

Featured SET policy:

6 – Developing a strong network of economic infrastructure – transport, energy, water resources, and ICT

In a series of articles, the NSTF is unpacking the National Development Plan (NDP). The focus is on understanding it from a science, engineering, technology (SET) perspective. The NDP is seen as a blueprint/guiding document for South Africa. The NDP aims to eliminate poverty and reduce inequality by 2030.

- The complete document – [‘National Development Plan – vision for 2030’](#)
- The executive summary [‘National Development Plan 2030, Our future – make it work, executive summary’](#).

NDP chapter: Overview

This considers the context and background of the NDP. See [1 – Understanding the context of the National Development Plan \(NDP\)](#). It also sets the stage for understanding what makes a developmental state. See [2 – The National Development Plan and the developmental state](#). There is also a summary of the plan and key targets and actions.

NDP chapter 1: Key drivers of change

The synopsis is called [3 – Science and technology as drivers of development](#).

NDP chapter 2: Demographic trends

The synopsis is called [4 – Demographic trends PLUS the NDPs 5th anniversary](#)

NDP chapter 3: Economy and employment

The synopsis is called [5 – National system of innovation and R&D critical for growing the economy](#)

NDP chapter 4: Economic infrastructure



An economy that will create more jobs

NDP chapter 5: Transitioning to a low carbon economy



Transition to a low-carbon economy

NDP chapter 6: Inclusive rural economy



An inclusive and integrated rural economy

NDP chapter 7: Positioning South Africa in the world

NDP chapter 8: Human settlements	 Reversing the spatial effects of apartheid
NDP chapter 9: Improving education, innovation and training	 Improving the quality of education, training and innovation
NDP chapter 10: Promoting health	 Quality healthcare for all
NDP chapter 11: Social protection	 Social protection
NDP chapter 12: Building safer communities	 Building safer communities
NDP chapter 13: Building a capable state	 Reforming the public service
NDP chapter 14: Promoting accountability and fighting corruption	 Fighting corruption
NDP chapter 15: Transforming society and uniting the country	 Transforming society and uniting the country

Chapter 4 – Economic infrastructure

The NDP notes that to “achieve sustainable and inclusive growth by 2030, South Africa needs to invest in a strong network of economic infrastructure”. This covers transport, energy, water resources, and information and communication technology (ICT). There needs to be large investments on urgent priorities, with greater use of public-private funding. (The latter should bring more rigorous assessment, accountability, and reporting.)

Energy sector

The NDP sees, by 2030, an integrated energy sector with adequate investment in infrastructure. This needs to provide expanded, quality energy services at competitive rates or with subsidies for needy households. It’s about having the security that economic activity, transport, and welfare are not disrupted. It also means that more than 90% of the population has access to electricity. The integrated energy sector should support economic growth through job creation and export.

In terms of energy mix and integrated energy planning, “coal will contribute proportionately less to primary-energy needs, while gas and renewable energy resources – especially wind, solar and imported hydroelectricity – will play a much larger role”. The NDP describes a more diverse energy market that holds investor opportunities for providing innovative and sustainable energy solutions within credible regulatory frameworks.

There is a continuous focus on environmental sustainability “through efforts to reduce pollution and mitigate the effects of climate change”. This means balancing supply security, affordability, economic growth, and climate change mitigation.

South Africa to develop integrated programmes to tackle energy poverty by building on research on household energy use. Solutions may exist in nuclear power but the NDP says this “needs a thorough investigation on the implications of nuclear energy, including its costs, financing options, institutional arrangements, safety, environmental costs and benefits, localisation and employment opportunities, and uranium enrichment and fuel fabrication possibilities”.

Water resources and services

By 2030, the aim is to have effective and evolving water management and services. This must reflect an understanding of available water resources and effective water planning, cutting across economic sectors and spheres of government. It encompasses a reliable water supply to meet needs, including efficient agricultural water use. Natural water sources are to be protected.

South Africans will have affordable, reliable access to sufficient safe water and hygienic sanitation. The NDP says that service provision will vary depending on the needs of the local area and community.

Transport

Investments in the transport sector should bridge geographic distances affordably, reliably and safely so that South Africans can access previously-inaccessible economic opportunities, social spaces, and services. The transport sector also needs to support economic development by allowing for the transport of goods while minimising environmental harm. Transport needs to be seen as a system that improves efficiency and accessibility and, at the same time, reducing environmental, social, and economic costs.

ICT infrastructure

ICT, by 2030, will underpin the development of an information society and knowledge economy that is more inclusive and prosperous. ICT is a critical enabler of economic activity in an increasingly networked world. For a country to be globally competitive, it must have an effective ICT system. ICT infrastructure needs to be accessible to all, meeting the needs of citizens, business, and the public sector at a reasonable cost and quality.

There will be an ICT ecosystem of digital networks, services, applications, content, and devices.

This will:

- Connect public administration and the active citizen
- Promote economic growth, development and competitiveness
- Drive the creation of decent work
- Underpin nation building and strengthen social cohesion
- Support local, national and regional integration

This is based on human capacity development in digital skills (e-skills). These skills are needed to use the technology effectively and drive demand for services.