



electricity & energy

Department:
Electricity and Energy
REPUBLIC OF SOUTH AFRICA

THE DEPARTMENT OF ELECTRICITY AND ENERGY

STRATEGIC PLAN FOR 2025 TO 2030

To obtain additional copies of this document please contact:

DEPARTMENT OF ELECTRICITY AND ENERGY

Matimba House
192 Visagie Street, corner Paul Kruger and Visagie Street
Pretoria
Gauteng

EXECUTIVE AUTHORITY STATEMENT

South Africa stands at a critical moment in its energy future. The decisions we take now will shape not only our energy security but also our industrial capacity, economic resilience, and global competitiveness for generations to come. The Department of Electricity and Energy has been established to drive the transformation of South Africa's energy landscape, ensuring that every citizen has access to affordable, reliable, and sustainable electricity. Over the next five years, the focus will be on creating an energy system that is well-regulated, investment-friendly, and capable of supporting inclusive economic growth and industrialisation. This vision is both ambitious and necessary, as energy security underpins every aspect of our country's development, from job creation to technological progress and industrial modernisation.

The responsibility before us is immense. The country has endured years of energy insecurity, with load-shedding disrupting businesses, limiting job creation, and placing additional burdens on households. This administration is committed to resolving these challenges with urgency, ensuring that reforms deliver real and measurable results. This strategy lays out a clear path for achieving a stable and efficient electricity market, strengthening policy and regulatory certainty, facilitating private sector investment, and accelerating the transition towards a more diversified and low-carbon energy mix. The successful implementation of these priorities will be a defining measure of our collective success. These reforms must deliver tangible benefits, ensuring that businesses can thrive, investors have confidence, and households no longer live in fear of power disruptions.

Energy is the backbone of economic development, industrial expansion, and technological progress. Without reliable and cost-effective electricity, the country cannot grow, compete, or create the jobs that are needed. This strategy sets a bold and ambitious agenda to unlock investment in energy infrastructure, expand transmission capacity, and strengthen regional energy integration. The department will oversee the restructuring of the electricity market to promote competition, drive innovation, and improve operational efficiency. The restructuring of Eskom Holdings SOC Ltd (Eskom), the establishment of an Independent Transmission System Operator (ITSO), and the development of a competitive wholesale electricity market are necessary steps towards achieving a more sustainable and efficient power sector. It is imperative that these reforms do not stall and that clear implementation roadmaps are in place to deliver on them within the set timelines.

Beyond energy security, this plan reflects our commitment to a just energy transition. South Africa must meet its climate obligations while ensuring that no worker, community, or industry is left behind. The transition to renewable energy, repositioning of nuclear technology for sustainable development, green hydrogen, and new energy technologies must drive job creation, localisation, and industrialisation. The country cannot afford to merely import solutions, and it must develop its own capabilities, skills, and manufacturing base to compete in the global energy economy. The localisation of renewable energy supply chains, the expansion of grid capacity, and the strengthening of regulatory oversight will be key enablers of this transition. A just transition means that workers must be reskilled, local industries must be capacitated, and the transition itself must serve as an opportunity to rebuild South Africa's industrial and manufacturing base. It must create new businesses, new opportunities, and new industries that uplift the economy as a whole.

At the wake of the world aiming to reach net zero by 2050, there has been a return to realism where it is globally accepted that nuclear technology has a huge role to play in the energy mix as a clean source to ensure countries achieve energy security, energy sovereignty and energy justice in the transition. Developing the nuclear industry gives South Africa, energy security and sovereignty that enables the country to move its economy into the digital era, engage in new research frontiers and take its rightful place amongst leading nations. The department will work closely with South African Nuclear Energy

Corporation (NECSA) and other state-owned entities to finalise the Strategic Plan and Business Case to support investments for re-establishment of South Africa's full nuclear fuel cycle (NFC), encompassing mining, conversion, enrichment, fabrication, reactor operations and waste management and disposal. The economic viability of re-establishing the nuclear fuel cycle rests on using nuclear for power and industrial uses (non-power). The long-term vision is to achieve self-sufficiency in nuclear fuel cycle capabilities, subject to feasibility assessments. To sustain a robust nuclear fuel cycle, South Africa must invest in the full nuclear fuel cycle (NFC), encompassing mining, conversion, enrichment, fabrication, reactor operations and waste management and disposal. The economic viability of re-establishing the nuclear fuel cycle rests on using nuclear for power and industrial uses (non-power). Studies show that a 10 GWe nuclear power programme would provide the scale needed to justify local NFC facilities, granting South Africa energy sovereignty whilst generating significant socio-economic benefits,

This strategy is more than a vision, it is a call to action. Achieving these objectives will require collaboration across government, industry, labour, and civil society. The private sector has a critical role to play in financing and delivering new energy solutions, and the department is committed to creating a regulatory and investment environment that attracts capital and accelerates project delivery. Partnerships with regional and international institutions will also be essential to ensure that South Africa remains a leader in Africa's energy transition and a global player in clean energy investment. The government is ready to act, but success will require a whole-of-society effort to ensure that South Africa's energy future is secure, sustainable, and inclusive.

The next five years will demand bold leadership, decisive action, and unwavering commitment to implementation. The work of the Department of Electricity and Energy will be judged by its ability to stabilise the energy system, ensure policy and regulatory certainty, and enable the investments required to meet future demand. The road ahead will not be without challenges but the vision is clear. The reforms outlined in this strategy will lay the foundation for an energy system that is secure, resilient, and inclusive. Energy reform is not just about infrastructure and markets, it is about empowering people, transforming industries, and ensuring that every South African benefits from a reliable, sustainable, and affordable energy system. Through this work, we will drive economic renewal, advance energy justice, and build an energy future that leaves no one behind.

DR KGOSIENTSHO RAMOKGOPA (MP)

Minister | Executive Authority

Department of Electricity and Energy

13 June 2025

DEPUTY MINISTER'S STATEMENT

The Department's Strategic Plan 2025-2023 will serve as a catalyst for an industrial led 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, as well as billing and revenue management support. 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 and youth 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 drive new generation, energy efficient programmes are an important contributor to managing demand and resource utilisation. The Department will, in the financial year, review the National Energy Efficiency Programme, support the roll out of solar geyser technology, and develop the institutional capacity, through the South African National Energy Development Institute (SANEDI, to enforce energy audits and the issuance of energy performance certification.

As South Africa transitions to a secure, 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 and other stakeholders to assess the viability of re-establishing the country's nuclear fuel cycle, ensuring that investments in nuclear energy support economic growth, energy security, and industrial development. South Africa plans to implement an additional 10 GWe nuclear power programme which underpin the re-establishment of the full nuclear fuel cycle.

The Department will work on the Socio Economic and Cost Benefit Analysis report for procurement of up to 10GW of nuclear. 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.

MS SAMANTHA GRAHAM-MARÉ (MP)

Deputy Minister: Electricity and Energy

13 June 2025

ACCOUNTING OFFICER STATEMENT

The Department of Electricity and Energy is tasked with implementing a bold and far-reaching reform agenda to secure South Africa's energy future. The strategic interventions outlined in this five-year plan reflect the department's commitment to delivering an energy system that is reliable, investment-friendly, and capable of driving economic growth. Our focus is to stabilise the electricity sector while ensuring that the broader energy transition is well-managed, inclusive, and sustainable.

Over the next five years, our priority is to establish the governance and market conditions necessary for long-term energy security. The restructuring of Eskom, the operationalisation of the wholesale electricity market, and reforms to the electricity distribution industry are fundamental to ensuring a competitive and efficient electricity sector. At the same time, we will facilitate investment in infrastructure expansion, renewable energy, reposition nuclear technology for sustainable development including the nuclear new build programme and green hydrogen projects, and energy storage solutions to diversify South Africa's energy mix and enhance resilience.

As part of this commitment, the department will work closely with the South African Nuclear Energy Corporation and other state-owned entities to finalise the Strategic Plan and Business Case for re-establishing South Africa's full nuclear fuel cycle. This will encompass mining, conversion, enrichment, fabrication, reactor operations, and waste management and disposal. The economic viability of re-establishing the nuclear fuel cycle rests on using nuclear for both power and industrial applications (non-power). Studies indicate that a 10 GWe nuclear power programme would provide the scale needed to justify local NFC facilities, granting South Africa energy sovereignty while generating significant socio-economic benefits, including local manufacturing and job creation.

The department will work across government, industry, and international partners to drive a just energy transition that delivers economic and social benefits. As South Africa accelerates its transition towards renewable energy and other clean energy technologies, we must ensure that local industries are strengthened, new supply chains are developed, and workers and communities in coal-dependent areas are supported. This department will play a central role in ensuring that South Africa's transition is orderly, equitable, and aligned with our industrialisation goals. By advancing policies that promote local manufacturing of renewable energy components, investment in green hydrogen, nuclear energy, and skills development for future energy markets, we will ensure that the transition creates jobs and fosters economic transformation.

As a department, we will also strengthen regulatory oversight, streamline approval processes, and improve intergovernmental coordination to remove barriers to investment and service delivery. Energy security is a shared responsibility that requires collaboration between actors of the state, such as municipalities and regulators, as well as private investors. Ensuring alignment in policy implementation and infrastructure development is a key priority for the department.

Building a capable, efficient, and digitally advanced department is fundamental to achieving our objectives. Over the next five years, we will modernise regulatory processes, implement smart technologies, and enhance our monitoring and evaluation capabilities to ensure a data-driven approach to decision-making. Strengthening financial governance, corporate accountability in state-owned entities, and digital transformation within the sector will be critical to improving operational efficiency. As we strengthen institutional capacity, we will also focus on developing the necessary technical skills and expertise to effectively oversee and drive energy reforms.

The implementation of this strategy requires commitment at all levels - from policymakers to energy providers and communities that depend on reliable and affordable energy. The Department of Electricity

and Energy will drive this agenda with urgency and accountability, ensuring that we build an energy system that is secure, resilient, and globally competitive. We look forward to working with all stakeholders to achieve these objectives and deliver meaningful progress in the years ahead.

MR SUBESH PILLAY

Acting Director General

Department of Electricity and Energy

13 June 2025

OFFICIAL SIGN OFF

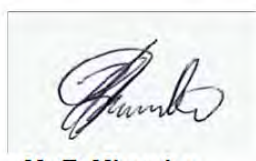
It is hereby certified that this Strategic Plan for 2025 to 2030:

- 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 the relevant policies, legislation, and other mandates for which the Department of Electricity and Energy is responsible.
- 3) Accurately reflects the impact and outcomes which the Department of Electricity and Energy will endeavour to achieve over the period 2025 to 2030.



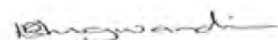
Mr T. Kekana
Branch: Energy
Programmes & Projects

Date: 13 June 2025



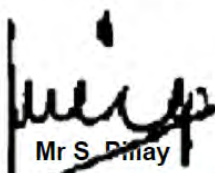
Mr Z. Mbambo
Branch: Nuclear Energy
Regulation & Management

Date: 13 June 2025



Dr K. Bhugwandin
Branch: Energy Resources

Date: 13 June 2025



Mr S. Piny
Acting Director-General
(Accounting Officer)
Date: 13 June 2025

APPROVED BY:



Dr K. Ramokgopa
Minister for Electricity and Energy
(Executive Authority)

EXECUTIVE AUTHORITY STATEMENT.....	3
DEPUTY MINISTER’S STATEMENT	5
ACCOUNTING OFFICER STATEMENT	7
OFFICIAL SIGN OFF	9
BACKGROUND AND CONTEXT TO THE STRATEGIC PLAN	12
PART A: OUR MANDATE.....	13
1. CONSTITUTIONAL MANDATE.....	13
2. LEGISLATIVE AND POLICY MANDATES.....	14
2.1. Legislative Mandate.....	14
2.2. Policy Mandate	16
3. INSTITUTIONAL POLICIES AND STRATEGIES GOVERNING THE FIVE-YEAR PLANNING PERIOD	19
3.1. Medium-Term Development Plan Results Framework 2024-2029.....	19
3.2. Minister’s 2024-2029 Delivery Agreement and Priorities.....	21
3.3. Policies and Strategies Informing Programme Implementation.....	22
3.4. Policies and Strategies Informing Organisational Governance	23
3.5. Policies to be Revised to Support the Priorities of the Seventh Administration	24
4. RELEVANT COURT RULINGS	25
PART B: OUR STRATEGIC FOCUS	26
1. VISION	26
2. MISSION	26
3. VALUES	26
4. SITUATIONAL ANALYSIS.....	26
4.1. External Environment Analysis.....	27
4.2. Internal Environment Analysis.....	42
PART C: MEASURING OUR PERFORMANCE	53
1. INSTITUTIONAL PERFORMANCE INFORMATION	53
1.1. Impact Statement	53
1.2. Measuring Our outcomes	53
1.3. Explanation of Planned Performance Over the Five-Year Period	58
2. KEY RISKS AND MITIGATIONS.....	64
3. PUBLIC ENTITIES.....	66
PART D: TECHNICAL INDICATOR DESCRIPTIONS	69
ANNEXURES TO THE STRATEGIC PLAN	92

ANNEXURE A: DISTRICT DEVELOPMENT MODEL..... 92

ANNEXURE B: ABBREVIATIONS..... 94

BACKGROUND AND CONTEXT TO THE STRATEGIC PLAN

The Department of Electricity and Energy was established to address South Africa's persistent energy challenges and provide dedicated oversight and coordination of electricity and energy security. The restructuring marks a fundamental shift in energy governance, ensuring that policy formulation, infrastructure planning, and regulatory oversight are aligned with national development priorities.

Through Proclamation No. 179 of 2024, published in Government Gazette No. 51140 on 30 August 2024, the administration and powers of electricity and energy-related legislation were transferred to the newly formed department. This restructuring separates electricity and energy functions from the Department of Mineral Resources and Energy (DMRE), which retains responsibility for mining, petroleum, and mineral resources. Further, energy entity oversight functions of the legacy Department of Public Enterprises (DPE) are transferred. The department is now the central authority for electricity and energy security planning, regulatory oversight, and policy coordination, ensuring an integrated approach across the electricity generation, transmission, and distribution value chain.

The establishment of the Department of Electricity and Energy aligns with key national policy and planning frameworks, including the National Development Plan (NDP) Vision 2030, the Just Energy Transition Plan, and the Government of National Unity's 2024–2029 priorities. These frameworks underscore the role of energy as an enabler of economic growth, industrialisation, and social transformation, ensuring reliable, affordable, and sustainable electricity supply. The department plays a critical role in supporting climate change commitments, modernising energy infrastructure, and driving industrial growth through energy sector reforms.

This 2025–2030 Strategic Plan serves as a roadmap, outlining the department's mandate, strategic focus and priorities, desired five-year results, and implementation approach. The plan provides a structured framework for achieving a just and sustainable energy transition, addressing electricity supply challenges and stimulating economic growth. The Department of Electricity and Energy is committed to collaborative governance, ensuring alignment across national, provincial, and municipal structures to create a transparent, efficient, and accountable electricity and energy sector.

PART A: OUR MANDATE

1. CONSTITUTIONAL MANDATE

The **Constitution of the Republic of South Africa, 1996** (the Constitution) 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, ensuring a secure, sustainable, and affordable energy supply, promoting industrialisation, and driving economic transformation. The department plays a critical role in advancing energy security, ensuring universal electricity access, supporting environmental sustainability, and regulating the electricity and energy sector in alignment with national policy objectives. In fulfilling this mandate, the department contributes to South Africa's just energy transition, ensuring that energy reforms are inclusive, equitable, and sustainable while upholding constitutional obligations.

Several constitutional provisions are particularly relevant to the department's mandate:

- 1) Chapter 2: The Bill of Rights (Section 24 and Section 27): Establishes energy as a key enabler of basic rights.
 - a) 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. The department is responsible for ensuring that energy generation and consumption align with sustainability principles while supporting climate action, reducing carbon emissions, and facilitating a just energy transition that protects vulnerable communities and workers.
 - b) 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. Given that electricity is a critical enabler of water supply, healthcare, food security, and economic activity, the department is constitutionally bound to ensure an uninterrupted, reliable, and affordable electricity supply that supports these essential services.
- 2) 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 supports coordinated planning, infrastructure development, and policy implementation across all levels of government. The department is required to align energy policies and programmes with national development priorities, provincial needs, and municipal electricity distribution models to improve service delivery. The department ensures that national energy policies provide clear direction while supporting provincial energy planning and municipal service delivery responsibilities. It further facilitates capacity-building initiatives to strengthen local government energy management and regulatory compliance.
- 3) Chapter 10 (Section 195) on public administration: Outlines fundamental values and principles governing public administration. It requires all organs of state to be development-oriented, accountable, and transparent. The department upholds these principles by ensuring that decision-

making processes, regulatory frameworks, and procurement practices support inclusive economic transformation, ethical governance, and stakeholder engagement.

- 4) Chapter 13 (Section 217) on public finance: Establishes that all public procurement processes must be fair, equitable, transparent, competitive, and cost-effective. The department adheres to these principles in the procurement of electricity generation, transmission, and distribution infrastructure, ensuring that procurement policies support economic transformation, industrial participation, and empowerment initiatives. In line with the government's industrialisation agenda, the department plays a key role in leveraging public procurement to support job creation, enhance localisation, and stimulate private sector investment in renewable energy and emerging energy technologies.
- 5) 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. The department is mandated to work collaboratively with provincial and local governments to ensure that electricity policies, grid expansion, and service delivery are implemented effectively. The department plays a crucial role in addressing municipal distribution challenges, ensuring that the regulatory framework enables municipalities to fulfil their constitutional responsibility for electricity reticulation while enhancing long-term sustainability and financial viability.

This constitutional framework provides the foundation for the Department of Electricity and Energy to develop and implement energy policies, regulate the electricity and energy sector, ensure security of supply, promote industrialisation, and drive energy sector transformation. Through this mandate, the department strengthens energy governance, advances economic inclusion, and ensures that South Africa's energy transition is fair, sustainable, and aligned with broader development objectives.

2. LEGISLATIVE AND POLICY MANDATES

2.1. LEGISLATIVE MANDATE

The Department of Electricity and Energy derives its legal authority from core establishment legislation and sector-specific laws, which collectively define its mandate, governance, regulatory responsibilities, and operational functions.

Core Establishment Legislation

The following legislation provides the legal foundation for the establishment and governance of the department:

- 1) **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.
- 2) **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.

- 3) **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.

Key Sector-Specific and Regulatory Legislation

The following legislation defines the department's functional responsibilities in electricity market regulation, natural gas market development, nuclear energy governance, renewable energy integration, and infrastructure development:

- 1) **Electricity Act No. 41 of 1987:** Governs the planning, generation, and transmission of electricity, including Eskom's role as a national utility. While many of its provisions have been superseded by the Electricity Regulation Act, certain aspects remain relevant for legacy infrastructure and transitional market regulation.
- 2) **National Energy Act 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.
- 3) **Electricity Regulation Act No. 4 of 2006:** Establishes the regulatory framework for electricity generation, transmission, and distribution. It further provides for the licensing of electricity providers, tariff regulation, and enforcement of technical and safety standards.
- 4) **Electricity Regulation Amendment Act No. 38 of 2024:** Introduces electricity market reform and establishes the National Transmission Company of South Africa, as well as the market operator and system operator. This ensures competitive wholesale electricity trading and fair grid access for private and public generators. The act formalises the separation of Eskom's transmission function, positioning the Transmission System Operator as an independent entity to facilitate transparent market participation and long-term energy security.
- 5) **Nuclear Energy Act No. 46 of 1999:** Governs the development, operation, and regulation of nuclear energy, ensuring compliance with international safety and security standards.
- 6) **National Nuclear Regulator Act No. 47 of 1999:** Establishes the National Nuclear Regulator (NNR), which is responsible for the protection of persons, property and the environment against radiation hazards, nuclear facility safety, radiation monitoring, and compliance enforcement.
- 7) **National Radioactive Waste Disposal Institute Act No. 53 of 2008:** Establishes the National Radioactive Waste Disposal Institute (NRWDI), which is responsible for the safe, secure, and environmentally compliant disposal of radioactive waste in alignment with international nuclear safety standards.
- 8) **Gas Act No. 48 of 2001:** Regulates the transmission, storage, distribution, and trading of natural gas as part of South Africa's energy mix.
- 9) **Gas Regulator Levies Act No. 75 of 2002:** Sets out the framework for gas pricing and regulatory oversight, ensuring a transparent and competitive gas market.
- 10) **Climate Change Act 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 the Department of Electricity and Energy to integrate climate resilience into energy

planning, infrastructure investment, and regulatory frameworks, ensuring a structured transition towards a lower-carbon electricity sector.

- 11) **Local Government Municipal Systems Act No. 32 of 2000:** Regulates municipal electricity distribution and mandates municipalities to develop and implement electricity plans in alignment with national energy priorities.
- 12) **Infrastructure Development Act No. 23 of 2014:** Enables fast-tracking of energy infrastructure projects, particularly grid expansion and transmission development.
- 13) **Occupational Health and Safety Act No. 85 of 1993:** Establishes safety standards for power plants, transmission systems, and energy infrastructure projects.
- 14) **Promotion of Administrative Justice Act No. 3 of 2000:** Ensures fair and lawful administrative decisions in electricity sector regulation and licensing processes.
- 15) **National Environmental Management Act No. 107 of 1998:** Mandates environmental compliance in electricity generation and infrastructure development projects.
- 16) **Public Procurement Act No. 28 of 2024:** Regulates fair, transparent, and competitive procurement in energy infrastructure projects, supporting Broad-Based Black Economic Empowerment (B-BBEE) in electricity sector supply chains. The act ensures that the procurement of electricity generation, transmission and distribution projects, as well as gas and nuclear development projects, together prioritise local industrialisation, economic transformation, and long-term sustainability.

In addition to the above, the Department of Electricity and Energy ensures compliance with all relevant legislation and municipal bylaws applicable to its functions and operations. Continuous compliance monitoring is undertaken to maintain adherence to legislative standards.

2.2. 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.

Global and Regional Policy Context

- 1) **United Nations 2030 Agenda for Sustainable Development:** The Sustainable Development Goals provide a global framework for achieving sustainable and inclusive development. The Department of Electricity and Energy contributes to:
 - a) Goal 7 (Affordable and Clean Energy): By ensuring universal access to electricity and promoting renewable energy expansion.
 - b) Goal 9 (Industry, Innovation, and Infrastructure): By modernising energy infrastructure and advancing industrialisation.
 - c) Goal 13 (Climate Action): By integrating clean energy solutions and supporting carbon reduction commitments.

- 2) **United Nations Climate Change Framework, 2015 (Paris Agreement):** South Africa is a signatory to the Paris Agreement, committing to reducing greenhouse gas emissions and transitioning to a low-carbon economy. Under the country's NDCs, the energy sector is required to achieve targeted reductions in carbon intensity, with the department responsible for implementing low-carbon energy solutions, supporting grid decarbonisation, and facilitating climate finance mobilisation.
- 3) **African Union Agenda 2063:** The African Union's Agenda 2063 sets a long-term vision for Africa's economic transformation, industrialisation, and infrastructure modernisation. The department supports these objectives through cross-border electricity trade, regional grid interconnectivity, and clean energy investments, reinforcing South Africa's role as a regional energy hub.
- 4) **Southern African Development Community (SADC) Regional Policies:** SADC prioritises energy integration to support economic growth and industrialisation. The department aligns with key frameworks, including:
 - a) The SADC Regional Indicative Strategic Development Plan 2020–2030, which promotes regional energy security and sustainable industrial growth.
 - b) The SADC Industrialisation Strategy and Roadmap 2015–2063, which focuses on energy infrastructure as a driver of industrial transformation.
 - c) The SADC Infrastructure Vision 2027, which guides cross-border electricity transmission and regional interconnectivity projects.

The Department of Electricity and Energy 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.

National Developmental Policy Context

- 1) **NDP Vision 2030:** The NDP provides South Africa's long-term vision for economic transformation, poverty eradication, and infrastructure modernisation. The Department of Electricity and Energy contributes to the NDP 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.
- 2) **Medium-Term Development Plan (MTDP) 2024–2029:** Packaged under three National priorities, the MTDP operationalises the NDP and Government of National Unity priorities into five-year strategic interventions. The department 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.

- 3) **National Spatial Development Framework 2050:** The framework ensures that energy planning is spatially aligned with economic growth, population dynamics, and industrial development priorities. The department contributes by integrating energy infrastructure into priority economic zones, rural electrification initiatives, and urban energy resilience projects.
- 4) **District Development Model (DDM):** The DDM integrates energy planning across municipal, provincial, and national levels, ensuring coordinated energy investment, electrification efforts, and localised solutions for off-grid and municipal power supply. The department works with municipalities to develop decentralised energy solutions, support embedded generation, and improve energy resilience in rural and underserved areas.
- 5) **National Infrastructure Plan 2050:** The National Infrastructure Plan provides a roadmap for long-term energy infrastructure investment, ensuring that electricity supply meets the needs of economic expansion and industrial transformation. The department is responsible for grid modernisation, expanding transmission capacity, and integrating renewable energy sources into the national grid.
- 6) **National Climate Change Response Policy:** The 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.
- 7) **White Paper on Energy Policy, 1998:** Provides the overarching framework for South Africa's energy policy direction, outlining key principles for energy security, affordability, and sustainability. The White Paper emphasises diversification of the energy mix, energy access and electrification, and sector transformation and market reform through regulatory oversight and policy intervention.
- 8) **Nuclear Energy Policy, 2008:** Provides the strategic framework for the development and regulation of South Africa's Nuclear Energy Programme. The policy promotes the peaceful use of nuclear energy while ensuring that uranium mining, fuel cycle processes, and reactor technologies are developed in a safe, sustainable, and transparent manner. The long-term vision is to achieve self-sufficiency in nuclear fuel cycle capabilities, subject to feasibility assessments. The policy further supports the establishment of a national industrial capacity for the design, manufacturing, and construction of nuclear energy systems, reinforcing South Africa's nuclear research, energy security, and industrialisation goals.
- 9) **National Radioactive Waste Disposal Management Policy and Strategy, 2005:** Establishes the principles and regulatory framework for the safe, secure, and sustainable disposal of radioactive waste in South Africa. It ensures compliance with international nuclear safety standards while protecting human health and the environment for present and future generations. The policy mandates the Department of Electricity and Energy to oversee radioactive waste management through dedicated institutions and regulatory mechanisms, ensuring that South Africa's nuclear industry remains compliant with global best practices.
- 10) **Renewable Energy White Paper, 2003:** This policy provides the strategic framework for renewable energy expansion, supporting the integration of solar, wind, hydroelectricity, and biomass energy sources into South Africa's energy mix.
- 11) **Just Energy Transition Plan:** The Just Energy Transition Plan outlines South Africa's strategy for moving away from coal-based electricity towards renewable and clean energy sources, ensuring that the transition is equitable, inclusive, and socially responsible. The department is responsible for overseeing the phased shutdown and repurposing of coal-fired power plants, implementing

alternative energy sector development, and coordinating national and international investments in renewable infrastructure and grid modernisation.

- 12) **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 renewable energy, grid modernisation, and socioeconomic transformation. The plan focuses on decarbonising the electricity sector, expanding the green hydrogen economy, and ensuring that affected communities receive targeted support during the transition.

3. 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.

3.1. MEDIUM-TERM DEVELOPMENT PLAN RESULTS FRAMEWORK 2024-2029

The Department of Electricity and Energy 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) **Energy market reform:** The department 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 is underway, with market codes being finalised and trading licenses issued to independent power producers.
 - b) **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 Department of Electricity and Energy will coordinate the deployment of R1 billion in project preparation funding for large-scale energy infrastructure.
 - c) **Procurement of new generation capacity:** The department will oversee the procurement of 30 gigawatt of new electricity generation capacity in line with the Integrated Resource Plan. This includes expanding renewable energy projects, enablement for procurement of the nuclear new build programme, integrating gas-to-power infrastructure, and facilitating the growth of green hydrogen investments as part of South Africa’s just energy transition.

- d) **Industrialisation and localisation:** A 30% increase in local procurement will 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.
- 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.
 - a) **Grid modernisation and resilience:** Investments in transmission and distribution infrastructure will improve grid stability, efficiency, and reliability while enabling new energy sources to integrate seamlessly into the network.
 - b) **Phased shut down and repurposing of coal-fired power stations:** As part of the JET IP, affected communities will be supported through alternative economic opportunities, ensuring an equitable 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 is establishing a 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 Roadmap, addressing the financial instability 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 industrialisation.
 - d) **Repositioning nuclear technology for sustainable development, including the nuclear new build programme:** The department is working with stakeholders in finalising the Strategic Plan and Business Case for re-establishing South Africa's full nuclear fuel cycle (NFC), including uranium mining, enrichment, fuel fabrication, reactor operations, and waste management. A 10 GWe nuclear power programme will provide the scale needed to justify local NFC investment, enhancing energy sovereignty, industrial growth, and job creation.
- 4) **Strengthening governance and oversight of state-owned energy enterprises:** While the Department of Electricity and Energy is not a lead department under Priority 3: Building a Capable, Ethical, and Developmental State, it 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, 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.

3.2. MINISTER'S 2024-2029 DELIVERY AGREEMENT AND PRIORITIES

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 agreement outlines five strategic priorities, which will guide policy oversight, programme implementation, regulatory reform, and stakeholder coordination.

- 1) Achieving universal access, availability, affordability, and quality: The department is committed to ensuring that all South Africans have access to reliable, affordable, and high-quality electricity services. Over the next five years, the department will accelerate electrification efforts through grid and off-grid expansion, implement affordability mechanisms, and improve service reliability to reduce load-shedding and unplanned outages.
- 2) Attaining sovereign and regional energy security: Energy security will be strengthened through electricity generation diversification, grid resilience, and regional partnerships. This includes expanding domestic electricity generation capacity, strengthening regional electricity trade through the Southern African Power Pool, and enhancing electricity transmission infrastructure to prevent grid instability. As part of ensuring sovereign energy security, the department will oversee Eskom's Generation Operational Recovery Plan, strengthen financial and operational stability, and ensure that grid expansion supports new energy sources while maintaining system reliability.

As part of its energy security strategy, the department will also facilitate the development of a competitive and sustainable gas industry to support energy diversification and industrial growth. This includes expanding gas-to-power projects, securing LNG import capacity, strengthening gas pipeline infrastructure, and finalising the Gas Masterplan to ensure that gas plays a strategic role in the energy mix while remaining cost-competitive and environmentally sustainable.

- 3) Driving industrialisation and leading innovation: The department will position the energy sector as a catalyst for economic growth by supporting local energy manufacturing, promoting research and development in smart grids and energy storage, and facilitating public-private partnerships for clean energy infrastructure.

- 4) Qualitatively transforming energy demographics elevating the role of women and youth: A core focus is ensuring equitable participation in the energy sector. The department will implement B-BBEE transformation measures, support youth skills development in engineering and renewables, and create opportunities for women-led enterprises in energy projects.
- 5) Asserting South Africa's continental and global energy leadership: The department will strengthen South Africa's position as a global energy leader, leveraging green hydrogen and nuclear energy for energy security and economic growth, expanding renewable energy exports, and advancing international energy diplomacy. In line with the JET IP, the department will implement green hydrogen development strategies to position South Africa as a leading global producer and exporter, while ensuring that domestic industrialisation benefits from hydrogen production investments.

3.3. 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.

- 1) Integrated Resource Plan (IRP) 2019: The IRP 2019, currently under review, serves as South Africa's long-term electricity supply and demand framework. Over the next five years, the department will prioritise renewable energy procurement, enablement for procurement of the 2500MW Nuclear New Build Programme, 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.
- 2) Gas Masterplan: 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.
- 3) Carbon Capture and Storage Strategy: In alignment with climate commitments, the department will implement carbon capture and utilisation policies for industries with hard-to-abate emissions, ensuring that coal-fired and gas power plants meet stricter environmental standards.
- 4) Transmission Expansion and Grid Resilience Strategy: The department will accelerate the rollout of high-voltage transmission corridors, modernise municipal electricity distribution networks, and strengthen grid integration for renewable and distributed generation projects. 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.
- 5) Energy Storage and Battery Infrastructure Development Strategy: Recognising the critical role of battery storage in energy security, 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.

- 6) Renewable energy and green hydrogen strategies: To accelerate South Africa's clean energy transition, the department will scale up wind and solar energy deployment, promote green hydrogen investment, and facilitate international partnerships for hydrogen exports and renewable energy financing.
- 7) National Electrification Strategy and affordability measures: Universal electricity access remains a national priority. The department will expand grid and off-grid electrification, support municipal capacity-building for energy provision, and implement affordability frameworks for low-income households.
- 8) Energy Efficiency and Demand-Side Management Strategy: To reduce electricity demand pressure on the grid, the department will implement energy conservation initiatives, introduce smart grid technologies, and strengthen energy efficiency regulations in industrial and commercial sectors.
- 9) Women, Youth and Persons with Disabilities Responsive Planning and Budgeting Framework: Ensures that government planning, budgeting, and procurement actively promote the economic empowerment of women, youth, and persons with disabilities. The department is committed to:
 - a) Increasing participation of historically disadvantaged groups in the energy sector, particularly in renewable energy, manufacturing, and technical professions.
 - b) Strengthening employment, training, and capacity-building initiatives to enhance youth and women's inclusion in energy-related careers.
 - c) Implementing preferential procurement mechanisms to ensure that a significant share of government contracts is awarded to enterprises owned by women, youth, and persons with disabilities.
 - d) Mainstreaming gender and social inclusion into energy policies, regulatory frameworks, and industry transformation programmes.

3.4. 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.

- 1) 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.
- 2) 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.

- 3) **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 will implement a framework to mobilise private investment in transmission, distribution, and clean energy projects, ensuring regulatory certainty for independent power producers and aligning public-private initiatives with national energy priorities. As part of this framework, the department will refine risk-sharing models, introduce financial guarantees for private sector-led generation projects, and ensure that procurement processes align with industrialisation objectives.
- 4) **Regulatory oversight and market reform mechanisms:** The department will enhance its regulatory functions by ensuring effective oversight of electricity pricing, procurement processes, and market reform activities. This includes monitoring compliance with the Electricity Regulation Act and guiding the transition to a more competitive energy market.
- 5) **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.
- 6) **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.

3.5. POLICIES TO BE REVISED TO SUPPORT THE PRIORITIES OF THE SEVENTH 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.

- 1) **IRP 2019 revision:** The IRP 2019 must be revised to update energy mix projections, integrate higher renewable energy allocations, provide for nuclear energy allocation to provide baseload electricity, and incorporate emerging technologies, such as battery storage and green hydrogen. The updated IRP 2025 will also prioritise energy affordability mechanisms, ensure phased coal decommissioning plans align with economic adaptation strategies, and provide clearer investment signals for large-scale renewable energy procurement.
- 2) **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 focus on regulatory certainty for LNG imports, pipeline expansion, and the role of gas in bridging South Africa's transition to a low-carbon economy.

- 3) 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.
- 4) Transmission Expansion and Investment Framework: To fast-track grid expansion and ensure transmission 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 ensuring regional interconnectivity through expanded cross-border electricity transmission agreements.
- 5) Regulatory reform for off-grid electrification and distributed energy solutions: Existing regulatory frameworks must 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 processes for embedded generation, clarify municipal procurement guidelines for decentralised energy projects, and expand incentives for community-led renewable initiatives.
- 6) Climate and environmental standards harmonisation: The department will revise emissions regulations and environmental compliance standards to ensure alignment with national climate targets and the Just Energy Transition Plan. This revision will harmonise emissions caps for coal-fired power plants, strengthen environmental oversight for new energy projects, and establish carbon pricing mechanisms for high-emission industries.
- 7) Energy sector localisation and industrialisation policies: Local content policies must be updated to support South African manufacturing in energy infrastructure projects. The revised framework will include enhanced local procurement requirements for renewable energy and grid components, expansion of skills development programmes, and incentives for emerging Black-owned energy enterprises.
- 8) Public-Private Partnership Framework for Energy Investments: The department will review the Public-Private Partnership Framework to improve investor confidence, streamline approval processes, and ensure regulatory certainty for private sector participation in energy projects. The revised framework will focus on risk-sharing models for infrastructure investment, financial guarantees for private sector led generation projects, and mechanisms for blended finance partnerships in transmission and distribution development.

4. RELEVANT COURT RULINGS

There are no court judgements or rulings which have a bearing on the mandate and/or core operations of the Department of Electricity and Energy.

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 sustainable, inclusive, and efficient energy system that ensures security, affordability, and reliability, driving transformation for all South Africans.

2. MISSION

To ensure a stable, secure, and sustainable energy supply that supports economic growth, advances the just energy transition, and modernises infrastructure through effective regulation, transparent governance, and strategic partnerships at national, regional, and global levels.

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, while ensuring meaningful participation of 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

The Department of Electricity and Energy operates in a dynamic and rapidly evolving environment, shaped by global energy transitions, regional energy security challenges, domestic policy reforms, economic

constraints, and climate imperatives. South Africa's energy sector stands at a critical juncture, requiring bold and decisive interventions to secure a reliable, sustainable, and inclusive energy future.

This 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 period.

4.1. EXTERNAL ENVIRONMENT ANALYSIS

Global and Regional Macroeconomic and Energy Trends

The global economy continues to face significant challenges as post-pandemic recovery slows, inflationary pressures persist, and geopolitical instability disrupts trade and investment. The International Monetary Fund's World Economic Outlook (January 2025) projects global gross domestic product (GDP) growth to stabilise at 3.2% in 2024 and 3.3% in 2025, reflecting a transition towards slower but more sustainable growth. However, global trade remains subdued, with growth projected at just 2.4% in 2024 due to persistent supply chain disruptions, geopolitical tensions, and a rise in protectionist trade policies. This presents challenges for emerging markets, particularly in securing foreign direct investment and financing for large-scale energy projects.

The World Bank's Global Economic Prospects Report (2025) highlights growing concerns over declining investment in commodity-dependent economies, many of which are experiencing market volatility due to the global shift away from fossil fuels. Energy-exporting nations are particularly vulnerable, as investor preferences shift towards renewables and decarbonisation strategies, reducing financial flows into traditional fossil fuel industries. For South Africa, this underscores the urgency of diversifying its energy portfolio and leveraging green finance mechanisms to attract investment into clean energy infrastructure and new generation capacity.

Geopolitical disruptions and energy market realignment:

While global renewable energy investments are accelerating, fossil fuel markets remain highly volatile due to geopolitical conflicts and shifting investor sentiment. The ongoing Russia-Ukraine war and tensions in the Middle East continue to disrupt global energy supply chains, driving uncertainty in oil and gas markets. Additionally, trade tensions between the United States of America (USA) and China have escalated, with new restrictions on solar panels, battery storage technology, and rare-earth materials impacting global supply chains for clean energy technologies.

Simultaneously, resource nationalism is increasing, with many governments imposing export restrictions on critical minerals, such as lithium, nickel, and rare-earth elements, which are essential for renewable energy deployment and battery production.

For South Africa, these global trends present both risks and opportunities. The decline in global trade volumes and protectionist policies may reduce demand for South African commodity exports, particularly in energy-intensive industries like mining and manufacturing. However, the surging global demand for renewable energy components and critical minerals provides a strategic opportunity for South Africa to reposition itself as a key supplier in the clean energy value chain.

South Africa's vast reserves of platinum group metals, manganese, and vanadium (essential for battery storage and hydrogen fuel cell technologies) position the country as a potential leader in the global energy transition. However, policy interventions are needed to ensure that local beneficiation and industrial development occur, rather than merely exporting raw materials. Strengthening domestic processing and

manufacturing of renewable energy components will be critical to maximising economic benefits and job creation within the energy transition.

The shift towards industrial self-sufficiency and localised manufacturing:

Globally, economies are increasingly shifting towards industrial self-sufficiency, reducing reliance on external supply chains. The USA and the European Union are aggressively implementing industrial policies to promote domestic clean energy manufacturing, particularly in solar panels, battery storage, and green hydrogen technologies. The USA Inflation Reduction Act and the European Union Green Deal Industrial Plan provide significant subsidies for domestic clean energy production, which may limit global market access for external manufacturers, including South African firms. Meanwhile, China continues to dominate the global clean energy supply chain, accounting for over 60% of the world's solar panel production and 80% of battery manufacturing.

These shifts reinforce the importance of South Africa developing its own clean energy industrial strategy. Without policy interventions to strengthen local beneficiation of critical minerals and support domestic manufacturing of renewable energy components, South Africa risks becoming dependent on foreign supply chains. Government must prioritise industrial policy measures to support localised clean energy production, ensuring that South Africa moves beyond raw material exports towards higher-value manufacturing and technology development.

A strategic, well-developed nuclear industry can position South Africa as a leader in energy security, industrialisation, and technological innovation. Full implementation of the 2008 Nuclear Energy Policy will ensure the safe, sustainable, and transparent development of uranium mining, fuel cycle processes, and reactor technologies. The long-term vision is to achieve self-sufficiency in nuclear fuel cycle capabilities, subject to feasibility assessments. This requires investment in the entire NFC - mining, conversion, enrichment, fuel fabrication, reactor operations, and waste management - to strengthen South Africa's energy sovereignty and reduce reliance on external supply chains. Studies show that a 10 GWe nuclear power programme would provide the scale needed to justify local NFC development, delivering energy security, economic growth, and high-value industrialisation.

Beyond power generation, nuclear technology has broader industrial applications, including hydrogen production, medical isotope production, and high-temperature process heat for manufacturing. The department will work with the South African Nuclear Energy Corporation (NECSA) and other state-owned entities to finalise a Strategic Plan and Business Case for nuclear sector development, ensuring alignment with South Africa's industrialisation and research priorities. By localising nuclear technology manufacturing and expanding expertise in advanced nuclear applications, South Africa can move beyond raw material exports towards a globally competitive nuclear industry.

Global risk factors shaping energy markets:

The Global Risk Report 2025 identifies several escalating risks that could disrupt energy markets and broader economic stability. Extreme weather events linked to climate change are increasing in frequency and severity, posing risks to energy infrastructure, food security, and water availability. Countries across Africa are experiencing rising temperatures, prolonged droughts, and more intense storms, increasing vulnerabilities in power generation and transmission networks. For South Africa, this highlights the need to enhance grid resilience, integrate climate adaptation measures, and strengthen disaster recovery plans for critical energy infrastructure.

Debt distress in emerging markets is also rising, limiting the ability of many economies to finance energy transition projects. South Africa faces persistent fiscal constraints, necessitating innovative financing

models, such as blended finance, concessional loans, and public-private partnerships, to sustain investments in energy security and grid expansion.

Cybersecurity threats are escalating as energy systems become increasingly digitalised. Smart grids, automated metering systems, and cloud-based energy management platforms introduce new risks of cyberattacks that could destabilise power supply networks and compromise national security. With South Africa accelerating its energy sector digitalisation, the department must prioritise cybersecurity resilience measures. A National Energy Sector Cybersecurity Framework for energy is being developed to protect transmission networks, substations, and independent power producers from cyber threats, ensuring grid stability and energy security.

For South Africa, these global risks underscore the urgency of building a more resilient energy system, diversifying the energy mix, and enhancing digital security protections for critical infrastructure. Without proactive investment in risk mitigation, external shocks could further destabilise an already fragile energy sector, hindering economic growth and investor confidence.

Global renewable energy capacity:

Renewable energy expansion is now outpacing government targets, with global capacity expected to increase by 2.7 times by 2030, exceeding existing national commitments by nearly 25% (International Energy Agency, Global Renewables Outlook 2025). Policies on climate action and energy security in nearly 140 countries have been instrumental in making renewable energy cost-competitive with fossil fuel-based power generation, unlocking new demand from private sector investments.

Despite these advances, current global renewable energy deployment remains insufficient to meet the COP28 climate summit's target of tripling renewable energy capacity by 2030. While significant momentum exists, 70% of projected renewable energy growth is concentrated in just five economies: China, the USA, the European Union, India, and Brazil.

China remains the global leader in renewable energy, expected to account for 60% of all new renewable capacity by 2030 (International Energy Agency, Renewables Market Report 2025). Since phasing out feed-in tariffs in 2020, China has quadrupled its installed solar photovoltaic capacity and doubled its wind power output. Meanwhile, the USA and European Union have introduced protectionist policies to encourage domestic manufacturing of solar panels, battery storage, and wind turbines, which could impact global supply chain dynamics.

South Africa must align its energy planning with these global trends to remain competitive in a rapidly shifting energy landscape. Grid expansion remains a critical barrier, with current transmission constraints preventing the full integration of renewables into the electricity system. Without rapid investment in transmission infrastructure, South Africa risks falling behind in the global clean energy transition, despite its abundant renewable resources.

Global Nuclear Energy Capacity:

The International Atomic Energy Agency has revised up its annual projections for the expansion of nuclear power for the fourth successive. World nuclear capacity is now projected to increase by 2.5 times the current capacity by 2050 in the IAEA high case scenario, including a significant contribution from small modular reactors (SMRs). At the end of 2023, 413 nuclear power reactors were operational, with global capacity of 317GWe. In the high scenario of the new IAEA outlook, nuclear electrical generating capacity is projected to increase to 950gigawatts by 2050. The new IAEA projections reflect increasing acknowledgement of nuclear power as clean secure energy supply, as well as increasing interest in SMRs

to target both electric and non-electric applications to meet climate goals and foster sustainable development.

The increase projections align with the global consensus on the need to to accelerate the deployment of nuclear energy. At the 28th Conference of the Parties (COP 28) in Dubai in 2023, nuclear power was included for the first time Global Stocktake, which called for accelerating the deployment of low emissions technologies including nuclear energy to help achieve deep rapid decarbonization. A realization in the global community has firmly emerged that nuclear energy has critical role to play in achieving Net-Zero by 2050 target as well as commitments made in the Paris Agreement.

According to the International Energy Agency (IEA) in 2021, 44 countries and the European Union have pledged to meet a net-zero emissions target. The 28th Conference of the Parties (COP-28) Agreement recognizes accelerating nuclear as part of the solution, where 198 signatory countries of the UN Framework Convention on Climate Change (UNFCCC) officially called for the hastening the deployment of nuclear.

The Conference of the Parties (COP-28) had 25 countries pledging to triple nuclear capacity by 2050 as part of efforts to mitigate climate change, providing sustainable and reliable energy security. At the Conference of the Parties (COP-29) this has increased to 31 countries and 14 of the world's largest and influential financial endorsed the Declaration to Triple Nuclear Energy.

South Africa must align its energy planning with these global trends to remain competitive in a rapidly shifting nuclear energy landscape. The Just Energy Framework should include Nuclear Energy in alignment with global developments (COP-28 and IEA) in nuclear. South Africa must accelerate the deployment of nuclear energy to ensure the security of energy supply, contribute to economic growth and technology development in South Africa through investment in infrastructure, creation of jobs and further development of skilled workers. Nuclear Power has a significant role to play in South Africa energy mix with Small Modular Reactors (SMRs) adding a fresh alternative on scale, cost and timelines for deployment of nuclear.

Africa's energy landscape:

Across Africa, the energy transition is gaining momentum with countries investing heavily in renewables, regional power integration, and natural gas infrastructure. The United Nations Economic Commission for Africa Energy Outlook (2025) projects that Africa's real GDP will grow by 3.7% in 2025 and 4% in 2026, driven by energy investments and industrialisation strategies.

Regional power pools, such as the Southern African Power Pool, are playing an increasingly important role in cross-border electricity trade, enabling countries to optimise power distribution, improve grid stability, and enhance energy security. South Africa remains the largest power exporter within the Southern African Power Pool, supplying electricity to Botswana, Namibia, Eswatini, and Zimbabwe. However, the country's ability to meet regional energy needs depends on strengthening transmission infrastructure and increasing generation capacity.

The Mozambique-South Africa Transmission Interconnection, a major regional power infrastructure project, is currently under development to enhance grid stability and improve electricity trade between South Africa and its eastern neighbour. In parallel, the Zambia-Tanzania-Kenya Power Transmission Line is being expanded to link Southern, East, and Central Africa into a unified power market, facilitating greater regional energy integration.

Several African nations are also accelerating renewable energy development, with countries like Kenya, Egypt, and Morocco scaling up wind, solar, and green hydrogen projects, while Nigeria is expanding its natural gas infrastructure to position itself as a regional hub for LNG exports.

South Africa remains the only country with an operational nuclear power plant, the Koeberg Nuclear Power Station, which provides 5% of national electricity. Eskom's Long-Term Operation Programme will extend Koeberg's lifespan by 20 years, with Unit 1 licensed to operate until 2044 and a decision on Unit 2 expected by November 2025. The 2,500 MW Nuclear New Build Programme will ensure long-term baseload generation and energy security.

Across the continent, nuclear development is gaining traction:

- Tier 1 – Committed nuclear countries: Egypt, South Africa, Ghana, Nigeria, Rwanda, Kenya, Uganda.
- Tier 2 – Developing nuclear infrastructure: Ethiopia, Niger, Morocco, Burkina Faso, Tunisia.
- Tier 3 – Exploring long-term nuclear plans: Mali, Senegal, Sudan, DRC, Algeria, Tanzania, Namibia, Guinea, Burundi, Zimbabwe.

With global commitments to triple nuclear capacity by 2050, South Africa must align its just energy transition with nuclear expansion to strengthen energy security, industrialisation, and skills development.

The role of South Africa in Africa's energy transition:

As Africa's most industrialised economy, South Africa plays a critical role in advancing regional energy integration and cross-border power trade across the SADC. Through its participation in the Southern African Power Pool, strategic partnerships, and energy trade agreements, South Africa supports regional energy security and industrial development.

The Southern African Power Pool, established under the SADC Energy Framework, serves as the primary regional electricity trading network, enabling power-sharing agreements among 12 member states. South Africa, through Eskom, remains the largest power trader within the Southern African Power Pool, exporting electricity to Botswana, Namibia, Eswatini, and Zimbabwe.

To strengthen its regional leadership, South Africa is expanding transmission capacity and modernising energy infrastructure through projects, such as:

- 1) The Mozambique-South Africa Transmission Interconnection, which will integrate additional renewable and natural gas power generation into the regional grid.
- 2) The Zambia-Tanzania-Kenya Power Transmission Line, which will enhance energy trade and grid stability between Southern, East, and Central Africa.
- 3) South Africa-Mozambique Natural Gas Cooperation, which is central to securing long-term regional gas supply agreements.

A key risk facing South Africa's industrial and energy sectors is the looming "Gas Cliff" in 2028, when natural gas supplies through the Republic of Mozambique Pipeline Investments Company (Rompc) are projected to decline significantly. This poses a major threat to SASOL's operations, industrial gas users, and gas-based power generation, necessitating urgent intervention. As part of South Africa's regional energy strategy, the Department of Electricity and Energy is leading efforts to:

- 1) Develop LNG import terminals at Richards Bay and Coega.
- 2) Establish a 6-gigawatt National Gas-to-Power Implementation Strategy to secure alternative gas supplies and ensure energy security.

- 3) Strengthen cross-border energy cooperation with Mozambique and Namibia to facilitate regional gas trade and infrastructure investments.

South Africa's active participation in SADC energy projects, green hydrogen initiatives, and LNG infrastructure development will be crucial to ensuring the country's long-term energy resilience and regional leadership in the clean energy transition.

South Africa's Macroeconomic Performance and Fiscal Position

South Africa's economic outlook remains fragile, shaped by slow growth, rising debt levels, and structural inefficiencies that impact infrastructure investment and the broader energy transition. While government interventions, including energy sector reforms and economic stimulus efforts, have improved investor sentiment, fiscal pressures and policy uncertainty continue to pose risks to long-term economic stability.

Economic growth outlook:

Economic growth remains subdued, with the National Treasury's 2025 Budget Review revising GDP growth projections downward to 1.1% for 2024. This reflects persistent structural constraints, including power supply disruptions, logistics inefficiencies, and global economic headwinds.

Energy investment is expected to play a critical role in economic recovery, with improved electricity availability projected to contribute 0.4 percentage points to GDP growth in 2025 (National Treasury, 2025). However, this impact is contingent on sustained investment in transmission infrastructure, regulatory reforms, and governance improvements within the energy sector.

Fiscal deficit and debt burden:

South Africa's public finances remain under significant strain, exacerbated by rising debt-service costs, increasing social expenditure commitments, and ongoing financial support for Eskom and other state-owned entities. The National Treasury now forecasts a budget deficit of 5% of GDP for the 2024/25 fiscal year, significantly higher than earlier projections of 4.3%. This widening deficit is attributed to higher borrowing costs, weaker than expected revenue collection, and ongoing constraints in economic productivity.

The country's gross debt burden is expected to stabilise at 75.5% of GDP by 2025/26, reflecting continued concerns about debt sustainability and the long-term affordability of large-scale infrastructure and energy transition projects.

Public sector funding for energy infrastructure remains limited, necessitating greater private sector participation, concessional financing, and blended finance models. The Infrastructure Fund has been identified as a potential mechanism to unlock concessional finance for priority energy projects, but execution challenges persist.

Investment climate and business confidence:

Investor confidence has shown moderate recovery, largely driven by political stability following the establishment of the Government of National Unity in mid-2024. The reduction in the frequency and intensity of power cuts since March 2024 has also played a significant role in restoring confidence among businesses and consumers, providing much-needed relief to industries that were previously impacted by unreliable electricity supply.

The South African Chamber of Commerce and Industry's Business Confidence Index reached 120.0 in January 2025, reflecting renewed optimism among the business community. The Electricity Regulation Amendment Act, signed into law in 2024, has been welcomed by investors as an important step towards electricity market reform. However, concerns persist regarding the long-term affordability of energy tariffs, municipal debt challenges, and cost-recovery models for Eskom and other electricity suppliers.

Despite these developments, South Africa continues to face challenges in attracting long-term infrastructure investments, particularly in the energy sector. Foreign direct investment remains below pre-pandemic levels, as global investors increasingly favour emerging markets that offer greater policy clarity and investment stability. The country's ability to attract sustained investment into energy generation and transmission will largely depend on the successful implementation of economic and energy sector reforms, particularly those aimed at enhancing market transparency, regulatory certainty, and private sector participation.

While South Africa's economic outlook for 2025–2030 reflects some areas of improvement, particularly in energy security and business sentiment, deep-seated structural challenges remain. Fiscal constraints, weak investment inflows, and sluggish economic growth continue to pose risks to the country's economic recovery. Without decisive action to stabilise public finances, accelerate energy infrastructure investments, and establish a more predictable regulatory environment, the country's energy transition and long-term economic resilience may remain constrained in the years ahead.

South Africa's Energy Security and Supply Dynamics

South Africa's energy sector has undergone significant transformation in recent years, driven by technology advancements, market reforms, infrastructure investments, and the push for a just energy transition. While improvements in Eskom's operational stability have led to temporary relief from load-shedding, structural weaknesses in generation capacity, transmission infrastructure, and energy diversification remain pressing challenges.

The looming "Gas Cliff", where natural gas supplies from the Rompco pipeline are expected to reach near-zero levels by 2034, highlights the urgent need to secure alternative energy sources. This requires accelerated infrastructure development for LNG import terminals at Richards Bay and Coega, as well as strategic investments in gas-to-power capacity to support South Africa's energy security needs.

A sustainable and resilient energy future will require continued policy interventions, large-scale investment, and a clear implementation strategy to drive long-term energy security.

Energy sector reforms and market restructuring:

Recognising the urgent need for a reliable and sustainable energy supply, the South African Government has accelerated structural reforms in the electricity sector. The Electricity Regulation Amendment Act (2024) marked a pivotal moment in the liberalisation of the electricity market, enabling greater private sector participation in electricity generation and transmission. The establishment of the National Transmission Company of South Africa (NTCSA) on 1 July 2024 has laid the foundation for a competitive electricity market, driving investment and efficiency.

A major milestone in the energy sector has been Eskom's operational recovery, driven mainly by the implementation of the Generation Recovery Plan approved by the Eskom Board, which led to a significant reduction in the frequency and intensity of load-shedding from March 2024. By the end of 2024, Eskom's Energy Availability Factor had improved from 52% in early 2023 to 64% in December 2024. However, this remains below the 70% target needed for long-term energy security. Sustaining these operational gains

will require continued investment in maintenance, strengthening coal supply contracts, and completing power station upgrades.

Renewable energy expansion and the just energy transition:

In alignment with global climate commitments and South Africa's NDCs under the Paris Agreement, the country has embarked on a comprehensive Just Energy Transition Strategy. The JET IP prioritises:

- 1) Decarbonisation of the electricity sector through accelerated renewable energy deployment.
- 2) Green hydrogen development, positioning South Africa as a leader in emerging hydrogen markets.
- 3) Transition support for affected coal-dependent communities and workers, ensuring economic inclusion.
- 4) Scaling up gas-to-power as a transitional fuel, ensuring grid stability while advancing renewables.

The JET IP now incorporates the South African Renewable Energy Masterplan, the Energy Efficiency Strategy, and the Road-to-Rail Transition Plan, diversifying the energy mix while reducing greenhouse gas emissions. However, the transition remains capital-intensive, requiring sustained financial commitments from both public and private sector stakeholders.

Gas-to-power and infrastructure investment:

The depletion of Rompco gas reserves by 2034 poses a major energy security risk, necessitating alternative gas supply strategies. As part of South Africa's transition planning, the Department of Electricity and Energy is leading efforts to develop gas-to-power infrastructure, which includes:

- 1) LNG import terminals at Richards Bay and Coega to facilitate secure and cost-effective gas supply.
- 2) Gas-to-power projects to support grid stability and complement renewable energy expansion.
- 3) Cross-border energy agreements with Mozambique and Namibia to ensure a secure regional gas supply.

These investments are critical to diversifying the energy mix, mitigating supply risks, and ensuring a stable transition towards renewables.

Financial commitments and international partnerships:

The successful implementation of the just energy transition will require between R4 trillion and R8.5 trillion over the next three decades, underscoring the immense financial scale of the transition. Despite pledges exceeding R250 billion from international climate financiers, only R1.9 billion had been disbursed by early 2025, highlighting slow progress in fund mobilisation. Unlocking concessional finance for transmission expansion, energy storage, and green hydrogen development remains a priority for accelerating the transition.

Grid expansion and transmission bottlenecks:

The lack of sufficient transmission infrastructure remains one of the most significant barriers to South Africa's energy transition. Eskom's Transmission Development Plan (2025–2035) estimates that R390 billion is required to expand the grid by 14,200 kilometres, enabling the connection of at least 53 gigawatts

of new renewable capacity. However, bureaucratic delays, environmental permitting challenges, and land acquisition disputes continue to hinder transmission expansion.

To resolve these bottlenecks, the Department of Electricity and Energy has prioritised transmission investment under the revised IRP 2025, which includes:

- 1) Accelerating transmission procurement, reducing regulatory delays.
- 2) Streamlining environmental approvals, cutting down permitting timelines.
- 3) Encouraging private sector participation in grid development, ensuring timely project implementation.

Resolving these infrastructure constraints is critical to ensuring grid readiness for increased renewable energy penetration and achieving South Africa's energy transition goals.

Policy reforms and future outlook:

The South African Government continues to implement far-reaching policy reforms to address the energy crisis and accelerate the transition towards a more sustainable energy system. A notable development has been the restructuring of Eskom, including the legal separation of its transmission division to enhance efficiency and facilitate greater private sector participation in energy markets.

The IRP 2025 is being revised to reflect recent improvements in Eskom's performance and address long-standing generation capacity constraints. The updated plan will incorporate a diverse energy mix, including natural gas, nuclear, renewables, and coal, while ensuring that grid stability is prioritised.

While South Africa's energy security remains fragile, recent reforms and investments have delivered tangible improvements. The reduction in load-shedding during 2024 marked a critical milestone but structural challenges persist. As the country transitions towards a more diversified and sustainable energy system, policy stability, financial commitments, and infrastructure modernisation will be essential to ensuring long-term energy resilience and economic competitiveness.

Technological Innovations and Infrastructure Modernisation in South Africa's Energy Sector

South Africa's energy sector is undergoing a profound transformation, driven by technological advancements and the urgent need to modernise infrastructure to enhance energy security, grid resilience, and renewable energy integration. While progress has been made in deploying new technologies, systemic inefficiencies, infrastructure bottlenecks and financial constraints continue to pose significant challenges. The success of South Africa's energy transition will depend on sustained investment in advanced energy technologies, modern grid solutions, and strategic policy interventions that support innovation and energy efficiency.

Advancements in energy storage and smart grid technologies:

The rapid expansion of renewable energy in South Africa has heightened the need for advanced energy storage solutions to address supply intermittency and grid stability challenges. Battery energy storage systems have emerged as a critical component of the country's energy transition, with investments directed toward developing large-scale storage capacity.

Eskom's Battery Energy Storage Programme (2024–2026) is set to deploy at least 500 megawatt of battery storage capacity, ensuring improved frequency regulation, peak demand balancing, and resilience against unexpected outages. In parallel, smart grid technologies are being deployed to improve electricity distribution efficiency, enabling real-time adjustments in supply and demand.

The transition to a smart grid system allows for better demand-side management and leverages technologies, such as advanced metering infrastructure, automated grid monitoring, and digitally driven predictive maintenance. Municipalities are gradually rolling out early-stage smart grid projects, but financial and technical limitations continue to hinder widespread implementation.

Hybrid power systems and emerging technologies:

To ensure a stable and reliable power supply, South Africa is advancing hybrid energy solutions that combine multiple generation sources with energy storage technologies. The Oya Hybrid Power Station, currently under development, represents a milestone in hybrid energy deployment and integrates 155 megawatt of solar power, 86 megawatt of wind energy, and a 92-megawatt battery energy storage system to provide continuous and stable electricity output.

Hybrid systems are expected to play a crucial role in balancing supply variability, particularly as renewable energy penetration increases. These systems enhance grid stability by combining solar, wind, and battery storage, ensuring round-the-clock energy availability.

In addition to hybrid power generation, South Africa is positioning itself as a leader in green hydrogen development. The Hydrogen Society Roadmap sets out the country's ambition to establish itself as a global hydrogen producer and exporter, leveraging its abundant renewable energy resources and platinum group metals for electrolysis technology.

However, large-scale green hydrogen commercialisation faces significant infrastructure bottlenecks, including:

- 1) Lack of dedicated hydrogen pipelines.
- 2) Limited domestic electrolyser manufacturing capacity.
- 3) Insufficient port export infrastructure at Boegoebaai, Coega, and Richards Bay.
- 4) Uncertainty in global certification standards and trade regulations.

Unlocking these barriers will require a multifaceted approach involving policy support, infrastructure development, technological innovation, public private partnerships and international collaboration to attract long-term investment.

Renewable energy expansion and grid modernisation:

The rapid deployment of renewable energy has placed significant strain on South Africa's ageing transmission infrastructure, requiring urgent investment in modernisation and expansion. By August 2024, South Africa had more than doubled its renewable energy capacity, reaching a cumulative total of 133 gigawatt.

While this expansion represents a major milestone, the existing transmission network was primarily designed for coal-based generation and requires upgrades to accommodate decentralised renewable energy plants. Eskom has committed to expanding the transmission grid, with over 14,200 kilometres of new high-voltage transmission lines planned by 2035.

The Infrastructure Investment Plan for Transmission (2024) estimates that grid expansion will require R450 billion over the next decade. While Eskom remains the primary implementer, the NTCSA is facilitating private sector participation to accelerate investment and reduce financial pressure on public finances.

Digitalisation and cybersecurity in the energy sector:

As South Africa accelerates its energy transition, digitalisation is becoming an essential enabler of system efficiency and resilience. The adoption of artificial intelligence, the internet of things, and cloud computing is allowing for automation in grid management, predictive maintenance, improved fault detection, and optimised energy distribution. These technologies are being deployed to enhance operational efficiencies within Eskom, independent power producers, and municipalities to reduce maintenance costs and minimise downtime.

However, as the energy sector becomes increasingly digital, cybersecurity risks have escalated. The Department of Electricity and Energy is developing a cybersecurity framework for the energy sector, which will include mandatory security protocols for grid operators, independent power producers, and energy storage facilities.

The modernisation of South Africa's energy sector is being driven by a combination of technological advancements, policy interventions, and infrastructure investments. While progress has been made in expanding renewable energy, deploying energy storage solutions, and enhancing grid capabilities, challenges related to financing, regulatory uncertainty, and cybersecurity risks persist. By driving technological innovation, regulatory certainty, and private sector investment, South Africa will be well-positioned to achieve a modern, efficient, and sustainable energy future.

Climate Change Policies and Environmental Sustainability in South Africa

South Africa's approach to climate change and environmental sustainability is guided by an evolving policy landscape that seeks to balance economic growth, energy security, affordability, and environmental responsibility. As a country historically reliant on coal-based energy, South Africa faces significant challenges in reducing greenhouse gas emissions while ensuring a just energy transition that protects vulnerable communities and sectors.

Enactment of the Climate Change Act and its implementation:

The enactment of the Climate Change Act No. 22 of 2024 represents a landmark step in formalising South Africa's climate response. This legislation integrates climate considerations into energy policy and requires all government departments, including the Department of Electricity and Energy, to implement emissions reduction targets, adaptation strategies, and resilience measures. The act directly informs South Africa's Integrated Energy Plan and the forthcoming update to the IRP 2025, ensuring alignment between climate and energy policies.

However, despite these regulatory advances, concerns persist regarding South Africa's ability to meet its 2030 emission targets. The Presidential Climate Commission's 2024 report highlights that South Africa is not yet on track to meet its commitment of reducing greenhouse gas emissions to between 350 and 420 Mt CO₂-eq by 2030. While the legal framework is in place, execution remains inconsistent, with continued investments in coal infrastructure, regulatory delays in renewable energy projects, and grid constraints hindering progress. Without accelerated transmission expansion, streamlined regulatory approvals, and greater financial mobilisation, the country's emissions reduction goals may not be realised within the required timeframe.

Challenges in the just energy transition and renewable energy deployment:

South Africa's JET IP, spanning 2023 to 2027, was developed to address the social and economic implications of shifting away from coal while accelerating the deployment of renewable energy sources. The plan outlines priority investments in renewable energy, green hydrogen, and sustainable mobility to reduce emissions and support economic transformation. The plan recognises that coal-dependent regions, such as Mpumalanga, require targeted economic support to mitigate the social and economic impacts of coal mine closures and job losses. However, the transition remains hindered by financing constraints and policy uncertainty.

Despite international climate finance pledges exceeding \$11.6 billion, only \$1.9 billion had been disbursed by early 2025, reflecting complex funding conditions and governance challenges. The slow pace of grid expansion and permitting for renewable energy projects continues to impede the rollout of clean energy solutions. Without decisive action to accelerate transmission upgrades, strengthen financial disbursements, and remove regulatory bottlenecks, South Africa risks falling behind its renewable energy and decarbonisation commitments.

The Renewable Energy Independent Power Producer Procurement Programme remains a key instrument for mobilising private sector investment in clean energy projects. However, the absence of large-scale battery storage and transmission upgrades limits the integration of wind and solar power into the national grid. Without addressing these infrastructure bottlenecks, the country risks prolonged dependence on coal.

Water scarcity and climate resilience in the energy sector:

South Africa's climate vulnerabilities extend beyond carbon emissions, with water scarcity emerging as a major environmental and economic challenge. Eskom's coal-fired power stations currently consume an estimated 1.5 billion litres of water per year, placing significant pressure on regional water resources. Recent droughts have exacerbated these risks, particularly in Mpumalanga and Limpopo, where key power stations face declining water availability. The energy sector must integrate innovative adaptation solutions and water efficiency measures, such as dry cooling technology, desalination projects, and water recycling systems, to ensure long-term sustainability.

In Gauteng, South Africa's economic hub, water shortages have reached critical levels, with supply interruptions lasting up to 86 hours in some municipalities. Infrastructure failures, corruption, and mismanagement within local water authorities have further exacerbated the crisis.

The National Water and Sanitation Master Plan outlines measures to secure long-term water supply, but implementation gaps and financial constraints continue to undermine progress. Without urgent interventions, water scarcity could become a major constraint on economic growth and energy security in the coming years.

Global climate commitments and trade implications:

South Africa's climate commitments under the Paris Agreement increasingly intersect with global trade policies, with significant implications for key export industries. The European Union's Carbon Border Adjustment Mechanism, which introduces tariffs on carbon-intensive imports, poses a major risk to South African industries that remain heavily reliant on coal-based energy. The steel, cement, and chemical sectors are particularly vulnerable, as European markets now require verifiable emissions reductions in supply chains. Failure to decarbonise South Africa's energy mix could reduce export competitiveness and result in annual revenue losses of up to R12 billion from carbon-intensive exports.

The USA's withdrawal from the Paris Agreement in 2025 under the Trump administration further complicates the global climate landscape. The USA had previously been a key driver of international climate finance, contributing to mechanisms like the Green Climate Fund, which supports developing nations, including South Africa, in implementing their just energy transition plans. The withdrawal is expected to reduce available climate funding, limiting concessional finance for South Africa's renewable energy, green hydrogen, and transmission expansion projects.

Beyond financing, the USA exit from the Paris Agreement reduces diplomatic pressure on major emitters, such as China and India, to accelerate their decarbonisation efforts. This could slow global investment momentum for renewables and clean energy technologies, affecting South Africa's ability to attract long-term green investment partners.

Despite the USA withdrawal, other major economies, including the European Union, remain committed to ambitious decarbonisation policies. The European Union's Carbon Border Tax and China's expansion of its Emissions Trading System will continue to shape global energy markets. For South Africa, this means that failure to accelerate renewable energy deployment and implement green certification for industrial exports could lead to declining market competitiveness.

To mitigate this risk, South Africa must accelerate the deployment of renewable energy, establish green certification frameworks for industrial producers, and ensure that key industries align with global carbon reduction requirements. The Hydrogen Society Roadmap positions South Africa as a potential leader in green hydrogen production, leveraging the country's abundant renewable energy resources and platinum group metals for electrolysis technology. The Boegoebaai Green Hydrogen Project in the Northern Cape has already attracted significant international investment, reinforcing the country's potential to become a major exporter of clean hydrogen.

However, scaling up green hydrogen production requires substantial infrastructure investment, clear policy certainty, and stable long-term financing mechanisms. Uncertainty surrounding hydrogen certification standards, infrastructure readiness, and trade agreements continues to slow commercialisation efforts. Ensuring that South Africa can fully benefit from global hydrogen markets will require coordinated government action, regulatory clarity, and strategic investment in ports, electrolyser manufacturing, and distribution networks.

South Africa has made progress in establishing a comprehensive climate policy framework, but implementation challenges, financing constraints, and regulatory delays continue to hinder the pace and effectiveness of the transition. Successfully meeting climate commitments will require significant acceleration in renewable energy investments, streamlined transmission expansion, and improved financing mechanisms for the just energy transition.

The country's ability to balance energy security, affordability, and environmental sustainability will determine the long-term success of its climate strategy. If regulatory bottlenecks and investment barriers are not addressed, climate-related risks (including extreme weather, water shortages, and trade barriers) could further constrain economic growth and energy security. South Africa must take urgent and coordinated action to ensure that its energy transition remains on track, safeguarding both its economic competitiveness and its environmental future.

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 Response
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 GDP growth is projected at 3.2% (International Monetary Fund, 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	- The department facilitates international 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.

		Issue Identified	Planning Response
		energy and water supply, and security concerns.	
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	Technological	- 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 are delaying transport sector electrification.	- 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. - The department partners with private investors to accelerate electric vehicle infrastructure rollout and encourage adoption.
E	Environmental	- 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-	- 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

		Issue Identified	Planning Response
		intensive industries, requiring efficiency improvements. Green hydrogen and battery storage present major economic opportunities, but investment and skills development remain limited.	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/Regulatory	- 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.

The PESTEL Analysis ensures the Department of Electricity and Energy is well-positioned to navigate political, economic, social, technological, environmental, and legal factors influencing the energy sector. By linking identified challenges with clear responses, the department can enhance resilience, attract investment, and support South Africa's energy transition.

4.2. INTERNAL ENVIRONMENT ANALYSIS

The Department of Electricity and Energy 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 assesses the department's institutional structure, governance mechanisms, financial standing, human capital capacity, operational efficiency, and transformation objectives.

Institutional Structure and Budget Programmes

The Department of Electricity and Energy 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.

The department's five budget programmes and institutional branches are structured as follows:

Budget Programme	Programme Purpose	Branches/ Chief Directorates
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: Energy Planning and Policy Development	Formulate, maintain, and implement integrated energy policies to promote and encourage investment in the energy industry and improve security of supply.	▪ Chief Directorate: Energy Planning ▪ 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:

- 1) Phase 1: Establishment and Function Transfer (2024–2025): Focuses on legal, structural, and financial formalisation, ensuring that key oversight and regulatory and policy functions are properly transferred.

- 2) Phase 2: Operational Consolidation (2025–2027): Prioritises institutional capacity-building, finalisation of Eskom’s restructuring, establishment of the National Energy Planning and Market Oversight Unit, and alignment of municipal electricity distribution frameworks.
- 3) Phase 3: Full Operationalisation of Market Reforms (2027–2030): Involves full operationalisation of a market operator and ITSO, completion of large-scale renewable energy investments, and stabilisation of South Africa’s energy security and transition trajectory.

Despite having a structured transition framework, the Department of Electricity and Energy faces several institutional challenges:

- 1) Regulatory uncertainty: Policy misalignment between the Department of Electricity and Energy, Eskom, NERSA, and municipal electricity distributors requires clearer governance frameworks to streamline decision-making.
- 2) Technical skills shortages: The department lacks capacity in key oversight, regulatory, grid management, and renewable energy functions. Recruitment, workforce development, and partnerships with energy institutions are critical to address this.
- 3) Funding constraints for transmission expansion: The department must accelerate private sector investment and blended finance solutions to fund grid expansion and new energy infrastructure.
- 4) Intergovernmental coordination challenges: Municipal energy governance remains fragmented, requiring stronger collaboration with National Treasury and local governments to ensure affordable electricity and improved service delivery.

The department’s ability to strengthen regulatory oversight, enhance internal technical capacity, and improve investment facilitation will be key to stabilising South Africa’s electricity sector and supporting a just energy transition.

Governance and Oversight Mechanisms

The Department of Electricity and Energy operates within a multi-stakeholder governance system, requiring strong intergovernmental coordination, regulatory oversight, and public-private collaboration to effectively direct and manage South Africa’s energy transition and electricity market reforms.

The department is responsible for:

- 1) Policy coherence, regulatory alignment, and institutional accountability across the energy sector.
- 2) Energy investment frameworks in collaboration with National Treasury; The Presidency; and the Department of Trade, Industry and Competition.
- 3) Climate resilience integration in partnership with the Department of Water and Sanitation and the Department of Forestry, Fisheries, and the Environment.
- 4) Regulatory oversight of electricity tariffs, licensing, and nuclear energy compliance through NERSA, the NNR, and the Presidential Climate Commission.
- 5) SOE oversight, ensuring Eskom’s financial and operational turnaround and enhanced governance of other energy SOEs.

Given South Africa's ongoing energy market transformation, the Department of Electricity and Energy has identified four priority governance interventions over the 2025–2030 planning period:

- 1) Finalising Eskom's restructuring and operationalising the ITSO: Ensuring a functional, ITSO that enables competition and investment growth.
- 2) Enhancing regulatory and policy coordination: Aligning the roles of NERSA, Eskom, and municipal electricity providers within a single, integrated framework to prevent policy fragmentation.
- 3) Strengthening intergovernmental collaboration: Supporting municipal energy resilience, grid expansion projects, and cost-reflective electricity pricing mechanisms.
- 4) Driving energy transition governance: Ensuring the JET IP, the South African Renewable Energy Masterplan, the Gas Masterplan, and the IRP 2025 are implemented in a transparent and accountable manner.

To improve governance alignment, the department is developing a Governance Charter defining accountability, reporting lines, and decision-making structures across the energy sector.

Financial Position and Resource Allocation

The Department of Electricity and Energy is responsible for ensuring energy security, driving infrastructure investment, and facilitating industrialisation within a constrained fiscal environment. As a newly established entity, the department must navigate a complex financial landscape while implementing electricity market reforms, stabilising both Eskom's operations and finances and supporting South Africa's energy transition.

The department inherits significant financial responsibilities from the DMRE and the DPE, requiring consolidation of funding streams, reallocation of resources, and the establishment of new budgeting frameworks to sustain an independent energy mandate. The department's financial sustainability will be a key determinant of its effectiveness in regulatory oversight, infrastructure development, and investment facilitation.

Budget priorities and resource allocation:

The department's budget priorities are structured to support three critical focus areas, ensuring that public and private sector investments align with national energy security objectives:

- 1) Ensuring security of electricity supply: Investments are directed towards transmission and distribution networks, Eskom's operational recovery, and municipal electricity resilience initiatives.
- 2) Expanding renewable energy and storage infrastructure: This includes financing the integration of solar, wind, green hydrogen, and battery storage projects to support South Africa's just energy transition.
- 3) Strengthening regulatory oversight and market reform: Ensuring that the regulatory and other relevant entities have the capacity to facilitate a competitive and transparent electricity market.

The department must operate within South Africa's constrained macroeconomic and fiscal landscape, where rising debt levels, limited public finances, and slow economic growth pose risks to large-scale energy investments. The National Treasury's 2025 Budget Review projects a widening budget deficit of 4.55% of GDP in 2025/26, reflecting higher borrowing costs and lower-than-expected economic growth.

These fiscal constraints limit direct government funding for energy infrastructure projects, reinforcing the urgent need for alternative financing mechanisms.

Mitigating fiscal constraints - diversifying funding sources:

Given the limited fiscal space for energy investments, the department is prioritising financial diversification strategies to attract private capital and international climate finance. Over the next five years, the department will focus on:

- 1) Public-private partnerships: Expanding private sector participation in grid infrastructure, municipal electricity networks, and renewable energy projects.
- 2) Blended finance solutions: Leveraging funding from development finance institutions, multilateral climate funds, and green bonds to support energy transition projects.
- 3) Cost-reflective electricity pricing models: Implementing sustainable and consumer-affordable tariff structures that enhance Eskom's financial stability.
- 4) Mobilising international climate finance: Securing funding for green hydrogen, battery storage, and transmission expansion through global partnerships and concessional finance mechanisms.

Despite strong international commitments to climate finance, actual disbursement of funds has been slow and fragmented, limiting the pace of energy transition projects. Only a fraction of pledged international funds has been released due to regulatory bottlenecks, policy misalignment, and bureaucratic inefficiencies. Accelerating access to international funding will be critical to ensuring the department can implement large-scale infrastructure projects without excessive reliance on public debt.

Eskom's financial stability and restructuring:

Eskom remains a systemic financial risk to South Africa's energy sector and broader fiscal sustainability. The utility's high debt burden, operational inefficiencies, lack of cost-reflective tariffs, increasing municipal arrears, and reliance on government bailouts continues to strain the national fiscus. While National Treasury's debt relief measures offer temporary financial relief, Eskom's long-term stability hinges on the implementation of structural reforms and strengthening of governance.

The department's role in stabilising Eskom's financial position includes:

- 1) Facilitating the legal separation of Eskom into generation, transmission, and distribution entities, including the operationalisation of the ITSO.
- 2) Reforming electricity market structures to encourage greater participation from independent power producers, reducing overreliance on Eskom's generation fleet.
- 3) Aligning Eskom's debt management strategy with fiscal sustainability objectives, reducing reliance on government support, and advocating for the approval of cost-reflecting tariffs.
- 4) Resolving non-payment challenges in the electricity sector, ensuring cost recovery and financial viability.

Over the next five years, the Department of Electricity and Energy's financial strategy will focus on:

- 1) Ensuring sustainable funding models for energy security, electricity market reform, and infrastructure investment.

- 2) Mobilising concessional and climate finance to support renewable energy investments and grid expansion.
- 3) Stabilising Eskom's finances through structural reforms, cost-reflective tariffs, and debt restructuring.
- 4) Expanding public-private partnerships to reduce dependence on government funding for energy infrastructure.
- 5) Improving governance and oversight mechanisms to ensure efficient budget allocation, reduced financial waste, and enhanced investment confidence.

The Department of Electricity and Energy must navigate a constrained fiscal environment while ensuring that critical energy investments are adequately funded, efficiently allocated, and transparently managed. By strengthening fiscal governance, accelerating private sector participation, and unlocking international climate finance, the department will be well-positioned to drive sustainable energy development, ensuring a stable, resilient, and investment-friendly energy sector.

Human Capital and Capacity Development

The Department of Electricity and Energy is in the process of building its organisational and human resource capacity, following its establishment as a standalone entity. The transition from the DMRE and the DPE requires a comprehensive restructuring of personnel, institutional roles, and technical expertise to ensure that the department is fully equipped to lead South Africa's electricity market reform, energy transition, and regulatory oversight.

Given its highly technical and rapidly evolving mandate, the department faces significant institutional capacity constraints, including skills shortages, leadership gaps, and operational inefficiencies. The successful execution of the department's strategic objectives will require targeted investment in technical expertise, governance structures, and workforce planning to ensure that its institutional framework is robust, well-coordinated, and future ready.

Skills shortages and technical capacity gaps:

The electricity and energy sector requires a highly specialised workforce with expertise in engineering, project management, applied sciences, grid planning and modelling, energy forecasting, policy development, compliance monitoring, regulation, state own company oversight, and market reforms. However, as a newly formed department, the Department of Electricity and Energy currently faces shortages of critical technical skills in the following areas:

- 1) Electricity market regulation and competition policy: Essential for overseeing the operationalisation of the market operator and managing electricity sector reforms.
- 2) Transmission planning and grid modernisation: Necessary to ensure that South Africa's electricity network can accommodate new renewable energy projects and decentralised power generation systems.
- 3) Energy security and risk management: Key to supporting Eskom restructuring, load-shedding mitigation strategies, and municipal electricity distribution oversight.
- 4) Green hydrogen, battery storage, and renewable energy integration: Critical for ensuring the successful implementation of the JET IP and expanding South Africa's clean energy portfolio.

- 5) Financial assurance, investment support, and governance of SOEs: Important for strengthening oversight of SOEs, including management of Boards and expanding infrastructure investment.
- 6) Project management and technical oversight of SOEs: Project management, engineering and applied science skills are required to drive key strategic projects and improve operational performance of SOEs.

Without a coordinated technical skills development strategy, the department may struggle to effectively regulate, implement, and oversee its complex energy transition policies.

Restructuring workforce functions and leadership development:

The Department of Electricity and Energy's transition from DMRE and DPE has required a major restructuring of workforce functions, reporting structures, and operational mandates. However, institutional capacity constraints remain, particularly in senior management and specialist roles. Many key leadership positions are either vacant or undergoing recruitment, posing risks to policy consistency, decision-making efficiency, and stakeholder coordination.

To address these challenges, the department will prioritise five core areas for workforce development over the next five years:

- 1) Technical and sectoral expertise development: Expanding internal capacity in grid planning, renewable energy financing, energy security, and market regulation through training programmes, professional development initiatives, and strategic partnerships with energy institutions.
- 2) Leadership and governance capacity-building: Strengthening institutional leadership, decision-making structures, and accountability mechanisms to ensure that the department can operate efficiently and independently.
- 3) Workforce transformation and inclusivity: Enhancing gender equity, youth employment, and disability inclusion within the department, ensuring a representative and diverse workforce that aligns with South Africa's transformation agenda.
- 4) Partnerships and international exchange programmes: Leveraging global energy leadership and technical partnerships to develop skills in market reform, smart grids, energy efficiency, and digital transformation.
- 5) Digital capacity-building and modernisation: Enhancing e-governance capabilities, energy sector data analytics, and regulatory monitoring systems to improve efficiency and transparency.

Strategic partnerships for skills development:

The Department of Electricity and Energy will engage in strategic partnerships with local and international energy institutions to enhance sectoral expertise, facilitate knowledge-sharing, and expand workforce capacity. Key focus areas include:

- 1) Collaboration with academic institutions and research organisations: Supporting capacity-building in energy forecasting, policy analysis, and electricity infrastructure management.
- 2) Technical cooperation with international energy agencies, such as the International Renewable Energy Agency and the International Energy Agency: Strengthening regulatory capacity and benchmarking best practices.

- 3) Industry partnerships with private sector energy firms: Ensuring that the department's workforce development strategy aligns with evolving sectoral needs.

As part of its long-term skills development approach, the department will focus on structured internships, learnerships, and apprenticeship programmes to train the next generation of energy professionals. This will include partnerships with technical and vocational education and training (TVET) colleges, universities, and industry bodies to align energy sector qualifications with emerging industry requirements.

Performance management, digital innovation, and institutional efficiency:

As Department of Electricity and Energy continues its transition, ensuring organisational efficiency, performance accountability, and institutional effectiveness will remain a top priority. The department is implementing modernised performance management systems, digital governance mechanisms, and data-driven decision-making frameworks to improve service delivery and regulatory effectiveness.

The department will also prioritise digital transformation to enhance its regulatory oversight and operational efficiency, focusing on:

- 1) Energy data and market intelligence: Investing in real-time data analytics, forecasting tools, and digital dashboards to track electricity demand, grid stability, renewable energy generation, and market trends.
- 2) Regulatory digitisation: Implementing electronic licensing and compliance systems for energy providers, enabling faster regulatory approvals, improved monitoring, and transparent investment decision-making.
- 3) Cybersecurity and ICT resilience: Strengthening ICT governance, risk management, and digital security to protect critical energy data, electricity transmission networks, and market transactions from cyber threats.
- 4) Digital public engagement platforms: Expanding electronic consultation mechanisms, investor portals, and digital energy information systems to enhance transparency, stakeholder engagement, and investor confidence in South Africa's electricity market reform.

One of the major challenges in the department's digital transformation strategy is the shortage of skilled personnel in ICT governance, data analytics, and energy market digitisation. The department will invest in:

- 1) Upskilling employees in digital policy planning, cybersecurity, and smart energy system management.
- 2) Collaborating with private sector and academic institutions to build technical expertise in smart grids, data science, and renewable energy forecasting.
- 3) Establishing partnerships with international energy agencies to enhance knowledge-sharing and technology transfer in digital energy systems.

Despite ongoing challenges, the department's ability to develop and retain a technically skilled, inclusive, and high-performing workforce will determine its long-term success in leading South Africa's electricity market reform and energy transition.

By focusing on skills development, leadership capacity-building, digital modernisation, and international knowledge exchange, the Department of Electricity and Energy will position itself as a globally competitive energy regulator, investment facilitator, and policy leader in the energy sector.

Operational Efficiency and Institutional Modernisation

The Department of Electricity and Energy is building its institutional capacity following its establishment, focusing on regulatory efficiency, market oversight, and infrastructure coordination. The transition from DMRE and DPE requires a structured realignment of internal processes, governance mechanisms, and digital capabilities to enhance operational effectiveness.

The department must streamline regulatory approvals, enhance market coordination, and modernise its oversight functions to ensure corporate governance, efficient policy implementation and investment facilitation. However, several institutional constraints impact its ability to deliver effectively:

- 1) Regulatory bottlenecks: Slow licensing and fragmented approval processes across NERSA, Eskom, and municipalities delay market reforms and investment uptake.
- 2) Institutional coordination gaps: The overlap of mandates between regulatory bodies and SOEs may create governance misalignment in policy execution.
- 3) Limited market oversight: The department lacks real-time monitoring capabilities for grid stability, electricity demand, and energy security risks.
- 4) Cybersecurity vulnerabilities: Increasing digitalisation in the energy sector exposes critical infrastructure to cyber risks, requiring stronger ICT governance.

In response, the department will focus on:

- 1) Regulatory modernisation: Streamlining market licensing, investment approvals, and oversight mechanisms to enhance efficiency and transparency.
- 2) Institutional coordination: Strengthening governance frameworks to align the Department of Electricity and Energy, the SOEs in the portfolio, and municipalities for coherent policy execution.
- 3) Smart energy infrastructure monitoring: Expanding real-time grid analytics, predictive energy tracking, and digital dashboards for enhanced decision-making.
- 4) Cybersecurity resilience: Strengthening digital risk management, ICT governance, and data protection to secure energy infrastructure.
- 5) Performance management: Digitising administrative workflows, compliance tracking, and licensing approvals to reduce inefficiencies and improve turnaround times.

Department of Electricity and Energy's ability to modernise regulatory frameworks, improve institutional coordination, and enhance real-time energy oversight will be critical to ensuring South Africa's energy security and transition success.

Transformation and Targeted Groups: Women, Youth, and Persons with Disabilities

The Department of Electricity and Energy is committed to advancing economic transformation, employment equity, and inclusive participation in the energy sector. The energy industry remains

historically underrepresented in terms of gender equality, youth employment, and opportunities for persons with disabilities. As part of its institutional commitments, the department is embedding transformation principles in workforce development, procurement policies, and industry participation to drive inclusivity, economic empowerment, and equitable access to opportunities.

Department of Electricity and Energy's transformation agenda is anchored in key policy frameworks, including the B-BBEE Act, the Employment Equity Act, the Skills Development Act, and the JET IP, which all include structured interventions to promote inclusivity in the energy sector. These policies guide targeted interventions that ensure the meaningful participation of designated groups in decision-making, technical fields, procurement, and skills development initiatives within the energy sector.

The department's transformation objectives over the 2025–2030 planning period are structured around four key focus areas:

- 1) Gender equity in energy leadership and workforce development: Women remain underrepresented in leadership roles and technical fields within the energy sector. The department will seek to:
 - a) Expand leadership pathways for women through executive coaching, mentorship initiatives, and career acceleration programmes.
 - b) Increase female representation in engineering and science; energy policy; and technical disciplines through scholarships in science, technology, engineering, and mathematics focused skills development.
 - c) Enhance supplier development support for women-owned enterprises in the energy value chain, ensuring equitable access to procurement opportunities.
- 2) Youth skills development and employment in the energy sector: South Africa's energy transition and infrastructure expansion require a new generation of skilled professionals. The department will:
 - a) Partner with universities, TVET colleges, and industry stakeholders to align training programmes with sectoral needs.
 - b) Expand internships, learnerships, and apprenticeships in renewable energy, grid management, and energy efficiency.
 - c) Support youth-owned businesses through targeted enterprise development and funding for participation in clean energy markets.
- 3) Disability inclusion in the energy workforce and infrastructure: Persons with disabilities continue to face barriers in employment access, workplace adaptation, and procurement participation. In response, the department will:
 - a) Enhance workplace accessibility through adaptive policies and assistive technologies.
 - b) Integrate disability inclusion into recruitment and career development in regulatory, technical, and administrative roles.
 - c) Prioritise disability-owned enterprises in procurement, ensuring inclusive participation in the energy value chain.

- 4) Preferential procurement and supplier development: The department will drive localisation and industrial transformation by ensuring that historically disadvantaged groups benefit from energy investments. Key commitments include:
- a) Directing at least 40% of procurement spending towards Black-owned, women-owned, youth-owned, and disability-owned enterprises.
 - b) Strengthening enterprise development programmes, providing capacity-building, financial access, and skills support to small and emerging businesses.
 - c) Aligning procurement strategies with the Industrialisation and Localisation Master Plan, ensuring that energy sector investments stimulate broad-based economic empowerment.

The department's transformation strategy ensures that economic participation, workforce diversity, and supplier empowerment are fully integrated into South Africa's energy transition and infrastructure expansion. By driving gender equity, youth employment, disability inclusion, and preferential procurement, the department is positioning itself to deliver meaningful socioeconomic transformation while ensuring that energy reforms benefit all South Africans.

PART C: MEASURING OUR PERFORMANCE

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. INSTITUTIONAL PERFORMANCE INFORMATION

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 regional and global leader in sustainable energy.

1.2. MEASURING OUR OUTCOMES

Towards its impact, seven outcomes will direct the effort and focus of the Department of Electricity and Energy over the period to 2030. 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.

1) **Outcome 1: A coherent, aligned, and impactful national energy policy and planning framework**

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.

This outcome aligns with Ministerial Priority 1: Universal Access, Affordability, and Quality; Ministerial Priority 2: Sovereign and Regional Energy Security, and Quality; MTDP Priority 3: Coordinated energy planning; and the DDM for energy services.

2) **Outcome 2: A well-regulated, transparent, and investment-friendly energy market**

By 2030, South Africa's electricity and nuclear energy markets will be transparent, competitive, and conducive to private investment, ensuring efficient, cost-reflective pricing and long-term energy security. The department will drive electricity market reforms by finalising Eskom's restructuring and operationalising the ITSO, establishing a competitive electricity market and strengthening nuclear regulatory oversight to align with international safety standards.

This outcome aligns with Ministerial Priority 1: Universal Access, Affordability, and Quality; Ministerial Priority 3: Driving industrialisation and leading innovation; MTDP Priority 1: Economic growth and industrialisation - energy market reform; the IRP 2025; and the Electricity Regulation Amendment Act.

3) **Outcome 3: Increased investment in energy infrastructure, grid expansion, and technological innovation**

By 2030, South Africa will have increased investment in energy infrastructure, expanded the national grid, and advanced new energy technologies. The department will achieve this by mobilising concessional finance for infrastructure; strengthening public-private partnerships; facilitating and accelerating investment in renewable energy infrastructure; and enabling technological innovations like energy storage, nuclear safety improvements, and green hydrogen development.

This outcome aligns with Ministerial Priority 2: Sovereign and regional energy security, Ministerial Priority 3: Driving industrialisation and leading innovation, MTDP Priority 1: Economic growth and industrialisation - energy security and infrastructure, and the Transmission Development Plan (2025-2035).

4) **Outcome 4: A just energy transition enabling industrialisation and job creation**

By 2030, South Africa will have transitioned towards a lower-carbon energy system that drives industrialisation, job creation, and social equity. The Department of Electricity and Energy will implement the JET IP, scale up renewable energy capacity, develop a domestic green hydrogen economy, support the localisation of energy sector manufacturing, and ensure socioeconomic adaptation support for workers and communities affected by the transition from coal.

This outcome aligns with Ministerial Priority 2: Sovereign and regional energy security, Ministerial Priority 4: Qualitatively transforming energy demographics, MTDP Priority 1: Environmental sustainability and resilience - just energy transition, the South African Renewable Energy Masterplan, and the National Hydrogen Society Roadmap.

5) **Outcome 5: Strengthened intergovernmental, regional, and global energy coordination**

By 2030, South Africa will be a regional leader in electricity trade and a globally recognised hub for clean energy investment. The Department of Electricity and Energy will deepen regional energy integration through the Southern African Power Pool, develop cross-border electricity projects, coordinate South Africa's engagement in the African Single Electricity Market, and position the country as a global clean energy investment hub.

This outcome aligns with Ministerial Priority 3: Driving industrialisation and leading innovation, Ministerial Priority 5: Asserting South Africa's continental and global energy leadership, MTDP Priority 1: Economic growth and industrialisation - regional energy leadership, the African Single Electricity Market Framework, and the African Union's Agenda 2063.

6) **Outcome 6: Capable state-owned energy entities driving energy security and market efficiency**

By 2030, South Africa's energy SOEs will be financially stable, operationally efficient, and aligned with national energy priorities. The department will drive SOE transformation to support a competitive and investment-friendly electricity market, ensure financial sustainability, strengthen governance, and ensure the integration of adaptation strategies to transition companies to low carbon footprints.

This outcome aligns with MTDP Priority 3: A capable, ethical, and developmental state – State-owned company performance.

7) Outcome 7: A capable, high-performing, and digital-enabled organisation

By 2030, the Department of Electricity and Energy will be a well-governed, digitally advanced, and high-performing organisation, ensuring effective policy, enhanced oversight of state-owned entities, and improved service delivery. The department will finalise its institutional structure, build technical, financial, legal, and regulatory capacity, modernise digital systems, and enhance gender equity, youth participation, and workforce transformation.

This outcome aligns with MTDP Priority 3: A capable, ethical, and developmental state - Institutional performance.

Progress towards the outcomes will be tracked and assessed as follows:

Outcome	Outcome Indicators	Baseline	Five-Year Target (2030)
- Ministerial Priority 1: Universal access, affordability, and quality - Ministerial Priority 2: Sovereign and regional energy security, and quality - MTDP Priority 3: Coordinated energy planning			
1: A coherent, aligned, and impactful national energy policy and planning framework	Implementation status of the IRP 2025	IRP 2019	IRP 2025 fully implemented
	Alignment of provincial and municipal energy policies with the National Energy Plan	Fragmented planning frameworks	Full alignment of provincial and municipal energy policies with the National Energy Plan
	Implementation status of the Gas Masterplan	Draft Gas Masterplan	Gas Masterplan fully implemented
- Ministerial Priority 1: Universal access, affordability and quality - Ministerial Priority 3: Driving industrialisation and leading innovation - MTDP Priority 1: Economic growth and industrialisation - energy market reform			
2: A well-regulated, transparent, and investment-friendly energy market	Turnaround time for energy investment approvals (independent power producer licensing, grid access, nuclear compliance)	+24 months turnaround time for energy investment approvals	<6 months turnaround time for energy investment approvals
	Proportion of nuclear energy projects compliant with international safety standards	85% of nuclear energy projects compliant with international safety standards	100% of nuclear energy projects compliant with international safety standards

Outcome	Outcome Indicators	Baseline	Five-Year Target (2030)
	Proportion of electricity generation capacity procured from independent power producers	14% of electricity generation capacity procured from independent power producers	40% of electricity generation capacity procured from independent power producers
	Proportion of electricity market operating under competitive trading framework	No competitive wholesale market	Fully operational wholesale electricity market
	Implementation status of the market code for competitive electricity trading	No market code for trading licenses	Market code fully operational
- Ministerial Priority 2: Sovereign and regional energy security - Ministerial Priority 3: Driving industrialisation and leading innovation - MTDP Priority 1: Economic growth and industrialisation - energy security and infrastructure			
3: Increased investment in energy infrastructure, grid expansion, and technological innovation	Total renewable energy capacity procured (wind, solar, battery storage)	7.2 gigawatts renewable energy capacity procured	20 gigawatts of renewable energy capacity procured
	Proportion of new generation capacity sourced from renewable energy	30% of new generation capacity sourced from renewable energy	60% of new generation capacity sourced from renewable energy
	Expansion of the national transmission network (cumulative kilometres added)	Transmission Development Plan approved	5,044 kilometres of new transmission lines added
	Total private sector investment in energy infrastructure	R80 billion private sector investment in energy infrastructure	R400 billion private sector investment in energy infrastructure
	Power system reliability (annual load-shedding days)	Severe load-shedding in 2023/24	Annual load-shedding days to zero, with 99.9% reliability
- Ministerial Priority 2: Attaining sovereign and regional energy security - Ministerial Priority 4: Qualitatively transforming energy demographics - MTDP Priority 1: Inclusive economic growth and job creation - MTDP Priority 1: Environmental sustainability and resilience - just energy transition			

Outcome	Outcome Indicators	Baseline	Five-Year Target (2030)
4: A just energy transition enabling industrialisation and job creation	Total renewable energy capacity installed	11,000 megawatts renewable energy capacity installed	33,000 megawatts renewable energy capacity installed
	Total green hydrogen production capacity	Early-stage projects	500,000 tons green hydrogen production capacity
	Proportion of locally manufactured components procured for renewable energy projects	Limited localisation	60% of locally manufactured components in renewable energy projects
	Total number of jobs created through the just energy transition	Transition job data not centralised	200,000 new energy sector jobs created through the just energy transition
▪ Ministerial Priority 3: Driving industrialisation and leading innovation ▪ Ministerial Priority 5: Asserting South Africa's continental and global energy leadership ▪ MTDP Priority 1: Economic growth and industrialisation - regional energy leadership			
5: Strengthened intergovernmental, regional, and global energy coordination	Proportion of electricity traded within the Southern African Power Pool	5% of electricity traded within the Southern African Power Pool	15% of electricity traded within the Southern African Power Pool
	South Africa's global ranking in clean energy investment	Ranked outside top 20	South Africa in the top 10 globally for clean energy investment
	Number of regional energy interconnection projects completed	1 (Mozambique-South Africa)	3 (Zambia-Tanzania-Kenya, Democratic Republic of the Congo-South Africa, and others)
▪ MTDP Priority 3: A capable, ethical, and developmental state – state-owned entities performance			
6: Capable state-owned energy entities driving energy security and market efficiency	Number of state-owned energy entities achieving clean audits	2 entities achieving clean audits	6 entities (Eskom, NERSA, NNR, NECSA, NRWDI, and SANEDI)
	Proportion of state-owned energy entity projects completed on time and within budget	60% of projects completed on time and within budget	>90% of projects completed on time and within budget
	Financial sustainability of state-owned energy	Bailouts required for operational stability	Improved financial sustainability of state-

Outcome	Outcome Indicators	Baseline	Five-Year Target (2030)
	entities based on debt-service coverage, cost recovery, and liquidity ratios		owned energy entities, with strengthened balance sheets, cost recovery, and improved financial ratios
▪ MTDP Priority 3: A capable, ethical, and developmental state - institutional performance			
7: A capable, high-performing, and digital-enabled organisation	External audit outcome	New indicator	Clean audit outcome achieved annually over 5 years
	Proportion of the Department of Electricity and Energy's core business functions digitalised	New indicator	100% of Department of Electricity and Energy's core business functions digitalised
	Gender and youth representation in Department of Electricity and Energy's workforce	Women: 35% Youth: 20%	Women: 50% Youth: 40%

1.3. EXPLANATION OF PLANNED PERFORMANCE OVER THE FIVE-YEAR 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 seven outcomes identified in this strategic plan define the key results that the department must achieve by 2030 to fulfil its mandate. These outcomes are directly linked to the department's constitutional, legislative, and policy mandates outlined in Part A, and the strategic focus and situational analysis in Part B, which identifies the challenges and opportunities in the energy sector.

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, and cross-cutting government priorities like transformation and innovation. The rationale for the selected outcome indicators is also provided, ensuring that measurement is evidence-based and aligned with sectoral challenges.

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 but rather ensures that the necessary market, regulatory, and governance conditions are in place for South Africa's energy system to function efficiently and equitably. 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.

Outcome 1: A coherent, aligned, and impactful national energy policy and planning framework

The Department of Electricity and Energy plays a central role in shaping South Africa's energy future by driving integrated energy planning, ensuring regulatory coherence, and promoting an environment that enables investment in energy infrastructure. This outcome is critical to achieving Ministerial Priority 1 on universal access, affordability, and quality, as well as Ministerial Priority 2 on sovereign and regional energy security. It also supports the MTDP Priority 3 by ensuring that energy planning is fully integrated across national, provincial, and municipal spheres, aligning with the principles of the DDM.

The department's role is to ensure that energy policies and planning frameworks are coherent, future-focused, and responsive to national economic priorities and climate resilience imperatives. By leading the finalisation and implementation of the IRP 2025, the department will provide the strategic direction required to balance energy security, affordability, and sustainability. The IRP 2025's successful implementation will depend on intergovernmental cooperation, with the Department of Electricity and Energy coordinating efforts across various ministries, state owned companies, and regulatory bodies to ensure a unified and harmonised policy environment.

A critical aspect of this outcome is ensuring that National Energy Planning considers the socioeconomic priorities of women, youth, children, and persons with disabilities. Energy accessibility has a direct impact on economic inclusion, household well-being, and employment opportunities, particularly in rural and underserved areas. The department will ensure that electrification policies support vulnerable groups, incorporating gender-responsive planning and inclusive decision-making processes.

In alignment with the Science, Technology and Innovation Decadal Plan (2022–2032), the department will leverage digitalisation, digital intelligence, and energy forecasting tools to enhance planning accuracy and real-time decision-making. The integration of smart grid technologies and energy modelling will enable dynamic adjustments to national energy strategies based on evolving demand, climate risks, and technology advancements.

From a situational analysis perspective, the need for a well-coordinated energy policy framework arises from fragmented planning across national, provincial, and municipal structures, as well as inconsistencies between energy, industrial, and environmental policies. The outcome indicators selected, such as the full implementation of the IRP 2025 and the Gas Masterplan, and alignment of national, provincial, and municipal energy plans, reflect the department's commitment to overcoming fragmented planning, policy misalignment, and inconsistent electrification approaches.

To achieve this outcome, key enablers include strengthened intergovernmental coordination mechanisms, enhanced institutional capacity for policy oversight, and the integration of data-driven planning tools. The department will also work closely with international energy agencies, research institutions, and development finance institutions to align South Africa's energy policies with global best practices.

The successful implementation of this outcome will contribute directly to the impact of an integrated, well-regulated, and investment-friendly energy system by ensuring that South Africa's energy planning processes are proactive, future-proof, and strategically aligned with industrial and socioeconomic development priorities.

Outcome 2: A well-regulated, transparent, and investment-friendly energy market

A competitive, transparent, and well-regulated energy market is a fundamental enabler of energy security, industrial growth, and investment attraction. This outcome supports Ministerial Priority 1: Universal Access,

Affordability, and Quality, and Ministerial Priority 3 on driving industrialisation and leading innovation, as well as the MTDP's focus on economic growth through energy market reform. By strengthening regulation, improving market transparency, and ensuring cost-reflective pricing, the department will increase private sector participation, drive electricity market competitiveness, and promote fair and efficient pricing structures for consumers and businesses alike.

The Department of Electricity and Energy's primary responsibility under this outcome is to create and enforce a regulatory framework that ensures market fairness, promotes competition, and provides investment certainty. Key interventions include finalising Eskom's restructuring and turnaround, operationalising the ITSO, establishing a competitive electricity market, and strengthening nuclear regulatory oversight to align with international safety standards. These reforms will enable greater private-sector participation while ensuring a stable and cost-reflective tariff environment.

Women, youth, and persons with disabilities must have equitable access to economic opportunities within the energy market. This includes ensuring that regulatory reforms create fair procurement opportunities, support the participation of historically disadvantaged businesses in energy supply chains, and enforce employment equity commitments in the renewable and nuclear energy sectors.

Technological innovation is a critical component of energy market regulation. The department will leverage proven technology such as blockchain-based energy trading platforms, artificial intelligence-driven regulatory oversight, and digital compliance systems to enhance transparency and reduce bureaucratic inefficiencies.

The situational analysis highlights regulatory uncertainty, slow licensing processes, and market monopolisation as key barriers to energy sector competitiveness. The outcome indicators selected are designed to systematically address regulatory inefficiencies, unlock competition, and accelerate investment in the energy market.

Key enablers for achieving this outcome include legislative certainty through the full implementation of the Electricity Regulation Amendment Act, enhanced regulatory coordination between the department and relevant institutions, and the establishment of a digital market monitoring system.

A well-regulated, transparent, and investment-friendly energy market will drive lower electricity costs, increase energy security, and create stronger investor confidence, ensuring that South Africa's energy transition is market-driven and globally competitive.

Outcome 3: Increased investment in energy infrastructure, grid expansion, and technological innovation

A reliable, modernised, and expanded energy infrastructure is fundamental to South Africa's economic growth, industrialisation, and energy security. The department plays a central role in mobilising investment, ensuring regulatory certainty and facilitating infrastructure development to modernise the national grid, strengthen transmission networks, and accelerate the deployment of new energy technologies. By 2030, the department will have catalysed investment in strategic energy infrastructure projects that improve grid reliability, enable the integration of renewable energy, and ensure transmission and distribution networks meet industrial and municipal demand.

This outcome directly supports Ministerial Priority 2: Sovereign and Regional Energy Security and Ministerial Priority 3: Driving Industrialisation and Leading Innovation, by ensuring an expanded and resilient energy system. It aligns with MTDP Priority 1: Economic Growth and Industrialisation, focusing on transmission expansion, investment facilitation, and innovation in new energy technologies. The

Transmission Development Plan (2025–2035) and the IRP 2025 provide the framework for transmission and generation expansion, ensuring the department's investment facilitation role is clearly defined.

The realisation of this outcome will be measured through indicators, such as the expansion of the national transmission network, increased investment in renewable energy projects, and strengthened grid infrastructure. The focus is on mobilising concessional finance for energy infrastructure, strengthening public-private partnerships, and enabling technological advancements like grid automation, energy storage, and nuclear safety improvements. Investment in grid modernisation is crucial to support the evolving energy mix, particularly with the increased contribution of renewable energy, gas-to-power projects, and decentralised energy solutions.

To ensure the success of this outcome, the department will leverage blended finance mechanisms, engage in investor confidence-building initiatives, and align regulatory approvals with the investment cycle. The regulatory certainty provided by the Electricity Regulation Amendment Act and energy investment reforms will be key enablers. Additionally, strong intergovernmental coordination is required to streamline project approvals and to ensure municipalities and the NTCSA are aligned with national expansion plans. This outcome ensures the long-term sustainability of South Africa's electricity sector, providing the infrastructure backbone for economic growth, industrialisation, and just energy transition initiatives.

Outcome 4: A just energy transition enabling industrialisation and job creation

South Africa must transition towards a lower-carbon energy system that drives industrialisation, job creation, and social equity. The Department of Electricity and Energy will ensure that energy transition policies are designed to balance environmental commitments with economic imperatives, supporting industrialisation and employment creation through renewable energy investments, the localisation of energy technology manufacturing, and the development of the green hydrogen economy.

This outcome aligns with Ministerial Priority 2: Sovereign and Regional Energy Security and Ministerial Priority 4: Qualitatively Transforming Energy Demographics, ensuring that the shift to cleaner energy sources also supports economic empowerment and industrial transformation. It also contributes to MTDP Priority 1: Environmental Sustainability and Resilience, with a focus on achieving a just energy transition that does not leave behind workers and communities reliant on coal-based industries. The South African Renewable Energy Masterplan and the National Hydrogen Society Roadmap will guide the department's efforts in scaling up renewable energy manufacturing and green hydrogen production, supporting local industrialisation and employment opportunities.

The department will drive investment facilitation in renewables, ensuring that the transition creates industrial value chains that benefit South Africa's economy. Expanding local manufacturing, increasing private sector participation, and ensuring strong localisation requirements in renewable energy procurement will be central to the strategy. To enable an inclusive transition, the department will work with industry, labour, and affected communities to support reskilling and job creation for workers in traditional energy sectors, particularly those impacted by the transition away from coal.

The indicators for this outcome - total renewable energy capacity installed, the share of locally manufactured components in the renewable energy supply chain, and the number of jobs created in the energy transition sectors - will track the department's progress in ensuring that the transition is both economically and socially transformative. Key enablers include strengthened policy coordination with industrial, trade, and education sectors; enhanced access to concessional finance for energy transition investments; and structured partnerships between government, the private sector, and development finance institutions.

A just energy transition must drive economic inclusion, unlock industrial expansion, and create sustainable employment opportunities. By ensuring that renewable energy deployment is accompanied by industrialisation and localisation, this outcome will position South Africa as a competitive leader in global clean energy markets while delivering tangible social and economic benefits for all.

Outcome 5: Strengthened intergovernmental, regional, and global energy coordination

South Africa's energy sector does not operate in isolation - regional integration and global engagement are critical to ensuring energy security, trade, and investment. The Department of Electricity and Energy will drive regional energy market development, expand cross-border electricity projects, and strengthen international partnerships to secure investment, enhance energy security, and support South Africa's role in shaping global energy policy.

This outcome aligns with Ministerial Priority 3: Driving Industrialisation and Leading Innovation and Ministerial Priority 5: Asserting South Africa's Continental and Global Energy Leadership, reinforcing South Africa's role as a regional energy anchor. It also supports MTDP Priority 1: Economic Growth and Industrialisation, ensuring that South Africa leverages its geographic and industrial position to expand electricity trade within the Southern African Power Pool and integrate into the African Single Electricity Market Framework under Agenda 2063.

South Africa's regional leadership in energy is critical to long-term energy security and economic growth. The department will work to strengthen power trade agreements, enhance transmission infrastructure for cross-border energy exchange, and promote South Africa as a key investment destination for clean energy. Expanding regional interconnection projects, such as the Zambia-Tanzania-Kenya Power Transmission Line and the Mozambique-South Africa Gas and Power Cooperation, will ensure stable electricity supply across Southern Africa and create new markets for South Africa's energy exports.

The department will also ensure that South Africa is well-positioned in global clean energy markets. By increasing foreign direct investment in renewables, securing funding for green hydrogen projects, and leveraging global climate finance mechanisms, South Africa can become a major exporter of clean energy. The department will lead efforts to align domestic energy policies with global investment trends, including carbon border adjustments, green financing frameworks, and renewable energy certification standards to maintain South Africa's trade competitiveness.

Progress towards this outcome will be measured by the proportion of electricity traded within the Southern African Power Pool, South Africa's ranking in global clean energy investment, and the number of regional interconnection projects completed. Success will depend on harmonised regulatory frameworks, strong diplomatic engagements, and large-scale energy infrastructure investment. By ensuring regional integration and global market positioning, this outcome will cement South Africa's role as a continental energy leader while unlocking economic and industrial benefits at home.

Outcome 6: Capable state-owned energy entities driving energy security and market efficiency

State-owned energy entities are critical to ensuring South Africa's energy security, affordability, and industrialisation goals. The Department of Electricity and Energy is responsible for overseeing the governance, financial sustainability, and performance of key energy SOEs, including Eskom, NERSA, NNR, NECSA, NRWDI, and SANEDI. The department of Electricity and Energy will ensure that these entities contribute to a well-functioning, investment-friendly energy market by strengthening governance, improving financial sustainability, and enhancing regulatory compliance.

This outcome supports MTDP Priority 3: A Capable, Ethical, and Developmental State, ensuring that public energy institutions operate with transparency and efficiency. The department will drive turnaround strategies, performance monitoring, and financial restructuring efforts to stabilise SOEs and improve operational performance.

The financial and operational challenges facing these entities have historically placed pressure on public finances and constrained South Africa's energy transition. The department will drive turnaround strategies, performance monitoring, and financial restructuring to stabilise these companies and ensure they no longer require government bailouts. This will include strengthening corporate governance frameworks, enforcing financial discipline, and ensuring full compliance with public finance management regulations. The restructuring of Eskom remains a priority, with the legal separation of transmission and distribution functions, ensuring a more competitive and transparent electricity market.

To enhance long-term sustainability, the department will support these entities in modernising infrastructure, integrating new energy technologies, and adapting to the energy transition. This includes guiding Eskom's transformation towards a low-carbon generation model, ensuring NERSA effectively regulates a competitive energy market, and supporting NECSA in maintaining nuclear compliance while expanding South Africa's nuclear research capabilities.

Progress on this outcome will be measured by the number of state-owned energy entities achieving clean audits, improved operational performance, and financial sustainability. Success will depend on robust oversight mechanisms, institutional reforms, and the professionalisation of boards and executive leadership. By ensuring these entities are well-managed, the department will secure long-term energy reliability, attract investment into the sector, and reduce the fiscal burden on the state.

Outcome 7: A capable, high-performing, and digitally enabled organisation

The department's ability to drive South Africa's energy transition and market reform depends on its internal institutional strength, human capital, and technological capabilities. Strengthening governance, modernising digital systems, and enhancing organisational efficiency are essential for the department to fulfil its mandate.

This outcome aligns with MTDP Priority 3: A Capable, Ethical, and Developmental State, ensuring that the department operates with transparency, accountability, and efficiency. As a newly established institution, the department must finalise its organisational structure, develop institutional capacity, and implement modern governance frameworks. The department will ensure that all policies, functions, and budget allocations align with its strategic objectives and ministerial priorities.

A critical enabler of institutional excellence is digital transformation. The department will implement electronic licensing systems, digital market oversight tools, and predictive energy analytics platforms to improve regulatory efficiency and investment facilitation. The deployment of real-time market monitoring, automated compliance tracking, and data-driven policy analysis will enhance decision-making and transparency in South Africa's electricity sector. Strengthening cybersecurity and digital resilience will also be a priority, ensuring that the department's systems are secure, interoperable, and capable of supporting an increasingly digital energy market.

To ensure a diverse, skilled, and future-ready workforce, the department will implement targeted capacity-building programmes, leadership development initiatives, and employment equity strategies. Gender equity, youth participation, and workplace inclusion will be actively promoted, aligning with South Africa's broader transformation agenda. This includes ensuring that at least 50% of leadership roles are held by women and 40% of employees are young professionals entering the energy sector.

Performance will be tracked through clean audit outcomes, digital system implementation, and workforce transformation targets. Achieving this outcome requires a strong internal governance culture, streamlined operational processes, and investment in cutting-edge digital solutions. By modernising its internal operations and embedding a high-performance culture, the department will position itself as an agile, responsive, and effective leader in South Africa's energy transformation.

2. KEY RISKS AND MITIGATIONS

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

Outcome	Key Risks	Risk Mitigations
1: A coherent, aligned, and impactful national energy policy and planning framework	▪ Fragmented energy policy implementation across national, provincial, and municipal levels, leading to misalignment in infrastructure planning and electrification rollout ▪ Delays in the finalisation and implementation of IRP 2025, impacting investment confidence. ▪ Delays in the finalisation and implementation of Gas Masterplan impacting investment confidence. ▪ Slow adoption of data-driven energy forecasting, leading to reactive policymaking.	▪ Strengthening intergovernmental coordination through statutory planning alignment mechanisms, integrating energy planning into the DDM and ensuring municipal integrated development plans align with national energy policies. ▪ Fast-tracking the finalisation and gazetting of IRP 2025, ensuring a legally mandated update cycle to prevent outdated planning frameworks. ▪ Fast-tracking the finalisation and gazetting of Gas Masterplan. ▪ Establishing a National Energy Market Intelligence Platform to provide real-time data analytics and forecasting tools for energy policymakers and investors.
2: A well-regulated, transparent, and investment-friendly energy market	▪ Uncertainty in the investment climate due to policy inconsistencies, lengthy approval processes, and slow regulatory decision-making. ▪ Delays in Eskom's restructuring, affecting the establishment of fair competition in the wholesale market. ▪ Weak market oversight mechanisms, leading to inefficiencies in electricity trading, tariff adjustments, and investment decisions.	▪ Enhancing regulatory transparency, fast-tracking independent power producer licensing, and introducing time-bound investment approval processes. ▪ Ensuring the full operationalisation of the ITSO and market operator within statutory deadlines and enforcing compliance with the Electricity Regulation Amendment Act. ▪ Establishing a National Energy Market Oversight and Coordination Unit to monitor compliance, enforce regulations, and promote competition. ▪ Ensuring structural reform of the electricity distribution industry.

Outcome	Key Risks	Risk Mitigations
3: Increased investment in energy infrastructure, grid expansion, and technological innovation	- Insufficient investment in national grid expansion, delaying the integration of renewable energy projects. - Financial constraints on public funding for large-scale energy infrastructure. - Emerging cybersecurity threats to national energy infrastructure, particularly smart grids, digital metering, and automated market platforms.	- Implementing the Transmission Development Plan 2025–2035, prioritising key corridors for expansion and securing climate finance for grid projects. - Expanding blended finance models, securing concessional funding from development finance institutions, and promoting public-private partnerships for critical infrastructure. - Implementing a National Energy Cybersecurity Framework, strengthening grid resilience, and enforcing cybersecurity compliance for all energy market participants.
4: A just energy transition enabling industrialisation and job creation	- Socioeconomic disruption in coal-dependent communities due to mine and power station closures. - Low levels of localisation in renewable energy manufacturing, limiting industrial and job creation benefits. - Delays in policy implementation for green hydrogen, energy storage, and just transition investments.	- Implementing just energy transition socioeconomic adaptation programmes, including targeted reskilling initiatives and investment in alternative economic activities in coal-affected regions. - Strengthening localisation mandates under the South African Renewable Energy Masterplan and providing incentives for local manufacturing of energy components. - Implementing the National Hydrogen Society Roadmap, streamlining investment approval processes, and establishing dedicated hydrogen and battery storage financing mechanisms.
5: Strengthened intergovernmental, regional, and global energy coordination	- Regulatory misalignment between South Africa's national energy policies and regional energy market frameworks (e.g., African Single Electricity Market, African Continental Free Trade Agreement, and Southern African Power Pool energy trade agreements). - Weak regional transmission interconnections limiting cross-border electricity trade.	- Strengthening regional policy harmonisation efforts, ensuring that South Africa's energy market reforms align with African Single Electricity Market principles. - Accelerating regional transmission interconnection projects, such as Mozambique-South Africa and Zambia-Tanzania-Kenya corridors, and securing investment partnerships.
6: Capable state-owned energy entities driving energy security	Financial instability in state-owned energy entities, particularly Eskom, NECSA, and NERSA, impacting	Implementing turnaround strategies for Eskom, NECSA, and NERSA, reducing financial dependence on government

Outcome	Key Risks	Risk Mitigations
and market efficiency	service delivery and national debt sustainability. Weak governance, performance accountability, and lack of alignment between energy SOEs strategies and national energy priorities.	bailouts and enforcing financial discipline. Strengthening corporate governance frameworks, enforcing performance-based contracts for SOE executives and aligning state-owned energy companies with national energy priorities.
7: A capable, high-performing, and digitally enabled organisation	- Shortages of technical expertise in energy planning, regulation, and market development slowing institutional performance. - Inadequate adoption of digital technologies for energy market regulation and oversight. - Gender and youth underrepresentation in the energy sector workforce and leadership positions.	- Expanding the department's workforce development strategy, establishing partnerships with academic institutions, and attracting highly skilled professionals through targeted recruitment strategies. - Fast-tracking the implementation of digital systems, integrating real-time energy market monitoring platforms, and rolling out automated compliance tracking systems. - Achieving gender and youth inclusion targets, enforcing employment equity mandates, and promoting leadership development for underrepresented groups.

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 just 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

Name of Entity	Legislative Mandate	Minister's Financial Relationship with the SOEs	Nature of Operations
			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.
South African National Energy Development	National Energy Act, 2008 (Act No. 34 of 2008)	Shareholder representative	SANEDI is responsible for conducting energy research, promoting

Name of Entity	Legislative Mandate	Minister's Financial Relationship with the SOEs	Nature of Operations
Institute (SANEDI)			energy efficiency, and facilitating clean energy technology development to support South Africa's energy transition and sustainability goals.

PART D: TECHNICAL INDICATOR DESCRIPTIONS

Outcome 1: A coherent, aligned, and impactful national energy policy and planning framework

Indicator 1.1	Implementation status of the IRP 2025
Definition	This indicator tracks the progress in finalising and implementing the IRP 2025, which defines South Africa's electricity generation roadmap, investment priorities, and energy security strategy. Implementation status is assessed based on the completion of key policy and regulatory milestones within planned timelines.
Source of data	▪ Draft and final IRP 2025 policy documents. ▪ Approved IRP 2025 as gazetted by the Minister. ▪ Annual IRP 2025 progress reports from the Department of Electricity and Energy. ▪ Regulatory approvals from the National Energy Regulator of South Africa. ▪ Independent power producer procurement determinations and investment tracking reports.
Method of calculation or assessment	Assess that the: ▪ IRP 2025 was developed, approved, and gazetted as planned. ▪ IRP 2025 implementation is progressing in line with scheduled milestones, including procurement determinations and capacity allocation.
Assumptions	▪ The IRP 2025 will be approved within the planned timeframes ▪ Regulatory approvals and procurement processes proceed without significant delays. ▪ Economic and energy market conditions do not significantly disrupt implementation.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Implementation of IRP 2025 will prioritise investment in prioritised areas, strategic transmission corridors, and other locations identified for infrastructure expansion.
Reporting cycle	Annual progress towards the five-year target
Desired performance	IRP 2025 fully implemented by 2030
Indicator responsibility	Programme 2: Energy Planning and Policy Development

Indicator 1.2	Alignment of provincial and municipal energy policies with the National Energy Plan
Definition	This indicator tracks the progress in ensuring that provincial and municipal energy policies are aligned with the National Energy Plan, as set out in the IRP 2025 and related frameworks. It assesses the degree of policy coherence, regulatory harmonisation, and intergovernmental coordination in energy planning across all spheres of government.
Source of data	▪ Approved national, provincial, and municipal energy policies and frameworks. ▪ Annual energy policy alignment reports from the Department of Electricity and Energy. ▪ Intergovernmental planning agreements and meeting resolutions. ▪ reports from the Presidential Coordinating Council on energy policy implementation. ▪ Provincial and municipal integrated development plans and energy master plans.
Method of calculation or assessment	Assess that: ▪ The National Energy Plan, IRP 2025, and supporting policies are formally adopted and aligned with provincial and municipal frameworks. ▪ Provincial and municipal governments review, revise, and integrate their energy policies in line with national planning. ▪ Energy planning processes in metros and local municipalities reflect the principles and priorities of national energy policy.
Assumptions	▪ Provincial and municipal governments will cooperate in policy alignment processes. ▪ The Department of Electricity and Energy will provide technical guidance and oversight to ensure policy coherence. ▪ Regulatory approvals and governance structures facilitate energy planning integration.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Energy policy alignment prioritises underserved areas, ensuring investment in Renewable energy development zones, transmission corridors, and regions with energy supply deficits.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Full alignment of provincial and municipal energy policies with the National Energy Plan by 2030.
Indicator responsibility	Programme 2: Energy Planning and Policy Development

Indicator 1.3	Implementation status of the Gas Masterplan
Definition	This indicator tracks the progress in finalising and implementing the Gas Masterplan, which sets out South Africa's strategic roadmap for gas infrastructure development, investment, and energy security. It assesses key milestones achieved in gas market reforms, regulatory alignment, and infrastructure expansion in line with national energy policy.
Source of data	▪ Draft and final Gas Masterplan documents. ▪ Gazetted and approved Gas Masterplan. ▪ Annual Gas Master Plan progress reports from the Department of Electricity and Energy. ▪ Regulatory approvals and investment tracking reports. ▪ Independent gas investment reports and project development updates. ▪ Intergovernmental agreements on regional gas supply and infrastructure development.
Method of calculation or assessment	Assess that: ▪ The Gas Masterplan was developed and approved as planned. ▪ The Gas Masterplan was implemented as planned.
Assumptions	▪ The Gas Master Plan will be approved within the planned timeframes. ▪ Regulatory approvals and gas infrastructure investments proceed without major delays. ▪ Regional gas supply agreements remain stable and supportive of long-term supply security. ▪ Gas market developments align with the IRP 2025 and energy transition goals.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Implementation of the Gas Masterplan will prioritise infrastructure investment in LNG import terminals at Richards Bay and Coega, gas-to-power generation zones, and strategic industrial hubs requiring gas supply.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Gas Masterplan fully implemented by 2030.
Indicator responsibility	Programme 2: Energy Planning and Policy Development

Outcome 2: A well-regulated, transparent, and investment-friendly energy market

Indicator 2.1	Turnaround time for energy investment approvals (independent power producer licensing, grid access, nuclear compliance)
Definition	This indicator measures the average time taken to approve energy investment applications, including licensing for independent power producers, grid access

	permits, and nuclear energy compliance approvals. The indicator assesses improvements in regulatory efficiency by tracking the reduction in bureaucratic delays.
Source of data	▪ Energy investment approval database. ▪ Records of licensing and compliance approvals. ▪ Grid connection approvals. ▪ Nuclear safety compliance reports. ▪ Procurement and licensing reports.
Method of calculation or assessment	Calculate the average time (in months) from the date of submission of a complete investment application to the date of final approval.
Assumptions	▪ Regulatory processes will be streamlined in accordance with the Electricity Regulation Amendment Act. ▪ Independent power producer procurement and licensing requirements remain stable without major legislative delays. ▪ Grid connection applications are processed within agreed timelines. ▪ Nuclear project licensing aligns with international best practices and compliance requirements.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Reduce the average turnaround time for energy investment approvals from +24 months (baseline) to less than six months by 2030.
Indicator responsibility	▪ Programme 3: Energy Programmes and Projects ▪ Programme 4: Nuclear Energy Regulation and Management

Indicator 2.2	Proportion of nuclear energy projects compliant with international safety standards
Definition	This indicator measures the proportion of nuclear energy projects in South Africa that fully comply with international nuclear safety standards, as set out by the International Atomic Energy Agency, the NNR, and South Africa's Nuclear Energy Policy. It tracks improvements in regulatory oversight, safety compliance, and risk management across the nuclear sector.
Source of data	▪ NNR compliance reports. ▪ IAEA nuclear safety and security review reports. ▪ Nuclear energy project oversight records.

	▪ Koeberg Nuclear Power Station compliance assessments. ▪ Nuclear fuel cycle and research reactor compliance reports.
Method of calculation or assessment	(Number of nuclear energy projects that have passed all required safety compliance assessments / Total number of nuclear energy projects) × 100
Assumptions	▪ Existing and new nuclear projects will adhere to updated national and international safety requirements. ▪ No major regulatory delays in nuclear project compliance assessments. ▪ Government support for nuclear energy expansion remains consistent with the IRP 2025.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the proportion of nuclear energy projects compliant with international safety standards from 85% (baseline) to 100% by 2030.
Indicator responsibility	Programme 4: Nuclear Energy Regulation and Management

Indicator 2.3	Proportion of electricity generation capacity procured from independent power producers
Definition	This indicator measures the percentage of electricity generation capacity procured from independent power producers relative to the total electricity generation capacity procured nationally. It reflects the diversification of electricity supply sources and progress in enabling private sector participation in energy generation.
Source of data	▪ Independent power producer procurement reports. ▪ Licensing and compliance data. ▪ Generation capacity procurement records. ▪ Renewable Energy Independent Power Producer Procurement Programme reports. ▪ Government Gazette procurement determinations.
Method of calculation or assessment	(Total electricity generation capacity (megawatt) procured from independent power producers / Total electricity generation capacity (megawatt) procured nationally) × 100.
Assumptions	▪ The procurement of new generation capacity will continue as planned under IRP 2025.

	- Independent power producers will secure financial close and meet regulatory requirements for implementation. - Policy and regulatory frameworks will support increased private sector participation in electricity generation.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Independent power producers' projects will be located within designate, strategic transmission corridors, and other areas identified for grid expansion and energy diversification.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the proportion of total electricity generation capacity procured from independent power producers from 14% (baseline) to 40% by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects

Indicator 2.4	Proportion of electricity market operating under competitive trading framework
Definition	This indicator measures the percentage of South Africa's electricity market operating under a competitive trading framework, reflecting progress in market liberalisation and electricity sector reform. It tracks the share of electricity traded through competitive market mechanisms, including the South African Wholesale Electricity Market, relative to the total electricity supplied in the national grid.
Source of data	- Department of Electricity and Energy's electricity market reform reports. - Electricity market monitoring data. - Market operations reports and Southern Africa Power Pool trading data. - Electricity trading records.
Method of calculation or assessment	$\left(\frac{\text{Total electricity traded under a competitive trading framework (megawatt-hour)}}{\text{Total electricity supplied to the national grid (megawatt-hour)}} \right) \times 100.$
Assumptions	- The Electricity Regulation Amendment Act will enable full implementation of the competitive electricity market. - NTCSA will facilitate non-discriminatory access to the grid for all market participants. - Regulatory and operational frameworks for competitive electricity trading will be fully developed and implemented.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Competitive electricity trading will be enabled nationwide, with participation from both centralised generation plants and decentralised embedded generators.

Reporting cycle	Annual progress towards the five-year target.
Desired performance	A fully operational wholesale electricity market by 2030.
Indicator responsibility	▪ Programme 2: Energy Planning and Policy Development ▪ Programme 3: Energy Programmes and Projects ▪ Programme 5: State-Owned Companies Support Services

Indicator 2.5	Implementation status of the market code for competitive electricity trading
Definition	This indicator tracks the progress in implementing the market code for competitive electricity trading, which establishes the regulatory framework governing market participation, pricing mechanisms, and trading rules in South Africa's evolving electricity market. Implementation status is assessed based on key milestones achieved within planned timelines.
Source of data	▪ Approved market code for competitive electricity trading. ▪ Regulatory approvals. ▪ reports on market participants and competitive electricity trading activities. ▪ ITSO compliance reports ▪ Annual progress reports from the Department of Electricity and Energy.
Method of calculation or assessment	Assess that the: ▪ Market code was developed, consulted upon, and finalised as planned. ▪ Market code was fully implemented and operational within the set timeframes.
Assumptions	▪ Regulatory approvals and market governance structures are finalised within planned timeframes. ▪ Market participants comply with new trading requirements. ▪ No major legislative or policy delays hinder implementation.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Market code fully implemented and operational by 2030.
Indicator responsibility	▪ Programme 2: Energy Planning and Policy Development ▪ Programme 3: Energy Programmes and Projects ▪ Programme 5: State-Owned Companies Support Services

Outcome 3: Increased investment in energy infrastructure, grid expansion, and technological innovation

Indicator 3.1	Total renewable energy capacity procured (wind, solar, battery storage)
Definition	This indicator measures the total electricity generation capacity (in gigawatts) procured from renewable energy sources, including wind, solar, and battery storage, under national procurement programmes. It reflects the expansion of renewable energy within South Africa's energy mix.
Source of data	- Renewable Energy Independent Power Producer Procurement Programme bid windows and procurement agreements. - Renewable energy procurement reports. - Generation license approvals. - Independent power producer financial closure reports.
Method of calculation or assessment	Sum of total generation capacity (in gigawatts) procured from renewable energy projects.
Assumptions	- Procurement timelines remain on track under IRP 2025. - Independent power producer projects reach financial close and grid connection as planned. - Grid expansion supports increased renewable energy integration.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Procurement prioritises locations identified for grid-connected renewable energy projects.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase total procured renewable energy capacity from 7.2 gigawatt (baseline) to 20 gigawatt by 2030
Indicator responsibility	Programme 3: Energy Programmes and Projects

Indicator 3.2	Proportion of new generation capacity sourced from renewable energy
Definition	This indicator measures the share of South Africa's newly procured electricity generation capacity that is sourced from renewable energy (wind, solar, and battery storage) to total new generation capacity procured nationally.
Source of data	- Generation procurement reports. - NERSA licensing data. - Eskom and independent power producer connection approvals.

Method of calculation or assessment	(Total megawatts procured from renewable energy / Total megawatts procured nationally) x 100.
Assumptions	- Government procurement processes remain on track under IRP 2025. - Sufficient private sector interest and investment in renewable energy projects. - Grid integration challenges do not delay new renewable energy projects.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Grid expansion supports renewable energy uptake in prioritised regions.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the proportion of total newly procured electricity generation capacity sourced from renewable energy from 30% (baseline) to 60% by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects Programme 5: State-Owned Companies Support Services

Indicator 3.3	Expansion of the national transmission network (cumulative kilometres added)
Definition	This indicator measures the cumulative expansion of South Africa's high-voltage transmission network to support increased generation capacity, particularly from renewable energy sources, and improve overall grid stability.
Source of data	- Transmission Development Plan (2025–2035). - Eskom transmission reports. - NTCSA grid expansion reports. - Infrastructure progress updates.
Method of calculation or assessment	Sum of total kilometres of new transmission lines completed.
Assumptions	- Transmission expansion projects proceed as scheduled. - Investment and regulatory approvals support grid expansion. - Grid integration supports increased renewable energy penetration.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Expansion prioritises strategic transmission corridors for energy security and access and economic development.
Reporting cycle	Annual progress towards the five-year target.

Desired performance	Expand the national transmission network by 5,044 kilometres by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects Programme 5: State-Owned Companies Support Services

Indicator 3.4	Total private sector investment in energy infrastructure
Definition	This indicator measures the total financial investment from private sector entities in South Africa's energy infrastructure, including generation, transmission, and distribution projects. It reflects private sector participation in energy transition and infrastructure development.
Source of data	▪ National Treasury infrastructure investment reports. ▪ Department of Electricity and Energy investment tracking reports. ▪ Independent power producer financial closure records. ▪ Public-private partnership agreements. ▪ Climate finance investment disclosures.
Method of calculation or assessment	Sum of total private sector investment in energy infrastructure (ZAR)
Assumptions	▪ Policy certainty and stable investment conditions are maintained. ▪ Regulatory reforms encourage private sector participation. ▪ Blended finance and public-private partnerships support infrastructure development.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Investment supports energy infrastructure expansion in prioritised and underserved areas.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase total private sector investment in energy infrastructure from R80 billion (baseline) to R400 billion by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects

Indicator 3.5	Power system reliability (annual load-shedding days)
Definition	This indicator measures South Africa's power system reliability, tracking the number of days per year where load-shedding was implemented at any stage. It reflects progress in energy security and system stability.
Source of data	▪ Eskom load-shedding reports.

	▪ NERSA grid performance data. ▪ NTCSA grid reliability reports.
Method of calculation or assessment	Total number of days in a year where any stage of load-shedding was implemented.
Assumptions	▪ System maintenance and operational efficiencies improve reliability. ▪ New generation capacity is added as scheduled ▪ Transmission and distribution networks are strengthened. ▪ Demand-side management and energy efficiency measures contribute to grid stability.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Reduce annual load-shedding days to zero, achieving 99.9% reliability by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects Programme 5: State-Owned Companies Support Services

Outcome 4: A just energy transition enabling industrialisation and job creation

Indicator 4.1	Total renewable energy capacity installed
Definition	This indicator measures the cumulative installed capacity (in megawatts) of renewable energy projects connected to South Africa's electricity grid. It reflects the progress of renewable energy expansion, supporting the country's energy security and decarbonisation objectives.
Source of data	▪ Department of Electricity and Energy Renewable Energy Project reports. ▪ Independent Power Producer Procurement Programme reports. ▪ Eskom grid connection status reports. ▪ NERSA licensing records
Method of calculation or assessment	Sum of Installed renewable energy capacity in megawatt from wind, solar, and battery storage.
Assumptions	▪ The IRP 2025 implementation remains on track, ensuring continuous procurement and integration of renewable energy. ▪ Financial and regulatory approvals for independent power producer projects proceed without major delays. ▪ Transmission infrastructure expansion accommodates new capacity.

	▪ The Eskom grid is sufficiently upgraded to handle increased intermittent renewable generation.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Renewable energy projects will be prioritised in areas with high renewable energy potential, supporting economic growth in previously underserved regions.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase total installed renewable energy capacity from 11,000 megawatt (baseline) to 33,000 megawatt by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects Programme 5: State-Owned Companies Support Services

Indicator 4.2	Total green hydrogen production capacity
Definition	This indicator measures the total annual production capacity of green hydrogen (in metric tonnes) from renewable energy-powered electrolysis projects in South Africa. It tracks the scale-up of green hydrogen as part of South Africa's energy transition and industrial strategy.
Source of data	▪ Green Hydrogen Project reports. ▪ Independent Power Producer procurement reports. ▪ South African Green Hydrogen Commercialisation Strategy progress reports. ▪ Development finance institution and private sector investment reports. ▪ Off-take agreements for green hydrogen supply.
Method of calculation or assessment	Sum of total annual green hydrogen production capacity (in metric tonnes) from all operational projects.
Assumptions	▪ Green hydrogen infrastructure projects reach financial closure and construction milestones as planned. ▪ Demand for green hydrogen increases in key industrial sectors (e.g., steel, chemicals, transport). ▪ Regulatory approvals, incentives, and financing mechanisms remain supportive of sector growth. ▪ International green hydrogen market dynamics support South Africa's export potential.
Disaggregation of beneficiaries (where applicable)	Not applicable.

Spatial transformation (where applicable)	Green hydrogen production projects will be prioritised in targeted areas, particularly in Boegoebaai, Coega, and Saldanha Bay.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase total green hydrogen production capacity from early-stage projects (baseline) to 500,000 metric tons per annum by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects

Indicator 4.3	Proportion of locally manufactured components procured for renewable energy projects
Definition	This indicator measures the percentage of locally manufactured components used in renewable energy projects (wind, solar, and battery storage) relative to the total components procured for such projects. It reflects progress in industrialisation, localisation, and supplier development within the renewable energy value chain.
Source of data	- Renewable energy procurement reports. - Renewable Energy Independent Power Producer Procurement Programme local content compliance reports. - Department of Trade, Industry and Competition industrialisation and local content reports. - National Treasury reports on local supplier development.
Method of calculation or assessment	$\left(\frac{\text{Total value of locally manufactured renewable energy components procured}}{\text{Total value of renewable energy components procured}} \right) \times 100.$
Assumptions	- Local renewable energy manufacturing capacity expands in line with demand. - Government localisation policies, incentives, and procurement requirements remain in place. - Sufficient skills development and supply chain capacity exist to support local component production. - No major global supply chain disruptions reduce local content procurement.
Disaggregation of beneficiaries (where applicable)	Black-owned, women-owned, and youth-owned enterprises in the renewable energy supply chain.
Spatial transformation (where applicable)	Local manufacturing hubs will be prioritised in key industrial zones, including Gauteng, Eastern Cape, Western Cape, and Northern Cape, where renewable energy projects are concentrated.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the share of locally manufactured components in renewable energy projects from limited localisation (baseline) to 60% by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects

Indicator 4.4	Total number of jobs created through the just energy transition
Definition	This indicator measures the cumulative number of new jobs created across the renewable energy, green hydrogen, energy storage, and associated industrial supply chains as part of South Africa's just energy transition. It includes employment in manufacturing, construction, operations, and maintenance of clean energy projects, as well as jobs generated in localised energy component production.
Source of data	▪ Just Energy Transition Programme reports. ▪ Renewable Energy Independent Power Producer Procurement Programme economic impact assessments. ▪ Green Hydrogen Industrialisation Programme reports. ▪ Department of Employment and Labour sectoral employment statistics. ▪ Statistics South Africa Quarterly Labour Force Survey. ▪ Industry reports from renewable energy manufacturers and infrastructure projects.
Method of calculation or assessment	Sum of all verified direct jobs created in just energy transition related sectors as recorded in official sectoral reports and government employment tracking databases.
Assumptions	▪ Government policy continues to support industrialisation linked to the energy transition. ▪ Renewable energy procurement and infrastructure expansion proceed as scheduled. ▪ Local manufacturing of energy components scales up in line with industrial policy objectives. ▪ Skills development and training programmes produce a workforce equipped for just energy transition jobs.
Disaggregation of beneficiaries (where applicable)	▪ By employment sector, e.g., renewable energy, hydrogen, grid infrastructure, and battery storage. ▪ By demographic groups (gender, youth, and persons with disabilities) in alignment with transformation targets. ▪ By employment type (permanent, contract, and temporary jobs).
Spatial transformation (where applicable)	The just energy transition prioritises job creation in former coal-dependent regions, such as Mpumalanga and other industrial hubs undergoing transition, ensuring economic revitalisation and employment opportunities in affected communities.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the total number of jobs created through the just energy transition to 200,000 cumulative new energy sector jobs by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects

Outcome 5: Strengthened intergovernmental, regional, and global energy coordination

Indicator 5.1	Proportion of electricity traded within the Southern African Power Pool
Definition	This indicator measures the percentage of South Africa's total electricity exports and imports that are traded through the Southern African Power Pool, reflecting regional energy market integration, cross-border electricity cooperation, and South Africa's role in strengthening regional energy security.
Source of data	▪ Southern African Power Pool market trading reports ▪ Eskom international sales and purchases reports. ▪ Department of Electricity and Energy's regional energy trade reports. ▪ NERSA electricity export and import data. ▪ Independent power producer cross-border trade agreements.
Method of calculation or assessment	Total electricity traded within the SAPP (MWh) / Total electricity exported and imported by South Africa (MWh)) x 100.
Assumptions	▪ Regional energy cooperation agreements remain stable and continue to support increased electricity trade. ▪ Transmission infrastructure linking South Africa to neighbouring countries is maintained and expanded. ▪ Policy and regulatory frameworks enable competitive electricity trade through the Southern African Power Pool. ▪ Market reforms facilitate regional trade.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Electricity trading within the Southern African Power Pool supports regional economic integration, strengthening energy security in partner countries and enhancing trade corridors between South Africa and neighbouring economies.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the proportion of electricity traded within the Southern African Power Pool from 5% (baseline) to 15% by 2030.
Indicator responsibility	Programme 2: Energy Planning and Policy Development Programme 5: State-Owned Companies Support Services

Indicator 5.2	South Africa's global ranking in clean energy investment
Definition	This indicator tracks South Africa's position in global clean energy investment rankings, reflecting the country's attractiveness for renewable energy financing, technological innovation, and green industrialisation. The ranking is determined based on international energy investment reports and South Africa's relative standing compared to other economies in securing clean energy funding.

Source of data	▪ Clean energy investment reports. ▪ International Energy Agency global energy investment reports. ▪ United Nations Environment Programme renewable energy investment reports. ▪ Department of Electricity and Energy investment tracking reports.
Method of calculation or assessment	▪ This indicator is rank-based and assesses South Africa's position relative to other countries in global clean energy investment rankings, as published by leading international agencies. ▪ The annual assessment is based on the country's total clean energy investment volume, investment growth rate, and policy attractiveness for investors.
Assumptions	▪ Global and domestic policy environments remain conducive to clean energy investment. ▪ Government reforms and regulatory frameworks support increased private-sector participation in renewable energy. ▪ South Africa successfully mobilises international climate finance and concessional funding for green energy projects. ▪ Transmission infrastructure expansion enables large-scale renewable energy integration.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Improve South Africa's global ranking in clean energy investment from being outside the top 20 (baseline) to within the top 10 by 2030.
Indicator responsibility	Programme 3: Energy Programmes and Projects

Indicator 5.3	Number of regional energy interconnection projects completed
Definition	This indicator tracks the total number of completed regional energy interconnection projects that enhance cross-border electricity trade, grid stability, and regional energy security. It reflects South Africa's progress in integrating with the Southern African Power Pool and advancing regional energy cooperation in alignment with continental frameworks, such as the African Single Electricity Market.
Source of data	▪ Southern African Power Pool reports. ▪ Department of Electricity and Energy infrastructure progress reports. ▪ Eskom and NTCSA Regional Interconnection Project updates.

	▪ SADC Energy Secretariat reports. ▪ Bilateral and multilateral energy trade agreements.
Method of calculation or assessment	▪ Count of regional energy interconnection projects successfully completed and operational within the reporting period. ▪ A project is considered completed when it has been fully commissioned and is actively facilitating electricity trade between South Africa and a regional partner.
Assumptions	▪ Governments and utilities in participating SADC countries remain committed to cross-border energy trade. ▪ Financing for regional interconnection projects remains stable. ▪ Transmission infrastructure projects proceed without significant construction or regulatory delays. ▪ Regional demand for electricity trade continues to grow, incentivising investment in interconnectors.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the number of completed regional energy interconnection projects from one (baseline) to three by 2030, namely: 1) Mozambique-South Africa Transmission Interconnection. 2) Zambia-Tanzania-Kenya Power Transmission Expansion. 3) Democratic Republic of the Congo-South Africa Grid Integration.
Indicator responsibility	Programme 3: Energy Programmes and Projects Programme 5: State-Owned Companies Support Services

Outcome 6: Capable state-owned energy entities driving energy security and market efficiency

Indicator 6.1	Number of state-owned energy entities achieving clean audits
Definition	This indicator tracks the number of state-owned energy entities that receive clean audits from the Auditor-General of South Africa (AGSA) in a given financial year. A clean audit means that an entity's financial statements are free from material misstatements and that there are no significant compliance findings related to financial management, procurement, or governance. This indicator reflects improvements in financial management, governance, and accountability in the energy sector.

Source of data	▪ AGSA annual audit reports. ▪ Annual financial statements of energy SOEs. ▪ Department of Electricity and Energy Governance and Oversight reports. ▪ Energy SOEs audit and risk committees' reports.
Method of calculation or assessment	Count of state-owned energy entities that achieve a clean audit outcome from AGSA in a given financial year.
Assumptions	▪ State-owned energy entities strengthen financial controls, risk management, and governance frameworks. ▪ AGSA continues to conduct independent audits and issue reports in line with public finance and governance legislation. ▪ The Department of Electricity and Energy provides effective oversight and capacity support to SOEs under its mandate.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the number of state-owned energy entities achieving clean audits from two (baseline) to six by 2030 (including Eskom, NERSA, NNR, NECSA, NRWDI, and SANEDI).
Indicator responsibility	Programme 5: State-Owned Companies Support Services

Indicator 6.2	Proportion of state-owned energy entity projects completed on time and within budget
Definition	This indicator measures the percentage of capital and operational projects undertaken by state-owned energy entities that are completed within their approved timelines and budget allocations. It reflects improvements in project management, financial discipline, and operational efficiency in the sector.
Source of data	▪ Energy SOE annual performance plans and reports. ▪ Project Implementation reports from energy SOEs. ▪ Independent project audits and financial reviews. ▪ Department of Electricity and Energy's SOE reports.
Method of calculation or assessment	$(\text{Total number of SOE projects completed on time and within budget} / \text{Total number of SOE projects completed}) \times 100$.
Assumptions	▪ Project planning, execution, and financial oversight remain robust within state-owned energy entities.

	- SOEs adhere to project management best practices, including risk mitigation and contract management. - There are no significant regulatory or funding delays that impact project timelines and costs.
Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the proportion of state-owned energy entity projects completed on time and within budget from 60% (baseline) to more than 90% by 2030.
Indicator responsibility	Programme 5: State-Owned Companies Support Services

Indicator 6.3	Financial sustainability of state-owned energy entities based on debt-service coverage, cost recovery, and liquidity ratios
Definition	This indicator measures the financial sustainability of state-owned energy entities by assessing improvements in key financial health metrics, including debt-service coverage ratio, cost recovery levels, liquidity ratios, and overall balance sheet strength. The indicator tracks the extent to which these entities can operate without reliance on government bailouts, ensuring long-term financial stability and efficiency.
Source of data	- Audited financial statements of Eskom, NERSA, NNR, NECSA, NRWDI, and SANEDI. - Annual financial performance reports. - Cost-recovery and tariff determination reports. - Independent financial sustainability assessments of energy SOEs.
Method of calculation or assessment	- Debt-Service Coverage Ratio: $(\text{Net operating income} / \text{Total debt service})$ - Liquidity Ratio: $(\text{Current assets} / \text{Current liabilities})$ - Cost Recovery Ratio: $(\text{Total revenue collected} / \text{Total cost of service}) \times 100$
Assumptions	- SOEs implement financial recovery plans as approved. - Government maintains commitment to cost-reflective tariff policies to ensure revenue sustainability. - Regulatory and governance reforms strengthen SOE financial discipline and efficiency. - Private sector partnerships and investment frameworks contribute to reducing financial pressures.

Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Improve the financial sustainability of state-owned energy entities, ensuring strengthened balance sheets, cost recovery, and improved financial ratios by 2030.
Indicator responsibility	Programme 5: State-Owned Companies Support Services

Outcome 7: A capable, high-performing, and digital-enabled organisation

Indicator 7.1	External audit outcome
Definition	This indicator measures the financial and governance performance of the Department of Electricity and Energy based on the annual external audit outcome issued by the AGSA. It tracks compliance with financial management laws, governance frameworks, and risk mitigation strategies, ensuring accountability, transparency, and fiscal discipline.
Source of data	▪ Annual audit reports from the AGSA. ▪ Financial statements of the Department of Electricity and Energy. ▪ Risk and governance reports from internal audit and oversight committees.
Method of calculation or assessment	Assess the audit outcome category achieved per AGSA assessment: ▪ Clean audit (unqualified with no findings). ▪ Unqualified audit with findings. ▪ Qualified audit. ▪ Adverse audit. ▪ Disclaimer audit. Progress is assessed based on achieving and maintaining a clean audit outcome annually.
Assumptions	▪ The department maintains effective financial controls and governance processes. ▪ Corrective action plans are implemented for any prior audit findings. ▪ Budget allocations remain stable, ensuring compliance with expenditure management regulations. ▪ Risk mitigation strategies are effectively enforced to prevent financial misstatements or irregularities.

Disaggregation of beneficiaries (where applicable)	Not applicable.
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Achieve and maintain a clean audit outcome (unqualified audit with no findings) annually from the AGSA for the five-years to 2030
Indicator responsibility	Programme 1: Administration

Indicator 7.2	Proportion of the Department of Electricity and Energy's core business functions digitalised
Definition	This indicator measures the proportion of the Department of Electricity and Energy's core business functions that have been digitalised to improve operational efficiency, regulatory oversight, and service delivery. Digitalisation refers to the transformation of manual, paper-based, and fragmented processes into integrated digital systems, enabling automated workflows, real-time data management, and streamlined decision-making. The indicator tracks the extent to which the department's internal processes, including energy market monitoring, electronic licensing, regulatory compliance, and financial management, have transitioned to digital platforms.
Source of data	▪ Digital transformation progress reports. ▪ ICT infrastructure and systems implementation reports. ▪ Electronic licensing and regulatory compliance dashboards. ▪ Annual performance reports. ▪ Internal audit reports on digital system adoption.
Method of calculation or assessment	$\left(\frac{\text{Number of Department of Electricity and Energy's core business functions fully digitalised}}{\text{Total number of core business functions identified for digitalisation}} \right) \times 100.$
Assumptions	▪ Adequate funding and technical capacity are available for system development and deployment. ▪ Regulatory and compliance requirements align with digital transformation objectives. ▪ Departmental employees are trained to effectively use digital systems. ▪ ICT infrastructure remains stable and secure, ensuring system reliability.
Disaggregation of beneficiaries (where applicable)	Not applicable.

Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.
Desired performance	Increase the proportion of core business functions digitalised to 100% by 2030, ensuring full operational digitalisation.
Indicator responsibility	Programme 1: Administration

Indicator 7.3	Gender and youth representation in Department of Electricity and Energy's workforce
Definition	This indicator measures the proportion of women and youth employed in the Department of Electricity and Energy workforce to track progress in achieving gender and generational diversity in the energy sector. The indicator reflects the department's commitment to employment equity, transformation, and inclusive workforce development. Women are defined as all female employees across all occupational levels, while youth refers to employees aged 18 to 35 years. The indicator ensures that the department's recruitment, promotion, and retention strategies contribute to increased representation of these designated groups.
Source of data	- Human Resource Management System. - Employment equity reports - Annual performance reports. - Department of Public Service and Administration workforce transformation reports.
Method of calculation or assessment	(Number of women employed in Department of Electricity and Energy / Total number of Department of Electricity and Energy employees) × 100. (Number of youth employed in Department of Electricity and Energy / Total number of Department of Electricity and Energy employees) × 100.
Assumptions	- Employment equity policies remain in effect, supporting the recruitment and retention of women and youth. - Adequate talent pipelines exist within the energy sector to support increased representation. - Training, leadership development, and mentorship programmes effectively support women and youth advancement.
Disaggregation of beneficiaries (where applicable)	- Gender: Female. - Age: Youth (18 years to 35 years).
Spatial transformation (where applicable)	Not applicable.
Reporting cycle	Annual progress towards the five-year target.

Desired performance	Increase the proportion of women in Department of Electricity and Energy's workforce from 35% (baseline) to 50% by 2030 and the proportion of youth from 20% (baseline) to 40% by 2030.
Indicator responsibility	Programme 1: Administration

ANNEXURES TO THE STRATEGIC PLAN

ANNEXURE A: DISTRICT DEVELOPMENT MODEL

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 B: ABBREVIATIONS

AGSA	Auditor-General of South Africa
B-BBEE	Broad-Based Black Economic Empowerment
Coega	Coega Development Corporation
COP	Conference of the People
DDM	District Development Model
DMRE	Department of Mineral Resources and Energy
DPE	Department of Public Enterprises
Eskom	Eskom Holdings SOC Limited
GDP	Gross Domestic Product
IAEA	International Atomic Energy Agency
ICT	Information and Communication Technology
INEP	Integrated National Electrification Plan
IRP 2019	Integrated Resource Plan 2019
IRP 2025	Integrated Resource Plan 2025
ITSO	Independent Transmission System Operator
JET IP	Just Energy Transition Investment Plan
LNG	Liquefied Natural Gas
Mt CO ₂ -eq	Million Tonnes of Carbon Dioxide Equivalent
MTDP	Medium-Term Development Plan
MVA	Megavolt Amperes
NDCs	Nationally Determined Contributions
NDP	National Development Plan
NECSA	South African Nuclear Energy Corporation
NERSA	National Energy Regulator of South Africa
NNR	National Nuclear Regulator
No.	Number
NRWDI	National Radioactive Waste Disposal Institute
NTCSA	National Transmission Company of South Africa
PESTEL	Political, Economic, Social, Technological, Environmental, and Legal/Regulatory
PFMA	Public Financial Management Act No.1 of 1999, as amended
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
Rompco	Republic of Mozambique Pipeline Investments Company
SADC	South African Development Community
SANEDI	South African National Energy Development Institute

SAPP	Southern African Power Pool
SAREM	South African Renewable Energy Master Plan
SASOL	South African Synthetic Oil Company
SMME	Small, Micro, and Medium Enterprises
SOC	State-Owned Company
SOE	State-Owned Entity
The Constitution	Constitution of the Republic of South Africa, 1996
The department	The Department of Electricity and Energy
TVET	Technical and Vocational Education and Training
USA	United States of America
ZAR	South African Rands