

**COVID-19
MACROECONOMIC
POLICY RESPONSES
IN AFRICA**

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South Africa's Post-COVID Climate Response and the Path to its NDC Goals

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About CoMPRA

The COVID-19 Macroeconomic Policy Response in Africa (CoMPRA) project was developed following a call for rapid response policy research into the COVID-19 pandemic by the IDRC. The project's overall goal is to inform macroeconomic policy development in response to the COVID-19 pandemic by low and middle-income countries (LMICs) and development partners that results in more inclusive, climate-resilient, effective and gender-responsive measures through evidence-based research. This will help to mitigate COVID-19's social and economic impact, promote recovery from the pandemic in the short term and position LMICs in the longer term for a more climate-resilient, sustainable and stable future. The CoMPRA project will focus broadly on African countries and specifically on six countries (Benin, Senegal, Tanzania, Uganda, Nigeria and South Africa). SAIIA and CSEA, as the lead implementing partners for this project, also work with think tank partners in these countries.

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Executive summary

The COVID-19 pandemic, the outcomes of the 26th Conference of the Parties (COP26) and the global impact of the Ukraine war have put South Africa in a unique position as it pursues its updated nationally determined contribution (NDC). On the one hand, the pandemic and COP26 provided extra impetus for South Africa's pursuit of a green recovery and its NDC targets. On the other hand, the Ukraine war has stimulated demand for South Africa's coal, which could potentially lead to the rolling back of some of the country's decarbonisation efforts. These developments come hard on the heels of the submission of a more ambitious, updated NDC

whose emission targets for 2030 are set at the upper limit of 420 Mt CO₂-eq, down from the 614 Mt CO₂-eq target in the intended nationally determined contribution (INDC) submitted in 2015.

South Africa has no lack of strategies and policies for achieving its NDC. The Renewable Energy Independent Power Producer Procurement Programme, the Integrated Energy Plan, the Green Transport Strategy (2018), the Industrial Policy Action Plan (2018), the Integrated Resource Plan (2019) and the Carbon Tax Act (2019) are among the myriad strategies designed to bring about a greener economy. Furthermore, South Africa has made a lot of progress in terms of green financing and carbon pricing and is leading the African continent on those fronts. However, despite these positive steps, there are some shortcomings inherent in these policies. The Carbon Tax Act, for instance, prescribes carbon prices that are lower than what is required to bring down emissions in line with the 2°C targets. Furthermore, the will to implement these policies and strategies remains an open question.

Nevertheless, there are several enablers that, if properly leveraged, will help the country achieve its NDC targets. These include the Just Energy Transition Partnership and new climate legislation. However, the country's ongoing power shortages, the Ukraine war and the inconsistency of domestic political messaging are among the risks that could potentially curtail the country's efforts to realise its NDC commitments.

Introduction and background

The COVID-19 pandemic has underscored the vulnerability of economies around the world to adverse exogenous shocks. Emerging markets and developing economies have faced acute fiscal challenges, as revenue streams from trade, tourism, remittances, natural resources and local taxes contracted sharply at a time when increased spending was necessary to manage the health and socioeconomic impacts of the pandemic. The fiscal challenges created by the pandemic have induced countries to shift their priorities to issues they consider warrant more urgent attention. However, it is important that countries remain steadfast in their climate change commitments, not only to ensure a sustainable future, but also in knowing that a greener recovery has the potential to address both immediate and future economic concerns in an inclusive manner. This is even more important with the COVID shock having been exacerbated by the secondary cycle of food inflation and energy price shocks in the wake of the Russian invasion of Ukraine.

For South Africa, the significant impact that COVID-19 has had on the economy, considered together with the outcomes of the 26th Conference of the Parties (COP26), has put it in a unique

position to pursue a green recovery and meet its nationally determined contribution (NDC) commitments. First, the major recession in 2020 caused by the pandemic (which resulted in a 7% contraction of the South African economy) laid bare the economic challenges that the country faces, including the confluence of macroeconomic shocks and climate change. Second, the just energy transition deal for South Africa announced at COP26 has provided an important opportunity for the country to effectively pursue its NDC targets as it helps to address some of the financial constraints associated with the country's plan to transition away from its heavy coal energy reliance. However, the Russian invasion of Ukraine also has implications for South Africa's climate change action, as it negatively affects the country's economic performance and, by extension, its investment decisions.

This policy insight unpacks South Africa's existing climate change commitments, as reflected in its updated NDC, reviews how they have been impacted by recent global events and identifies enablers and potential impediments to attaining them. Given the country's increased ambition in terms of climate mitigation, this paper also provides recommendations in respect of actions that can facilitate the implementation of the NDC and the achievement of its targets.

South Africa's climate action leading up to the NDC update

Global responses to climate change and recognition of the negative effects thereof escalated noticeably with the introduction and ratification of the Paris Climate Agreement, the product of the 21st Conference of the Parties (COP21) to the UN Framework Convention on Climate Change (UNFCCC). The most notable feature of this agreement is its commitment to limiting average global temperatures to 2°C below pre-industrial levels.¹ While this agreement and its tenets are indeed notable in the context of global responses to the threat of climate change, South Africa's response to climate change is grounded in the National Climate Change Response White Paper (NCCRWP) which was gazetted in 2011.

The NCCRWP forms the basis of all of South Africa's climate-related policy decisions and strategies.² This ambitious document set out several goals to be achieved and programmes to be implemented in the short term, medium term and long term, following its publication. These goals included the establishment of a climate change response monitoring and evaluation system, the allocation of carbon budgets, the development of a greenhouse gas (GHG) emission

1 UN, *The Paris Agreement*, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

2 Climate Action Tracker, '[Climate Governance Assessment of South Africa](#).' (CAT Climate Governance Series, 2020), 6.

reporting system, and the immediate implementation of eight near-term priority flagship programmes.³

Although there have been some challenges regarding the implementation of the flagship programmes in the NCCRWP, some achievements have also been registered to varying degrees. Under the 'waste management flagship programme', for instance, several waste-to-energy programmes are already operational in the municipalities of Johannesburg, eThekweni, Richards Bay and Ekurhuleni, with dozens of others at various stages of research and planning across the country.⁴ Some progress has also been made on the 'renewable energy flagship programme' whereby, since 2011, the government has conducted several rounds of public procurement of renewable energy from independent power producers through the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). More recently, progress has also been made on the 'carbon capture and sequestration flagship programme', with geological mapping being carried out in the Mpumalanga province at the country's first proposed carbon capture and storage site.⁵

In 2015, four years after the gazetting of the NCCRWP, South Africa signed the Paris Agreement and submitted its intended nationally determined contribution (INDC) to the UNFCCC. In 2016, the INDC was adopted as South Africa's first NDC, with the country intending to pursue a peak, plateau and decline emissions trajectory. Specifically, the NDC proposed that South Africa's emissions would peak in 2025, plateau for about 10 years and then begin to decline in earnest. The NDC was updated in 2021 and increased South Africa's ambitions in terms of climate change mitigation, with higher emissions reduction targets than those stated in the INDC. South Africa's demonstration of earnest climate change action at an international level has since been followed up with several domestic policies aimed at advancing the country's climate change agenda.⁶ These include the Green Transport Strategy (2018), the Integrated Resource Plan (IRP) (2019) and the Carbon Tax Act (2019). The Industrial Policy Action Plan was also promoted as an enabler of the green economy transition, but it has been criticised for having a business-as-usual approach which regards the transition to an inclusive green economy as an add-on to other developments.⁷

3 Republic of South Africa, *National Climate Change Response White Paper* (2011); The flagship programmes, the sectors they seek to address and the proposed activities under each theme are detailed in South Africa's 1st Annual Climate Change Report under the section titled 'Theme H'; Republic of South Africa, South Africa's 1st Annual Climate Change Report – 'Theme H': Near-Term Priority Climate Change Flagship Programmes (2016).

4 Waste Khoro, *Coordination of the Waste Management Flagship Programme*, https://www.dffe.gov.za/sites/default/files/docs/waste_management_flagship.pdf; The waste management programme has a strong focus on 'waste to energy' as a constructive solution to South Africa's waste management needs, while simultaneously contributing to the country's energy needs.

5 Wendell Roelf, 'South Africa aims to bring pilot carbon capture project online in 2023' (Reuters, August 23, 2021).

6 See NBI, 'South Africa: Policy framework and climate change' (National Business Initiative, 2017).

7 Gaylor Montmasson-Clair and Gillian Chigumira, 'Green Economy Policy Review of South Africa's Industrial Policy Framework' (UN Environment Programme, 2020).

Perhaps the most notable development since South Africa's 2011 White Paper and subsequent signing of the Paris Agreement is the Draft National Climate Change Bill, which was first published for comment in June 2018, revised in October 2021 and formally introduced to Parliament in February 2022. Once enacted, this Bill would embed an integrated and coordinated response to climate change as well as provide a legal foundation for the setting and enforcement of carbon budgets and sectoral emissions targets. The Bill is not without its dissenters, though, with some criticising it is for not making specific mention of the Paris Agreement's 1.5°C target for limiting global warming.⁸ Furthermore, in its current form the Bill refers to the 2015 INDC targets which have since been replaced with the more ambitious 2021 updated NDC.

The observations above prove two things. There is no shortage of policies and strategies for enforcing 'green' practices in the country, and there is no lack of political engagement on climate-related issues, both domestically and in international forums. However, the implementation and enforcement of these strategies leave much to be desired. For instance, although some proposed actions in the NCCRWP had an implementation timeframe of two to five years following its publication, more than a decade later they were yet to take effect. As for the Bill, despite being drafted and published in June 2018, it was only formally introduced to Parliament on 18 February 2022, more than three-and-a-half years later. The delays in the adoption and implementation of policies and legislation threaten the efficacy of South Africa's responses to climate change.

"The delays in the adoption and implementation of policies and legislation threaten the efficacy of South Africa's responses to climate change"

South Africa's updated NDC

To promote clarity, transparency and understanding on climate change action, Article 4.9 of the Paris

⁸ Robert McSweeney and Jocelyn Timperly, 'The Carbon Brief Profile: South Africa' (Carbon Brief, October 2018).

Agreement mandates countries to update and communicate their NDCs every five years. The communication of the NDCs, which are published by the UNFCCC, also provides parties with the opportunity to communicate new developments affecting the implementation of their previously communicated NDCs, new opportunities arising, and any changes in their ambitions or targets arising from these developments. This in turn affords the parties the opportunity to mobilise support from other parties and organisations.

South Africa submitted its first updated NDC in September 2021, in the lead up to COP26. The revised NDC presents a more ambitious commitment by the country to reduce its carbon footprint and play its part in limiting global warming to the 1.5°C threshold. Compared to the intended NDC submitted in 2015, the updated NDC lowers the upper limit of South Africa’s 2030 emission target from 614 Mt CO₂-eq to 420 Mt CO₂-eq (see Table 1). The updated NDC further includes an (upper bound) target for 2025, which is set at 510 Mt CO₂-eq. While the lower bound target for 2025 is maintained at 398 Mt CO₂-eq, for 2030 it is lowered to 350 Mt CO₂-eq, thus tightening the range from 216 Mt CO₂-eq in the INDC to 70 Mt CO₂-eq in the updated NDC.

Table 1 Mitigation targets under South Africa’s INDC and updated

Period of implementation	Target in first NDC/INDC (2016)	Target in updated NDC (2021)
2021–2025	South Africa’s annual GHG emissions within the range 398–614 Mt CO ₂ -eq.	South Africa’s annual GHG emissions within the range 398–510 Mt CO ₂ -eq.
2026–2030		South Africa’s annual GHG emissions within the range 350–420 Mt CO ₂ -eq.

Source: Republic of South Africa, ‘South Africa First Nationally Determined Contribution under the Paris Agreement: 2021/2021 Update’ (September 2021), 15.

South Africa’s increased ambitions in the NDC, particularly in respect of climate change mitigation, signals acceptance of the urgency with which the country and the rest of the world need to act to avert the catastrophic outcomes that would result from global warming rising above the 1.5°C threshold. With the country’s temperature rising at more than twice the global rate,⁹ the NDC notes that South Africa is already experiencing the adverse effects of climate change, mainly emanating from rising temperatures and rainfall variability. The increased ambitions in terms of mitigation also reflect the opportunities that have been created for South Africa, particularly in the energy sector.

As the country moves towards revitalising its ageing fleet of power generation infrastructure, an opportunity has been created to replace these carbon-intensive power plants with clean energy

9 Piotr Wolski, ‘Twice the Global Rate,’ (CSAG Blog, University of Cape Town, 2019).

plants. Some of the coal-fired power stations operated by Eskom, including its oldest plant, Komati Power Station (1 000 MW), are due for decommissioning soon. In Komati's case, the plant was set to be decommissioned in October 2022 and is to be repurposed into a solar photovoltaic (PV) and battery storage-based power plant, a containerised micro-grid assembly factory and a training facility for the local community.¹⁰ Other power stations, including Grootvlei (1 200 MW), Camden (1 600 MW), Hendrina (2 000 MW), Arnot (2 100 MW) and Kriel (2 850 MW) are set to be decommissioned and repurposed by 2030, which would remove about 10 750 MW from the grid.¹¹

In terms of adaptation, the updated NDC also includes South Africa's adaptation communication (A-NDC) in accordance with Article 7 of the Paris Agreement, which mandates countries to submit their adaptation communications together with their national adaptation plan. In South Africa's case, its adaptation plan, the National Climate Change Adaptation Strategy (NCCAS) was only approved and adopted by the government in 2020, with the updated NDC being the first time that such an adaptation communication was included. The adaptation component in the first NDC (A-INDC) had as one of its goals the development and operationalisation of the national adaptation plan. As such, the inclusion of the A-NDC in the updated NDC reflects progress on that front. The A-NDC proposes several investments in climate change adaptation, of which a key one is the implementation of NCCAS adaptation interventions for the period 2021–2030, which are projected to cost \$3 billion–\$4 billion.¹²

Impact of COVID-19 on South Africa's climate change agenda

The economic fallout from the COVID-19 pandemic continues to be felt today, exacerbated by new challenges, including the impact of the Ukraine war. The fiscal deficits and rise in public debt caused by the pandemic have left countries with less capacity to implement their intended climate change actions. This fact was reflected in the structure of the immediate stimulus packages that countries adopted, many of which simply pursued growth, protection of jobs and vulnerable groups, regardless of the climate implications.¹³

10 Eskom, 'Eskom partners with the Global Energy Alliance for People and Planet (GEAPP) and the South African Renewable Energy Technology Centre (SARETEC)' (media statements, September 23, 2022).

11 Eskom, 'JET projects underway,' <https://www.eskom.co.za/about-eskom/just-energy-transition-jet/jet-projects-underway/>.

12 Republic of South Africa, 'South Africa First Nationally Determined Contribution under the Paris Agreement: 2021/2021 Update' (September 2021), 10.

13 Joseph Upile Matola, 'COVID-19 Fiscal Policy Response and Climate Change Action in Africa' (South African Institute of International Affairs, Policy Insights 9, 2021).

The pandemic also had an impact on the general public's attitude towards climate change. A study by Adil Mohommad and Evgenia Pugacheva¹⁴ using data from a survey of 14 500 individuals across 16 major economies, including South Africa, showed that the experience of the COVID-19 pandemic increased concerns about climate change and public support for green recovery policies. This suggests that the crisis provided policy makers in the sampled countries with the opportunity to adopt bolder climate policies. However, the study also found that the support for climate policies decreased with income and/or job losses during the pandemic, suggesting that protecting incomes and livelihoods was also important in maintaining support for climate interventions.

South Africa's immediate reaction to the pandemic was reflected in its ZAR 500 billion (\$30.37 billion) stimulus package announced on 24 June 2020. The package was presented as part of the supplementary budget 'designed to help households and businesses to weather the short-term effects of the crisis'.¹⁵ However, an analysis of the supplementary budget shows that the stimulus package was generally neutral with respect to the climate agenda as its focus was on the immediate economic impact of the pandemic.¹⁶ Apart from a ZAR 2 billion job creation programme in the environment, forestry and fisheries sectors, no other measures designed to contribute to a green recovery were included. Moreover, an equal investment (ZAR 2 billion) in the form of carbon tax deferral was included, thus counteracting any green measures in the package. The lack of environmental considerations/conditionalities in the package may also have indirectly provided support to carbon-intensive activities. Generally, the pandemic took away some of the focus on climate change and redirected it to the country's immediate socioeconomic needs.

In the medium to long term, however, the pandemic has resulted in the government increasing its focus on a green transition. In October 2020, President Cyril Ramaphosa launched the Economic Reconstruction and Recovery Plan (ERRP) which seeks to revitalise and transform the South African economy beyond the pandemic.¹⁷ The ERRP comprises three phases which are: 1) an initial response focused on saving lives and protecting distressed households and firms – the so-called 'engage-and-preserve' phase; 2) interventions to restore the economy – the 'recover-and-reform' phase; and 3) building a sustainable, resilient and inclusive economy – the 'reconstruct-and-transform' phase. The last two phases include the prioritisation of green economy interventions and energy security. The interventions falling under the green economy and energy security priorities include: the rollout of biodiversity economy infrastructure; support

14 Adil Mohommad and Evgenia Pugacheva, 'Impact of COVID-19 on Attitudes to Climate Change and Support for Climate Policies' (International Monetary Fund, WP/22/23, February 2021), accessed on July 22, 2022.

15 Republic of South Africa, 'Supplementary Budget Review 2020' (June 24, 2020), accessed on July 30, 2022.

16 Matola, 'COVID-19 Fiscal Policy Response.'

17 See Republic of South Africa, 'The South African Economic Reconstruction and Recovery Plan' (October 2020).

provided to small, medium and micro enterprises and cooperatives to exploit opportunities in the green economy; support for small grower farmers through public-private partnerships in forestry; the completion of the regulation of bioenergy; the preparation for South Africa's nuclear programme; and the promotion of liquefied petroleum gas (LPG) as an energy source for cooking and heating.¹⁸

It is important to note that some of these measures still stir controversy over their classification as green initiatives. On the use of nuclear energy, for instance, although the EU parliament has resolved to adopt it as a clean transition energy within the EU taxonomy for sustainable activities,¹⁹ the environmental concerns surrounding its by-products (radioactive waste) raise questions about how green the transition to nuclear energy really is. Similar concerns also surround LPG, which under the EU taxonomy qualifies as a green energy investment, as long as the new gas facilities replace coal-fired plants by 2030 and are designed to run on renewable or low-carbon fuels only by 2035.²⁰

Impact of Ukraine war on South Africa's climate change agenda

The economic implications of the Russian invasion of Ukraine have both direct and indirect impacts on South Africa's climate change response. The direct impact is on commodity markets, particularly South African coal prices (see Figure 1) which increased significantly as demand for coal as an alternative energy source to Russian oil and gas rose. Thus, it provided an extra incentive for increased production and exports of the commodity, in the short term at least. Following Russia's invasion in February 2022, South African coal prices soared from \$168.50/Mt in January 2022 to \$294.42/Mt in March 2022 and remained at \$306.35/Mt as of July 2022.²¹ South African coal exports have also increased. For instance, the Richards Bay Coal Terminal's overall exports to Europe increased from 2,321.190 tonnes in May 2021 to 3,240.752 tonnes in May 2022, which represents a 40% year-on-year increase.²² With the EU's ban on Russian coal taking effect in August 2022 (the EU imports 40% of its coal from Russia), South Africa and other coal-exporting countries are likely to take advantage of the extra demand for its coal and increase its own coal production. Indeed, South Africa's coal exports to Europe increased

18 Republic of South Africa, *The South African economic reconstruction and recovery plan* (South African Government, October 15, 2020).

19 EU taxonomy for sustainable activities, https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en.

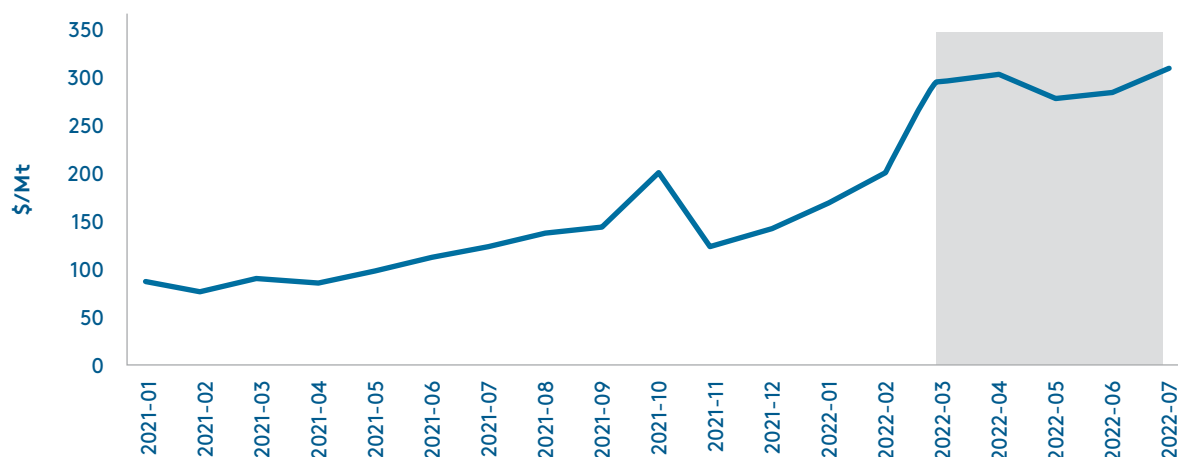
20 Cathy Bussewitz, 'EU decision on natural gas could threaten climate progress,' AP News, July 8, 2022, <https://apnews.com/article/climate-science-european-union-ccfc8dc89604cb8adcc4cb1dd806265e>.

21 World Bank, 'World Bank Commodity Price Data (The Pink Sheet)' (updated on August 2, 2022), accessed on August 2, 2022.

22 Helen Reid and Nelson Banya, 'Europe imports more South African coal as Russian ban looms,' (Reuters, June 15, 2022), accessed on August 8, 2022.

eight-fold in the first half of 2022 compared to the same period in 2021 as a result of increased demand triggered by the Russian invasion of Ukraine.²³

Figure 1 Price trends for South African coal



Source: Authors, as derived from World Bank Commodity Price Data

The indirect impact is on South Africa's macroeconomy (which add to domestic factors) with the country's climate change agenda and initiatives having likely been affected. In June 2022, South Africa's inflation rate reached a 13-year high of 7.4%, which the South African Reserve Bank attributed to the war in Ukraine.²⁴ Consequently, the Reserve Bank reacted by raising interest rates by 75 basis points to 5.5% effective July 22, 2022, the largest single increase since 2002. The war has also affected South Africa's growth prospects. While the projection for 2022 stands at 1.9% (thanks to stronger-than-expected performance in the first quarter),²⁵ because of the war, growth projections for 2023 and 2024 were revised downwards from 1.9% for both years to 1.4% in 2023 and 1.7% in 2024. The high interest rates and inflation, and reduced GDP growth all affect the government's ability to invest in climate change interventions, as the government's fiscal capacity is likely to be negatively affected and its spending and investment priorities are also likely to change.

The macroeconomic impact of the war is also likely to affect private sector investments in green projects. Currently the South African government, through the REIPPPP, is working with

²³ Nelson Banya, 'South African coal exports to Europe surge, shipments to Asia decline' (Reuters, August 16, 2022), accessed on August 20, 2022.

²⁴ South African Reserve Bank, 'Statement of the Monetary Policy Committee' (September 22, 2022), accessed on September 23, 2022; Domestic factors too, including significant electricity price increases, have contributed to the high inflation.

²⁵ In the first quarter of 2022, the South African economy grew by 1.9%, surpassing the 0.9% initial projection.

independent power producers to invest in renewable energy (solar PV, biomass and small hydro-powered electricity) to be procured by the government and added to the national grid. Such investments require affordable and stable means of financing. Therefore, with the higher interest rates effected by the Reserve Bank, investors' ability to secure financing for such projects could be negatively affected to some extent.

Progress on green finance

For most emerging and developing economies participating in the Paris Agreement, financing remains a key constraint to meeting their commitments. As such, innovative ways of securing climate financing have become necessary for mobilising the resources required to implement countries' climate agendas. South Africa has made some progress on that front and is leading the way with green financing in Africa. Over 70% of Africa's green bonds have been issued in South Africa and it is among the few countries that have issued sovereign green bonds.²⁶ The issuance of municipal green bonds by the cities of Cape Town and Johannesburg shows South Africa's level of innovation in green financing (although questions remain about how green the initiatives are that have benefited from the bonds).²⁷ Furthermore, the introduction of sustainability bonds on the Johannesburg Stock Exchange, a first in Africa, following the green bonds introduced in 2017, paves the way for the growth of the markets for these assets and their popularity as a means of securing green financing.

To facilitate the development of markets for green financial assets, the South African government, through the National Treasury, is in the process of developing the first national green finance taxonomy. The green finance taxonomy is an official classification or catalogue that defines a minimum set of assets, projects and sectors that are eligible to be defined as 'green' or environmentally friendly.²⁸ The green finance taxonomy aims to make it easier for investors, issuers and other financial sector participants to track and monitor as well as demonstrate the credentials of their green activities, thus enhancing such activities' credibility and transparency. This is a big step forward in consolidating the green financing segment of South Africa's financial markets.

Private sector engagements/investments are also an area in which South Africa is excelling when it comes to green initiatives. One major initiative in this regard is the South African government's engagement of the private sector to invest directly in clean energy projects under the REIPPPP.

26 Neil Ford, 'Africa poised for green bond growth' (African Business, May 16, 2022), accessed on August 9, 2022.

27 Palesa Shipalana, 'Green Finance Mechanisms in Developing Countries: Emerging Practice' (COVID-19 Macroeconomic Policy Responses in Africa 02, South African Institute of International Affairs, Johannesburg, December 18, 2020).

28 Government of South Africa, National Treasury, Media Statement on South Africa's First National Green Finance Taxonomy Launch, April 2022.

In this regard, private investors are engaged to supply to the national grid (Eskom) at least 6 000 MW of electricity generated through renewable sources, including wind energy, solar PV and hydropower. To date, five bidding windows have been implemented with over \$19 billion raised – about \$3.2 billion (ZAR 50 billion) raised in Window 5²⁹ and an additional \$16 billion (ZAR 50 billion) having been raised in the first four windows.³⁰ Window 6 is already under way, and this should increase the total private financing secured under this programme to well above \$20 billion.

Under the IRP, South Africa has a target of generating 17 800 MW of renewable energy by 2030, which would represent 41% of the country's energy mix. So far, 6 422 MW have already been produced and procured under the REIPPPP, with more generation needed to fully replace the 10 750 MW that will be lost through the decommissioning of the Komati, Grootvlei, Camden, Hendrina, Arnot and Kriel plants, as well as other coal-fired plants that will be shut down in the future.

Carbon pricing in South Africa

Carbon taxes and emissions trading systems (ETS), also known as a cap-and-trade system, are the two main types of carbon pricing used around the world. The former involves the government setting a price per ton of carbon emissions and then translating that price into a tax on carbon-emitting goods and services, such as petroleum oil, natural gas and electricity. ETS, in contrast, involve the establishment of a market where entities are allowed to trade carbon credits within their carbon budgets, thus allowing low-emitting entities to sell their unused carbon credits to those that want to emit above their carbon budgets. Like many emerging and developing economies, South Africa does not yet have an established ETS market, but a great deal of progress has been made on setting a carbon tax.

South Africa adopted its Carbon Tax Act of 2019, which became effective on June 1, 2019. This Act provides a legal framework for carbon taxation in the country, making GHG emitters liable for their own contributions to carbon emissions. Among other things, it sets out the price of emissions and its adjustment mechanisms and the exemptions that emitting entities may enjoy if certain conditions are met. The Act is a major milestone in South Africa's efforts to reduce its GHG emissions to the targets set in the country's NDC, but its proposed carbon prices minimise its effectiveness in doing so.

29 Ed Reed, 'South Africa picks renewable winners for Window 5' (Energy Voice, October 29, 2021).

30 Wikus Kruger, 'Myths and truths around South Africa's recent renewable energy auction' (The Conversation, November 10, 2021).

The Act set an initial carbon tax rate of ZAR 120/tCO₂e (for 2019) which is adjusted annually, reaching ZAR 144/tCO₂e (about \$9/tCO₂e) as of 2022.³¹ While this price is higher than the estimated global average of \$2/tCO₂e, it is significantly lower than the price that is estimated to be consistent with the 2°C target, which is \$40/tCO₂ to \$80/tCO₂ by 2020 and \$50/tCO₂ to \$100/tCO₂ by 2030.³² Moreover, estimates show that when the maximum tax-free provisions of the Act are applied, the effective carbon price can drop to as low as ZAR 6/tCO₂e, making it one of the weakest carbon price signals in the world.³³ In January 2022, the National Treasury published the draft framework for the South African carbon offsets programme. Carbon offsets allow firms to reduce their tax liabilities by engaging in activities or projects that reduce, avoid or sequester emissions. Among the intended objectives of the carbon offset system is to encourage GHG emissions reductions in sectors or activities that are not directly covered by the tax.³⁴ While this programme can indeed encourage firms to engage in green activities, due diligence by the authorities is required to ensure that all activities purported to be green projects are indeed green and that their impact matches the tax allowance. Furthermore, necessary measures need to be put in place to ensure that carbon offsets are not abused by polluting firms simply to minimise their carbon tax liabilities.

Prospects of South Africa's NDC

South Africa's prospects of delivering on its NDC still depend on several enabling and hindering factors. Some of the important ones include the just energy transition deal, South Africa's ongoing power shortages, emerging geopolitical events, domestic political messaging and new climate legislation. These need to be effectively managed to increase the chances of meeting the targets in the NDC.

Leveraging the just energy transition deal

In November 2021 at COP26, South Africa's NDC received a massive boost following the establishment of the Just Energy Transition Partnership (JETP) with the International Partners Group – France, Germany, the UK, the US and the EU. The deal, which is still being negotiated, in its first phase provides South Africa with an \$8.5 billion financial package consisting of grants, concessional loans and arrangements to support implementation of its 'just energy transition'

31 The carbon price is annually raised by an amount equal to the inflation rate of the preceding tax year plus 2 percentage points. Starting from 2023, the rate of adjustment will be reduced to the inflation rate only.

32 World Bank Group, 'State and Trends of Carbon Pricing 2019' (World Bank, Washington, DC, 2019).

33 Reinhardt Arp, Prabhat Upadhyaya and Louise Naudé, 'Carbon trading in South Africa: Providing flexibility or escape route?' (WWF-SA, 2018), accessed on August 8, 2022.

34 Republic of South Africa, 'South African Carbon Offsets Programme: Draft Framework for Approval of Domestic Standards for Public Comment' (January 2022), accessed on August 9, 2022.

programme which aims to transform the country's energy sector into cleaner energy while protecting communities affected by the transition through the creation of green jobs.

With the just energy transition central to South Africa's GHG emissions reduction strategy, the JETP becomes a key enabler for meeting these targets, as set out in the NDC. It is estimated that implementation of South Africa's updated NDC will require \$60 billion–\$64 billion by 2030, and during that period the South African government aims to secure a minimum of \$8 billion annually in climate finance (external support).³⁵ Thus, the \$8.5 billion secured under the JETP in 2021 is arguably a decent start towards this goal. In the long term, however, South Africa's resource requirements for a full just energy transition are much higher. It is estimated that over the next three decades, the country will require at least \$ 250 billion to completely transform its energy sector, and this amount excludes the other aspects of the transition, such as adaptation.³⁶

To realise the GHG emissions reduction targets in the NDC, an effective resource mobilisation strategy for the just energy transition is critical. This strategy should tap both domestic and external capital and leverage public-private partnerships and innovative financing facilities. Furthermore, to maximise the use of the available resources, a phased approach to the just energy transition is required. In this regard, the JETP should first prioritise decarbonisation of the energy sector by decommissioning coal-fired power plants and investing in readily available renewable energy technology, before moving to electric vehicles (EVs) and the development of green hydrogen thereafter.³⁷ In the meantime, South Africa should embark on capacity building for battery manufacturing for EVs as this requires less investment and less effort in

“The JETP should first prioritise decarbonisation of the energy sector by decommissioning coal-fired power plants and investing in readily available renewable energy technology, before moving to electric vehicles and the development of green hydrogen thereafter”

35 South Africa First Nationally Determined Contribution (2021), 29.

36 Republic of South Africa, ‘A Framework for a Just Transition in South Africa’ (A Presidential Climate Commission Report, June 2022), 24.

37 Dipak Patel, ‘COP26 and the Energy Transition in South Africa [Webinar]’ (South African Institute of International Affairs, October 13, 2021).

upskilling workers, and could take advantage of green minerals available within the region. Research on EVs shows that even if such vehicles are using electricity from coal power stations, the net effect on emissions is still significantly lower than the baseline, providing a strong signal towards a transition to e-vehicles.³⁸

Role of coal-fired plants in South Africa's energy crisis

The ongoing energy crisis in South Africa puts the country at a crossroads regarding the future of its energy industry. On the one hand, the crisis has the potential to force a quick energy sector transition if the failing coal-fired plants are replaced by renewable energy. On the other hand, the country could double down on the coal plants as the surer bet to meet its energy needs. The commissioning of the Medupi and Kusile coal plants in 2015 and 2017 respectively undermines efforts towards clean energy transformation and raises questions about the political will to follow through on all aspects of the NDC. The Medupi and Kusile plants are each projected to emit around 25 million tons of carbon dioxide per year which (combined) is roughly a quarter of the 210 million Mt CO₂-eq emitted by Eskom. The two projects are therefore a major impediment to South Africa's GHG emissions reduction targets in the NDC,³⁹ and with South Africa's energy sector in crisis, it is possible that the country will continue to rely on these and other coal-fired plants to address its energy shortfall.

The IRP notes that even beyond Medupi and Kusile, coal will continue to play a significant role in electricity generation in South Africa in the foreseeable future. Moreover, as Eskom battles with power shortage crises, it has sought and been

"The potential continuation of the use of the old power plants together with Medupi and Kusile should be accurately reflected in the NDC, and proper mitigation measures outlined therein"

38 Deon Cloete, Neuma Grobbelaar and Talitha Bertelsmann-Scott, 'SADC Futures of e-Mobility: EVs as Enablers of a New Energy Paradigm' (South African Institute of International Affairs, November 3, 2020), 10.

39 Paul Burkhardt, 'With Kusile and Medupi SA will still have to burn coal for decades despite emissions pledge' (Bloomberg News, July 8, 2022).

granted permission to delay the decommissioning of some of its old plants which are scheduled for closure. The potential continuation of the use of the old power plants together with Medupi and Kusile should be accurately reflected in the NDC, and proper mitigation measures outlined therein.

Domestic political engagement and messaging

The push towards more sustainable practices and climate-friendly policies poses a challenge to two of South Africa's most significant value chains, namely: coal and the manufacturing of petroleum-powered vehicles. Coal is a central pillar in South Africa's economy as it is the source of many jobs and constitutes 83% of South Africa's energy mix.⁴⁰ Decarbonisation efforts, if adequately implemented by the parties to the global climate agenda, will see significant numbers of jobs in the fossil fuel industry lost. South Africa's coal mining industry, which directly employed around 93 000 workers in 2021, is expected to see many of its jobs disappear due to reduced global demand for coal should other countries follow through on their decarbonisation commitments.⁴¹

With many livelihoods in South Africa, particularly in the coal regions of Mpumalanga, highly dependent on coal, the decommissioning of coal plants is a politically sensitive topic. This has led to some top government officials expressing their scepticism and lack of support for the energy transition path that is currently being pursued. Among them, Mineral Resources and Energy Minister, Gwede Mantashe, is reported to favour a gradual change to the energy transition, urging people not to be 'emotional' about demanding a transition.⁴² While the Minister's concerns about a rapid transition are valid as it may compromise the 'just' in a 'just energy transition', the messaging could limit the public's acceptance of and preparedness for the transition. For the transition to be fully realised, it must be made clear to the communities affected by it that the transition is imminent. Hence, efforts towards instituting reskilling programmes, encouraging economic diversification and innovation, and other initiatives designed to protect the communities affected by the transition should be immediately prioritised. This dimension should be among the first priorities of the just energy transition.

South Africa's response to emergent global events

Before Russia's invasion of Ukraine, the narrative of shifting away from coal had been ramped up, especially in western, developed nations. This narrative has been cemented in the NDCs

40 Republic of South Africa, 'The South African energy sector report' (Mineral Resources and Energy Department, 2021), 18.

41 Republic of South Africa, A Framework for a Just Transition, 10.

42 Helen Reid and Alexander Winning, 'South Africa should not "rush" move away from coal, says Mantashe' (Reuters, October 7, 2021).

of many countries. However, the impact of the war on the global energy markets has seen some European countries that rely on Russia for energy turning back to coal and other fossil fuels. This has provided ammunition for African countries which are likely to use the next UN climate summit to push for massive new investment in fossil fuels, with backing from some European countries.⁴³ As a poster child of just energy transitions, having secured the JETP in 2021, South Africa should resist the urge to walk back on its climate commitments for short-term gains in the wake of the renewed demand for its coal. Its climate agenda should be driven by its own views of and experience with climate change, rather than by outside trends induced by the vagaries of everchanging global events.

Enforcement of climate strategies through legislation (Climate Change Bill)

South Africa has a sizeable collection of plans and strategies that, if fully implemented, would put the country on the path towards fulfilling its ambitious NDC. However, as has been experienced with the programmes set out in the NCCRWP, implementation of these plans and strategies may well be delayed or unfulfilled if no proper mechanisms are put in place. The Climate Change Bill is a good start for the enforcement of these plans as it provides a legal basis for the implementation of climate change programmes and mandates various entities, particularly government organs, to fully incorporate climate change into their work. However, the Bill itself has moved slowly, having taken more than three years to be officially introduced, and consequently reflects the less ambitious INDC as opposed to the more ambitious, updated NDC. The government and law makers must ensure that the Bill is updated and strengthened accordingly to reflect the updated NDC and to provide a robust, comprehensive and enforceable legal framework for the NDC.

“The government and law makers must ensure that the Bill is updated and strengthened accordingly to reflect the updated NDC and to provide a robust, comprehensive and enforceable legal framework for the NDC”

43 Fiona Harvey, ‘African nations expected to make case for big rise in fossil fuel output’ (The Guardian, August 1, 2022).

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SAIIA is an independent, non-government think tank whose key strategic objectives are to make effective input into public policy, and to encourage wider and more informed debate on international affairs, with particular emphasis on African issues and concerns.

Cover image: The newly constructed Medupi power station stands outside the town of Lephalale. The plant, operated by the state company Eskom is the fourth largest in the world. Medupi is touted as Africa's first 'supercritical' coal plant, using higher temperatures that produce more energy from less coal, while emitting less ash and carbon dioxide. South Africa, like China and India, has large domestic coal supplies.