

Appendix 10

Outcome 10: Protect and Enhance our Environmental Assets and Natural Resources

1. National Development Plan (NDP) 2030 Vision and Trajectory

The NDP 2030 Vision is that by 2030, South Africa's transition to an environmentally sustainable, climate-change resilient, low-carbon economy and just society will be well under way. The NDP 2030 envisages a phased trajectory over the three successive MTSF periods.

The first planning, piloting and investing phase (2014-2019) focuses on the creation of a framework for implementing the transition to an environmentally sustainable, low-carbon economy. This phase will include unblocking regulatory constraints, data collection and establishment of baseline information, and indicators testing some of the concepts and ideas to determine if these can be scaled up.

The second phase (2019-2024) focuses on the implementation of sustainable development programmes and targeting a peaking of greenhouse gas emissions. Socioeconomic development is beginning to make significant inroads into reducing poverty and unemployment. The third phase (2024-2029) involves the final steps in the transition and the realisation of the vision through poverty and unemployment having been reduced to socially sustainable levels and emissions reaching a plateau by 2030.

The desired trajectory to 2030 is one which results in thriving rural communities providing an economic and social base for a significant number of people. Urban development is more compact and energy efficient. Growing public awareness of the consequences of climate change and unconstrained consumption of our natural resources leads to a refocusing of political priorities towards the protection and rehabilitation of the region's natural assets.

2. Constraints and Strategic Approach

In order to realise the NDP 2030 Vision for Environmental Sustainability and Resilience there are a number of immediate constraints that must be addressed. South Africa faces the challenge of deteriorating environmental quality due to pollution and natural resource degradation, destruction and/or depletion. If the current challenges are not effectively addressed they will exacerbate the rate of environmental degradation and have the potential to undo or undermine many of the positive advances made in meeting South Africa's own development goals and the Millennium Development Goals (MDGs) as well as the 2030 vision.

The strategic approaches to addressing the challenges are described below.

Inadequately informed decision-making and governance

Information management systems for environmental sustainability in particular are still inadequate. Although South Africa's environmental governance regime is considered to be world class, capacity constraints at different levels and especially in the areas of compliance monitoring and enforcement underpin many of the problems experienced. Inadequately informed decision-making will be addressed through harnessing research and information management capacity to identify, develop and maintain datasets to generate policy-relevant statistics, indicators and indices in collaboration with other key contributors outside the sector.

Natural resource degradation and depletion of ecological infrastructure

Competing land uses contribute to the overexploitation of natural resources and the subsequent degradation of these natural resources. This results in an overall negative impact on ecological infrastructure that undermines the provision of key ecosystem services such as water (both quality and quantity), soil formation and pollination, all of which underpin the economy and sustainable development.

Unsustainable production processes result in land and ecosystem degradation and soil erosion which continue to undermine the productive potential of the land and compromise water and food security. The increasing rate of alien species invasion threatens biodiversity, water availability, agriculture and rural livelihoods in general. The size, representativeness and quality of the current conservation estate is not sufficient.

All these necessitate integrated and innovative approaches to natural resource management which entail a careful balance between development imperatives and sustainable utilization. An environmental management framework is required to ensure that developments that have serious environmental or social effects are offset by support improvements in related areas. There is also a need to protect estuaries and coastal areas to ensure that a targeted amount of land and oceans is under protection.

The challenge for marine fisheries is to maintain the integrity of and balance in marine ecosystems while deriving sustainable economic benefits from living marine resources. The main constraints to achieve this are the productivity of key resources, which is influenced by the environment and impacted upon by illegal catches, and managing catches in each fishery in a sustainable way. The desired outcomes are to rebuild stocks of threatened species and to reduce illegal catches.

Waste (e.g. hazardous waste, healthcare waste, mine dumps, leachate/sludge & general/solid waste management)

Increasing quantities of waste, poor waste management and lack of access to waste services lead to pollution and associated health impacts and environmental degradation. This is coupled to the fact that levels of recycling and re-use are relatively low and waste is not necessarily seen or considered as a resource with socio-economic potential.

To address challenges in this area the NDP identifies the implementation of the waste hierarchy strategy of reduce, re-use and recycle. This requires product stewardship (producer responsibility) and the rapid expansion of recycling infrastructure.

Air pollution

South Africa's continued reliance on fossil fuels is resulting in air pollution hotspots, especially in the winter months. Of particular concern are priority pollutants such as particulate matter and nitrates which leads to respiratory illness. To ensure realisation of everyone's right to air that is not harmful to health and well-being, it is imperative that there is the effective implementation of the Air Quality Act and the development and use of innovative approaches like air quality offsetting.

Water pollution

South Africa is a water-stressed country and faces future drying trends and weather variability with cycles of droughts and sudden excessive rains whilst the health of aquatic ecosystems is declining. Wastewater pollution in the marine environment has continued to worsen and inland water quality is declining due to pollution from chemical and bacteriological pollution and siltation.

Healthy catchments, rivers and wetlands provide crucial ecological infrastructure that supports water quality and quantity. Investing in this ecological infrastructure can play a key strategic role in supporting water security and preserving ecosystems.

Adapting to changing climate

South Africa is a significant contributor to greenhouse gas emissions and the country is also vulnerable to the impacts of climate change with adverse effects on inter alia socio-economic conditions, water, food security, health, natural resources and ecosystem services. In order to address increasing emissions of greenhouse gases, market-based instruments such as a carbon tax, carbon budgets and policy support for low-carbon technologies will be employed to ensure that greenhouse gas emissions peak, plateau and decline. There is also a need to enhance the resilience of people and the economy to adapt to the effects of climate change.

3. NDP Priorities to achieve the Vision

The NDP acknowledges that the transition to an environmentally sustainable future which is carbon constrained will require the decoupling of economic growth from natural resource degradation and depletion. There is therefore a need to build human capital and technological base for implementation of programmes that will grow the economy without increasing South Africa's emissions profile. The NDP has identified the following sub-outcomes and actions:

- Sub-outcome 1: Ecosystems are sustained and natural resource are used efficiently
- Sub-outcome 2: An effective climate change mitigation and adaptation response
- Sub-outcome 3: An environmentally sustainable, low-carbon economy resulting from a well-managed just transition
- Sub-outcome 4: Enhanced governance systems and capacity
- Sub-outcome 5: Sustainable human communities

4. Management of Implementation

In the implementation of the National Development Plan, to manage the transition to an environmentally sustainable low carbon economy, there is a need to strengthen institutional mechanisms. Environment is a concurrent and cross cutting function. The Department of Environmental Affairs is the coordinating department for Outcome 10. The monitoring and coordination of the implementation of deliverables as outlined in the Outcome 10 Delivery Agreement is conducted by the environment MINMEC and MINTEC which have been extended to include nine provincial departments responsible for environmental affairs, sector departments, public entities and other partners such as South African Local Government Association (SALGA) that contribute to the achievement of outputs. The MINTEC working groups are aligned per output to coordinate the output activities and report to the technical Implementation Forum that makes recommendations to the executive Implementation Forum.

5. MTSF sub-outcomes and component actions, responsible ministry, indicators and targets

Sub-outcome 1: Ecosystems are sustained and natural resources are used efficiently

Ecosystems will also be sustained through an increase in the conservation estate, the protection of biomes and endangered species, rehabilitation and restoration of degraded land and ecosystems as well as through sustainable exploitation of natural resources. The desired impact is to restore the ecological integrity of natural resources and environmental assets.

| Sub-outcome 1: Ecosystems are sustained and natural resources are used efficiently | | | | |
|---|---|--|---|---|
| Action | Minister | Indicator | Baseline | Target |
| Implement strategies for water conservation and demand management | Water and Sanitation | Percentage reduction of projected demand for 8 large water supply systems | New | 20% by 2019 |
| Protect water resources | Water and Sanitation | Percentage of water use license applications processed | n/a | 80% Annually |
| | | Number of water resources classified | n/a | 10 |
| | | Number of sites with River Health Programme implemented | 107 | 550 river sites |
| Maintain or improve water-shed services in key rural Strategic Water Source Areas | Water and Sanitation Supported by Environmental Affairs Rural Development and Land Reform and Agriculture Forestry and Fisheries | Number of significant, integrated water-related ecological infrastructure maintenance or improvement interventions | New | 20 Integrated interventions in each of 5 key rural Strategic Water Source Areas by March 2019 |
| Expand the conservation area estate through declaration of state owned protected areas, MPAs and biodiversity stewardship | Environmental Affairs Provincial departments SANBI SANPARKS Local authorities | # ha in the conservation estate | 6.1% (2009 baseline) + 7.7% (progress from June 2012-Sept 2013) | 13.2 % (16 121 794 ha) |
| | | # biodiversity stewardship sites | Stewardship guidelines | 3 sites |
| | | #km2 MPAs | New | 193 317 ha |
| Identify and develop management interventions for reducing species loss | Environmental Affairs Provinces SANBI SANPARKS | Number of legislative tools to ensure the protection of species and ecosystems developed and implemented | Amendments to Threatened or Protected Species Regulations finalised and TOPS list | 20 legislative tools |

| Sub-outcome 1: Ecosystems are sustained and natural resources are used efficiently | | | | |
|---|---|---|--|---|
| Action | Minister | Indicator | Baseline | Target |
| | | | <p>reviewed.</p> <ul style="list-style-type: none"> ·Draft regulations for the registration of professional hunters, hunting outfitters and trainers developed. ·NEMPAA Amendment Bill (MPAs) published for public comments (Phase 1) ·Biodiversity Management Plans for Black Rhino, Albany Cycad and Pelargonium sidoides in government gazetted. | |
| Integration of ecological infrastructure considerations into land-use planning and decision-making about new developments | Environmental Affairs Provincial departments Rural Development and Land Reform Local Authorities | Percentage of spatial development frameworks (SDF's) supported by a standard minimum environmental requirements | New | 100% of all SDFs being developed and reviewed by 2019 |
| | Competent Authorities | % of environmental impact assessment applications processed within timeframes, reported quarterly from the National Environmental Assessment System | 89% | 98% |

| Sub-outcome 1: Ecosystems are sustained and natural resources are used efficiently | | | | |
|---|---|---|---|--|
| Action | Minister | Indicator | Baseline | Target |
| Implement environmental regulations to mitigate negative environmental impacts in exploitation of mineral resources | Environmental Affairs Water and Sanitation | Number of environmentally significant areas identified and published for restriction for mining activities | New | One environmentally significant area identified, negotiated and published through NEMA by 2016 |
| | Mineral Resources | Number of derelict and ownerless mine sites rehabilitated | n/a | 250 (50 per year) |
| | Water and Sanitation | Number of catchments identified for Acid Mine Drainage | New | 6 |
| | Water and Sanitation Supported by Mineral Resources | Number of mines monitored for non-compliance in accordance with water license conditions | 54 (2009 baseline) 204 (progress from June 2012-Sept 2013) | 450 |
| Undertake integrated environmental assessments for major infrastructure and provision of incentives for green economic activities | Environmental Affairs | Number of regulatory interventions developed and implemented to streamline the environmental authorisation process for SIP projects | New | 8 |

| Sub-outcome 1: Ecosystems are sustained and natural resources are used efficiently | | | | |
|---|--|--|-------------------------------|---|
| Action | Minister | Indicator | Baseline | Target |
| Combat land degradation | Agriculture, Forestry and Fisheries (forestry areas) | Hectares of land under rehabilitation/restoration | 2.35 mha (a total since 2009) | 1 218 106 (DEA) |
| | Environmental Affairs (Working for programmes) | | | 152 500 (DAFF) |
| | Environmental Affairs | Number of wetlands rehabilitated | 76 | TOTAL (1 370 600 ha) |
| | | Number of emerging invasive species targeted for early detection | New | 3 230 271ha (Follow up treatment by DEA) |
| | | | | 695 |
| | | | | 300 |

| Sub-outcome 1: Ecosystems are sustained and natural resources are used efficiently | | | | |
|--|-------------------------------------|--|-----------------|---|
| Action | Minister | Indicator | Baseline | Target |
| Produce a scientific update of resource status and recommendations for the following season's sustainable catch for abalone, West Coast Rock Lobster and deep-water hake | Agriculture, Forestry and Fisheries | Status of the stocks report for abalone, rock lobster and hake | New indicator | Status report Abalone at 31% above the pre-fished level by 2019 West Coast Rock Lobster at 26% above the 2006 level by 2019 Deep-water Hake at 30% of pre-fished biomass by 2019 |

Sub-outcome 2: An effective climate change mitigation and adaptation response

South Africa has committed to implement mitigation actions that will collectively result in a 34% and 42% deviation below its “business as usual” emissions growth trajectory by 2020 and 2025 respectively. Actions will include interventions that will mitigate against the effects of climate change. The NDP also recognises that the actions related to adaptation will depend on strong policies supported by a sound technical understanding and operational capacity to deal with developmental challenges. The desired outcomes include a reduction in impacts of climate change, risk mitigation through appropriate disaster responses and the deployment of innovative technologies that combat the effects of climate change.

| Sub-outcome 2: An effective climate change mitigation and adaptation response | | | | |
|---|-------------------|--|--|--|
| Action | Minister | Indicator | Baseline | Target |
| Develop a Strategic Policy and Regulatory frameworks and programmes to promote a low carbon economy | Transport | Green Transport Strategy and Implementation Plan formulated. | New | Strategy and implementation plan completed in 2018 |
| | National Treasury | Number of thematic areas in implementing environmental fiscal reform policy instruments | Mapping existing relevant research, Planning and modelling processes concluded · A carbon budgets/carbon tax report has been produced | 5 policy instruments developed (carbon tax policy, carbon offsets scheme, energy efficiency tax incentive, biodiversity tax incentive, fuel levy system) |
| | Energy | Percentage of new build that is renewable power generation (<i>to incorporate off-grid energy</i>) | 2460 MW | 42% (or 17 800 MW) by 2030 for renewable energy developed 6% (or 2 600 MW) by 2030 for import of hydro power developed |

| Sub-outcome 2: An effective climate change mitigation and adaptation response | | | | |
|--|---|---|--|---|
| Action | Minister | Indicator | Baseline | Target |
| | | Percentage of energy efficiency improvement | Not quantified | 12% by 2015 (Energy efficiency target for 2019 to be finalised by 2015 as outlined in the National Energy Efficiency Action Plan to be tabled for Cabinet consideration) |
| Develop and implement sector adaptation strategies/plans | Water and Sanitation; Agriculture, Forestry and Fisheries; Human Settlements; Provincial departments; Local Authorities | Number of sector adaptation strategies/plans completed | Long-term Adaptation Scenario Phase 1 completed for 5 sectors (Water, Agriculture, Biodiversity, Marine Fisheries and Health). Long-term Adaptation Scenario Phase 2 draft completed for 4 sectors (Human Settlements-urban, coastal, & rural, disaster risk reduction) | 5 Sector adaptation plans developed by 2019 (Water, Agricultural & commercial forestry, Health, Biodiversity & ecosystems, Human settlements) |
| Undertake research in Climate services | Science and Technology supported by Environmental Affairs | Functional climate change research network formalised through MoU's | New | Research report and MOU developed |

| Sub-outcome 2: An effective climate change mitigation and adaptation response | | | | |
|--|---|--|-------------------------------|---|
| Action | Minister | Indicator | Baseline | Target |
| | | Biennial report to Cabinet on state of climate change science and technology | New | 2 reports per annum approved by Cabinet |
| | Environmental Affairs supported by South African Weather Services | National framework for climate services established | New | Framework report approved in 2016/17 |
| Monitor, report and verify sectoral carbon emissions | Environmental Affairs | Framework for reporting on greenhouse gas emissions by industry developed and reports provided | GHG report for public comment | Annual report |
| | Energy | Biennial calorific value for all fuel carriers published | New | 2 reports per annum published |
| | | Annual Energy Balances provided to support compilation of the GHG inventory | New | Annual report on energy balances |

Sub-outcome 3: An environmentally sustainable, low-carbon economy resulting from a well-managed just transition

South Africa faces the triple challenge of poverty, inequality and unemployment which are aggravated by the increasingly negative environmental footprint of developments. To promote a just transition, investments, economic and infrastructure developments will need to consider the resource efficiency and impact on the environment.

| Sub-outcome 3: An environmentally sustainable, low-carbon economy resulting from a well-managed just transition | | | | |
|--|---|--|-----------------|---|
| Action | Minister | Indicator | Baseline | Target |
| Promote a just transition to an environmentally sustainable economy | Environmental Affairs, Science and Technology and Provincial Departments | High impact environmental sustainability research, evidence gathering and systematic review commissioned | New | Integrated environmental sustainability research, evidence and review report published by 2017 |
| | Environmental Affairs, Provincial Departments and relevant sector departments | Number of environmental sustainability policies reviewed | New | Progressively developed and implemented environmental sustainability policy operational programme by 2019 |
| Progressively develop, compile, transparently and accessibly report on a set of sustainable development indicators and underlying natural resource and pollution / emission indicators | Environmental Affairs Economic and Social Sector Departments | Environmentally sustainable development performance indicators developed | New | Performance indicator report published in 2015 |
| | Provinces Public Entities and State Owned Entities | SA Environmentally Sustainable Development Indicators published | New | Sustainable development indicator report published in 2017 |
| | | SA Environmentally Sustainable Development Indicators Policy Makers Outlook published | New | Policy makers report published in 2019 |

| Sub-outcome 3: An environmentally sustainable, low-carbon economy resulting from a well-managed just transition | | | | |
|--|--|---|-----------------|---|
| Action | Minister | Indicator | Baseline | Target |
| Enhance environmental education; empowerment and job creation (including skills development) | Environmental Affairs, Provincial Departments and SANBI | Number of environmental awareness activities conducted | n/a | 8 per annum (linked to environmental calendar days) |
| | | Number of Full Time Equivalent (FTEs) created | n/a | EPWP-447 884 |
| | | Number of Work Opportunities created | n/a | EPWP-1, 151 150 Non EPWP- 22 500 (DEA) |
| | | Number of SMMEs used in environmental programmes | n/a | 11 250 (DEA) |
| | | Percentage of young people placed in exit opportunities (Youth Environmental Services) | n/a | 75% (DEA) |
| Implement the Environment Sector Skills Plan to address capacity requirements (gaps) | Environmental Affairs, Provincial Departments and SANBI | Number of learners mentored through various initiatives in the sector (including learnerships) | n/a | 500 (DEA) |
| | | Number of SETA sector skills plans with an environmental focus | n/a | 21 by 2019 |
| Increase investment in research, development and innovation to support the transition to a green economy | Science and Technology, National Treasury, and Environment Affairs | Rand value of public and private sector investment in research and development to support a green economy | New | 300% increase in the rand value of investment in R&D made in 2011 |

Sub-outcome 4: Enhanced governance systems and capacity

Managing the transition towards achievement of the vision will require strong institutional and governance mechanisms that create an enabling environment for stakeholders to contribute to the transition. The desired outcome includes the establishment of monitoring and evaluation mechanisms. Compliance mechanisms will also be improved to build a culture of compliance.

| Sub-outcome 4: Enhanced governance systems and capacity | | | | |
|--|---|--|--|--|
| Action | Minister | Indicator | Baseline | Target |
| Enhance compliance monitoring and enforcement capacity within the sector | Environmental Affairs Provincial departments | Number of compliance inspections conducted | n/a | 14500 |
| | | Number of enforcement actions undertaken for non-compliance with environmental legislation | 234 (2009 Baseline) + 1100 (progress from June 2012-Sept 2013) | 1500 completed criminal investigations handed to the NPA for prosecution (for EMI Institutions) |
| | | | 547(2009 Baseline) + 2 316 (progress from June 2012-Sept 2013) | 3100 administrative enforcement notices issued for non-compliance with environmental legislation |
| | | Number of Joint Partnerships with external role players | n/a | 35 (7 per annum) |

| Sub-outcome 4: Enhanced governance systems and capacity | | | | | | |
|--|--------|--|--|--|--|---|
| Action | | Minister | Indicator | Baseline | Target | |
| Enhance cooperation | global | International Relations and Cooperation Environmental Affairs | Number of country positions prepared for multilateral agreements approved | Positions researched and developed for the following meetings: WEF; BASIC; AU summit; UNEP Governing council and COP18 | 50 (Chemicals and Waste – 16 Biodiversity - 22 Sustainable Development - 7 Climate Change – 5) | |
| Improve air quality | | Environmental Affairs | Percentage of compliance with National Annual Ambient Air Quality Standards | New | 100% compliance by 2030 | |
| | | Provincial departments | (National Air Quality Indicator – NAQI less than 1) | | | |
| | | District Municipalities | Percentage of Atmospheric Emission Licences with complete applications issued within legislated timeframes | New | | 100% of AELs with complete applications |
| | | | Percentage of facilities with Atmospheric Emission Licences reporting to the National Atmospheric Emissions Inventory System (NAEIS) | New | 100% of facilities reporting annually by 2019 | |
| Less waste that is better managed | | Environmental Affairs | Percentage of waste license applications finalised within legislated timeframes | New | 80% of all complete applications | |
| | | Provincial Departments | Percentage of recyclables diverted from landfill for re-use, recycle and recovery | New | | 20% |
| | | Municipalities | Survey of unlicensed landfill sites completed | New | | 2015/16 |

| Sub-outcome 4: Enhanced governance systems and capacity | | | | |
|--|---|--|---|---|
| Action | Minister | Indicator | Baseline | Target |
| | | Number of unlicensed landfill sites licensed | 20% (2009 baseline)+36%(122 of 341 from June 2012- Sept 2013) | Existing unlicensed landfill sites licenced by 2019 (# of new sites to be determined from the outcome of new survey) |
| Better manage impacts of chemicals | Environmental Affairs Sector Stakeholders | National Chemicals management policy developed | New | 2018 |

Sub-outcome 5: Sustainable human communities

Development planning should ensure the management of natural resources and environmental risks in order to pursue development planning goals. The desired outcome is a built environment that is low carbon, energy efficient, and that minimises waste.

| Sub-outcome 5: Sustainable human communities | | | | |
|---|--|--|---|--|
| Action | Minister | Indicator | Baseline | Target |
| Expand use of renewable energy through off-grid electrification | Energy | Megawatts of renewable energy deployed off-grid | | 15 MW |
| | | Number of solar home systems (PV) installed | 371 862 | 105 000 |
| Support and engage Local Government | Environmental Affairs Provincial departments | Percentage implementation of the Local Government Support Strategy | Local Government Support Strategy and action plan developed | 100% (implementation of the plan per financial year) |

| | | | | |
|--|--|---|-----|---------------------------|
| | Cooperative Governance and Traditional Affairs | Sector support strategy on local government climate change response initiatives | n/a | Strategy in place by 2019 |
|--|--|---|-----|---------------------------|

6. Impact Indicators

The table below reflects the key impacts expected from the actions described above. These impact indicators will be monitored to assess whether or not the actions described in this MTSF chapter are having the desired impact on the environment. This will assist in on-going improvements and revision to our plans when necessary.

| Impact Indicator | Minister Responsible for reporting on the indicator | Baseline | 2019 Target |
|---|---|---|---|
| Percentage of area of state managed protected areas assessed with a METT score above 67% | Water and Sanitation Environmental Affairs | 85% of area of state managed protected areas assessed with a METT score above 67% | 90% of area of state managed protected areas assessed with a METT score above 67% |
| Percentage of coastline with full protection | | 9% | 12% |
| Percentage of coastline with partial protection | | 13.5% | 15% |
| Percentage level of compliance of mines in accordance with the National Water Act | Water and Sanitation supported by Mineral Resources | 35% | 60% |
| Reduced total emissions of CO2 | Environmental Affairs | Draft mitigation opportunities produced for sectors. Desired Emission Reduction Outcomes (DEROs) to be developed. M & E system being developed. | 34% reduction from "Business As Usual" by 2020 and 42% by 2025 |
| Percentage Biomass increase of stock levels in Deep-water Hake, Abalone and West Coast Rock Lobster | Agriculture, Forestry and Fisheries | March 2014 progress | Deep-water hake at 22% of prefished biomass |
| | | | Abalone at 27% above the prefished level |
| | | | West Coast rock lobster at 26% above the 2006 level |

| Impact Indicator | Minister Responsible for reporting on the indicator | Baseline | 2019 Target |
|--|---|---|---|
| Reduced vulnerability and risks associated with climate change impacts | Water and Sanitation, Environmental Affairs, Agriculture, Forestry and Fisheries, Human Settlement, Health, COGTA | National Climate Change Response Policy White Paper approved by Cabinet | Climate Change Response for 5 key sectors implemented |