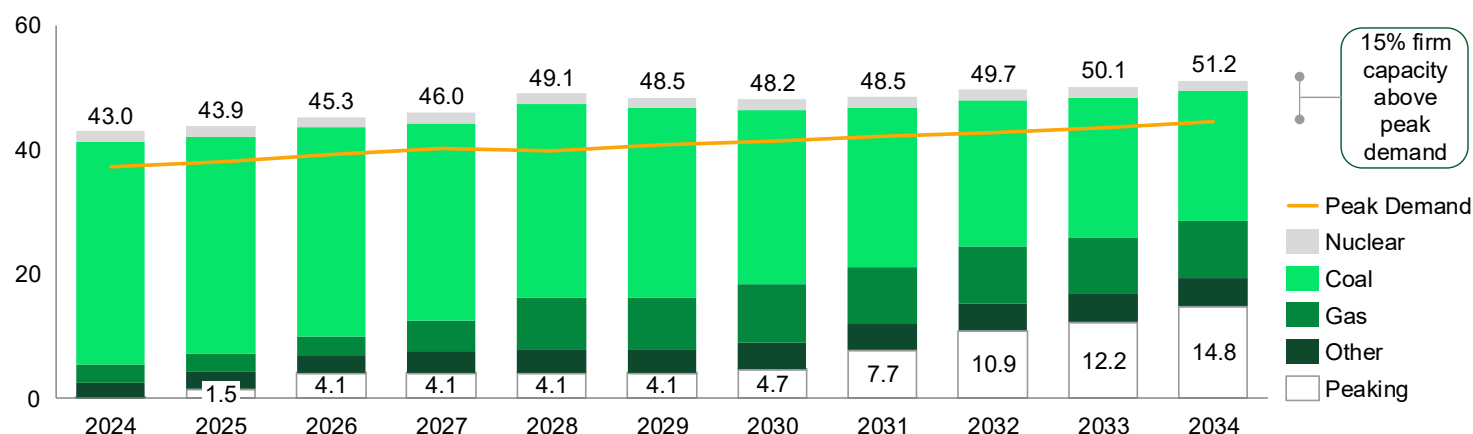


Figure 12: Firm capacity and peak demand, 2024 – 2034 (in GW)¹⁶

Local trend

¹⁵ Transition fuels refers to LNG, which can provide dispatchable supply during periods of low renewable generation while long-duration storage and demand-side responses can scale up

¹⁶ Energy Council Energy Transition Roadmap Power Sector Model

Department of Electricity and Energy: Strategic Plan 2025-2030.

South Africa's transition to a cleaner power system depends on adding significant flexible capacity alongside the rapid expansion of renewables. By 2034, approximately 14 GW of gas-to-power and 4 GW of battery storage are expected to support around 20 GW of new renewable capacity. Flexibility services, such as synchronous condensers, ancillary-service markets, and fast-start open-cycle turbines, will be vital to maintaining system strength and managing variability.

Liquefied natural gas (LNG) is being positioned as a transition fuel, providing dispatchable supply during periods of low renewable generation while long-duration storage and demand-side response scale up. This approach, reflected in national planning scenarios, allows for diversification of supply and progressive decarbonisation of baseload operations.

To realise this role, South Africa must de-risk LNG infrastructure, establish clear pricing and offtake frameworks, and standardise contracting structures to attract investment in flexible capacity. These actions will safeguard reliability and affordability during the transition to a predominantly renewable energy mix.

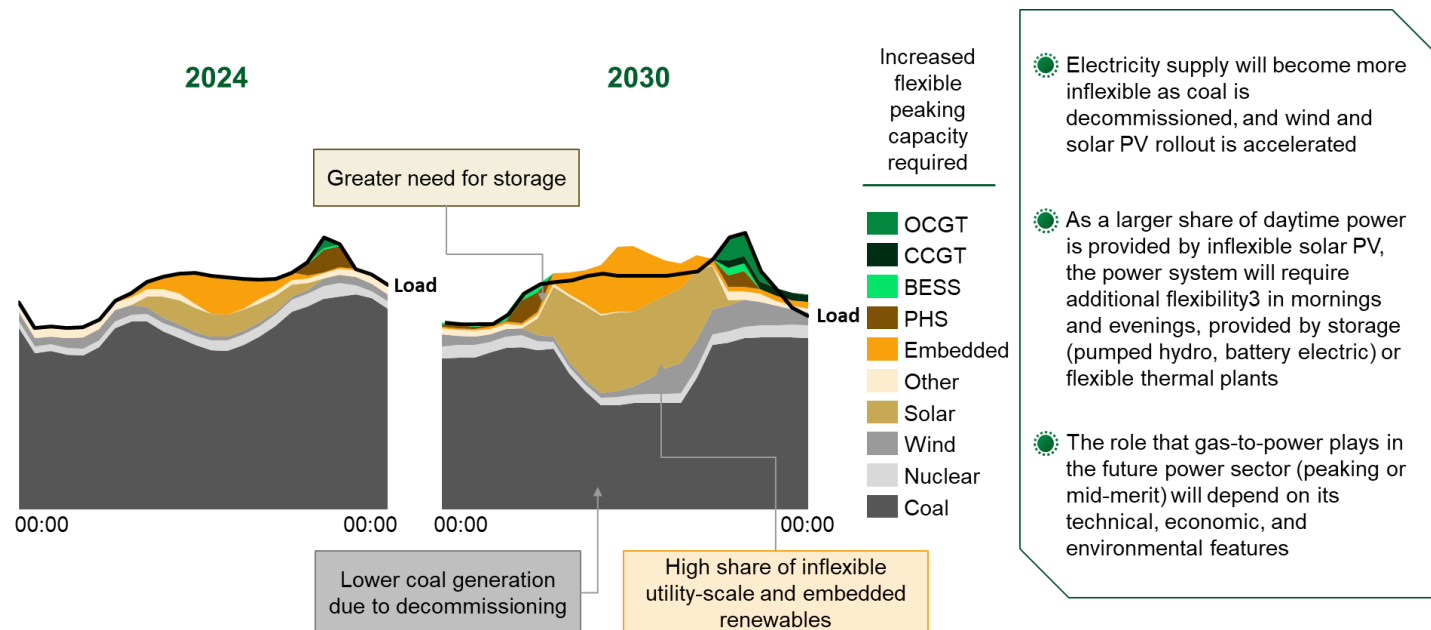


Figure 13: Illustrative energy demand modelled for a day in 2024 vs a day in 2030 highlighting the ability of gas-to-power to ramp-up and down generation quickly to meet load profile¹⁷

Implications for South Africa

A flexibility-first and time-bound gas strategy is critical for balancing South Africa's evolving power mix. Gas-to-power should be introduced in stages to provide firm capacity during the renewable build-out, with utilisation governed by system needs rather than baseload assumptions. Procurement mechanisms should prioritise capacity and stability to ensure that gas plants operate when they add grid value, rather than continuously. In parallel, South Africa should pursue cost-competitive LNG logistics, leveraging shared regasification and aggregation to reduce price exposure. Grid expansion on the Coega and Richards Bay corridors must be planned in lockstep with these investments to prevent stranded assets, while ensuring that the system can progressively transition toward storage, demand-side flexibility, and lower-carbon alternatives.

¹⁷ Energy Council Energy Transition Roadmap Power Sector Model

Trend 5: Uranium enrichment as a springboard for nuclear generation

Global Trend

Nuclear is re-emerging internationally as a low-carbon, long-duration firm supply option that complements renewables and gas. Many countries are extending the life of existing fleets, advancing small modular reactors (SMRs), and rebuilding parts of the fuel cycle (i.e., conversion, enrichment, and fabrication) to reduce import exposure. New designs emphasise modularity and shorter construction periods, which lower execution risk and upfront capital. These developments suggest a targeted, strategic role for nuclear in meeting mid-century net-zero goals, particularly where firm power and industrial value chains are priorities.

Local Trend

South Africa has a natural advantage through domestic uranium resources and an existing nuclear base at Koeberg. The Koeberg life-extension programme is under way, while options for ~5.2 GW of new build are being assessed for the mid-2030s (as per IRP 2025). In parallel, additional work is exploring the re-establishment of key fuel-cycle elements, specifically:

- Conversion and enrichment capacity to process locally mined uranium,
- Fuel fabrication for future units, and
- Interim and long-term spent fuel storage to support operational continuity.

The IRP 2025 is developing a case for new nuclear generation capacity. Global trends demonstrate that nuclear technologies provide reliable baseload power whilst complementing intermittent renewable energy generation and energy storage.

From 2035 onwards, nuclear could contribute to system stability and diversification as coal units retire. South Africa must develop a Nuclear Industrialisation Plan outlining a roadmap towards a generation capacity quantum sufficient to achieve the development of a nuclear economy across the entire nuclear fuel cycle value chain. A case for ~10 GW of nuclear rests on the economic viability of re-establishing the nuclear fuel cycle, using nuclear for both power and industrial applications (non-power). Existing procurement, localisation and environmental frameworks provide a basis for progression. Additional feasibility, safeguards and financing studies are required to confirm technical and regulatory readiness.

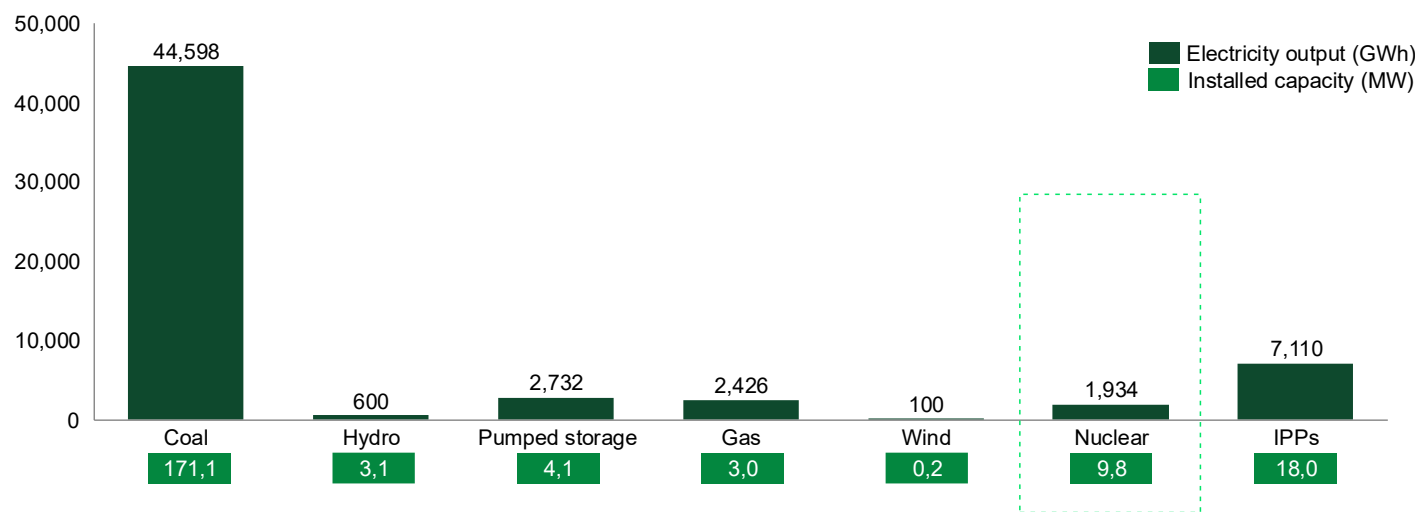


Figure 14: Eskom 2023 electricity output and installed capacity (in GWh electricity output and MW installed embedded generation capacity).
 Nuclear currently plays a small but reliable role in South Africa's generation mix, with ~2 GW of capacity and roughly 2 TWh of annual output, providing a stable carbon-free baseload supply¹⁸

Implications for South Africa

“South Africa must develop a Nuclear Industrialisation Plan outlining a roadmap towards a generation capacity quantum sufficient to achieve the development of nuclear economy across the entire nuclear fuel cycle value chain” - Minister Ramokgopa, Ministerial Briefing on IRP 2025

South Africa should maintain policy optionality on advanced nuclear technologies while focusing on readiness, safety, and capability development. Priority should be given to completing feasibility and regulatory assessments for small modular reactors (SMRs), identifying value-chain opportunities (such as isotope production and fuel services) where South Africa can build competitiveness, and establishing frameworks that ensure cost-effective, secure, and sustainable energy choices over the long term. Any future consideration of nuclear deployment should be contingent on technology maturity, affordability, and clear industrial and localisation value.

¹⁸ Eskom 2023 Annual Report

Trend 6: Localise energy supply chains to strengthen resilience and reduce geo-political risk

Global Trend

Energy systems have become more exposed to trade frictions and critical-mineral controls, which lengthen delivery times for grid equipment (transformers, conductors, switchgear) and key clean-energy components. Countries are responding with targeted localisation in predictable sub-components (towers, conductors, storage sub-systems) and with clear compliance rules in procurement. International practice shows that localisation works best when it focuses on segments with stable specifications, repeatable volumes and export potential, while avoiding across-the-board requirements that raise costs or delay projects.

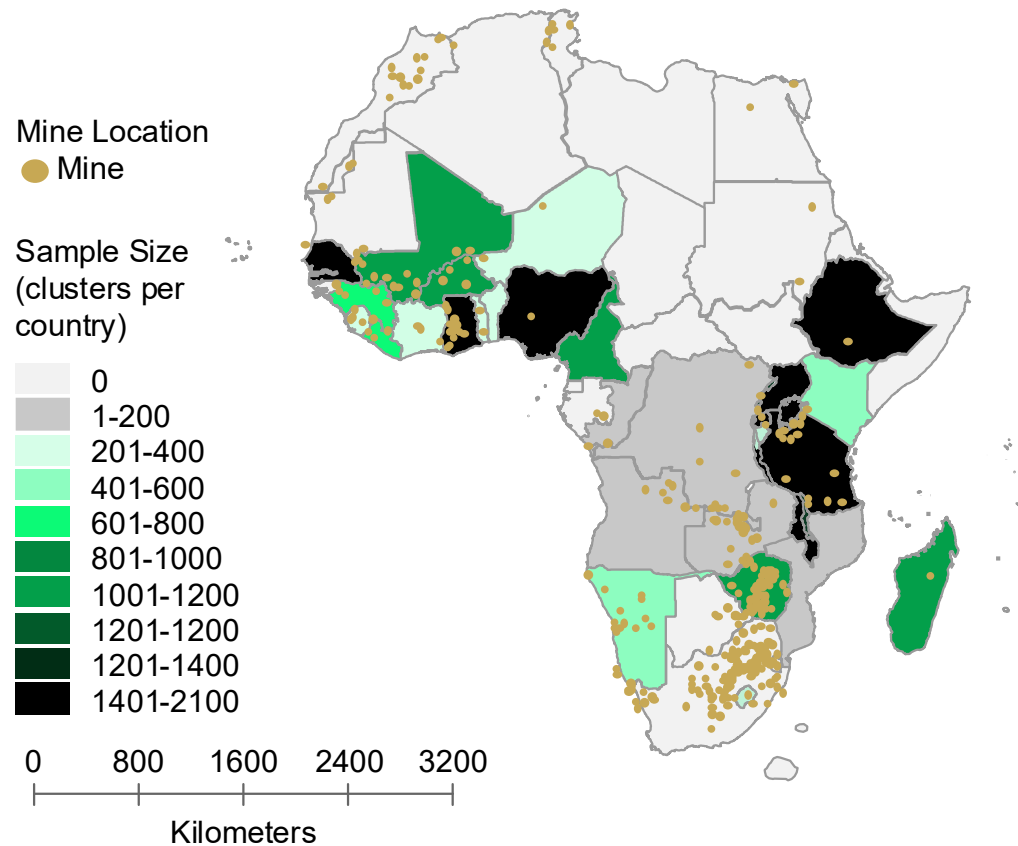
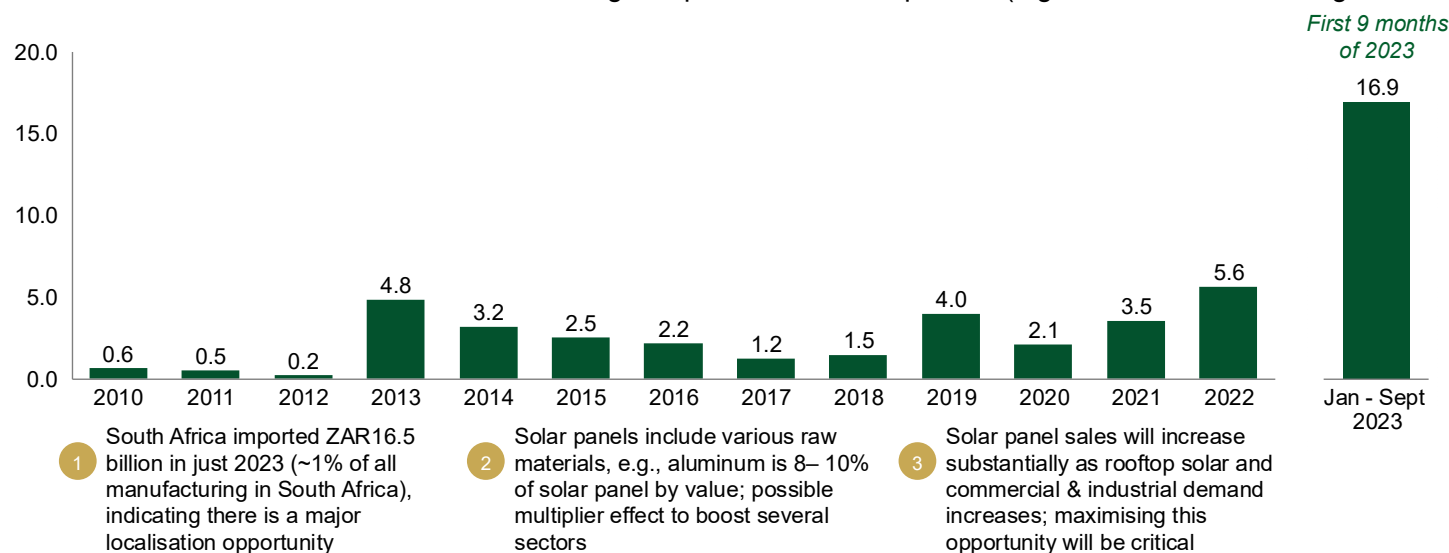


Figure 15: Vast resources of critical minerals are prevalent in Africa, especially in SADC¹⁹**Local Trend**

South Africa has already experienced delays from global shortages of transformers and conductors, underscoring the need to build reliable local capability where it makes economic sense. Localisation can both defend against import shocks and create jobs, but it must be selective and economics-led. Blanket local-content rules risk making SA producers uncompetitive (e.g., ferrochrome smelting economics vs ore export premia). The policy



direction is to codify localisation in energy tenders with measurable thresholds and enforcement, prioritise predictable components (towers, conductors, storage sub-assemblies), and sequence industrial ramp-up with grid and renewables pipelines so factories have steady demand. Publishing value-chain cost curves and “build vs buy” tests will keep decisions transparent and ensure competitiveness.

Figure 16: Solar panel cells & modules imports into SA, 2010 – 2022 and September 2023 (in ZAR bn)²⁰**Implications for South Africa**

South Africa should pursue a selective and data-driven localisation strategy that focuses on components with predictable demand, cost-competitive pathways, and export potential. Policymakers should publish value-chain maps and total-economic-value tests that quantify trade-offs between local

¹⁹ World Bank²⁰ Montmasson-Clair, based on data from TradeMap and Quantec

beneficiation and export revenue, ensuring transparency in where localisation adds net value. Industrial build-up should be carefully synchronised with grid and renewables procurement schedules so that new factories have sustained order books, while tender frameworks should include verification and penalties for non-compliance. Finally, to support competitiveness²¹, government should invest in standards, working-capital support, and technical-skills partnerships, enabling local producers to achieve international quality and scale without inflating system costs.

²¹ In this document, competitiveness means shifting from a single, vertically integrated utility to a legally unbundled, multi-market model in which generation and supply compete under transparent rules, while transmission remains a regulated monopoly, i.e., market opening, not privatisation of the grid

Trend 7: Manage persistent market volatility to safeguard affordability for consumers and SMMEs

Global trend

Electricity markets have become more price-volatile. Two forces drive this:

- Fuel and FX shocks (notably gas and oil) that pass through to power prices; and
- Higher renewable shares on constrained grids, which increase intraday swings when flexibility is insufficient.

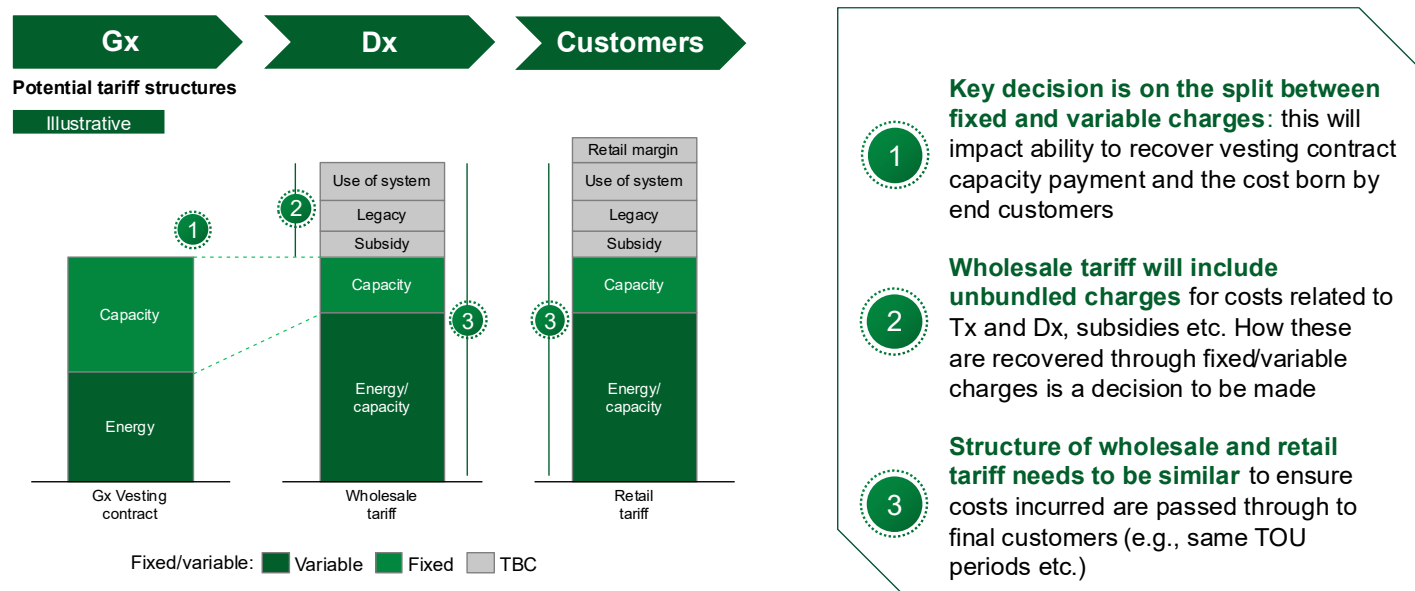
International experience shows four levers consistently reduce volatility and protect end-users: (i) flexibility (storage and fast-ramping capacity); (ii) interconnection and trade; (iii) risk-management/hedging and long-term contracts; and (iv) transparent market rules that enable these tools.

Local Trend

Beyond physical flexibility, the way wholesale costs are translated into retail tariffs will determine how volatility reaches households and SMMEs during market opening. Analysis indicates the wholesale tariff needs to unbundle use-of-system, legacy/vesting settlements and energy/capacity charges, and the retail tariff should mirror that structure (including the same time-of-use periods) so costs are passed through predictably and hedges can protect end-users.

The fixed-versus-variable split is pivotal: a higher fixed component helps stabilise monthly bills and recover vesting-contract capacity payments, while the variable component transmits real-time signals without excessive bill shock. This alignment of wholesale and retail design, alongside CfD-style vesting contracts, creates room for hedging and long-term contracting to shield customers from fuel/FX spikes as flexible resources are added. In parallel, modelling still shows the system will need additional dispatchable and storage capacity as renewables scale reinforcing that tariff design and flexibility procurement must be coordinated to damp volatility.

Figure 17: Illustrative design of potential tariff structures²²



Implications for South Africa

A dynamic integrated strategy to stabilise wholesale prices and protect end-users as volatility rises is key. On the supply side, sequencing storage and fast-ramping gas capacity will provide the flexibility needed to manage intraday swings, while enabling hedging and long-term contracting frameworks will shield municipalities, SMMEs, and industrial users from short-term price shocks. The ongoing Energy Pricing Policy review is essential to ensure that affordability measures, such as lifeline and social-block tariffs, time-of-use pricing, and data-verified eligibility, coexist with sound cost recovery to preserve utility solvency. Finally, transparent disclosure of fuel and FX pass-through parameters, curtailment data, and risk-management guidelines will

²² Draft Market Code

Department of Electricity and Energy: Strategic Plan 2025-2030.

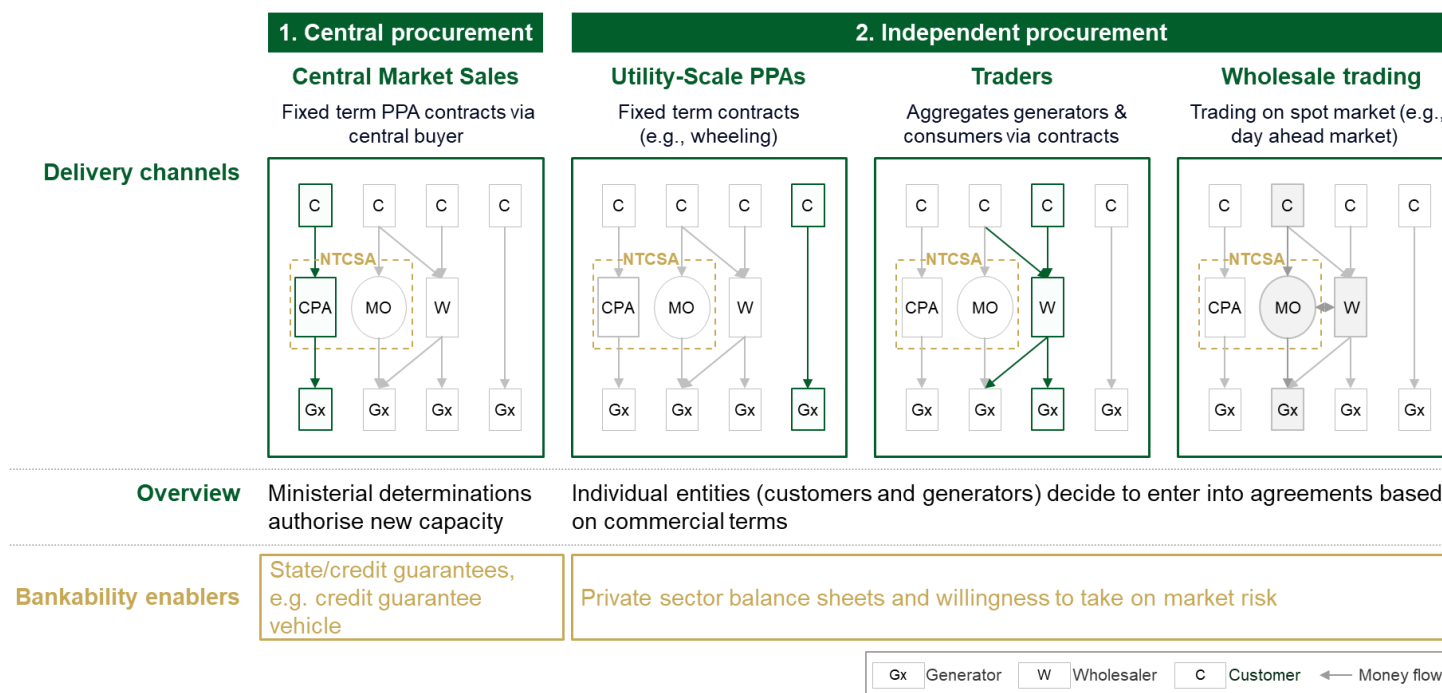
help large consumers and municipalities plan exposure. Coordinated action between DEE, the future TSO, and the market operator to align flexibility procurement, import programmes, and market rules can reduce volatility without deterring much-needed investment.

Trend 8: Mobilise innovative private finance to scale investment for the transition

Global Trend

Power systems worldwide face a step-up in investment needs to replace ageing assets, expand grids, and integrate renewables and flexibility. Public budgets alone are insufficient, so countries are mobilising private capital at scale using blended-finance instruments (guarantees, first-loss facilities, green bonds), streamlined approvals, and pipeline transparency. Where governments publish credible project pipelines, standardise risk allocation, and shorten permitting to months rather than years, private participation rises and the cost of capital falls.

Figure 18: Two routes for new capacity to come online in South Africa's multimarket model, with different bankability enablers²³



²³ Source: Eskom & SAGEN – The South African Electricity Market

Local Trend

South Africa's energy transition will require multi-trillion-rand investment over the next decade in transmission infrastructure, flexible generation, storage, and distribution modernisation. Public resources alone cannot meet this scale, making private investment essential to maintain momentum and affordability. However, several constraints limit mobilisation: lengthy approval processes, uncertainty over grid access and curtailment risk, and a lack of visibility on shovel-ready projects.

Ongoing reforms (i.e., modernised public-private partnership (PPP) and independent transmission project (ITP) frameworks, the development of an investor playbook, and efforts to publish node-based project pipelines) are positive steps. The next phase must focus on converting these reforms into bankable transactions through standardised documentation, transparent risk allocation, and predictable procurement cycles.

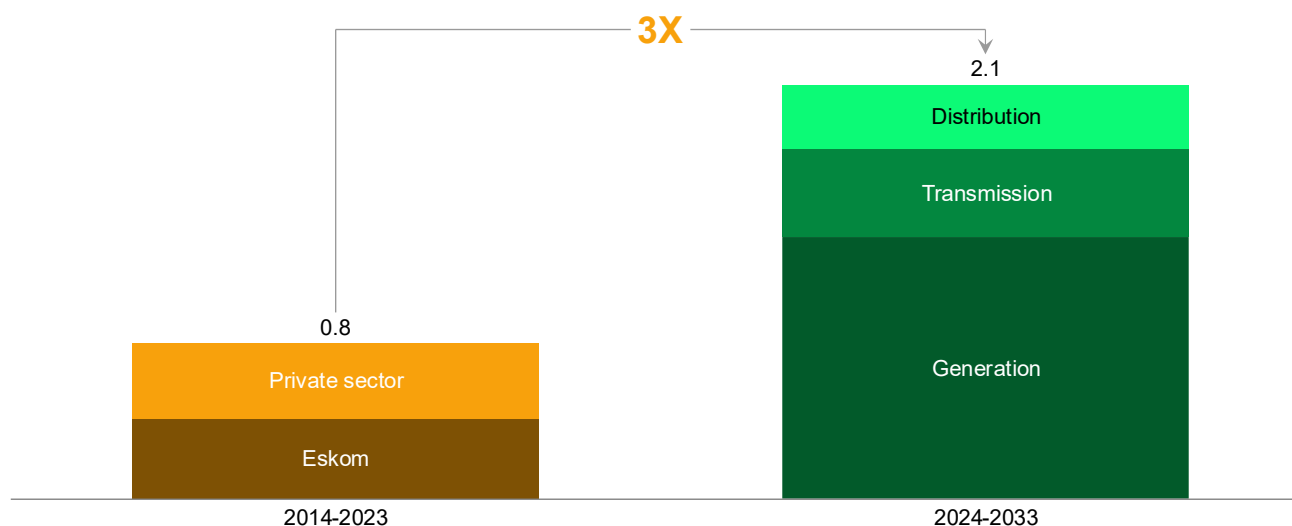


Figure 19: Total power sector investment in South Africa (ZAR Tn)²⁴

Implications for South Africa

²⁴ Source: Eskom Integrated Report 2014-2023; JET IP; TDP 2024; BUSA/BLSA

South Africa should adopt a coherent, country-wide investment-mobilisation framework that makes the power sector predictable, transparent, and investable. This includes publishing a credible, time-bound pipeline for transmission, storage, and system-strength projects (grouped by nodes and corridors) with clear queue-management rules, grid-access capacity, and a forward procurement calendar so investors can plan capital deployment with confidence.

“South Africa requires upwards of R440 billion in the next 10 years to expand its transmission infrastructure ... The Eskom balance sheet is not sufficient ... it is important to find bespoke financing instruments to make this possible.” — Minister Ramokgopa, Africa Energy Indaba

To translate intent into bankable deals, standardised guidance should be issued and applied across programmes. It would set out contract templates and risk-allocation rules (including curtailment compensation, capacity and ancillary-service remuneration, fuel/FX pass-through where appropriate, and revenue-certainty mechanisms), along with a single-window approval process that compresses permitting to months, with service-level targets and public reporting of turnaround times.

Blended-finance instruments should be scaled (e.g., credit guarantees, first-loss facilities, liquidity backstops, green bonds, and securitisations) in partnership with domestic institutional investors and development-finance partners, to de-risk early-stage and system-enabling investments (notably grid, storage, and flexibility). Within this framework, modern PPP and Independent Transmission Project models can crowd in private delivery while retaining public oversight of strategic grid assets. An annually updated investor playbook covering standards, performance metrics, connection and curtailment data, and procurement timelines will provide continuity, reduce uncertainty, and lower the cost of capital for South Africa’s transition pipeline.

Trend 9: Develop and retain critical grid, digital and market operations skills

Global Trend

Modern power systems increasingly depend on specialised technical, digital, and market operation skills. As systems decarbonise and digitise, demand is rising for expertise in grid automation, cybersecurity, demand forecasting, flexibility management, and real-time market operations. Countries leading in system reform have invested heavily in digital training academies, utility–university partnerships, and centres of excellence to maintain these skills domestically. Workforce strategies now integrate retraining and mobility programmes to help technical staff adapt from conventional generation to new technologies such as battery storage, distributed resources, and advanced control systems.

Local Trend

South Africa's energy transition is equally skills-intensive. The success of transmission expansion, grid modernisation, and new market operations depends on a workforce proficient in planning, digital systems, and operational analytics. Current shortages exist in grid automation, system-strength management, cybersecurity, renewable integration, and market-operations roles.

The Just Energy Transition Implementation Plan sets a national framework for developing these capabilities, while the DEE Strategic Plan (2025–2030) and APP (2025/26) identify skills partnerships as critical enablers of reform. Ongoing initiatives, such as structured recruitment pipelines, secondments between utilities, system operators, and the private sector, and partnerships with higher-education institutions, are beginning to address these gaps.

To ensure sustainability, skills programmes should be explicitly linked to project pipelines, particularly the Transmission Development Plan (TDP), renewable and flexibility procurements, and system-operation reforms. Retention mechanisms are equally important: career pathways, performance incentives, and digital-learning platforms are needed to preserve institutional knowledge and prevent critical attrition.

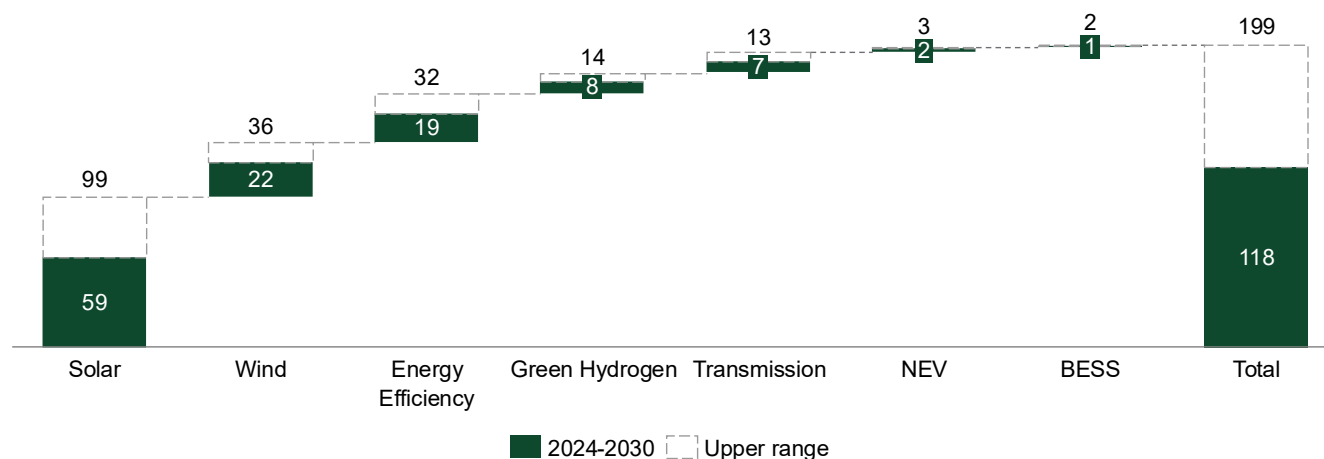


Figure 20: Gross jobs across sectors at for “Horizon 2024-2030”, based on the 2024 project pipeline (thousands)²⁵

Implications for South Africa

South Africa should treat energy skills as a national strategic asset by establishing a country-wide energy-skills observatory that forecasts demand, aligns qualifications and curricula with evolving system needs, and reports annually on gaps. Training and placement must be pipeline-linked: apprenticeships, bursaries, and re-skilling programmes should be tied to the Transmission Development Plan, renewable and flexibility procurements, and new market-operations roles (system strength, automation, cybersecurity, real-time operations).

Delivery capacity should be scaled through centres of excellence and utility–university–industry partnerships, complemented by structured secondments between utilities, the future system operator, municipalities, and private developers to accelerate knowledge transfer.

To retain scarce skills, South Africa should implement clear career pathways, professional certification and CPD requirements, performance-based incentives, and digital learning platforms, with targeted measures for critical functions and regions. A unified, JET-aligned skills strategy, monitored through transparent metrics on recruitment, training throughput, and retention, will build the institutional capability needed to expand the grid, integrate renewables, and operate modern markets while creating high-quality technical and digital jobs.

²⁵ *Powering Futures: The Green Skilling Opportunity – NBI & BCG*

Trend 10: Transmission roll-out and modernisation as system enablers (and bottlenecks)

Global trend

Grid infrastructure is emerging as the critical bottleneck and enabler of power-sector transformation worldwide. As renewable capacity expands faster than transmission, many countries face congestion, curtailment, and connection delays that stall decarbonisation and investment. Globally, transmission capacity must double by 2040 to accommodate electrification, renewable integration, and new demand nodes such as data centres and electric vehicles.

Modernisation efforts now focus on expanding corridors, deploying digital grid management systems, and integrating storage and distributed generation to improve resilience. Policy approaches increasingly combine accelerated permitting, public–private delivery models, and strategic corridor planning to unlock high-resource regions and reduce bottlenecks to new generation.

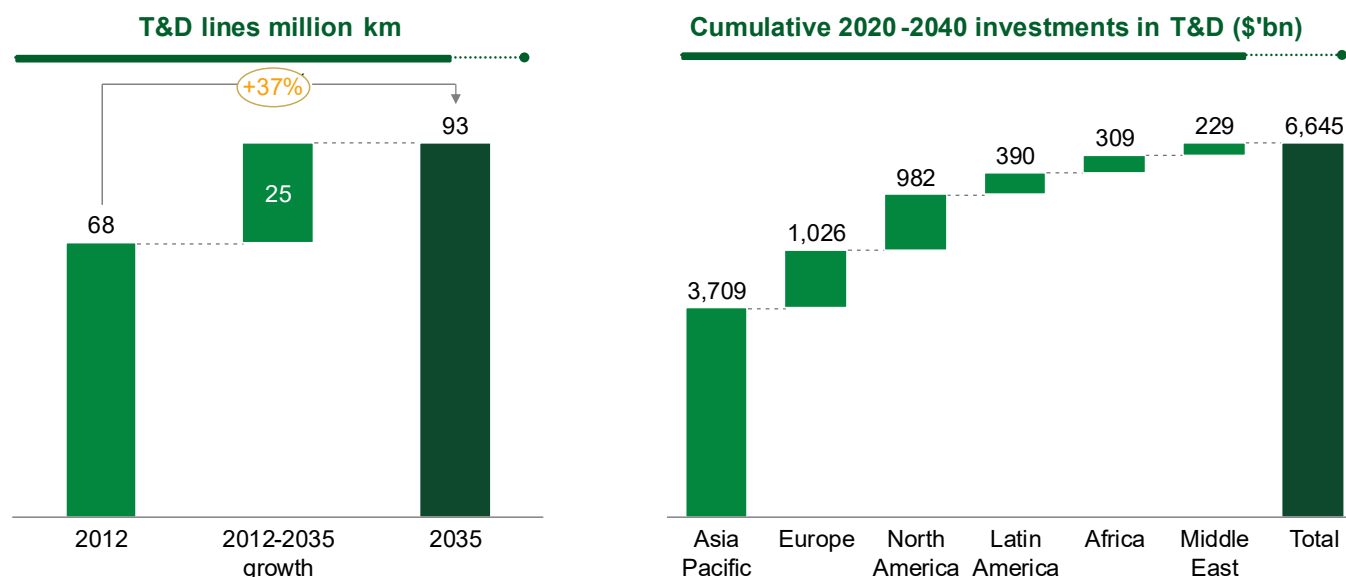


Figure 21: Transmission and distribution lines (million km) and cumulative investments expected (\$ billion)²⁶

Local Trend

²⁶ IEA

Transmission is now recognised as the binding constraint to South Africa's energy transition. The Transmission Development Plan (2025–2034) identifies the need for approximately 14 500 km of new transmission lines and 133 GVA of transformer capacity to connect renewable projects and maintain system stability. Most of this expansion is required in the Northern, Western, and Eastern Cape, where renewable potential is highest but grid capacity is most limited.

These requirements coincide with increasing demand-node diversification around industrial corridors, urban centres, and data hubs, highlighting the need for integrated spatial energy planning. Institutional and delivery challenges (i.e., servitude acquisition, permitting delays, and limited OEM and EPC capacity) have slowed rollout to well below the targeted pace.

New policy directions propose private capital participation through Independent Transmission Projects (ITPs), modern project-management frameworks, and the institutionalisation of delivery compacts between DEE, the NTCSA, Eskom Transmission, and municipalities. These measures aim to accelerate implementation while ensuring oversight and alignment with the national grid plan.

A key structural challenge facing South Africa's electricity and energy system is the aging condition of core infrastructure across the generation, transmission, and distribution networks. Much of the national transmission grid and municipal distribution infrastructure is more than 40 years old, while parts of Eskom's generation fleet were commissioned in the 1970s and 1980s. This has led to reliability risks, increased maintenance costs, and technical losses that affect supply stability and grid performance.

Implications for South Africa

Build-out and modernisation of the grid needs to be treated as a priority national programme, translated into clear delivery targets: for example, align TDP milestones with secured capital, fast-track land and permitting through time-bound service levels, and expand OEM/EPC capacity so corridors in the Northern, Western and Eastern Cape come online on schedule. At a system level, prioritise a corridor approach that bundles lines, substations, and system-strength equipment, and pair new links with digital grid management and storage integration to cut curtailment and improve resilience.

To mobilise scale, adopt standardised planning, contracting, and grid-connection processes (including transparent queue positions, curtailment rules, and interconnection timelines) and publish a public dashboard tracking progress by corridor. Enable private participation via Independent Transmission Projects and blended-finance structures while retaining public oversight of strategic assets and common standards. Finally, coordinate spatial energy planning with emerging demand nodes (industrial corridors, metros, data hubs) so grid investments unlock least-cost generation, reduce congestion risk, and support both reliability and economic growth.

To inform long-term planning, DEE will commission a comprehensive study on aging infrastructure across the electricity value chain. The study will assess the physical condition, refurbishment needs, and replacement timelines of key assets, and will quantify the cost and investment implications for the next decade. Its findings will feed into the Transmission Development Plan (TDP), the Integrated Resource Plan (IRP) update, and the Department's infrastructure-investment strategy, providing a data-driven foundation for prioritising rehabilitation, modernisation, and maintenance programmes.

The study will also consider municipal distribution networks, where underinvestment has created service-delivery risks and constrained new customer connections. By establishing an accurate baseline of infrastructure condition and investment needs, the Department will strengthen planning, enable targeted interventions, and support sustainable grid and distribution resilience as part of the broader energy-security agenda.

Trend 11: Building national climate-resilient and opportunity-ready energy systems

Global trend

Climate change is reshaping energy systems. Global greenhouse-gas emissions continue to rise, driving higher temperatures and intensifying physical risks to infrastructure and supply chains. Electricity is a central lever: the power sector accounts for roughly 30% of global emissions, and limiting warming requires an accelerated shift to low-carbon supply and efficiency across the economy. Current policies still track above a 1.5 °C pathway, underscoring the need for faster decarbonisation and resilience investment. At the same time, emerging markets face a large adaptation and resilience financing gap and a higher cost of capital, which slows project delivery unless risk is reduced and concessional finance is mobilised.

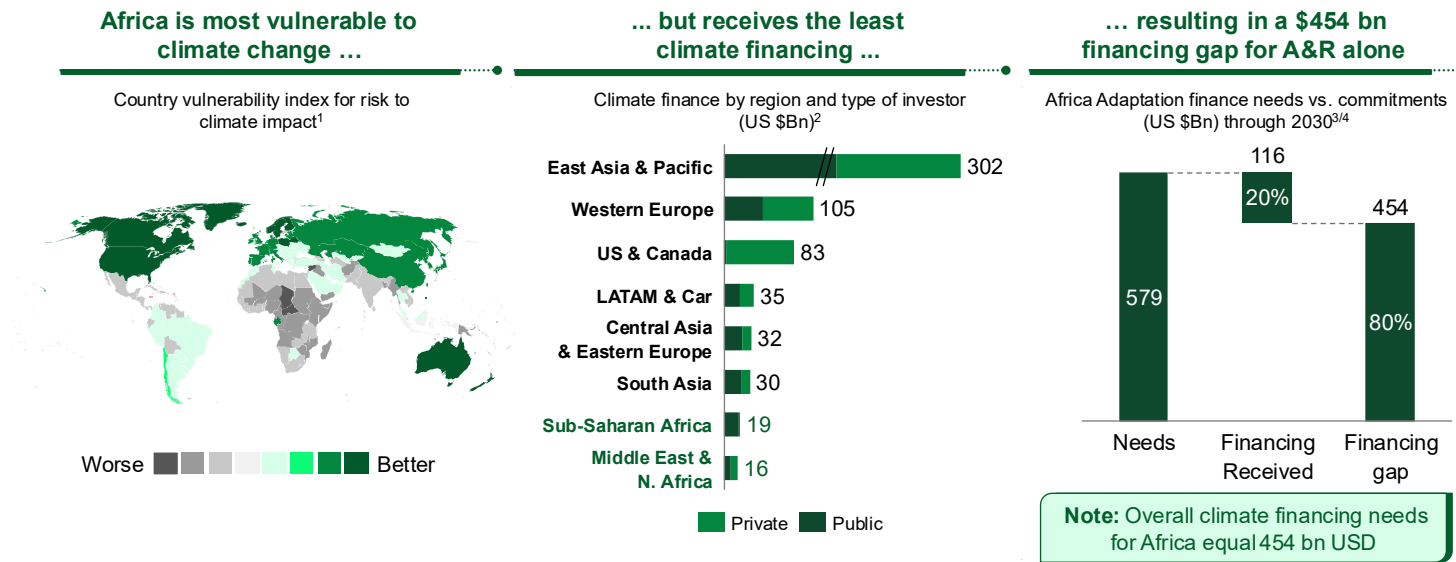


Figure 22: Africa is disproportionately affected by climate change and has a \$454 bn gap for adaptation and resilience (A&R)²⁷

Local trend

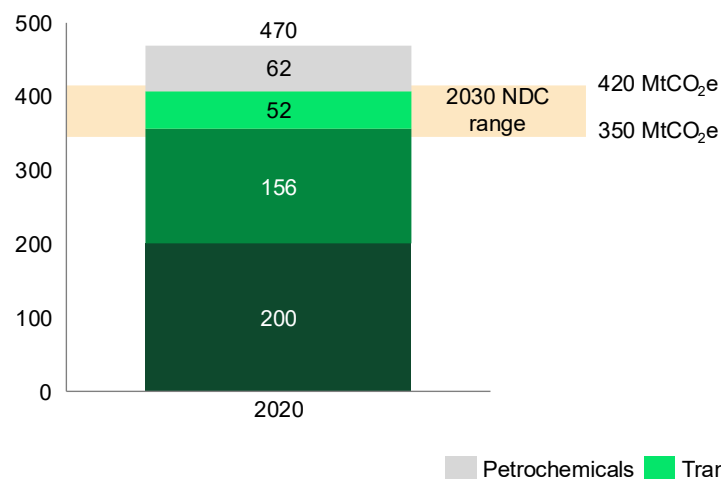
South Africa has made clear commitments to a lower-carbon economy. Achieving the 2030 NDC range (350–420 MtCO₂e) requires a substantial reduction in power-sector emissions from ~200 MtCO₂e in 2020 to around 110–180 MtCO₂e by 2030, with the power sector providing a large share of

²⁷ CAIT; Notre Dame University, Climate Watch; Climate Policy Initiative; Global Center on Adaptation

national abatement given its emissions intensity. Analysis indicates the NDC can be met alongside improved energy security when coal capacity and utilisation decline on schedule and least-cost renewables, system flexibility and grid investments scale. This pathway reduces exposure to carbon and trade risks while improving long-run affordability if transmission and firming capacity keep pace.

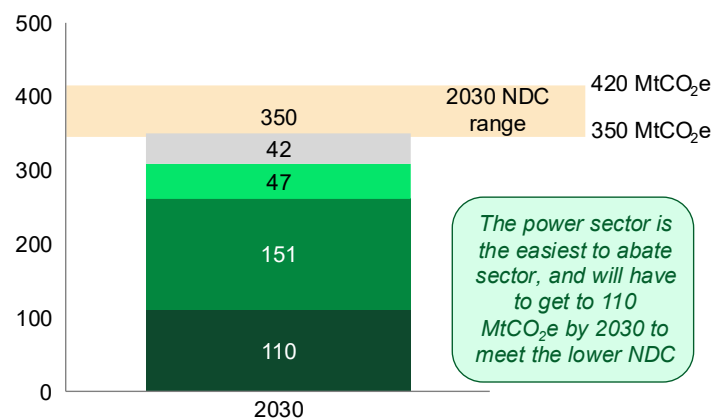
What were South Africa's total emissions in 2020?

Direct emissions excl nature-based sinks
(in MtCO₂e)



What will emissions from the power sector have to be to meet the lower NDC?

Direct emissions excl nature-based sinks
(in MtCO₂e)



The power sector is the easiest to abate sector, and will have to get to 110 MtCO₂e by 2030 to meet the lower NDC

Figure 23: The power sector will drive most of South Africa's emission reductions needed to meet the 2030 NDC²⁸

Implications for South Africa

Climate objectives need to be clearly built into core energy planning by aligning the IRP and TDP with the 2030 NDC range and sequencing decommissioning decline, least-cost renewables, flexibility, and grid expansion to maintain security of supply. System resilience must be elevated through mandatory climate-risk screening and design standards for new and existing assets, coordinated with disaster-risk agencies and municipalities to protect vulnerable corridors and communities.

To lower the cost of capital and close the adaptation and resilience financing gap, South Africa should scale blended-finance solutions (e.g., guarantees, first-loss, liquidity backstops) and publish a bankable pipeline for transmission, storage, and firming projects with clear risk-allocation rules.

²⁸ Presidential Climate Commission report on South Africa's NDC Targets for 2025 and 2030

Finally, transparent power-sector tracking through, e.g., annual publication of emissions, coal utilisation, renewable additions, and flexibility metrics, should guide course corrections and sustain investor and public confidence.

4.1.2. SWOT Analysis

	STRENGTHS	WEAKNESSES
Demand	- Strong demand for industrial PPA and wheeling arrangements - Expanding household electrification initiatives - Competitive positioning from critical minerals reserves (including 5% of global uranium reserves)	- Affordability concerns linked to global uncertainties - State revenue pressures due to increased private generation - Tariff trajectory uncertainty impacting investor confidence
Supply	- Significant natural endowment of renewable resources - Advancements in hybrid and storage technologies - Nuclear expertise and isotope leadership - Green hydrogen programme with near-FID projects (Coega, Prieska)	- Ageing coal fleet with performance challenges - Uncertain gas-to-power pathway - Slower pace of renewable energy integration relative to targets - Limited domestic manufacturing capacity creating import reliance
Market	- Market reform momentum (e.g., SAWEM, unbundling, learning from global best practice) - Proven REIPPPP delivery track record - Pioneering JETP mobilisation with \$13.8bn leveraged & \$3bn allocated - Visible and credible leadership through Minister and Deputy Ministers maintaining active and credible public engagements on market development	- Regulatory and policy uncertainty (IRP delays), information asymmetry - Limited depth of fin. markets for long-term PPAs - Governance challenges and procurement inefficiencies - Shortage of technical skills capacity to build/operate

	STRENGTHS	WEAKNESSES
Infrastructure	- SAPP regional trading hub anchor - Expanding grid upgrade and TDP pipeline	- Grid bottlenecks in renewables zones, curtailment risk - Municipal-level institutional and revenue model constraints

	OPPORTUNITIES	THREATS
Energy security	- Deliver TDP to unlock RE and stabilise supply - Strengthen regional interconnectors through SAPP - Global clean energy leadership through the G20 Presidency and the Energy Transition Working Group (ETWG) - Scale storage and flexible generation - Advance reform (SAWEM, ERAA, NTCSA) to boost efficiency	- Risk of intensified load shedding and grid instability - Uncertainty regarding the transition from coal, e.g., timing - Potential delays in grid build and connections - Delays in market reform could affect transition and capital flows
Energy access	- Broaden competition and tariff options through unbundling - Expand industrial wheeling and long-term PPAs - Support decentralised/off-grid solutions in weak municipal area - Revival of Pebble Bed Modular Reactor (PBMR) technology considering growing global interest in nuclear SMRs - Consolidate brand as credible national and regional energy authority through implementation of	- Rising tariffs, reduction of cross-subsidisation for vulnerable customers - Organised crime & sabotage compromising energy infrastructure - Municipal fragility affecting service delivery - Climate shocks and asset fragility can create resilience gaps - Possible capital flight if uncertainty persists

	OPPORTUNITIES	THREATS
	stakeholder and comms strategy currently under development	
Job creation	• Develop new industries (data centres, EVs, batteries) • Localise manufacturing components in RE and storage • Mobilise jobs through REIPPPP, transmission and distribution build • Leverage uranium value chain and isotope programmes	• Risk of social pressures in mining regions during transition • Dependence on foreign expertise could raise costs • Potential missed opportunities in industrialization • Unequal socio-economic impacts across regions
Economic growth	• Attract large-scale private and blended finance into energy infrastructure • Localise manufacturing of renewable, storage, and grid components to grow domestic industry	• Erosion of export competitiveness, e.g., CBAM • Policy delays could shift investment to other regions

For the DEE, this analysis clarifies the strategic priorities for the next five years and the policy guardrails and enablers required to support effective implementation across the system.

This SWOT analysis directly informs the Department's priorities and specific Programmes of Work for the next 5 years.

Note: "Programmes of Work" is new terminology leveraged in the DEE's strategy as an organising tool to package and prioritise specific areas of work for the Department.

4.1.3. Implications for the sector and specific Programmes of Work

Immediate focus (2025 – 2026): <i>further details in section 4.1.4.</i>	2-year focus (2026 – 2028): <i>further details included in the Annex</i>	Medium-term focus (2028-2030): <i>further details included in the Annex</i>
Accelerate the implementation of Integrated National Electrification Programme (INEP) with the development of a coherent, forward-looking framework for Universal Energy Access by 2030	Strengthen municipal electricity service delivery, revenue collection and performance through an integrated programmatic approach and ring-fencing of service activities	Strengthen the integration of policy positions, and coordination across government departments, to support industrialization, inclusive economic growth and increased investor confidence through energy, industrial, fiscal and environmental priorities
Pursue sustainable system tariff reform via a well-structured EPP to ensure cost-reflective frameworks for affordable and predictable long-term tariffs and price paths	Improve data exchange for the purposes of modelling methodologies and approaches	Strengthen regional energy trade through SAPP integration to improve system resilience and optimise cross-border resources
Ensure a phased implementation of South African Wholesale Electricity Market (SAWEM), establishing and managing clear risk and readiness measures	Ensure sufficient energy system resilience and stability with specific focus on timeous development of Gas-to-Power and Storage	Localise energy supply chains to strengthen resilience, create jobs, and reduce exposure to global disruptions
Ensure security of energy sector supply through the development of sectoral plans (e.g., IEP, IRP, Gas Master Plan etc.), including regular updates and strengthened communication leveraging feedback loops	Build workforce capacity and skills in grid operations, digital systems, and market management to meet future needs	Explore the feasibility of self-sufficiency in all aspects of the nuclear fuel cycle
Ensure grid capacity expansion programmes enable the timely development and connection of new generation with transparent procedures	Remove systemic bottlenecks in energy sector project execution and infrastructure roll-out, including time-bound permitting windows, single application for all energy	Implement energy efficiency regulations and demand-management systems (DMS)

Immediate focus (2025 – 2026): <i>further details in section 4.1.4.</i>	2-year focus (2026 – 2028): <i>further details included in the Annex</i>	Medium-term focus (2028-2030): <i>further details included in the Annex</i>
	projects across EIA, municipal clearance	
Ensure Departmental organisational capacity and capabilities match sectoral and departmental objectives	Increase access to low-cost funding from blended finance and other de-risking instruments	Develop a national transformational plan, prioritizing interventions with the most impact
Provide effective oversight to drive performance of Schedule 2 and Schedule 3 entities reporting to the DEE, i.e., alignment with policy objectives and supporting DEE outcomes	Develop and implement South Africa's green hydrogen programme to enable low-carbon industrialisation	

4.1.4. The Role of the DEE

As defined in Part A, the DEE mandate is to provide policy guardrails that shape the direction of the sector and orchestrate coordinated and accelerated action amongst sector stakeholders.

By fulfilling this dual role as policymaker and orchestrator, DEE ensures coherence across multiple actors, alignment with national priorities, and the consistent progress needed to achieve energy security and market reform.

Immediate priority #1: Accelerate the implementation of Integrated National Electrification Programme (INEP) with the development of a coherent, forward-looking framework for Universal Energy Access by 2030

The Minister has set an ambitious goal to connect 1.6 million additional households through grid and off-grid programmes by 2030, moving South Africa toward full universal energy access. Achieving this will require a strengthened INEP that integrates all electrification efforts under a single, coordinated delivery framework.

The immediate priority is to finalise and implement the INEP Implementation Roadmap and funding model, establishing a clear pathway for scaling delivery, improving inter-agency coordination, and ensuring sustainable financing. In parallel, the establishment of the INEP Programme Management Office (PMO) will enable centralised oversight, data integration, and performance tracking across partners.

***DEE as policymaker:** define the policy and funding framework for universal access, ensuring coherence between grid and off-grid expansion, affordability, and long-term sustainability*

DEE as orchestrator: align Eskom, municipalities, and development partners on the sequencing and execution of connection targets, ensuring the 1.6 million-household goal is delivered efficiently and equitably by 2030

Immediate priority #2: Pursue sustainable tariff reform via a well-structured EPP to ensure cost-reflective frameworks for affordable and predictable long-term tariffs and price paths

Tariff reform has been under active discussion for several years, with NERSA conducting multi-year price determinations and Eskom's financial stability linked to tariff adequacy. The Electricity Pricing Policy (EPP), the Electricity Pricing Determination Rules (EPDR), and the NERSA Market Inquiry provide the core frameworks already in place. Work is also underway through NECOM structures and the Energy Modelling and Advisory Forum (EMAF) to examine vesting contracts and wholesale tariff structures. Existing mechanisms such as Free Basic Electricity (FBE) and cross-subsidisation have been central but often lack transparency and predictability.

The next step is to finalise an integrated tariff reform package that approves vesting contracts, unbundles tariffs across the value chain, recalibrates subsidies and cross-subsidies, and establishes consistency between wholesale, retail, and location-based pricing.

DEE as policymaker: set the overall policy framework for tariff reform, ensuring that affordability and bankability are balanced

DEE as orchestrator: drive alignment across NERSA, Eskom, NTCSA, and municipal actors on the sequencing of vesting contracts, subsidy frameworks, and tariff unbundling, ensuring reforms are implemented consistently

Immediate priority #3: Ensure a phased implementation of South African Wholesale Electricity Market (SAWEM), establishing and managing clear risk and readiness measures

The Electricity Regulation Amendment Act (2024) provides the legislative foundation for SAWEM, with NTCSA licensed to operate as the independent transmission and market system operator. NERSA has begun work on developing the Market Code, while EMAF and NECOM have convened working groups to test design options. To date, initial trading frameworks have been scoped but are not yet implemented.

The next step is to finalise and gazette the Market Code, pilot balancing and day-ahead products, and establish prudential rules for market participants.

DEE as policymaker: mandate the establishment of a competitive wholesale electricity market with clear rules for participation, prudential requirements, and phased product introduction

DEE as orchestrator: coordinate NERSA, NTCSA, Eskom, and market participants to finalise the Market Code and ensure transparent and credible implementation

Immediate priority #4: Ensure security of energy sector supply through the development of sectoral plans (e.g., IEP, IRP, Gas Master Plan etc.), including regular updates and strengthened communication leveraging feedback loops

The approval of the IRP 2025, due for gazetting in October 2025, represents a critical step toward establishing a credible and transparent foundation for long-term energy planning. However, the focus must now shift to implementation monitoring, cross-sectoral alignment, and institutionalising regular update cycles to sustain system reliability and investor confidence.

The next priority is to release the data and assumptions behind the latest IRP, finalise and gazette the Integrated Energy Plan (IEP), complete and publish the Gas Master Plan, and embed energy planning processes within the broader Climate Change Act implementation framework. This integration will ensure that energy system development remains consistent with South Africa's emission-reduction targets and just transition commitments. Concurrently, a governance framework for IRP/IEP updates and dynamic feedback and modelling toolkit will be established to enhance data transparency, scenario analysis, and stakeholder engagement.

DEE as policymaker: mandate transparency of data and modelling methodology; finalise and publish the IEP and Gas Master Plan; align sectoral planning under the Climate Change Act to balance energy security, affordability, and decarbonisation

DEE as orchestrator: convene technical committees to harmonise data, align timelines, and ensure that sectoral plans are updated and implemented coherently across government.

Immediate priority #5: Ensure grid capacity expansion programmes enable the timely development and connection of new generation with transparent procedures

Developers currently face uncertainty in grid access, with first-come-first-served processes, opaque curtailment rules, and uneven timelines across regions. Work is underway through NTCSA and NERSA to draft allocation and connection principles, supported by NECOM's permitting stream. However, no codified national rules currently exist.

The next step is to finalise Grid Access Rules that define transparent queuing, service-level agreements for connection timelines, and clear curtailment frameworks, with enforcement mechanisms.

DEE as policymaker: legislate national Grid Access Rules to define allocation criteria, connection timelines, and curtailment protocols

DEE as orchestrator: drive coordination between NTCSA, NERSA, and Eskom to enforce compliance and ensure transparent, fair access across the system

Immediate priority #6: Ensure Departmental organisational capacity and capabilities match sectoral and departmental objectives

The Department of Energy and Electricity (DEE), established in 2024 through the consolidation of functions from DMRE and DPE, is still building the institutional systems, capabilities, and culture required to deliver on its expanded mandate. Strengthening organisational capacity is therefore central to

achieving the Department's strategic outcomes, supporting in delivering the MTDP outcomes, and ensuring it operates as an effective system coordinator and delivery institution.

The immediate focus is to finalise and implement the DEE organisational structure and workforce strategy, supported by a comprehensive skills audit and a capacity development plan leading up to 2030. Specific focus should be given to closing technical capability gaps in regulatory economics, grid and system planning, engineering, and data analytics, while developing leadership pipelines, modernising internal processes, and embedding a culture of accountability and innovation.

DEE as policymaker: n/a

DEE as orchestrator: coordinate inputs from across the sector / public sector to identify best practices and models that work in the South African context, and connect the Department to existing institutions of technical and institutional expertise

Immediate priority #7: Provide effective oversight to drive performance of Schedule 2 and Schedule 3 entities reporting to the DEE, i.e., alignment with policy objectives and supporting DEE outcomes

The DEE oversees six Schedule 2 and 3 entities (Eskom, NECSA, SANEDI, NNR, NRWDI, and NTCSA) each with distinct mandates in generation, regulation, research, and waste management. While governance frameworks and shareholder compacts are in place, alignment between these entities' performance and the Department's strategic outcomes and MTDP priorities can be strengthened and updated.

The immediate focus is to strengthen oversight mechanisms by linking entity performance to policy outcomes, investment priorities, and reform objectives. A new performance alignment framework will be finalised to integrate clear KPIs for each entity, standardise reporting templates, and enhance transparency. This will be complemented by quarterly coordination sessions to address audit, finance, and legal issues, ensuring that governance oversight evolves beyond compliance to strategic performance management.

DEE as policymaker: approve and implement a performance alignment framework linking entity KPIs to DEE's outcomes and MTDP objectives; standardise governance templates and timelines for shareholder compacts, corporate plans, and APP submissions

DEE as orchestrator: align reporting and performance reviews with National Treasury and DPME to strengthen accountability and coherence

4.2. INTERNAL ENVIRONMENT ANALYSIS

The DEE is undergoing institutional establishment following its separation from the DMRE and the DPE under Proclamation No. 179 of 2024. This transition represents a major structural shift aimed at improving energy security, driving electricity market reform, facilitating infrastructure

investment, and ensuring a just energy transition. The department is responsible for energy sector governance, regulatory oversight, Eskom's restructuring, investment facilitation, and energy security management.

As a newly formed entity, the department follows a structured transition process to build institutional capacity, strengthen policy coherence, achieve financial sustainability, and enhance regulatory effectiveness. This section (in conjunction with Part D) assesses the department's institutional structure, governance mechanisms, financial standing, human capital capacity, operational efficiency, and transformation objectives.

4.2.1. Institutional Structure and Budget Programmes

The DEE is finalising its organisational structure to ensure that policy, regulatory, and implementation mandates are institutionalised effectively. The Department is structured around five core budget programmes, each with distinct branches and chief directorates responsible for specific functional areas:

Budget programme	Programme Purpose	Branches / Chief Directorate
Programme 1: Administration	Provide strategic leadership, management, and support services to the department	Chief Directorate: Ministerial and Parliamentary Services Office of the Director-General: – Administration – Audit Services – Risk and Integrity Management – Monitoring and Evaluation – Communication Management Chief Directorate: Financial Management Services Chief Directorate: Corporate Services
Programme 2:	Formulate, maintain, and implement integrated energy policies to	Chief Directorate: Energy Planning

Department of Electricity and Energy: Strategic Plan 2025-2030.

Budget programme	Programme Purpose	Branches / Chief Directorate
Energy Planning and Policy Development	promote and encourage investment in the energy industry and improve security of supply	Chief Directorate: Nuclear, Electricity and Gas Policy
Programme 3: Energy Programmes and Projects	Manage, coordinate, and monitor programmes and projects focused on access to energy resources	Branch: Programmes and Projects
Programme 4: Nuclear Energy Regulation and Management	Oversee and regulate South Africa's nuclear energy sector, ensuring peaceful use and compliance with international obligations	Branch: Nuclear Regulation and Management
Programme 5: State-Owned Companies Support Services	Provide and enforce state-owned companies' governance, legal assurance and financial and non-financial performance monitoring, evaluation, and reporting systems in support of the shareholder to ensure alignment with government priorities	Branch: Energy Resources

The department's transition from DMRE and DPE is structured in three key phases to ensure a stable and effective operational realignment:

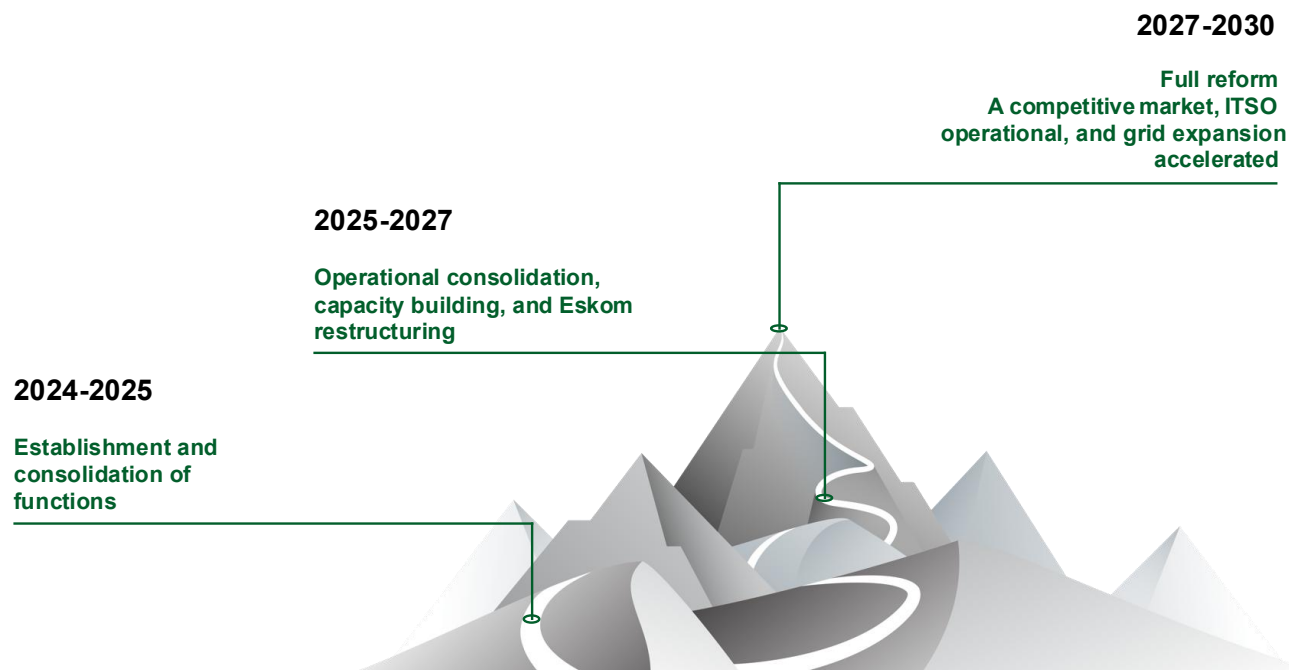


Figure 25: DEE's transition roadmap

DEE's is still consolidating the systems, skills, and organisational culture required to deliver at scale. This transitional stage provides scope for institutional design and alignment, while also requiring careful management to ensure stability during the reform process.

4.2.2. Institutional Challenges

Despite progress, DEE faces **four structural challenges** that could slow its reform agenda if not addressed:

- **Regulatory uncertainty:** Overlapping responsibilities between DEE, Eskom, NERSA, and municipalities create blurred accountability and slow decision-making.

- **Funding constraints:** Transmission expansion and Eskom restructuring require capital that goes beyond current allocations, making innovative finance and private investment essential.
- **Intergovernmental coordination weaknesses:** Municipal distribution remains financially fragile and uneven, creating risks for local service delivery and national energy stability.
- **Skills shortages:** DEE lacks sufficient regulatory economists, grid planners, engineers, and digital/data specialists to manage complex reforms.

These challenges have historically affected the pace of energy sector reform in South Africa. Addressing them is critical to enabling policy objectives to translate effectively into delivery.

To overcome these blockers, DEE has identified **four governance priorities** for the medium term:

1. **Finalise Eskom restructuring** and operationalise ITSO as a credible, independent market operator.
2. **Enhance policy and regulatory coordination** across Eskom, NERSA, and municipalities to reduce duplication and improve investor confidence.
3. **Strengthen intergovernmental collaboration** by embedding the District Development Model (DDM) into energy planning and stabilising municipal distributors.
4. **Drive delivery** of the JET-IP, IRP update, and Gas Masterplan, ensuring that these flagship strategies are not only approved but implemented on time.

Progress in these areas will reinforce institutional coherence, strengthen accountability across the sector, and support the timely implementation of reforms.

The internal environment analysis highlights that **DEE's effectiveness is dependent on strengthening its institutional foundations as on external policy direction**. Continued focus on clarifying regulatory roles, mobilising finance, supporting municipalities, and building technical capacity will enable DEE to evolve from a newly formed department into a capable system coordinator and delivery institution.

PART C: MEASURING OUR PERFORMANCE

1. Institutional performance information

In the context of the hierarchy of performance information utilised to construct this Five-Year Strategic Plan for 2025 to 2030, through the Theory of Change Logic Model and where the mandate, vision, and mission describe the longer-term strategic focus of the organisation, the next level in the hierarchy is to describe the impact and the outcomes (results areas) necessary to deliver against the desired strategic focus.

1.1. IMPACT STATEMENT

Informed by the legislative and policy mandates and the strategic focus, the impact statement of Department of Electricity and Energy is:

An integrated, well-regulated, and investment-friendly energy system that ensures security of supply, drives industrialisation, advances a just energy transition, and positions South Africa as a competitive regional and global leader in sustainable energy

1.2. MEASURING OUR OUTCOMES

Towards its impact, five outcomes will direct the effort and focus of the Department of Electricity and Energy over the period to 2030. These five outcomes are anchored by national and ministerial priorities, namely:

DEE's outcomes framework aligns with broader government priorities



Figure 26: DEE Outcomes mapped to national and ministerial priorities

The outcomes are directly aligned with the department's mandate, mission, budget programmes, and ministerial priorities, while ensuring coherence with the MTDP and Vote 10. They define the results the department must achieve by 2030 to fulfil its role in transforming South Africa's energy landscape.

By 2030, South Africa will achieve universal access to affordable, reliable, and sustainable energy that supports inclusive growth and poverty reduction. The department will expand grid and off-grid electrification through programmes such as INEP, prioritising rural, informal, and under-served communities. It will promote tariff affordability, integrate renewable mini-grids and rooftop solar for households and SMEs, and enhance coordination with municipalities to ensure equitable access that enables education, healthcare, and economic participation.

By 2030, South Africa will have a well-coordinated energy policy and planning framework that ensures long-term energy security, economic growth, and environmental sustainability. The department will drive integrated energy planning by finalising and implementing the IRP 2025 and the Gas Masterplan; aligning national, provincial, and municipal energy policies; and integrating just energy transition strategies into government planning. The department will also strengthen evidence-based decision-making using real-time energy market data and forecasting models.

By 2030, South Africa's energy transition will catalyse inclusive economic growth, job creation, and industrialisation. The department will support localisation of clean energy value chains, encourage community participation, and drive workforce reskilling aligned with emerging sectors such as renewables, gas, hydrogen, storage, and nuclear. It will ensure tariff predictability to attract investment, promote fair cost recovery, and strengthen market confidence while ensuring that no communities or workers are left behind in the transition.

By 2030, South Africa will significantly increase investment in low-carbon and resilient energy infrastructure to meet growing demand and enhance energy security. The department will facilitate public-private partnerships and mobilise finance for generation, transmission, and storage infrastructure, including gas-to-power and liquid fuel security. It will drive innovation across nuclear safety, renewable technologies, and green hydrogen, while deepening regional integration through SAWEM and SAPP to enable a competitive, efficient, and investor-friendly energy market.

By 2030, the DEE will lead a robust, digitally-enabled, and well-coordinated governance ecosystem that underpins South Africa's energy transition and regional leadership. The Department will strengthen institutional capacity, modernise digital systems, and embed data-driven decision-making to enhance policy coherence, regulatory oversight, and programme delivery. Through improved coordination across government, SOEs, and regional partners, DEE will ensure transparent governance, effective market regulation, and sustained investor confidence. A capable, agile, and inclusive DEE workforce - empowered by technology and guided by evidence - will anchor this transformation, positioning South Africa as a trusted hub for clean energy trade and investment.

TABLE OF OUTCOMES AND OUTCOME INDICATORS

Outcome	Outcome Indicator (from MTDP)	Baseline (2024/25)	MTEF	2030 target
MTDP Priority 1: Drive inclusive growth and job creation				
MTDP Priority 2: Reduce poverty and tackle the high cost of living				
Ministerial priority 1: Universal access, affordability and quality				
Ministerial priority 4: Qualitatively transforming energy demographics				
Enabling environment for investment and improved competitiveness through structural reforms.	Percentage of GDP growth DEE to lead: Implementation of the Electricity Distribution Industry (EDI) Reform Roadmap	No agreed policy position on EDI reform	Legal separation of Eskom Distribution	Roadmap for EDI Reform implemented
MTDP Priority 2: Reduce poverty and tackle the high cost of living				
MTDP Priority 3: Build a capable, ethical and developmental state				
Ministerial priority 2: Sovereign and regional energy security and quality				
Ministerial priority 5: Asserting South Africa's continental and global energy leadership				
Enabling environment for investment and improved competitiveness through structural reforms.	Percentage of GDP Growth DEE to lead: Establishment of an independent Transmission System Operator (TSO) outside of Eskom DEE to lead: Establishment of South African Wholesale Electricity Market (SAWEM)	National Transmission Company of South Africa (NTCSA) established as a subsidiary of Eskom Holdings Electricity Regulation Amendment Act passed	Approval of market code and granting of market operator and trading licenses.	Establishment of an independent Transmission System Operator (TSO) outside of Eskom SAWEM established and opened for trading

Outcome	Outcome Indicator (from MTDP)	Baseline (2024/25)	MTEF	2030 target
		and assented to by the President		
Improved energy security and Just energy transition.	GW of new generation Capacity and Mt CO2-eq carbon Emissions - DEE to lead: ACT IP \$2.6 billion deployed for Camden, Hendrina and Grootvlei (CHG) Mpumalanga power stations' repurposing, repowering, decommissioning	Coal fired power stations	PPPs procured for renewable generation investment at CHG (Camden, Hendrina and Grootvlei) 50 JET projects matched with grant. 10 Municipalities have JET plans.	CHG power stations decommissioned, new renewable power generation operating, new livelihoods established for affected communities 200 JET projects matched with JET grant funders 20 municipalities have JET plans
MTDP Priority 1: Drive inclusive growth and job creation				
Ministerial Priority 3: Driving industrialization and leading innovation				
Ministerial priority 4: Qualitatively transforming energy demographics				
Improve energy security and Just energy transition.	GW of new generation Capacity and Mt CO2-eq carbon Emissions - DEE to lead: Expanded and strengthened transmission network	Approved Transmission Development Plan (TDP)	3399 km of transition lines built.	7 416 km of transmission lines built
	GW of new generation Capacity and Mt CO2-eq carbon Emissions - DEE to lead: Procurement of new generation capacity in line with the Integrated Resources Plan (IRP)	Approved IRP 2025	Implementation of IRP and diversify the energy mix in line with Ministerial determinations.	Implement GW Gas to Power generations (3GW for Eskom and 3GW through IPP)
MTDP Priority 1: Drive inclusive growth and job creation				

Outcome	Outcome Indicator (from MTDP)	Baseline (2024/25)	MTEF	2030 target
Ministerial priority 2: Sovereign and regional energy security and quality				
Ministerial priority 4: Qualitatively transforming energy demographics				
Ministerial priority 5: Asserting South Africa's continental and global energy leadership				
Enabling environment for investment and improved competitiveness through structural reforms	Percentage of GDP Growth - DEE to lead: Reduction in processing time for regulatory authorisations related to energy projects	Processing time over 1 000 days	Reduction in processing time for related authorizations to 180 days	Establishment of a single electronic window for related authorisations
	Energy Security Bill passed	None	Energy Security Bill introduced in Parliament to streamline regulatory process.	Energy Security Bill passed
Improved energy security and Just energy transition.	GW of new generation Capacity and Mt CO2-eq carbon Emissions - DEE to lead: Enablement for Procurement of 5.2 GW Nuclear New Build Programme, in line with IRP, incl. SMRs	1. Procurement framework study report 2. Options analysis for funding mechanisms developed	Ministerial determination and RFI issued to market	RFP issued to market License to construct obtained from the National Nuclear Regulator
	GW of new generation Capacity and Mt CO2-eq carbon Emissions - DEE to lead: Green Hydrogen Infrastructure and Incentives Plan developed	New indicator	Draft Hydrogen Infrastructure and Incentive Plan approved.	Green Hydrogen Infrastructure and Incentives Plan implemented

Outcome	Outcome Indicator (from MTDP)	Baseline (2024/25)	MTEF	2030 target
	<i>GW of new generation Capacity and Mt CO2-eq carbon Emissions</i> - DEE to lead: Integrated Resource Efficiency and Renewable Programme	Rollout and Implementation of iREREP projects	56 energy savings projects implemented with 347 MW saved 3.5 million kL water saved 55 thousand tons waste reduced	140 energy savings projects implemented with 868 MW saved, 8.8 million kL water saved. 139,000 tons waste reduced
<i>Mainstreaming of gender, empowerment of youth and persons with disabilities</i>	<i>South Africa's score and ranking on the WEF Global Gender Gap Index</i> - DEE to support: Percentage of Public Institutions implementing WYPD-responsive planning and budgeting, including integration of the NSP on GBVF	New indicator	N/A	% Plans that are partially WYPD responsive: 100% nationally
	Gender and youth representation in Department of Electricity and Energy's workforce	Women: 35% Youth: 20%	Women: 40% Youth: 30%	Women: 50% Youth: 40%

1.3. EXPLANATION OF PLANNED PERFORMANCE OVER THE FIVE-YEAR PLANNING PERIOD

The Department of Electricity and Energy is responsible for ensuring an integrated, well-regulated, and investment-friendly energy system that supports economic growth, industrialisation, and South Africa's just energy transition. The five outcomes identified in this Strategic Plan define the key results the Department must achieve by 2030 to fulfil its mandate. These outcomes are directly linked to the Department's constitutional, legislative, and policy mandates (Part A) and flow from the strategic focus, situational analysis, and Programmes of Work in Part B.

This section provides a detailed explanation of how the department will drive progress toward each outcome over the five-year period. Each outcome is unpacked by examining its strategic linkages to ministerial priorities, the MTDP 2024-2029, and cross-cutting government priorities like transformation and innovation are highlighted. The rationale for the selected outcome indicators is also provided, ensuring that measurement is evidence-based and aligned with sectoral challenges.

Department of Electricity and Energy: Strategic Plan 2025-2030.

The department's performance approach recognises its role as a policy, regulatory, and investment facilitation entity, rather than an implementing agent. The department does not directly generate, transmit, or distribute electricity: it sets the rules, assures governance, mobilises capital, and orchestrates delivery across the system so that other institutions can execute effectively. This five-year explanation focuses on the mechanisms, policies, and strategic interventions the department will undertake to enable key stakeholders to deliver on South Africa's electricity and energy objectives.

Department of Electricity and Energy: Strategic Plan 2025-2030.

South Africa's electricity system remains under pressure from uneven reliability, affordability constraints, and persistent access gaps - with roughly 1.6 million households still unelectrified and many municipal distributors facing financial and technical fragility. This outcome responds directly to these challenges by consolidating energy-access initiatives and reinforcing governance at the distribution level. It reflects the recognition that secure, affordable, and universal energy access is not only an infrastructure goal but a foundational enabler of inclusive growth, social equity, and fiscal stability.

DEE Outcome 1 therefore operationalises the first pillar of the **MTDP**, which prioritises *driving an inclusive economy and job creation through expanded access to reliable and affordable electricity*. It also gives effect to **Ministerial Priority 1** of *achieving universal, affordable, and reliable access for households and SMMEs by 2030*. Through the **Operation Vulindlela** reforms, it supports *structural modernisation of the distribution sector* - standardising performance management, stabilising municipal finances, and streamlining grid-connection.

What DEE will do:

As Policy Authority, DEE will:

- Approve and operationalise the INEP Action Plan as a core departmental policy instrument
- Review and harmonise affordability mechanisms - Free Basic Electricity, lifeline tariffs and cross-subsidies - with National Treasury and NERSA
- Align electrification and subsidy policies in line with the revised Electricity Pricing Policy and MTDP affordability objectives
- Define national performance and data-reporting standards for municipal distributors under the Distribution Reform Roadmap

As System Orchestrator DEE will:

- Establish and staff the INEP Programme Management Office (PMO) to across funding and delivery stakeholders, including the implementation of the grid and non-grid connection pipeline toward the 2030 Universal Access Target
- Conduct annual municipal energy-efficiency and electrification audits
- Implement the Energy One-Stop Shop (SWAP) dashboard to track permitting and project readiness across spheres
- Drive District Development Model (DDM) alignment for integrated planning and distribution-sector reform

Why these indicators and how DEE will measure progress:

Progress will be tracked through the INEP PMO, quarterly audit verification, and Operation Vulindlela performance reviews. Reporting will integrate with DoRA, NTCSA connection data, and NERSA tariff datasets to ensure evidence-based monitoring.

Key indicators (as included in the MTDP) include:

- **Number of reviews of administered prices undertaken and implemented:**
 - Baseline: new indicator
 - 2030 target: Review of administered prices implemented

- **Implementation of the Electricity Distribution Industry (EDI) Reform Roadmap:**

- Baseline: No agreed policy position on EDI reform
- 2030 target: Roadmap for EDI Reform implemented

Implications for South Africa and the DEE:

For South Africa, the achievement of universal, affordable, and reliable electricity access by 2030 is central to unlocking inclusive growth, spatial equity, and resilience. Expanding grid and off-grid electrification will enable households, schools, clinics, and small enterprises to participate fully in the economy while supporting industrial competitiveness and reducing energy poverty. Improved distribution performance and tariff predictability will stabilise the cost of living and lower input costs for productive sectors, directly advancing the MTDP's first pillar on inclusive economic growth and job creation. These reforms will also underpin South Africa's climate and just transition goals by enabling the scale-up of cleaner, more efficient technologies while improving the financial sustainability of the electricity supply industry.

For the DEE, this outcome demands a coherent shift from policy intent to integrated system execution:

- This Programme will position DEE to deliver universal access by 2030 through a comprehensive review and redesign of the electrification programme. Key milestones include finalising a national assessment of provincial electrification plans; evaluating technology options for grid expansion, off-grid and micro-grid solutions; establishing a framework for affordability and financial sustainability, including subsidy and support mechanisms; and operationalising a Project Management Office (PMO) to oversee implementation of the INEP Action Plan. Collectively, these actions will modernise South Africa's electrification approach, ensuring that universal access is achieved efficiently, equitably, and affordably.
- This Programme will strengthen the foundation for sustainable access by embedding accountability, efficiency, and transparency in municipal electricity distribution. Milestones include approving a Municipal Distribution Reform Framework, piloting performance-management systems in priority municipalities, and integrating reform monitoring into the District Development Model (DDM). The programme aims to stabilise municipal finances, improve service reliability, and institutionalise regular performance reviews across the distribution sector.

These institutional reforms will equip DEE to deliver measurable progress toward universal access, enhance service reliability, and strengthen fiscal and governance stability across South Africa's energy system

Department of Electricity and Energy: Strategic Plan 2025-2030.

A coherent and evidence-based energy policy environment is essential to secure investment, accelerate reform, and ensure reliable, affordable energy supply for South Africa's growth ambitions. This outcome strengthens the country's capability to plan and update core energy instruments (IRP, IEP, Gas Master Plan), enable a competitive electricity market (SAWEM), align energy policy with industrial and fiscal priorities, deepen regional power-market integration (SAPP), and improve data transparency. It ensures that decisions on tariffs, infrastructure, and energy mix are guided by a consistent long-term vision that aligns economic, fiscal, industrial, and environmental priorities.

DEE Outcome 2 gives effect to the second pillar of the **MTDP**, which *prioritises a coherent and stable policy and regulatory environment to drive investment, energy security and competitiveness*. It also advances **Ministerial Priority 2**, focused on *building policy coherence, regulatory certainty and evidence-based decision-making across the electricity and energy sector*. Through **Operation Vulindlela** Phase II, DEE is embedding predictable policy cycles, integrated data systems and inter-departmental alignment, creating a unified framework that strengthens investor confidence and ensures the energy transition supports inclusive, sustainable growth.

What DEE will do:

As Policy Authority, DEE will:

- Finalise the revised Electricity Pricing Policy and integrated affordability/subsidy framework to secure cost-reflective, predictable multi-year price paths
- Issue policy guidance and approvals for the phased implementation of SAWEM, including readiness/risk thresholds and Market Code updates
- Institutionalise regular updates of the Integrated Resource Plan (IRP), Integrated Energy Plan (IEP), and Gas Master Plan (GMP) through an approved governance cycle and annual compliance reporting
- Establish a cross-government Energy-Industry Policy Integration Forum linking DTIC, NT and DFFE to align energy, industrial and fiscal assumptions

As System Orchestrator DEE will:

- Oversee SAWEM implementation milestones are met with the sufficient due diligence conducted
- Oversee the operationalisation of the IRP and IEP Implementation Frameworks and monitor delivery progress
- Facilitate intergovernmental and regional cooperation to strengthen market readiness and policy coherence.
- Coordinate the development of a national energy data platform as the single source for open energy data, modelling inputs and statistics

Why these indicators and how DEE will measure progress:

Progress will be measured through milestone-based indicators that demonstrate structural reform, market readiness, and just transition delivery. Measurement will rely on cross-verification of published policy instruments, inter-departmental alignment outputs, and adherence to statutory update timelines.

Key indicators (as included in the MTDP) include:

- **Restructuring of Eskom completed in line with the Eskom Roadmap and Electricity Regulation Amendment Act:**
 - Baseline: National Transmission Company of South Africa (NTCSA) established as a subsidiary of Eskom Holding
 - 2030 target: Establishment of an independent Transmission System Operator (TSO) outside of Eskom
- **Establishment of South African Wholesale Electricity Market (SAWEM):**
 - Baseline: Electricity Regulation Amendment Act passed and assented to by the President
 - 2030 target: SAWEM established and opened for trading
- **ACT IP \$2.6 billion deployed for Camden, Hendrina and Grootvlei (CHG) Mpumalanga power stations' repurposing, repowering, decommissioning:**
 - Baseline: Coal fired power stations
 - 2030 target: CHG power stations decommissioned, new renewable power generation operating, new livelihoods established for affected communities; 200 JET projects matched with JET grant funders; 20 municipalities have JET plans

Implications for South Africa and the DEE:

For South Africa, a coherent and evidence-based policy framework will underpin the transition to a secure, affordable, and investment-ready energy system. Establishing predictable rules for planning, pricing, and market participation will provide the certainty required to mobilise capital and accelerate infrastructure rollout. The development of the South African Wholesale Electricity Market (SAWEM) will be a defining milestone - creating a transparent platform for competitive trading, improving price discovery, and diversifying supply. By enabling generators, traders, and large customers to participate on equal terms, SAWEM will drive efficiency, incentivise new generation investment, and strengthen reliability. Coupled with integrated planning, regional power trade, and transparent data systems, this unified framework will enhance energy security, industrial competitiveness, and South Africa's ability to achieve a just and inclusive transition.

For the DEE, this outcome requires a decisive shift from policy development to integrated, cyclical, and market-anchored execution.

- Finalise and implement the Electricity Pricing Policy (EPP) to ensure cost-reflective, predictable tariffs and affordability mechanisms that protect vulnerable consumers.

- Oversee the phased establishment of SAWEM, aligned with the Electricity Regulation Amendment Act, including market-readiness milestones, risk and settlement frameworks, and transparent participation rules. The market will enable competition, improve operational efficiency, and attract new investment into generation and flexible capacity.
- Institutionalise an inter-departmental Energy-Industry Policy Integration linking DEE, DTIC, NT and DFFE to align planning cycles, modelling assumptions, and industrial priorities, embedding coherence between infrastructure investment, localisation, and climate objectives to ensure that industrialisation and fiscal strategies are synchronised with energy-sector planning and regulatory decisions.
- Establish a structured governance framework for the cyclical update of South Africa's core energy plans and their implementation mechanisms, including operationalising the IRP and IEP Implementation Frameworks, and maintaining compliance with the Operation Vulindlela reform timelines. Regular, transparent plan updates will anchor policy certainty, align investment signals, and ensure long-term supply adequacy across the energy value chain.
- Support the design and implementation of a coordinated national SAPP Strategy to enhance South Africa's participation in regional power trade and ancillary-services markets to facilitate joint project preparation with regional partners. These measures will strengthen grid resilience, reduce reserve margins, and position South Africa as a regional energy hub driving economic integration and stability within the Southern African Power Pool.
- Facilitate the launch of a national Energy Data as the authoritative source for energy data, statistics, and modelling inputs, introducing unified data standards, verification protocols, and live dashboards connecting DEE, Eskom, NERSA, and Stats SA. Enhanced data transparency will enable consistent modelling, evidence-based policy decisions, and credible performance reporting across South Africa's energy sector.

Together, these Programmes of Work link tariff reform, market development, planning, regional cooperation, and data transparency across the sector. This integrated, market-enabled approach will strengthen governance, improve regulatory credibility, and ensure South Africa's energy policy remains stable, transparent, and investment-ready.

South Africa's energy transition offers an opportunity to drive industrialisation, economic diversification, and job creation. This outcome focuses on harnessing the energy transition as a catalyst for growth - by expanding local manufacturing capacity, developing new green industries, and investing in the skills and technologies that underpin a modern, competitive economy. A predictable tariff path and reliable supply will reduce costs for industry and small enterprises, stimulate private investment, and enable South African products and services to compete globally.

DEE Outcome 3 gives effect to MTDP Priority 1 of driving inclusive growth and job creation and Ministerial Priority 3 of driving industrialisation and leading innovation. It positions the Department as the orchestrator of a just and inclusive energy transition, one that creates decent work, strengthens localisation and transformation across supply chains, and ensures that new investment directly benefits South African communities and enterprises. In addition, this outcome supports **Operation Vulindlela** reforms that *advance grid expansion, energy-market readiness, and industrial localisation to drive inclusive growth and job creation*. Through coordinated programmes in grid expansion, gas-to-power, energy storage, skills development, and industrial participation, this outcome will anchor the energy transition within South Africa's broader economic-renewal agenda.

What DEE will do:

Department of Electricity and Energy: Strategic Plan 2025-2030.

As Policy Authority, DEE will:

- Legislate national Grid Access Rules to define allocation criteria, connection timelines, and curtailment protocols.
- Finalise and implement the Gas-to-Power Roadmap and update the Gas Master Plan to diversify supply, ensure pricing transparency, and position gas as a transition fuel supporting industrialisation.
- Establish a demand-led Skills Development Framework, aligned with the JET-IP Skills Chapter and DHET, to ensure that the energy workforce is equipped for new technologies, digital operations, and market-management roles

As System Orchestrator DEE will:

- Drive coordination between NTCSA, NERSA, and Eskom to enforce compliance and ensure transparent, fair access across the system
- Mobilise and structure blended-finance instruments with National Treasury, DBSA, IDC and other DFIs to catalyse investment in grid, flexibility and industrial-energy infrastructure.
- Support the operationalisation of local-content and supplier-development programmes under SAREM and the Critical Minerals and Metals Strategy

Why these indicators and how DEE will measure progress:

Progress will be measured through indicators that reflect delivery of grid expansion and new generation capacity, the key enablers of industrialisation and job creation. This will be monitored through project approvals, financial close, and commissioning data. These indicators together demonstrate progress toward a secure, flexible, and industrially enabling energy system, verified through NTCSA, IRP progress reports, and Operation Vulindlela reform tracking.

Key indicators (as included in the MTDP) include:

- **Expanded and strengthened transmission network:**
 - Baseline: Approved Transmission Development Plan (TDP)
 - 2030 target: 7 416km of transmission lines built
- **Procurement of new generation capacity in line with the Integrated Resources Plan (IRP):**
 - Baseline: Approved IRP
 - 2030 target: Implement GW Gas to Power generations (3GW for Eskom and 3GW through IPP)

Implications for South Africa and the DEE:

For South Africa, the implementation of a predictable, just, and industrially driven energy transition will anchor sustainable economic growth, job creation, and competitiveness. Grid expansion under the Grid Expansion and Resilience Strategy (GERS), together with new Gas-to-Power and storage capacity, will strengthen system reliability and unlock investment across renewable and industrial hubs. Localisation through the South African Renewable Energy

Masterplan (SAREM) and related industrial programmes will expand domestic manufacturing, boost supply-chain resilience, and stimulate inclusive participation in emerging energy industries.

For the DEE, this outcome requires a deliberate shift from energy-policy formulation to coordinated, industrial-scale delivery. It will be executed through five key Programmes of Work focused on grid expansion, flexible generation, localisation, workforce development, and transformation - linking infrastructure readiness with measurable economic impact.

- Finalise Grid Connection Access Rules, oversee the operationalisation of the Independent Transmission Project Office (ITPO), enforce transparent queue and curtailment processes, and coordinate Eskom, NTCSA, and NERSA to accelerate grid readiness for new generation.
- Sequence gas infrastructure investment, LNG terminals, and storage expansion to maintain security of supply and ensure smooth transition to a low-carbon, reliable energy mix.
- Prioritise predictable demand pipelines, enforce localisation thresholds, and build supplier capability to capture industrial value while improving competitiveness and export potential.
- Strengthen sectoral training partnerships, promote apprenticeships and technical secondments, build career pathways to ensure a skilled, adaptive workforce for the evolving energy system and introduce a demand-led skills-development approach that directly links training programmes to the energy-project pipeline

By combining infrastructure delivery with workforce development and transformation, this outcome will translate the energy transition into tangible socio-economic benefits - creating skilled employment, supporting local enterprises, and positioning South Africa as a regional leader in clean-energy industrialisation.

South Africa's long-term energy security and economic competitiveness depend on accelerating investment in low-carbon infrastructure and the technologies that will shape a resilient, modern energy system. This outcome focuses on catalysing large-scale private and public investment in generation, transmission, storage, and enabling technologies to decarbonise the energy mix while stimulating industrial growth. By expanding grid capacity, unlocking new clean-energy corridors, and deploying innovative delivery and financing models, South Africa will be better positioned to meet rising demand, improve reliability, and deliver on its climate-transition commitments.

DEE Outcome gives effect to **MTDP Priority 1** by linking *infrastructure expansion with industrialisation and job creation*, and to **Ministerial Priority 4**, which calls for *accelerated investment and technological innovation to support a low-carbon, inclusive economy*. It positions the Department to drive low-carbon industrialisation by unlocking new investment corridors, strengthening transmission resilience, and scaling innovative technologies that support the just energy transition. Through these interventions, DEE will catalyse infrastructure delivery, attract sustainable capital, and establish South Africa as a leader in clean-energy investment and technological advancement.

What DEE will do:

As Policy Authority, DEE will:

Department of Electricity and Energy: Strategic Plan 2025-2030.

- Finalise and gazette a national blended-finance and de-risking framework, establishing policy mechanisms and instruments - such as credit guarantees, green bonds, and insurance facilities—to crowd in private capital for grid, storage, and clean-energy investment
- Oversee the nuclear value-chain feasibility study and approve the Nuclear Industrialisation Roadmap (2028–2040) to strengthen energy self-sufficiency and local participation in the full nuclear fuel cycle
- Endorse and operationalise the Green Hydrogen Commercialisation Strategy (GHCS), developing standards, investment guidelines, and regulatory frameworks that enable hydrogen-based industrialisation and export readiness
- Approve the National Energy Efficiency and Demand-Management (EE/DSM) Sector Plan, setting national efficiency targets, regulatory frameworks, and implementation guidelines aligned with the IRP and Net-Zero transition pathways

As System Orchestrator DEE will:

- Monitor the alignment of permitting, regulatory, and fiscal processes across departments, enabling faster delivery of energy projects through the live EOSS dashboard
- Mobilise partnerships with National Treasury, DBSA, IDC, and international DFIs to capitalise a national Energy Transition Financing Facility, facilitating the flow of blended finance into grid expansion, storage, and clean-energy infrastructure
- Manage stakeholder collaboration for the Nuclear Industrialisation Roadmap, integrating inputs from NECSA, DMRE, Eskom, and NT to ensure compliance with safety, fiscal, and investment parameters
- Coordinate multi-stakeholder engagement for green-hydrogen infrastructure, ensuring alignment between the JET-IP investment windows, IRP/IEP updates, and provincial hydrogen strategies
- Oversee implementation of EE/DSM programmes, coordinating Eskom, SANEDI, COGTA, and municipalities to roll out priority interventions that reduce peak demand, improve efficiency, and enhance system reliability.

Why these indicators and how DEE will measure progress:

Progress will be measured through indicators that reflect the acceleration of investment, innovation, and infrastructure delivery across the energy value chain - the core enablers of industrialisation and low-carbon growth. Measurement will track progress on regulatory efficiency, nuclear-build readiness, green-hydrogen development, and improved resource efficiency. Data will be verified through project approvals and regulatory reporting to ensure that these interventions translate into faster project delivery, reduced emissions, and improved energy productivity.

Key indicators (as included in the MTDP) include:

- **Reduction in processing time for regulatory authorisations related to energy projects:**
 - Baseline: Processing time over 1 000 days
 - 2030 target: Establishment of a single electronic window for related authorisations Energy Security Bill passed
- **Enablement for Procurement of 2,500 MW Nuclear New Build Programme, in line with IRP, incl. SMRs:**
 - Baseline: Procurement framework study report and options analysis for funding mechanisms developed

- 2030 target: RFP issued to market License to construct obtained from the National Nuclear Regulator
- **Green Hydrogen Infrastructure and Incentives Plan developed:**
 - Baseline: New indicator
 - 2030 target: Green Hydrogen Infrastructure and
 - Incentives Plan implemented
- **Integrated Resource Efficiency and Renewable Programme (iREREP):**
 - Baseline: Rollout and Implementation of iREREP projects
 - 2030 target: 140 energy savings projects implemented with 868 MW saved, 8.8 million kL water saved. 139,000 tons waste reduced

Implications for South Africa and the DEE:

For South Africa, accelerating investment in low-carbon energy infrastructure and new technologies will be critical to sustaining growth, competitiveness, and energy security. Expanded access to blended finance and de-risking mechanisms will unlock private capital for grid, storage, and clean-energy investments. The development of green-hydrogen and nuclear industrialisation programmes will diversify the energy mix, strengthen resilience, and position South Africa as a regional hub for innovation and clean-energy exports. Improved energy efficiency and demand-management systems will enhance reliability and reduce pressure on peak supply, supporting the transition to a modern, low-emission economy.

For the DEE, this outcome requires a shift from policy design to coordinated investment enablement and delivery oversight. It will be implemented through five key Programmes of Work focused on project enablement, financing, nuclear readiness, hydrogen development, and energy efficiency - linking regulatory reform, technological advancement, and investment mobilisation into a unified framework.

- By setting defined turnaround times for environmental, land-use, and municipal clearances, the DEE will shorten project lead times and accelerate infrastructure delivery. This will strengthen investor confidence, improve transparency, and ensure large-scale energy projects reach construction and operation faster.
- A national and coordinated blended-finance and de-risking framework will assist in accelerating the crowding in of private and multilateral capital. Credit guarantees, green bonds, and concessional-loan mechanisms will lower project costs and expand access to long-term finance for grid and low-carbon projects, directly supporting industrial growth and energy diversification.
- A full feasibility study and Nuclear Industrialisation Roadmap (2028–2040) will guide policy on uranium mining, enrichment, and fuel fabrication. The work will build technical capacity, define investment partnerships, and strengthen energy-supply resilience while embedding nuclear development within South Africa's just-transition and localisation agenda.
- Implementation of the Green Hydrogen Commercialisation Strategy (GHCS) will align infrastructure investment, fiscal incentives, and export frameworks to position South Africa as a global hydrogen hub. The programme has the opportunity stimulate new industrial value chains, attract foreign investment, and enable decarbonisation of heavy industry and transport sectors.
- The National Energy Efficiency and Demand-Side Management Plan will institutionalise efficiency targets and regulatory frameworks that reduce peak demand and operational costs. Integrated with municipal planning and Eskom programmes, these measures will enhance reliability, reduce emissions, and support South Africa's long-term energy-security and climate-commitment goals.

Department of Electricity and Energy: Strategic Plan 2025-2030.

By integrating infrastructure investment with innovation, financing reform, and technological advancement, this outcome will translate South Africa's energy transition into measurable economic gains - driving sustainable job creation, expanding local manufacturing, and positioning the country as a global hub for low-carbon infrastructure and clean-energy innovation.

A capable, transparent, and well-governed energy sector is fundamental to delivering South Africa's long-term reform and investment objectives. This outcome focuses on strengthening institutional performance, accountability, and transformation across the Department and its entities to ensure that governance, leadership, and delivery systems are fit for purpose. By building technical capacity, improving oversight of state-owned entities, and embedding ethical and professional standards, DEE will create the foundation for effective policy implementation and credible leadership within the energy system.

DEE Outcome 5 gives effect to **MTDP Priority 3**, supporting the *creation of a capable and developmental state*, and to **Ministerial Priorities 4 and 5**, which *commit to transforming energy-sector demographics and asserting South Africa's leadership in continental and global energy governance*. Through focused programmes in organisational capacity-building, entity performance oversight, and sectoral transformation, this outcome will strengthen DEE's institutional credibility, improve delivery efficiency, and ensure that the energy transition is implemented through a professional, transparent, and accountable governance ecosystem.

What DEE with do:

As Policy Authority, DEE will:

- Approve and implement the DEE Capacity and Capability Development Plan to strengthen technical, policy, and regulatory expertise across all departmental branches. This will include workforce planning, succession pipelines, and leadership-development frameworks aligned with DPSA standards
- Finalise a comprehensive oversight framework for Schedule 2 and 3 entities, linking their shareholder compacts, KPIs, and performance reviews to DEE's strategic outcomes and MTDP priorities
- Approve and institutionalise a National Sectoral Transformation and Inclusion Plan, setting clear gender, youth, and disability participation targets, supported by standardised data, reporting, and accountability mechanisms across entities and programmes

As System Orchestrator DEE will:

- Coordinate recruitment, retention, and upskilling initiatives to ensure that at least 90 % of critical technical and leadership posts are filled, and that departmental performance management is tied to delivery outcomes
- Lead governance oversight with Eskom, NECSA, SANEDI, NNR, NRWDI, and NTCSA to ensure alignment with policy objectives, fiscal sustainability, and reform priorities

Why these indicators and how DEE will measure progress:

Progress will be measured through indicators that reflect improved governance capability, institutional performance, and transformation across DEE and its entities. These metrics assess the Department's ability to strengthen accountability, ensure fiscal and operational discipline, and embed inclusive, ethical leadership. Monitoring will occur through internal performance audits, shareholder oversight reviews, and Operation Vulindlela tracking to confirm compliance, capacity, and representation benchmarks are met.

Key indicators (as included in the MTDP) include:

- **Revised instruction note on the payment of invoices within 30 days or the agreed period:**
 - Baseline: 2021/22 Instruction Note 3
 - 2030 target: Improved compliance with 30-day payment Requirement
- **% change in the tenure of serving Accounting Officers (Dept's, Municipalities and Entities):**
 - Baseline: Average length of Serving DG's/ Hod's was 3.8 years, MM's TBD, CEO's TBD as at 30 Sept '24
 - 2030 target: Average tenure of accounting officers (DG/HOD's, MM's and CEO's) at least 5 years
- **Improve efficiency, responsiveness and increased resolution of citizen complaints:**
 - Baseline: New indicator
 - 2030 target: >80% of departments achieving at least 60% of hotline cases resolved
- **Conduct Institutional Reviews and Skills Audit to ensure that state institutions are execution driven in line with mandates and public value**
 - Baseline: New indicator
 - 2030 target: 30% reduction in skills gaps in National, Provincial, Local government and SOE's
- **New models for public entities and enterprises**
 - Baseline: new indicator
 - 2030 target: Implementation of new business models for affected public entities and Holding Company created and operational
- **Percentage of Public Institutions implementing WYPD-responsive planning and budgeting, including integration of the NSP on GBVF**
Baseline: xx
 - Baseline: 58% of national departments tabled 2024/25 APPs that are WYPD responsive
 - 2030 target: % Plans that are partially WYPD responsive: 100% nationally

Implications for South Africa and the DEE:

For South Africa, a capable, transparent, and accountable energy governance ecosystem is critical to sustaining reform momentum, investor confidence, and service delivery. Strengthened institutional capacity and oversight will ensure that energy entities operate efficiently, transparently, and in alignment with national policy priorities. Enhanced organisational performance and skills development across the public sector will enable a professional, ethical workforce equipped to manage complex transition programmes. Sectoral transformation, supported through gender, youth, and disability inclusion frameworks, will ensure that the benefits of the energy transition are equitably shared and that leadership in the sector reflects South Africa's demographic diversity.

For the DEE, this outcome requires a shift from compliance-based administration to strategic performance management and institutional transformation. It will be executed through three key Programmes of Work focused on building departmental capacity, strengthening oversight of Schedule 2 and 3 entities, and institutionalising transformation.

- Strengthen DEE's internal capacity through a comprehensive workforce strategy and Capability Development Plan. The programme will focus on filling critical technical posts, leadership development, and performance-based culture transformation to ensure that key roles are staffed. It will embed digital systems, succession planning, and structured partnerships with DHET, SETAs, and universities to create a professional and future-ready workforce.
- Institutionalise an Entity Oversight and Alignment Framework that links shareholder compacts, KPIs, and reporting cycles with DEE outcomes. The programme will strengthen governance, improve financial sustainability, and embed reform alignment across Eskom, NECSA, SANEDI, NNR, NRWID, and NTCSA. Through quarterly reviews and annual Cabinet reports, DEE will ensure coherent performance management and accountability across all entities.
- Implement the National Sectoral Transformation and Inclusion Plan to embed gender, youth, and disability inclusion within policy, planning, and procurement frameworks. The programme will set measurable participation targets, establish transformation focal points within entities, and operationalise a digital Gender and Inclusion Data Platform. This initiative will advance equitable representation, inclusive leadership, and meaningful participation in South Africa's evolving energy sector.

Together, these programmes will embed professional excellence, integrity, and inclusive leadership across the energy sector - consolidating DEE's role as a capable, ethical, and globally respected steward of South Africa's energy transition.

For South Africa, a sustainable energy future that enables economic growth and social well-being will be realised through the delivery of these five outcomes, which collectively strengthen the foundations of the energy transition. Together, they link policy certainty, infrastructure investment, and institutional capability with inclusive socio-economic progress. Through their coordinated implementation, the Department of Electricity and Energy will drive universal access, accelerate low-carbon industrialisation, strengthen governance and system reliability, and ensure that the benefits of reform are equitable and far-reaching. This integrated approach positions the DEE as a capable, ethical, and forward-looking institution leading South Africa's just, competitive, and sustainable energy future.

2. Key risks and mitigations

The Department manages risks across the five outcomes using a common taxonomy of risk types, i.e., **Strategy and Policy, Regulatory and Legal, Operational and Delivery, Financial and Funding, Data and Technology, and Stakeholder and Reputation.**

For each risk, mitigations are grouped as **Preventative** (to avoid or reduce likelihood), **Detective** (to surface issues early through indicators and assurance), and **Corrective** (to restore delivery or recalibrate policy once a deviation occurs).

This structure reflects DEE's role as a policy, regulatory and investment-facilitation entity that sets the rules (Policy Authority) and orchestrates delivery (Delivery Orchestrator) through measurable, time-bound actions.

The risks to the achievement of the outcomes are identified as follows:

Outcome	Key Risks	Risk Mitigation
Outcome 1: Improved energy security and Just energy transition.	<i>Strategic and Policy</i> • Delayed INEP and Universal Access Framework approvals: Misalignment between IRP 2025, INEP Action Plan and municipal plans slows electrification • Fragmented funding architecture: Uncoordinated grid/off-grid financing weakens delivery <i>Operational and Delivery</i> • Municipal execution and revenue instability: Weak municipal capacity and revenue collection slow roll-out • PMO delays: Late staffing and inconsistent project management reduce delivery consistency <i>Financial and Funding</i> • Funding shortfalls/delays: Risk that electrification and off-grid projects are under-funded, reducing annual connection targets • Escalating input costs: Risk that rising equipment or logistics costs exceed budget ceilings <i>Data and Technology</i> • Incomplete connection and asset data: Risk that outdated or inconsistent data undermines planning, monitoring and reporting accuracy • Slow AMI deployment: Risk that lack of smart-metering integration limits revenue recovery and load management <i>Stakeholder and reputation</i> • Community resistance/protests: Risk that poor consultation or employment disputes trigger project stoppages • Reputational damage from missed access targets: Risk that under-delivery erodes investor and public confidence	<i>Preventative:</i> • Operationalise the INEP PMO with formal DDM compacts and provincial coordination frameworks • Publish a consolidated Universal Energy Access Roadmap and funding model by 2026/27 • Deploy technical support teams under DDM compacts and DAA revenue-management frameworks • Quarterly verification of household connections (grid and off-grid) and variance analysis • Secure multi-year allocations and blended-finance agreements with DFIs and private investors; quarterly spend monitoring • Implement early community-engagement plans with transparent grievance mechanisms and local-employment clauses <i>Detective:</i> • Accelerate AMI roll-out under DAAs and integrate usage data into DEE dashboards <i>Corrective:</i> • Roll out a digital M&E/geospatial dashboard for real-time connections and data audits

Outcome 2: Improved energy security and Just energy transition.	<i>Strategy and Policy:</i> • Fragmented planning instruments: Risk that IRP, IEP, SAREM, CMMS, INEP Action Plan and sectoral strategies are not synchronised, creating conflicting signals • Delayed plan updates: Risk that outdated plans/assumptions undermine implementation <i>Operational and Delivery:</i> • Weak inter-governmental coordination: DEE, NERSA, Eskom/NTCSA and provinces execute misaligned timelines <i>Regulatory and Legal:</i> • Legal compliance and procedural fairness risk: Stricter case law on consultation and administrative decisions increases likelihood of litigation against DEE or NERSA rulings <i>Data and Technology:</i> • Cybersecurity and data-integrity gaps: Risk that market-operator and grid-operation systems face cyber vulnerabilities, undermining market confidence and continuity • Weak data governance and modelling capacity: Limited transparency and data integration undermine evidence-based planning <i>Stakeholder and Reputation:</i> • Investor uncertainty and capital flight: Risk that reform delays, unclear rules, or tariff disputes reduce investor appetite for new generation and market participation	<i>Preventative:</i> • Institutionalise a unified energy policy framework with annual cross-plan alignment reviews and Cabinet reporting • Fix 5-year major (2-year minor) review cycles for IRP/IEP updates with assumptions published for public engagement • Establish a Planning & Implementation Council chaired by DEE with quarterly RAG reviews and joint implementation circulars • Introduce standard operating procedures (SOPs) and legal-review checkpoints for all regulatory actions to ensure PAJA compliance <i>Detective:</i> • Operationalise the national energy data platform for integrated data and modelling • Publish annual data quality scorecards
Outcome 2: Enabling environment for investment and improved competitiveness through structural reforms.	<i>Strategy and Policy:</i> • Mis-specified localisation thresholds: Targets set too broad/strict inflate system costs or fail to scale competitive components • Tariff-path uncertainty for industry: Lack of multi-year tariff visibility undermines investment and off-take agreements <i>Operational and Delivery:</i>	<i>Preventative:</i> • Issue multi-year tariff trajectory guidance aligned to EPP updates and publish quarterly variance notes • Conclude a DEE–DHET–JET skills compact tied to TDP/IRP milestones • Run legal reviews (International Trade Admin Commission of SA/Competition Commission) on localisation instruments

	• Skills pipeline misalignment: Training not synchronised with grid build, market ops, and factory ramps leading to low placement rates <i>Financial and Funding:</i> • Slow blended-finance mobilisation: Limited JET-IP/DFI capital delays industrial projects <i>Regulatory and Legal</i> • Trade-rules and competition risk: Localisation incentives conflict with trade commitments or raise anti-competitive concerns <i>Stakeholder and Reputation</i> • Weak community-benefit frameworks: Disputes over benefits and jobs stall projects	• Adopt a community-benefit sharing model (local procurement, enterprise funds, jobs targets) embedded in project approvals <i>Detective:</i> • Publish sector-specific localisation frameworks with total-economic-value tests and annual reviews aligned to IRP/SAREM
Outcome 2: Enabling environment for investment and improved competitiveness through structural reforms.	<i>Strategy and policy:</i> • Unclear long-term infrastructure sequencing: Risk that the timing of transmission corridors, generation build, and storage rollouts is not synchronised with IRP 2025 pathways, creating stranded or delayed assets • Incomplete technology evidence: Limited data on DMS, hydrogen and fuel-cycle options delays decisions <i>Regulatory and Legal:</i> • Nuclear governance and safeguards risk: Inadequate compliance with national and international nuclear-safety, security, and non-proliferation obligations could expose South Africa to regulatory sanctions, loss of international credibility, or project delays in nuclear industrialisation initiatives <i>Operational and Delivery:</i> • Servitude and permitting bottlenecks: Risk that land-use and environmental approvals delay corridor builds and renewable projects <i>Financial and Funding:</i> • Delayed capital mobilisation for grid corridors: Risk that slow blended-finance or concessional-fund deployment delays TDP implementation	<i>Preventative:</i> • Finalise an Integrated Infrastructure Sequencing Plan linking IRP 2025, TDP, and INEP milestones • Issue an annual infrastructure alignment bulletin through Operation Vulindlela • Implement a nuclear-safeguards compliance framework within DEE and state entities (NECSA, NNR, NRWDI) • Create a corridor delivery task force (DEE, DFFE, NTCSA) with single-window permitting and tracked SLAs for approvals <i>Detective:</i> • Publish corridor investment pipelines and quarterly funding dashboards • Launch an open-access grid capacity portal with live node/queue/curtailment data updated quarterly • Maintain a quarterly investor brief and public infrastructure dashboard detailing progress, approvals, and financing status

	<i>Data and Technology</i> • Insufficient grid-capacity visibility: Risk that developers and financiers lack transparent node-level data for investment decisions <i>Stakeholder and Reputation:</i> • Investor confidence erosion: Risk that inconsistent communication on project pipelines and permitting timelines deters private investment	
Outcome 5: Improved energy security and Just energy transition.	<i>Operational and Delivery:</i> • Fragmented municipal execution: Inconsistent intergovernmental execution (municipalities) slows approvals and increases losses • Critical-skills shortages: Risk that DEE lacks specialist modelling, market, cybersecurity and PPP-finance skills to execute the portfolio <i>Data and Technology:</i> • Slow digitalisation of MEL, e-licensing: risk that delayed digital systems and data-sharing weakens transparency and audit readiness <i>Stakeholder and Reputation:</i> • Audit qualifications: Potential qualified audits (from internal control weaknesses) undermine credibility and investor confidence • Regional market harmonisation delays: Risk that slow SAPP rule harmonisation and cross-border approval processes limit regional trade and adequacy benefits	<i>Preventative:</i> • Institutionalise a municipal energy support programme (tariff governance, loss reduction, wheeling frameworks) via DDM compacts • Set digital MEL/e-licensing standards across entities • Embed internal control remediation plan • Conclude SAPP harmonisation roadmap and MoUs and designate priority interconnectors with joint milestones • Approve a targeted capability plan (secondments, scarce-skills hiring, graduate pipelines, funded training in modelling, market ops, cyber, PPP) <i>Detective:</i> • Publish median approval cycle times and municipal performance dashboards • Quarterly internal-audit reviews of data integrity and compliance • Bi-annual SAPP milestone reviews and interconnector RAG reporting • HR dashboards for vacancy/critical-post time-to-fill and skills-uptake <i>Corrective:</i> • Deploy turnaround teams to priority municipalities

		• Escalate approvals through the statutory one-stop centre • Implement remedial action plans to secure clean audits • Trigger targeted staffing interventions (contracting/secondments) for high-risk programmes
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3. Public entities

The Department of Electricity and Energy oversees several SOEs responsible for various aspects of energy generation, transmission, regulation, and research. These entities play a critical role in ensuring energy security, advancing South Africa's energy transition, and promoting industrial development. The table below outlines the public entities reporting to the Minister, their legislative mandates, financial relationships, and operational focus.

Name of Entity	Legislative Mandate	Minister's Financial Relationship with the SOEs	Nature of Operations
Eskom Holdings SOC Ltd (Eskom)	Eskom Conversion Act, 2001 (Act No. 13 of 2001)	Shareholder representative	Eskom is responsible for the generation, transmission, distribution, and retail of electricity in South Africa, supplying industrial, commercial, and residential customers, as well as redistributors. The entity is undergoing restructuring to create subsidiaries for its generation, transmission, and distribution functions
National Energy Regulator of South Africa (NERSA)	National Energy Regulator Act, 2004 (Act No. 40 of 2004)	Shareholder representative	NERSA regulates the electricity, piped gas, and petroleum pipeline industries in South Africa, ensuring fair pricing, issuing of licenses, enforcing compliance, and resolving disputes within the sector
National Nuclear Regulator (NNR)	National Nuclear Regulator Act, 1999 (Act No. 47 of 1999)	Shareholder representative	The NNR ensures nuclear safety and security by regulating nuclear facilities and activities, licensing operators, and monitoring compliance with radiation safety standards
South African Nuclear Energy Corporation (NECSA)	Nuclear Energy Act, 1999 (Act No. 46 of 1999)	Shareholder representative	NECSA is responsible for research, development, and innovation in nuclear energy and radiation science. It also manages nuclear waste, oversees nuclear safety compliance, and operates the SAFARI-1 research reactor
National Radioactive Waste Disposal Institute (NRWDI)	National Radioactive Waste Disposal Institute Act, 2008 (Act No. 53 of 2008)	Shareholder representative	NRWDI is responsible for the long-term management and disposal of radioactive waste in South Africa, ensuring safe and environmentally sound waste disposal in compliance with national and international nuclear safety standards.

Department of Electricity and Energy: Strategic Plan 2025-2030.

Name of Entity	Legislative Mandate	Minister's Financial Relationship with the SOEs	Nature of Operations
South African National Energy Development Institute (SANEDI)	National Energy Act, 2008 (Act No. 34 of 2008)	Shareholder representative	SANEDI is responsible for conducting energy research, promoting energy efficiency, and facilitating clean energy technology development to support South Africa's energy transition and sustainability goals

The DEE performs a dual role in its relationship with public entities, acting both as **policy coordinator** and as the **shareholder representative** of SOEs that operate across the electricity, nuclear, and energy-research value chains. The Department's responsibility is to ensure that these entities deliver on their legislative mandates while remaining aligned to national energy policy, fiscal sustainability parameters, and good-governance standards.

To clarify the scope of oversight, DEE distinguishes between:

- **Schedule 2 entities (commercial operations):** These entities operate on a commercial basis, raising and managing their own revenue while pursuing developmental objectives. DEE's role is primarily that of a shareholder representative, exercising oversight through shareholder compacts, performance agreements, and financial-sustainability reviews (*e.g., Eskom and NECSA*)
- **Schedule 3 entities (public-service, regulatory, and research functions):** These bodies execute policy, regulatory, or research mandates on behalf of the state. DEE's role is primarily policy and coordination oversight, focusing on legislative compliance, institutional performance, and alignment with national priorities (*e.g., NERSA, NNR, NRWDI, and SANEDI*)

The Department will formalise this differentiation through a comprehensive SOE-Oversight Framework, defining:

- Mechanisms for policy and shareholder alignment
- Distinct performance-reporting and accountability protocols for commercial versus non-commercial entities, and
- A structured process for quarterly governance reviews with entity boards to assess delivery against DEE outcomes and the MTDP

This framework ensures that DEE acts as a coordinating policy authority while maintaining the fiduciary duties of a shareholder department, thereby enhancing consistency, accountability, and strategic coherence across the energy-governance ecosystem.

PART D: CAPACITY AND CAPABILITY BUILDING

As South Africa's newest policy and delivery institution, the DEE is building its identity and internal systems to match the complexity and pace of the national energy transition. The Department's core question is: *"How do we create an organisation that is agile, flexible, and responsive to the changing energy landscape?"*

In alignment with **MTDP Priority 3 — Building a Capable, Ethical, and Developmental State**, DEE's capability philosophy is anchored in four principles that will guide how it develops and operates:

1. **Continuous learning and adaptation:** Building a culture of experimentation, evidence-based problem-solving, and agile decision-making that allows rapid adjustment to new technologies and policy challenges.
2. **Cross-functional and inter-governmental collaboration:** Creating flexible, multidisciplinary teams and strengthening coordination across the public and private sectors to ensure coherent delivery across the energy value chain.
3. **Integrity and ethical leadership:** Embedding transparency, accountability, and professionalism as the foundation of performance and public trust.
4. **Digital transformation and data-driven management:** Using modern digital systems, advanced analytics, and integrated monitoring platforms to drive real-time insight, improve efficiency, and enable evidence-based decisions.

Over the next five years, DEE will evolve through cross-functional delivery teams, adaptive structures, and integrated digital systems that allow it to respond proactively to emerging technologies and market shifts. This approach positions DEE not only as a policy authority but also as a learning organisation—agile, ethical, and capable of orchestrating South Africa's energy future with confidence and credibility.

The DEE has an ambitious mandate, and its ability to deliver rests on strengthening its institutional capacity. **The internal analysis surfaced four critical blockers: regulatory uncertainty, funding constraints, weak intergovernmental coordination, and skills shortages.**

Part D outlines how DEE will build the people, systems, processes, and partnerships needed to address these areas, and serves as a guide to develop a department that operates as a credible policy authority that sets rules and provides oversight with confidence, and as a delivery orchestrator that mobilises finance, coordinates actors, and moves projects from planning to execution.

This chapter focuses on institutionalising the capabilities required for consistent delivery. **The emphasis is on the measures that enhance affordability, security, and a just energy transition by building the organisational foundations necessary for sustained implementation.**

1. Organisational restructuring and fit-for-purpose design

The establishment of the DEE in 2024 was accompanied by a comprehensive process of organisational restructuring to ensure that the Department possesses the capacity, skills, and institutional architecture required to implement its expanded mandate effectively. The restructuring is guided by the principles of integration, efficiency, accountability, and delivery orientation.

The re-design aligns the Department's structure with its **five strategic outcomes** and the Cabinet-approved mandates on energy security, market reform, green industrialisation, universal access, and nuclear industrialisation. Key features of the restructuring include:

- **Integration of policy, planning, regulation, and delivery functions** into a single, coherent operating model that improves coordination across the energy value chain
- **Creation of new technical and coordination branches** (i.e., a Green Economy and Hydrogen Branch and a Universal Access Programme Management Office (PMO)) to institutionalise emerging priorities such as the repurposed INEP, green hydrogen, and just-transition programmes
- **Strengthening of core delivery functions** through enhanced project management, data analytics, and performance-monitoring capabilities
- **Alignment of support services** (finance, human capital, legal, procurement, and ICT) with the Department's delivery priorities, supported by the roll-out of digital management systems, and
- **Reconfiguration of intergovernmental and stakeholder-management units** to improve coordination with entities such as Eskom, SANEDI, NERSA, and provincial and municipal structures

The new organisational model is designed to be lean, skilled, and responsive, ensuring that DEE operates as a high-performance institution capable of executing complex, multi-stakeholder energy programmes. It also provides a framework for targeted capacity development and workforce planning, including specialist recruitment, technical secondments, and partnerships with universities and development agencies.

Through this restructuring, DEE aims to build an organisation that is fit-for-purpose to deliver on South Africa's energy transition and industrial renewal, combining strategic leadership with execution excellence.

2. Overview of capabilities

For DEE to discharge its duties, it will build a set of core capabilities spanning both policy authority functions and delivery-orchestration functions. These are the **practical skills and systems that enable the Department to enforce rules, design policy, manage markets, mobilise finance, and support delivery**.

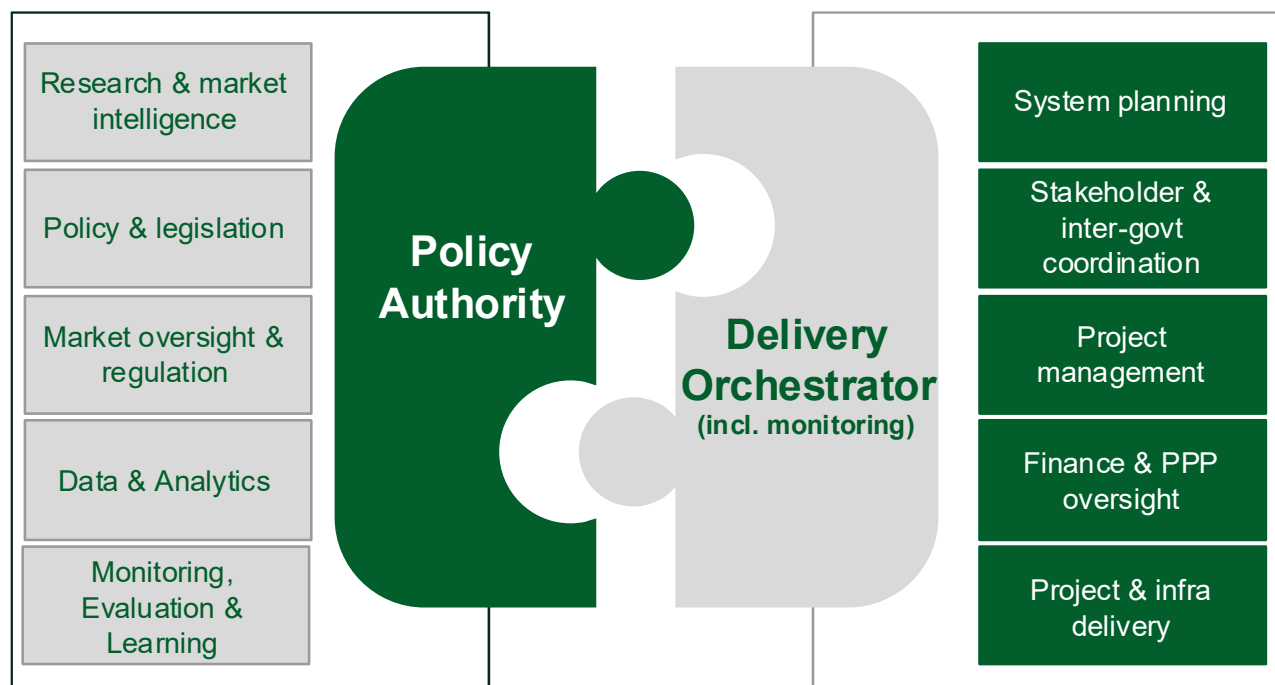


Figure 27: DEE capabilities overview

Capabilities to enable DEE's role as a Policy Authority

- **Research and Market Intelligence:** Power-system modelling, demand and price analytics, and policy impact analysis. Without credible modelling and evidence, DEE cannot update the IRP, plan for system reliability, or design policies that balance affordability with decarbonisation
- **Policy and Legislation:** Capacity to design policies, conduct SEIAS reviews, and draft laws that align with climate and fiscal frameworks. This ensures DEE can craft laws that are not only ambitious, but implementable and constitutionally sound
- **Market Oversight and Regulation:** Skills to govern codes, licensing, metering compliance, and market conduct. Without these, the new electricity market risks instability, investor flight, and loss of public trust
- **Data and Analytics:** Building dashboards and conducting operational analytics (tariffs, grid KPIs, market performance). This shifts DEE from reactive oversight to proactive regulation, creating transparency for investors and accountability to citizens
- **Monitoring, Evaluation and Learning (MEL):** Evaluating results, frameworks, and ensuring audit readiness. This capability underpins DEE's credibility with Parliament, Cabinet, and the Auditor-General

These capabilities enable DEE to update plans credibly, maintain predictable rules, and provide transparent, evidence-based oversight aligned with constitutional and policy requirements.

Capabilities to enable DEE's role as an Orchestrator of Delivery

- **System Planning:** Integrated supply–network planning, grid access and queue governance, and spatial/geo planning. Without this, the Transmission Development Plan (TDP) cannot be delivered, and new generation cannot connect.
- **Stakeholder and Intergovernmental Coordination:** Capacity to negotiate with municipalities, NERSA, Eskom, NTCSA, DFIs, and private investors, and embedding DDM compacts. DEE cannot succeed in isolation. Its role is pivotal for coordination across a fragmented energy landscape.
- **Project Management:** Portfolio management, understanding and implementing stage-gates, dependency tracking, and ensuring KPI discipline. This is the “engine room” that keeps reforms on schedule and prevents the repeat of past delays in procurement and grid build. Instituting a system of continuous delivery tracking across all energy programmes and entities, ensures that regular progress reviews surface implementation successes and challenges early.
- **Finance and PPP Oversight:** Skills in PPP design, blended-finance modelling, guarantees, and transaction oversight are crucial for ensuring that DEE can both mobilise finance innovatively, and ensure the system has adequate financial oversight. With R100+ billion required for transmission alone, DEE must be able to mobilise and structure finance at scale.
- **Project and Infrastructure Delivery:** Oversight of construction readiness, permitting, logistics, and HSE compliance. This ensures projects do not stall once approved, closing the loop from policy to delivery.

These capabilities enable coordinated implementation across the value chain, improve delivery discipline, and support mobilisation of finance at scale.

These capabilities form the foundation for DEE to design the rules of the system and ensure effective execution. By 2030, the intention is that these capabilities are embedded in core operations, supporting DEE's role as both policy authority and delivery orchestrator.

3. Building institutional capacity for Green Economy Leadership

To institutionalise its green-economy mandate, the DEE will establish a dedicated “Green Economy and Hydrogen Development Branch”, led by a Deputy Director-General, responsible for cross-sector coordination, investment facilitation, and technical oversight of hydrogen and renewable-energy industrial programmes. The Branch will serve as the single coordination point for national green-economy initiatives, working closely with DFFE, DTIC, DMRE entities, and provincial partners to ensure delivery alignment with the JET-IP and MTDP outcomes.

A Universal Access PMO will also be established within Programme 3 to drive the implementation of the repurposed INEP. The PMO will consolidate project tracking, data management, and intergovernmental coordination, supported by expanded technical-engineering capacity within SANEDI and the Department.

4. Lessons from global best practice

Countries that deliver reliable, affordable power at pace do two things well and in sequence: first, they set direction and rules with evidence (Policy Authority), and they convert those rules into pipelines, contracts and energised assets (Delivery Orchestrator). The capability set that has been defined (in Part D section 1) (i.e., implementable policy and legislation, impartial market oversight, integrated system planning, transparent data, disciplined delivery management, and fit-for-purpose finance) maps cleanly onto those two core functions and provides the spine for predictable rules, clear accountability, and time-bound outcomes.

4.1. FOUNDATIONS MINISTRIES NEED TO DELIVER AT PACE AND RELIABLY

Best practice starts with institutionalised, scenario-based planning and analytics: a protected modelling team, transparent assumptions, and a single source of truth for demand, supply, grid and price outlooks. Without this, policy would not be based on real evidence. With it, ministries can update plans, design markets and set procurement with confidence. The IEA's roadmap is clear that dedicated modelling capacity and reliable statistics are pre-conditions for credible policy.²⁹

Evidence only creates value when paired with market governance and oversight: defining codes and prudential rules, running competitive processes, supervising metering and settlements, and publishing dashboards that create trust for investors and accountability to citizens. World Bank and ESMAP guidance emphasises that clear roles, third-party access to networks, unbundled transmission, and phased market opening are the design choices most associated with investment, efficiency, and affordability over time.³⁰

Once rules are clear, disciplined delivery management makes them real: stage-gates, queue governance, permitting service-level agreements, and portfolio risk registers are standard. The DEE's own capability framework aligns to this pattern, linking system planning, finance/PPP design, and project execution to the Transmission Development Plan (TDP) and market reform milestones.

Lastly, modern ministries build technical fluency in flexibility, system strength, and digital grids. Global best practice treats storage, fast-ramping thermal, demand response and automation as system requirements, not add-ons. This aligns with South Africa's own emphasis on grid-first delivery and emerging digital/industrial loads (e.g., data centres), reinforcing why capabilities must be built around the grid constraint.

²⁹ [Developing Capacity for Long-Term Energy Policy Planning: A Roadmap – Analysis - IEA](#)

³⁰ [Rethinking Power Sector Reform in The Developing World | ESMAP](#)

4.2. CAPABILITIES OF HIGH PERFORMING ENERGY MINISTRIES

Put together, international guidance (IEA, World Bank/ESMAP) points to a stable set of capabilities, each sitting squarely on the roles of DEE as Policy Authority and Delivery Orchestrator:

- Strategic planning and scenarios with robust data governance
- Market architecture and code stewardship
- Independence and non-discriminatory network access in system operation
- Predictable procurement frameworks that turn rules into bankable projects
- Affordability policy with targeted, data-verified protection
- Investment mobilisation via PPPs/blended finance tied to corridor pipelines
- Monitoring, evaluation and learning that closes the loop

4.3. GLOBAL BENCHMARKS

Three benchmark families are especially salient for South Africa's multimarket reform. These are derived from global reforms that have occurred:

Market-opening pathways and grid access rules. Countries that progressed from vertically integrated utilities to competitive markets did so by codifying third-party access, unbundling transmission, and phasing customer eligibility. Optional pool models allowed bilateral contracts to co-exist with a central market as liquidity deepened. This staged approach, evident in Brazil, India and the EU, mirrors South Africa's ERA Amendment architecture and SAWEM intent.

Whole-system planning and independent system operation. The UK's new National Energy System Operator (NESO) consolidates long-term planning and real-time operation across electricity and gas, independent of ownership interests, to deliver a clean, secure, affordable system. Its mandate to publish transparent analyses and advise government provides a reference point for the NTCSA and future market/system operator arrangements.³¹

Investment de-risking and adequacy frameworks. The UK's Electricity Market Reform pairs Contracts for Difference (CfDs) for low-carbon energy with a Capacity Market to ensure adequacy at peaks, mechanisms administered by the system operator (now NESO) and continually updated to align

³¹ [New publicly owned National Energy System Operator to pave the way to a clean energy future - GOV.UK](#)

with decarbonisation. While South Africa's context differs, the principle (i.e., clear, bankable products that value both energy and firmness) translates directly to flexibility and balancing markets as SAWEM matures.³²

South Africa's demand profile is also evolving as digital and industrial loads (e.g., data centres, beneficiation) rise. International evidence on data-centre siting underscores that grid capacity, connection certainty and tariff transparency are decisive. South Africa's projected DC growth therefore strengthens the case for grid-first planning and published node/corridor pipelines.

4.4. WHAT THIS MEANS FOR SOUTH AFRICA, AND IMPLICATIONS FOR THE DEE

For South Africa, the lesson is sequencing with transparency. The first tasks are to lock in impartial system operation and access rules, publish connection capacity by node and a firm queue-management regime, and phase SAWEM so liquidity can grow without compromising stability. DEE should pair market design (energy, balancing, ancillary products) with affordability instruments (verified lifeline blocks, time-of-use signals), and with flexibility procurement to avoid curtailment and price spikes as les scale. These priorities are already reflected in the Strategic Plan's Programmes of Work and capability pillars and should be carried through into implementation directives.

Given South Africa's growth ambitions and the strong link between electricity availability and competitiveness, the grid-first approach is pivotal: rapid reinforcement of high-load corridors (Gauteng and Western Cape metros, and Cape renewable energy corridors) alongside clear, multi-year market and tariff paths will crowd in investment and jobs.

5. Capacity Building

In response, best-in-class example energy ministries (IEA, IRENA, OECD, World Bank, ACER) and local lessons from high-performing departments show how capacity can be systematically strengthened:

- **Process and governance:** Strong internal controls, compliance systems, and streamlined decision rights reduce duplication and speed up delivery
- **People and leadership:** Purposeful talent pipelines, succession planning, and leadership development programmes ensure institutions are led by capable, future-ready managers
- **Systems and data:** Investment in digital platforms, analytics, and transparent reporting provides real-time visibility and strengthens evidence-based decision-making

³² [Contracts for Difference and Capacity Market Scheme Update 2023](#)

- **Partnerships and footprints:** Collaboration with SOEs, municipalities, academia, and international institutions embeds expertise and improves coordination
- **Workforce planning and reskilling:** Successful ministries anticipate skill gaps, invest in continuous learning, and implement targeted strategies to bring in scarce expertise while developing internal staff
- **Capacity planning:** Experts stress importance of integrated, long-term planning that links workforce, infrastructure, financial capacity to national objectives, rather than reactive short-term fixes

Having identified the required capabilities, the focus shifts to implementation. Capacity building links current gaps to the desired end state and comprises the actions to grow human capital, systems, and organisational processes.

This section overviews the steps needed to translate capability requirements into institutional reality: developing a pipeline of scarce skills, embedding regulatory and market oversight functions, and building financial structuring oversight and project-management systems for disciplined delivery.

5.1. BUILDING HUMAN CAPITAL: ADDRESSING THE SKILLS SHORTAGE

The shortage of technical and cross-functional skills is a material constraint. Building in-house expertise strengthens DEE's ability to design policy, oversee sector entities, and support a competitive market.

In resource constraints environments, partnerships with universities, TVETs, SANEDI, and international agencies such as the IEA and IRENA are key. Critical skills of focus for South Africa's energy and electricity sector include power system modelling, grid planning, energy economics, market design, nuclear safety, and digital analytics. These provide the technical foundations needed for DEE to act as an effective policy authority.

Additional focuses:

- Skills transfer secondment arrangements with private sector, global energy sector etc. to accelerate knowledge transfer and harmonise practice.
- Structured career pathways, bursaries, and internships, with a strong focus on women, youth and persons with disabilities, to ensure transformation of the sector's leadership pipeline

The Department is embedding gender mainstreaming as a cross-cutting pillar of its institutional culture and programme design. In line with the NDP 2030 and the Medium-Term Development Plan 2024–2029 priority of *“building a capable, ethical and developmental state”*, DEE integrates gender equality, youth empowerment, and inclusion throughout its policy, regulatory, and operational work.

Progressive implementation is occurring across several focus areas, including:

a. Inclusive Governance and Representation

- i. The Department is aligning with the DPME and DPSA performance frameworks to ensure gender balance in senior management, technical committees, and SOE boards
 - ii. The 2025–2030 Strategic Plan commits to gender-responsive leadership training and succession planning to increase women’s participation in policy, nuclear, renewable-energy, and grid-planning fields
- b. *Gender-Responsive Budgeting and Procurement*
 - i. DEE is applying gender-responsive budgeting (GRB) across all MTEF programmes, guided by National Treasury’s Gender Budgeting Framework (2023) and Operation Vulindlela’s inclusion metrics
 - ii. The Department has introduced set-asides and scoring incentives for women-owned and youth-owned enterprises in REIPPPP, battery-storage, and transmission-construction tenders, in alignment with the IPP Office’s Economic Development Criteria

These measures address the skills shortage, reduce reliance on external advisory support, and embed technical credibility within DEE. By 2030, the Department targets a professional cadre capable of independently leading planning, market reform, and oversight.

5.2. STRENGTHENING POLICY AND MARKET OVERSIGHT: TACKLING REGULATORY UNCERTAINTY

A predictable, timely, and coherent regulatory environment improves investment confidence. South Africa’s energy environment however has been characterised by long licensing delays, unclear rules, and overlaps between DEE, NERSA, Eskom, and municipalities.

A dedicated unit set up to National Energy Planning and Market Oversight is essential, equipped with capabilities in policy design and SEIAS, market code governance, licensing, competition oversight, and regulatory compliance monitoring. While DEE’s responsibility does not lie in implementation, the Department serves a key role in policy and market research to enable effective planning, design and implementation.

5.3. DATA, RESEARCH AND MONITORING SYSTEMS: MOVING FROM REACTIVE TO PROACTIVE

As a new ministry, DEE requires strong capabilities in data, research, and monitoring to underpin evidence-based leadership. Effective policy and oversight depend on the ability to curate and analyse internal and external energy market information, providing reliable inputs for planning and decision-making.

Key functions include the integration of data across DEE, Eskom, NTCSA, and NERSA into a shared energy intelligence architecture; the development of business intelligence dashboards and operational analytics covering grid performance, tariff trajectories, and market outcomes; and the institutionalisation of a robust Monitoring, Evaluation, and Learning (MEL) function. Together, these enable the Department to track results frameworks, maintain audit readiness, and monitor portfolio benefits.

Such systems ensure that energy market oversight shifts from crisis-driven reporting toward proactive risk identification and progress tracking, providing regular and transparent updates to key stakeholders.

5.4. ENSURING DELIVERY DISCIPLINE: ACTIVIST PROJECT MANAGEMENT OFFICE

Effective implementation discipline is essential to translate policy intent into tangible outcomes. To support this, DEE requires strong programme and project management capabilities that provide consistent oversight across the portfolio of reforms and infrastructure projects.

Key functions include maintaining a single delivery calendar for the energy sector, applying stage-gate processes and readiness reviews for all major projects, and tracking dependencies and bottlenecks across the value chain. Delivery functions should also provide escalation pathways for persistent delays, including formal mechanisms to raise blockages to Cabinet clusters or inter-ministerial forums.

Programme management capacity must further extend to monitoring key performance indicators, coordinating cross-departmental service-level agreements, and ensuring permitting and servitude processes are completed on schedule.

These capabilities provide the foundation for disciplined delivery, enabling DEE to act as an orchestrator of reform and ensuring that projects move from planning to execution within predictable timelines.

In addition, intergovernmental alignment is a prerequisite for stable distribution and coherent implementation across the electricity value chain. To achieve this, DEE requires strengthened convening capacity and clearly defined mechanisms for cooperation across spheres of government and sector institutions.

By 2030, DEE aims to operate as a professionalised, digitally enabled, and trusted institution. Its authority will be reflected in capabilities to: (1) design credible, climate-aligned policy; (2) regulate a competitive electricity market; (3) mobilise finance at scale; and (4) maintain disciplined delivery across government, municipalities, and the private sector. Capacity building is the pathway to this destination.

PART E: TECHNICAL INDICATOR DESCRIPTIONS

Indicator title:	Implementation of the Electricity Distribution Industry (EDI) Reform Roadmap
Definition	To measure the restructuring and reforms of Eskom implementation in line with the Eskom Roadmap and Electricity Regulation Amendment Act.
Source of data	Eskom Roadmap and Electricity Regulation Amendment Act.
Method of calculation or assessment	Simple count.
Assumptions	Restructuring and reforms will be completed within set timeframes.
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	Reformed and restructured entity.
Indicator responsibility	DDG: State-Owned Entities Oversight

Indicator title:	Establishment of an independent Transmission System Operator (TSO) outside of Eskom
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Definition	To measure establishment of an independent Transmission System Operator (TSO) outside of Eskom.
Source of data	National Transmission Company of South Africa (NTCSA) established as a subsidiary of Eskom Holdings
Method of calculation or assessment	Simple count
Assumptions	The ITSO will be implemented within stipulated timeframes.
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	Independent Transmission System Operator (TSO) established outside of Eskom
Indicator responsibility	DDG: State-Owned Entities Oversight.

Indicator title:	Establishment of South African Wholesale Electricity Market (SAWEM)
Definition	To measure establishment of South African Wholesale Electricity Market (SAWEM), operating under a competitive trading framework, reflecting

	progress in the liberalization and electricity sector reforms.
Source of data	Electricity Regulation Amendment Act passed and assented to by the President
Method of calculation or assessment	Simple count
Assumptions	SAWEM will be established within the stipulated timeframe.
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	A fully operational wholesale electricity market by 2030.
Indicator responsibility	DDG: Energy Planning and Policy

Indicator title:	IP \$2.6 billion deployed for Camden, Hendrina and Grootvlei (CHG) Mpumalanga power stations' repurposing, repowering, decommissioning
Definition	To measure implementation of the Just Energy Transition In-vestment Plan (JET-IP) and ensure that South Africa's transition to a low-carbon economy supports communities and workers in Mpumalanga and other affected areas.
Source of data	Just Energy Transition In-vestment Plan

Method of calculation or assessment	Simple count
Assumptions	CHG power stations decommissioned, new renewable power generation operating, new livelihoods established.
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	Camden, Hendrina and Grootvlei (CHG) Mpumalanga power stations'
Reporting cycle	Annually
Desired performance	Coal fired power stations decommissioned, new renewable power generation operating, new livelihoods established
Indicator responsibility	DDG: Energy Planning and Policy

Indicator title:	Expanded and strengthened transmission network.
Definition	To measure procurement and construction 7 416 km of transmission lines built by 2030.
Source of data	7 416 km of transmission lines built
Method of calculation or assessment	Simple count
Assumptions	Procurement and construction will be done and completed within the stipulated timeframe.
Disaggregation of beneficiaries (where applicable)	N/A

Spatial transformation (where applicable)	Not yet available
Reporting cycle	Annually
Desired performance	Expanded and strengthened transmission network
Indicator responsibility	DDG: Energy Programmes and Projects

Indicator title:	Procurement of new generation capacity in line with the Integrated Resources Plan (IRP)
Definition	To measure implementation of IRP and diversify the energy mix in line with Ministerial determinations
Source of data	Approved IRP 2025 Ministerial determinations.
Method of calculation or assessment	Simple count
Assumptions	Procurement of new generation capacity will be implanted in line with the Integrated Resources Plan
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	Not yet available
Reporting cycle	Annually
Desired performance	IRP 2025 fully implemented by 2030
Indicator responsibility	DDG: Energy Planning and Policy

Indicator title:	Reduction in processing time for regulatory authorisations related to energy projects.
Definition	Reduction in processing time for related authorizations to 180 days through establishment of a single electronic window for related authorisations by 2030.
Source of data	Approved IRP 2025
Method of calculation or assessment	Simple count
Assumptions	Single electronic window will be finalized within stipulated timeframe.
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	Reduction in processing time for related authorizations to 180 days
Indicator responsibility	DDG: Energy Planning and Policy

Indicator title:	Energy Security Bill passed.
Definition	To measure development and the passing of Energy Security Bill.

Source of data	Approved IRP 2025
Method of calculation or assessment	Simple count
Assumptions	Energy Security Bill will introduced and processed in Parliament within the MTEF period.
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	Energy Security Bill passed
Indicator responsibility	DDG: Energy Planning and Policy

Indicator title:	Enablement for Procurement of 5.2 GW Nuclear New Build Programme, in line with IRP, incl. SMRs
Definition	To measure the procurement process of the 5.2 GW Nuclear New Build Programme, in line with IRP, incl. SMRs.
Source of data	Procurement framework study report Options analysis for funding mechanisms developed
Method of calculation or assessment	Simple count

Assumptions	Ministerial determination and RFI will be issued to market.
	RFP issued to market License to construct obtained from the National Nuclear Regulator
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	5.2 GW Nuclear New Build Programme, in line with IRP, incl. SMRs
Indicator responsibility	DDG: Nuclear Management and Regulation

Indicator title:	Green Hydrogen Infrastructure and Incentives Plan developed.
Definition	To measure development implementation of the Green Hydrogen Infrastructure and Incentives Plan by 2030.
Source of data	Approved IRP 2025.
Method of calculation or assessment	Simple count
Assumptions	Green Hydrogen Infrastructure and Incentives Plan will be developed within the stipulated timeframe.
Disaggregation of beneficiaries (where applicable)	N/A

Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	Development of the green hydrogen sector supported.
Indicator responsibility	DDG: Energy Programmes and Projects.

Indicator title:	Integrated Resource Efficiency and Renewable Programme
Definition	To measure performance of Integrated Resource Efficiency and Renewable Programme to ensure 140 energy savings projects implemented with 868 MW saved, 8.8 million kL water saved. 139,000 tons waste reduce
Source of data	Rollout and Implementation of iREREP projects
Method of calculation or assessment	Simple count
Assumptions	Rollout and Implementation of iREREP projects as planned.
Disaggregation of beneficiaries (where applicable)	N/A
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	Energy savings projects implemented
Indicator responsibility	DDG: Energy Programmes and Projects

Indicator title:	Percentage of Public Institutions implementing WYPD-responsive planning and budgeting, including integration of the NSP on GBVF
Definition	To measure % of SOEs and department plans that are partially WYPD responsive to ensure achievement 100% nationally by 2030.
Source of data	DWYPD frameworks and guideline Signed Shareholder compacts SOEs quarterly reports
Method of calculation or assessment	Simple count
Assumptions	SOEs will align and implement government policy on WYPD.
Disaggregation of beneficiaries (where applicable)	WYPD
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	Plans that are partially WYPD responsive
Indicator responsibility	DDG: Energy Programmes and projects

Indicator title:	Gender and youth representation in Department of Electricity and Energy's workforce.
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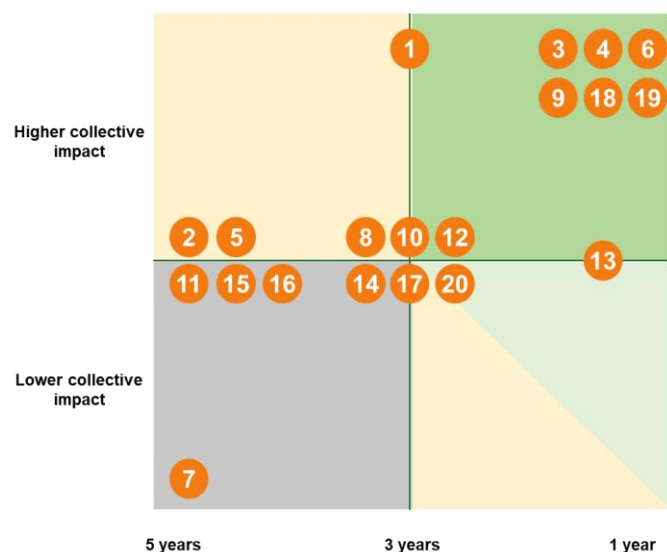
Definition	To measure implementation of Employment Equity in the department inline with DPSA policies to achieve Women: 50% and Youth: 40% by 2030.
Source of data	DWYPD frameworks and guideline Signed Shareholder compacts SOEs quarterly reports.
Method of calculation or assessment	Simple count
Assumptions	Programme will align and implement department policy
Disaggregation of beneficiaries (where applicable)	Women and Youth
Spatial transformation (where applicable)	N/A
Reporting cycle	Annually
Desired performance	Achieve EE targets
Indicator responsibility	CD: Corporate services.

ANNEXURES TO THE STRATEGIC PLAN

Annexure A Impact analysis and the role of the DEE

Note: this exercise was conducted to sequence and prioritisation, and not to give an absolute review of the exact time to impact and magnitude of each activity

2 x 2 Impact Matrix



DEE Outcome	Time to Impact (Range: 1 – 5 years)	Magnitude of Impact	Action stage
Outcome 1:	1 – 3 years	High	Plan Implementation
	3 – 5 years	Medium	Detail Design / Early Implementation

Department of Electricity and Energy: Strategic Plan 2025-2030.

DEE Outcome	Time to Impact (Range: 1 – 5 years)	Magnitude of Impact	Action stage
	Dependent on municipal restructuring timelines and adoption of financial and operational reforms	Improves local-level service reliability, revenue stability, and customer satisfaction; builds long-term distribution resilience	High-level diagnostic phase complete; needs scaling of pilot models and alignment with National Treasury and SALGA
Outcome 1:	< 1 year	High	Early Implementation
	Linked to finalisation of EPP, EPDR, and NERSA determinations, all which are under progress and top priority; progress achievable through coordinated regulatory effort.	Improves affordability, transparency, and investment certainty; stabilises Eskom and supports new entrants.	Regulatory groundwork exists; requires finalisation of tariff structures, vesting, and subsidy alignment.
	< 1 year	High	Early Implementation
	Market framework exists; requires phased rollout and risk readiness validation.	Unlocks competition, transparency, and system efficiency; foundational to future market reform	ERA framework in place; focus on market design, prudential rules, and institutional readiness
	3 – 5 years	Medium	Detail Design
	Relies on policy harmonisation and interdepartmental governance structures	Aligns national investment signals, strengthens coherence of transition policies, and boosts investor confidence	Some coordination structures exist; requires joint policy framework and alignment with DPME, NT, and DTIC.
	< 1 year	High	Implementation
	IEP and IRP updates underway; Gas Master Plan in development; impact expected post-implementation	Builds system reliability, enhances long-term planning credibility, and supports structural energy reform	IEP gazetting and plan integration in progress; next phase focuses on monitoring, feedback loops, and data systems
	3 – 5 years	Low	Detail Design / Early Implementation
	Requires regulatory harmonisation, cross-border wheeling frameworks, and SAPP coordination	Enhances regional system stability, optimises imports/exports, and provides cost benefits through shared capacity.	SAPP mechanisms exist; requires updated trading rules and regulatory alignment
	1 – 3 years	Medium	Early implementation
	Can be advanced through inter-agency coordination and establishment of standardised data protocols	Strengthens evidence-based planning, modelling credibility, and forecasting accuracy across departments.	Data-sharing structures exist but need standardisation, custodianship framework, and ICT integration.
Outcome 1:	< 1 year	High	Early Implementation
	Linked to NECCOM reforms and ERA amendments; achievable within short-term project cycles	Increases system reliability, enables IPP participation, and accelerates new generation build-out	NECCOM pilots operational; requires codification of curtailment, wheeling, and access protocols

Department of Electricity and Energy: Strategic Plan 2025-2030.

DEE Outcome	Time to Impact (Range: 1 – 5 years)	Magnitude of Impact	Action stage
	1 – 3 years Dependent on LNG infrastructure rollout, pipeline investment, and procurement finalisation	Medium Supports short-term system balance, strengthens baseload security, and enables flexible integration of renewables	Detail Design / Plan Implementation Project pipeline exists; requires sequencing, financing, and risk framework finalisation
	3 – 5 years Requires industrial capacity building, local manufacturing incentives, and trade policy support.	Medium Builds domestic resilience, fosters industrial growth, and enhances supply-chain security	Detail Design SAREM and tools exist (e.g., DTIC localisation policy); requires feasibility assessment and sectoral implementation plan
	1 – 3 years Training institutions and programmes can scale within medium-term planning cycles, DHET JET Desk exists	Medium Strengthens operational capability, supports system modernisation, and enhances employment quality	Detail Design / Early Implementation JET skills workstream exists; needs mapping of sectoral demand and coordination with DHET/SETAs
	1 – 3 years Can be advanced through regulatory amendments and institutionalisation of NECCOM one-stop-shop processes	Medium Reduces project delays, accelerates private investment, and improves certainty for developers	Early Implementation NECCOM pilots exist; requires codification, SLAs, and digital workflow integration
Outcome 2	1 – 3 years Depends on design and scaling of blended-finance facilities, guarantees, and risk-sharing instruments	Medium Unlocks private capital, lowers project costs, and enhances investment pipeline resilience	Detail Design / Early Implementation Pilot instruments exist; requires standardisation, scaling mechanisms, and regulatory alignment with NT and DFIs
	3 – 5 years Requires technical-economic feasibility studies, safeguards assessment, and international collaboration	Medium Supports long-term energy security and industrial capability, contingent on technology and policy feasibility	Assess Initial scoping underway; requires economic and commercial review before implementation design
	3 – 5 years Linked to implementation of the Hydrogen SA strategy, industrial pilots, and export infrastructure development	Medium Drives new industrial sectors, supports decarbonisation, and positions SA in global clean-energy markets	Detail Design / Early Implementation Roadmaps exist; requires coordination of incentives, infrastructure sequencing, and international partnerships.
	1 – 3 years Can progress rapidly with standards, pilots, and national rollout	Medium Reduces peak demand, improves grid efficiency, and supports affordability and sustainability goals	Detail Design / Plan Implementation Technical standards under development; requires scaling through industry partnerships
	< 1 year	High	Implementation

Department of Electricity and Energy: Strategic Plan 2025-2030.

DEE Outcome	Time to Impact (Range: 1 – 5 years)	Magnitude of Impact	Action stage
	Institutional reforms and workforce strategy implementation underway	Strengthens DEE's execution capacity, governance, and reform delivery capability	Organisational design and skills audit in progress; next phase focuses on recruitment, training, and performance alignment
	< 1 year	High	Implementation
	Oversight mechanisms can be strengthened immediately through improved coordination, data sharing, and updated shareholder compacts	Enhances governance, accountability, and performance of key state entities; improves delivery on national priorities	Oversight coordination framework being rolled out; requires embedding of performance monitoring, joint reviews, and KPI alignment with MTDP outcomes
	1 – 3 year	Medium	Assess / Detail Design
	Requires interdepartmental collaboration, stakeholder consultation, and definition of measurable inclusion targets	Builds equity, participation, and skills diversity in the energy sector; supports just transition and inclusive growth	Concept under development in pieces; needs formalisation of mandate, baselining, and integration into departmental planning cycles

Annexure B: District Development Model (DDM)

The District Development Model (DDM) is a critical framework for ensuring coordinated, localised energy planning and service delivery. The Department of Electricity and Energy operates as a national entity but plays an essential role in integrating national energy priorities with provincial and municipal service delivery mandates. Given South Africa's decentralised governance structure, the DDM provides a mechanism for the department to work in alignment with local authorities, utilities, and communities to improve energy access, security, and sustainability.

The Department of Electricity and Energy's role in the DDM aligns with the Government of National Unity priorities, the NDP, and the MTDP 2024–2029, ensuring that energy interventions drive inclusive economic growth, enhance service delivery, and contribute to social transformation. The department collaborates with district and metropolitan municipalities, Eskom, the NERSA, the ITSO, and other key energy sector players to ensure that energy services are accessible, reliable, and aligned with local needs.

The Department of Electricity and Energy's five-year strategy supports DDM objectives in the following ways:

- 1) Integrated energy planning and localised policy alignment: The department is responsible for ensuring that national, provincial, and municipal energy plans are fully aligned to avoid fragmented planning and investment. This is being driven through IRP 2025 and the Integrated Energy Plan, which provide a framework for municipal and provincial energy planning, ensuring alignment with South Africa's energy security and transition priorities. The department works with municipalities to develop decentralised energy solutions, support embedded generation, and enhance resilience in the face of load-shedding and climate impacts.
- 2) Electrification and universal access to energy: The department is a key driver of the Integrated National Electrification Programme, which funds and facilitates the rollout of grid and non-grid electrification solutions for underserved communities. The DDM allows district and local municipalities to work with the department to accelerate electrification projects, improve coordination with Eskom and independent power producers, and prioritise high-need areas. Over the next five years, the department will focus on ensuring that electrification efforts are targeted, inclusive, and support economic opportunities for marginalised communities.
- 3) Energy infrastructure expansion and resilience: Through Programme 3 (Energy Programmes and Projects), the department is responsible for facilitating the expansion and modernisation of electricity transmission and distribution networks. This includes:
 - a) Enhancing municipal grid infrastructure to enable embedded generation and distributed energy resources.
 - b) Strengthening regional electricity interconnections, ensuring that district municipalities benefit from improved grid reliability and capacity.
 - c) Rolling out demand-side management and energy efficiency initiatives, ensuring local governments can reduce municipal electricity losses and improve service delivery
- 4) Local economic development and just energy transition: The department's strategy places significant emphasis on local industrialisation and job creation, particularly in the renewable energy and green economy sectors. The department will work with municipalities to:

- a) Leverage local procurement and industrialisation initiatives under the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP)
 - b) Develop municipal-level energy transition strategies, ensuring that coal-dependent regions receive economic and workforce transition support.
 - c) Ensure that energy projects prioritise economic inclusion, with a strong focus on opportunities for women, youth, and persons with disabilities in the energy sector.
- 5) Strengthening energy governance and regulatory oversight: The DDM is a key mechanism for the department to enhance municipal and provincial capacity in energy governance and regulatory compliance. This includes:
- a) Supporting municipal energy frameworks that enable embedded generation and independent power production.
 - b) Ensuring municipalities comply with energy market regulations, including licensing requirements, metering standards, and environmental compliance.
 - c) Driving intergovernmental collaboration to reduce municipal electricity debt and ensure that Eskom and municipalities adopt sustainable financial practices.
- 6) Regional and cross-border energy integration: Given South Africa's role in the Southern African Power Pool, the department is actively engaging with district municipalities located in border regions to:
- a) Enhance regional electricity trade and interconnections, particularly for municipalities linked to international energy corridors.
 - b) Support regional economic zones with energy security planning, ensuring that major industrial and economic hubs have reliable energy supply.
 - c) Strengthen partnerships with neighbouring countries to advance regional energy security and infrastructure development.

The department will incorporate DDM considerations into its performance planning, reporting, and implementation frameworks. The department will:

- 1) Regularly engage with municipalities and provinces through structured energy coordination forums.
- 2) Develop DDM-aligned performance indicators, ensuring that local energy priorities are reflected in the department's reporting.
- 3) Ensure that energy investments are aligned with municipal integrated development plans and provincial growth and development strategies.

By embedding the DDM into its strategic planning and implementation, the department will ensure that energy services are delivered in a coherent, efficient, and inclusive manner, advancing South Africa's energy security, economic development, and just energy transition priorities over the next five years.

Annexure C: Mandates, legislation, and policy frameworks (non-exhaustive)

CONSTITUTIONAL MANDATE

Instrument	Type	Area(s) governed	Implication for EE
Constitution, s24 (Environment)	Constitution	Right to an environment not harmful to health/well-being	Integrate climate and environmental limits into energy planning and approvals
Constitution, s27 (Socio-economic rights)	Constitution	Access to water, health, food (dependent on reliable energy)	Plan for affordable, reliable supply to support progressive realisation of rights
Constitution, s41 (Cooperative governance)	Constitution	Co-ordination across spheres of government	Lead IGR alignment with provinces/municipalities; embed DDM compacts
Constitution, s195 (Public administration)	Constitution	Transparency, accountability efficiency	Strengthen internal controls, performance management and service standards
Constitution, s217 (Procurement)	Constitution	Fair, equitable, transparent, competitive, cost-effective procurement	Design and run compliant, transformation-aligned energy procurements
Constitution, Schedules 4&5 (Functional areas)	Constitution	Electricity & gas reticulation (concurrent functions)	Set national frameworks/standards; monitor municipal compliance (ADAM/INEP)

FOUNDATIONAL ESTABLISHMENT AND CORE GOVERNANCE

Instrument	Type	Area(s) governed	Implication for DEE
Proclamation No. 179 of 2024	Proclamation	Establishes DEE; transfers functions from DMRE/DPE	Exercise sector leadership; integrate inherited functions and entities
Public Finance Management Act (PFMA), 1999	Act	Financial management & accountability of departments	Ensure clean audits; prudent budgeting; effective use of energy funds
Intergovernmental Relations Framework Act, 2005	Act	Mechanisms for coordination across spheres	Operate IGR structures; resolve overlaps; align plans and delivery
Treasury Regulations & PPP Framework (GTAC/Treasury manuals)	Regulation/Guidelines	PPP governance and value-for-money tests	Structure ITPs/PPPs; negotiate SLAs; run affordability/risk tests
King IV	Governance Code	Corporate governance for public institutions/SOEs	Apply governance standards in DEE and oversight of sector SOEs
Socio-Economic Impact Assessment System (SEIAS)	Cabinet requirement	Impact assessment for new policies/regs	Institutionalise SEIAS for energy bills/regs and major determinations

SECTORAL GOVERNANCE AND MARKET REFORM

Instrument	Type	Area(s) governed	Implication for DEE
Electricity Regulation Act (ERA) 2006 & Electricity Regulation Amendment Act (ERAA) 2024	Act	Licensing, tariffs, new market rules; SAWEM; NTCSA/ITSO	Gazette IRP determinations; operationalise SAWEM & market code; coordinate licensing with NERSA/NTCSA
National Energy Act, 2008	Act	Integrated Energy Plan; security, affordability, efficiency	Run annual IEP; align IRP/Gas/Nuclear planning to IEP
Gas Act, 2001 & Gas Regulator Levies Act, 2002	Act	Gas transmission, storage, distribution, trading	Finalise Gas Masterplan; regulate GtP/LNG infrastructure and access
Nuclear Energy Act, 1999	Act	Nuclear material, facilities, safeguards	Govern nuclear fuel cycle policy, long-term obligations
National Nuclear Regulator Act (NNR Act), 1999	Act	Nuclear safety regulation	Oversee Koeberg LTO compliance; safety cases for any new nuclear/SMRs
National Radioactive Waste Disposal Institute (NRWDI) Act, 2008	Act	Radioactive waste management	Ensure funding/oversight of waste facilities and governance

ENVIRONMENTAL, CLIMATE & LAND/WATER INTERFACE

Instrument	Type	Area(s) governed	Implication for DEE
Climate Change Act, 2024	Act	National carbon budgets; sectoral emission targets	Align IRP/IEP and procurement with NDCs & carbon budgets
National Environmental Management Act (NEMA), 1998	Act	Environmental authorisations & compliance	Integrate SEAs/EIAs early; coordinate fast-tracking while ensuring compliance
NEM: Air Quality Act, 2004	Act	Atmospheric emission licences	Align plant decommissioning/retrofits and new builds with AELs
NEM: Waste Act, 2008	Act	Waste management (incl. hazardous)	Ensure compliance for ash, radioactive and construction waste streams
Spatial Planning and Land Use Management Act (SPLUMA), 2013	Act	Land-use/servitude approvals	Coordinate Tx/Dx servitudes and local land-use decisions
Infrastructure Development Act (IDA), 2014	Act	Strategic projects designation & fast-track approvals	Designate strategic Tx/Dx corridors and priority energy projects
National Water Act, 1998	Act	Water use licences	Coordinate with DWS for plant/cooling/storage/wetland crossings

MUNICIPAL, DISTRIBUTION, AND RETAIL INTERFACE

Instrument	Type	Area(s) governed	Implication for DEE
Municipal Systems Act, 2000	Act	Municipal planning, service delivery standards	Set national norms on service levels, losses, metering, indigent policies (ADAM/INEP)
Municipal Finance Management Act (MFMA), 2003	Act	Municipal financial governance	Align electricity reforms with municipal financial sustainability
Electricity Pricing Policy (EPP) – revision underway	Policy	Tariff principles; cost-reflectivity; cross-subsidies	Define affordability instruments (lifeline/IBT) and financial viability
Free Basic Electricity (FBE) & Free Basic Alternative Energy (FBAE) Policies	Policies	Subsidies for indigent households	Oversee targeting and compliance; protect poor households
Approach to Distribution Asset Management (ADAM) Programme	Programme / Guideline	Distribution maintenance & standards	Support Dx turnaround and grid readiness at municipal level

NATIONAL DEVELOPMENT FRAMEWORKS

Instrument	Type	Area(s) governed	Implication for DEE
National Development Plan (NDP) 2030	Policy	Long-term national vision	Align all sector plans to access/affordability/transition goals
Medium-Term Development Plan (MTDP) 2024–2029	Policy	Priorities of the 7th Administration	Translate MTDP into delivery (Eskom restructuring, SAWEM, grid build, access)
National Spatial Development Framework (NSDF)	Policy	Spatial equity & growth nodes	Align energy corridors and sub-stations to spatial priorities
National Infrastructure Plan (NIP) 2050	Policy	Long-term electricity & gas networks	Sequence pipeline and grid investments to NIP 2050 pathways

SECTORAL AND INSTITUTIONAL STRATEGIES

Instrument	Type	Area(s) governed	Implication for DEE
Integrated Resource Plan (IRP) 2025 (superseding IRP 2019)	Strategy / Policy	Generation mix & procurement schedule	Gazette determinations; align procurement/licensing to deliver new capacity
Integrated Energy Plan (IEP)	Strategy / Policy	Cross-sector energy outlook	Provide evidence base for IRP, Gas and Nuclear plans
Gas Masterplan	Strategy / Policy	GtP/LNG roadmap & anchor demand	Enable gas infrastructure, trading and market rules

Just Energy Transition Framework & JET-IP (2023–2027)	Strategy / Investment Plan	Financing & social measures for the transition	Mobilise concessional/blended finance; oversee worker/community measures
South African Renewable Energy Masterplan (SAREM)	Strategy	Industrialisation & localisation for RE value chains	Integrate localisation targets with affordability and competition
Transmission Expansion & Grid Resilience Strategy	Strategy	Tx corridors, interconnections, queue management	Prioritise corridors; publish connection queue; crowd-in private/DFI capital
SA Wholesale Electricity Market (SAWEM) & Market Code (via ERAA 2024)	Code / Framework	Competitive trading & market operations	Finalise market code; readiness for market operator licensing & compliance
Energy Efficiency & Demand-Side Management (EEDSM) Strategy	Strategy	Peak demand reduction; efficiency programmes	Scale DSM to lower bills and defer costly build
Energy Storage & Battery Strategy	Strategy	Storage deployment, recycling, industry support	Include storage in IRP procurement; support local manufacturing where feasible
National Electrification Programme (INEP)	Programme	Grid/off-grid access rollout	Close household access gap; enforce municipal delivery compliance

INTERNATIONAL AND REGIONAL COMMITMENTS

Instrument	Type	Area(s) governed	Implication for DEE
Paris Agreement (2015) / NDCs	International	Binding emissions trajectory	Align sector pathways and finance mobilisation with NDCs
UN 2030 Agenda (SDGs 7, 9, 13)	International	Access, industry, climate	Report progress; integrate into planning KPIs
African Union Agenda 2063	International	Industrialisation & cross-border infrastructure	Coordinate with regional power initiatives and value chains
SADC RISDP 2020–2030 & Industrialisation Roadmap; SADC Infrastructure Vision 2027	Regional	Regional interconnection & trade	Advance interconnectors; support regional market integration
Southern African Power Pool (SAPP) participation	Regional arrangement	Cross-border trading & system operations	Strengthen SAPP interfaces; manage imports/exports for security of supply

OVERSIGHT, SAFETY, AND LABOUR INTERFACES (CROSS-CUTTING)

Instrument	Type	Area(s) governed	Implication for DEE
Occupational Health and Safety Act, 1993	Act	Workplace and infrastructure safety	Enforce HSE across construction/operations

Broad-Based Black Economic Empowerment Act & Codes	Act/Code	Transformation in the economy	Apply empowerment criteria in procurement & industry programmes
Preferential Procurement Regulations / Public Procurement Act, 2024	Act/Regs	Standardised public procurement; transformation criteria	Run compliant auctions; calibrate localisation to protect affordability
Disaster Management Act, 2002	Act	Emergency measures	Coordinate energy-related disaster responses (e.g., grid failures)

MARKET AND TECHNICAL STANDARDS (OPERATIONAL)

Instrument	Type	Area(s) governed	Implication for DEE
South African Grid Code & Distribution Code	Code/Standard	Technical requirements for connection & operation	Enforce connection standards; queue governance; system performance KPIs
NERSA Licensing & Tariff Methodologies/Rules	Regulatory instruments	License conditions; tariff setting approaches	Coordinate timelines; align EPP reforms and affordability instruments

INSTITUTIONAL DELIVERY ENABLERS

Instrument	Type	Area(s) governed	Implication for DEE
District Development Model (DDM) Compacts	Government instrument	One-Plan municipal/provincial compacts	Embed in electricity distribution alignment and project pipelines
Minister's Delivery Agreement (2024–2029)	Compact	Political accountabilities & outcomes	Track delivery against access, security, industrialisation, inclusion, diplomacy

Annexure D: Departmental capacity and capabilities – Best practice examples

DEEP DIVE 1: THE UK'S NATIONAL ENERGY SYSTEM OPERATOR (NESO), AND LESSONS FOR SOUTH AFRICA

Launched on 1 October 2024 as an independent, publicly owned body under the Energy Act, NESO combines whole-system planning (electricity and gas) with real-time system operation and advisory functions to government and the regulator (Ofgem). Its mandate is to guide Britain to a secure, clean and affordable energy future, with early priorities including advice on delivering a clean-power system by 2030 and accelerating grid build.

NESO operates under a multi-year business-plan model with performance incentives set by Ofgem, aligning short-term operations with long-term grid and market development. It also acts as the EMR Delivery Body, administering the Contracts for Difference scheme for low-carbon investment and the Capacity Market for adequacy. Governance reforms (i.e., separating NESO from National Grid's asset ownership) addressed conflicts of interest and improved transparency.

Early reforms have included milestone-based queue management ("first-ready, first-connected"), a national Connections Delivery Board, and whole-sector coordination to halve grid build times.

Key lessons for South Africa

- **Institutional independence with a whole-system lens:** Locate planning and operation in an entity independent of asset ownership (e.g. NTCSA/Market Operator) to reduce conflicts and enable evidence-based advice
- **Integrated delivery model:** Combine market, grid and connection planning through a DEE-NTCSA-NERSA-Eskom Coordination Board to manage connection queues and sequence grid build
- **Codified market and procurement products:** CfDs and capacity markets in the UK demonstrate how codified energy and firmness products can drive bankable investment; in South Africa, this could evolve into balancing and ancillary-service markets that reward flexibility
- **Significant transparency:** NESO's public reporting on grid capacity, connection queues and curtailment risks has strengthened confidence. A similar SA approach, publishing node-level data, curtailment dashboards, and SAWEM product roadmaps, would materially reduce investor risk

DEEP DIVE 2: INDIA'S GREEN ENERGY CORRIDORS AND WHOLE-SYSTEM TRANSMISSION PLANNING DISCIPLINE

India's experience demonstrates how integrated transmission planning and disciplined grid access reform can de-risk renewable energy investment at scale. Since 2013, the central government has implemented a unified national roadmap for integrating 500 GW of non-fossil capacity by 2030, anchored in a "whole-system" transmission plan connecting renewable-rich states with major load centres. This plan, managed by the Central Electricity Authority (CEA) and the Ministry of Power (MoP), identifies the high-voltage corridors, substations, and interconnections required to move clean power efficiently across states.

Each state developed complementary Green Energy Corridors (GECs) to link local generation zones into this national backbone. Developers, grid companies, and financiers all build against the same central plan and timeline, reducing duplication, aligning delivery schedules, and cutting project delays.

India also streamlined access through a single-window, milestone-based grid connection system. Developers apply through a unified online portal with transparent readiness milestones (i.e., land rights, permits, and published headroom at each node) ensuring that only bankable projects move forward. This “ready projects jump the queue” approach cleared speculative applications and accelerated approvals.

To address counterparty and payment risk, the government introduced standardised auctions and payment discipline mechanisms. All renewable auctions use standard long-term PPAs backed by a Payment Security Fund, which temporarily covers delayed buyer payments and enforces late-payment rules through fixed repayment schedules. These reforms have improved on-time collections, reduced arrears, and lowered financing costs across the renewable sector.

Key lessons for South Africa:

- **Integrated national corridor planning:** Publish a single, public transmission corridor map (aligned to the TDP 2025–2034) showing lines, substations, and timings to guide wayleaves, outage planning, and financing readiness.
- **Milestone-based grid access:** Through NTCSA, develop a single-window, transparent grid-access platform that prioritises ready projects and provides regular dashboards on available capacity, queues, and curtailment.
- **Standard contracts and payment discipline:** Use standard PPAs with payment-security backstops (via NT or Eskom) and enforce rules-based arrear cures to improve investor confidence and reduce IPP risk premia.

India’s model shows how transparent, whole-system transmission planning combined with strong payment discipline can unlock large-scale renewables while maintaining investor confidence and affordability.

DEEP DIVE 3: BRAZIL’S COORDINATED GRID PLANNING AND COMPETITIVE AUCTIONS FOR SYSTEM RELIABILITY

Brazil has built one of the world’s most successful renewable auction and transmission coordination systems, achieving universal electricity access and integrating over 80 GW of renewables since the early 2000s. The reforms were driven by the 2004 Electricity Sector Reform, which created a dual-market model combining long-term regulated auctions with an open wholesale market, overseen by the Electric Energy Trading Chamber (CCEE) and regulated by ANEEL.

Under this model, system and generation planning are fully synchronised: the Energy Research Office (EPE) publishes 10-year and 30-year energy-expansion plans, identifying both generation zones and the transmission lines needed to evacuate new capacity. Transmission projects are auctioned ahead of generation, ensuring that grid expansion anticipates load growth and renewable roll-out rather than lagging it.

On the procurement side, Brazil runs centralised technology-neutral auctions that award long-term power purchase agreements (PPAs) to the lowest-cost bidders, backed by sovereign payment guarantees and standardised contract templates. These PPAs are fully bankable, providing revenue certainty to developers while preserving cost efficiency for consumers.

A central system operator (ONS) manages real-time balancing and publishes detailed data on demand, supply, and congestion. Coupled with an independent regulator (ANEEL) and transparent data-sharing, this arrangement has made Brazil one of the most investor-trusted electricity markets in the developing world, with renewable prices consistently among the lowest globally.

Key lessons for South Africa:

- **Plan and auction in sequence:** Brazil's practice of auctioning transmission before generation can be mirrored in South Africa by aligning the TDP 2025–2034 with IRP procurement rounds. This would ensure that grid readiness supports new REIPPPP projects.
- **Standardised, bankable PPAs:** Brazil's regulated templates and sovereign-backed payment guarantees have drastically reduced risk premia; similar standardisation across Eskom and IPP Office contracts would help stabilise pricing.
- **Transparent system operation and data-sharing:** Like ONS, NTCSA could publish near real-time grid data, congestion maps, and node-level capacity to improve market confidence and planning coordination.
- **Long-term integrated planning:** EPE's 10- and 30-year expansion plans demonstrate how consistent, legally mandated planning cycles strengthen investor certainty, a valuable template for DEE's long-term energy outlook.

Brazil's model shows that disciplined sequencing (planning, then grid, then auction, then operation), paired with transparent governance, can scale investment, lower costs, and maintain reliability. This is exactly the mix South Africa now needs as it builds out its just energy transition.

ANNEXURE E: ABBREVIATIONS

ADAM	Approach to Distribution Asset Management
AFRA	African Regional Cooperative Agreement for Research Development and Training
AGSA	Auditor-General of South Africa
APP	Annual Performance Plan
B-BBEE	Broad-Based Black Economic Empowerment
CCUS	Carbon Capture, Utilisation and Storage
CMMS	Critical Minerals and Metals Strategy
Coega	Coega Development Corporation
CSLA	Chief State Law Adviser
DBSA	Development Bank of Southern Africa
DCoG	Department of Cooperative Governance
DDM	District Development Model
DEE	Department of Electricity and Energy
DHET	Department of Higher Education & Training
DMRE	Department of Mineral Resources and Energy
DMS	Demand-Management Systems
DPE	Department of Public Enterprises
DPME	Department of Planning, Monitoring and Evaluation.
DPSA	Department of Public Service and Administration.
DPWI	Department of Public Works and Infrastructure
DTIC	Department of Trade, Industry and Competition
EAF	Energy Availability Factor
EEDSM	Efficiency and Demand Side Management
ENE	Estimates of National Expenditure
EOSS	Energy One Stop Shop
EPC	Engineering Procurement Construction
EPP	Electricity Pricing Policy

ERA	Electricity Regulation Amendment
Eskom	Eskom Holdings SOC Limited
EWSETA	Energy and Water Sector Education and Training Authority
EXCO	Executive Committee
GCAR	Grid Connection Capacity Assessment Rules
GDP	Gross Domestic Product
GH2	Green Hydrogen
GMP	Gas Master Plan
GNU	Government of National Unity
GW	Gigawatt
IAEA	International Atomic Energy Agency
ICT	Information and Communication Technology
IEF	International Energy Forum
IEP	Integrated Energy Plan
INEP	Integrated National Electrification Programme
IPPO	Independent Power Producer Office
IRENA	International Renewable Energy Agency
IRP 2019	Integrated Resource Plan 2019
IRP 2025	Integrated Resource Plan 2025
IRP	Integrated Resource Plan
IT	Information Technology
ITPO	Independent Transmission Project Office
ITPs	Independent Transmission Projects
ITSMO	Independent Transmission System and Market Operator
ITSO	Independent Transmission System Operator
JET IP	Just Energy Transition Investment Plan
JET	Just Energy Transition
JETP	Just Energy Transition Plan
Km	Kilometres

LNG	Liquified Natural Gas
MPRR	Multipurpose Research Reactor Project
MPSA	Ministry for Public Service and Administration
Mt CO ₂ -eq	Million Tonnes of Carbon Dioxide Equivalent
MTDP	Medium-Term Development Plan
MTEF	Medium-Term Expenditure Framework
MVAs	Megavolt Amperes
MW	Megawatt
N/A	Not Applicable
NDCs	Nationally Determined Contributions
NDP	National Development Plan
NECSA	South African Nuclear Energy Corporation
NEDLAC	National Economic Development and Labour Council
NEDP	National Energy Data Platform
NERSA	National Energy Regulator of South Africa
NESO	National Energy System Operator
NIP	National Infrastructure Plan
NNR	National Nuclear Regulator
No.	Number
NRWDI	National Radioactive Waste Disposal Institute
NSDF	National Spatial Development Framework
NSWHP	Solar Water Heater Programme
NT	National Treasury
NTCSA	National Transmission Company of South Africa
OCC	Oversight Coordination Committee
OCSLA	Office of the Chief State Law Advisor
OEM	Original Equipment Manufacture
PES	Presidential Employment Stimulus

PESTEL	Political, Economic, Social, Technological, Environmental, and Legal/Regulatory
PFMA	Public Finance Management Act
PMO	Programme Management Office
PPAs	Power Purchase Agreements
PPP	Public–Private Partnership
Q	Quarter
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
RFPs	Requests for Proposals
RISDP	Regional Indicative Strategic Development Plan
Roadmap	Nuclear Fuel Cycle Expansion Roadmap
Rompco	Republic of Mozambique Pipeline Investments Company
SADC	South African Development Community
SALGA	South African Local Government Association
SANEDI	South African National Energy Development Institute
SAPP	Southern African Power Pool
SAREM	South African Renewable Energy Masterplan
SASOL	South African Synthetic Oil Company
SAWEM	South African Wholesale Electricity Market
SEIAS	Socioeconomic Impact Assessment System
SIP	Strategic Integrated Project
SLA	Service Level Agreement
SMMEs	Small, Medium, and Micro Enterprises
SMRs	Small Modular Reactors
SOC	State-Owned Company
SOE	State-Owned Entity
SONA	State of the Nation Address
SP	Strategic Plan
TDP	Transmission Development Plan

TOR	Term of reference
ToU	Time-of-use
TSO	Transmission System Operator
TVET	Technical and Vocational Education and Training
TWh	Terawatt-Hours
USA	United States of America
VRE	Variable renewable energy
WSP	Workplace Skills Plan
USA	United States of America
ZAR	South African Rands