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commission**

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The role of state-owned enterprises in achieving economic transformation and inclusive growth

Paper 1/4:

An outcomes framework to link SOEs to the National Development Plan

Prepared for the African Development Bank and
National Planning Commission of South Africa

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ACRONYMS AND ABBREVIATIONS

AfDB – African Development Bank

ASoS – Annual State of Safety

CRES – Corporate real estate solutions

DOE – Department of Energy

DOT – Department of Transport

DPE – Department of Public Enterprises

GTK – Gross Ton-Kilometers

MTSF – Medium-term Strategic Framework

NDP – National Development Plan

NPC – National Planning Commission

SACC – South African Commuter Corporation

SAR&H – South African Railways& Harbours

SOC - State Owned Company

SOE – State Owned Enterprise

TFR – Transnet Freight Rail

TNPA – Transnet National Ports Authority

TPL – Transnet Pipelines

TPT – Transnet Port Terminals

1. INTRODUCTION

1.1. CONTEXTUAL BACKGROUND

This document is the first in a series of four papers on state-owned enterprises in South Africa prepared for the National Planning Commission and the African Development Bank (the sponsors).

The National Planning Commission (NPC, the Commission) was established in 2010 to provide government with an independent and critical view of South Africa's development, and to produce a plan to improve planning, budgeting and co-ordination of economic development. The NPC is made up of twenty-six commissioners, twenty-five of whom are private citizens who serve in a part-time capacity.

In developing this plan, the NPC was required to take a 'broad, cross-cutting, independent and critical view of South Africa' as it determined the strategic path for development. The vision and strategic plan developed by the Commission is the National Development Plan, 2030 (the NDP).

State-owned enterprises (SOEs) constitute a significant part of the economy and are expressly expected to contribute to the achievement of the NDP. Their role includes contributing to inclusive growth and job creation, promoting economic transformation and skills development, industrialising the economy and supporting regional integration. The existence, operational performance, financial sustainability and governance of SOEs is thus highly relevant to the achievement of the NDP.

The role of the Commission is to oversee the implementation of the NDP by providing research support and reform recommendations to government on issues that impact the realisation of the NDP. As the first five-year NDP planning cycles (2014-2019 Medium-term Strategic Framework) draws to a close, it is an appropriate time to take stock of the performance and purpose of SOEs in achieving long-term goals, especially since President Ramaphosa reaffirmed the NDP as the country's development blueprint.

The African Development Bank (the Bank) through the Southern Africa Regional and Business Delivery Office in Pretoria is supporting the Commission to undertake the assessment of SOEs to help to reposition the major SOE as efficient vehicles to deliver on the goals of the NDP.

1.2. THE PURPOSE OF THE STUDY

The ultimate purpose of the study is to better align the existence, structure and performance of SOEs to support government's long-term development strategy. Specifically, the NPC and AfDB commissioned four research papers:

1. **Paper 1: Review of performance against NDP (this report);** The purpose of the first paper is to create a framework for assessing SOEs against the NDP; and then using this framework to provide an evidence-based assessment of performance in three state-owned activities, namely: the provision of electricity (Eskom); the provision of freight logistics (Transnet); and the provision of commuter and passenger rail services (Passenger Rail Agency of South Africa (PRASA)).
2. **Paper 2: Market suitability analysis:** The second paper explores the market structure and socio-economic conditions under which government intervention through a state-owned participant is appropriate or not appropriate. The paper provides an analytical framework for use by policy-makers, and uses electricity, freight logistics and commuter and passenger rail as three test cases, providing a range of alternative options.
3. **Paper 3: Institutional governance review:** The third paper considers the institutional governance arrangements between shareholder ministry, policy ministry, planning department; funding ministry and the SOEs. It also focuses specifically on electricity, freight logistics and commuter/passenger rail to draw out principles of universal application.
4. **Paper 4: Synthesis:** The final paper presents learnings from the first three papers and synthesises principles and policy recommendations that will help to align the structure and performance of SOEs to improve their contribution in support of the NDP and inclusive economic growth.

1.3. ABOUT THIS PAPER

The purpose of this paper (1) is to establish a framework of the outcomes sought from SOEs in the NDP, and 2) to use the framework to review the performance of a sample of SOEs against the NDP to establish an evidence base of performance.

In short, the paper answers the questions:

“What outcomes does the NDP expect from SOEs in general and specifically for SOEs in electricity, freight rail and commuter rail; and are these outcomes being achieved?”

Paper 1 creates a stronger link between the NDP and the performance of key SOEs: the performance of SOEs becomes more clearly linked to achievement of the NDP, while the NDP becomes more manifest in the performance of the SOE.

2. INTRODUCTION TO THE NATIONAL DEVELOPMENT PLAN 2030

2.1. OVERVIEW

The goal of the NDP is to realise a greatly improved quality of life for all South Africans by 2030. In the spirit of the Constitution, the NDP envisages an equal and just society in which poverty has been eliminated and inequality has been reduced. According to the plan, the vehicles for achieving this society are enhancing the capabilities of citizens, building an effective developmental state, and driving inclusive growth.

The NDP runs to 484 pages long and is part vision statement, part economic framework, and part social compact. It touches on all features of society and the economy. As a long-term strategic plan, it serves four objectives:

1. To provide overarching goals for what South Africa wants to achieve by 2030;
2. To build consensus on the key obstacles to achieving these goals and what needs to be done to overcome those obstacles;
3. To provide a shared long-term strategic framework within which more detailed planning can take place; and
4. To create a basis for making choices about how best to use limited resources.

When drafting the report in 2011, the NPC first produced a diagnostic report identifying nine challenges faced by South Africa which was disseminated widely for discussion. The identified challenges were:

1. “Too few people work;
2. The quality of school education for black people is poor;
3. Infrastructure is poorly located, inadequate and under-maintained;
4. Spatial divides hobble inclusive development;
5. The economy is unsustainably resource intensive;
6. The public health system cannot meet demand or sustain quality;
7. Public services are uneven and often of poor quality;
8. Corruption levels are high; and
9. South Africa remains a divided society”¹

The NPC defined these as the most urgent issues facing our economy. “Building on the diagnostic, the plan added four thematic areas”²:

¹ NPC (2012) *National Development Plan*, p25.

² NPC (2012) *National Development Plan*, p25.

10. Social protection to the vulnerable;
11. Community and personal safety;
12. The rural economy; and
13. South Africa's global, continental and regional role.

The NPC then took these challenges and presented them rather as outcomes or solutions to be attained. These, along with the supplements, form the basis of the chapters of the NDP:

14. Economy and employment (Chapter 3);
15. Development of economic infrastructure (Chapter 4);
16. Environmental sustainability (Chapter 5);
17. The rural economy (Chapter 6);
18. Regional and international relations (Chapter 7);
19. Human settlements and spatial reform (Chapter 8);
20. Education (Chapter 9);
21. Healthcare (Chapter 10);
22. Social protection (Chapter 11);
23. Safety (Chapter 12);
24. Building a capable state (Chapter 13);
25. Fighting corruption (Chapter 14), and
26. Social cohesion (Chapter 15).

The NDP is quite explicit in certain expectations for what an SOE is to contribute to the economy. However, imbued in the nature of the SOEs as an implementation arm of the developmental state is the understanding that SOEs are able to and should contribute to the achievement of the vision in a much wider manner than made explicit. For example: as large owners of land, the SOEs may be able to contribute toward the transfer of land and land reform. It is also apparent in the CSI reporting of the SOEs that they themselves have adopted a wider share of responsibilities – contributing significantly to education programmes or health care delivery.

Figure 2.1 is a comprehensive representation of the potential responsibilities of the SOEs promoted by the NDP. This sunburst puts the ultimate aspiration of the NDP in the centre and moves outwards to progressively more detailed outcomes sought by the NDP. The stated aspiration is to eliminate

poverty and reduce inequality by 2030, but employment is so fundamentally intertwined with both of these, that it has been included as a central aspiration.

The achievement of the three central aspirations is enabled according to the NDP by 1) building the capability of citizens; 2) growing an inclusive economy; and 3) building an effective state.³ In turn, each of these is broken into objectives, actions and components in the outer rings.

³ *Ibid*, p478.

Figure 2.1: Visual representation of the NDP (as could be relevant for an SOE)



Three points stand out from this depiction:

- Firstly, ***economic progress, while critical, is balanced equally with social equity and environmental sustainability, expressly or implicitly.*** The NDP acknowledges the importance of growth – aiming for the economy to have nearly trebled by 2030 while creating 11 million additional jobs⁴ - but it is not a charter for laissez faire growth. Instead it stresses a form of economic growth that is *simultaneously* a) ***inclusive*** of excluded groups, b) *labour-absorbing*, and c) *transformative* of the historical imbalances in the control and ownership of the economy.
- ***Secondly, it foresees a mixed economy, jointly owned and managed by the private and public sectors, and a central role for the state in development.*** The states agencies and companies are thus expected to be involved heavily in the achievement of the NDP. *Moreover, SOEs are explicitly presented as critical drivers and implementing agents of the developmental state envisaged in the NDP.* Thus, the role for SOEs in driving inclusive economic growth is significant.
- ***Third, the themes of national development are wide-ranging and touch on almost every aspect of society.*** This has implications for SOEs because it means that the expectations of the SOEs are more than economic; there are also social, developmental, and environmental expectations. In other words, SOEs are expected to contribute to a myriad of outcomes, some of which are not strongly related to their core function or expertise.

2.2. THE ROLE FOR SOES

The NDP establishes SOEs as the primary tools for implementing the developmental policy imperatives of the State. In this vein, Chapter 13 specifically acknowledges that:

“SOEs are central to advancing national objectives through providing economic and social infrastructure. If this is done in an equitable and cost-effective way, SOEs can contribute to both economic growth and overcoming spatial inequalities. While considerable attention has been given to the transformation of SOEs, less attention has been given to the transformative or developmental role that SOEs can play. By 2030, South Africa needs to be served by a set of efficient, financially sound and well-governed SOEs that address the country’s developmental objectives in areas where neither the executive arms of government nor private enterprises are able to do so effectively. These enterprises must deliver a quality and reliable service at a cost that enables South Africa to be globally competitive.”⁵ (underlining added)

The NDP recognises that social and economic infrastructure is the foundation of growth and job creation. This infrastructure delivers electricity and transport services; powers the economy, and supports manufacturing, trade and exports. Moreover, it provides citizens with the necessary means

⁴ NPC (2012), *National Development Plan – 2030*, p124

⁵ NPC (2012), *National Development Plan – 2030*, p438.

to improve their standard of living. The importance of infrastructure to South Africa's economic growth has meant the NDP has both broad, overarching aspirations but also some quite specific projects for electricity, logistics and commuter rail.

SOEs are expected to provide economic infrastructure and services that support industry, bring down the cost of doing business, and to improve national competitiveness. The NDP sees the SOEs making major investments in infrastructure and provision of new services (for example, mass electrification) needed to drive periods of accelerated growth stimulating more investment, increased exports and productivity improvements, and that SOEs are well placed to make those investments.⁶

However, in addition to a **core mandate** (which contributes to national development in providing economic infrastructure and necessary public goods), SOEs are expected to fulfil a **developmental role**. The latter may often be sub-commercial and relates more specifically to where there would be under-provision of the service in a free-market. For instance: "*Eskom has a mandate to provide reliable and competitively priced electricity to mining, industry and business, but it also has a mandate to extend affordable access to electricity services to poor households.*"⁷

In addition, SOEs are expected to increase the technological base of the economy, to support regional trade, to make a transition to a low-carbon economy, to drive transformation and equity in society, and to remain regionally and globally competitive by applying co-operative and competitive principles.

In Chapter 4 there are specific references for freight rail, commuter rail and electricity:

Freight logistics (Transnet)

In general: The provision of logistics must lower the cost of doing business. The NDP posits that the logistics platform is a critical input into industrialization, allowing for increased international competitiveness and economic growth through trade. **Specifically:** It also places an integral responsibility on Transnet for the delivery of a reliable supply of coal for Eskom. Transnet is also exhorted to make the transition to a low-carbon economy through shifting some freight transport from road to rail. A number of specific infrastructure projects are also listed for Transnet to undertake such as the upgrade of the Gauteng-Durban corridor and completion of the new multi-product pipeline.

Electricity (Eskom)

In general: "Eskom has a mandate to provide reliable and competitively priced electricity to mining, industry and business, but it also has a mandate to extend affordable access to electricity services to poor households." **Specifically:** The NDP lays a responsibility for Eskom to increase access to electricity to 90% by 2030 with off-grid options available to the outstanding 10% of the population. Further, a larger proportion of the electricity supply is mandated to arise from renewable sources. It also sets out a number of specific projects that must be undertaken by Eskom.

⁶ *Ibid*, p126.

⁷ *Ibid*, p442.

Commuter and passenger rail (Prasa)

In general: Bolstering public transport is posited as a critical component of addressing poverty.

Commuter and passenger rail is important to overcoming spatial challenges by increasing the mobility of low-income households. **Specifically:** There is an imperative to promote the transition to a low-carbon economy: through the increased use of renewable energy sources and through enabling the shift from road to rail. (Rail has a lighter environmental footprint than road).

Then, a number of enabling factors for all SOEs are identified in the plan,⁸ :

1. **“A clear mandate:** Each SOE needs a well-defined and transparent mandate that sets out its role and how its activities serve the public interest. The closest thing to this is the stakeholder compact required by the PFMA” although the mandate may take other forms like a strategic statement of intent, a policy document or an Act of Parliament. The mandate must specify why the SOE is needed: “Given that these enterprises exist to serve the public interest, it is important that the mandate is precise about what public good the SOE provides and how it serves the public interest.”⁹ The mandate must be publicly available to promote accountability.¹⁰
2. **Financial sustainability:** “For the large SOEs involved in economic infrastructure provision, their mandate should also include the imperative of financial viability and sustaining their asset base and balance sheet in order to maintain and expand services.”¹¹
3. **A clear and straightforward institutional governance structure**¹²: “This involves clearly identifying and managing the government’s different roles in policy-making, ownership of utility assets, and regulation of prices and quality of utility services.”¹³ The responsibility of policy and shareholder ministries must be clarified, and co-ordination improved.¹⁴ “Consideration needs to be given to how these different roles are allocated to ensure a sustainable balance between short-term and long-term priorities and coordination between different policy priorities.”¹⁵
4. **Quality of appointments and consistency:** “Ensure appointment processes are credible and that there is greater stability in appointments.”¹⁶
5. **Deal with capacity constraints:** “A long-term strategy must be formulated to develop the policy and technical expertise that SOEs need to carry out their mandate.”¹⁷

⁸ Ibid, p 439 to 442.

⁹ NPC (2012), *National Development Plan – 2030*, p439.

¹⁰ Ibid, p439.

¹¹ Ibid, p439.

¹² Note: this issue is dealt with in Paper 3 – Institutional governance review.

¹³ Ibid, p439.

¹⁴ Ibid, p442.

¹⁵ Ibid, p439.

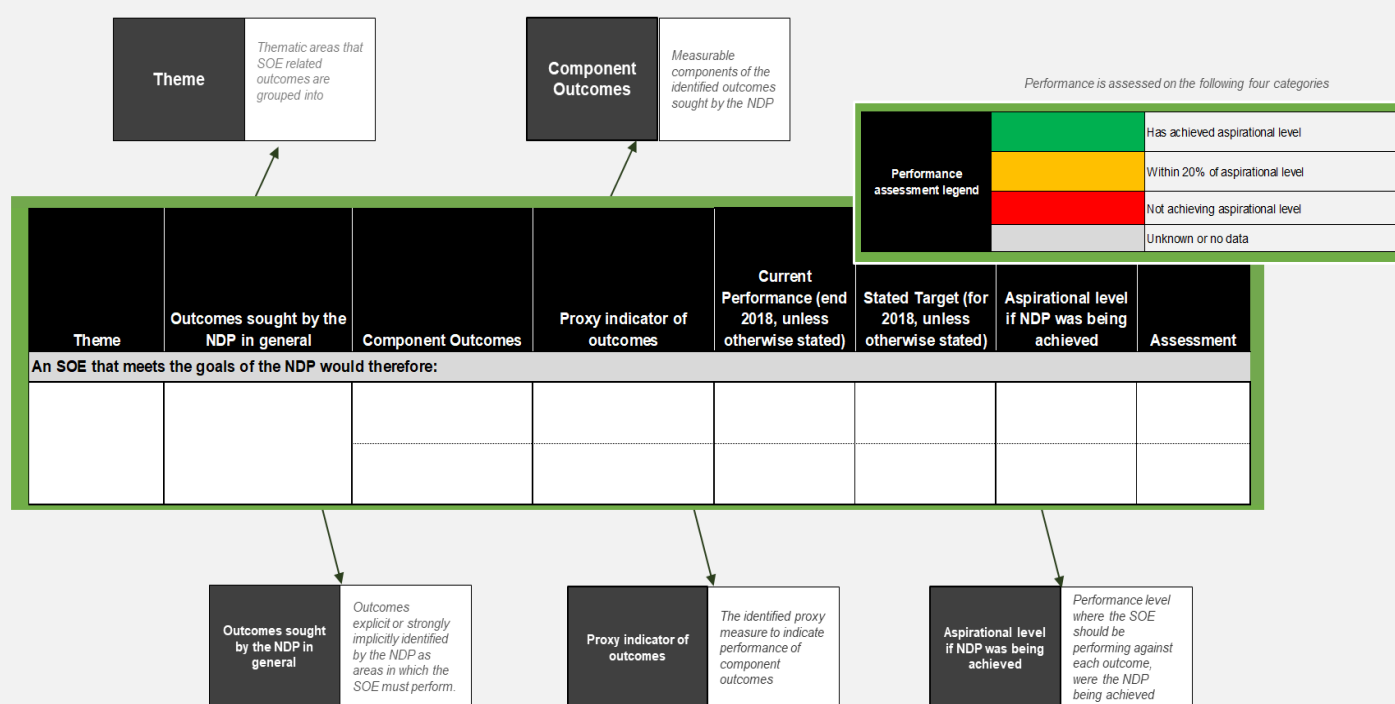
¹⁶ Ibid, p75, 442.

¹⁷ Ibid, p439.

2.3. BUILDING A PERFORMANCE FRAMEWORK

Developing clear links from the outcomes desired in the NDP to specific indicators and measurable performance metrics for particular SOEs is challenging because of the multiplicity of topics; objectives; and aspirational nature of long-term strategic documents. *However, a close reading of the NDP reveals eleven explicit or strongly implicit areas in which a SOE must perform to achieve the expectation of the NDP.* These eleven outcome statements form a standard common framework for all SOEs, which can be used by the sponsors to assess the performance of any SOE.

Breakdown of performance framework



Six operational themes

1. **Core mandate (commercial):** *The SOE must provide its core economic infrastructure and service efficiently, cost-effectively and reliably so that the cost of doing business is driven down.*¹⁸
2. **Developmental mandate (non-commercial):** *The SOE must provide the identified developmental service efficiently, cost-effectively, and reliably so that excluded groups are included.*¹⁹
3. **Financial viability:** *An SOE must be financially viable as a going concern and sustain an asset base and balance sheet in order to make capital investment, and maintain and expand services. (A state agency should recover enough in user charges to cover operational and maintenance costs).*²⁰
4. **Environmental sustainability:** *An SOE must support the transition to a low-carbon economy, and observe other environmental standards.*²¹
5. **Specific projects:** *The SOE must undertake any specific projects given to in the NDP.*²²
6. **Transformation responsibility:** *The SOE must promote the equitable reordering of the economy through internal transformation re employment equity, training, and supplier development.*²³

Fundamental governance enablers must be in place to reach these operational outcomes

7. **Clear institutional governance:** *The responsibility of policy ministry, shareholder ministry, funding ministry and regulatory oversight must be clear and delineated.*²⁴
8. **Clear written mandate:** *The SOE must have a well-defined written mandate (or shareholder compact) that sets out its role and is precise about what public good the SOE provides and how it serves the public interest. The mandate must be publicly available to promote accountability.*²⁵
9. **Leadership:** *Senior appointments must be credible. There must be stability in senior appointments. Leadership must behave ethically and build a corruption-free culture.*²⁶
10. **Expertise:** *"The SOE must formulate and implement a long-term strategy to develop the technical expertise that it needs to carry out its mandate."*²⁷
11. **Partnerships:** *The SOE must have an effective framework in place to partner with the private sector and does partner with the private sector.*²⁸

¹⁸ NPC (2012) *National Development Plan – 2030*, p39 and 439.

¹⁹ Ibid, p410 and 440.

²⁰ Ibid, p439-440.

²¹ Ibid, p199.

²² Ibid, p64-68 and 74-75.

²³ Ibid, p138-140. Note that transformation is not expressly listed in the NDP as an imperative for SOEs; but employment equity and redress measures like enterprise development, training, and mentoring are mentioned repeatedly, and it is likely that state companies would implicitly be expected to be champions of these areas).

²⁴ Ibid, p75, 439-440.

²⁵ Ibid, p439-440

²⁶ Ibid, p439-441

²⁷ Ibid, p439 - 441.

²⁸ Ibid, p44 and 442.

Each of these six outcomes and five enablers are broken into components which can be customised to the SOE in question.

The performance against each component are assessed by proxy indicators. The proxy indicators and aspirational levels were developed with the input of technical experts, the NPC, AFDB, National Treasury, Department of Public Enterprises (DPE) (Energy team), DPE (Transport team); DPE (Governance team); as well as PRASA and Eskom.²⁹

The current performance of the SOE (financial year 2018 unless stated otherwise) is measured against an aspirational level - this is the standard of performance that would need to be place either now or in the future which collectively would allow the NDP outcomes to be achieved. *In other words, this is where the SOE should be performing against each outcome, were the NDP being achieved.* The aspirational levels are the most subjective as it is difficult to find a hard target for the achievement of something as amorphous and wide-ranging as the NDP. The process to settle on a aspirational level was, in most cases, concluded using this protocol as a guide:

1. First, if the **NDP** itself sets a specific benchmark target and if this **still relevant**, use this as the aspirational level; if not then;
2. Work with independent analysts and **experts** to devise a reasonable target that would allow a reasonable observer to say "At that level, SOE X is at the performance needed to achieve the outcomes of the NDP"; alternatively,
3. Use a standard **international benchmark** of performance for SOEs in that class; alternatively
4. Use a target set in recent **policy documents**; alternatively
5. Use a benchmark equivalent to performance from **previous years** where performance was identified to be strong; alternatively
6. Use a target that the **SOE** has set for itself (being cognizant that the targets set by the SOEs for themselves can sometimes be set too low because they are in relation to weak current performance).

The level of performance was determined using the ratio of current level of performance in comparison to the aspirational level. Performance worse than the aspirational level is marked red; performance that is as good or better than aspirational level is marked green; performance that is within 20% of full target performance has been marked amber to show the SOE is approaching the aspirational level. It then becomes visually evident where the SOE is delivering on its NDP-prescribed mandate, and where it is not.

²⁹ Note that despite many requests and long delays, consultations were not possible with Department of Mineral Resources and Energy, Department of Transport, or Transnet.

3. THE FRAMEWORK FOR LOGISTICS

3.1. OVERVIEW

With 30,400 track kilometres, South Africa, has the 11th largest track network in the world. The large distances between economic hubs in South Africa increases the importance of rail as a mode of transport. Low cost and efficient logistics are critical for growth as rail logistics allow goods to be transported from where they are produced to where they are needed, either within the country for domestic consumption, or to the ports and airports for export.

Despite the part played by rail in the development of South Africa, freight railways have been in decline for several decades. A shortage of investment has resulted in ageing infrastructure, dated technologies and depreciating rolling stock. These challenges have impacted the capacity and reliability of freight railways further eroding the market share of domestic freight movement in favour of road haulage.

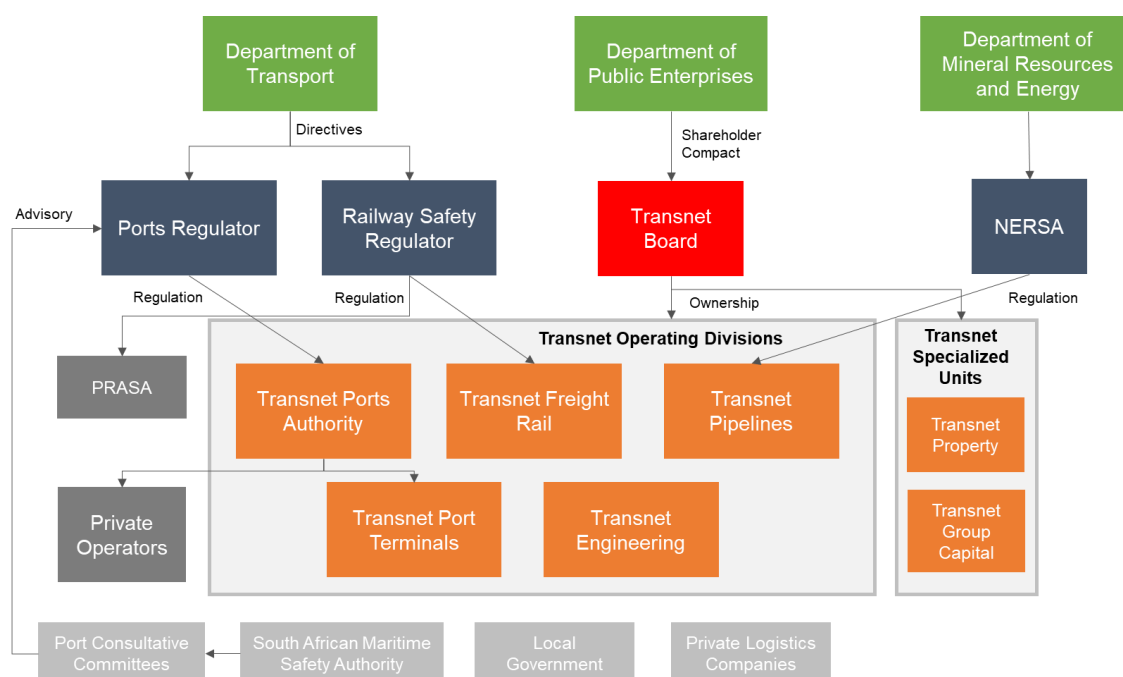
Transnet is the owner of South Africa's railway, ports and pipeline infrastructure. Transnet's history can be traced to the 1870s when the first harbour was built in Cape Town. The rail network emerged to support the distribution of cargo coming through the port. The discovery of gold in 1867, in the then Transvaal, catalysed the expansion of railway infrastructure into the interior.

The first iteration of Transnet was established in 1910 called the South African Railways and Harbours Administration (SAR&H). During the 1970s, government agreed that the SAR&H undergo restructuring with the ultimate aim of operating as an enterprise rather than a government department. In 1981 SAR&H was reconstituted as the South African Transport Services (SATS) and the operations of railway, harbour, road transport, aviation and pipelines were consolidated. In 1990, with the short-term view of privatisation, SATS was given limited liability company status and renamed Transnet SOC Limited (Transnet).³⁰ The first pipeline infrastructure was laid in 1965.

Following from the Transport Deregulation Act of 1988, Transnet is now a public company constituted in terms of the South African Transport Services Act, No 9 of 1989. The government is the sole shareholder in Transnet, and is represented by the Department of Public Enterprises (DPE) which signs a shareholder compact with Transnet each year. Transnet is regulated by both the Railway Safety Regulator and the Ports Regulator of South Africa, with the Department of Transport being the owner of policy for national transport. 3.1 is an overview of the structure of Transnet, and other stakeholders responsible for regulation and policy-making.

³⁰ Transnet Online: About Us – Our History

Figure 3.1: Structure of Transnet, policy makers and regulators



Source: 1. Transnet Integrated Report, 2018. 2. Transnet Online: About US 3. DPE Consultation

Transnet's mandate (as stated within Transnet Integrated Report 2018) is three-fold:

1. To assist in lowering the cost of doing business in South Africa;
2. To enable economic growth; and
3. To ensure security of supply by providing appropriate port, rail and pipeline infrastructure in a cost-effective and efficient manner, within acceptable benchmarks.

Transnet's value proposition is stated in the Shareholder Mandate as follows.

***'The modernisation and renewal of South Africa's transport and logistics infrastructure through strategic investment in rail, ports and oil and gas pipeline infrastructure; cost-effective logistics value chains; value-added services; and advanced engineering solutions.'*³¹**

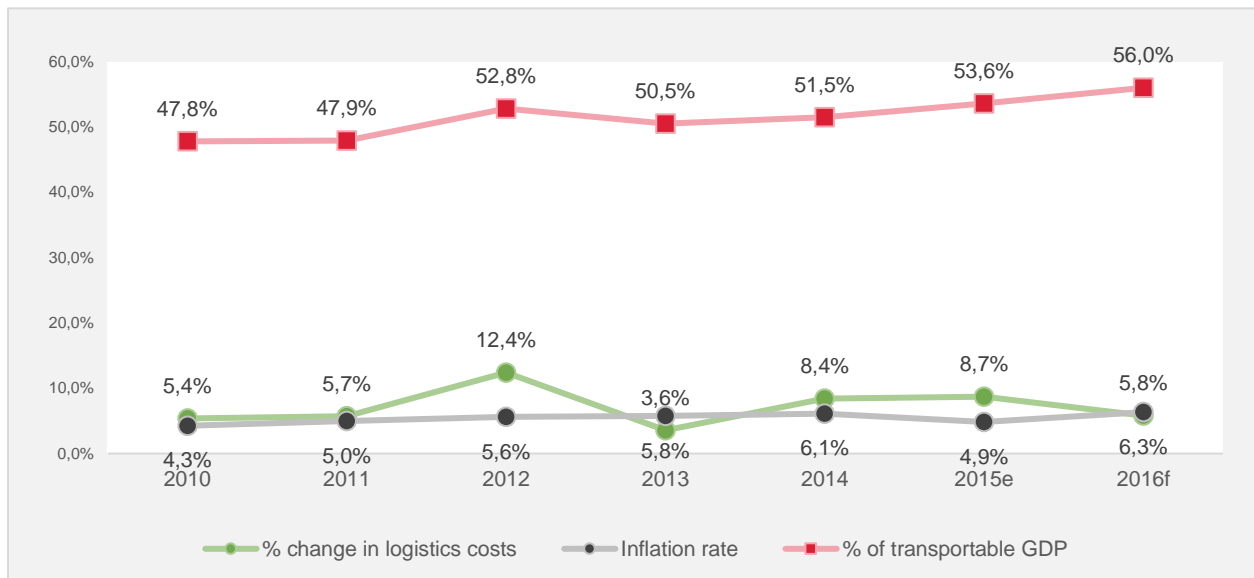
As a large SOE mandated with the ownership and operations of railway, ports and pipeline infrastructure, Transnet is subject to compliance with a myriad of legislation and national government policies. In addition, Transnet's long-term planning is contained in the Long Term Planning Framework (LTPF) which is produced on a 30 year time horizon. The most recent LTPF was issued in 2017 and it sets out Transnet's infrastructure planning which aligns to a range of different demand scenarios. Transnet has also committed to compliance with other international frameworks and guidelines for governance and reporting, including: King IV, the Global Reporting Initiative and the International Integrated Reporting (IIR) framework.

³¹ Transnet Integrated Report, 2018

The British colonial heritage ensured that the network was built upon a Cape gauge (tracks with smaller width³²) and substantially lower alignment³³, gradient³⁴ and axle load³⁵ standards than the European networks. Narrow gauges now account for less than 10% of global railway networks. This erodes rail's inherent global competitiveness in freight hauling. The narrow-gauge technology was statutorily protected against road competition from the 1930s until the late 1980s.³⁶ The African Union elected in 2007 to invest in movement to standard gauge following which, Kenya, Ethiopia and Nigeria all have standard gauge lines operational. South Africa's only standard gauge lines are the 80kms of rail on which Gautrain operates.

Logistics costs have been rising in South Africa. Figure 3.2 shows that logistics costs have generally been increasing at rates higher than inflation. There has also been an increase since 2010 and a steady rise since 2013 in logistics costs as a percentage of transportable GDP. Therefore, it is costing more year-on-year to move products along the supply chain. Transportation costs were estimated to comprise around 55% of total logistics costs – of which 80% is attributable to road-hauling.³⁷ This is compared to a global average of 39%.³⁸ The high proportion of freight costs and road usage indicates a sub-par provision of efficient rail logistics services for the movement of domestic freight. Priority must be given to shifting freight transport to rail in order to bring down the cost of logistics and mitigate the economy's exposure to exogenous shocks.

Figure 3.2: Transporting goods is becoming more expensive



Source: Professor Jan Havenga; Statistics SA

The Logistics Performance Index (LPI) measures the relative efficiency of international supply chains. South Africa ranks favourably relative to the sample of 160 countries. Ranking 25th over the 2010 to 2016 period (Figure 3.3) South Africa is only one of two developing countries within the top 30 LPI countries and is ranked as more efficient than all the other BRICS countries. In 2016, South Africa ranked 20th in the world, suggesting that in logistics efficiency has been improving in global terms.

³² Narrow Gauge – 1067mm; Standard Gauge – 1435 mm; Broad Gauge - >1600mm

³³ The alignments speak to the direction in which the track is laid. Curved alignments that circumspect varied terrain limit speed capabilities. Difficult terrain resulted in South Africa's rail network alignments having tight curves and steep gradients.

³⁴ Refer to previous footnote. Gradient is the vertical alignment of the track. Steeper gradients result in less energy efficiency and increased maintenance costs caused by excessive braking.

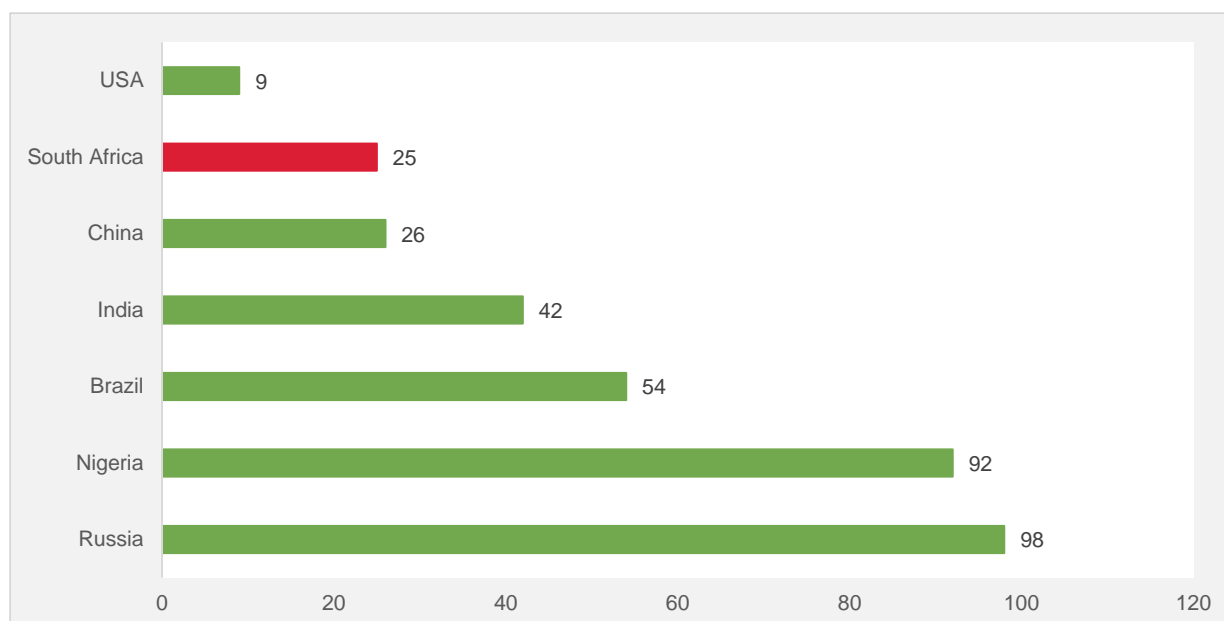
³⁵ Axle load refers to the weight limit that track can manage. Increased axle load allows for heavier trains, carrying more freight.

³⁶ Department of Transport (2017) *Draft White Paper*, p6.

³⁷ Havenga, J.H., De Bod, A., Simpson, Z.P., Viljoen, N. & King, D., 2016, 'A Logistics Barometer for South Africa: Towards sustainable freight mobility', *Journal of Transport and Supply Chain Management* 10(1).

³⁸ Havenga, Freiboth, & Goedhals-Gerber (2018) *The Decarbonisation of Transport Logistics: A South African Case*, p3.

Figure 3.3: Logistics Performance Index (LPI) Rank, combined for 2010, 2012, 2014 and 2016



Source: University of Stellenbosch. *South Africa Logistics Barometer*, 2016

This good performance is partially driven by the export lines – dedicated routes for the movement of heavy commodities, to ports for export. These include the main export coal line from the Waterberg Coal Basin to Richard's Bay Port Terminal and the iron-ore export line from Sishen, Northern Cape to the Port of Saldanha. The efficiency of the export lines is evidenced by South Africa's third and fifth position in global markets for competitive export of iron ore and coal, respectively.

The transportation of general freight is far less competitive. General freight comprises manufactured and palletised goods³⁹, agricultural products, non-ferrous metals, containers and automotive freight. The main general freight arteries run between Cape Town, Johannesburg and Durban.⁴⁰ The competitiveness of the general freight lines is constrained by the higher tariffs which can be over three times that of the mineral export lines. They are also much higher than international averages. The OECD estimated that general freight tariffs per tonne/km at PPP exchange rates in 2005 were double that of Russia, and almost three times as high as those in the U.S. and Canada.⁴¹ OECD estimates for 2009 put general freight tariffs at four to seven times that of US prices.⁴²

Figure 3.4 shows how road outperforms rail in perceptions of capacity, reliability, service, security and price.

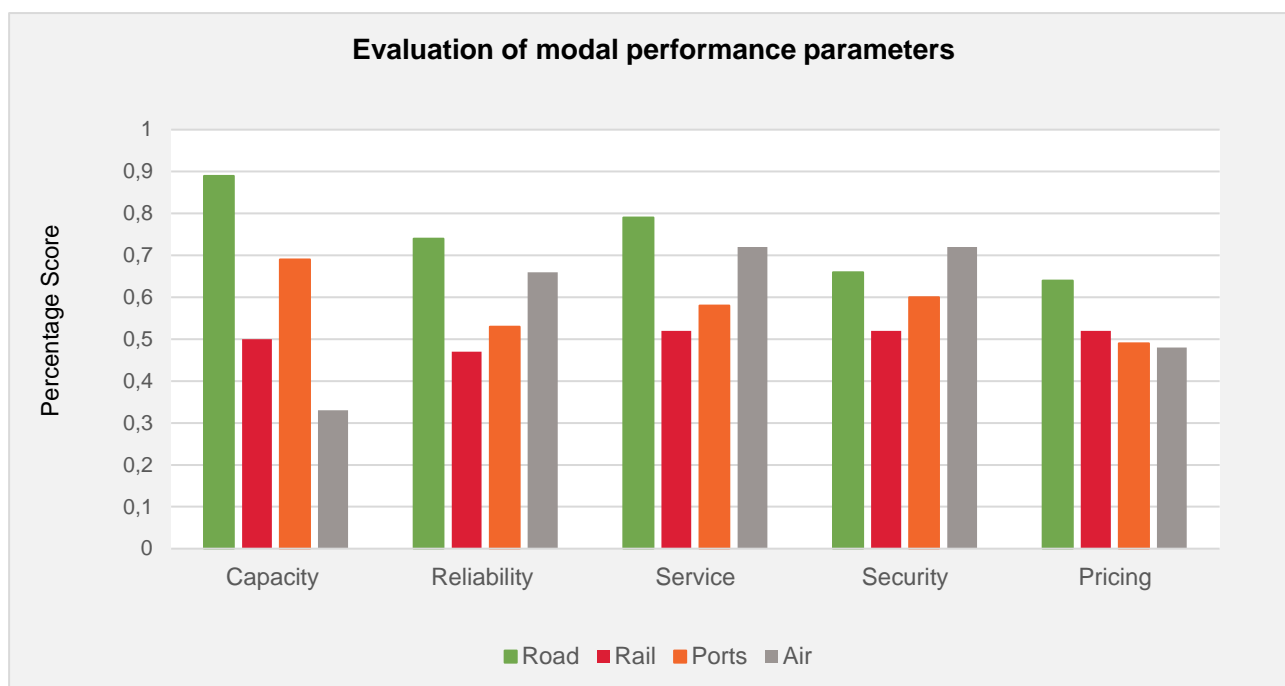
³⁹ Uniformly packaged freight, generally consumer and manufactured goods.

⁴⁰ The Durban-Gauteng corridor is referred to as the Natcor channel; the Cape Town-Gauteng corridor as the Capecor

⁴¹ Pieterse, Farole, Odendaal, & Steenkamp, (2016) *Enhancing South Africa's export competitiveness: reform of the port and rail network*, p22.

⁴² World Bank (2014) *South Africa Economic Update: Focus on Export Competitiveness*, p34.

Figure 3.4: User perspective of modal performance, 2015



Source: Department of Transport (2015), Review of the National Freight Logistics Strategy.

Although South Africa ranks well according to the LPI, there are a number of challenges in the rail logistics sector:

- **Shortage of investment:** Under-investment has resulted in inadequate maintenance and renewal, impacting on Transnet's capacity to meet demand. For example, in 2013 the average age of locomotives was over 30 years, whereas the international best practice average is 16 years.⁴³ Signalling systems are also dated – majority of which are more than 50 years old.⁴⁴
- **Dominance of road transportation:** In order to achieve cost-efficiency of logistics more goods should be transported by rail rather than road. Currently, road transportation dominates the logistics sector. It is estimated that the optimal mix between road and rail transport requires that approximately an additional 15% of goods be diverted from road to rail transportation.⁴⁵ This will lower transportation costs, as well as reduce carbon emissions and overuse and damage to the road infrastructure.
- **Integration and infrastructure gaps:** Rail is constrained by missing intermodal linkages and terminal hubs. Havenga (2012) purports that 30 cents/tonne kilometre cost saving could be realised from a 50 per cent shift of long-distance heavy intermodal and siding-to-siding break-bulk to a core rail network, currently on road.⁴⁶
- **Decline of branch lines:** Branch lines, originally built to develop rural areas, have deteriorated substantially. About 6,5% of South Africa's total surface freight transported is

⁴³ PwC (2013), *Africa Gearing Up*, p72; Pieterse, Farole, Odendaal, & Steenkamp, (2016) *Enhancing South Africa's Export Competitiveness*.

⁴⁴ Pieterse, Farole, Odendaal, & Steenkamp, (2016) *Enhancing South Africa's Export Competitiveness*, p32.

⁴⁵ University of Stellenbosch, Havenga, J. Simpson, Z. 'South Africa's logistics position and the role of Transnet Freight Rail', 2019

⁴⁶ Havenga, (2012) *Rail renaissance based on strategic market segmentation principles*

carried next to or on the branch lines – of which about 14% is being carried by rail. Further, only about half of rail sidings are currently active.⁴⁷

- **Regulation:** Price regulation within the transport sector is non-existent beyond the ports. The sector became deregulated in the 1970s and since then the competitiveness of rail has declined, impacted notably by the lack of internalisation of externalities road transportation (these include a more rapid deterioration of the road network and road injuries/fatalities). Further, the authority of the Rail Safety Regulator is eroded by the presence of two state-owned, vertically integrated rail operators.

These aforementioned challenges have culminated in a Transnet logistics network that in parts is uncompetitive, inadequately capitalised and operationally inefficient, unable to meet domestic logistics requirements or support global competitiveness.⁴⁸

3.2. LINKING TRANSNET'S PERFORMANCE TO THE NDP

In linking the NDP to Transnet performance, start with the following aspiration for Transnet:

A Transnet that contributes to the goals of the NDP would lower the cost of doing business and ensure security of supply by providing appropriate port, rail and pipeline infrastructure in a cost-effective and efficient manner, within acceptable benchmarks.

Then, using eleven outcomes as themes, the performance framework for Transnet is established in the box below:

⁴⁷ Havenga & Simpson, (2010) *Revitalisation of branch lines in South Africa: A long-term view for sustainability*

⁴⁸ *Draft White Paper on National Rail Policy, 2017.*

Operational outcomes that must be achieved Transnet to achieve the NDP

1. **Core mandate (commercial):** Transnet achieves the core mandate if it:
 1. Provides for the movement of domestic goods in a reliable and cost-efficient manner;⁴⁹
 2. Contributes to growth through trade by promoting export line and port efficiency;⁵⁰
 3. Promotes effective intermodal linkages to maximize freight hauling and distribution efficiency.⁵¹
2. **Developmental mandate:** Transnet achieves a developmental interest if it promotes growth in the rural economy, particularly in the agricultural sector, through assisting with rural extraction and delivery to markets.⁵²
3. **Financial sustainability:** Transnet must be financially viable as a going concern and sustains the asset base and balance sheet in order to make capital investment, and maintain and expand services.⁵³
4. **Transformation responsibility:** Transnet promotes equitable reordering of the economy through internal transformation (re employment equity, training, and procurement).⁵⁴
5. **Environmental responsibility:** Transnet promotes the transition to a low-carbon economy by providing legitimate alternatives to transport by road.⁵⁵
6. **Specific projects:** Transnet has completed or progressed the nine specific projects assigned to it in the NDP (see list in framework following).⁵⁶

Fundamental governance enablers that must be achieved to reach the outcomes

7. **Clear institutional governance:** The responsibility of policy ministry, shareholder ministry, funding ministry, and planning ministry is clear.⁵⁷
8. **Clear written mandate:** Transnet has a well-defined mandate (or shareholder compact) that sets out its role and is precise about what public good the SOE provides and how it serves the public interest.⁵⁸
9. **Leadership:** Senior appointments are credible. There is stability in senior appointments. Leadership behaves ethically and builds a corruption-free culture.⁵⁹
10. **Expertise:** Transnet has a long-term technical expertise strategy which is being implemented.⁶⁰
11. **Partnerships:** Transnet has an effective framework that promotes private sector participation, and there is private sector participation.⁶¹

⁴⁹ NPC (2012) *National Development Plan – 2030*, p183

⁵⁰ Ibid, p246, 438

⁵¹ Ibid, p183 and 186

⁵² Ibid, p89 and 183.

⁵³ Ibid, p440.

⁵⁴ Ibid, p138.

⁵⁵ Ibid, p183.

⁵⁶ Ibid, p186-189.

⁵⁷ Ibid, p45, 74, 441

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Ibid, p426, 439.

⁶¹ Ibid, p189.

3.3. EVIDENCE OF PERFORMANCE

Developed by

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UNLOCKING VALUE



THE NDP VISION STATEMENT FOR TRANSNET

"A Transnet that contributes to the goals of the NDP would lower the cost of doing business and ensure security of supply by providing appropriate logistics infrastructure and services in a cost-effective and efficient manner."

Performance Assessment Legend							
				Has achieved aspirational level			
				Within 20% of aspirational level			
				Not achieving aspirational level			
				Unknown or no data			
Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	Transnet Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
A Transnet that meets the goals of the NDP would therefore:							
1. Core mandate	Provide for the movement of goods in a reliable and cost-efficient manner (excludes export iron ore and coal)	Freight rail is an attractive method of moving goods	Market share of domestic freight that could be moved by rail (%)	25,70	GFB (RAMS % NTK): 31 Intermodal (RAMS % NTK): 15	40,30	
		The network is used to a high capacity (a densified network)	General Freight Density (GTK/routekm)	5,08	>5.8	10	
		Trains are reliable and run on time	General Freight wagon turnaround time (days)	10,01	9,90	7,00	
		Freight transport by rail is safe	Number of operational safety occurrences and security-related incidents (All Operators)	13258	No target	6631	
			Disabling Injury Frequency Rate (DIFR) - Freight rail (ratio)	0,91	<0.75	0,75	
		Eskom is supplied with adequate coal	Eskom coal supply (million tons)	11,68	15,10	15,10	
		Trains are price competitive with road for general freight	Rail cost rate per tonkm as a % of relative road line haul cost per tonkm (%)	50	No target	40	

	Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	Transnet Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
1. Core mandate		Provide for the movement of goods in a reliable and cost-efficient manner (excludes export iron ore and coal)	Pipelines are efficient and reliable	Pipelines volumes (billion litres)	16,3	17,6	21,7	
				Pipelines ordered vs delivered volumes (% of deliveries within 5% of order)	93,00	95,00	100,00	
			Pipelines are efficient and reliable	Planned vs actual delivery time (% of deliveries within two hours of scheduled delivery time)	86,00	85,00	100,00	
				Capacity utilisation for Durban-Johannesburg pipelines and New Multi-Product Pipeline (Ml/week)	115:148	118:148	128:148	
		Contribute to growth through trade by promoting export and import line and port efficiency	Rail is efficient on export lines (coal and iron ore)	Export Coal Freight Density (tonkm)	36		38	0,95
				Export Coal cycle time (hours)	62,60	56,00	56,00	
				Export Iron Ore volumes transported (mt)	58,50	60,00	62,23	0,94
				Export Iron Ore cycle time (hours)	86,80	76,00	68,00	
			Ports are efficient in processing exports	Moves per gross crane hour	25,20	29,60	35,00	
Container Dwell time exports (days)	5,73			4,90	3,50			

	Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	Transnet Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
1. Core mandate		Contribute to growth through trade by promoting export and import line and port efficiency	Ports are efficient in processing exports	Average moves per ship working hour (number)	46,20	56,20	>60	
				Gross loading rate (ton/hour)	8576	8094	8576	
				Average Train turnaround time (hours)	3,95	5,83	3,90	
				Average Truck turnaround time (hours)	0,67	0,58	0,58	
				Anchorage Waiting time (hours)	50,95	34,17	24,67	
				Average ship turnaround time (hours)	46,20	36,60	25,00	
				Average Berth occupancy (%)	62,60	68,00	68,00	
				Total Port costs to cargo owner automotive (% deviation from global average)	172,00	146,95	10,00	
				Total Port costs to cargo owner containers (% deviation from global average)	267,00	271,00	10,00	
				Total Port costs to cargo owner coal (% deviation from global average)	-62,00	-53,00	-10,00	
				Total Port costs to cargo owner iron ore (% deviation from global average)	-26,00	-55,57	-10,00	
			Rail is integrated with other countries	Africa sales revenue (Rmillion)	3267,80	3527,30	3785,00	
				Cross-border volumes (mt)	9,27	9,17	12,31	
		Promote effective intermodal linkages to maximise freight hauling and distribution efficiency	There is cost-efficient freight connectivity between rail and other modes	Cost (Rbillion) of road vs intermodal freight movement	13,80	No target	6,00	
				Intermodal market share (Rail Addressable Market Share % Net Ton	24,00	15,00	43,00	
				Palletised market share on rail (%)	0,10	No target	21,50	

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	Transnet Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
2. Developmental Mandate	Promote growth in the rural economy, particularly in the agricultural sector, through rural extraction and delivery	There is connectivity with rural markets	Rural freight market share (%)	21,90	No target	?	
			Branch line concessions concluded	3,00	2,00	As viable	
		Rural agricultural production supported by market connectivity on rail	Agricultural freight market share (%)	5,10	No target	?	
		Access is to freight transport is widely available	Number of sidings active	1160,00	No target	3000,00	
			Density on branch lines (tkm/routekm)	0,10	No target	?	
3. Financial Sustainability	A level of investment able to expand and maintain operations	Ability to expand and maintain operations	Capital investment dedicated to expansion (% of capital expenditure)	25,00	34,00	34,00	
		Ability to create capacity ahead of demand	Average age of locomotives	29,65	25,00	16,00	
			Ratio of resourced capacity to theoretical capacity (%)	50,00	65,00	70,00	
	The SOE is financially sustainable	Strong balance sheet through improved levels of equity	The SOE is a going concern	Material Uncertainty	No target	Yes	
			Revenue % change from previous year (%)	11,32	16,68	16,68	
			EBITDA margin (%)	44,61	41,50	44,92	0,99
		There is effective management of operating expenses	Proportion of labour costs to overall operating expenses (%)	60,00	No target	33,00	
			Expense ratio (opex/revenue)	0,55	No target	0,42	

	Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	Transnet Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
3. Financial Sustainability		The SOE is financially sustainable	There is manageable reliance on debt	Cash flows from operating activities (Rmillion)	22958,00	21215,00	28572,00	
				Gearing (%)	43,40	<50%	40,90	0,94
				Cash interest cover (times)	3,00	>2.5	3,30	
				Investment grade stand alone credit profile	Yes; Baa3/BBB	No target	Yes; >Baa3/BBB	
4. Clear written mandate		A clear and transparent shareholder compact, serving a long-term strategy, that is made publicly available	Transparent disclosure of shareholder compacts (except for business sensitive information)	Publicly available shareholder compacts with distinctly articulated targets	Yes	No target	Yes	
			Valid documentation to support reported performance	Auditor qualifications of reported performance	5,00	No target	0,00	
5. Leadership		There is stability in senior appointments. Leadership behaves ethically and builds a corruption-free culture.	Stability of leadership	Ratio of acting positions to permanent contracts at executive committee level (steady state %)	71,00	No target	15,00	
			Leadership exhibits strong ethical standards	Irregular expenditure excluding existing irregular contract value (Rmillion)	8123,10	No target	0,00	
				Losses through criminal conduct: collusion and fraud (Rmillion)	0,80	No target	0,00	
				Fruitless and wasteful expenditure (Rmillion)	18,70	No target	0,00	
				Audits should be unqualified	Yes	No target	No	
			Accountability of leadership	Irregular expenditure not condoned, that is either recovered or under investigation (%)	6,25	No target	100,00	
				C-suite performance agreements based on shareholder compact	Yes	No target	Yes	

	Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	Transnet Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
6. Expertise	Transnet has a long-term technical expertise strategy which is being implemented.	Competent leadership	Achievement of KPIs set out in shareholder compact (%)	57,00	100,00	100,00		
			Required expertise and experience of board met	Not fully	No target	Yes		
		Transnet has a long-term technical expertise strategy with is being implemented	Fully articulated action plan for recruiting, retaining and developing technical expertise	Not sure	No target	Yes		
7. Partnerships	There is use of an effective framework that promotes private sector participation	Private sector participation is promoted	Increased private investment and market share of private ownership of ports and rail	The Draft PSP (Private Sector Participation) Framework (Transport Chapter) has been approved by Cabinet.	No target	5%		
			Number of transactions/concessions concluded	3	5	As viable		
8. Clear Institutional Governance	The responsibility of policy ministry, shareholder ministry, funding ministry and regulator is clear. To be completed as part of Report 3							
9. Environmental Sustainability	Promote the transition to a low-carbon economy by providing legitimate alternatives to transport by road	Carbon emissions are minimised	Carbon overspend due to road-rail balance (%)	12,00	No target	1,00		
			Carbon emission intensity (KgCO2/ton) reduction (%)	2,66	>0.85	2,66	1,00	
		Assets are being utilised effectively to manage energy consumption	Gross ton kilometers to Net ton kilometers - General Freight Business (ratio)	1,40	1,70	1,70		
			Gross ton kilometers to Net ton kilometers - Export Coal (ratio)	1,26	1,60	1,60		
			Gross ton kilometers to Net ton kilometers - Export Iron Ore (ratio)	1,20	1,40	1,41		

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	Transnet Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
10. Additional Transformation Responsibility	Promote equitable reordering of the economy through internal transformation	Company demographics reflect country demographics	Black African employees (% of total employee pool)	86,10	88,00	78,80	1,09
			Racial equity in senior management, (black employees as % of total)	Not reported	No target	78,80	
			Racial equity in professionals and middle management, (black employees as % of total)	Not reported	No target	78,80	
			Gender equity in senior management, (female as % of total)	36,40	50,00	45,30	
			Gender equity in professionals and middle management, (female as % of total)	39,70	50,00	45,30	
			B-BBEE score	90,83	107,00	>100	
		Transnet promotes industrial capability building	Artisans are being developed	202	>160	Increase linked to rate of business growth	
			Technicians are being developed	201	>160	Increase linked to rate of business growth	
			Engineers are being developed	100	>80	Increase linked to rate of business growth	
			Sector-specific skills are being developed	1516	>764	Increase linked to rate of business growth	
			Local content (% of total spend)	82,16	>75	As viable	
		Transnet procurement practices promote economic transformation	B-BBEE spend (% of Total Measured Procurement Spend)	86,88	>70	78,80	1,10
			Qualifying Small Enterprises (% of TMPS)	9,06	>5	>10	
			Exempted Micro Enterprises (% of TMPS)	8,32	>7	>10	
			Black-women owned (% of TMPS)	31,44	>5	36,00	
			Black-youth owned (% of TMPS)	0,76	>2	2,00	
			People with disabilities (% of TMPS)	0,08	>0.125	>0,2	

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	Transnet Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
11. Specific projects in NDP	Transnet has completed or progressed the six specific projects assigned to it in the NDP (not clear if all still relevant)	1. Durban-Gauteng corridor upgraded, with new port at old Durban airport site	Gauteng - Durban capacity utilisation (mtpa)	36	No target	50	
		2. Increased Durban port capacity	Container volume throughput (million)	2,8	No target	8,7	
		3. Capacity of heavy-haul coal corridor from Waterberg to Richard's Bay expanded	Transport of coal along this route (mtpa)	81,00	No target	125,00	
		4. Infrastructure for transport of liquified gas developed	Liquid Fuels transport through the Multi-Product Pipeline (billion litres per annum)	4,30	No target	13,20	
		5. Expanded capacity of coal, iron ore and manganese lines	Coal export volumes (mtpa)	77,02	77,00	90,30	
			Coal domestic and Eskom Supply (mtpa)	15,70	11,50	29,30	
			Manganese export volumes (mtpa)	7,40	No target	11,80	
			Manganese domestic volumes (mtpa)	2,10	No target	1,90	
			Iron ore export volumes (mtpa)	58,52	60,00	61,00	
			Iron ore domestic supply (mtpa)	7,60	No target	8,90	
		6. Limpopo coal fields linked to domestic power generators	Establish formal structure to foster collaboration and Plans to optimize coal use	The Minister has established an interdepartmental task team			

3.4. SUMMARY

If Transnet were to fulfil its core mandate in terms of the NDP it could play a transformational role in society that unlocks social, economic and environmental value.

However, the framework assessment establishes that Transnet has not, to date, fully achieved the vision set out for in national planning because Transnet does not provide reliable and cost-efficient domestic logistics at the level required by the NDP.

The high proportion of freight costs and high road usage indicates a sub-par provision of efficient rail logistics services for the movement of *domestic freight*. The weak market share of rail implies that rail is still not an attractive mode for general freight logistics customers. This results in a density measure approximately half of what is required to operate profitably (5.08 GTK/routekm v a target of 10 GTK/routekm). The lack of economies of density leads to a relative cost of rail to road almost 20% higher than it should be were the network operating optimally. A lack of safety and reliability is evident in a turnaround time for general freight of over 10 days, in comparison to the 7 days it ought to be, and safety incidents which are 100% higher than a desirable level.

Transnet's performance with respect to moving heavy mining commodities is impressive. The coal and iron ore lines are highly densified with approximately four and six times the threshold required to break even which supports their position as fifth and third most competitive lines internationally.

The strong performance in commodity export lines perpetuates the resource-dependent and extractive economy – one which the NDP deems unsustainable. While commodities can drive economic growth, the NDP expects this growth to drive a diversification of the economy away from resource-dependence. This path of diversification has not been supported by Transnet's service provision.

This dependence is reinforced by skewed tariffs. Tariffs levied demonstrate a favouring of trade in commodities. Port tariffs are uncompetitive for automotive and container trade, with container costs being almost 200% above the average global sample. Commodities are priced more competitively: 92% and 44% below the global average for coal and iron ore, respectively.

Average moves per ship working hour and moves per gross crane hour show port efficiency that is in line with the standard of African ports, yet well below other ports around the world or that required by the MTSF. Additionally, truck turnaround times are less than one-fifth of that required for trains.

The performance of Transnet pipelines demonstrates reliability and efficiency – approaching aspirational levels to achieve NDP-standards.

Transnet does not promote effective intermodal linkages to support an integrated logistics network. Intermodal linkages that allow for efficient trans-shipments between modes is prohibitively expensive at 130% above the benchmark target. The poor performance in intermodal connectivity is evident in just over 50% of target intermodal market share. Palletised goods, which are easily transhipped between modes and predisposed to intermodal hauling, only have 0,1% its market share captured by Transnet.

According to the framework, Transnet has not achieved its developmental interest in promoting growth in the rural economy, particularly in the agricultural sector, through rural extraction and delivery to markets. Transnet provides limited and decreasing connectivity with rural markets. Presently Transnet services account for about 22% of rural freight logistics market share, and just 5% of agricultural freight market share. Many of the branch lines originally built to develop rural areas

have been discontinued. Widely available access to Transnet services is constrained: of about 3000 sidings in the country, only 1160 are now active (39%). The lack of support for the rural economy is evident in the neglect of its inclusion in strategic planning. There are no specific targets which are reported for branch line volumes or penetration of services in the rural economy. This is in contrast to the numerous reporting lines for the transport of coal and iron ore.

Transnet demonstrates financial sustainability in its balance sheet yet an ability to invest so as to maintain and expand operations is uncertain. Transnet has consistently reported strong financial sustainability - exceeding all the financial sustainability targets in the Shareholder Compact. A strong balance sheet is supported by revenue and EBITDA growth often in excess of 10% annually. Despite a year-on-year decrease, Transnet still reported a positive cash balance and generated approximately R23 billion from operating activities in 2018. Transnet also demonstrated a management of its operating expenses, notwithstanding a disproportionately sized labour cost.

Yet, material uncertainty regarding the going concern status of Transnet has been raised in the audit report on the annual financial statements for the year ended 31 March 2018. Transnet's audit opinion on the 2018 annual financial statements was qualified because of inadequate identification and reporting of irregular expenditure. The qualified audit caused loan covenants to be triggered and the loan amounts to become due and payable. Thus, loan repayments amounting to R15 billion could jeopardise the Group's ability to meet obligations in the ordinary course of business.

Transnet has not invested sufficiently in expansion nor maintenance. This is evident in, firstly, the average age of locomotives which is almost twice that of global competitiveness benchmarks and moreover, an operational or resourced system capacity approximately limited to 70% of the level that could be allowed for by the network. This is due to signalling failures and speed limits arising from inadequate maintenance.

Transnet has a mandate that is supported by clearly articulated levels of performance, documented in the Shareholder Compact.

The State's approach to board nomination is lacking in transparency, operating in an ad-hoc fashion and overly politicized. Although the executive team is appointed through a nomination committee⁶², in line with corporate governance standards, this high turnover in executive leadership indicates inadequacies in the appointment process. High turnover also undercuts an ability of leadership to make important strategic decisions which, due to the long-term nature of economic infrastructure provision, undercuts the position of the entity in the long-term that is then hard to remedy. The qualified audit opinion particularly referenced unaccounted for irregular expenditure for which Transnet's Board has cited issues with procurement policies and practices and adopted mitigating interventions. Furthermore, there is a lack of accountability regarding irregular expenditure, with no criminal proceedings resulting from incidents relating to R3.4 billion and only 6% of irregular expenditure is currently under investigation.

Transnet did not evidence a long-term technical expertise strategy. According to an evaluation conducted by PwC for the 2017/2018 financial year, the expertise and experience of the board was insufficient. *"The outcome of the evaluation included the following areas of improvement: requirements for logistics, freight and rail expertise in the board skill mix; capital projects and*

⁶² The Corporate Governance and Nominations Committee provides recommendations to the Shareholder minister based on related skills requirements and skills matrix.

programmes expertise; investment and economics expertise; information and communications technology expertise; and technical engineering expertise.”⁶³

There is no private sector participation framework in use yet there is some private sector participation. The DPE reports that the Private Sector Participation framework, to be used by SOEs and their Shareholder Ministries, has only recently been approved by cabinet and is not yet implemented. A missing framework severely limits opportunities for Transnet to partner with the private sector. Three branch line concession transactions have been concluded in the 2017/18 financial year with the private sector.

According to the framework, Transnet is failing to promote the transition to a low-carbon economy by providing legitimate alternatives to transport by road. Emissions from the transport sector account for almost 11% of South Africa’s total greenhouse gas emissions; and road transport accounts for 91% of this.⁶⁴ The current road-rail balance results in a carbon “overspend” of approximately two million tons of carbon per year.

Transnet has demonstrated a strong commitment to racial transformation and the empowerment of historically disadvantaged groups in internal operations. Transnet is a Level 2 B-BBEE contributor. The SOE also invests notably in training, apprenticeships and engineering degrees with R741 million invested in skills development. Transnet is a significant employer at total headcount of more than 55,000 employees of which 86.1% are Black African (exceeding the Black African economically active population rate of 78.8%). B-BBEE procurement spend of 87% of the total procurement spend outperforms targets. Gender equity across management levels is also approaching the desired levels – senior management gender equity being within 20% and gender equity in professionals and middle management levels being within 12% of EAP rates.

Transnet has shown progress in meeting the requirements for specific projects mandated to it in the NDP. Specifically, procurement of additional locomotives and mineral export line expansions have performed beyond or close to target. A number of projects, like the Multi-Product Pipeline are close to completion and therefore steep increases in performance can be expected. Significance was placed in the NDP on the Durban-Gauteng corridor upgrade, of which limited investment is demonstrated and self-assessment of infrastructure quality indicates sub-standard quality.⁶⁵

⁶³ Transnet Governance Report 2018, p17.

⁶⁴ Department of Transport (2018), *Green Transport Strategy for South Africa (2018-2050)*, p3.

⁶⁵ Transnet (2016) *Long-term Planning Framework: Chapter 4*.

4. THE FRAMEWORK FOR COMMUTER AND PASSENGER RAIL

4.1. OVERVIEW

Commuter and passenger rail services have a long history of state ownership. In 1910, national freight, passenger and harbor services which had operated under separate institutional frameworks were unified into the encompassing, South African Railways & Harbours (SAR&H), later renamed the South African Transport Services (SATS).

The apartheid regime would later intentionally engineer physical distances between race groups. This resulted in large pools of low-income African households living in township (peri-urban) areas a long distance from economic hubs and suburban areas. Commuter rail was therefore established to facilitate the daily migration of hundreds of thousands of people from townships into cities for work.⁶⁶

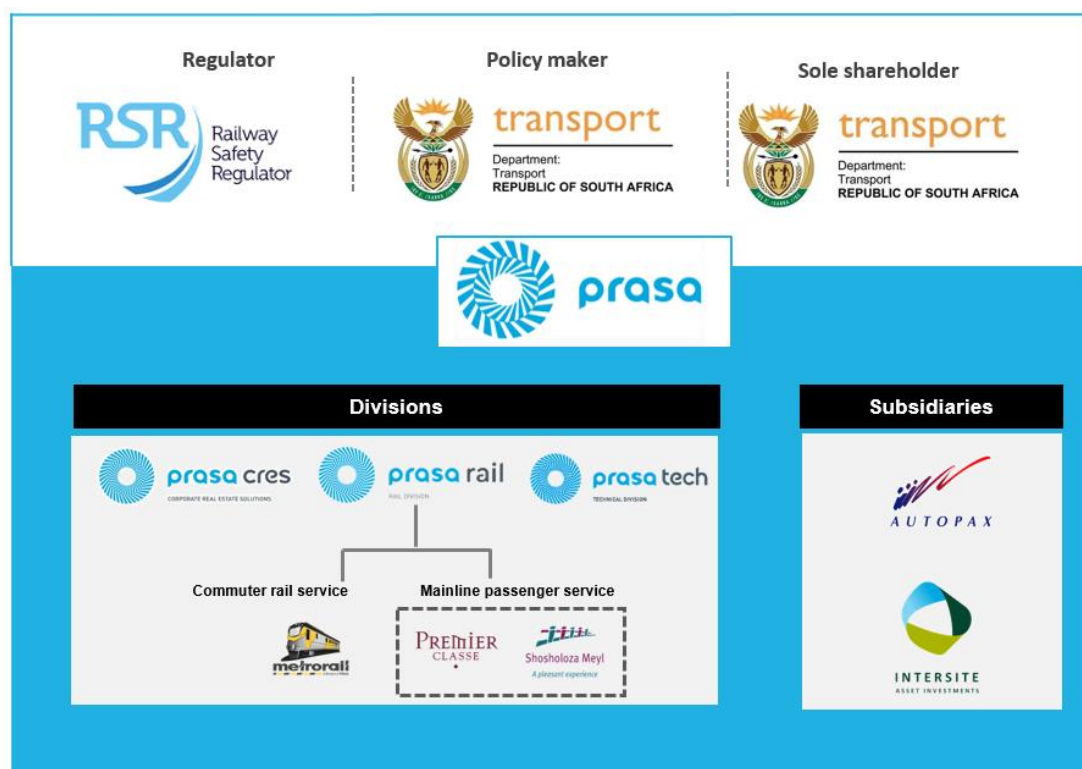
SATS was replaced by **Transnet** on April 1990, and commuter rail services were transferred to the South African Commuter Corporation (SACC), which in 2009 was re-established as the **Passenger Rail Agency of South Africa** (PRASA) – the operator for all commuter rail and passenger rail and bus activities run by the state.

PRASA is wholly owned by the government and the Department of Transport (DoT) as the sole representative shareholder. DOT is also the national transport policymaker.

The primary objective of PRASA is to provide commuter rail and passenger bus and rail services in the public interest. PRASA is also required to generate income while giving due regard to the government's socio-economic and transport objectives.

⁶⁶ Walters, O (2012) Overview of public transport development in South Africa. *Research in Transportation Economics*, 39(1):34-45.

Figure 4.1: Institutional organogram PRASA



Source: PRASA (2019) MTEF Corporate plan 2020-22

PRASA is comprised of three divisions: rail, tech, and corporate real estate solutions (Cres). Rail is sub-divided into mainline long-distance passenger services (MLPS) - Shosholoz Meyl and Premier Classe operating between Johannesburg, Pretoria, Durban, Port Elizabeth and East London⁶⁷ - and commuter rail services (Metrorail). There are also two subsidiary companies: Autopax (operating bus services Translux and City to City) and Intersite Property Management services.⁶⁸

PRASA's defines its core value proposition as follows:

*As a wholly-owned Government public entity, reporting to the Minister of Transport, PRASA's main responsibility is to deliver commuter rail services in the Metropolitan areas of South Africa, long-distance (inter-city) rail and bus services within, to and from the borders of the Republic of South Africa. This mandate is implemented in consultation with and under the guidance of the Minister of Transport.'*⁶⁹

The Metrorail service is the central operator for low-income households in metropolitan areas. The network transports an estimated 700 000 commuters a day.⁷⁰

The Gautrain commuter service opened in June 2012 to relieve road congestion between Pretoria and Johannesburg.⁷¹ The Gautrain links Johannesburg, Pretoria, Ekurhuleni and OR Tambo international airport, and services a middle to upper income skilled market. However, this service is

⁶⁸ PRASA (2018) Annual Report and Financial statements 2017/18.

⁶⁹ PRASA Annual Report and Financial Statement 2017/18, p 10.

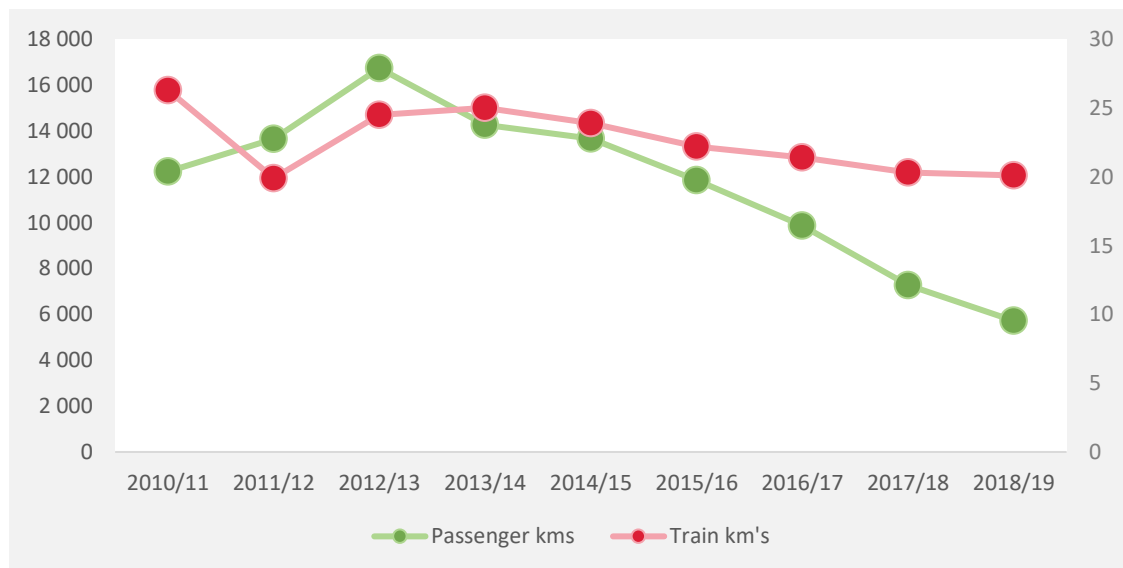
⁷⁰ PRASA (2017) Annual Report and Financial Statements 2017/18

⁷¹ Bombela (2019) Gautrain: The Project. Available: <https://www.bombela.com/gautrain/>.

run by the Gauteng Provincial Government, not PRASA. Gautrain currently operates as a legitimate commuter transport alternative to road-based transport.

Figure 4.2 shows the declining level of service provision in the movement of passengers and trains. In 2012/13 passenger kms peaked at 16.7 billion, which by 2018/2019 had fallen to 7,8 billion passenger kms, a 65,8% decline in five years. This decline in rail transport can be traced back to a shift in national policy interests. During the 1970's and 1980's there was a marked increase in the number of private road vehicles, supported by investment in more extensive freeways and public parking lots. Over time commuter rail has fallen out of favour as a public transport mode of choice and continues to lose passengers to the minibus taxi industry.⁷² This industry is characterised by low capital investment requirements and intense competition amongst operators. Minibus taxis have become a preferred public transport alternative despite a reputation for poorly maintained vehicles, reckless driving and relatively high fares. The taxi industry now generates about R40 billion a year.⁷³

Figure 4.2: Train and Passenger Kilometers, 2010/11 to 2018/19



Source: Railway Safety Regulator, *State of Safety Report, 2018/19*

PRASA's strategy is to reposition rail as the backbone of public transport and to promote an integrated transport network where rail becomes the mode of choice for commuters.⁷⁴ As a Schedule 3b entity, PRASA's public mandate is not fully supported by the user-pay principle.⁷⁵ This means that the operational sustainability is largely contingent on the state subsidy being aligned to PRASA's costs.

Commuter rail services have historically been underfunded by the state, this is constantly cited as an operational risk for PRASA. Figure 4.3 shows that commuter rail received the lowest subsidy per passenger, while the Gautrain, which caters for middle-to-upper income LSM's receives the highest state subsidy per passenger trip. There have however been recent policy developments that seek to

⁷² Walters, O (2012) Overview of public transport development in South Africa. *Research in Transportation Economics*, 39(1):34-45.

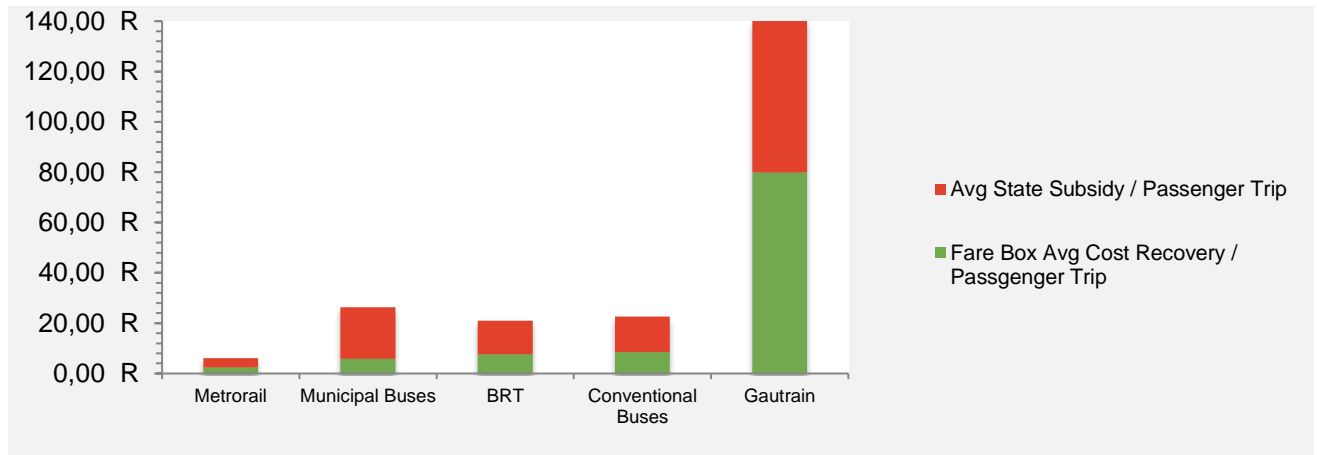
⁷³ South African Government (2017). Transport. Available at: <https://www.gov.za/about-sa/transport>

⁷⁴ PRASA (2019) Business Mandate. Available at: <https://www.PRASA.com/Business%20Mandate.html>

⁷⁵ Schedules 3B entities as defined by the PFMA as government business enterprises that are able to generate an income but may require substantial government funding. These entities have less autonomy even though they are still run in accordance with general business principles.

re-promote rail as the backbone of public transport within an efficient integrated transport network and draw light to the significance of a viable funding model.⁷⁶

Figure 4.3 State subsidy compared to cost recovery per passenger trip



Source: National Treasury, 2019⁷⁷

4.2. LINKING PRASA'S PERFORMANCE TO THE NDP

The NDP acknowledges that inequitable spatial structures were inherited from Apartheid planning, and is clear that good public transport in order to increase the mobility of low-income households is critical to overcoming these disadvantages. There is evidence that poor public transport systems increase social and economic exclusion by limiting access to employment, education and healthcare.⁷⁸

The NDP sees commuter and passenger rail services **helping to bridge geographic distances** affordably, reliably and safely. The NDP envisions rail as the backbone of public transport.⁷⁹ It establishes that a modern rail service should be governed by sufficiently independent, competent and accountable state agents.⁸⁰ It also notes that rail will help to promote a lower-carbon economy as it has a lighter carbon footprint than road.

With this in mind, the vision envisaged for PRASA in the NDP can be described as:

"A PRASA that contributes to the goals of the NDP would position rail as the backbone of public transport within an integrated transport network. by providing quality and affordable rail transport services that satisfy the commuter, intercity and international travel needs of households, and especially lower-income households."

⁷⁶ See DoT (2017) The National Rail Policy: Draft White paper

⁷⁷ Engineering News (2019): Current public transport subsidies not sustainable, warns Treasury

<https://www.engineeringnews.co.za/article/current-public-transport-subsidies-not-sustainable-warns-treasury-2016-07-04>; and expert calculations

⁷⁸ Lucas, K. (2011) Making the connections between transport disadvantage and the social exclusion of low-income populations in the Tshwane Region of South Africa. *Journal of Transport Geography* *Journal of Transport Geography*, 1320-1334.

⁷⁹ NPC (2012), *National Development Plan – 2030*, p183-187.

⁸⁰ NPC (2012), *National Development Plan – 2030*, p183-187.

The nine outcomes for SOEs in the NDP form the starting point for a performance framework:

Operational outcomes that must be achieved for PRASA to achieve the NDP

1. **Core mandate (which is also the developmental mandate):** *To drive inclusive growth by providing transport that gives predominantly low-income households preferred public transport alternative for passengers and commuters.*
2. **Financially viable:** *PRASA is financially viable with state subsidy and collects revenue and liquidity that is able to sustain operations*
3. **Clear written mandate:** *PRASA has a well-defined mandate that sets out its role and is precise about what public good it provides and how it serves the public interest.*
4. **Leadership:** *Senior appointments are credible. There is stability in senior appointments. Leadership builds a corruption-free culture.*
5. **Expertise:** *PRASA has a long-term technical expertise strategy which is being implemented.*
6. **Partnerships:** *PRASA has partnerships with private sector to maximize value*
7. **Clear institutional governance:** *The responsibility of policy ministry, shareholder ministry, funding ministry and regulator is clear.*
8. **Environmental responsibility:** *PRASA promotes the transition to a low-carbon economy by providing legitimate alternatives to transport by road.*
9. **Transformation responsibility:** *PRASA promotes equitable reordering of the economy through internal transformation regarding employment equity, training, and supplier development.*

THE NDP VISION STATEMENT FOR PRASA

"A PRASA that contributes to the goals of the NDP would position rail as the backbone of public transport within an integrated transport network, by providing quality and affordable rail transport services that satisfy the commuter, intercity and international travel needs of households, and especially lower-income households."

Performance assessment legend		Has achieved aspirational level
		Within 20% of aspirational level
		Not achieving aspirational level
		Unknown or no data

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	PRASA Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
A PRASA that plays its role in the NDP will achieve the following outcomes:							
1. Core Mandate	Commuter rail is the preferred public transport mode	Commuter rail is the preferred public transport alternative	Metrorail passenger trips (million)	213	422,5	650	
			Train km's (Millions)	20,1	n/a	26,3	
			Ratio of mini bus taxi passengers to train passengers(%)	09:01	n/a	03:01	
			Metrorail customer satisfaction (%)	49,70	59,00	80,00	
		The rail transport system is affordable for low-income commuters	Ratio of minibus taxi fare to Train	2,8:1	n/a	11,29:1	
		The train service is predictable and trains run on time	Metrorail trains on time as % of trains scheduled	63,90	86,00	95,00	
			Trains scheduled and cancelled (%)	13	n/a	5	
			Trains scheduled and cancelled: rolling stock(%)	74,00	10,00	10,00	
			Trains scheduled and cancelled: infrastructure (%)	11,00	5,00	5,00	
			Average delay experienced by commuters (min)	30,00	n/a	5,00	
			Rollout of customer engagement and communication platforms	Exist at some points	Rollout at all identified points	Rollout at all identified points	
		The trains are safe to use	Overall safety of rail system: Actual Fatalities plus Weighted Injuries (10 injuries = 1 fatality)	284	n/a	43	
			Category H occurrences: People related occurrences, platform-train interchange	69,5	n/a	77,8	
			Category E occurrences: Persons struck during movement of rolling stock (other than at level crossings)	306,3	n/a	383,9	
		Commuter stations are accessible (coverage is good)	Rail corridors that flow from main peri-urban areas to key economic hubs	Yes	n/a	Yes	
	Passenger rail is a trusted long distance alternative for intercity and international travel	The Mainline Passenger Service is a popular long distance travel mode	Number of Mainline Passenger Service(MLPS) per annum	375 000	561 000	561 000	
			MLPS customer satisfaction(%)	Not known	80	80,00	
			Ratio of MLPS train trips to Autopax bus trips long distance (ratio)	01:08	n/a	> 40%	

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	PRASA Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
2. Financial viability	PRASA collects enough revenue to pay salaries, and for maintenance of the network and rolling stock	PRASA collects enough fare revenue from ticket sales to pay salaries, maintenance of the network and rolling stock	Fare recovery as a % of operating cost	15%	18%	25%	
		PRASA Corporate Real Estate Service (CRES) contributes to income from investments	Income from real estate and other assets (R millions)	674,48	788	788	
	Liquidity and debts are well managed	Sufficient liquidity to cover operational expenditure	Current ratio	0,57	0,07	0,07	
3. Clear written mandate	PRASA has a clear and transparent mandate that is made publicly available.	The mandate of PRASA is clearly captured in policy, or a statement of intent, or an Act of parliament	Not known/Yes/No	Yes	Yes	Yes	
		There is a publicly available shareholder compact with distinctly articulated performance targets	A shareholder compact that is publicly available	No	Yes	Yes	
			Distinctly articulated outcome performance expectations	Not Known	Yes	Yes	
4. Leadership	Credible, stable and ethical leadership	Leadership exhibits strong ethical standards	Achieving an unqualified audit opinion	Qualified	Unqualified	Unqualified	
			Irregular expenditure (Rbillion)	24,2	n/a	0	
			Fruitless and wasteful expenditure (Rbillion)	1	n/a	0	
		Stable tenure of leadership	Ratio of acting (executive) positions to permanent contracts	Not known	n/a	0%-25%	
			Board of Directors are contracted on a stable (or sufficiently long period)	No	n/a	Yes	
5. Expertise	PRASA has a long-term technical expertise strategy which is being implemented.	PRASA has formulated and is implementing a long term skills development strategy	Not known/Yes/No	Not known	Not known	Yes	
		The Board has required expertise and experience	% of board with rail and engineering experience	0	n/a	25%-50%	
6. Partnerships	PRASA has partnerships with private sector to maximise value	PRASA enters into contract with the private sector, where viable, to manage identified rail services	Not known/Yes/No	No	Yes	Yes	
		Intersite has developed strategic partnerships for exploitation of assets with both public and private partners	Not known/Yes/No	Yes	Yes	Yes	
7. Clear institutional governance	3. The responsibility of policy ministry, shareholder ministry, funding ministry and regulator is clear. Please see Paper 3 of this series dealing with institutional governance reform.						
8. Environmental responsibility	PRASA would sufficiently satisfy the environmental responsibility set out in the NDP; by delivering on the core mandate and thereby moving commuters from road to more environmentally-friendly rail: see first four indicators						

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Current Performance (end 2018, unless otherwise stated)	PRASA Stated Target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
9. Additional transformation responsibility	PRASA promotes the equitable reordering of the economy through internal transformation through employment equity, staffing, training, procurement spend, skills and supplier development).	Displays internal transformation through its B-BBEE practices	B-BEE contributor level status	Not known	Level 8>	Level 3	
			Empowered suppliers that are B-BBEE compliant (%)	32,00	80,00	Only as viable to achieve core mandate	
			Black staff(%)	59,00	75,00	75,00	
			Female staff (%)	49,00	50,00	50,00	
			Disabled staff (%)	0,01	2,00	2,00	
		PRASA promotes industrial capability building	Artisans, technicians and engineers being developed	Not known	n/a	Only as viable to achieve core mandate	
			Supplier development (%)	Not known	n/a	Only as viable to achieve core mandate	

*YTD 2018 - Jan 2019
 *Annual report 2017/18
 *ASoS data, 2018/19

4.4. SUMMARY

If PRASA were able to recover its core mandate successfully, it could play a transformational role in society that unlocks social, economic and environmental value. ***However, the framework assessment is clear that PRASA has not to date been achieving the vision set out for in national planning.***

The low and falling passenger numbers indicate that it is not achieving the core mandate of *providing transport that gives (predominantly low-income) households preferred public transport alternatives.*

On the positive side, there is a wide-ranging network and good coverage of commuter areas, and PRASA is moving 700,000 commuters a day.

However, PRASA has been unable to date to re-position rail as an attractive public transport alternative, although reforms are underway.

The current state of commuter rail replicates previous patterns of inequality and exclusion of low-income households.

Mini-bus taxis have become the preferred mode of transport – for every train commuter there are nine commuters using mini-bus taxis – despite minibus taxis being 80% more expensive.

The diminished passenger rail service and commuter rail service continues to promote road-based services, also has negative environmental consequences.

However, it is likely that the low scores in the safety of commuters and reliability of trains are a deterrent to many consumers. Passengers are not assured of their safety and security when using PRASA rail services. The evidence collated from the 2018/19 Annual State of Safety Report by the Railway Safety Regulator indicates that for the period 2018/19, 284 fatalities occurred in relation to the rail service.⁸¹

Moreover, the train service is unpredictable and prone to delays from mechanical, electrical, perway and signal failures. In a service that is primarily responsible for getting people to work, unpredictable timing and delay is a prohibitive barrier to use.

Operational success is enabled by financial and governance performance; and both of these key enablers are still under-performing – indicative of a systemic challenges facing PRASA. Passenger rail services, are only profitable entities when they have high density, like in Hong Kong and Singapore. In South Africa, volumes are insufficient and declining. Thus, for PRASA to play a truly developmental role, transport policy, in support of developmental outcomes, should seek to enhance the efficiency and attractiveness of the rail service, to this end it is likely that higher levels of subsidy will be needed at least in the short term.

Presently the sources of revenue are returns on assets, fares recovered and the government subsidy.⁸² PRASA is financially viable with state subsidy only, and does not collect sufficient revenue from fares to sustain operations. PRASA reported a loss of R928 million in 2017/18, a 68% increase to the previous financial year.⁸³ The investment and real estate functions at PRASA have been able

⁸¹ Note that the RSR factors weighted injuries into its reporting of fatalities. Fatalities are the sum of actual fatalities and weighted injuries (where 10 injuries = 1 fatality).

⁸² DoT (2017) National Rail Policy: Draft White Paper; 2. Note: The fare revenue system that serves as the entry point for ticket sales has not been in operation since August 2017. This calls into question the fare revenue figures reported during this period.

⁸³ PRASA (2018) Annual Report and Financial Statements, p43.

to report returns of R674 million in the 2017/18 financial year ⁸⁴. The draft national rail policy acknowledges that the current sources of rail funding are inadequate. Limited liquidity within the entity has been flagged by the Board of Directors and the Auditor General. A reduction in the subsidy by R1.7 billion over the 2019 MTEF is set to worsen an already constrained financial position.⁸⁵ The limited fiscal position means PRASA will need to consider alternative sources of funding, including private sector participation in infrastructure and rolling stock.

While PRASA has a clear mandate set out in Section 22 of the Legal Succession to the South African Transport Services Acts of 2008, (to provide commuter rail services, in the metropolitan areas and Intercity rail and bus services “within, to and from” South African borders) the nuance of what it should focus on is not clear as there is seemingly no publicly available shareholder compact with distinctly articulated performance targets.

The evidence suggests that governance at PRASA has been opaque, the shareholder’s compact and regular reporting on the stated activities and roles is important for holding leadership accountable and supporting an ethical operational culture. The shareholder’s compact is not in the public domain, furthermore, the auditor general reports that PRASA is unable to report on key KPI’S as the 2017/18 shareholders compact was not finalized, following PRASA’s inability to comply with due process.

There has, to date, been a gap in credible, stable and ethical leadership, and not enough focus on expertise and experience. As the administration prioritises reform at SOE’s, PRASA, like other embattled SOE’s is shifting leadership. This instability limits the ability to effectively carry out key operational tasks and drive a long-term strategy.

PRASA faces a shortage of expertise especially managerial and technical skills.⁸⁶ The Human Capital Management (HCM) framework, is the overarching skills and expertise building framework, is still in development. ⁸⁷ This shortage is also noted at a board level, where the current board of directors have a myriad of commercial and board experience, but limited rail experience.

To date, partnerships with the private sector have been minimal, although Intersite asset management, actively seeks to establish strategic partnerships that will aid its operations and support its business functions.

PRASA also performs poorly on environmental assessment (delivering on the core mandate, so moving commuters from road to more environmentally-friendly rail);⁸⁸and transformation assessment (PRASA’s 2020-22 MTEF Corporate Plan reports that it does not currently have mechanisms to record and report the current empowerment status.

⁸⁴ PRASA 2018) Annual Report and Financial Statements 2017/18,p42.

⁸⁵ PRASA (2018) Corporate plan 2020-22.

⁸⁶ PRASA (2018) Annual Report and Financial Statements, p50

⁸⁷ PRASA (2018) Corporate plan 2020-22.

⁸⁸ The 1992 United Nations Framework Convention on Climate Change imparted further impetus to rail as countries turned to its inherently low energy consumption to help meet their 2050 greenhouse gas emission reduction targets

5. THE FRAMEWORK FOR ELECTRICITY

5.1. OVERVIEW

South Africa has been through three main phases of electricity development.⁸⁹ The first phase ran from the late 19th century until the 1990s and was characterised by the adoption of electric lights and machines. (In 1882, the mining town of Kimberly became the first area on the continent to have the first electric street lights installed.⁹⁰) In phase two, South Africa began to connect individual power stations into a single network. Phase three began in the early 1920s when the Electricity Act, No. 42 of 1922, created the Electricity Supply Commission (ESCOM) also known by its Afrikaans name Elektrisiteitsvoorsieningskommissie (EVKOM) as a state electricity utility.⁹¹ This utility integrated the full value chain from generation plants to transmission lines to retail distribution. In 1987, ESCOM/EVKOM was renamed Eskom.

In 2002, Eskom was converted from a statutory body into a public company as Eskom Holdings Limited in terms of the Companies Act with government as the sole shareholder following the passing of the Eskom Conversion Act (No. 13 of 2001) in July 2002. This meant that Eskom had to pay dividends and taxes to government which would be represented by the Minister of Public Enterprises.

Eskom currently continues to operate as a vertically integrated entity and performs the generation, transmission, distribution and retail functions.⁹² It supplies more than 90% of the country's electricity requirements.⁹³ Eskom supplies 59% of electricity directly to customers, with municipalities distributing 41%. Some industries also generate their own electricity for their own use.

⁸⁹ Andrew Marquard, *The Origins and Development of South African Energy Policy*, 2006

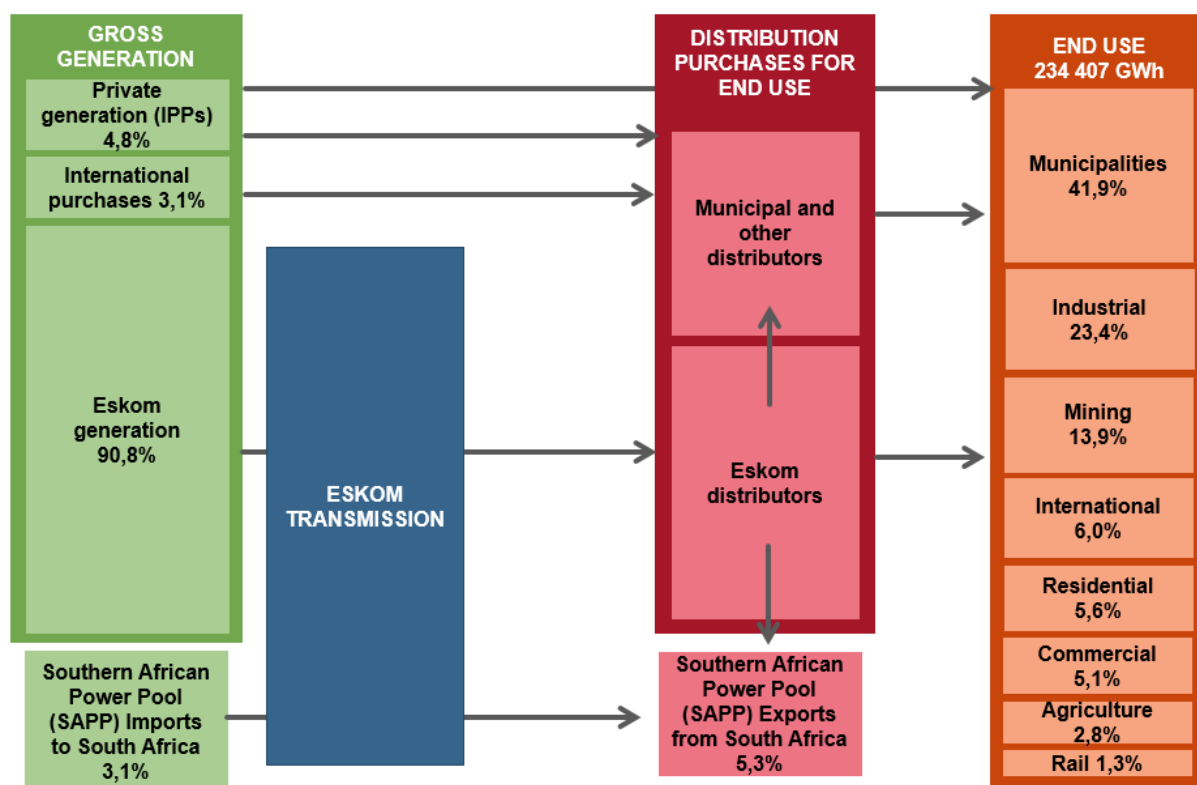
⁹⁰ Anton Eberhard, *The political, economic, institutional and legal dimensions of electricity supply industry reform in South Africa*, 2003

⁹¹ *Ibid*, p 3.

⁹² At the time of writing, there are government plans to split the vertical integration into separate companies for generation, transmission and distribution.

⁹³ *Integrated Reports*, 2019 p26.

Figure 5.1 The South African Energy Supply Industry



Source: 1. Eskom Integrated Report, 2019. 2. Anton Eberhard *The Political, Economic, Institutional and Legal Dimensions of Electricity Supply Industry Reform in South Africa*

About 84% of electricity in South Africa is generated from fifteen coal-fired power stations.⁹⁴ Four gas/liquid fuel turbine stations account for 5% of generated electricity, one nuclear power station⁹⁵ accounts for 4%, six hydroelectric stations account for 1% and the three pumped storage schemes makes up the remaining 6%.⁹⁶

In 2019 234 407 GWh of electricity was generated and available for distribution. Eskom accounted for 91% of the electricity generated, Independent Power Producers (IPPs) contributed to 5% of the generation.

Eskom also purchases and sells electricity to the Southern African Development Community (SADC) region. There is an integrated grid connection to Southern African Power Pool (SAPP), which comprises South Africa, Botswana, eSwatini, Lesotho, Mozambique, Namibia, Zambia and Zimbabwe. International purchases account for 3% of electricity generation.⁹⁷

⁹⁴ Export.gov, South Africa - Electricity Power Systems & Renewable Energy, 2019.

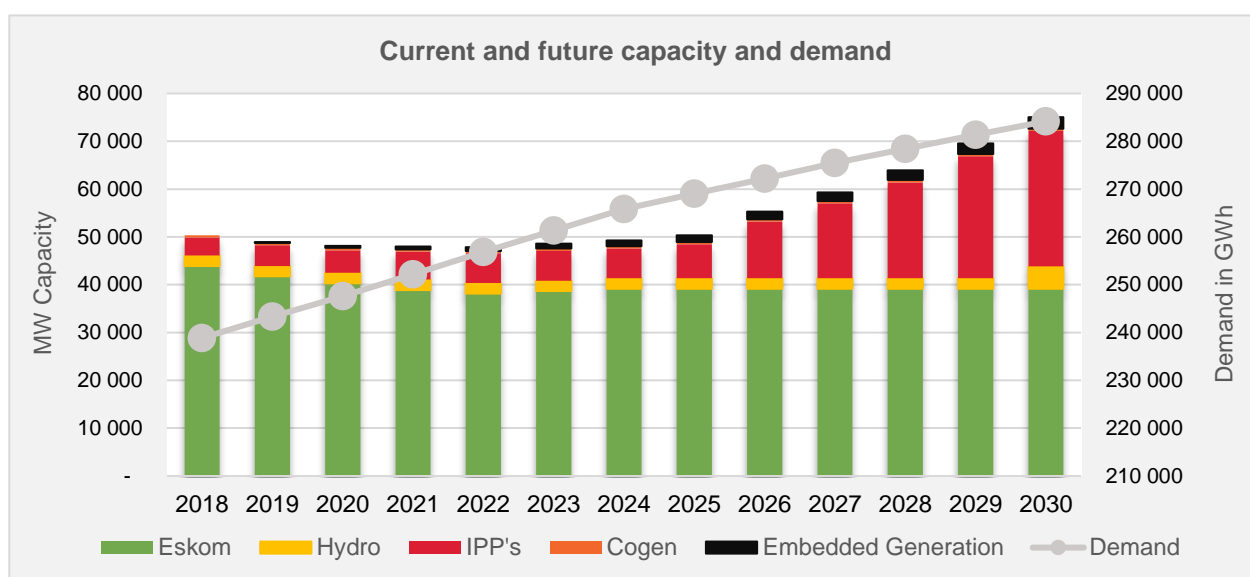
Coal-fired power stations burn coal to heat water which is then converted to steam. The coal is transferred into the plant on conveyor belts, crushed into powder and burned in boilers to produce high-pressure steam. The steam is then directed onto the blades of a turbine to make it spin. This then spins the magnetic rotor inside the coal to generate electricity.

⁹⁵ **Nuclear power stations** heat the water using heat released in a nuclear reaction instead of using coal. The heat from the primary circuit is given off into a separate secondary circuit where water is turned into steam. The steam produced from heating the water in the second circuit is used to turn the turbines in exactly the same way as in a coal-fired power station.

⁹⁶ Integrated Reports, 2019 p177

⁹⁷ Wheeling which refers to the movement of electricity between international customers through our network, without the power being available to customers on the South African grid for remaining 1%.

Figure 5.2 Forecasted Electricity Supply by Generation Source, 2018 to 2030



Source: Department of Energy, *Integrated Resource Plan*

Over the medium term, government has stated intentions to increase the generation capacity from renewable energy sources through the expansion of the Renewable Energy Independent Power Producer (REIPP) procurement programme. By 2030, the energy from wind and solar is expected to increase substantially.

As of March 2019, the national, integrated grid comprises of 32 698 km⁹⁸ transmission power lines. The bulk of it at 400 kV, 275 kV and 765 kV. Eskom's distribution network comprises of 45 401 km of distribution power lines at 44Kv to 88kV as well as 132kV and higher.

As of March 2019, municipalities were responsible for 41% of the electricity distribution. Approximately 174 municipalities out of 257 metropolitan, districts and local municipalities have been licensed to serve as electricity distributors by NERSA.⁹⁹ Their role includes maintaining infrastructure, providing new connections and setting minimum service level standards, setting pricing, and setting subsidy levels for poor households. Eskom-generated electricity is also sold to industrial companies (23%) and mining companies (14%). Eskom generates most of its revenue from these customers from as shown in table 5.1.

⁹⁸ Integrated Reports, 2019 p179

⁹⁹ Lucy Baker and Jon Phillips, *Tensions in the transition: The politics of electricity distribution in South Africa* p185, 2018

Table 5.1: Eskom's customer as at March 2019

Eskom customers	Number of customers	Sales per customer, GWh	Gross revenue per customer, R million
Redistributors	800	87 236	77 231
Industrial	2 705	48 717	36 047
Mining	981	28 972	26 550
International	11	12 461	8 241
Residential	6 358 523	11 748	14 771
Commercial	52 556	10 558	12 385
Agricultural	81 303	5 796	8 682
Rail	493	2 831	3 119
Total	6 497 372	208 319	187 026

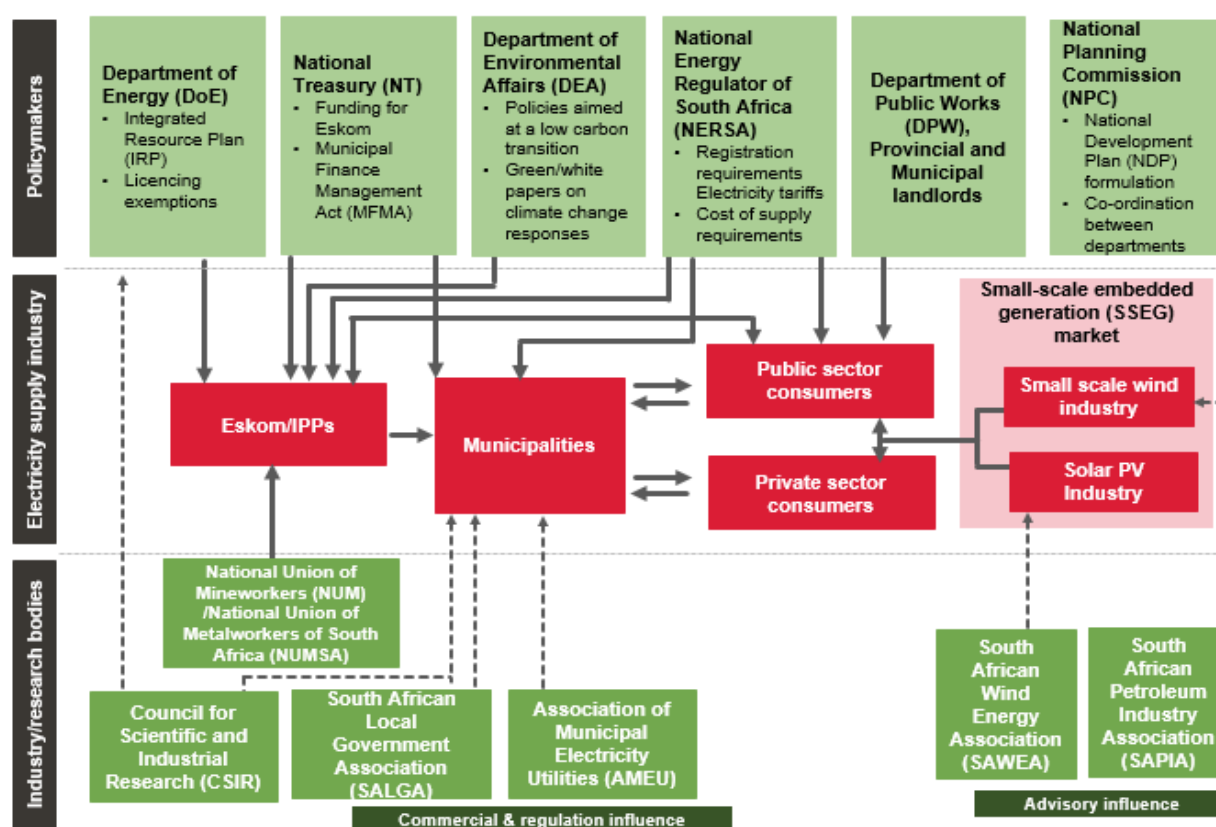
Source: Eskom Integrated Report, 2019

Eskom is a state-owned company and operates under the supervision of the shareholder, the government, represented by the **Department of Public Enterprises (DPE)**. It also operates under an extensive policy and regulatory regime. This includes the **Department of Energy (DoE)**¹⁰⁰, which is the custodian for energy policy in South Africa and the **National Energy Regulator of South Africa (NERSA)**, which determines Eskom's revenue requirements in accordance with the requirement of Electricity Pricing Policy (EPP) and provides licenses, regulatory rules, guidance and codes. The **National Treasury (NT)** provides financial oversight and makes funds available for Eskom to ensure that it remains financially viable. In the 2019 State of the Nation Address (SONA) the President announced that the NT will make additional funds available for Eskom over the next two years to ensure that it remains a going concern.¹⁰¹ Eskom is bound by the National Framework for Air Quality Management set out by the **Department of Environmental Affairs (DEA)**.

¹⁰⁰ The Department of Energy (DoE) is now the Department of Mineral Resources and Energy

¹⁰¹ Ibid, p80.

Figure 5.3: Legal and regulatory framework of the electricity supply industry in South Africa



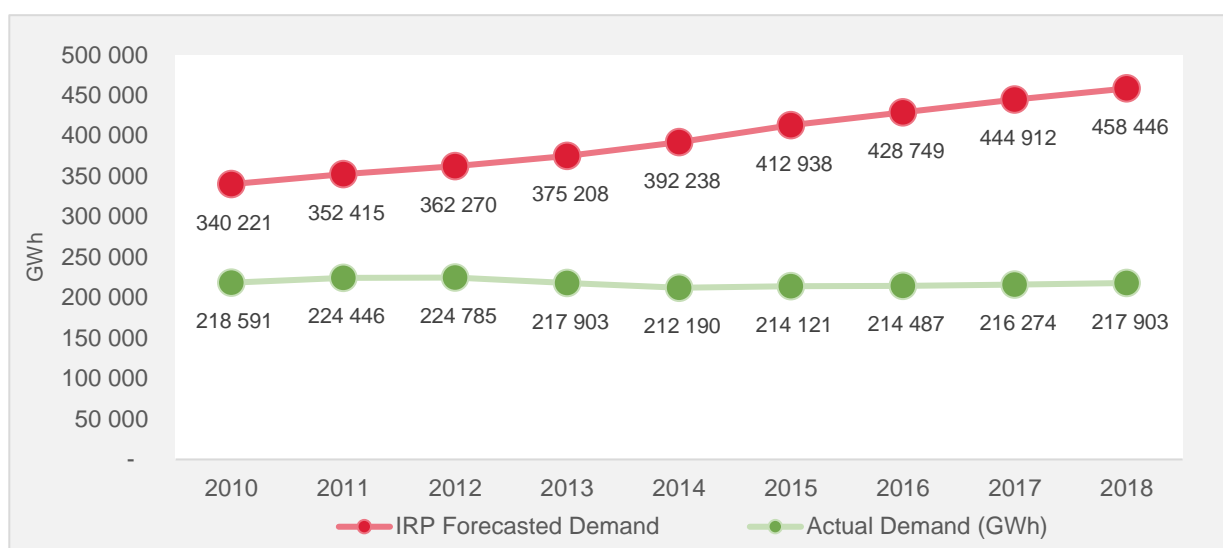
Eskom's mandate is set out in the DPE's Strategic Intent Statement as follows ***"to provide a stable electricity supply in a sustainable and efficient manner, in order to assist in lowering the cost of doing business in South Africa and enabling economic growth."***¹⁰²

In seeking to achieve this mandate, Eskom has encountered a myriad of challenges. These include:

Forecasted electricity demand has not materialised: Eskom's long-term planning for new build projects and expansion, as well as its pricing model, has been based on increasing forecasted demand. However, sluggish growth in the economy has meant that demand has not materialised as planned and that Eskom has had to recover more costs from a lower than expected volume base.

¹⁰² Eskom Integrated Report, 2019

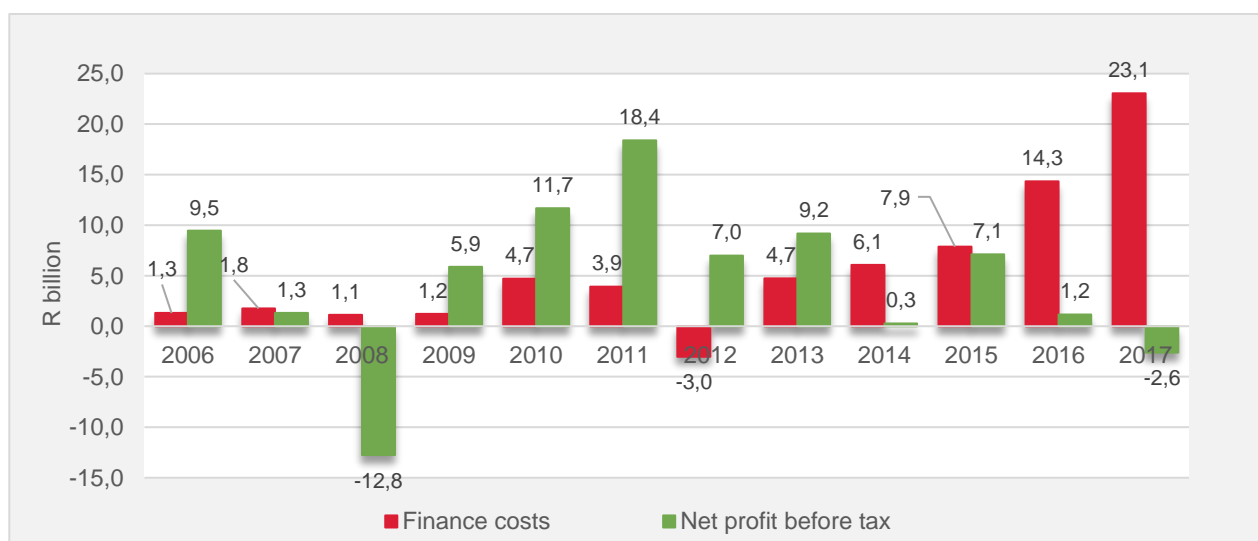
Figure 5.4: Forecasted versus Actual Electricity Demand, 2010 to 2018



Source: Eskom Integrated Reports 2018, 2014, 2012

Financial performance: Eskom is severely financially constrained. Net profit before tax fluctuated significantly between 2006 and 2016, and fell into loss in 2017. This loss was largely caused by substantial increases in operating and capital costs. Eskom has grown debt levels dramatically since 2014, accounting for a rapid increase in finance costs.

Figure 5.5: Eskom's Finance Costs and Net Profit Before Tax, 2006 to 2018



Source: Eskom Annual Financial Statements, 2006 to 2018

- **Ageing infrastructure and supply disruptions:** Eskom is challenged by ageing infrastructure operating below optimal capacity resulting in ongoing supply disruptions and load-shedding. In addition, only 13 of Eskom's 15 coal-fired generation plants will be compliant with new international

SO₂ emissions standards. To comply with these regulations, Eskom will need to invest over R100 billion in FGD technology.¹⁰³

5.2. LINKING THE NDP TO ESKOM'S PERFORMANCE

In linking the NDP to Eskom performance we start with the following aspiration that draws on the general role envisioned for electricity and the specific roles in the NDP:

An ESKOM that fulfils its mandate under the NDP would "provide a reliable electricity supply in a sustainable and efficient manner in order to assist in lowering the cost of doing business in South Africa and enabling economic growth, by being well governed and remaining financially viable, while meeting a developmental mandate and transitioning to a low-carbon economy" ¹⁰⁴

Then using the six outcomes and five enablers identified in the NDP as themes, the performance framework for Eskom is established in the box below:

¹⁰³ Wendell Roelf, Cash-strapped Eskom needs R187bn to meet emissions standards, 2019

¹⁰⁴ Partly from Eskom, Integrated Report, 2019 p25; partly from assessment of NDP

Operational outcomes that must be achieved by ESKOM to achieve the NDP

1. **Core mandate (commercial):** To meet the core mandate Eskom should:
 - a. Provide electricity supply in a reliable and efficient manner;
 - b. Invest in and procure adequate capacity to meet demand;
 - c. Produce electricity on a cost-effective basis; and
 - d. Sell electricity on a cost-reflective basis.
2. **Developmental mandate (sub-commercial):** To meet the developmental mandate Eskom will expand access to energy through the rollout of the national electrification programme, and provide affordable tariffs for needy households.
3. **Financial sustainability:** Eskom must be financially viable as a going concern, and must accumulate sufficient financial reserves in order to make capital investment, and maintain and expand services.
4. **Environmental responsibility:** Eskom should produce electricity with the lowest possible environmental impact.
5. **Transformation responsibility:** should Eskom promotes equitable reordering of the economy through internal transformation (re equity management, staffing, training, procurement spend, skills and supplier development).
6. **Specific projects:** Eskom should have completed or progressed the specific projects assigned to it in the NDP (see list in table below).

Fundamental enablers that must be achieved to reach the outcomes


1. **Clear institutional governance:** The responsibility of policy ministry, shareholder ministry, funding ministry and regulator is clear. To be completed as part of Report 3
2. **Clear written mandate:** Eskom has a well-defined mandate (or shareholder compact) that sets out its role and is precise about what public good the SOE provides and how it serves the public interest. The mandate is publicly available.
3. **Leadership:** Senior appointments are credible and competent. There is stability in senior appointments. Leadership helps to account for performance. Leadership behaves ethically and builds a corruption-free culture.
4. **Expertise:** Eskom has a long-term technical expertise strategy which is being implemented.
5. **Partnerships:** Eskom has an effective framework that promotes private sector participation, and there is private sector participation.

5.3. EVIDENCE OF PERFORMANCE

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UNLOCKING VALUE



"A state-owned electricity sector that contributes to the goals of the NDP will provide reliable electricity supply in an efficient manner to lower the cost of doing business by being well governed and financially viable, while meeting a developmental mandate and transitioning to a low-carbon economy"

An Eskom that contributes to the goals of the NDP would therefore:							
1. Core Mandate	Provide electricity supply in a reliable and efficient manner	There is zero loadshedding	National rotational load shedding, (Yes/No)	Yes	No target	No	
		There are minimal energy losses	Distribution energy losses (%)	8,47	7,45	5,50	
		Quality electricity service is provided	Number of system minutes lost for events <1 minute, (minutes)	3,16	3,53	<3,16	
		There are minimal network interruptions	System average interruption frequency index (SAIFI), (occurrences)	14,90	19,80	<14,9	
			System average interruption duration index (SAIDI), (hours)	38,00	38,00	<38	
	Obtain adequate capacity to meet demand	There are adequate reserve margins	Reserve margin (inclu. imports, RE & other purchases), (%)	32,90	37,53	32,14	
		Plants are operating at full capacity	Energy availability factor (EAF), (%)	69,95	78	87,50	
		Construction of power plant is within normal lead times	Years of construction, Medupi (Years)	12	6	6	
			Years of construction, Kusile (Years)	11	6	6	
		Generation capacity is constantly increased	Generation capacity installed and commissioned (commercial operation), (MW)	0	800	6 382	

Theme	Outcomes sought by the NDP in general	Component outcomes	Proxy indicator of outcome	Current Performance (end 2018, unless otherwise stated)	Eskom's stated target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
1. Core Mandate	Produce electricity in a cost-effective manner	Benchmarked primary energy cost efficiencies	Primary energy costs, (c/kWh)	45,44	No target	37,55	
		Benchmarked operating cost efficiencies	Other operating costs, (c/kWh)	37,11	No target	37,30	
			Total operating costs (c/kWh)	82,55	No target	74,85	
		Medupi and Kusile power plants are constructed within reasonable costs	Cost to construct Medupi and Kusile (R/KW)	42 292	n/a	32 134	
		Reduced operationing and maintenance (O&M) costs to international benchmark costs for similar activities	Fixed O&M, R/KW-yr /Variable O&M R/MWh, (R)	53 315 000 000	No target	47 928 080 100	
	Sell electricity in a cost-reflective manner	Pricing is predictable and competitive	Average price of electricity, (c/KWh)	93,79	120	120	
2. Financial sustainability	ESKOM is financially viable	Eskom is able to meet financial obligations	Debt service cover, (ratio)	0,47	0,56	2,99	
		Eskom is able to accumulate sufficient financial reserves for long-term viability	Debt/equity (including long-term provisions), (ratio)	3,10	3,09	1,67	
			Eskom's credit rating by S&P:Standalone, (rating)	ccc-	BBB+/ BBB/BBB-	BBB+/ BBB/BBB-	
	ESKOM is financially viable	Acceptable reliance on debt financing	Gearing, (%)	76,00	76,00	65,00	
		Eskom has acceptable EBITDA margins	Gross debt/EBITDA, (ratio)	15,64	11,97	8,00	
			EBITDA, (R mill)	31 499	42 956	42 956	
		Eskom is able to maximise liquidity and service debt	Free funds from operations, (R mill)	29 047	45 932	45 932	
			Cash interest cover, (Ratio)	0,94	1,14	3,42	
			Free funds from operations as percentage of gross debt, (%)	5,89	8,93	20,15	
	ESKOM is financially viable	Debt is collected by stakeholders from customers when debts fall due	Arrear debt as % of revenue, (%)	4,21	2,02	0,60	
			Average debtors days (including Soweto), (days)	82,50	78,95	74,58	
3. Clear written mandate	Eskom has a well-defined mandate (or shareholder compact) that sets out its role and is precise about what public good it provides and how it serves the public interest. The mandate is publicly available.	Good governance and accountability	Publicly available shareholder compacts with distinctly articulated targets, (Yes/No)	No	n/a	Yes	
			Based on the AFS, the percentage achievement of KPIs set out in shareholder compact, (%)	40	80	80	
			Key performance indicators measured against shareholder compact, (Yes/No)	Yes	Yes	Yes	

Theme	Outcomes sought by the NDP in general	Component outcomes	Proxy indicator of outcome	Current Performance (end 2018, unless otherwise stated)	Eskom's stated target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
4. Leadership	Credible and competent senior leadership. Stability in senior appointments. Leadership builds a corruption-free culture.	Leadership is competent	Internal leadership evaluation (LBE) score, (Score out of 5)	3,84	n/a	5	
			Quality of leadership dimension of the 2017 RepTrak Pulse, (Score out of 100)	26,70	n/a	40	
		Stable leadership	Number of CEOs in 10 year period, (Number)	10	n/a	2	
			Quality of governance dimension of the 2017 RepTrak Pulse, (Score out of 100)	25,80	n/a	40	
		Accountability	Whistleblower cases reported to police, (Cases) %	2,00	n/a	100	
			Irregular expenditure in Eskom Group, (R billion)	6.6	n/a	0	
	Credible and competent senior leadership. Stability in senior appointments.	Accountability	Fruitless and wasteful expenditure, (R billion)	0,60	n/a	0	
			Losses due to criminal conduct, (R billion)	0,20	n/a	0	
5. Expertise	There is a long-term technical expertise strategy which is being implemented	Eskom has a long-term technical expertise strategy which is being implemented	The technical expertise strategies within the turnaround plan is public	Yes	Yes	Yes	
6. Partnerships	Eskom has an effective framework that promotes private sector participation, and there is private sector participation.	Increased contribution of Independent Power Producer (IPP) to electricity generation	Renewable energy capacity procured under the Independent power Producer Programme, (MW)	3 876	5 000	21 500	
7. Clear institutional governance	3. The responsibility of policy ministry, shareholder ministry, funding ministry and regulator is clear. Please see Paper 3 of this series dealing with institutional governance.						
8. Developmental mandate	Expand the distribution network to ensure 100% electrification of all households	Increased grid connection to previously disadvantaged households	Total number of electrification connections, (Number)	191 585	201 200	201 200	
			National electrification rate, (%)	82,28	85	90	
		Increased access to affordable electricity	Free basic electricity for low income households, (kWh per month)	50	No target	50	

Theme	Outcomes sought by the NDP in general	Component outcomes	Proxy indicator of outcome	Current Performance (end 2018, unless otherwise stated)	Eskom's stated target (for 2018, unless otherwise stated)	Aspirational level if NDP was being achieved	Assessment
9. Environmental responsibility	Produce electricity with the lowest possible environmental impact using optimal generation mix	Carbon, sulphur intensity and greenhouse gas emissions are minimal which allows Eskom to comply with the minimum emission standards (MES).	Relative particulate emissions, sent out, (kg/MWh)	0,47	0,33	≤ 0,3	
			Carbon dioxide (CO ₂), (T/MWh)	1,10	No target	0,93	
			Sulphur dioxide (SO ₂), (kg/MWh)	9,26	No target	9,03	
			Nitrogen oxide (NO _x) as NO ₂ , (T/MWh)	4,45	No target	1,91	
		Reduced water use	Specific water consumption, (l/MWh)	1,41	1,36	1,32	
10. Additional transformation responsibility	Eskom promotes equitable reordering of the economy through internal transformation (re equity management, staffing, training, procurement spend, skills and supplier development).	Increased contribution to local suppliers	Local content contracted (Eskom-wide), (%)	91,51	70	As in line with business needs	
			Local content contracted (new build), (%)	81,14	70	As in line with business needs	
			Procurement from black-owned (BO) suppliers, (%)	33,08	40	As in line with business needs	
		Strong skills are built and retained	Learner intake: Artisans, (Number of learners)	0,00	92	As in line with business needs	
			Learner intake: Engineer, (Number of learners)	10	16	As in line with business needs	
			Learner intake: Technicians, (Number of learners)	3	11	As in line with business needs	
		Compans demographics reflect country demographics	Racial equity in senior management, (% black employees)	69,80	71,95	71,95	
			Racial equity in professionals and middle management, (% black employees)	76,22	78,37	78,37	
			Gender equity in senior management, (% female employees)	39,85	38,72	39,85	
			Gender equity in professionals and middle management, (% female employees)	37,89	37,83	37,89	
			B-BBEE Rating, (rating)	7	4	4	
		Ingula pumped-storage plant is commissioned	Ingula pumped-storage plant is commissioned, (Yes/No)	Yes	Yes	Yes	
		A sustainable national electrification plan is developed	Publicly available sustainable national electrification plan, (Yes/No)	Yes	Yes	Yes	
		12,600 MW of electricity from coal generation is decommissioned	Capacity of older coal-powered stations retired, (MW)	1 389	10500	10 900	
		Increase in new coal capacity contracted from other Southern African countries	International purchases, (GWh)	7,36	8,11	8,11	
11. Specific projects	Eskom has completed or progressed the specific projects assigned to it directly or indirectly in the NDP	Cleaner coal technologies are promoted through research and development investments and technology-transfer agreements	Investment in fabric filter plants and flue gas desulphurisation (FGD), and investment in cleaner, replacement generating capacity, (Yes/No)	Yes	Yes	Yes	
		40,000MW of new power capacity is built by 2030	New power capacity built, (MW)	12 041	18 000	39 730	
		Increased contribution of renewable energy to electricity generation by 2030	Renewable energy contracted, (MW)	3 700	4 981	20 000	

5.4. SUMMARY

The framework makes it apparent that ESKOM has, with some exceptions, not been achieving the vision set out for it in the NDP.

The framework makes it clear that Eskom has not to date been able to provide reliable and efficient energy service to the level expected by the NDP.

Nor to date has Eskom been able to obtain sufficient capacity to meet demand. As a result, the power grid has been under stress since 2007 with regular loadshedding, which has impacted the manufacturing, mining and agriculture, and small business sectors negatively.¹⁰⁵ Loadshedding has also impacted Eskom's revenue as customers have started looking for more reliable sources of energy.

Eskom's energy availability factor (EAF) is below the aspirational level by 25%. Eskom failed to construct Kusile and Medupi stations timeously and cost-effectively.¹⁰⁶

However, Eskom has been able to distribute and transmit electricity at aspirational levels. The distribution energy losses indicator shows that Eskom's distribution energy loss was below its 2018/19 target by 14%. Overall, the number of interruptions have improved and are better than the global average for middle-income countries. Although Eskom is efficient in terms of distributing and transmitting electricity, the distribution networks are ageing (partly due to maintenance funds being diverted to finishing the construction of Medupi and Kusile).¹⁰⁷

According to the framework, Eskom has not been able to produce electricity on a cost-effective basis.

Eskom does not sell electricity on a cost-reflective basis. Even though tariff increases have outpaced inflation, the average selling price of electricity in South Africa is still competitive. The average selling price is 93,79 c/kWh as opposed to its cost-reflective target of 120 c/kWh.¹⁰⁸ The prices are administered by NERSA.

Eskom is currently unable to maintain its long-term financial viability and relies on debt funding as well as government bail-outs.

Eskom has a well-defined mandate (or shareholder compact) that sets out its role and is precise about what public good the SOE provides and how it serves the public interest. However, the mandate is not publicly available.

Eskom's governance and reputation have been negatively affected by state capture and mismanagement of funds widely reported, including in the 355-page State Capture report released to the public in 2016.¹⁰⁹ The findings in the report highlighted the fruitless and wasteful expenditure and noted that the appointment process of the board at the time failed corporate governance standards. There have been measures to implement ethical leadership within Eskom, including the appointment of a new board in January 2018.

¹⁰⁵ Mail & Guardian, Economic effects of load-shedding hit home, 2015

¹⁰⁶ Mail & Guardian, Medupi and Kusile: Costly and faulty, 2019

¹⁰⁷ EE publishers, Eskom's big blunder: How poor decisions and corruption caused load-shedding, 2019

¹⁰⁸ In 2018, Statista compiled data on the average electricity prices for 25 different countries. within the selected countries, South Africa ranked 4th lowest electricity price, of the 25 countries surveyed

¹⁰⁹ Public Protector South Africa, A report of the Public Protector, State of Capture, Report No: 6 of 2016/2017, 14 October 2016

Over the past decade, Eskom has experienced a high CEO turnover which has not promoted stable leadership. There have been 10 CEOs in 10 years. Attempts to stabilise management and restore the credibility of leadership are ongoing.

The 2019 Roadmap for Eskom in a reformed electricity supply industry reports that Eskom will ensure that there is sufficient capacity and expertise to oversee the proposed execution of the functional and legal separation of the entity.

Eskom has performed well on the developmental mandate: Eskom has expanded access to energy through the rollout of the national electrification programme which has been successful and provides affordable tariffs for needy households. Although Eskom fell short of its 2018 number of electrification connections target by 9,615 connections – a programme dependent on the grant funding from the DMRE - Eskom is still meeting its developmental mandate through other initiatives such as the 50 kWh per month free basic electricity it provides to poor households. According to the General Household Survey (GHS) and the DoE's Medium-Term Strategic Framework (MTSF) targets 2014-2019, access to electricity in South Africa increased from 76.7% in 2002 to 82.8% in 2012 (MTSF progress as at March 2018) through the Integrated National Electrification Programme (INEP). However, Eskom reports this figure to be at 90%, which is the NDP aspirational target for 2030.

Eskom has also performed well on transformation. Eskom has performed well in transforming its racial and gender employee base. However, what is concerning is its B-BBEE rating which is currently at a level 7.

It is not clear if Eskom has an effective framework that promotes private sector participation, but there is some private sector participation in generation. Eskom enables renewable capacity through Independent power producer (IPPs). Eskom's 2030 objective is to increase the contribution of renewable energy to electricity generation (and thus private sector participation). Based on the NDP 21,500 MW of the 40,000 MW, new build should come from renewable energy. However, according to the 2019 Integrated Resource Plan published by the Department of Energy (DoE) a total of 6422 MW under the Renewable Energy Independent Power Producers Programme (REIPPP) has been procured, with only 3 876 MW operational and made available to the grid which is far below the 2030 target.

Eskom does not produce electricity with the lowest possible environmental impact using optimal generation mix and does not comply with DEFF environmental standards

Eskom has not completed but has made some progress in the specific projects assigned to it in the NDP. These programmes include:

- The largely successful electrification programme
- The Ingula pumped storage scheme was completed in 2017. All four units at Ingula were reported to be in commercial operation and to be producing a total of 1,332MW of peaking power. However, on March 27, 2019, the Business Day¹¹⁰ reported the plant to be running at 25% below capacity. Defects were identified in all four units of the plant according to the report.
- Progress has been made with diversifying the energy mix through international procurement, mainly with regards to gas (co-operation with neighbouring countries is being pursued, and partnerships are being developed for joint exploitation and beneficiation of natural gas within the SADC region. SADC is developing a Regional Gas Master Plan which seeks to identify the short and long-term infrastructure requirements to enable the uptake of a natural gas market),

¹¹⁰ Business Day, Eskom's Ingula hydro-power plant running at 25% below capacity, There are defects in all four units of the plant, which is in a 'correction period', according to Eskom, 2019

and hydro power (South Africa has entered into a Treaty for the development of the Grand Inga Project in the Democratic Republic of Congo, with some of the power intended for transmission to South Africa across DRC, Zambia, Zimbabwe and Botswana. Eskom has also progressed towards investing in cleaner coal technologies). However, there are significant shortfalls in the progress toward new power capacity builds and a movement toward a more sustainable energy mix.

- Eskom has only developed about a third of the required new build capacity as per the Integrated Resource Plan.
- This lack of additional capacity has caused an inability to action the intended decommissioning of older coal-powered stations. Despite the environmental responsibility, Eskom's primary imperative is to provide adequate capacity and therefore have had to continue operating these older stations. Thus, only 1 389MW of the 10 900MW required by the NDP has been decommissioned. However, in October 2019 the revised Integrated Resource Plan was approved where the DoE estimates that 10,500 MW of electricity from coal generation by Eskom will be decommissioned by 2030.
- The NDP mandates that more than 20 000MW of renewable energy should be contracted by 2030. To date, Eskom has only contracted 3 700MW and is unlikely to achieve the level required in the NDP.

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ANNEX A: SOURCES AND METHOD NOTES

THE NDP VISION STATEMENT FOR TRANSNET



"A Transnet that contributes to the goals of the NDP would lower the cost of doing business and ensure security of supply by providing appropriate logistics infrastructure and services in a cost-effective and efficient manner."

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Source for Current Performance	Source for Transnet Stated Target	Source for Aspirational Benchmark	Method Note	Additional Notes
A Transnet that meets the goals of the NDP would therefore:								
1. Core mandate	Provide for the movement of goods in a reliable and cost-efficient manner (excludes export iron ore and coal)	Freight rail is an attractive method of moving goods	Market share of domestic freight that could be moved by rail (%)	2017 Tonkm marketshare from GAIN FDM™	Transnet Annual Financial Statements 2018, p26.	2017 Tonkm marketshare from GAIN FDM™	Rail tonkms of road and rail tonkm (conveyorbelt and pipelines excluded). Line haul only, last mile distribution excluded. Target is calculated by identifying rail economic freight not on rail, in the GAIN FDM™ Transnet report on current performance of GFB and Intermodal as reported in Shareholder Compact is 31 and 24% respectively. Target for 2018 was 31 and 15% respectively	
		The network is used to a high capacity (a densified network)	General Freight Density (GTK/routekm)	Source: TFR Internal Research FY 2017/18 & Glasgow Caledonian University 2018 Transnet stated actual as in Annual Financial Statements 2018, p26 is 5.15	Transnet stated actual as in Annual Financial Statements 2018, p26	See method note	At a density of 10 million tonne-km per route km, the OR (excluding capital cost) ~80% which sets the platform for a self-funded railway . Graph shows SA just makes a density of 10 million tonne-km per route km resulting in pure operating cost of USD 0.01 per net tonne-km. All such railroads are self-funding. However, if we remove the contribution of the very dense Iron Ore and Coal export lines , the operating cost shoots up for the rest of the (general freight) network by some 200% rendering that part of the network unprofitable. Jaap van der Merwe provided data for current performance and sourced accordingly. Transnet Annual Financial Statements provide a slightly different result of 5.15	
		Trains are reliable and run on time	General Freight wagon turnaround time (days)	Transnet Integrated Report 2018, p82.	Transnet Integrated Report 2018, p82.	Expert Opinion	Jaap Van der Merwe benchmarking long term performance as 7 day turnaround	
		Freight transport by rail is safe	Number of operational safety occurrences and security-related incidents (All Operators)	RSR 2019, Jaap van der Merwe providing data	No target	50% of current level		
			Disabling Injury Frequency Rate (DIFR) - Freight rail (ratio)	Transnet Integrated Report 2018, p91	Transnet Annual Financial Statements 2018, p27	Target is international standard as reported by Transnet p61 of the 2018 Integrated Report	The DIFR reported in the framework is the rate for Transnet Freight Rail, not Transnet's overall. Transnet's overall score was 0.73 in 2018 and 0.69 in 2017	
		Eskom is supplied with adequate coal	Eskom coal supply (million tons)	Transnet Annual Financial Statements 2018, p8 and 24	Actual and target as stated in Annual Financial Statements 2018	Used target set by Transnet	Target and Actual taken from Shareholder Compact cited in the Annual Financial Statements 2018	
		Trains are price competitive with road for general freight	Rail cost rate per tonkm as a % of relative road line haul cost per tonkm (%)	Road and rail data from GAIN FDM™	No target	Expert advisement	Average rail rate for all freight excluding export lines. This is in line with public views, but not directly calculated due to confidentiality. Target is calculated by increasing density due to potential modal shift. Road line haul current cost is around R1.00 per tonkm, and rail rates are around 50c per tonkm , therefore around 50% of the road equivalent. In future, this should drop to around 40% of the road equivalent	
	Provide for the movement of goods in a reliable and cost-efficient manner (excludes export iron ore and coal)	Pipelines are efficient and reliable	Pipelines volumes (billion litres)	Transnet Integrated Report 2018, p86	Transnet Integrated Report 2018, p86	Transnet (2016) Long-Term Planning Framework : Chapter 5, p342	For Transnet stated target: Used target set by Transnet for 2018. The target set for 2019 was 17.5- lower than the level expected in the previous year. The aspirational level is for 2034 - taken from the LTPF. There isn't a target set for 2030. This is for all pipelines, not just MPP.	
			Pipelines ordered vs delivered volumes (% of deliveries within 5% of order)	Transnet Integrated Report 2018, p86	Transnet Integrated Report 2018, p86	All deliveries should be within 5% of that ordered		
		Pipelines are efficient and reliable	Planned vs actual delivery time (% of deliveries within two hours of scheduled delivery time)	Transnet Integrated Report 2018, p86	Transnet Integrated Report 2018, p86	All deliveries should be within two hours of that scheduled		
			Capacity utilisation for Durban-Johannesburg pipelines and New Multi-Product Pipeline (ML/week)	Transnet Investor Relations: Pipelines 2018, p4	Transnet Investor Relations: Pipelines 2018, p4	Transnet Investor Relations: Pipelines 2018, p4	Aspirational level: used target set by Transnet for 2019	

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Source for Current Performance	Source for Transnet Stated Target	Source for Aspirational Benchmark	Method Note	Additional Notes
A Transnet that meets the goals of the NDP would therefore:								
1. Core mandate	Contribute to growth through trade by promoting export and import line and port efficiency	Rail is efficient on export lines (coal and iron ore)	Export Coal Freight Density (ton/km)	Source: TFR Internal Research FY 2017/18 & Glasgow Caledonian University 2018	Not reporting on this indicator	Expert advisement	Estimated from cycle time compliance (Jaap van der Merwe)	
			Export Coal cycle time (hours)	Transnet Integrated Report 2018, p82.	Transnet Integrated Report 2018, p82.	Transnet Integrated Report 2018, p82.	Calculated from cycle time compliance: Actual for 2018 was stated as 62.6 with a target for 2018 set as 56. Used the target for 2018 rather than 2019 as a higher standard. The target set for 2019 is 58 hrs (vs 56 hrs). Used the cycle time targets as stated by Transnet as in line within top performing international export lines	
			Export Iron Ore volumes transported (mt)	Transnet Integrated Report 2018, p110	Transnet Integrated Report 2018, p110: target for 2019.	Transnet 2016 Long-Term Planning Framework: Chapter 3, p50	Used volumes transported as current density measurement deemed unreliable by experts as was too low. The aspirational level is the level expected by demand planning for 2030.	
			Export Iron Ore cycle time (hours)	Transnet Integrated Report 2018, p82	Transnet Integrated Report 2018, p82.	Transnet Integrated Report 2018, p82.	Calculated from cycle time compliance Used the cycle time targets as stated by Transnet as in line within top performing international export lines	
		Ports are efficient in processing exports	Moves per gross crane hour	Transnet Port Terminals 2018, p4	Transnet Port Terminals 2018, p4	DPE, Strategic Plan 2015/16 - 2018/19, p23	Average across DCT Pier 1, 2; CTCT; Port Elizabeth; Ngqura Aspirational level as targeted by DPE is in line with international standards. World Bank puts the international average at between 35 and 40 moves	
			Container Dwell time exports (days)	Transnet Port Terminals 2018, p4	Transnet Port Terminals Report 2018, p4; targeting less than 5	Ports Regulator (2016) Benchmarking Report: SA Port Terminals (2015/16), p24.	Terminal efficiency measure; average of DCT Pier 1, 2 and CTCT Aspirational target is international standards of between 3-4 days as per Ports Regulator	
		Ports are efficient in processing exports	Average moves per ship working hour (number)	Transnet Port Terminals Report 2018, p5	Transnet Port Terminals Report 2018, p5	Ports Regulator (2016) Benchmarking Report: SA Port Terminals (2015/16), p16-17.	Terminal efficiency measure; average DCT Pier 1 and 2, CTCT, NCT, Port Elizabeth "The overall performance of SA terminals places them with a majority of other global terminals in the range of 40 – 80 moves per ship working hour." International trends showing improved performance toward higher hands.	
			Gross loading rate (ton/hour)	Transnet Port Terminals Report 2018, p5	Transnet Port Terminals Report 2018, p5	Transnet Port Terminals Report 2018, p5	Port of Saldanha Actuals and Benchmark The current performance is of a higher standard than that targeted for 2018 therefore aspirational level uses the current level of performance	
			Average Train turnaround time (hours)	Transnet Port Terminals Report 2018, p5	Transnet Port Terminals Report 2018, p5	Transnet Port Terminals Report 2018, p5	Actual performance better than level targetted therefore wanting improvement on actual.	
			Average Truck turnaround time (hours)	Transnet Port Terminals Report 2018, p5	Transnet Port Terminals Report 2018, p5	Transnet Port Terminals Report 2018, p5	Target for truck turnaround times is 35 minutes across all port terminals: DCT Pier 1 and 2, CTCT, NCT and Richards Bay	
			Anchorage Waiting time (hours)	Transnet National Ports Authority Report 2018, p5	Transnet National Ports Authority Report 2018, p5	Transnet National Ports Authority Report 2018, p5	Aspirational level is the actual performance achieved in 2017. Average for Durban Pier 1 and 2, CTCT, PE, Ngqura and Richards Bay The stated target for 2019 is 38 hours	
			Average ship turnaround time (hours)	Transnet National Ports Authority Report 2018, p5	Transnet National Ports Authority Report 2018, p5	Ports Regulator (2016) Benchmarking Report: SA Port Terminals (2015/16), p18.	Average for Durban Pier 1 and 2, CTCT, PE and Ngqura International standards is typically 1.03 days (24.72 hours)	
			Average Berth occupancy (%)	Transnet National Ports Authority Report 2018, p5	Transnet National Ports Authority Report 2018, p5	Transnet National Ports Authority Report 2018, p5	High berth occupancy is a sign of congestion (>70%) and hence decline of services, while low berth occupancy signifies underutilization of resources (<50%). Average for Durban Pier 1 and 2, CTCT, PE and Ngqura	
			Total Port costs to cargo owner automotive (% deviation from global average)	Ports Regulator, Global Pricing Comparator Study, p26	Ports Regulator, Global Pricing Comparator Study, p26	Should be within 10% of global average.	Current level for 2017/18 and stated target is for 2018/2019.	
			Total Port costs to cargo owner containers (% deviation from global average)	Ports Regulator, Global Pricing Comparator Study, p26	Ports Regulator, Global Pricing Comparator Study, p26	Should be within 10% of global average.	Current level for 2017/18 and stated target is for 2018/2019.	
			Total Port costs to cargo owner coal (% deviation from global average)	Ports Regulator, Global Pricing Comparator Study, p26	Ports Regulator, Global Pricing Comparator Study, p26	Should be within 10% of global average.	Current level for 2017/18 and stated target is for 2018/2019.	
			Total Port costs to cargo owner iron ore (% deviation from global average)	Ports Regulator, Global Pricing Comparator Study, p26	Ports Regulator, Global Pricing Comparator Study, p26	Should be within 10% of global average.	Current level for 2017/18 and stated target is for 2018/2019.	
1. Core mandate	Promote effective intermodal linkages to maximise freight hauling and distribution efficiency	There is cost-efficient freight connectivity between rail and other modes	Africa sales revenue (Rmillion)	Transnet Integrated Report 2018, p94	Transnet Integrated Report 2018, p94	Transnet Integrated Report 2018, p94	Used target set by Transnet for 2019	
			Cross-border volumes (mt)	Transnet Integrated Report 2018, p26	Transnet Integrated Report 2018, p26	Transnet Annual Financial Statements 2016, p 26	2016 target in shareholder compact higher than subsequent years	
			Cost (Rbillion) of road vs intermodal freight movement	Havenga, Simpson, Bod (2012) South Africa's Intermodal Imperative, p14	Transnet not reporting on this indicator	Target achieved by intermodal solution	Source: Table 4: All potential intermodal costs	
			Intermodal market share (Rail Addressable Market Share % Net Ton	Transnet Annual Financial Statements 2018, p26	Transnet Annual Financial Statements 2018, p26	Transnet Annual Financial Statements 2017, p 24	Benchmark from 2017 used as 2018 had a stated target of only 15% which was lower than their performance in the previous year of 22.1%	
			Palletised market share on rail (%)	2017 Tonkm marketshare from GAIN FDM™	Transnet not reporting on this indicator	2017 Tonkm marketshare from GAIN FDM™	Palletised freight, moved on corridors. Target was determined by the GAIN FDM™ targets for rail MS for each transport segment	

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Source for Current Performance	Source for Transnet Stated Target	Source for Aspirational Benchmark	Method Note	Additional Notes
A Transnet that meets the goals of the NDP would therefore:								
2. Developmental Mandate	Promote growth in the rural economy, particularly in the agricultural sector, through rural extraction and delivery	There is connectivity with rural markets	Rural freight market share (%)	2017 Tonkm marketshare from GAIN FDM™	Transnet not reporting on this indicator	Requires more research, growth in rural freight not predicted for model	Typology of rural freight. This excludes the export lines of coal and iron ore, but also excludes export manganese. Target requires more research as could not be calculated from the model.	
			Branch line concessions concluded	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	This should be dependent on the viability of private partnerships or private investment. Concluding transactions that are not viable could be detrimental to operational efficiency and financial sustainability of Transnet.	
		Rural agricultural production supported by market connectivity on rail	Agricultural freight market share (%)	2017 Tonkm marketshare from GAIN FDM™	Transnet not reporting on this indicator	Requires more research, growth in agricultural freight not predicted for model	Agricultural commodities. Target requires more research as could not be calculated from the model.	
		Access is to freight transport is widely available	Number of sidings active	Preliminary value	Transnet not reporting on this indicator	Preliminary value	Active rail sidings included in GAIN FDM™ data	
			Density on branch lines (tkm/routekm)	Rail data from GAIN FDM™	Transnet not reporting on this indicator	Required density on branch lines unknown	Rail total density, with core freight excluded. The density on the branch lines is unknown as would tend to follow a different financing model than that of the core network. Unlikely that all branch lines could carry the same densities.	
3. Financial Sustainability	A level of investment able to expand and maintain operations	Ability to expand and maintain operations	Capital investment dedicated to expansion (% of capital expenditure)	Transnet Integrated Report 2018, p43 - figure for 2017 was 40%	Transnet Integrated Report 2018, p104	Transnet Integrated Report 2018, p104	MDS period focused mainly on expansion rather than sustaining with 58% of investment dedicated to expansion in 2013 . This proportion has been brought down which will result in more effort being placed in maintaining and enhancing current operations.	
		Ability to create capacity ahead of demand	Average age of locomotives	An approximation based on LTPF (2016), Chapter 3, p166	An approximation based on LTPF (2016), Chapter 3, p166	World Bank (2016): Supporting Competitiveness through port and rail network reforms , p15.	The World Bank report cited for the aspirational level posits that the average age of TFR's locomotives in 2005 was 25 years	
			Ratio of resourced capacity to theoretical capacity (%)	Expert advisement	An approximation based on LTPF (2016), Chapter 3, p62	Expert advisement	System Capability Limiters causing the differential – Jaap Van Der Merwe	
	The SOE is financially sustainable	Strong balance sheet through improved levels of equity	The SOE is a going concern	Transnet Integrated Report 2018, p4	No target set by Transnet	Going concern required for financial sustainability	Received a qualified opinion on external audit triggering covenants on loans in excess of R15.5 billion causing material uncertainty on going concern	
			Revenue % change from previous year (%)	Transnet Annual Financial Statements 2018, p44	Transnet Integrated Report 2018, p110 Used target set by Transnet for the project revenue growth from 2018 to 2023	Transnet Integrated Report 2018, p110	Calculation to achieve the aspirational level required: projected revenue annual growth rate over the medium term from 2018 to 2023	
			EBITDA margin (%)	Transnet Annual Financial Statements 2018, p21	Transnet Annual Financial Statements 2018, p21	Transnet Integrated Report 2018, p110.	For aspirational level, used the margin targeted by Transnet for 2023	
		There is effective management of operating expenses	Proportion of labour costs to overall operating expenses (%)	Transnet Integrated Report 2018, p74 - personnel costs reported	No target set by Transnet	World Bank (2017), Rail Reform : Chapter 4, p53	"As a general rule, labour costs for rail operator should not exceed one-third of total operating expenses"	
			Expense ratio (opex/revenue)	Transnet Annual Financial Statements 2018, p44	No target set by Transnet	OECD discussion paper: International Railway Forum 2013, p17		
	The SOE is financially sustainable	There is manageable reliance on debt	Cash flows from operating activities (Rmillion)	Transnet Annual Financial Statements 2018, p49	No target set by Transnet	Transnet Annual Financial Statements 2017, p45 Level achieved in 2016	2016 was the highest level of performance over the past five year period (2013-2018)	
			Gearing (%)	Transnet Integrated Report 2018, p110	Transnet Annual Financial Statements 2018, p21	Transnet Integrated Report 2018, p110	Aspirational level: used gearing % targeted by Transnet for 2023	
			Cash interest cover (times)	Transnet Integrated Report 2018, p4.	Transnet Integrated Report 2018, p4.	Transnet Integrated Report 2018, p110.	Average over medium term is 2.9. Target for 2023 is 3.3 times	
			Investment grade stand alone credit profile	Transnet Integrated Report 2018, p24	No target set by Transnet	Aiming for at minimum investment grade and stable outlook		
4. Clear written mandate	A clear and transparent shareholder compact, serving a long-term strategy, that is made publicly available	Transparent disclosure of shareholder compacts (except for business sensitive information)	Publicly available shareholder compacts with distinctly articulated targets	Transnet Annual Financial Statements 2018, p20 -27.		National Development Plan , p61	"The Commission also calls for shareholder compacts with state-owned enterprises and performance agreements with Cabinet ministers to be made public."	
		Valid documentation to support reported performance	Auditor qualifications of reported performance	Transnet Annual Financial Statements 2018, p20		Looking for full and proper accounting and reporting	It is an auditor's opinion that suggests the financial information provided by a company was limited in scope or there was a material issue with regard to the application of generally accepted accounting principles. Qualified opinions may also be issued if a company has inadequate disclosures in the footnotes to the financial statements.	

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Source for Current Performance	Source for Transnet Stated Target	Source for Aspirational Benchmark	Method Note	Additional Notes		
A Transnet that meets the goals of the NDP would therefore:										
5. Leadership	There is stability in senior appointments. Leadership behaves ethically and builds a corruption-free culture.	Stability of leadership	Ratio of acting positions to permanent contracts at executive committee level (steady state %)	Transnet Online: About Us – Interim executive committee		Under advisement from corporate governance standards (King Code)	Transnet sets no targets for governance metrics. Their reporting is backward looking.			
		Leadership exhibits strong ethical standards	Irregular expenditure excluding existing irregular contract value (Rmillion)	Transnet Annual Financial Statements 2018, p116.		Looking for full compliance with PFMA obligations	Using figure for irregular expenditure identified in the current year. Transnet sets no targets for governance metrics. Their reporting is backward looking.			
			Losses through criminal conduct: collusion and fraud (Rmillion)	Transnet Annual Financial Statements 2018, p120		Adherence to the law and good governance practices	Transnet sets no targets for governance metrics. Their reporting is backward looking.			
			Fruitless and wasteful expenditure (Rmillion)	Transnet Annual Financial Statements 2018, p120		Adherence to good governance practices	Amount identified in the current year relating to the prior year. Transnet sets no targets for governance metrics. Their reporting is backward looking.			
			Audits should be unqualified	Transnet Annual Financial Statements 2017, p114		Adherence to good governance practices	Received qualified opinion regarding completeness of the identification and reporting of irregular expenditure, material uncertainty relating to going concern. Transnet sets no targets for governance metrics. Their reporting is backward looking.			
		Accountability of leadership	Irregular expenditure not condoned, that is either recovered or under investigation (%)	Transnet Annual Financial Statements 2018, p166.		Adherence to good governance practices	Amounts that is not awaiting condonation but is under investigation amounts to R507.3 million and R0million recoverable but not condoned. Transnet sets no targets for governance metrics. Their reporting is backward looking.			
			C-suite performance agreements based on shareholder compact	Transnet Annual Financial Statements 2018, p98		National Development Plan, p440.	"Other reforms could include improved transparency and flow of information, such as... making performance contracts available". Transnet sets no targets for governance metrics. Their reporting is backward looking.			
		6. Expertise	Transnet has a long-term technical expertise strategy which is being implemented.	Competent leadership	Achievement of KPIs set out in shareholder compact (%)	Transnet Annual Financial Statements 2018, p20	Transnet Annual Financial Statements 2018, p20	Level required to achieve shareholder compact and progress toward level required by NDP		
Required expertise and experience of board met	Transnet Integrated Report 2018, p115					National Development Plan, p442	PwC report (as stated in Transnet Integrated Report) identified areas of improvement for Board experience including: logistics, freight and rail; capital projects; investment and economics; ICT; technical engineering "Formulate a long-term plan to develop the policy and technical expertise that SOEs need to fulfil their mandates."			
Transnet has a long-term technical expertise strategy with is being implemented	Fully articulated action plan for recruiting, retaining and developing technical expertise					National Development Plan, p442	Transnet sets no targets for governance metrics. Their reporting is backward looking.			
7. Partnerships	There is use of an effective framework that promotes private sector participation	Private sector participation is promoted	Increased private investment and market share of private ownership of ports and rail	Programme of Action [online] at: poa.gov.za		Programme of Action [online] at: poa.gov.za	"State-owned enterprise performance may be improved by combining cooperation and competition." - NDP p161			
			Number of transactions/concessions concluded	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Target and Actual for: Number of public service provider transactions concluded and number of branch lines transactions concluded – as in Shareholder Compact 2018			
8. Clear Institutional Governance	The responsibility of policy ministry, shareholder ministry, funding ministry and regulator is clear. To be completed as part of Report 3									

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Source for Current Performance	Source for Transnet Stated Target	Source for Aspirational Benchmark	Method Note	Additional Notes
A Transnet that meets the goals of the NDP would therefore:								
9. Environmental Sustainability	Promote the transition to a low-carbon economy by providing legitimate alternatives to transport by road	Carbon emissions are minimised	Carbon overspend due to road-rail balance (%)	GAIN FDM™ and PHD research of Terblanche	Transnet not reporting on this indicator	Ideally there should be no overspend	This is the % of current emissions, that should be avoided by simply shifting freight that "should be on rail", from road to rail.	
			Carbon emission intensity (KgCO2/ton) reduction (%)	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Their current performance is greater than that targeted. Greater improvement expected in target set for 2017 (1.5) vs 2018 (0.85)	
		Assets are being utilised effectively to manage energy consumption	Gross ton kilometers to Net ton kilometers - General Freight Business (ratio)	Transnet Freight Rail Report 2018, p5	Transnet Freight Rail Report 2018, p5	Transnet Freight Rail Report 2018, p5: Target for 2019	Used Transnet stated target as a higher standard than international benchmark as stated in WorldBank 2017, Railways Reform: Rail Markets and Technology, p24 (1.5)	
			Gross ton kilometers to Net ton kilometers - Export Coal (ratio)	Transnet Freight Rail Report 2018, p5	Transnet Freight Rail Report 2018, p5	Transnet Freight Rail Report 2018, p5: Target for 2019	Used Transnet stated target as a higher standard than international benchmark as stated in WorldBank 2017, Railways Reform: Rail Markets and Technology, p24 (1.41)	
			Gross ton kilometers to Net ton kilometers - Export Iron Ore (ratio)	Transnet Freight Rail Report 2018, p5	Transnet Freight Rail Report 2018, p5	WorldBank 2017, Railways Reform: Rail Markets and Technology, p24 (1.41)		
10. Additional Transformation Responsibility	Promote equitable reordering of the economy through internal transformation	Company demographics reflect country demographics	Black African employees (% of total employee pool)	Transnet Integrated Report 2018, p92	Transnet Annual Financial Results Presentation 2018, p26	Department of Labour: 19th commission for employment equity annual report 2018-2019, p14	Using the demographics for the Economically Active Population. "The EAP includes people between the ages of 15 to 64 years who are either employed or unemployed, and who are seeking employment."	
			Racial equity in senior management, (black employees as % of total)	Not reported - there are only reports of number of employees within that seniority band. There are also no reports of the total number of employees in that band so that the ratio could be calculated.		Department of Labour: 19th commission for employment equity annual report 2018-2019, p14		
			Racial equity in professionals and middle management, (black employees as % of total)	Not reported - there are only reports of number of employees within that seniority band. There are also no reports of the total number of employees in that band so that the ratio could be calculated.		Department of Labour: 19th commission for employment equity annual report 2018-2019, p14		The EAP is used as a benchmark to assist employers in the analysis of their workforce to determine the degree of under-representation of the designated groups in the workforce. It also guides employers in the setting of numerical goals and targets for the achievement of an equitable and representative workforce.
			Gender equity in senior management, (female as % of total)	Transnet Integrated Report 2018, p90	Transnet Annual Financial Results Presentation 2018, p26	Department of Labour: 19th commission for employment equity annual report 2018-2019, p14	The EAP for Persons with Disabilities remains unavailable from Statistics South Africa, and as a result this sector is dependent on other avenues for the setting of benchmarks."	
			Gender equity in professionals and middle management, (female as % of total)	Transnet Integrated Report 2018, p90	Transnet Annual Financial Results Presentation 2018, p26	Department of Labour: 19th commission for employment equity annual report 2018-2019, p14		
			B-BBEE score	Transnet Integrated Report 2018, p13	Transnet Integrated Report 2018, p13	Dti: Amended Broad-Based Black Economic Empowerment Codes of Good Practice, 2012	Aspirational level: should be a Level 1 Contributor. Transnet is an overall Level 2 B-BBEE contributor. However DPE have suggested that this data is no longer accurate and that Transnet is now a Level 3 B-BBEE contributor	
		Transnet promotes industrial capability building	Artisans are being developed	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27		Transnet should only be investing further in the context of business growth. Should the enterprise be financially constrained the focus should then be on core operations - maintenance and investment	
			Technicians are being developed	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27		Transnet should only be investing further in the context of business growth. Should the enterprise be financially constrained the focus should then be on core operations - maintenance and investment	
			Engineers are being developed	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27		Transnet should only be investing further in the context of business growth. Should the enterprise be financially constrained the focus should then be on core operations - maintenance and investment	
			Sector-specific skills are being developed	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27		Transnet should only be investing further in the context of business growth. Should the enterprise be financially constrained the focus should then be on core operations - maintenance and investment	
			Local content (% of total spend)	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27		Spend on local content should be where there is actual benefit to South African industry	
		Transnet procurement practices promote economic transformation	B-BBEE spend (% of Total Measured Procurement Spend)	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Department of Labour: 19th commission for employment equity annual report 2018-2019, p14		
			Qualifying Small Enterprises (% of TMPS)	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27		Given importance of SMEs in NDP the aspirational level was set higher than that of current and targeted performance	
			Exempted Micro Enterprises (% of TMPS)	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27		Given importance of SMEs in NDP the aspirational level was set higher than that of current and targeted performance	
			Black-women owned (% of TMPS)	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Department of Labour: 19th commission for employment equity annual report 2018-2019, p14	Aspirational level in line with "African female" demographic EAP. This demographic is delineated from Coloured and Indian data	
			Black-youth owned (% of TMPS)	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Used target set for 2018 as per Shareholder Compact	
			People with disabilities (% of TMPS)	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2018, p27	Transnet Annual Financial Statements 2017, p23	Used 2017 target as higher than that for 2018 as per Shareholder Compact	

Theme	Outcomes sought by the NDP in general	Component Outcomes	Proxy indicator of outcomes	Source for Current Performance	Source for Transnet Stated Target	Source for Aspirational Benchmark	Method Note	Additional Notes
A Transnet that meets the goals of the NDP would therefore:								
11. Specific projects in NDP	Transnet has completed or progressed the six specific projects assigned to it in the NDP (not clear if all still relevant)	1. Durban-Gauteng corridor upgraded, with new port at old Durban airport site	Gauteng - Durban capacity utilisation (mtpa)	Transnet 2016 Long-term Planning Framework: Chapter 3, p 78	Transnet not reporting on specific commodity per corridor, only as density per route or as total on all routes.	Transnet 2016 Long-term Planning Framework: Chapter 3, p 78	This is the demand across: coal (powerstation supply), containers, domestic iron ore, coal and manganese, cement, diesel, processed food, wheat and coal mining exports. Demand for 2045 is targeted at 73 mtpa.	
		2. Increased Durban port capacity	Container volume throughput (million)	Transnet 2016 Long-term Planning Framework: Chapter 4, p 270	Transnet not reporting on specific port throughput, only as total.	Transnet 2016 Long-term Planning Framework: Chapter 4, p 270	Prof. Jan Havenga predicting demand through DCT as 7-10 million TEU demand at 8,7 million by 2046 after the new Durban Dig-out port becomes fully operational.	
		3. Capacity of heavy-haul coal corridor from Waterberg to Richard's Bay expanded	Transport of coal along this route (mtpa)	Transnet 2016 Long-term Planning Framework: Chapter 4, p 117	Transnet not reporting on specific commodity per corridor, only as density per route or as total on all routes.	Transnet 2016 Long-term Planning Framework: Chapter 4, p 117	These are the capacity requirements from the growth in coal exports resulting from the Waterberg fields. The targets are set for 2019, 2023 and 2025 respectively.	
		4. Infrastructure for transport of liquified gas developed	Liquid Fuels transport through the Multi-Product Pipeline (billion litres per annum)	Transnet 2016 Long-term Planning Framework: Chapter 5, p 314	Only reporting per product type and not per pipeline.	Transnet 2016 Long-term Planning Framework: Chapter 5, p 314	The levels used are for years: 2018, 2019 and 2031	
		5. Expanded capacity of coal, iron ore and manganese lines	Coal export volumes (mtpa)	Transnet Freight Rail Annual Report 2018, p6	Transnet Freight Rail Annual Report 2018, p6	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	Aspirational level: the high level (high uptick in demand) estimate for 2026. Estimates of demand in 2046 is 110 mtpa. Level of performance is measured against the 2026 level as closer to NDP expectations.	
			Coal domestic and Eskom Supply (mtpa)	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	Transnet Integrated Report 2019, p57.	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	These are the high level (high uptick in demand) for the years 2015 and 2026. Estimates of demand in 2046 is 32.6 mtpa. Level of performance is measured against the 2026 level as closer to NDP expectations. The Transnet stated target is for Eskom coal supply alone.	
			Manganese export volumes (mtpa)	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	These are the high level (high uptick in demand) for the years 2015 and 2026. Estimates of demand in 2046 is 22.4 mtpa. Level of performance is measured against the 2026 level as closer to NDP expectations.	
			Manganese domestic volumes (mtpa)	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	These are the high level (high uptick in demand) for the years 2015 and 2026. Estimates of demand in 2046 is 2.5 mtpa. Level of performance is measured against the 2026 level as closer to NDP expectations.	
			Iron ore export volumes (mtpa)	Transnet Freight Rail Annual Report 2018, p6	Transnet Freight Rail Annual Report 2018, p6	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	These are the high level (high uptick in demand) for the years 2015 and 2026. Estimates of demand in 2046 is 73 mtpa. Level of performance is measured against the 2026 level as closer to NDP expectations.	
			Iron ore domestic supply (mtpa)	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	Transnet not reporting on domestic iron ore supply	Transnet 2016 Long-term Planning Framework: Chapter 2, p21	These are the high level (high uptick in demand) for the years 2015 and 2026. Estimates of demand in 2046 is 10.9 mtpa. Level of performance is measured against the 2026 level as closer to NDP expectations.	
		6. Limpopo coal fields linked to domestic power generators	Establish formal structure to foster collaboration and Plans to optimize coal use	Programme of Action [online] at: poa.gov.za				



THE NDP VISION STATEMENT FOR PRASA

"A PRASA that contributes to the goals of the NDP would position rail as the backbone of public transport within an integrated transport network. by providing quality and affordable rail transport services that satisfy the commuter, intercity and international travel needs of households, and especially lower-income households."

Performance assessment legend		Has achieved aspirational level
		Within 20% of aspirational level
		Not achieving aspirational level
		Unknown or no data

Theme	Outcomes sought by the NDP in general	Component Outcomes	Source for Current Performance	Source for PRASA Stated Target	Source for Aspirational level if NDP Was being achieved	Method Note	Additional Notes
A PRASA that plays its role in the NDP will achieve the following outcomes:							
1. Core Mandate	Commuter rail is the preferred public transport mode	Commuter rail is the preferred public transport alternative	PRASA (2019) Corporate plan 2020-22 , P.38	PRASA Corporate Plan 2020-22 , p.37.	PRASA Corporate Plan 2020-22 , p.38.		The aspirational level seeks to restore the number of passenger trips to 2008/9 levels.
			RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	n/a	RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe		The NDP level seeks to restore the 2010/2011 levels Train km - Unit of measure representing the movement of a train over one kilometre. OECD,2018
			Calculated, Stats SA (2018) General Household survey	n/a	Calculated, Stats SA (2018) General Household survey	Comparator to the current public transport of choice. Minibus taxis passengers should be higher than overall commuter, to account for the last mile. Minibus taxi travels should still consider the 'last mile' that rail cannot provide. *Stats SA data provides closest proxy, but does not distinguish between commuters that use Metrorail and other service providers.	
			PRASA (2019) Corporate Plan 2020-22 , p103	n/a	Under expert advisement		
		The rail transport system is affordable for low-income commuters	Numbao (2019) taxi fare calculator Metrorail (2019) New fares	n/a	Numbao (2019) taxi fare calculator	Calculated ratio using the average fare (across different times) of minibus taxi to Pretoria and Metrorail to GP North (1-10km).	A comparative benchmark to Jakarta, Indonesia, A rail service that operates under the developmental model like South Africa. Illustrates that rail services operate at a subsidised price level compared to local taxi's.
		The train service is predictable and trains run on time	PRASA(2019) Annual Report,2017/18 p34	PRASA(2019) Corporate Plan, 2020-22 , p34	Under expert advisement		
			PRASA(2019) Annual Report,2017/18 ,pp12	n/a	Under expert advisement		
			PRASA(2019) Corporate Plan, 2020-22 , p17	PRASA(2019) Corporate Plan, 2020-22	PRASA(2019) Corporate Plan, 2020-22		
			PRASA(2019) Corporate Plan, 2020-22 , p17	PRASA(2019) Corporate Plan, 2020-22	PRASA(2019) Corporate Plan, 2020-22		
			PRASA(2019) Annual report 2017/18 ,p17	n/a	Under expert advisement		
			PRASA(2019) Corporate Plan, 2020-22	PRASA(2019) Corporate Plan, 2020-22	PRASA(2019) Corporate Plan, 2020-22		
		The trains are safe to use	RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	Office of Rail Regulation. (2014). Health and safety report 2013-14, pp:24-25. PRASA only	
			RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe		
			RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	RSR (2019) Annual State of Safety report , provided by Jaap van Der Merwe	PRASA and Transnet	Note that the Category E occurrences reported by the Railways Safety Regulator are the combined figures for PRASA and Transnet.
		Commuter stations are accessible (coverage is good)	Metrorail (2019) Routes. http://www.metrorail.co.za/Routes2.html	n/a	Metrorail (2019) Routes. http://www.metrorail.co.za/Routes2.html	The current commuter rail network has corridors that link peri-urban areas with central economic hubs. This is true for Gauteng, KwaZulu Natal, Eastern Cape and the Western cape.	PRASA notes that although this is true for the provinces that they currently operate in, more can be done to get stations closer to communities.
	Passenger rail is a trusted long distance alternative for intercity and international travel	The Mainline Passenger Service is a popular long distance travel mode	PRASA (2019) Corporate Plan, 2020-22 , p103	PRASA (2019) Corporate Plan, 2020-22 , p103	PRASA (2019) Corporate Plan, 2020-22 , p103		
			PRASA(2019) Corporate Plan, 2020-22 , p103	n/a	PRASA (2019) Corporate Plan, 2020-22 , p103		
			Calculated, ratio using PRASA (2019) Corporate Plan, 2020-22 .	n/a	Under expert advisement	Calculated using Total long distance Autopax passengers and MLPS total passengers.	Comparative indicator to demonstrate disparity between bus and train operations. PRASA notes that Autopax is one of many competitors in long distance public transport.

Theme	Outcomes sought by the NDP in general	Component Outcomes	Source for Current Performance	Source for PRASA Stated Target	Source for Aspirational level if NDP Was being achieved	Method Note	Additional Notes
2. Financial viability	PRASA collects enough revenue to pay salaries, and for maintenance of the network and rolling stock	PRASA collects enough fare revenue from ticket sales to pay salaries, maintenance of the network and rolling stock	PRASA(2019) Corporate Plan, 2020-22, 38 and 39	PRASA (2019) Corporate Plan, 2020-22, p38 & 39	Under expert advisement	Fare recovery of cost, should at least be in parity with the state subsidy	PRASA notes that there should be parity, when state subsidy is aligned with PRASA's operational costs.
		PRASA Corporate Real Estate Service (CRES) contributes to income from investments	PRASA(2019) Corporate Plan, 2020-22	PRASA (2019) Corporate Plan, 2020-22	PRASA (2019) Corporate Plan, 2020-22		
	Liquidity and debts are well managed	Sufficient liquidity to cover operational expenditure	PRASA(2019) Corporate Plan, 2020-22, p102	PRASA (2019) Corporate Plan, 2020-22,p102	PRASA(2019) Corporate Plan, 2020-22,p102		
3. Clear written mandate	PRASA has a clear and transparent mandate that is made publicly available.	The mandate of PRASA is clearly captured in policy, or a statement of intent, or an Act of parliament	Legal Succession to the South African Transport Services Amendment Act, 2008	PRASA(2019) Corporate Plan, 2020-22	Legal Succession to the South African Transport Services Amendment Act, 2008		
		There is a publicly available shareholder compact with distinctly articulated performance targets	PRASA (2019) Annual Report and Financial statements 2017/18, p72	PRASA (2019) Annual Report and Financial statements 2017/18, p72	PRASA(2018) Annual Report and Financial statements 2017/18, p72	Specifics of the compact are not in the public domain	
			Not known	PRASA (2018) Annual Report and Financial statements 2017/18, p72	PRASA(2018) Annual Report and Financial statements 2017/18 p72	Specifics of the compact are not in the public domain	
4. Leadership	Credible, stable and ethical leadership	Leadership exhibits strong ethical standards	PRASA (2018) Annual Report and Financial Statements 2017/18	PRASA (2018) Annual Report and Financial Statements 2017/18	PRASA (2018) Annual Report and Financial Statements 2017/18		
			PRASA(2018) Annual Report and Financial Statements 2017/18, p66	n/a	Adherence to good governance practices		PRASA recommends reporting irregular, fruitless and wasteful expenditure separately.
			PRASA(2018) Annual Report and Financial Statements 2017/18, p66	n/a	Adherence to good governance practices		
		Stable tenure of leadership	Not known South African Government (2019) Minister Blade Nzimande Interventions at Passenger Rail Agency of South Africa. Available: https://www.gov.za/speeches/transport-minister-dr-blade-nzimande-statement-interventions-passenger-rail-agency-south	n/a	Under expert advisement	Not in the public domain - requested from PRASA	The appointment of the board of directors is the DOT's responsibility. Continuity and management of handover is necessary to ensure that there is sufficient time to implement plans.
5. Expertise	PRASA has a long-term technical expertise strategy which is being implemented.	PRASA has formulated and is implementing a long term skills development strategy	n/a	n/a	n/a	Progress on this indicator is contingent on progress of Human Capital Management (HCM), which is still in development.	
		The Board has required expertise and experience	Under expert advisement	n/a	Under expert advisement		The board must have an intrinsic 360-degree capability augmented by advisory boards and effected formal board committees. This must include Governance, Policy Framework and Legislation, Finance, KYC and social development, Railway
6. Partnerships	PRASA has partnerships with private sector to maximise value	PRASA enters into contract with the private sector, where viable, to manage identified rail services	PRASA (2019) Corporate Plan 2020-22	PRASA (2019) Corporate Plan 2020-22	PRASA (2019) Corporate Plan 2020-22		
		Intersite has developed strategic partnerships for exploitation of assets with both public and private partners	Intersite (2019) Business plan	Intersite (2019) Business plan	Intersite (2019) Business plan		
7. Clear institutional governance	3. The responsibility of policy ministry, shareholder ministry, funding ministry and regulator is clear. Please see Paper 3 of this series dealing with institutional governance reform.						
8. Environmental responsibility	PRASA would sufficiently satisfy the environmental responsibility set out in the NDP; by delivering on the core mandate and thereby moving commuters from road to more environmentally-friendly rail: see first four indicators						

Theme	Outcomes sought by the NDP in general	Component Outcomes	Source for Current Performance	Source for PRASA Stated Target	Source for Aspirational level if NDP Was being achieved	Method Note	Additional Notes
9. Additional transformation responsibility	PRASA promotes the equitable reordering of the economy through internal transformation through employment equity, staffing, training, procurement spend, skills and supplier development).	Displays internal transformation through its B-BBEE practices	PRASA (2019) Corporate Plan 2020-22, p112	PRASA (2019) Corporate Plan 2020-22, p112	Under expert advisement		
			PRASA(2019) Corporate Plan 2020-22, p. 112	PRASA(2019) Corporate Plan 2020-22, p.112	PRASA(2019) Corporate Plan 2020-22, p.112		
			PRASA(2018) Annual Report and Financial statements, p63	PRASA(2018) Annual Report and Financial statements, p63	PRASA(2018) Annual Report and Financial statements, p63		
			PRASA(2018) Annual Report and Financial statements, p63	PRASA(2019) Corporate Plan 2020-22, p76	PRASA(2019) Corporate Plan 2020-22, p76		
			PRASA(2018) Annual Report and Financial statements, p63	PRASA(2018) Annual Report and Financial statements, p63	PRASA(2018) Annual Report and Financial statements, p63		
		PRASA promotes industrial capability building	n/a	n/a	n/a	Not in the public domain - requested from PRASA	
			PRASA(2019) Corporate Plan 2020-22, p112	PRASA(2019) Corporate Plan 2020-22, p112	PRASA(2019) Corporate Plan 2020-22, p112		

*YTD 2018 - Jan 2019
 *Annual report 2017/18
 *ASoS data, 2018/19

Developed by



THE NDP VISION STATEMENT FOR ESKOM
"A state-owned electricity sector that contributes to the goals of the NDP will provide reliable electricity supply in an efficient manner to lower the cost of doing business by being well governed and financially viable, while meeting a developmental mandate and transitioning to a low-carbon economy"

Performance assessment legend		Has achieved aspirational level
		Within 20% of aspirational level
		Not achieving aspirational level
		Unknown or no data

Theme	Outcomes sought by the NDP in general	Component outcomes	Proxy indicator of outcome	Sources for Eskom's current performance (end 2018, unless otherwise stated)	Source for Eskom's stated target for 2019, unless otherwise stated)	Source for the "aspirational level if NDP was being achieved" target	Method	Additional comments from consultations
An Eskom that contributes to the goals of the NDP would therefore:								
1. Core Mandate	Provide electricity supply in a reliable and efficient manner	There is zero loadshedding	National rotational load shedding. (Yes/No)	Eskom Integrated Report 2018, p168.	r/a	Eskom Integrated Report 2012, p17 - Position from five years ago	The target three years ago, set five years ago, is still relevant. We used the 2012/2017 load shedding target from the 2012 Integrated Report. In 2012 Eskom's credit rating by Standards and Poor as at 17 October 2012, was BBB (still investment grade) - this is where Eskom should currently be aiming	Previous experience 10 years ago had unintended consequences to delay maintenance in order to keep the lights on
		There are minimal energy losses	Distribution energy losses (%)	Eskom Integrated Report 2018, p15.	Eskom Integrated Report 2018, p15.	Eskom Integrated Report 2016, p123	Although the world average of electric power transmission and distribution losses (% of output) for 2014 was 8,251% according to the World Bank. The "aspirational level if the NDP was being achieved" target that we used was taken from the Eskom Integrated Report 2016, p123 and this was the distribution energy losses percentage for 2007 (ideally we would have selected the 2006 actual performance however that value was not available). The distribution energy losses of 8,5% were slightly before the construction of Medupi and Kusile power station and before Eskom was faced with the choice of diverting maintenance funds to finish the construction of Medupi and Kusile	More detailed granularity about the splits between technically acceptable and "other" must be made more commonly available to highlight the magnitude of cost of "other" in the losses
		Quality electricity service is provided	Number of system minutes lost for events <1 minute, (minutes)	Eskom Integrated Report 2018, p15	Eskom Integrated Report 2018, p15	Eskom Integrated Report 2018, p15	The "aspirational level if the NDP was being achieved" target is taken from Eskom's actual performance from 2018 rather than the target set for 2012/22 of 3,53. The 2012/22 target is slightly worse than the actual current performance and better than when Eskom was performing at investment grade	
		There are minimal network interruptions	System average interruption frequency index (SAIFI), (occurrences)	Eskom Integrated Report 2018, p15	Eskom Integrated Report 2018, p15	Eskom Integrated Report 2018, p15	According to World Bank 2018 doing Business Report the average SAIFI for upper middle income countries was 30,71. The "aspirational level if the NDP was being achieved" target is taken from Eskom's actual performance from 2018 rather than the target set for 2012/22 of 9,5 and the stated target for 2018 of 9,5. These targets are slightly worse than the actual current performance and are better than when Eskom was performing at investment grade	In light of the financial constraint position, there is a cost associated with driving these metrics below norm. Costs are associated with ring-fencing infrastructure, proximity of staff to all network locations and general maintenance cost
	Obtain adequate capacity to meet demand	There are adequate reserve margins	Reserve margin (incl. imports, RE & other purchases), (%)	Mail & Guardian, Eskom burning through diesel again, 2018	NERSA, systems adequacy outlook issue 15 August 2018.	NERSA, systems adequacy outlook issue 16 August 2018.	According to a 2018 Mail & Guardian report, Eskom is reported to have said its reserve margin at 32,3%. NERSA's system adequacy outlook, issued in August 2018 forecasted the reserve margins (incl imports, RE & other purchases) to be 37,53%. The "aspirational level if the NDP was being achieved" target is taken from the NERSA's system adequacy outlook, which was issued in August 2018. The report provides a forecast of 32,14 for 2022.	
		Plants are operating at full capacity	Energy availability factor (EAF), (%)	Eskom Integrated Report 2018, p10.	Eskom Integrated Report 2018, p10.	Eskom Integrated Report 2016, p122 - actual 2006 performance.	The 2018 IFF is based on plant performance projections with EAF of 75,3% by 2030. The "aspirational level if the NDP was being achieved" target that we selected is taken from Eskom's actual performance in 2006. In 2006 Eskom's coal fleet was better maintained relative to when the construction of Medupi and Kusile began. The power plants then were functioning optimally.	The sacrifices required since 2012 to balance out the impact of the NERSA tariff determinations and the associated revenue losses have partly given rise to this position.
		Construction of power plant is within normal lead times	Years of construction, Medupi (Years)	Power Technology: The Medupi Coal-Fired Power Station Project, South Africa Eskom, Medupi Sid Turning. Eskom celebrates start of Medupi power station construction, 2007 Mail & Guardian: Medupi and Kusile: Costly and faulty, 2019 Engineering news: Medupi power station project, South Africa, 2019	Business Tech: Medupi start delayed once again, 2015 Engineering news: Medupi power station project, South Africa, 2019	Department of Energy: Power generation technology data for integrated resource plan of South Africa, 2017 p.viii. Business Tech: R230 billion Medupi and Kusile badly designed and constructed: Gordonhan, 2019 Integrated Resource Plan 2019, p10 to 32 of 94. Business Tech: Medupi start delayed once again, 2015	Construction at Medupi started in May 2007. Medupi was supposed to be fully operational at the end of 2010 based on media reports. According to the 2018 IFF, the remaining units of Medupi power station are meant to be commercially operational by December 2019. So far 3 of the 6 units have attained commercial operation. The "aspirational level to achieve the NDP" target is taken from the year Medupi was expected to come online, which is 2013	The context needs to factor in that both power stations were meant to have only 3 units. Thus poor planning, scope creep, ill-designing and so forth, resulted in cost overruns. Although the stated aspirational target is the correct there are additional 5 years of planning that should be taken into consideration. The ITD is approximately 12 years for Medupi
		Generation capacity is constantly increased	Years of construction, Kusile (Years)	Power Technology: The Kusile Power Station Project, South Africa	Business Tech: Medupi start delayed once again, 2015	Business Tech: Medupi start delayed once again, 2015 DoE, Integrated Resource Plan (IRP2019), p31 to 32 of 94	Construction at Kusile started in August 2008. Based on media reports, Kusile was meant to be generating commercial power to the grid at the end of 2014. According to the 2018 IFF the completion of the entire six-unit Kusile project has been revised to 2022. The "aspirational level if the NDP was being achieved" target is taken from the year Medupi was expected to come online which is 2013.	The ITD is approximately 15 years for Kusile (IFG included)
	Produce electricity in a cost-effective manner	Benchmarked primary energy cost efficiencies	Primary energy costs, (c/kWh)	Eskom Integrated Report 2018, p15	Eskom Integrated Report 2018, p17	Consultation with the DPE DoE, Integrated Resource Plan (IRP2019), p31 to 32 of 94	According to the 2019 IFF, a total of 18 000MW of new generation capacity has been committed to under the Eskom build programme, the following capacity has been commissioned: 1 332 MW of Ingula pumped storage, 1 588 MW of Medupi, 800 MW of Kusile and 100 MW of Sen Wind Farm. The "aspirational level if the NDP was being achieved" target represents the units in Medupi (2 x 784 MW) and Kusile (5 x 800MW) that are not yet in commercial operation as planned as reported in the 2019 IFF.	
		Benchmarked operating cost efficiencies	Other operating costs, (c/kWh)	Calculated: Eskom Integrated Report 2019, p81 and p27	No target	Calculated: NERSA, Revenue Application - Multi Year Price Determination 2019/24 to 2019/28 (MYPD23), p19 and p37	Current performance: (Primary energy cost) / (Eskom generated energy) Benchmark performance: (Primary energy costs) / (Approved sales forecast)	Based on the consultation, we were asked to factor in the impact of the change in the energy sourcing mix (i.e. IFF contribution). For the other operating costs indicator, a point that was raised was that depreciation is an accounting adjustment influenced by age of plant and not a real controllable operating cost.
		Total operating costs (c/kWh)		Eskom Integrated Report 2018, p81 and p27	r/a	NERSA, Revenue Application - Multi Year Price Determination 2019/24 to 2019/28 (MYPD23), p19 and p37	Current Performance: Primary energy costs + Other operating costs Benchmark performance: Primary energy costs + Other operating costs	
	Produce electricity in a cost-effective manner	Medupi and Kusile power plants are constructed within reasonable costs	Cost to construct Medupi and Kusile (R/kW)	Calculations by Anthony Falet, Genesis Analytics taken from EE publishers. Understanding the cost of electricity from Medupi, Kusile and IPPs, 2016	r/a	Calculations by Anthony Falet, Genesis Analytics	Current Performance: 193,000,000,000 + 210,000,000,000 / 1,000,000 Benchmark performance: [(R20,000 p/kW x 1,000) x 4,800 MW] / 1,000,000	Concern's about using EE publications as a source. The cost of construction according to the consultation is as follows: Kusile: R33 625/kw (based on P80 cost), Medupi: R 30 437/kw (based on P80 cost), Medupi R28, 443 kw (based on P90 cost)

		Reduced operationing and maintenance (O&M) costs to international benchmark costs for similar activities	Fixed O&M, R/kW-yr /variable O&M R/MWh, (R)	Eskom Annual Financial Statements 2019, p72	No target	DCE, EPRI, Power generation technology data for integrated resource plan of South Africa, Table 7-1 PC without FSD Coal and Performance Summary	Current Performance: Employee benefit expense + Other expenses + Depreciation and amortisation expense (-9,843 x 1,000,000) + (-21,408 x 1,000,000) = (-22,064 x 1,000,000) Benchmark Performance (Fixed O&M, R/kW-yr x 50,000: 1,000) + Variable O&M R/MWh x Eskom generated energy x 1,000 (-670 x 50,000 x 1,000) + -65.9 x 258,559 x 1,000) p71		
		Produce cost of supply studies in compliance with the electricity pricing policy	Have five-yearly cost of supply studies been produced, (Yes/No)	Research by energy expert, Anthony Falet, Genesis Analytics	No target	Research by energy expert, Anthony Falet, Genesis Analytics			
		Sell electricity in a cost-reflective manner	Pricing is predictable and competitive	Average price of electricity, (c/kWh)	Eskom, tariffs & charges 2019/2020 (the figure used was the standard average tariff c/kWh for 2019/20)	Eskom Integrated Report 2019, p77	Eskom Integrated Report 2019, p77	The aspirational target used does not factor in the requirements for FY 2020 and beyond	
		Eskom is able to meet financial obligations	Debt service cover, (ratio)	Eskom Integrated Report 2019, p93	Eskom Integrated Report 2019, p93	Eskom Integrated Report 2012, p51	The "aspirational level if the NDP was being achieved" target is taken from Eskom's 2012 integrated report, and it is the 2012/17 target that was set. The target was set when Eskom was still an investment grade asset. (Note if the debt-service cover ratio is too close to 1, say 1.1, the entity is vulnerable, and a minor decline in cash flow could make it unable to service its debt. Typically, a debt service cover ratio greater than 1 means the entity has sufficient income to pay its current debt obligations.) Therefore, the "aspirational level if NDP was being achieved" target of 2.99 means that Eskom can cover their debt service 2.99 times over the entity's operating income		
2. Financial sustainability	ESKOM is financially viable	Eskom is able to accumulate sufficient financial reserves for long-term viability	Debt/equity (including long-term provisions), (ratio)	Eskom Integrated Report 2019, p93	Eskom Integrated Report 2019, p93	Eskom Integrated Report 2012, p49	The "aspirational level if the NDP was being achieved" target is taken from Eskom's 2012 integrated report, and it is the 2012/17 target that was set. The target was set when Eskom was still an investment grade asset. (Note if the debt-service cover ratio is too close to 1, say 1.1, the entity is vulnerable, and a minor decline in cash flow could make it unable to service its debt. Typically, a debt service cover ratio greater than 1 means the entity has sufficient income to pay its current debt obligations.) Therefore, the "aspirational level if NDP was being achieved" target of 2.99 means that Eskom can cover their debt service 2.99 times over the entity's operating income		
			Eskom's credit rating by S&P-Standalone, (rating)	Eskom Integrated Report 2019, p94	Eskom Integrated Report 2019, p41	Eskom Integrated Report 2019, p41	The "aspirational level if the NDP was being achieved" target is Eskom's investment-grade rating as an indicator because investors use credit ratings as a guide to their investment decisions. If Eskom needs to raise money in a capital market, for example, to finance its debt obligations, a favourable credit rating means that it will be able to obtain funds at a lower cost.	One of the primary reasons the gearing ratio has increased is because Eskom's new build programme which was funded through the debt. It was suggested that this financial metric should be linked to a single model	
		Acceptable reliance on debt financing	Gearing, (%)	Eskom Integrated Report 2019, p93	Eskom Integrated Report 2019, p93	NERSA, Revenue Application - Multi Year Price Determination 2019/20 to 2019/23 (MYPD3), p12	The "aspirational level if the NDP was being achieved" target is taken from NERSA Multi-Year Price Determination dated 28 Feb 2013		
		Eskom has acceptable EBITDA margins	Gross debt/EBITDA, (ratio)	Eskom Integrated Report 2019, p93	Eskom Integrated Report 2019, p93	Consultation with the DPE	This ratio measures the amount of income generated and available to pay down debt before covering interest, taxes, depreciation, and amortization expenses. A low debt-to-EBITDA ratio implies that Eskom can pay off its debt and/or is growing its earnings. According to the DPE, a realistic "aspirational level if NDP was being achieved" gross debt-to-EBITDA target that is in with rating agencies is 8.		
			EBITDA, (R mill)	Eskom Integrated Report 2019, p98	Eskom Integrated Report 2019, p98	Eskom Integrated Report 2019, p98	The "aspirational level if the NDP was being achieved" target is taken from Eskom's Integrated Report 2019 target and it is the stated target for 2019/20		
		Eskom is able to maximise liquidity and service debt	Free funds from operations, (R mill)	Eskom Integrated Report 2019, p98	Eskom Integrated Report 2019, p98	Eskom Integrated Report 2019, p98	The initial "aspirational level if the NDP was being achieved" target we selected was taken from Eskom's 2012 integrated report, and this was the target set for 2017/17. After our consultation with DPE, we have decided to use 2019/19 stated target which is taken from Eskom's Integrated report 2019.		
	Cash interest cover, (Ratio)			Eskom Integrated Report 2019, p93	Eskom Integrated Report 2019, p93	Eskom Integrated Report 2019, p93	The cash interest cover ratio is used to determine how easily Eskom can pay interest on its outstanding debt with its available earnings. A cash interest coverage ratio below 1 indicates that Eskom is not generating sufficient revenues to satisfy its interest expenses. The "aspirational level if the NDP was being achieved" target is taken from Eskom's 2019 integrated report, and it is the 2022/22 set target	There is a concern in using FFD as a proxy for cash from operations as it implies an interest bill of R37bn.	
	Free funds from operations as percentage of gross debt, (%)			Eskom Integrated Report 2019, p93	Eskom Integrated Report 2019, p93	Eskom Integrated Report 2019, p93	The initial "aspirational level if the NDP was being achieved" target that was selected was 22.16 and was taken from Eskom's 2012 integrated report, and it was the 2017/17 target that was set. We now have selected to use the 2022/22 target taken from Eskom's 2019 integrated report.	This KPI may require the use of modelled financials to derive the type of metric	
	Debt is collected by stakeholders from customers when debts fall due		Arrear debt as % of revenue, (%)	Eskom Integrated Report 2019, p90	Eskom Integrated Report 2019, p90	Eskom Integrated Report 2012, p45	The "aspirational level if the NDP was being achieved" target is taken from Eskom's performance in 2012 when Eskom was still an investment-grade asset	This KPI needs to consider current levels of non-payment by municipalities which has an impact on the current performance of the KPI and which is challenging for Eskom to control.	
			Average debtors days (including Soweto), (days)	Eskom Integrated Report 2019, p90	Eskom Integrated Report 2019, p73	Eskom Integrated Report 2019, p90	The "aspirational level if the NDP was being achieved" target is taken from the 2019 Integrated Report and it is the target that has been set for 2019/20		
	3. Clear written mandate	Eskom has a well-defined mandate for shareholder compact that sets out its role and is precise about what public good it provides and how it serves the public interest. The mandate is publicly available.	Good governance and accountability	Publicly available shareholder compact with distinctly articulated targets, (Yes/No)	Eskom Integrated Report	n/a	We could not find this document in the public domain	"The finalization of the shareholder compact for 2019/20 has been delayed due to ongoing discussions with the shareholder on the strategic turnaround plan, specifically in terms of the support required to execute the four pillars" p25 IR 2019. According to the DPE, although the shareholder compact is not publicly available most of the key performance indicators (KPIs) that are in the shareholder compact are in Eskom's annual reports.	
Based on the AFS, the percentage achievement of KPIs set out in shareholder compact, (%)				Eskom Annual Financial Statements 2019, p12 to 13	Eskom Integrated Report	Eskom Integrated Report	Eskom Integrated Report	Current performance = (8 KPIs for the year met or exceeded the target) / all 45 selected measured key performance indicator's in the Annual Financial Statement, p12 to 14 AFS 2019	
Key performance indicators measured against shareholder compact, (Yes/No)				Eskom Annual Financial Statements 2019, p12 to 13	Eskom Annual Financial Statements 2019, p12 to 13	Eskom Annual Financial Statements 2019, p12 to 13			
4. Leadership	Credible and competent senior leadership. Stability in senior appointments. Leadership builds a corruption-free culture.	Leadership is competent	Internal leadership evaluation (LBE) score, (Score out of 5)	The Eskom Factor Report 2.0 p34	The Eskom Factor Report 2.0 p33	The Eskom Factor Report 2.0 p34	Eskom conducts its own internal leadership evaluation scorecard and the "aspirational level if NDP was being achieved" target of 5 is the maximum score that any entity can obtain. This figure is taken from Eskom Factor Report 2.0 report.		
			Quality of leadership dimension of the 2017 RepTrak Pulse, (Score out of 100)	The Eskom Factor Report 2.0 p34	n/a	The Eskom Factor Report 2.0 p34	The Reputation Institute conducts a RepTrak Pulse survey which is a survey that measures the corporate reputation of a company, the perceptions of company performance across seven reputation dimensions such as governance, leadership, workplace and so forth. In terms of RepTrak's scaled international benchmarking methodology, any score below 40 for the leadership dimension is considered poor and in the lowest tier. The maximum score for this indicator is 100.		
		Stable leadership	Number of CEOs in 10 year period, (Number)	Fin 24, Eskom's revolving door: 30 CEOs in 10 years, 2019 Business Tech: Eskom's 12 CEOs and executives have cost R534 million, Ithales, 2019	n/a	Harvard Law School Forum on Corporate Governance and Financial Regulation, CEO Tenure Rates, 2018	According to the Harvard Law School Forum on Corporate Governance and Financial Regulation, the median tenure for CEOs at large-cap (S&P 500) companies was 5.0 years at the end of 2017.		
			Quality of governance dimension of the 2017 RepTrak Pulse, (Score out of 100)	The Eskom Factor Report 2.0 p33	n/a	The Eskom Factor Report 2.0 p33	The Reputation Institute conducts a RepTrak Pulse survey which is a survey that measures the corporate reputation of a company, the perceptions of company performance across seven reputation dimensions such as governance, leadership, workplace etc. In terms of RepTrak's scaled international benchmarking methodology, any score below 40 for the governance dimension is considered poor and in the lowest tier. The maximum score for this indicator is 100.		
			Whistleblower cases reported to police, (Cases) %	The Eskom Factor Report 2.0 p33	n/a	Adherence to the governance of ethics and King IV	The "aspirational level if the NDP was being achieved" target is taken from principle 1 of King IV, which is titled leadership that is being applied to Eskom.		

		Accountability	Irregular expenditure in Eskom Group, (R billion)	Eskom Integrated Report 2019, p5	r/a	Adherence to the governance of ethics and King IV	Although Eskom reports the irregular expenditure for the current year to be R6.6 billion, the amount of money lost by Eskom as a result of irregularities could be as high as R500 billion as reported in the media since 2005. The "aspirational level if the NDP was being achieved" target is taken from principle 1 of King IV, which is titled leadership that is being applied to Eskom.	
			Fruitless and wasteful expenditure, (R billion)	Eskom Annual Financial Statements 2019, p10	r/a	Adherence to the governance of ethics and King IV	The "aspirational level if the NDP was being achieved" target is taken from principle 1 of King IV, which is titled leadership that is being applied to Eskom.	
			Losses due to criminal conduct, (R billion)	Eskom Annual Financial Statements 2019, p10	r/a	Adherence to the governance of ethics and King IV	The "aspirational level if the NDP was being achieved" target is taken from principle 1 of King IV, which is titled leadership that is being applied to Eskom.	
5. Expertise	There is a long-term technical expertise strategy which is being implemented	Eskom has a long-term technical expertise strategy which is being implemented	The technical expertise strategies within the turnaround plan is public	Consultation with the Department of Public Enterprises	Consultation with the Department of Public Enterprises	Consultation with the Department of Public Enterprises	On February 2019, President Cyril Ramaphosa announced in His State of the Nation address the restructuring of Eskom. He indicated that the generation, transmission and distribution activities of Eskom would be split into three separate subsidiary companies owned by Eskom Holdings. According to the DPE, the functional and legal separation processes will include upskilling employees to match the skills required by the three subsidiaries.	
6. Partnerships	Eskom has an effective framework that promotes private sector participation, and there is private sector participation.	Increased contribution of Independent Power Producer (IPP) to electricity generation	Renewable energy capacity procured under the Independent power Producer Programme, (Mw)	DoE, Integrated Resource Plan 2019 p 14 of 94	Independent Power Producer Procurement Programme, PP Projects, source: https://www.ipp-renewables.co.za/	National Development Plan 2030, Chapter 4: Economic Infrastructure - The foundation of social and economic development, p168	The Renewable Energy Independent Power Producer Procurement Programme was launched in August 2011 to secure private investment in new renewable energy generation capacity. In line with the national commitment to transition to a low-carbon economy, 14 725 megawatts (MW) will be procured from renewable energy sources. (National Treasury, budget review p142) Current performance: A total of 6422 MW under the Renewable Energy Independent Power Producer Programme (REIPPP) has been procured, with 3 876 MW operational and made available to the grid. (IPP 2019) Stated target: 17 800 MW of the 2030 target (according to the IPP 2010) of newly generated power to be developed are expected to be from renewable energy sources, with 5 000 MW to be operational by 2019 and a further 2 000 MW (i.e. combined 1 000 MW) operational by 2020. (Independent Power Producer Procurement Programme, Benchmark performance: According to the NDP, 21 500MW of new renewable energy capacity needs to be in place by 2030. International	Eskom does not control the amount of MW's contracted nor does the entity control the actual production of IPP's which is a factor of their construction lead times, wind speed, solar radiation and their plant availability. We were advised to use this as a reasonable statistic (without targets) and not as Eskom performance KPI.
7. Clear institutional governance	3. The responsibility of policy ministry, shareholder ministry, funding ministry and regulator is clear. Please see Page 3 of this series dealing with institutional governance.							
8. Developmental mandate	Expand the distribution network to ensure 100% electrification of all households	Increased grid connection to previously disadvantaged households	Total number of electrification connections, (Number)	Eskom Integrated Report 2019, p142	Eskom Integrated Report 2019, p142	Eskom Integrated Report 2019, p142	Eskom target is for the year for 2019/20, NDP target has been set at equivalent	This is directly linked to the DMFE contract and the quantum of the funding grant being used to pay for the network expansion and connection of previously unconnected households. This target needs to acknowledge that changes in the grant will likely impact the quantum of connections.
		National electrification rate, (%)		DoE, Integrated National Electrification Programme, MTSP Targets 2014-2019 and Progress as at March 2018	National Development Plan 2030, Chapter 4: Economic Infrastructure - The foundation of social and economic development, p175	National Development Plan 2030, Chapter 4: Economic Infrastructure - The foundation of social and economic development, p175	Target Performance: NDP target for 2030 is 90%	Highly dependant on the level of grant funding from DMFE and the ability to execute this programme, both from an Eskom and contractor perspective
	Increased access to affordable electricity	Free basic electricity for low income households, (kWh per month)		Eskom Integrated Report 2019, p174	r/a	Eskom, Free basic electricity, 2019 South African Government, How do I access free basic municipal services?	Free basic electricity of 50kWh per household per month for a grid-energy system (connected through the national electrification programme) is provided. This amount of electricity will be enough to provide basic lighting, basic water heating using a kettle, basic ironing and a small black and white TV and radio. According to the DPE some municipalities may even provide more than 50 kWh of free basic electricity as they are also responsible for electricity distribution	FBE is not Eskom funded, hence there is no Eskom target
9. Environmental responsibility	Produce electricity with the lowest possible environmental impact using optimal generation mix	Carbon, sulphur intensity and greenhouse gas emissions are minimal which allows Eskom to comply with the minimum emission standards (MES).	Carbon dioxide (CO ₂), (T/MWh)	Eskom Integrated Report 2019, p124 & p27	Eskom Integrated Report 2019, p124	DoE, EPRI, Power generation technology data for integrated resource plan of South Africa, Table 7-1 PC without FGD Cost and Performance Summary, p7-2	The "aspirational level if the NDP was being achieved" target is taken from Eskom's performance in 2012 when Eskom was still an investment-grade asset and is in line with the proposed relative particulate emission target of 0.30 for FY2023/23 that has been proposed by Eskom. Current performance: Carbon dioxide (CO ₂ x1000x1000) (Coal-fired stations energy generation x1000) = 1220 9x1000,000/(200,216x1000) Benchmark performance calculated: Carbon dioxide (CO ₂ /1000)	
		Sulphur dioxide (SO ₂), (kg/MWh)		Eskom Integrated Report 2019, p124 & p27	Eskom Integrated Report 2019, p124	DoE, EPRI, Power generation technology data for integrated resource plan of South Africa, Table 7-1 PC without FGD Cost and Performance Summary, p7-2	Current performance: Sulphur dioxide (SO ₂ x1000) (Coal-fired stations energy generation) = 1953x1000/(200,216x1000) Benchmark performance is actual data: Sulphur dioxide (SO ₂) p7-2	
		Nitrogen oxide (NO _x) as NO ₂ (T/MWh)		Eskom Integrated Report 2019, p124 & p27	Eskom Integrated Report 2019, p124	DoE, EPRI, Power generation technology data for integrated resource plan of South Africa, Table 7-1 PC without FGD Cost and Performance Summary, p7-2	Current performance: Nitrogen oxide (NO _x) as NO ₂ (Coal-fired stations energy generation/(500x1000/(200,216x1000) Benchmark performance is actual data: Nitrogen oxide (NO _x) as NO ₂ p7-2	
	Reduced water use	Specific water consumption, (BMWh)		Eskom Integrated Report 2019, p124	Eskom Integrated Report 2019, p124	Consultation with Eskom, Proposed generation KPI for FY 2023/23	The "aspirational level if the NDP was being achieved" target is taken from Eskom's generation team's response. The KPI provided by the team from Eskom uses the shareholder compact, corporate plan, and turnaround plan as a basis. The target selected is the KPI for the FY 2023/23 which Eskom has endorsed for engagement with DPE.	
10. Additional transformation responsibility	Eskom promotes equitable reordering of the economy through internal transformation (re equity management, staffing, training, procurement spend, skills and supplier development).	Increased contribution to local suppliers	Local content contracted (Eskom-wide), (%)	Eskom Integrated Report 2019, p174	Eskom Annual Financial Statements 2019, p13 & 2019, p9	Eskom Annual Financial Statements 2019, p13 & 2019, p9	The "aspirational level if the NDP was being achieved" target should be linked to the rate of business growth	
			Local content contracted (new build), (%)	Eskom Integrated Report 2019, p174	Eskom Annual Financial Statements 2019, p13 & 2019, p9	Eskom Annual Financial Statements 2019, p13 & 2019, p9	The "aspirational level if the NDP was being achieved" target should be linked to the rate of business growth	
			Procurement from black-owned (BO) suppliers, (%)	Eskom Integrated Report 2019, p174	Eskom Annual Financial Statements 2019, p13 & 2019, p9	Eskom Annual Financial Statements 2019, p13 & 2019, p9	The "aspirational level if the NDP was being achieved" target should be linked to the rate of business growth	
		Strong skills are built and retained	Learner intake: Artisans, (Number of learners)	Eskom Integrated Report 2019, p133	Eskom Integrated Report 2019, p133	Eskom Annual Financial Statements 2019, p15	The "aspirational level if the NDP was being achieved" target should be linked to the rate of business growth	
			Learner intake: Engineer, (Number of learners)	Eskom Integrated Report 2019, p133	Eskom Integrated Report 2019, p133	Eskom Annual Financial Statements 2019, p15	The "aspirational level if the NDP was being achieved" target should be linked to the rate of business growth	
			Learner intake: Technicians, (Number of learners)	Eskom Integrated Report 2019, p133	Eskom Integrated Report 2019, p133	Eskom Annual Financial Statements 2019, p15	The "aspirational level if the NDP was being achieved" target should be linked to the rate of business growth	
			Racial equity in senior management, (% black employees)	Eskom Integrated Report 2019, p172	Eskom Annual Financial Statements 2019, p12	Eskom Annual Financial Statements 2019, p12	The "aspirational level if the NDP was being achieved" target is Eskom's stated target	
			Racial equity in professionals and middle management, (% black employees)	Eskom Integrated Report 2019, p172	Eskom Annual Financial Statements 2019, p12	Eskom Annual Financial Statements 2019, p12	The "aspirational level if the NDP was being achieved" target is Eskom's stated target	
		Company demographics reflect country demographics	Gender equity in senior management, (%female employees)	Eskom Integrated Report 2019, p172	Eskom Annual Financial Statements 2019, p12	Eskom Integrated Report 2019, p12	The "aspirational level if the NDP was being achieved" target used is the current performance target as the stated target is lower.	
			Gender equity in professionals and middle management, (% female employees)	Eskom Integrated Report 2019, p172	Eskom Annual Financial Statements 2019, p12	Eskom Annual Financial Statements 2019, p12	The "aspirational level if the NDP was being achieved" target used is the current performance target as the stated target is lower.	
			B-BBEE Rating, (rating)	Eskom Holdings SOC LTD B-BBEE Certificate SANAS	Eskom Integrated Report 2019, p142	Eskom Integrated Report 2019, p142	"Our shareholder expected us to achieve a level 4 B-BBEE rating. However, until the previous certificate expired in June 2018 Eskom was rated as level 3, as being stakeholder is not considered being black-owned under the new B-BBEE Codes of Good Practice."	

11. Specific projects	Eskom has completed or progressed the specific projects assigned to it directly or indirectly in the NDP	Ingula pumped-storage plant is commissioned	Ingula pumped-storage plant is commissioned, (Yes/No)	Eskom Integrated Report 2019 p 132. Business day , Eskom's Ingula hydro-power plant running at 25% below capacity, 2019	Eskom Integrated Report	National Development Plan 2030, Chapter 4: Economic Infrastructure - The foundation of social and economic development, p175	According to the National Treasury 2019 Budget Review, which was published on February 20, 2019, the Ingula pumped storage scheme was completed in 2017. All four units at Ingula were reported to be in commercial operation and to produce a total of 1,320MW installed capacity of peaking power. However, on March 27, 2019, the Business Day reported that plant is running at 25% below capacity and there are defects identified in all four units of the plant.	
		A sustainable national electrification plan is developed	Publicly available sustainable national electrification plan, (Yes/No)	Eskom Integrated Report 2019 p 132	Eskom Integrated Report	National Development Plan 2030, Chapter 4: Economic Infrastructure - The foundation of social and economic development, p176	Municipalities and Eskom are responsible for reticulation and distribution of electricity to households, in their licensed supply area and they are both funded by the DoE (now DFFE) through the Integrated National Electrification (INEP) programme which was approved by parliament in 1994. The primary funding of the national electrification programme is a conditional grant allocation through the National Budget (Fiscus). On 26 June 2019, Cabinet approved the implementation of the new Household Electrification Strategy . According to the DoE as at March 2019, electricity grid and non-grid connection is at 82.28 %	
		12,600 MW of electricity from coal generation is decommissioned	Capacity of older coal-powered stations retired, (MW)	Eskom Integrated Report 2019 p33 of 94	DoE, Integrated Resource Plan 2019 p33 of 94	National Development Plan 2030, Chapter 4: Economic Infrastructure - The foundation of social and economic development, p185	According to the National Development Plan 2030, by 2030, 10,900 MW of old power capacity needs to be retired. In the 2018 draft Integrated Resource Plan, the DoE estimated the amount electricity from coal generation that will be decommissioned cumulatively by 2030 to be 12,600MW (see p 27 of 75 of the IRP 2018). In the October 2019 approved IRP document, the DoE estimates that 10,500 MW of electricity from coal generation by Eskom will be decommissioned by 2030.	
		Increase in new coal capacity contracted from other Southern African countries	International purchases, (GWh)	Eskom Integrated Report 2019 p39	Eskom Integrated Report	Eskom Integrated Report 2018, p95	According to the 2019 IRP: South Africa continues to pursue a diversified energy mix that reduces reliance on a single or a few primary energy sources. Gas : Co-operation with neighbouring countries is being pursued, and partnerships are being developed for joint exploitation and beneficiation of natural gas within the SADC region. SADC is developing a Regional Gas Master Plan which seeks to identify the short and long-term infrastructure requirements to enable the uptake of a natural gas market. Hydro : With regards to import hydro, South Africa has entered into a Treaty for the development of the Grand Inga Project in the Democratic Republic of Congo (DRC) , with some of the power intended for transmission to South Africa across DRC, Zambia, Zimbabwe and Botswana.	
		Cleaner coal technologies are promoted through research and development investments and technology-transfer agreements	Investment in fabric filter plants and flue gas desulphurisation (FGD), and investment in cleaner, replacement generating capacity, (Yes/No)	National Treasury, Budget Review (2019) Public-sector infrastructure update p149 Eskom, Kusile and Medupi coal-fired power stations under construction, COPI7, Fact sheet	Eskom Integrated Report 2019, p39	National Development Plan 2030, Chapter 4: Economic Infrastructure - The foundation of social and economic development, p177	According to the National Treasury, 2019 Public-sector infrastructure update p149 (Budget Review), RFP are under review to consider cleaner coal technologies. New procurement will be awarded as per the updated IRP when finalised.	
		40,000MW of new power capacity is built by 2030	New power capacity built, (MW)	DoE, Integrated Resource Plan 2019 p31 of 94	DoE, Integrated Resource Plan (IRP) 2019, p31 of 94	DoE, Integrated Resource Plan 2019, p31 of 94	According to the National Development Plan 2030, Chapter 4: Economic Infrastructure, p185, more than 40,000MW of new power capacity needs to be built by 2030. The DoE, 2019 IRP has adjusted that figure to 39,730 MW. Current performance : 6422+1332+2362+800+100+1005 = 12,041 Stated target : According to the DoE 2019 IRP (p31 of 94), Of the 39,730 MW determined, about 18 000 MW has been committed to date	Additional capacity will be dependent on the new IRP and the allocation by the Department of Energy. The new 40 000 MW potentially includes both IPP and Eskom investments. Eskom cannot assume accountability for the IPP portion. It is also reliant on the progress of the DoE IPP programme which is not within Eskom control. It was proposed that this be a reportable KPI, but not a performance KPI.
		Increased contribution of renewable energy to electricity generation by 2030	Renewable energy contracted, (MW)	DoE, Integrated Resource Plan 2019 p10 of 94	Eskom Integrated Report	National Development Plan 2030, Chapter 4: Economic Infrastructure - The foundation of social and economic development, p177	According to National Development Plan 2030, Chapter 4: Economic Infrastructure - p177 more than 20 000MW of renewable energy should be contracted by 2030.	The MW contracted is dependent on the DoE IPP programme and Eskom establishes the PPA after DoE has concluded their process. This is therefore primarily within the control of DoE and Eskom gives effect to their decisions. It was proposed that this be a reportable KPI, but not a performance KPI.