A SUMMARY OF THE SOUTH AFRICAN NATIONAL INFRASTRUCTURE PLAN

PRESIDENTIAL INFRASTRUCTURE COORDINATING COMMISSION

presidential infrastructure coordinating commission

Department:
The Presidency
REPUBLIC OF SOUTH AFRICA

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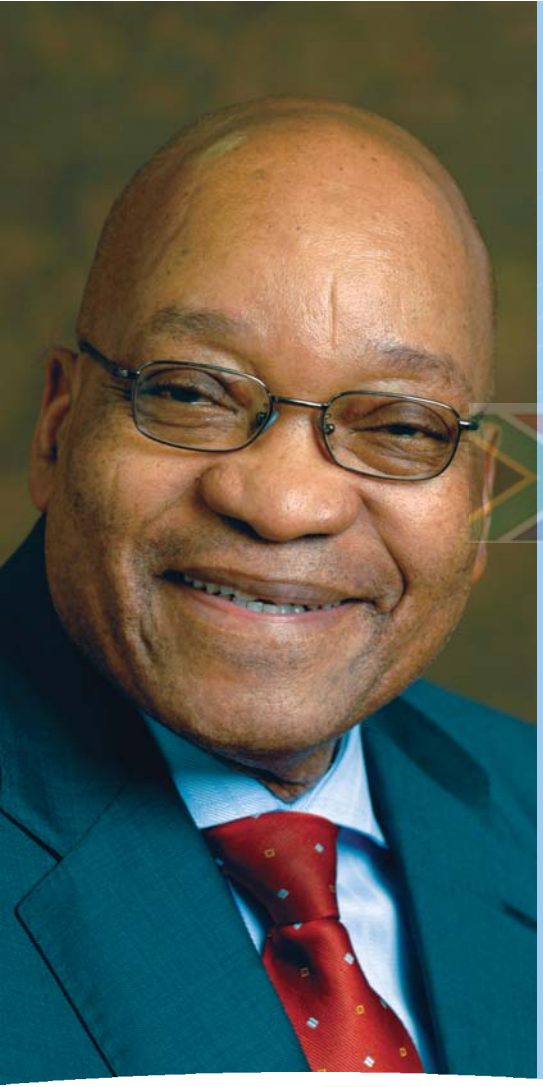

MESSAGE FROM THE PRESIDENT

AS SOUTH AFRICA MAKES A TENTATIVE RECOVERY FROM THE GLOBAL ECONOMIC DOWNTURN, WE HAVE ASSESSED BOTH THE CHALLENGES TO, AND OPPORTUNITIES FOR, OUR COUNTRY'S GROWTH. AT THE CLOSE OF THE SECOND DECADE OF OUR DEMOCRACY, IT IS CLEAR THAT WE NEED TO CHANGE GEAR. ALL SOUTH AFRICANS NEED TO WORK TOGETHER IN A CONCERTED EFFORT TO IMPROVE SERVICE DELIVERY, BOLSTER JOB CREATION AND EXPEDITE ECONOMIC TRANSFORMATION.

In South Africa, joblessness is still unacceptably high even with recent growth in jobs numbers. Global economic prospects remain fragile. In response, the Government of the Republic of South Africa has taken a bold decision. We have chosen a path of counter-cyclical spending driven by catalytic infrastructure investment. We are striking a fine balance between protecting our sovereign integrity while leveraging the multiplier impact of fixed capital formation.

Valuable lessons have been learned from our most recent build programmes, such as the 2010 World Cup stadiums, King Shaka International Airport, Medupi Power Station and Gautrain. We are constantly improving our turnaround times and efficiency, enabling a larger developmental impact.

Infrastructure investment is a key priority of both the National Development Plan and the New Growth Path. We are transforming the economy, directing national growth and driving job creation by implementing a long-term, government-led infrastructure investment programme. In the process, we are leveraging the investment and participation of business, labour and civil society. Government is laying the foundation for growth and decent work for all South Africans and the prosperity of our country.

MR JACOB ZUMA
President of the Republic of South Africa

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MESSAGE FROM THE DEPUTY PRESIDENT

LAST YEAR, IN RESPONSE TO THE CHALLENGE OF FACILITATING FAST-TRACKED GOVERNMENT-LED INFRASTRUCTURE INVESTMENT, CABINET ESTABLISHED THE PRESIDENTIAL INFRASTRUCTURE COORDINATING COMMISSION (PICC).

The PICC is mandated by Cabinet to plan and coordinate a National Infrastructure Plan.It is driven by the highest levels of political will and dedication to harmonise infrastructure planning and implementation across all spheres of the Government of the Republic of South Africa, State agencies as well as social partners.

PICC interventions are cross-cutting yet targeted, seeking to crowd-in investment and mobilise efforts. We are integrating and phasing investment plans across 18 Strategic Infrastructure Projects (SIPs) which have five core functions: to unlock opportunity, transform the economic landscape, create new jobs, strengthen the delivery of basic services and support the integration of African economies.

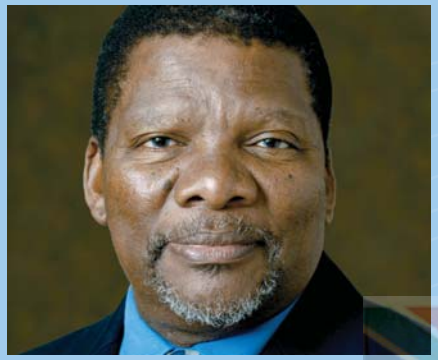
A balanced approach is being fostered through greening of the economy, boosting energy security, promoting integrated municipal infrastructure investment, facilitating integrated urban development, accelerating skills development, investing in rural development and enabling regional integration.

The National Infrastructure Plan is transforming the structure of the economy into a more employment-friendly, equitable and inclusive trajectory. One that offers every South African real opportunities and a share in our growth and wealth. Accordingly, the Government of the Republic of South Africa recognises the vital role of the social partners in creating an enabling environment for implementing national infrastructure plans, mobilising human resources and ensuring accountability.

MR KGALEMA MOTLANTHE
Deputy President of the
Republic of South Africa

MESSAGE FROM CHAIRPERSONS OF THE PICC MANAGEMENT COMMITTEE & SECRETARIAT

FOCUSSED INVESTMENT IN ECONOMIC AND SOCIAL INFRASTRUCTURE HAS PLAYED A SIGNIFICANT AND POSITIVE ROLE IN THE GROWTH PERFORMANCE OF FAST-GROWING ECONOMIES SUCH AS THE ASIAN TIGERS AND BRICS. THROUGH THE NATIONAL INFRASTRUCTURE PLAN, GOVERNMENT AIMS IS MOBILISING SOCIAL PARTNERS TO BUILD THE FOUNDATION FOR SOUTH AFRICA'S FUTURE GROWTH PROSPECTS.



MR GUGILE NKWINTI
Minister of Rural Development and Land Reform;
Chairperson: PICC Management Committee

MR EBRAHIM PATEL
Minister of Economic Development;
Chairperson: PICC Secretariat

Providing infrastructure for the economy and communities is one of the main ways South Africa will realise inclusive and jobs-rich growth. Quality, affordable infrastructure raises economic productivity, permits economic expansion and allows marginalised households and communities to take advantage of new opportunities. It also builds social capital; and raises living standards as people have access to electricity, piped water, housing and reliable transport.

Infrastructure is critical to strengthening key value chains across our economy. Implementation of the National Infrastructure Plan will strengthen domestic demand for local capital goods industries, services and products. The more locally-produced inputs the build programme uses, the more South Africa will grow its manufacturing industry, businesses and jobs.

Through the National Infrastructure Plan we are mobilising social partners to develop the capacity and skills required to meet the demands of South Africa's growing investment programme, not only for construction materials and structural steel inputs, but also for sophisticated equipment like locomotives and turbines. This includes developing the skills to implement, operate and maintain our infrastructure assets.

Leveraging job creation, skills development and localisation throughout the 20-year infrastructure pipeline will be one of the ways that South Africans can collectively build an equitable society.

PART 1: THE JOURNEY

OVERVIEW

The South African Government adopted a National Infrastructure Plan in 2012 that intends to transform our economic landscape while simultaneously creating significant numbers of new jobs, and to strengthen the delivery of basic services. The plan also supports the integration of African economies.

This document is a high-level summary of the National Infrastructure Plan. It sets out the challenges and enablers which South Africa needs to respond to in planning and developing enabling infrastructure that fosters economic growth.

It provides the background to Cabinet's decision to establish a body to integrate and coordinate the long-term infrastructure build - the Presidential Infrastructure Coordinating Commission (PICC) - with its supporting management structures.

It presents the PICC's spatial mapping of infrastructure gaps which analyses future population growth, projected economic growth and areas of the country which are not served with water, electricity, roads, sanitation and communication. Based on this work, eighteen Strategic Integrated Projects (SIPs) have been developed and approved to support economic development and address service delivery in the poorest provinces.

Each SIP comprises a large number of specific infrastructure components and programmes.

This document sketches the integrated approach embarked upon to create an enabling environment and contains key elements of the Implementation Plan.

INTRODUCTION

Challenges

18 years into our democracy, there are still major challenges of poverty, unemployment and inequality.

The New Growth Path sets a goal of 5 million new jobs by 2020; identifies structural problems in the economy to be overcome and points to opportunities in specific sectors and markets or "jobs drivers". The first jobs driver is infrastructure: laying the basis for higher growth, inclusivity and job creation.

Yet weak capacity, poor coordination and weak integration limit the development impact of infrastructure.

Response:

In order to address these challenges and goals, Cabinet established the PICC, to:

- coordinate, integrate and accelerate implementation
- develop a single common National Infrastructure Plan that will be monitored and centrally driven
- identify who is responsible and hold them to account
- develop a 20-year planning framework beyond one administration to avoid a stop-start pattern to the infrastucture roll-out.

PICC TERMS OF REFERENCE

The PICC's mandate is to ensure systematic selection, planning and monitoring of large projects and its terms of reference include the objectives outlined below:

- ✓ Identify 5-year priorities
- ✓ Develop a 20-year project pipeline
- ✓ Achieve development objectives: skills, industrialisation, empowerment, research & development
- ✓ Expand maintenance: new and existing infrastructure
- ✓ Improve infrastructure links: rural areas and poorest provinces
- ✓ Address capacity constraints and improve coordination and integration
- ✓ Scale-up investment in infrastructure
- ✓ Address impact of prices
- ✓ Support African development and integration

Infrastructure is critical to:

- Promote balanced economic development
- Unlock economic opportunities
- Promote mineral extraction and beneficiation
- Address socio-economic needs
- Promote job creation
- Help integrate human settlements and economic development.

Overall Approach

- An infrastructure book has been compiled, which contains more than 645 infrastructure projects across the country
- A National infrastructure Plan with 18 identified Strategic Integrated Projects (SIPs) has been developed and adopted by Cabinet and the PICC.

PART 2: SPATIAL MAPPING

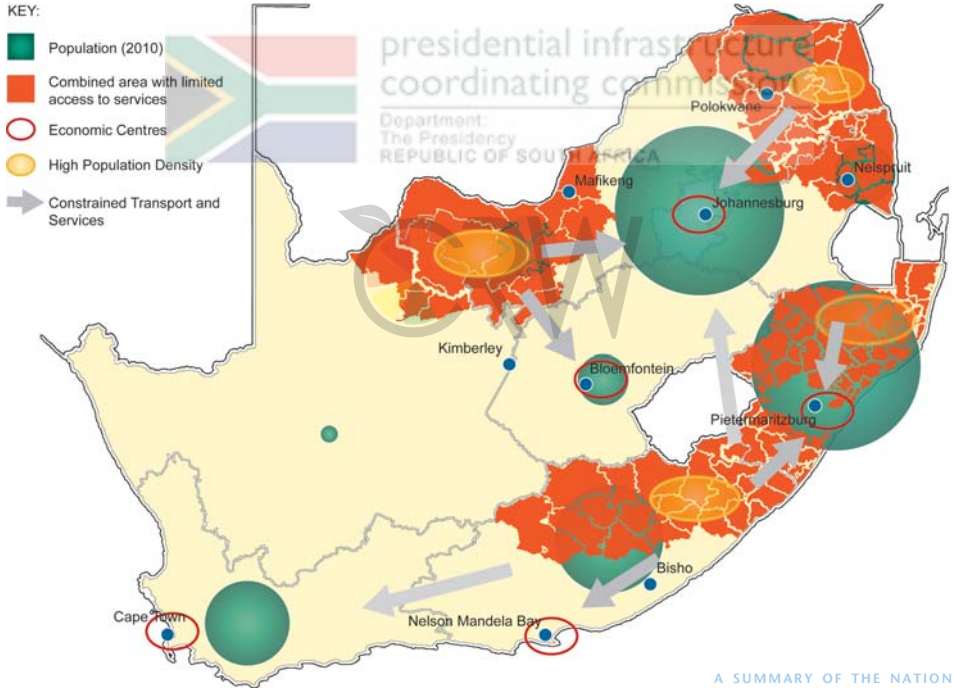
A spatial mapping exercise was undertaken, to determine the key gaps and opportunities, covering:

- Basic needs
- Economic opportunities
- The state of existing infrastructure
- Required infrastructure
- Unlocking economic opportunities.

National, provincial and local maps were developed.

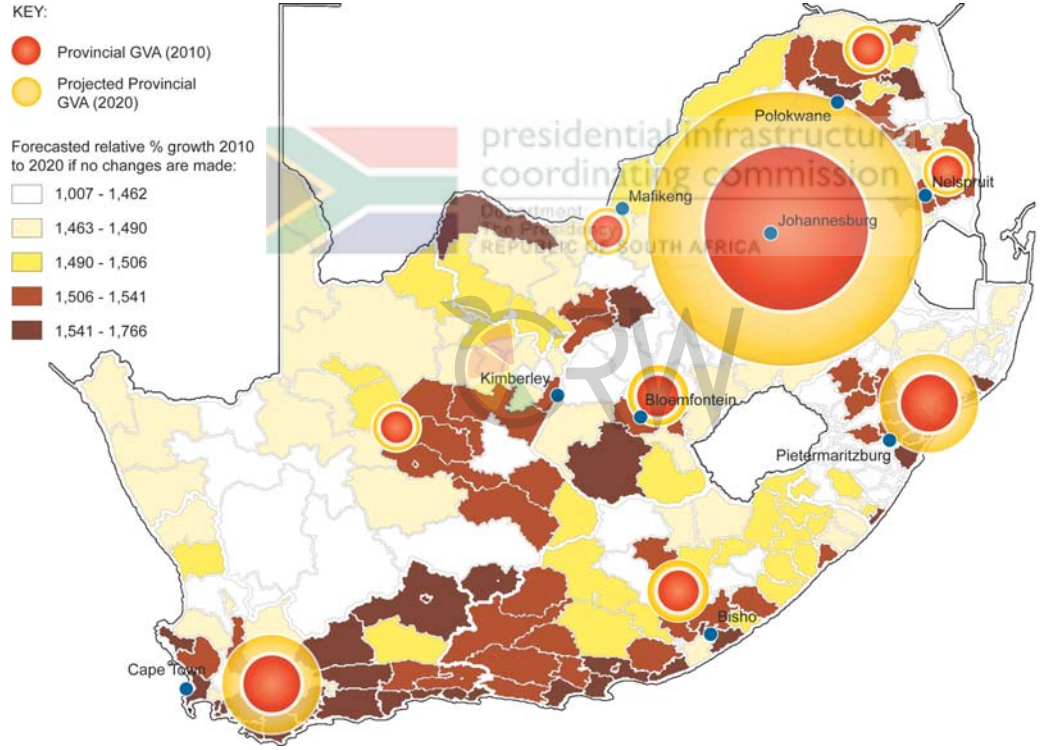
MAP 1: Constrained access to services relative to population density and economic centres.

Below is an illustration of the concentrated population in under-serviced areas of the country where we expect increased urbanisation as people migrate to cities to seek work opportunities. This population migration will result in even more constraints in services within economic nodes necessitating a focus on decentralising and balancing economic growth and development across the country whilst addressing basic services in previously under-serviced areas.



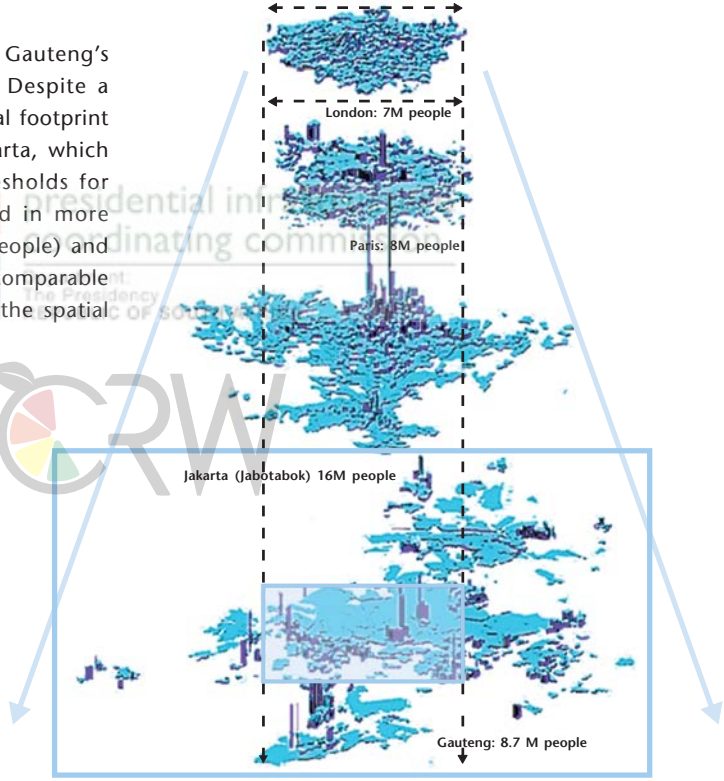
MAP 2: Needs analysis based on current and projected economic growth

Below is an indication of the 2010 and projected (2020) Gross Value Add (GVA) across the country. The development trajectory of economic growth is anticipated to continue around existing economic hubs, especially in Johannesburg and surrounding areas.



MAP 3: International comparison on urban sprawl and densification with implications for efficient provision of utility services

This graphic illustrates the complexity of servicing Gauteng's rapidly urbanising yet sprawling spatial footprint. Despite a population size of 8.7m people, Gauteng has a spatial footprint comparable to an urban agglomeration such as Jakarta, which has a population of 16m people. Sustainable thresholds for efficient delivery of utility services are established in more compact and densified cities such as London (7m people) and Paris (8m people). Although London and Paris have comparable population sizes to Gauteng, they utilise a third of the spatial geography of Gauteng.



Relative density area

Provincial urban sprawl

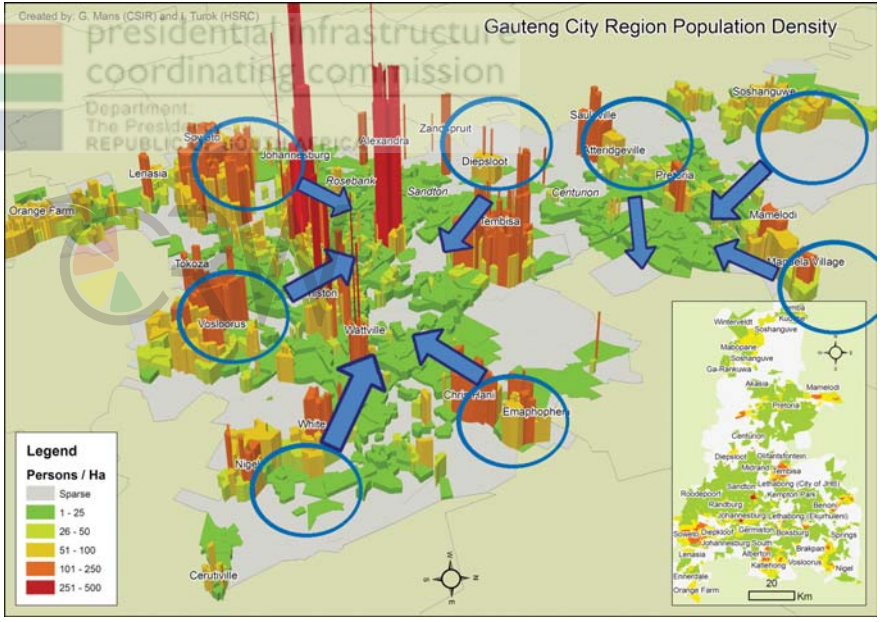
MAP 4: Fragmentation compromises urban efficiency necessary for effective utility provision and sustained economic growth

This map illustrates the challenges in the South African urban spatial geography. In Gauteng, people spend long hours and scarce resources on daily commuting from peripheral high-density residential areas into the city centres of Johannesburg and Pretoria where their work is located. Lack of spatial integration and densification of residential and economic activities constrains economic growth, undermines productivity, reduces quality of life and makes it difficult to deliver efficient utilities and basic services.

Economic Centres

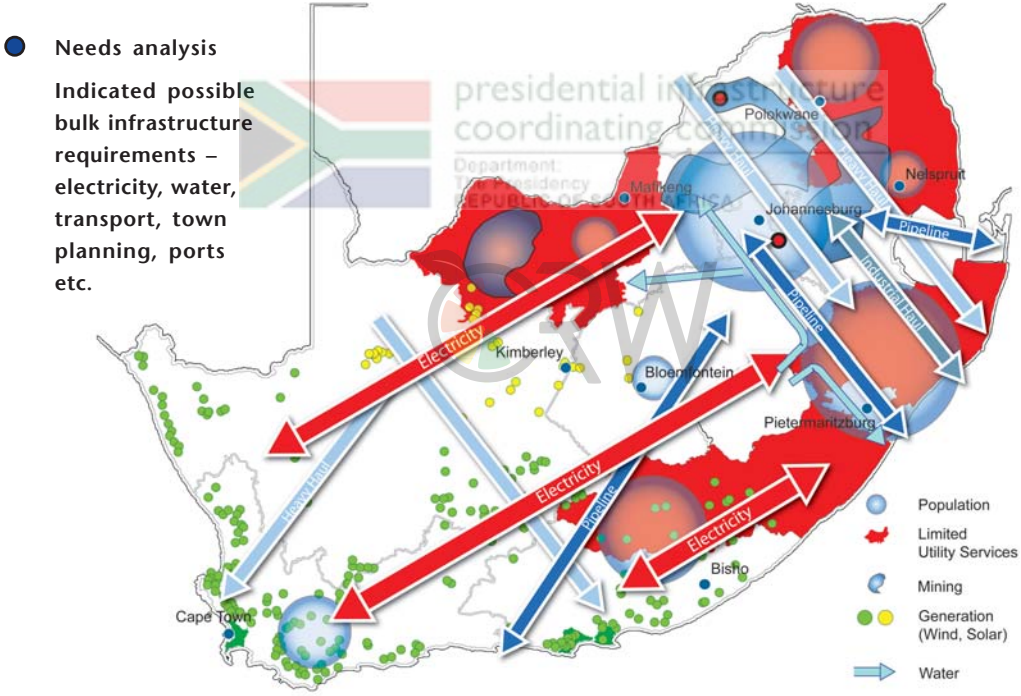
High Population Density

Constrained Transport & Services



MAP 5: Addressing spatial imbalances through targeted infrastructure investment

The map below demonstrates how the SIPs were selected to address the spatial imbalances of the past by addressing the needs of the poorer provinces and enabling socio-economic development. Many of the components within the SIPs are cross-cutting with a national footprint such as the infrastructure programmes for school building, healthcare facilities and expanding access to broadband.



MAP 6: Overview of the 18 Strategic Infrastructure Projects (SIPs)

1. Catalytic

Northern Mineral Belt

Durban-Free State-Gauteng Development Region

South-Eastern Node and Corridor

Saldanha-Northern Cape Corridor

2. Enabling socio-economic development

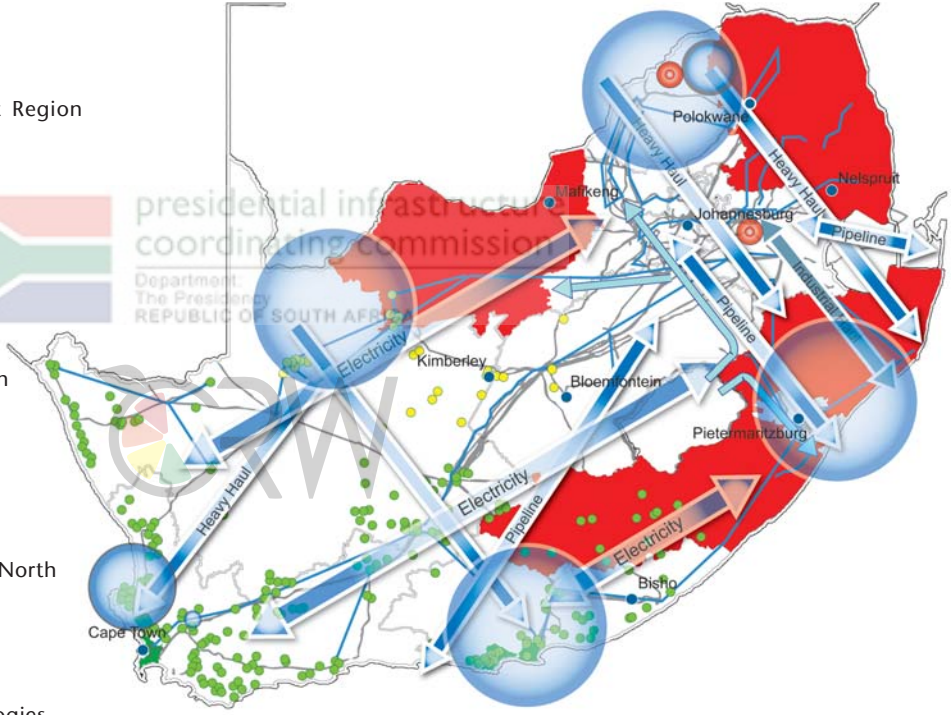
Greening the South African Economy, Electricity Generation, Electricity Transmission and Distribution, Water and Sanitation

Municipal, Agro-logistics and Rural Infrastructure, Urban Spatial Re-organisation and Regional Integration

Unlocking the economic opportunities in North West Province

3. Cross-cutting

Information and Communication Technologies, National school build and Higher Education, Revitalisation of public hospitals



NEW CENTRES OF ECONOMIC GROWTH IDENTIFIED ABOVE

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PART 3: THE 18 STRATEGIC INTEGRATED PROJECTS (SIPs)

EIGHTEEN STRATEGIC INTEGRATED PROJECTS (SIPs) HAVE BEEN DEVELOPED WHICH INTEGRATE MORE THAN 150 OF THE INDIVIDUAL INFRASTRUCTURE PLANS INTO A COHERENT PACKAGE

The SIPs cover social and economic infrastructure – across all 9 provinces (with an emphasis on lagging regions).

SIPs cover catalytic projects that can fast-track development and growth. Work is being aligned with key cross-cutting areas: human settlement planning and skills development.

The SIPs comprise:

- 5 Geographically-focussed SIPs
- 3 Spatial SIPs
- 3 Energy SIPs
- 3 Social Infrastructure SIPs
- 2 Knowledge SIPs

- 1 Regional Integration SIP
- 1 Water and Sanitation SIP

GEOGRAPHIC SIPs

SIP 1: Unlocking the northern mineral belt with Waterberg as the catalyst

- Unlock mineral resources
- Rail, water pipelines, energy generation and transmission infrastructure
- Thousands of direct jobs across the areas unlocked
- Urban development in Waterberg - first major post-apartheid new urban centre will be a "green" development project
- Rail capacity to Mpumalanga and Richards Bay
- Shift from road to rail in Mpumalanga
- Logistics corridor to connect Mpumalanga and Gauteng.

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

- Strengthen the logistics and transport corridor between SA's main industrial hubs
- Improve access to Durban's export and import facilities
- Integrate Free State Industrial Strategy activities into the corridor
- New port in Durban
- Aerotropolis around OR Tambo International Airport.

Primary Mineral Reserves

GEOGRAPHIC SIPs

SIP 3: South-Eastern node & corridor development

- New dam at Mzimvubu with irrigation systems
- N2-Wild Coast Highway which improves access into KwaZulu-Natal and national supply chains
- Strengthen economic development in Port Elizabeth through a manganese rail capacity from Northern Cape
- A manganese sinter (Northern Cape) and smelter (Eastern Cape)
- Possible Mthombo refinery (Coega) and transshipment hub at Ngqura and port and rail upgrades to improve industrial capacity and performance of the automotive sector.

SIP 4: Unlocking the economic opportunities in North West Province

- Acceleration of investments in road, rail, bulk water, water treatment and transmission infrastructure
- Enabling reliable supply and basic service delivery
- Facilitate development of mining, agricultural activities and tourism opportunities
- Open up beneficiation opportunities in North West Province.

SIP 5: Saldanha-Northern Cape development corridor

- Integrated rail and port expansion
- Back-of-port industrial capacity (including an IDZ)
- Strengthening maritime support capacity for oil and gas along African West Coast
- Expansion of iron ore mining production and beneficiation.

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ENERGY SIPs

SIP 8: Green energy in support of the South African economy

Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010) and support bio-fuel production facilities.

SIP 9: Electricity generation to support socio-economic development

Accelerate the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances. Monitor implementation of major projects such as new power stations: Medupi, Kusile and Ingula.

SIP 10: Electricity transmission and distribution for all

Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development.

Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.

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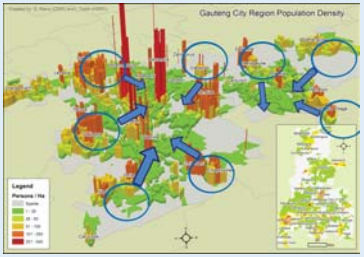
SPATIAL SIPs

SIP 6: Integrated municipal infrastructure project

Develop national capacity to assist the 23 least resourced districts (19 million people) to address all the maintenance backlogs and upgrades required in water, electricity and sanitation bulk infrastructure. The road maintenance programme will enhance service delivery capacity thereby impacting positively on the population.

SIP 7: Integrated urban space and public transport programme

Coordinate planning and implementation of public transport, human settlement, economic and social infrastructure and location decisions into sustainable urban settlements connected by densified transport corridors. This will focus on the 12 largest urban centres of the country, including all the metros in South Africa. Significant work is underway on urban transport integration.



SIP 11: Agri-logistics and rural iInfrastructure

Improve investment in agricultural and rural infrastructure that supports expansion of production and employment, small-scale farming and rural development, including facilities for storage (silos, fresh-produce facilities, packing houses); transport links to main networks (rural roads, branch train-line, ports), fencing of farms, irrigation schemes to poor areas, improved R&D on rural issues (including expansion of agricultural colleges), processing facilities (abattoirs, dairy infrastructure), aquaculture incubation schemes and rural tourism infrastructure.

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SOCIAL INFRASTRUCTURE SIPs

SIP 12: Revitalisation of public hospitals and other health facilities

Build and refurbish hospitals, other public health facilities and revamp 122 nursing colleges. Extensive capital expenditure to prepare the public healthcare system to meet the requirements of the National Health Insurance (NHI) system. The SIP contains major builds for 6 hospitals.

SIP 13: National school build programme

A national school build programme driven by uniformity in planning, procurement, contract management and provision of basic services. Replace inappropriate school structures and address basic service backlog and provision of basic services under the Accelerated School Infrastructure Delivery Initiative (ASIDI). In addition, address national backlogs in classrooms, libraries, computer labs and admin buildings. Improving the learning environment will strengthen outcomes especially in rural schools, as well as reduce overcrowding.

SIP 14: Higher education infrastructure

Infrastructure development for higher education, focusing on lecture rooms, student accommodation, libraries and laboratories, as well as ICT connectivity. Development of university towns with a combination of facilities from residence, retail to recreation and transport. Potential to ensure shared infrastructure such as libraries by universities, FETs and other educational institutions. Two new universities will be built - in Northern Cape and Mpumalanga.

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KNOWLEDGE SIPs

SIP 15: Expanding access to communication technology

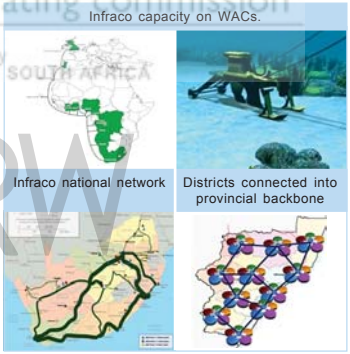
Provide for broadband coverage to all households by 2020 by establishing core Points of Presence (POPs) in district municipalities, extend new Infraco fibre networks across provinces linking districts, establish POPs and fibre connectivity at local level, and further penetrate the network into deep rural areas.

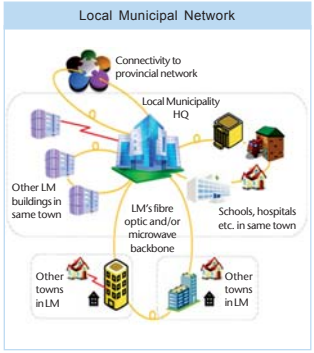
While the private sector will invest in ICT infrastructure for urban and corporate networks, government will co-invest for township and rural access, as well as for e-government, school and health connectivity.

The school roll-out focus is initially on the 125 Dinaledi (science and maths-focussed) schools and 1525 district schools. Part of digital access to all South Africans includes TV migration nationally from analogue to digital broadcasting.

SIP 16: SKA & Meerkat

SKA is a global mega-science project, building an advanced radio-telescope facility linked to research infrastructure and high-speed ICT capacity and provides an opportunity for Africa and South Africa to contribute towards global advanced science projects.





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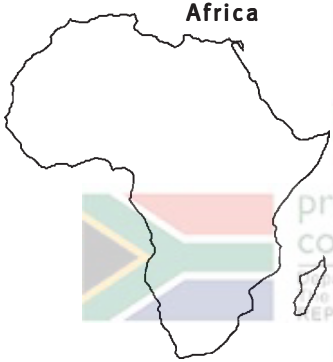
REGIONAL SIPs

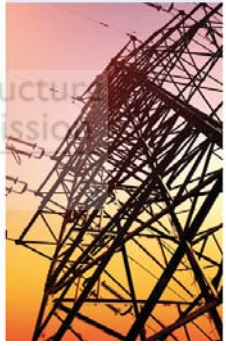
- Population: 1bn
- Arable land
- Water resources
- Oil, gas and mineral resources
- Growing economies.



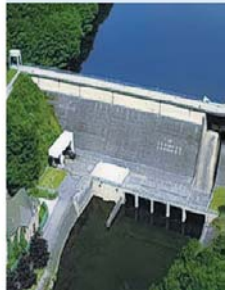
Bulk Water Resources: Lesotho Highlands

Transport: Regional Interconnectors

Electricity Transmission: Mozambique (Cesul)



Hydro Power: DRC (Grand Inga), Zambia Lesotho and Mozambique (Mphanda Nkuwa)



SIP 17: Regional integration for African cooperation and development

Participate in mutually beneficial infrastructure projects to unlock long-term socio-economic benefits by partnering with fast-growing African economies with projected growth ranging between 3% and 10%.

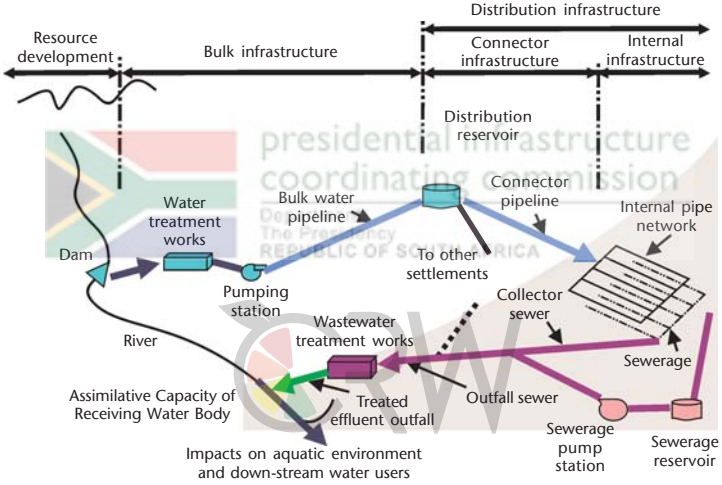
The projects involving transport, water and energy also provide competitively-priced, diversified, short and medium to long-term options for the South African economy where, for example, electricity transmission in Mozambique (Cesul) could assist in providing cheap, clean power in the short-term whilst Grand Inga in the DRC is long-term.

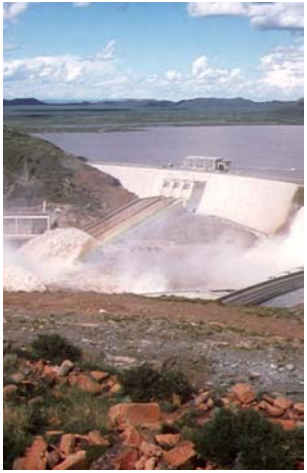
All these projects complement the Free Trade Area (FTA) discussions to create a market of 600 million people in South, Central and East Africa.

WATER AND SANITATION SIPs

A Nationwide Project: All Provinces

Developing a Sustainable Water Supply-Chain: "Source-to-Tap-to-Source"





SIP 18: Water and sanitation infrastructure

A 10-year plan to address the estimated backlog of adequate water to supply 1.4m households and 2.1m households to basic sanitation.

The project will involve provision of sustainable supply of water to meet social needs and support economic growth. Projects will provide for new infrastructure, rehabilitation and upgrading of existing infrastructure, as well as improve management of water infrastructure.

PART 4: ENABLERS AND OPPORTUNITIES

INTRODUCTION

In order to implement the SIPs, the PICC reviewed critical enablers for the infrastructure programme.

This includes assessing the supply lines for construction inputs such as wood, cement, steel and bitumen. Other impacts on the optimisation and viability of infrastructure are the direct charges such as port charges, water pricing and other forms of tariffs and levies. In the case of transport, the expansion of rail lines is now being accompanied by procurement of an increased number of trains to fully utilise the infrastructure. In the health sector the PICC supported the establishment of a pharmaceutical manufacturing plant to complement the expansion of clinic and hospital infrastructure.

In addition to assessing key constraints, issues such as delayed access to land, skills constraints and the affordability of the cost of the SIPs were reviewed.

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ENABLERS

Construction environment	Address the supply and competition bottlenecks in steel, cement, wood, coal, bitumen, as well as equipment and machinery Address the security of supply, pricing and downstream beneficiation of iron ore and manganese
Transport sector	Reduce port charges by R1bn in 2012/13 Acquire modernised rolling stock (locomotive and wagons) to meet expanding demand
Rural access	Use the Post Office network to establish a Postbank with outreach in rural areas and tap savings
Pharmaceutical manufacturing plant	Support the development of a manufacturing facility to produce active pharmaceutical ingredients for antiretrovirals
Access and availability of water	Fast-track water licenses, expand water-system capacity, speed-up build programmes and address backlogs
Authorisations	Streamline, integrate and address bottlenecks in authorisations, to ensure that construction commencement and ongoing construction activities are not delayed

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FUNDING

Known benefits to SA by investing in infrastructure and basic services backlog

- Jobs
- Significant increase in tax base and tax revenues
- Infrastructure projects and economic activity attract foreign direct investment
- Increase in exports and trade
- Improved quality of life for all citizens
- The backlog in basic services is addressed.

Considerations to be taken into account in devising appropriate funding strategies

- Innovative funding including accessing retirement funding for infrastructure projects
- Use balance sheets of State-owned Enterprises fully and build on the strengths of SOEs
- Bring on board the development finance institutions such as the IDC
- Reassess the model of PPPs that have been used in the past to ensure equitable transfer of risk to private sector
- Recognise that the total public sector debt is for a single sovereign entity.

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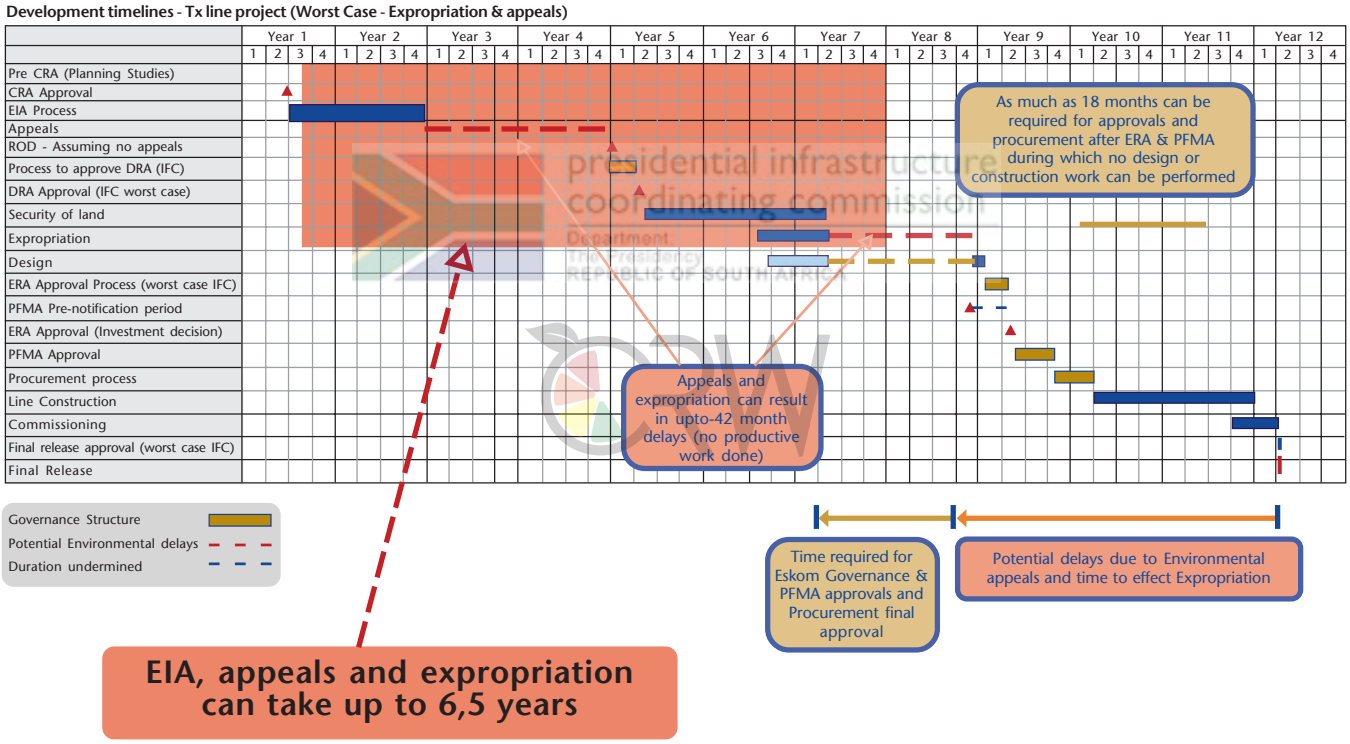
Regulatory Reform: A real example of the challenge experienced in gaining access to land for infrastructure build



Improving performance on infrastructure projects

Challenges

- Poor planning at institutional level
- Slow approval of projects
- Late start to projects
- Poor quality of execution
- High costs and monopoly pricing
- Poor industry reaction time
- Poor project controls (schedule, cost, quality, safety, health and environment)
- Tender abuses and corruption
- Unrealistic acceleration
- Unplanned and costly rework of designs or construction
- No political alignment with no champion
- Permitting (e.g. EIA) rework or delays
- Lead time delays
- Slow or non-payment of contractors.

Improve by

Actions

- Programme to coordinate improvement in project-related skills, with project management and engineering skills within the State
- Align the national, provincial and local structures
- Align the investment plan with funding allocation
- Long-term support for long-term projects, especially regional projects
- Predictable process for triggering of national projects, including regulatory approvals
- Strong policy direction for incentivisation of supplier development, localisation and private sector participation
- Plan and build projects that promote low life-cycle costs
- Standardised designs and delivery
- Full life-cycle costs recovered through user tariff or a committed funding strategy
- Strengthening project controls and monitoring in government and State-owned Enterprises
- Standardised and simple automated reporting to track project progress and performance
- Early warning to address bottlenecks
- New compact with private sector.

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PART 5: DRIVING JOB CREATION & INDUSTRIALISATION

DRIVING JOB CREATION

Jobs impact estimates done that include new jobs in:

- Construction
- Operation
- Maintenance
- Multiplier effect of infrastructure spending
- Components and supplies to infrastructure build programmes
- Unlocking investment in other sectors which depend on reliable infrastructure (e.g. mining).

Key areas for Youth Inclusion

- Very high levels of youth unemployment require special and focussed measures to draw young people into employment in the infrastructure programme.
- Youth inclusion:
  - as trainees and apprentices
  - as employees in the SOEs and construction companies, with clear targets for each project.

Available Mechanisms:

- Amending existing shareholder compacts to require SOEs and public entities involved in infrastructure to give effect to this goal
- Terms should be set out in the tender specifications and project design for the private sector.

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INDUSTRIAL DEVELOPMENT: MINING AND PROCESSING

Manganese smelter and sinter plants

A mine and a sinter plant in Hotazel in Northern Cape, with plans to develop a ferromanganese smelter complex at Coega in Eastern Cape.

Transnet is planning to increase the current rail and port handling capacity from 5.5Mtpa to 16Mtpa as part of their current market demand strategy.

Iron Ore Mining

Transnet has completed the upgrade to the iron ore rail line between Sishen in Northern Cape and Saldanha in the Western Cape to 60Mtpa, with future expansion plans to 82Mtpa.

Transnet is also increasing the iron ore handling facility at Saldanha.

This will be complemented by measures to improve greater local steel and downstream production.

INDUSTRIAL DEVELOPMENT: INDUSTRIAL INPUTS

Mining

With access to water, electricity and transport logistics, the SIPs will unlock mining development in Limpopo, North West and Northern Cape provinces.

Inputs: Bitumen

Local production capacity must be increased.

Inputs: Steel

Infrastructure programmes will require large amounts of steel and fabricated products. This opens opportunities for additional local production and investment.

Inputs: Cement

Domestic production of cement can be scaled-up to meet the demand of the Infrastructure Plan.

Inputs: Timber

The net deforestation and market structure will create supply constraints and price pressure. New entrants and greater production will be encouraged.

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INDUSTRIAL DEVELOPMENT: COMPONENT MANUFACTURING

Heavy Component Manufacturing

The size and scope of the 20-year infrastructure plan justifies manufacturing heavy equipment locally. South Africa has a strong manufacturing capability in this industry.

Small Component Manufacturing

The mass roll-out of solar water heaters (SWH) and set-up boxes for digital migration justifies the support and investment for local manufacturing.

INDUSTRIAL DEVELOPMENT: RAIL STOCK

Rolling stock for freight and passenger rail

Transnet and Prasa locomotives and wagons are manufactured locally. Localisation of component manufacture needs to be deepened.

INDUSTRIAL DEVELOPMENT: AGRO-PROCESSING

Agro-Processing

Farm Linkage

With long-term food security being a top priority for most countries, South Africa has a significant opportunity to support agro-processing. Infrastructure can connect farms and markets.

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INDUSTRIAL DEVELOPMENT: PHARMACEUTICALS

Pharmaceuticals

SA has the opportunity to support a facility which will produce the active ingredients for ARVs.

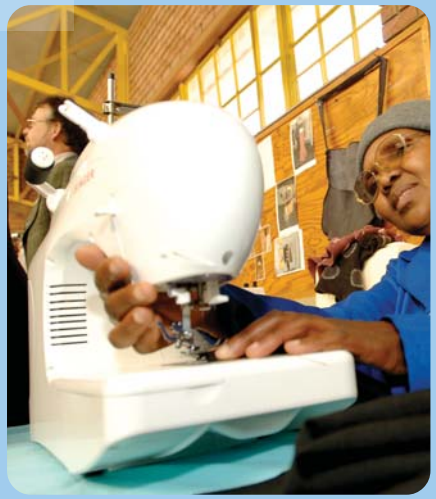
- SA has the largest ARV programme in the world, estimated at 1.3m which will increase to 2.5m by 2015 with a planned coverage of 80%
- Project Ketlaphela will produce 1bn tablets to treat 1m patients. The project is being developed by a global pharmaceutical company and State-owned corporations
- SA will spend R1.5bn and create 350 permanent and 1 200 construction jobs.

PART 6: SIP SKILLS AND PROJECT FRAMEWORK

NATURE OF GOVERNMENT'S SKILLS GAP

- Shortage of professionals - engineering, built environment etc
- Limited knowledge retention
- Skills shortage concentrated at a local government level

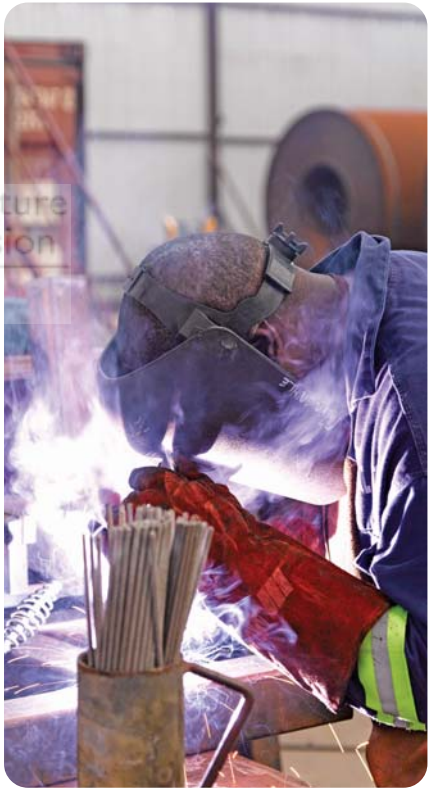
- State training facilities largely neglected after 1980s commercialisation
- General shortage of technical instructors, workplace assessors and mentors.



OPPORTUNITIES

- National emphasis on engineering training will be complemented by other key skills e.g. artisans, operators, planners, surveyors, project developers, financial experts, systems experts etc
- Progress has been made in undergraduate engineering and enrolment figures (2008 – 2010). Now we will address the gap in **Stage Two learning** – graduate mentoring workplace learning for professional designations

- Stagnation in numbers of new learners entering over last three years suggests "economic capacity" for **artisan training** reached. Increasing numbers require more funding and workplace opportunities
- We are developing an integrated skills plan for the next 20 years across all the SIPs based on the demand and supply of skills in the current and anticipated build across the country. This plan will be used to inform training colleges, universities and artisan schools across the country. It will ensure the smoother transition of construction workers from one build to the next
- Dedicated project training courses which are modular in design and repeat courses throughout the year to improve the capacity and standardisation in project implementation across the SIPs
- Develop a shared pool of scarce skills across and between public entities.



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EMERGING LESSONS: 2010 WORLD CUP

- Central coordination with direct presidential oversight and a Local Organising Committee with Ministerial oversight made quick decisions
- Well-defined specifications and project scope
- Coordination between national, provincial and municipal structures with public/private sector alignment and participation
- Identified champions, by name, in each institution, tied to performance
- Poor industrial relations (strikes) at sub-contractor level
- Cost escalation to meet deadlines and acceleration caused by delays
- Some contracts over-priced, because of works definition deficiencies
- Insufficient developmental goals incorporated in project specifications.

EMERGING LESSONS: MEDUPI POWER STATION

- Cost escalations linked to project scope definition and specifications. Plant specifications depend on project needs and engineering conditions. There is an inherent tension between engineering solutions which are economical yet fit-for-purpose
- The high cost and availability of scarce specialist skills e.g. pipe and boiler welders has implications for local sourcing and project costs
- Pre-emptive training and sourcing of skills for build programme, prior to project initiation
- Timely authorizations and approvals.

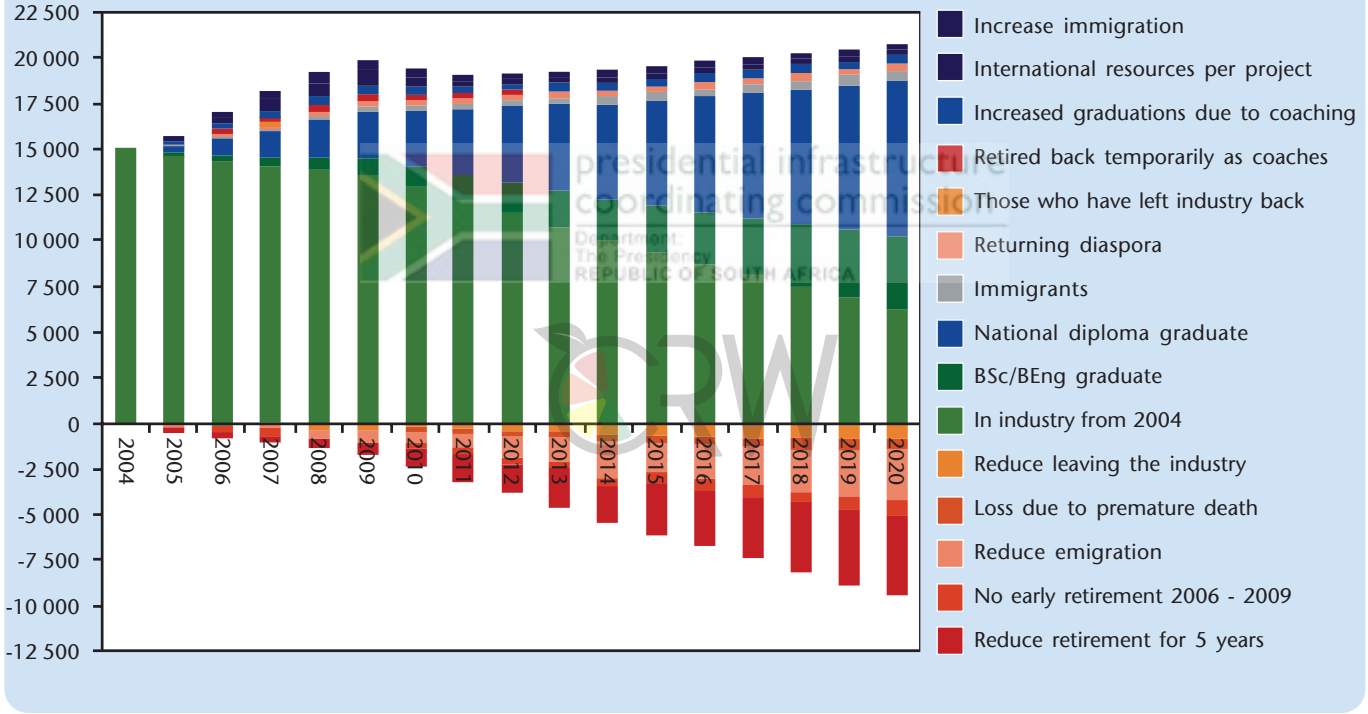
EMERGING LESSONS: GAUTRAIN

- Detailed planning and specification
- PPP model resulted in small private sector investment relative to government's investment and liability for full patronage risk
- Project flexibility to shift construction efforts without incurring additional costs to meet emerging government priorities e.g. Airport-Sandton link completion for 2010 World Cup
- Innovative contract specifications and incentive system included financial penalty regimes for lack of compliance by contractors, sub-contractors and operator
- Procurement in engineering and construction phases was governed by contractual obligations to transfer skills. However, additional mechanisms were needed to measure both quality and quantity of the training
- Monthly escalations on labour, plant, fuel and materials are standard in civil engineering projects. Yet unforeseen risks can have significant implications for cost over-runs and completion dates.

EMERGING MODELS: DEPARTMENT OF HEALTH

- An experienced, specialist management engineer centrally placed with authority to manage infrastructure programme across all three spheres of government
- Dramatic short-term decrease in provincial infrastructure under-expenditure through establishment of internal engineering management competence
- National department complemented policy formulation and oversight functions with capacity to guide nuts and bolts of provincial implementation
- Oversight and quality control of provincial implementation through building project conceptualisation, design, standardisation and project controls at a national level
- A specialist contracting unit was set up with the national government department to oversee project management, sequencing and pricing issues, engineering standards, fit-for-purpose assessments and standardization

SHORT-TERM RESPONSES TO ENGINEERING SHORTAGES



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DEVELOPING A SKILLS FRAMEWORK

- A Skills Plan will be developed for each SIP covering construction, operation and maintenance periods
- A dedicated Project Training Course structure with universities to augment skills in the public sector
- A shared pool for utilising scarce skills across and between public entities (including the South African National Defence Force's professional skills base), as well as State-owned Enterprise apprenticeships and interns
- Private sector skills commitments, using the National Skills Accord
- Attracting back South Africans with high-level engineering and project management skills, working on projects across the world
- Easing immigration rules in infrastructure-linked scarce-skills categories
- Developing partnerships with universities and other institutions in the built environment:
  - R160m programme to increase engineering capacity at University of Johannesburg
  - 2 new universities
  - FET Colleges capacity with greater specialisation
  - Minister of Higher Education and Training to initiate Infrastructure Skills Compact discussions with higher education institutions
- Infrastructure as a training space with skills and apprenticeship targets in the project specifications
- Human Resource Development Council should enhance the Skills Framework with discussions on what different constituencies can do in context of the National Skills Accord.

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PART 7: IMPLEMENTATION ARRANGEMENTS

IMPLEMENTATION FRAMEWORK

1. **Monitoring actual construction** across the country
2. Develop an **Infrastructure Skills Plan**
3. **Funding Framework** to ensure resources for Plan
4. **Social Dialogue** to involve organised labour and business
5. Address bureaucracy and regulatory delays through an **Infrastructure Development Act**
6. Develop a **Supply Side and Localisation Plan**
7. Ensure **Cost Containment and Anti-Corruption** measures
8. Development Impact Plans per SIP, covering jobs, greening of economy, localisation, skills development, empowerment and R&D
9. **Inter-governmental alignment**: Deliver compacts to indicate who does what, by when
10. A **single planning tool and dashboard** across all Projects
11. Strengthened capacity in the PICC and in the State as a whole
12. An **Interim Project Coordinator/ Implementation Agency** appointed by MANCO will comprise a Project Manager responsible for developing a Business Plan and coordinating integrated infrastructure workstreams across government.

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PART 8: CONCLUSION

EMPOWERING A NATION - TRIGGERING DEVELOPMENT

- The Infrastructure Plan is a bold effort to transform the economy, laying the basis for growth and jobs
- The Plan is an opportunity to mobilise the nation behind a common vision, develop a common platform for delivery to the nation and build partnerships with business and labour
- It seeks to promote:
  - re-industrialisation through manufacturing of inputs, components and machinery
  - skills development aimed at critical categories
  - greening the economy
  - empowerment.

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