

Featured SET policy:

7 – Transitioning SA to a low carbon economy that responds to climate change

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

The synopsis is called [6 – Developing a strong network of economic infrastructure – transport, energy, water resources, and ICT](#)

An economy that will create more jobs



NDP chapter 5: Transition 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

Reversing the spatial effects of apartheid



NDP chapter 8: Human settlements

Improving the quality of education, training and innovation



NDP chapter 9: Improving education, innovation and training

Quality healthcare for all



NDP chapter 10: Promoting health

Social protection



NDP chapter 11: Social protection

Building safer communities



NDP chapter 12: Building safer communities

Reforming the public service



NDP chapter 13: Building a capable state

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 5 – Transition to a low carbon economy

This chapter starts with South Africa’s commitment to “reduce its emissions below a baseline of 34 percent by 2020 and 42 percent by 2025”. The NDP sees 2030 as a time when “South Africa has reduced its dependency on carbon, natural resources and energy”. We need to recognise that humans’ wellbeing relies on the wellbeing of the planet. However, this must be balanced with increasing employment and reducing inequality.

The NDP Commission undertook extensive stakeholder consultations to inform this chapter – because of a need for consensus on challenges and trade-offs. Some consensus had been reached while other points require ongoing discussion.

The “primary approach to adapting to climate change is to strengthen the nation’s resilience”. Resilience includes socioeconomic objectives such as decreasing poverty and inequality, increasing education levels, improving health care, creating employment, promoting skills development, and having a strong economy with high energy, water, food and natural resource security and strong innovation.

Government adaptation policies include:

- Significant investment in new adaptive technologies and techniques in water, biodiversity, fisheries, forestry, and agriculture sectors
- Early warning systems for adverse weather, pest and disease occurrence
- Disaster relief preparedness
- Investment in natural ecosystems

The NDP sees South Africa’s carbon emissions as peaking around 2025 and then stabilising. This must be done without hindering the socioeconomic objectives. The regulatory environment will support stabilisation through, for example:

- Expanded renewable energy programme
- Advanced liquid and bio-fuels sector
- Promotion of green building and construction practices
- R&D resources being allocated to low-carbon technologies (not only for mitigation but for global opportunities)

Transition is challenging because historically policies have focused on minerals and energy. South Africa has “abundant coal, minimal hydroelectricity and little production of natural gas”. We also have some of the world’s richest mineral deposits – with mining and processing needing substantial energy. Beyond this, there is also a shortage of skills and capacity. There is a “fundamental structural challenge in moving towards a lower carbon economy”. The main “challenge is de-linking economic activity from environmental degradation and carbon-intensive energy, while remaining competitive” and keeping to the socioeconomic objectives.

The NDP notes that “more detailed analysis is needed to determine the optimal mix of mitigation actions”. The poor and vulnerable must be protected from transitional costs, while considering the

economic implications overall. Financing is seen to come from realigning existing budgets, domestic sources (eg carbon pricing), and international aid.

Planning needs to follow rigorous and transparent processes with meaningful stakeholder engagement and evidence-based decision making. While the responsibility for the transition is collective with full participation of all stakeholders, the state should facilitate and guide the process acting “in the interests of the nation”. The government must build capacity, improve governance, and restructure institutions. Institutional coordination is essential, in particular, aligning and coordinating government departments and their policies.

Transition and planning is local, regional and global. South Africa must commit to a domestically-established mitigation target – taking into account the country’s specific needs and development process. Cooperative regional development planning is also necessary as is global solidarity and international assistance. Monitoring and reporting should be done against national, regional and international goals.

A carbon budget approach is proposed. “A carbon budget sets the amount of carbon that can be emitted in a given amount of time.” This would entail regular monitoring and reviewing of carbon budget targets, with flexibility in certain energy- and carbon-intensive sectors. The suggestion is to “apportion carbon space to the sectors and initiatives that add the greatest value”.

The “international best practice has... established that adequately pricing GHG [greenhouse gas] emissions is one of the most effective ways to encourage polluters to change their behaviour.” The NDP supports a carbon tax approach. However, specific planning needs to be addressed around the uncompetitive and monopolistic electricity generation sector to see real effects. Further focus should be on sectors where the price may be insufficient to change behaviour.

“The transition to a low-carbon, resilient economy and society requires **careful phasing of strategic planning, evidence gathering, and investment.**”

See the NSTF Discussion Forum on [‘Evidence for Climate Change’ \(17 November 2017\)](#) relating to this topic.