

SOUTH AFRICA: A MARKET-BASED CLIMATE POLICY CASE STUDY

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South Africa: A Market-Based Climate Policy Case Study



Background

South Africa emitted an estimated 544 Mt of carbon dioxide equivalent (CO₂e) according to its latest published inventory in 2010¹. A significant proportion of these emissions can be attributed to fossil fuel combustion. In 2014, South Africa was in fact the world's 15th largest emitter in terms of carbon emissions from fossil fuel combustion².

South Africa has ratified the **Kyoto Protocol** under the United Nations Framework Convention on Climate Change (UNFCCC) as early as July 2002³. However, as a non-Annex I Party to the convention South Africa is not bound to any specific targets ascribed under the protocol. Despite this, South Africa ambitiously pledged at the 15th Conference of the Parties in Copenhagen, in 2009, to reduce its national greenhouse gas (GHG) emissions below the business as usual project by 34% in 2020 and 42% in 2025⁴. More recently, South Africa has translated the Copenhagen pledge into a quantified peak, plateau and decline emissions trajectory range in its Intended Nationally Determined Contribution (INDC) submitted in Paris in

2015⁵. Emissions are expected to peak in 2025 and then plateau for a decade before declining in 2035. South Africa signed the Paris Agreement on 22 April 2016⁶.

South Africa has been proactive in taking steps towards the development of fiscal policy to address its GHG emissions. These developments align with the National Climate Change Response Policy (2011) which states that: "a mix of economic instruments, including market-based instruments such as carbon taxes and emissions trading schemes, and incentives, complemented by appropriate regulatory policy measures are essential to driving and facilitating mitigation efforts and creating incentives for mitigation actions across a wide range of key economic sectors."⁷

The South African government began reforming and assessing fiscal measures to address environmental issues in 2006 with the release of an Environmental Fiscal Reform Policy Paper⁸. Since then the government has implemented a number

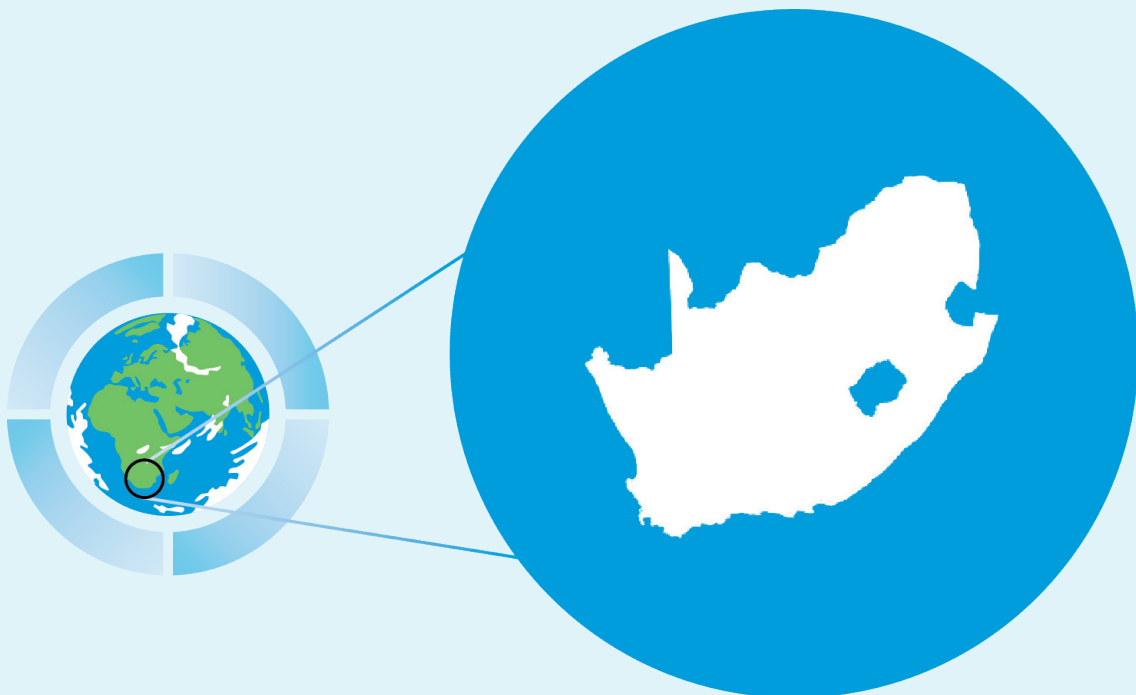
of different fiscal measures, such as levies on fuel and electricity as well as an emissions based purchase tax for new motor vehicles. The environmental levy on electricity generation was implemented in 2009 and includes a tax on the production of electricity from non-renewables, such as: coal, petroleum-based fuels, natural gas, and nuclear. The implementation of this levy was intended to initiate a preliminary framework for the development of a carbon tax. Another aspect of the climate change response which is currently under development is, a mandatory greenhouse gas reporting regime for companies. This will form the basis of the carbon tax calculations and aggregating the collected data to a national level will allow for the tracking of progress against the nationally determined contribution.

A discussion paper on a Carbon Tax as an option to reduce GHG emissions was released for public comment in 2010 by the National Treasury⁹. The 2010 paper examined the implementation of a carbon tax and the advantages and disadvantages

of a carbon tax versus an emissions trading system. This discussion paper progressed to a policy paper in 2013 with the Draft Carbon Tax Bill being released in November 2015¹⁰. The South African government has indicated that the finalized tax policy will come into effect during 2017. The design of the tax system has been refined to an economy wide instrument that taxes emissions producing activities above set thresholds and across various sectors. The policy makes allowances for sensitive industries and presents opportunities for entities to reduce their tax liability with carbon offsets¹¹. The inclusion of carbon offsets as a method to reduce tax liability present the necessity for establishing a market where carbon offsets can be traded¹². Further details of the tax policy and carbon offset system are summarised in the subsequent sections of this report.

South Africa's existing experience with carbon markets has mainly been through hosting projects under the **Clean Development Mechanism (CDM) of the Kyoto Protocol**. The projects that

are submitted to the designated national authority (DNA) for initial review and approval cover the following project types: bio-fuels, energy efficiency, waste management, cogeneration, fuel switching and hydro-power. The projects are typically implemented in sectors such as: manufacturing, mining, agriculture, energy, waste management, housing, transport and residential. As of July 2016 the South African DNA has received the submission of: 364 CDM projects, 226 Project Idea Notes (PINs) and 138 Project Design Documents (PDDs)¹³. To date the CDM Executive Board has registered 90 projects. Of these projects, 12 have reached issuance of certified emissions reductions (CERs). A further 48 projects are at different stages of the CDM project cycle process. South Africa is also a participant of the World Bank's Partnership for Market Readiness (PMR), which is a capacity building program supporting the development of market-based policies¹⁴.



Summary of Key Policy Features

The information summarised in Table 1 below relates specifically to the proposed carbon tax and offset system and has been sourced from the most recent policy documents as of September 2016. These documents include the Draft Regulations: Carbon Offsets (June 2016) and the Draft Carbon Tax Bill (November 2015) as well as their accompanying explanatory notes. The South African Government is also developing additional carbon emissions related instruments, such as the carbon budgets*, although there is no official information published in the public domain as of yet.

Table 1: Summary of the key features of the proposed South African carbon tax and offset system

Long-Term Reduction Goal	The aim of the South African carbon tax and offset system is to reduce emissions and aid the country in reaching the reduction goals committed to in the INDC. However, the policy does not have a set emissions reduction target in ton of carbon dioxide equivalent.
Cap	The South African GHG emission trajectory is articulated in the Peak, Plateau, and Decline (PPD) policy document ¹⁵ . However, this is not translated into an emissions cap set within the carbon tax policy.
Compliance Periods	The Carbon Tax is expected to be finalised in 2017, with the first implementation phase lasting until 2020, where after aspects of the policy may be revised ¹⁶ .
Greenhouse Gases Covered	Carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), perfluorocarbons (PFCs), hydrofluorocarbons (HFC), and sulphur hexafluoride (SF ₆) ¹⁷ .
Sectors Covered	The tax will be applicable to all stationary and mobile direct and process emission sources including; electricity generation, gasification, glass, cement, crude oil refining, mining, paper & pulp, iron & steel, aluminium, chemicals and transport ¹⁸ .
Point of Regulation	The carbon tax will apply to activities where GHG emissions are emitted directly from fuel combustion, non-energy industrial processes and fugitive emissions.
Threshold	The threshold to determine whether an activity is taxable or not varies depending on the sector and type of activity. However, in many case activities with equivalent capacities greater than 10 MW thermal are taxable. This threshold is based on draft regulations and may still change.
Number of Entities Covered	It is uncertain at this stage exactly how many entities will be liable for carbon tax based on which entities conduct taxable activities ¹⁹ .
Average Carbon Price	The tax rate will initially be set at ZAR 120 per ton CO ₂ e which is roughly equivalent to US\$9 or €8 per ton CO ₂ e in 2016 ²⁰ . This tax rate will be subject to annual revision as with other national taxes. The tax design makes provision for relief mechanisms to reduce the tax burden on the economy during the first phase. Companies conducting taxable activities will not be required to pay for a fixed percentage of their emissions. These tax free thresholds can reduce the effective tax rate to between ZAR 6 – ZAR 48 per ton CO ₂ e. Some of the basic relief mechanisms, such as the tax free threshold, will be phased out after 2020 ²¹ .
Carbon Leakage Provisions	The carbon tax covers direct emissions from within South Africa and only allows carbon offsets developing within the country to be used to reduce a carbon tax liability. Beyond this no specific provision for the prevention of carbon leakage across national borders.
Allowances Allocation	There is no allocation of allowances under the proposed carbon tax and offset system.
Offsets	Companies that are liable to pay carbon tax may offset between 5% and 10% of their emissions using existing three international carbon offset standards ²² . These are the Clean Development Mechanism (CDM), Verified Carbon Standard (VCS) and the Gold Standard (GS) ²³ . Credits issued under these standards must be cancelled on the international registry and moved to a national registry. Only projects complying with certain eligibility criteria will be allowed. The eligibility criteria include that the project must be located in South Africa and may not receive benefits from other government incentives such as the renewable energy procurement programme or the energy efficiency tax incentive.
Price/Market Control Measures	The tax rate of ZAR 120 per ton CO ₂ e sets ceiling price for carbon offsets. Changes in the tax rate will lower or raise the ceiling price of carbon offsets. Similarly, the supply, demand and price of carbon offsets can be managed within the structural adjustments of the tax policy. Changes in the tax free threshold and proportion of offsets allowed will alter the demand for offsets while changes in the eligible projects will change the supply. While no other price or market control measures have been developed for the carbon offsets, the financial sector in South Africa is well regulated.

* It is expected that the carbon budgets where companies are given set limits for their total greenhouse gas emissions for a specific period, will be mandatory after 2020.

Market Regulation and Oversight	The draft legislation provides for the Carbon Offset Administrator (COA) to be housed with the country's Designated National Authority (DNA) in the Department of Energy (DoE) ²⁴ . The COA will be responsible for the listing of credits in the South African registry, and the administration of the system. No provision for the regulation and oversight of the carbon market has been made.
Linkages	The carbon tax offset system relies on credits issued by three international standards (CDM, VSC and GS) ²⁵ . However, no other forms of linking to other systems have been considered yet and the system does not allow for credits generated outside of South Africa to be used ²⁶ .
Banking	Banking is not relevant to the carbon tax and offset system.
Complementary Policies	South Africa's government has put in place a number of support measures to ease the transition to a low carbon and climate resilient society. One such measure is the energy efficiency tax relief mechanism which provides tax incentives for businesses that can demonstrate measurable energy savings. However, projects qualifying for income tax deductions under this mechanism will not be eligible as carbon offset projects ²⁷ . The renewable energy independent power producers procurement program (REI4P) is another complementary policy.
Enforcement/Penalties	Non-compliance with the carbon tax will result in the same form of enforcement as non-compliance with other tax liabilities. There will be no enforcement of carbon budgets up until 2020.
Monitoring and Reporting	Carbon tax and offset compliance will be monitored as part of the tax regime through the South African Revenue Service (SARS) ²⁸ . SARS will have access to data gathered by the Department of Environmental Affairs (DEA) in terms of the mandatory GHG reporting regulations (under development in September 2016). The offsets will be regulated by the department of Energy.
Use of Revenues	The revenue derived from the carbon tax is proposed to be recycled so as to provide incentives to facilitate the transition to a low carbon economy ²⁹ . Revenue recycling measures will include: funding the energy efficiency tax incentive; reducing the environmental levy on electricity production; support for free basic electricity to low income households; and additional allocations for public transport ³⁰ .

The policy features summarized above may be subject to change in the future based on strategic planning responses by government. As of September 2016 the above summary gives the most current account of the policy information.

Commentary on Policy Functioning

South Africa's developing carbon pricing system is unique in the respect that it combines a carbon tax with carbon offsets. Companies will be liable to pay carbon tax if their installed capacity of equipment producing direct GHG emissions exceeds a specified threshold. In line with international examples, such as the EU Emissions Trading System, the South African government has opted to reduce the impact of carbon pricing on the economy during the first phase of implementation. This reduction is achieved through a series of relief measures. Companies can access relief mechanisms to a level where they are required to pay tax on between 5% and 40% of their emissions³¹. Depending on the industry in which the tax payer operates, the relief mechanisms include the right to offset between 5% and 10% of taxable emissions through the purchase of qualifying carbon offset credits. The tax policy states that some of the basic relief mechanisms, such as the tax free threshold, will be phased out after 2020 in order to price carbon into the economy at a rate that will drive de-carbonisation.

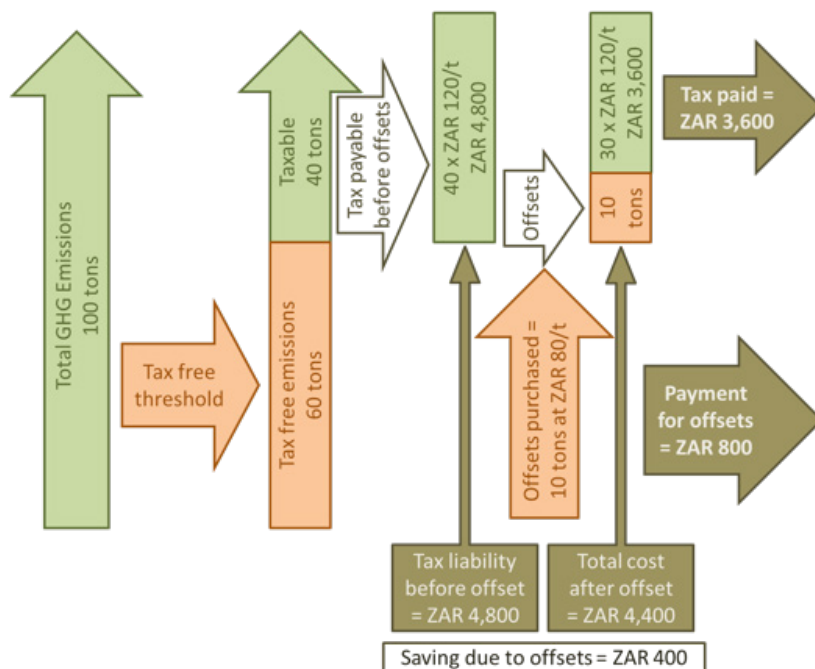


Figure 1: Example of how carbon offsets can be used to mitigate the tax liability

The role of carbon offsets in the carbon tax policy is represented graphically in Figure 1. In this example a company has to pay ZAR 120 per ton of CO₂e emitted after provision has been made for the relief mechanisms. For the sake of simplicity only two relief mechanisms are considered in this example: the basic tax free allowance of 60% and carbon offsets. If the company emits 100 tons of CO₂e it has a tax liability of ZAR 4,800 after taking the tax free threshold of 60% into consideration. The company then buys 10 tons of carbon offsets, at an assumed price of ZAR 80 per ton, and thereby reduces its tax liability to ZAR 3,600. The overall saving due to the purchase is ZAR 400, which represents 8.3% of the original tax liability.

As the carbon tax and offset system relies on carbon offsets developed from verified projects there is no issuance, auctioning,

banking or borrowing of credits. The price of these carbon offsets is effectively based on the tax rate. A low market price for carbon offsets could arise if an oversupply of offsets occurs. This price will impact on the investment in carbon offset projects but not on the development of emissions intensive industries or technologies. It is therefore highly unlikely that a situation could arise where a collapse in the carbon price causes large emitters to take investment decisions that favour emission intensive technologies.

The implementation of the tax and offset system is well underway. As of September 2016, the design of the South African registry and administrative system for the listing of the offset credits is at an advanced stage. While the tax policy makes provision for the establishment of the registry and the administrative system, it makes no

provision for the establishment of a trading system. This is left up to the private sector. The private sector has been preparing for the establishment of a carbon market and a successful pilot trade of carbon offset credits was conducted on the commodities platform of the Johannesburg Stock Exchange in January 2015.

What Distinguishes this Policy?

UNIQUE ASPECTS

1.

South Africa will be the first national government to implement a multi-sector carbon tax which will allow for local carbon offsets to be used as a form of tax relief.

2.

Including carbon offsets within the carbon tax policy effectively sets a price ceiling for tradable carbon offsets and helps to stabilise and bring price certainty to the market. Taxpayers will be able to achieve savings by purchasing carbon offsets at any price below ZAR 120 per ton CO₂e.

3.

While emissions reductions achieved by carbon taxes can be uncertain, there is the possibility for this system to direct emissions reductions through increasing the offset allowances and reducing the tax free thresholds.

4.

While the tax can be developed within the existing national tax structure the offset system requires additional infrastructure. Housing the offset trading administration system within the DNA can overcome some of the complexities as carbon offsets are already managed by this entity.

5.

Using carbon offsets directly links the performance of the tax system to the primary objective of the system.

CURRENT CHALLENGES

1.

Remaining uncertainty regarding the taxable activities and projects eligible for offsets presents challenges in for modelling the market and predicting its performance. Uncertainties in the regulations make estimating the supply and demand for credits difficult. Furthermore, the uncertainties also inhibit market readiness.

2.

The approval of the technical guidelines for GHG reporting will be crucial for guiding the measurement of an entity's emissions and hence liability for taxation.

3.

Implementation of a carbon tax at a domestic level without equally robust carbon mitigation strategies implemented in other countries could lead to decreased competitiveness of emission intensive sectors in the South African economy. Additionally, the tax could displace domestic emissions, leading to carbon leakage and decreased effectiveness of the tax.

4.

The development of the carbon tax in South Africa comes during a critical time for the South African economy and indirectly poses a challenge to the traditional state-owned and state-planned energy sector to reduce emissions while at the same time continuing to grow the energy and manufacturing sectors.

Author Acknowledgements

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Disclaimer: The authors take full responsibility for the content presented in the report and encourage readers to please contact the Promethium Carbon and IETA contacts with any corrections, additions, revisions or other comments, including relevant citations. This will be invaluable in strengthening and updating the case studies and ensuring that they are as accurate and informative as possible.

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