



DPWI: Infrastructure South Africa
REPUBLIC OF SOUTH AFRICA



National Infrastructure Plan 2050

Stakeholder Consultation
BUSA and BLSA

MSTeams

21 September 2021



OUTLINE

The Presentation covers the following

1

SCENE SETTING

2

Insight into mission-critical network infrastructure

- Energy
- Freight Transport
- Water
- Digital Communications

3

South Africa in Africa – building a regional agenda

4

Infrastructure financing and funding

5

Strengthening institutions for delivery

6

Rebuilding a vibrant and empowered SA civil construction and supplier sector

7

Monitoring and reporting progress

8

Way Forward

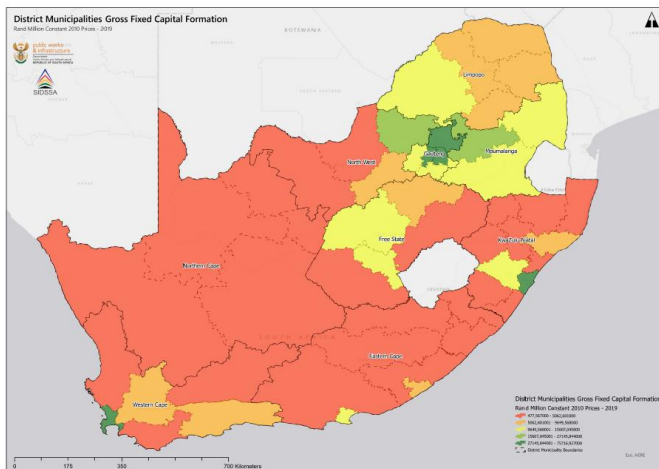


SCENE SETTING



Objectives of the National Infrastructure Plan 2050

Ensure foundations for achieving long term transformation needed for inclusive growth are increasingly being laid



The NIP 2050 will guide the critical shift towards more dynamic infrastructure delivery mechanisms and capabilities

Recommendations are made to accelerate progress towards our development objectives, and address barriers to this progress found in these four sectors. In particular, there is a focus on strengthening:

- SOE performance
- Sector regulation
- State capacity
- Private participation in public infrastructure

- The NIP offers a strategic vision and plan for delivery of high priority network infrastructure to 2050 by:

- linking top NDP objectives to intermediate outcomes to flag on top priority projects.
- directing the path to strengthening critical institutional and market mechanisms
- giving confidence to private and public stakeholders

- The NIP focuses on foundational network infrastructure in energy (specifically electricity), freight transport, water and digital communications
- A second round NIP 2050 will extend to distributed infrastructure and related municipal services

- The NIP is not a:

- comprehensive database of infrastructure projects
- Consolidation of sector masterplans
- Spatial mapping of infrastructure projects
- Mechanism for centralizing decision making

- The NIP **does** offer direction to strengthen prioritization in the short and medium term – in terms of institutional strengthening and in project pipeline – but **does not** weigh in on the detail
- It will dovetail into other major processes (e.g. DDM, NSDF, Operation Vulindlela, SOE Council etc.)



Structure Of NIP 2050 – Network Infrastructure

WHAT

1. Introduction: Laying foundations to achieve NDP aspirations
2. Insight into mission critical economic network infrastructure:
 - a. Energy
 - b. Freight Transport – rail, roads, ports, airports
 - c. Water
 - d. Digital communications

HOW

3. South Africa in Africa – building a regional agenda
4. Financing infrastructure and maintenance
5. Strengthening institutions for delivery
6. Rebuilding a vibrant and empowered SA civil construction and supplier sector
7. Monitoring and reporting progress

Each section follows the same format:

- States the sector vision
- Reflects on current status, as relevant to the NIP
- Outlines the conditions for success and makes recommendations for what needs to be done to achieve the vision and conditions for success
- A review of SIPS
- Short term action steps (3 years)



ENERGY

- with a focus on electricity



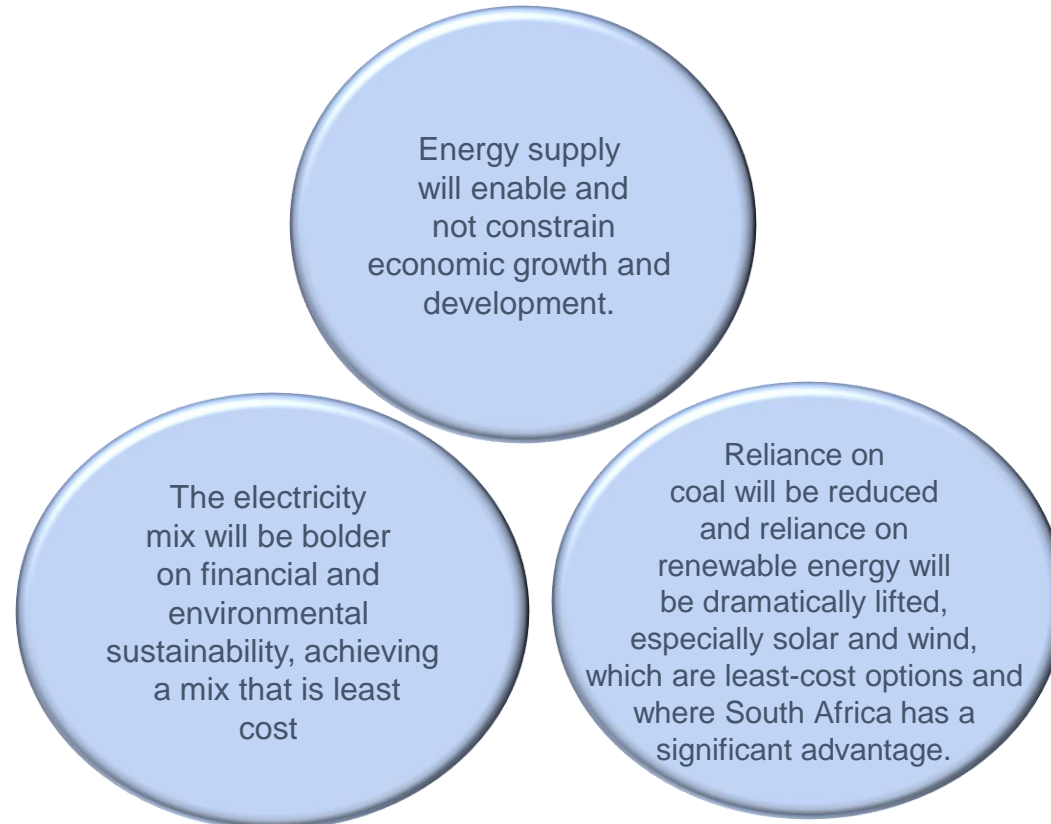
The Future State Of Energy

Vision 2050: Sustainable energy supplied at least cost

By 2050, electricity demand is projected to increase by 30%.

Installed generation capacity will need to more than double, from 53 GW in 2018 to between 133 GW and 174 GW by 2050, depending on the energy mix at that time.

By 2030, 25 GW will have to be added to installed capacity.





Energy

HOW the 2050 vision will be achieved

1

Approach to defining energy mix is technically strong

2

Market structure facilitates more responsive and sustainable supply

3

State capacity is strong to effectively regulate and oversee energy delivery

4

Electricity is delivered in a financially sustainable way

5

The transition away from fossil fuels progresses in a convincing and just manner

6

Industrial diversification through energy infrastructure delivery



Energy in the Medium Term

What will be achieved within the next three years

Implementation of Strategic Infrastructure Projects (SIPs)

The current energy SIPs include:

- **SIP 8** includes green energy projects, including procurement of renewable energy under the REIPPPP.
- **SIP 9** includes the expansion of electricity generation capacity, including that from Kusile, Medupi and Ingula (completed), with attention to reducing carbon footprint being given.
- **SIP 10** includes the expansion of electricity transmission and distribution network.
- **SIP (no 20)** includes:
 - Emergency or Risk Mitigation Power Purchase Procurement Programme (2,000 MW) – national.
 - Small IPP Power Purchase Procurement Programme (100 MW) – national.
 - Embedded Generation Investment Programme (EGIP) (400 MW) – national.

The energy SIPs will be augmented as follows:

1. Progress in implementing the SIPs by 2023/4 will include:
 - Emergency power procurement of 4000 MW in 2021/2 will be finalized.
 - There will be procurement of power from renewable IPPs of 3200 MW in one bid window in 2021. There will be procurement of 10,000MW from renewable IPPs in one window in 2022.
 - 800 – 1000 MWh battery storage will be procured by 2023/4, of which 513 MWh battery storage will be procured by 2022. Substantially more will be required, with targets determined in 2021 and added to SIPs.
 - Municipalities will be enabled to procure power from IPPs
 - The target for embedded generation investment will be increased to 4,000MW to 5,000 MW
 - The completion of expanded electricity generation projects, including that Kusile, Medupi, and Ingula will be accelerated and achieved (SIP 9) by 2023, with attention to reducing their carbon footprint.
2. The accelerated national plan for transmission infrastructure investment will be finalised and funded in 2021/2, with implementation beginning in 2021/2



Energy in the medium term (2)

What will be achieved within the next three years

Strengthening capacity to deliver

1. The IRP will be revised and extended to 2050 - and the medium-term targets will be updated and revised with focus on sustainability and least cost
2. Eskom will be restructured into three legally separated entities for generation, transmission and distribution (with an energy planning Centre of Excellence which will be moved to the ITSMO)
3. Commitment to lift the licence limit to 100 MW self-generation will be enabled
4. The process of appointing NERSA councillors will be reviewed to ensure independence – with an appeals process to ensure accountability in regulatory decisions
5. SOE leadership capacity, starting with Eskom, at board and executive levels will be set at acceptable governance norms
6. The top 10 municipalities that deliver to large populations and that demonstrate significant challenges will have support and/or capacity to adequately maintain distribution systems and billing systems
7. There will be an executable plan to reduce reliance on coal including a Just Transition by 2021/2, with meaningful implementation beginning in 2022/3



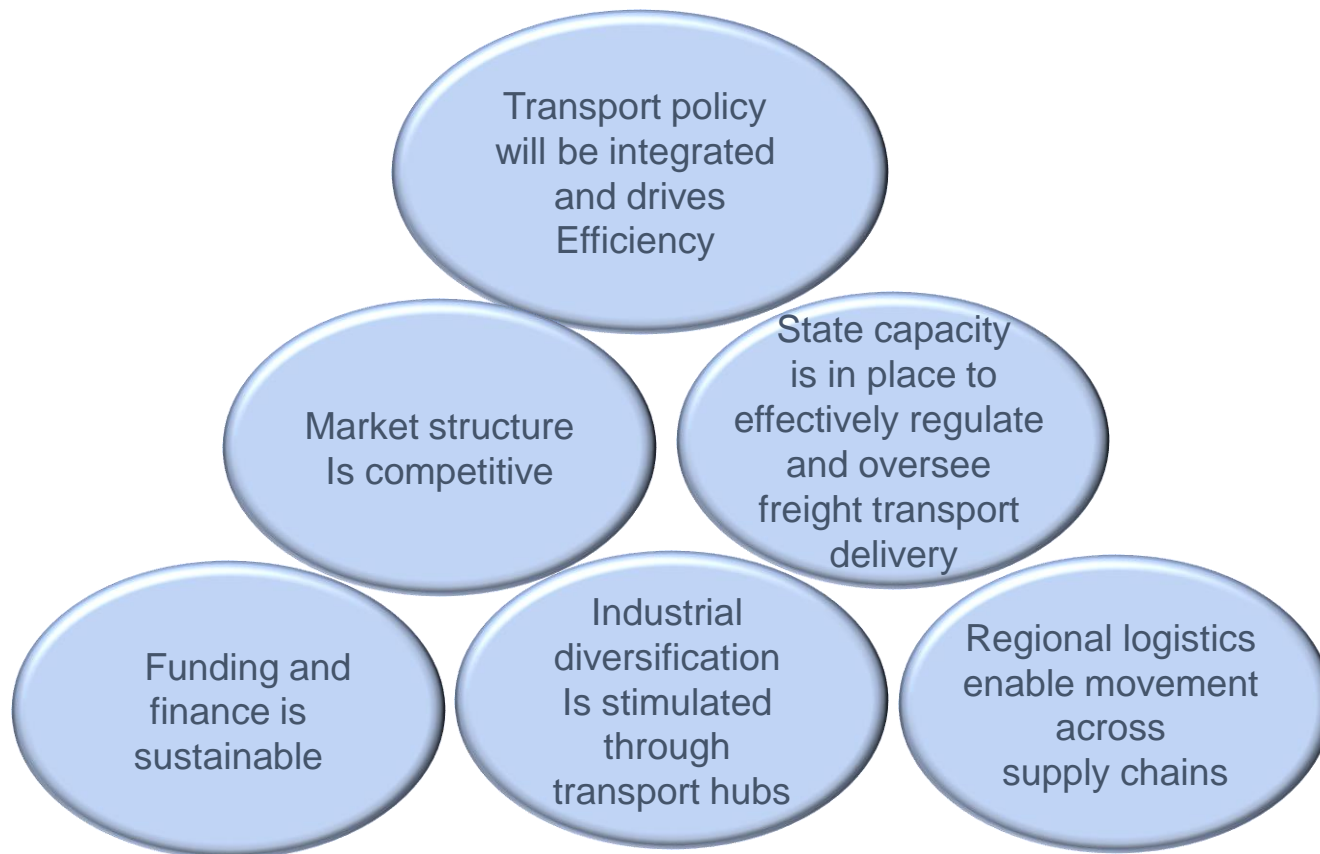
FREIGHT TRANSPORT



The Future State Of Freight Transport

Vision 2050: Integrated and efficient freight transport

Freight transport will facilitate domestic and cross border movement of goods to enable industrialisation, diversification, trade and development. It will deliver to its three roles in supporting economic and industrial progress, enabling rural development, while ensuring environmental objectives are met in respect of the reduction of emissions, congestion, accidents and waste.





Freight Transport

HOW the 2050 vision will be achieved

1

Transport policy will be integrated and oriented around supply chain needs and the mix drives efficiency; Transport services become aligned to best practice, ensuring globally competitive economic growth

2

The reform of the freight transport sector will be done in a way that is sustainable and progressive. Market structure becomes competitive.

3

State institutions will become increasingly capable of driving transport sector reform and delivery

4

Funding and finance will be increasingly sustainable and makes optimal use of opportunities to attract private finance

5

Africa regional transport networks will support inter-regional trade and better connectivity to global supply chains

6

Transport hubs will stimulate industrial diversification and clustering



Freight Transport in the Medium Term

What will be achieved within the next three years

Implementation of Strategic Infrastructure Projects (SIPs)

The current freight transport SIPs include:

SIP 2: The Durban-Free State-Gauteng logistics and industrial corridor. Th.

SIP 3: The South-Eastern node and corridor development. This includes the Mzimvubu dam and irrigation systems, the N2 Wild Coast Highway, and the upgrading of manganese rail line capacity.

SIP 4: Facilities in North West Province, including investments in road, rail, bulk water, water treatment and transmission infrastructure.

SIP 5: Saldanha-Northern Cape development corridor, including integrated rail and port expansion and back-of-port industrial capacity.

SIP 21: Road upgrading or maintenance of the N1, N2 and N3 in the Free State, Limpopo and KwaZulu-Natal. Small Harbours development – national. Boegoebaai Port and Rail Infrastructure Project – Northern Cape

The SIPs will be augmented with these priorities:

1. The balance of SIPs transport projects will be reviewed in the expectation that the pressure of freight on the road system is expected to fall
2. A national freight intelligence system will be developed that includes detailed origin and destination data for different commodities and modes between districts, imports, exports and long-term forecasts to inform planning.
3. Emergency measures will be implemented to turnaround decline in the Durban port, Natal corridor and Gauteng link.
4. Rail freight assets [and Passenger Rail Agency of South Africa (PRASA) assets that rail freight requires] will be protected from further decline and waste through vandalism.
5. Critical strategic projects will be developed to facilitate the integration of rail, roads, ports and freight villages within South Africa and across Africa into key trade and investment partners.
6. Beitbridge border post upgrading will be completed by 2022



Freight transport in the medium term (2)

What will be achieved in the next three years

Strengthening capacity to deliver

1. Transnet Freight Rail will implement accounting and operational separation, providing a sound basis to evaluate and accommodate 3rd party rail operators into the future
2. The independent National Ports Authority will be established
3. A 25-year plan for integrating rail, road, ports, intermodal hubs and freight villages to facilitate freight handling for key sectors of the economy will be finalised. SEZ projects will be framed to leverage industrialisation opportunities. Implementation on Cato Ridge and Tambo Springs will begin in 2021
4. A centre of transport planning excellence will be established
5. The Single Transport Economic Regulator (STER) will be established



WATER



The Future State of Water

Vision to 2050: Sustainable water resources

There will be universal and reliable access to water of an Acceptable quality and quantity in support of a strong inclusive economy and a healthy environment

There will be an efficient, resilient, well managed, and sustainable integrated national bulk Water supply system that responds to the economic needs of the country

The institutions involved in managing water resources will be effective in achieving this objective



Water

HOW the 2050 vision will be achieved

1

Effective water management institutions

2

Robust water resource planning that enables responsiveness

3

Coherence in water sector policy and support for implementation at municipal level

4

Accountable decision making

5

Capacity to finance and deliver water projects is robust, including the effective use of the private sector

6

Financially sustainable water sector

7

Existing water infrastructure is rehabilitated and maintained, and water-use efficiencies improved

8

Ecological infrastructure is protected

9

Robust regulatory oversight and licensing regime

10

Roles and responsibilities are aligned, consultation is meaningful and deep



Water in the Medium Term

What will be achieved within the next three years

Implementation of Strategic Infrastructure Projects (SIPs)

The current water SIPs 19 include:

- Vaal River System, including Phase 2 of the Lesotho Highlands Water Project – Gauteng.
- Phase 2A of the Mokolo Crocodile River (West) Augmentation Project – Limpopo.
- Olifants River Water Resource Development Project: Phase 2 – Limpopo.
- Groot Letaba River Water Development Project: Nwamitwa Dam – Limpopo.
- uMkhomazi Water Project – KwaZulu Natal.
- Umzimvubu Water Project – Eastern Cape.
- Berg River Voëlvelei Augmentation Scheme – Western Cape.
- Orange-Riet Canal Increase of Bulk Raw Water Supply – Free State.
- Rustfontein Water Treatment Works – Free State.
- Vaal-Gamagara scheme to improve water security for mines in the Northern Cape.
- Rehabilitation of the Vaalharts-Taung Irrigation Scheme – Northern Cape and North West.

The SIPs will be augmented with the following priorities:

- Dam-raising projects for Tzaneen and Clanwilliam dams.
- A review of projects to ensure viability of municipal wastewater plants as has been done for Emfuleni.
- Expansion of the Sundays River subsystem and other projects to serve Gqeberha.
- Water supply augmentation for Mbombela, Mpumalanga



Water in the medium term (2)

What will be achieved within the next three years

Strengthening capacity to deliver

1. The National Water Resources Infrastructure Agency will be established and functioning
2. An independent single national water regulator will be established – 1) Regulation to enable private participation will be implemented – 2) Water tariffs will be regulated by an independent water regulator – 3) The National Water Resources Strategy will be updated
3. The water licencing backlog will be addressed
4. Raw water pricing strategy will be finalised
5. NWP PMO will be established to support municipalities with partnership agreements signed and functioning
6. A strategy for climate change mitigation will be finalised.
7. A policy for water usage in agriculture will be finalized and implemented
8. All major water systems will have active steering committees established, that engage with users
9. Water management capacity (technical and financial), a path to financial viability in water delivery, meaningful reduction in non-revenue water will be brought to acceptable levels in the top 12 municipalities accounting for 65% of urban water demand



Digital Communications



The Future State of Digital Communications

Vision 2050: Universally accessible digital communications

Communications is the lifeblood of a market economy, and digital communications are increasingly central.

A seamless information infrastructure will be universally available and accessible by 2030, at a cost and quality at least equal to South Africa's peers and competitors

By 2030, 100% of the population should have easy access to affordable broadband of at least 10 Mbps. All government buildings should have high-speed broadband of 1 Gbps, and where relevant participate in leveraging this to underserved areas and communities.



Digital Communications

HOW the 2050 vision will be achieved

1

High speed broadband is universally accessible

2

Government services and buildings are digitally enabled

3

Regulation is enabling of competitive and universally accessible broadband

4

Public sector capacity is strong and can drive the required policy agenda

5

Private sector participation in achieving universal broadband access is prevalent

6

Partnerships are strong and there are Centres of Digital Excellence promoting a growing knowledge base on delivery and innovation

7

The ICT skills base is robust



Digital Communications in the Medium Term

What will be achieved within the next three years

Implementation of Strategic Infrastructure Projects (SIPs)

The digital SIPs currently include:

- Expand broadband coverage to all households and schools by 2020 – SIP 15.
- Square Kilometre Array (SKA) and MeerKAT – SIP 16.
- Space Infrastructure Hub – South African National Space Agency (SANSA) – SIP 22.
- Digitising of government information – SIP 30.
- South Africa Connect Phase 1B Programme – SIP 35

The digital SIPs will be augmented with the following priorities:

The SIPs will be reviewed in 2021/2 will include e-enablement of all government buildings. Amongst others, this includes the following:

1. 80% of public buildings, especially schools, health facilities and police will be connected
2. High speed broadband will be available and accessible in every community
3. Digitisation of government services – will be scoped and projects identified and funded.
4. Government will identify three top-priority pilots where PPPs are used to introduce overarching digital modernisation. Examples are policing, health, education, water and smart cities



Digital Communications in the medium term (2)

What will be achieved within the next three years

Strengthening capacity to deliver

1. Digital migration will take place and spectrum will be released. Digital migration must take place before relevant spectrum is auctioned and/or paid for
2. Policy will be concluded for rapid deployment of electronic communications networks and facilities
3. Executive leadership of government departments, entities and regulator responsible for digital delivery will be stabilised and appointed according to capability
4. Local and provincial government broadband and related ICT initiatives streamlined and rationalised, with mandates, roles and responsibilities being clarified.
5. The approach to wholesale regulation and service provision will be reviewed
6. Arrangements required to enable private participation in public interest digital delivery will be in place. Most immediately, this will include special vehicles to promote blended finance and procurement rules that enable long term partnerships
7. The data centre strategy will be finalised
8. A satellite communications strategy will be finalized in 2021/2 and implementation will begin in 2022/3.



SOUTH AFRICA IN AFRICA: BUILDING A REGIONAL AGENDA





The Future State of Regional Infrastructure

Vision 2050: Regional infrastructure that promotes economic development

South Africa
will demonstrate and execute on a bold
vision for its infrastructure cooperation
in the Africa region

The initial focus will be on delivery
of regional projects that are critical
to SA's domestic needs and are also beneficial to regional
Development In the short term, critical energy and water
projects will be implemented with greater vigor,
as will the development
of high efficiency border posts.

In the medium term,
SA will be an active driver of regional
Transport corridors in rail, road and ports, that
Greatly enhance the ease
of regional trade

As SA's construction
sector is invigorated and
infrastructure finance deepened, a greater role
will be played
as a Gateway into Africa and as a participant in
delivering regional infrastructure
projects and finance



South Africa in Africa – building a regional agenda

HOW the 2050 vision will be achieved

1

Projects progress timeously

2

Regional capacity to drive projects is robust

3

Project monitoring enables action

4

SA gains from foreign infrastructure investment in Africa, with special attention to China

5

Financial Centre of Excellence is established

6

A top priority regional infrastructure integration strategy and project pipeline is implemented



SA in Africa – building a regional agenda in the Medium Term

What will be achieved within the next three years

Implementation of Strategic Infrastructure Projects (SIPs)

1. ***The top priority regional infrastructure integration strategy and project pipeline action plan will be finalised (SIP No 17) and expanded to include top priority projects identified in the NIP 2050, especially in relation to freight transport.***
2. Beitbridge border post upgrading will be expedited and completed in 2022/3. Progress will also be made on other strategic border posts
3. Strategy and Plan of Action for the new, open city in South Africa.

Strengthening capacity to deliver

1. Regional project monitoring information will be introduced and made transparent
2. Capacity (technical, financial, diplomatic) to drive regional projects will be reviewed and strengthened, in conjunction with regional partners
3. A proposal for a Regional Financial Centre of Excellence will be finalized
4. Centres of research excellence will be established to improve strategic capability and intelligence in these domains.
5. A strategy will be finalised to strengthen gains from foreign infrastructure investment in Africa, with special attention to China.



INFRASTRUCTURE FINANCING AND FUNDING





The Future State of Infrastructure Financing and Funding

Vision 2050: Sufficient and sustainable infrastructure finance

1

Capacity will be in place to raise the infrastructure finance and funding needed for build and maintenance, estimated to be R6.224 trillion between 2016 – 2040. It is probable that transport and energy will account for over 72% of the investment required.

2

South Africa will have a thriving private sector infrastructure investment sector, supported by an efficient and reliable public sector procurement framework that delivers world-class procurement, both on-budget general government procurement and through PPPs

3

Infrastructure projects will be considered from a full life cycle perspective, planning from procurement to decommissioning, budgeting and setting out maintenance schedules that minimise costs over the life of the infrastructure

4

PPPs will be used to fill a finance gap of approximately one third of the amount that needs to be invested until 2050 considering public policy objectives



Conditions Required To Realise Vision 2050

Seven conditions must be met to achieve the 2050 vision and How it will be done

01

A full life cycle planning approach will be adopted

02

Value for money will be optimised

03

There will be sufficient access to additional sources of finance to deliver on SA's Infrastructure aspirations

04

Projects will be designed to minimise risk

05

Public-private partnerships will be embraced where they deliver better value for money

06

Capital market development will be supported by a steady and reliable pipeline of new projects

07

Monitoring and reporting will build investor confidence



Infrastructure Financing and Funding in the Medium Term

What will be achieved within the next three years

1. The infrastructure procurement framework (FIDPM) will be revised to require public institutions to consider partnering with private sector partners as an optimal procurement option
2. PPP regulations (Regulation 16) will be revised to simplify approval processes, standardise models for certain types of infrastructure, and speed up the time from initiation to procurement of PPPs
3. A lifecycle planning approach will be introduced for all infrastructure, with full budgets determined upfront and measured against lifecycle benefits in determining optimal infrastructure procurement
4. The Infrastructure Fund will be strengthened to deliver a robust pipeline of projects through blended finance models with significant participation from the private sector
5. Capacity will be strengthened at all levels of the public sector to design bankable projects and manage them through to completion.
6. Capacity will be built at national and local government level to issue specialist green finance instruments such as green bonds.



STRENGTHENING INSTITUTIONS FOR DELIVERY



The Future State of Institutional Planning and Execution Capability

Vision 2050: Institutions are set up to enable delivery

There will be a step change in the institutional capability that drives material progress in SA's infrastructure ambition.

Planning, procurement and execution systems and capabilities will be operating at the highest global standard, commensurate with SA's significant infrastructure transformation agenda.

Robust and ever developing public-private partnerships will be a significant feature in planning and implementation, whether think tanks, finance, business and communities.

There will be confidence to drive an increasingly dynamic high-performance delivery machinery.



Institutional Planning and Execution Capability

HOW the 2050 vision will be achieved

1

There will be significant capacity development within infrastructure procurement & delivery management

2

The regulatory and institutional framework will be enabling of network infrastructure procurement and delivery

3

A strategic approach will be taken to infrastructure procurement

4

Systems of accountability will be aligned to effective infrastructure delivery

5

The asset management function will become robust

6

Knowledge services will be strengthened



Strengthening Institutions For Delivery In The Medium Term

What will be achieved within the next three years

1. A plan to build critical capabilities (and ensure accreditation where relevant) in the procurement and delivery of infrastructure will be finalised in 2022/3. Budgets and partnerships required to implement the plan will be approved in 2022/3 for implementation in 2022/3.
2. The regulatory and institutional framework for procuring and delivering network infrastructure will be reviewed and modified to be more enabling, whilst ensuring good governance – by 2022/3.
3. A framework will be developed and implemented for infrastructure asset management, including rules related to budgeting for infrastructure maintenance.
4. A plan for knowledge services in support of the NIP 2050 will be developed and finalised by DSI in 2022/3.



REBUILDING A VIBRANT AND EMPOWERED SA CIVIL CONSTRUCTION AND SUPPLIER SECTOR



The Future State of the Construction Sector

There will be a step change in the institutional capability that drives material progress in SA's infrastructure. The South African civil construction and supplier sector will be a vibrant and respected world class African full service-built environment delivery provider priming Southern African development.

It will be cost-effective and offer safe and reliable service with an experienced and skilled workforce and world class products relevant to the development context.

It will be an industry that is inclusive with representative ownership and business practices.

The industry will have a wide range of continuously improving products and services delivered by companies that range from small domestic oriented ones to large companies able to deliver regionally and globally.



Rebuilding the Construction and Supplier Sector

HOW the 2050 vision will be achieved

- The NIP 2050 makes recommendations in respect of:
 - An explicit effort to build SA construction and supplier industries to deliver to national development objectives
 - The state overseeing the procurement and delivery of infrastructure with a high level of capability
 - The establishment of a national infrastructure champion
 - A pipeline of bankable projects that enables the construction sector to plan, invest and develop its people
 - Regulations and process of issuing permits are streamlined

The NIP proposals should all be implemented within 1 – 3 years



MONITORING AND REPORTING PROGRESS



The Future State of Monitoring and Reporting on Infrastructure Projects

The development of capacity and systems to drive its implementation will be an ongoing process.

Working with project owners, the ISA will monitor the implementation of the NIP 2050. Monitoring and reporting to ISA will be in respect of progress in implementing critical institutional reforms, required capacity development and high-level information on progress of the most important infrastructure projects.



Monitoring and Reporting Capability

HOW the 2050 vision will be achieved

- There will be transparent and up-to-date database of significant network infrastructure projects
- ISA will:
 - Establish a data base that is transparent and open for government and for stakeholders.
 - Set the data standards for proactive reporting
 - Ensure that a publicly accessible portal is in place and accessible
 - Engage with any independent assurance teams who identify key issues of concern, gaps in the data etc. and address the shortcomings with the relevant organ of state
 - Monitor the reporting of data and engage with organs of state who fail to do so
 - Promote the use of software apps which analyse the data which enable more effective infrastructure delivery
- Requirement by relevant organs of state that they report into this database. The reporting requirements will be kept to a minimum and, as far as possible, be limited to information which organs of state are already producing as part of their existing performance reporting requirements.
- ISA will be empowered and required to report on NIP2050 progress, and to act on major areas that need course correction

The NIP proposals should all be implemented within 1 – 3 years



DPWI: Infrastructure South Africa
REPUBLIC OF SOUTH AFRICA

