Department of Performance Monitoring and Evaluation in The Presidency

Greening SA's Infrastructure Programs: Critical considerations

DBSA Knowledge Week

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Overview

- Definitions of green economy
- National green economy policy landscape
- South Africa's resource characteristics
- What infrastructure are we talking about?
- Key considerations in greening infrastructure
- What this means in practice: key sectors
- Progress and gaps

Multiple definitions of "greening the economy"

- Its about decoupling rates of economic growth and improvements in well being from rates of resource consumption and associated environmental impacts
- It results in improved human well being and social equity, while significantly reducing environmental risks and environmental scarcities
- Its a new area of job creation potential
- It requires substantial investment in reducing carbon emissions, and pollution, enhancing energy and resource efficiency, preventing loss of ecosystem services; ie rebuilding natural capital as a critical economic asset.

National Green Economy Landscape

- **2009 -2014 MTSF**
- New Growth Path
- Industrial Policy Action Plan (IPAP-2)
- *National Strategy on Sustainable Development*
- National Climate Change Policy
- National Planning Commission – Low Carbon Growth work stream
- *Science and Innovation Plan*
- Integrated Resource Plan -2
- Environmental Fiscal Instruments (i.e. Carbon tax)
- National Skills Development Strategy 3

South Africa's characteristics

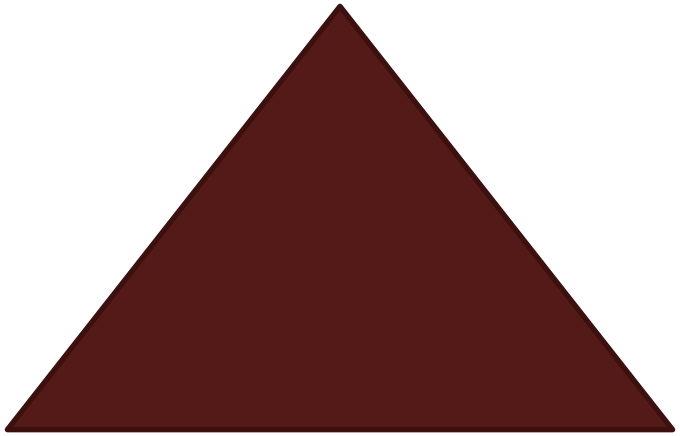
- Heavy reliance on a coal (70% from coal)
- Significant CO2 emitter, with the main source of CO2 being the energy sector
- Potentially vulnerable to international to reduce emissions, eg from climate change regulation, trade barriers, a shift in consumer preferences, and a shift in investor priorities.
- Imported oil meets 16 – 20% of SA energy needs – therefore vulnerable to increasing oil prices; implications for transport infrastructure

SA characteristics 2

- Water constrained: high percentage of available surface water resources allocated; limited dillution capacity; backlog in infrastructure maintenance; DWA water reconciliation strategies show some urban areas in water debt; implications for water infrastructure
- Solid waste: increasing solid waste quantities; increasing costs of managing landfill sites; limited recycling. Backlogs in permitting and maintenance
- Soils: 13% of land is arable; exceeding soil capacity to meet growing food requirements; growing challenges iro erosion; soil compaction; loss of soil fertility.
- Biodiversity: high percentage of ecosystems classified as threatened (terrestrial=34%; freshwater=82%; marine = 65%.

What infrastructure are we talking about?

Economic infrastructure:
Bulk network systems: pipelines, highways, rail, dams, ports, powerstations, treatment plant



Env Infrastructure:
Ecosystem services that produce food, fuel and fibre; that assimilate waste; that enhance adaptive capacity

Social infrastructure:
Local distribution: water reticulation, electricity distribution, municipal roads, schools, hospitals, waste management etc

Key considerations in greening infrastructure

- Increase economic, social and environmental efficiencies
- Reduce environmental impact
- Build resilience to the physical and economic impacts of climate change
- Invest in ecosystem services as an economic asset
- Conceptualise the transition (short and medium term planning)
- Minimise lock-in of infrastructure that is resource intensive(ie. long term planning)
- Monitor and track progress; where possible, build in the flexibility for “course correction”

What does this mean in practice?

- Consider implications of each in selected sectors (energy, transport, water, human settlements)
- Assess the extent of progress: eg. are there existing policies and programs; is it captured in the key planning and monitoring instruments (eg. delivery agreements or the NPC Diagnostic)

Energy sector

Parameters	Action in the energy sector
Increase efficiencies	Energy efficiency across sectors
Reduce impact	Renewable energy in energy mix
Build resilience & sustainability	Scale up carbon constraint in energy planning over time
Conceptualise & plan the transition	R&D for innovation in cleaner technologies, alternative energy sources; investment & financing plan;
Minimise lock-in	Plan our way out of coal fired power stations; invest in clean coal technologies; use thermal efficiency and emission standards for existing coal fired power stations
Monitor progress	Diversify indicators of progress beyond cost efficiency, to include environmental efficiency

Transport sector

Parameters	Action in the transport sector
Increase efficiencies	Improve efficiency of vehicle fleet
Reduce impact	Invest in and incentivise cleaner fuel technologies and alternative fuels
Build resilience & sustainability	Integrate climate change information into transport planning, to minimise risk to infrastructure from extreme weather events
Conceptualise & plan the transition	Integrate landuse and transportation planning to encourage public transport. Incentivise modal shifts (passengers to public transport; freight to rail). R&D for innovation in cleaner technologies, alternative fuel sources
Minimise lock-in	Plan our way out of reliance on road freight
Monitor progress	Diversify indicators of progress beyond cost efficiency, to include environmental efficiency

Water sector

Parameters	Action in the water sector
Increase efficiencies	Incentivise water use efficiencies in all sectors; scale up demand side management programmes
Reduce impact	Reduce water pollution. Address aging and failing sewage infrastructure
Build resilience & sustainability	Strengthen catchment and water management practices to enhance water security and resource protection under changing climatic conditions. Regional perspective for water resources management
Conceptualise & plan the transition	Integrate climate change information into water planning, to minimise risk to infrastructure and supply. R&D on new and unused resources, eg groundwater, re-use of effluent, desalination.
Minimise lock-in	Plan our way out of reliance on cheap water
Monitor progress	Diversify indicators of progress beyond cost efficiency, to include environmental efficiency

Human settlements - urban

Parameters	Action in urban settlements
Increase efficiencies	Incorporate thermal efficiency into building design; scale up use of solar water heating;
Reduce impact	Scale up grey water separation technologies; enhance waste management and scale up recycling
Build resilience & sustainability	Urban infrastructure planning must account for water supply constraints and impacts of extreme weather-related events
Conceptualise & plan the transition	Integrate human settlement planning with public transport planning. Use water sensitive urban design.
Minimise lock-in	Plan our way out of dysfunctionality in urban areas
Monitor progress	Diversify indicators of progress beyond cost efficiency, to include environmental efficiency

Progress and gaps

Sector	Planning tools	Monitoring	Gaps
Energy	IRP 2; EE policy; NPC Diagnostic focus on low carbon.	EE and RE in Outcomes 6 &10	Policy alignment Monitoring systems EE implementation
Transport	NPC focus on transport infrastructure Other planning tools?	Transport infrastructure targets in Outcome 6;	Policy focus on "green" parameters is fragmented. Monitoring systems
Water	National water strategy; water constraint recognised in NPC diagnostic	Water infrastructure in Outcome 6. Water quality in Outcome 10	Policy alignment Monitoring systems Limited focus on long term planning

Conceptualising transition

- Key question: how to plan and management the TRANSITION to a greener growth path in a manner that also creates job opportunities, promotes economic growth and reduces poverty
- Transition requires: prioritisation (cant do everything); categorisation of the type of actions that are possible (to optimise positive spin-offs); sequencing (short, medium, long term); path dependencies (eg. policy framework before programme)
- Select catalysts with multiple outcomes: using criteria eg: employment creation; local industry development; enhancing competitiveness; building on what exists; enhancing natural capital.

Tools to achieve transition

- **Policy instruments** that promote complementarities (economic, social, env); & leverage change; **Policy conflicts?**
- **Fiscal instruments:** measures that give a price to environmental goods
- **Strengthened institutional arrangements** that function within increasing complexity, cutting across sectoral silos and political boundaries.
- **A new generation of financial instruments** that share risk between governments and investors; make new technology affordable
- **Procurement:** preferential procurement of green products for gov spending
- **Skills development:** a new and evolving set of skills to support the emerging green sectors in the economy
- **Information and monitoring**: set targets, define trajectories and gather the right information to monitor progress
- **Innovation planning**: continual innovation in materials, product design, manufacturing techniques.

Ke ya leboga Ke a leboha

Ke a leboga Ngiyabonga Ndiyabulela

Ngiyathokoza Ngiyabonga

Inkomu Ndi khou livhuha Thank you

Dankie

Go to http://www.thepresidency.gov.za/dpme.asp for PME documents including narrative guide to outcomes approach, outcomes documents and delivery agreement guide