

A 500-DAY GAME PLAN FOR SOUTH AFRICA'S ENERGY SECTOR

Practical policy interventions in the energy sector and the green economy that are critical for economic growth and driving employment.

Prepared for the Capacity Building Programme for Employment Promotion Colloquium by Dr Grové Steyn, Celeste Renaud and Lonwabo Mgoduso

June 2021

1 INTRODUCTION

South Africa faces an unprecedented developmental crisis. The pandemic has served as the final straw to plunge the country into its largest economic downturn in living history: unemployment levels are at their highest on record, investment ratings have plummeted and many in the emerging middle class have slid back into greater levels of poverty. Meanwhile, the precarious state of state-owned entities – in particular Eskom power utility – remain a large burden on the increasingly constrained national fiscus. An ailing coal-fleet and chronic power cuts continue to cripple economic growth prospects at a time that South Africa needs it most. Rapidly increasing global concerns about climate change pose new threats to our economy, however, these also open up new opportunities.

The next 500 days are critical for South Africa's future. The decisions that are made during this small window period will determine whether and how we rise out of this crisis. Decisions in the energy sector have particular importance, given the sector's central role in powering growth and recovery. We must think innovatively, and plan boldly.

2 SOUTH AFRICA MUST ADAPT TO SHIFTING GLOBAL NORMS

In order to rise, and to thrive, South Africa must adapt to shifting norms in the global climate and energy landscape. A critical recent report by the International Energy Agency indicates that no new investments in fossil fuels can be made from 2021 onwards if the world is to meet a net zero emissions target by 2050 (IEA,

2021). As the climate agenda escalates, the high carbon-intensity of the South African economy presents the greatest source of risk to the country's financial sector, trade and competitiveness. Considering the carbon border tax adjustments that will be implemented by some of our main trading partners, South Africa's export market – dominated by products with large amounts of embodied carbon – is particularly at risk (Montmasson-Clair, 2020). Large emitters will need to rapidly pivot their business models to mitigate their own climate risk and to enable a fair contribution by South Africa to global climate objectives. Each year that South Africa delays action, the curve of emissions reductions required becomes steeper and more difficult to achieve.

3 THE GAME PLAN: JUMP-START OUR JOURNEY TO A 21ST CENTURY ENERGY SECTOR

The key to a thriving economy for South Africa is establishing a fit-for-purpose, 21st century energy sector; one that unlocks opportunities instead of compounding risk. This sector needs to improve energy security instead of threatening it, and lower electricity price path risk for the country and its citizens. It needs to set South Africa up to leverage the large benefits that will come from being an emerging market leader in the climate agenda, rather than making it bear the costs of lagging behind.



3.1 LONG-TERM: WHAT DOES A 21ST CENTURY ENERGY SECTOR LOOK LIKE?

- **Powered by renewables:** The IEA's recent report foresees that energy systems will be dominated by clean energy by mid-century. South Africa is in a prime position to capitalise on the rapid, disruptive declines in renewable energy technology costs witnessed over the past decade due to fantastic wind and solar resources. The latest modelling studies show that the country's most cost-optimal and climate compatible power system pathway will see a substantial phase-down of coal, with all new build generation capacity being made up of renewable energy technologies, combined with dispatchable energy in the form of storage and peaking power (Mccall *et al.*, 2019).
- **New energy markets:** A new energy system will catalyse new and exciting market opportunities in South Africa. Power markets across the world have moved away from centralised monopoly systems (South Africa's current market structure), to decentralised competitive markets with many players. A fit-for-purpose market system for South Africa will include a world class, publicly owned transmission grid, with publicly owned or franchised distributors, and with diverse competitive generation markets, as well as a clearly defined regulatory regime that supports a vibrant power market to deliver outcomes in the public interest. Completely novel markets will be unlocked by the transformation of the power sector, including green hydrogen and power fuels,

new mineral markets, local manufacturing, and more.

- **Greater electrification of the economy:** In addition to providing electricity to homes that currently use other fuels, South Africa's electricity sector will have grown rapidly and expansively to support other economic sectors in their decarbonisation efforts. These sectors include transport, heavy industry, mining and liquid fuels. A larger power sector will also be supporting new green economies including a thriving green hydrogen market.
- **New political economy:** Overall, South Africa will have significantly shifted the current coal path-dependent political economy and escaped the current decision-making deadlock. The new political economy will be inclusive and create opportunities for many South Africans, instead of only a few with privileged access to the hydrocarbon value chain. South Africa will have made bold policy statements in context of international climate policy, making it more attractive for investment and creating large opportunities for existing fossil fuel incumbents to gain transition support.
- **New financial flows and investment pathways:** The South African government and financial sector will have established climate friendly norms and standards for disclosing carbon footprints and financing infrastructure and other developmental projects. Domestic and international financial flows will support the accelerated transition of carbon intensive entities and the rapid uptake of cleaner energy activities.

3.2 WHAT DO WE NEED TO DO IN THE NEXT 500 DAYS TO JUMPSTART THIS JOURNEY?

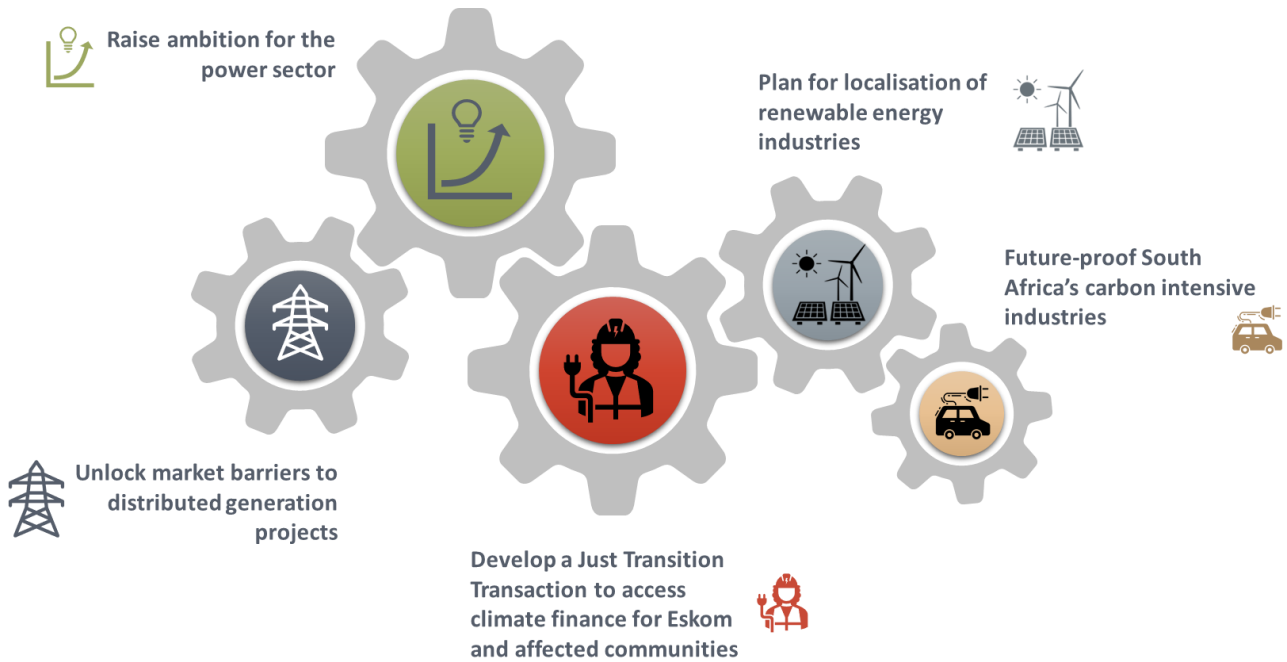


Figure 1. Five critical actions to jumpstart the journey to a 21st century energy sector.

This section highlights five critical interventions which can feasibly be implemented within the next 500-day period:

1. **Unlock market barriers to distributed generation projects:** There is more than 5,000MW of additional generation capacity that could be unlocked through small amendments to the current power sector regulatory framework, including lifting the current generation licence exemption threshold for grid-connected projects and allowing generation projects to sell power to multiple customers (instead of a single, 'end-use' customer) (ME, 2021a, 2021b). These reforms will not compromise grid stability, as each project will still need to adhere to the relevant grid codes and technical requirements as enforced by the grid operator (Eskom or municipality). In the short-term, this additional generation capacity will go a long way to addressing South Africa's current, pressing energy supply shortage and grow investor confidence in South Africa's energy sector. In the long-term, this action marks an important junction for more comprehensive market reform to

facilitate a decentralised, competitive power market.

Key actions required: lift the generation licence exemption threshold to at least 50MW and allow generators to sell to any customer through the amendment of Schedule 2 of the Electricity Regulation Act (No 4. of 2006).

By whom and by when: DMRE¹ by mid-2021

2. **Raise ambition for power sector:** South Africa's power sector presents a large, low-cost opportunity to reduce emissions and set the South African economy on track to achieve net zero emissions by mid-century. A decarbonised power sector will be critical to enabling other hard-to-abate sectors to achieve the emissions reductions required. This will require a substantially accelerated rollout of renewable energy, storage and other grid support technologies, and the phase-down of coal power.

Key actions required: Set a more ambitious lower bound emissions target in South Africa's revised update of its Nationally Determined Contribution (NDC) and urgently revise the Integrated Resource

¹ Department of Mineral Resources and Energy
© Meridian Economics June 2021



Plan (IRP) in line with increased power sector ambition.

By whom and by when: DFFE² to revise the NDC by mid-2021 (before COP26), DMRE to revise the IRP by end-2021.

3. **Develop a Just Transition Transaction to access climate finance for Eskom and affected communities:**

South Africa needs a clear plan to ensure that systemically important high-emitting institutions such as Eskom, Sasol and other energy intensive industries transition effectively through this period of disruptive change. For Eskom this includes putting in place a coherent, credible transition road map that implements a set of solutions to its crippling debt crisis and provides transition support mechanisms for workers and affected communities. The international community has expressed appetite to provide substantial support for a well-managed, ambitious and just energy transition in South Africa, premised on a credible national commitment to an *accelerated* transition pathway.

Key actions required: Before COP26, the South African government should signal its commitment to accelerating the phase-down of coal and propose the principles for a model for developed country finance to support the transition.³ This initiative will provide SA with a critical advantage for the COP26 agenda.

By whom and by when: Led by the Presidency, supported by National Treasury and DFFE (with collaboration from DPE⁴, DMRE and Eskom) by mid-to-late 2021.

4. **Plan for localisation of renewable energy industries:**

The demand for goods and services created by a large, sustained renewables build programme creates an important opportunity to maximise economic benefits by re-establishing a localised renewable energy value chain. South Africa has been relatively successful in establishing local manufacturing to serve the utility scale

market; however, most manufacturing capacity was dismantled due to the hiatus in procurement over the past few years. With procurement set to continue in line with the IRP2019 through the continuation of the REIPPPP⁵, as well as the significant potential for additional embedded generation projects, the necessity for local renewable technologies is set to increase. Job creation along the full wind and solar PV value chain is a key benefit of deploying these renewable energy technologies. There is also potential for export of these services to the African market.

Key action required: Finalise the South African Renewable Energy Masterplan (SAREM) focused on driving industrialisation through the renewable energy sector and its value chain.

By whom and by when: DTIC⁶ to present a draft of the plan to all stakeholders by mid-2021 and to finalise this by latest 2022.

5. **Future-proof South Africa's carbon intensive industries:**

South Africa's carbon intensive industrial economy will need to rapidly transition to an inclusive, green economy to mitigate climate risk. This will require alignment of industrial and climate policy with the green economy paradigm to support green industrial development and reindustrialisation across different sectors (Montmasson-Clair and Chigumira, 2020).

Government and the financial sector have an important role to play in supporting and encouraging low-carbon transitions across all industries through the provision of finance and policy frameworks. Industries must be 'future-proofed' by developing and transitioning to climate-compatible business models. This process can be driven by the establishment of carbon disclosure obligations and establishing new models and norms for the provision of transition finance

² Department of Forestry, Fisheries and the Environment

³ Referred to as the Just Transition Transaction (JTT) in President Ramaphosa's statement to the United Nations Secretary General's Climate Summit on 23 September 2019. See: <http://www.dirco.gov.za/docs/speeches/2019/cram0923.htm>

⁴ Department of Public Enterprises

⁵ Renewable Energy Independent Power Producer Procurement Programme

⁶ Department of Trade, Industry and Competition



that support credible net zero transition pathways.⁷

As an example, there is significant opportunity for South Africa to play a leading role in the global green hydrogen economy with Sasol uniquely positioned to support this market, due to existing technological know-how, but will face many financing and regulatory hurdles to do so. South Africa also has an opportunity to foster an electric vehicle (EV) sector by establishing a policy framework to pivot existing well-developed vehicle manufacturing capacity. Furthermore, South Africa's highly energy (and carbon) intensive mining and minerals industry will need to immediately embark on the transition to net zero. They currently face many regulatory hurdles and will have little state support on doing so.

Key actions required: Establish key policy signals to industries to support their transitions. The Climate Change Bill must be finalised and promulgated, establishing mandatory company carbon budgets (accompanied by requirements for company mitigation planning and reporting) and sectoral

emissions targets. Comprehensive green transport⁸ and hydrogen strategies⁹ need to be finalised without delay. This must include policy support for the establishment of a national network of EV charging points and hydrogen refuelling stations. Key financial sector players such as the Johannesburg Stock Exchange (JSE) and the Government Employees Pension Fund (GEPP) can be encouraged to establish internationally compliant carbon disclosure standards in their rules or investment mandates.

By whom and by when: The South African government must gazette the Climate Change Act before the end of 2021. South Africa's New Green Auto Paper and Hydrogen Society Roadmap need to be finalised by late 2021 or early 2022 at the latest. National Treasury should continue to engage with financial institutions, for example through the South African Sustainable Finance Initiative¹⁰, about carbon disclosure requirements with the aim of fast-tracking implementation over the next two years.



Figure 2: Timeline of key actions

⁷ The process will be further supported by establishing company carbon budgets and sectoral emissions targets, which is underway within DFFE.

⁸ The South Africa's Auto Green Paper, drafted by the DTIC, seeks to establish a clear policy foundation upon which a comprehensive and long-term automotive industry transformation plan on new energy vehicles can emerge

⁹ South Africa's Hydrogen Society Roadmap (HSRM) aims to outline how the country's resource advantages should be leveraged to produce green hydrogen, as well as integrating hydrogen-related technologies into various sectors of the economy.

¹⁰ A Green Taxonomy Working Group has been established under the [South African Sustainable Finance Initiative](#), led by National Treasury, to develop a taxonomy for green, social and sustainable finance initiatives for the South Africa financial services industry.



4 CONCLUSION

South Africa must rise to the challenge of our current crisis. This note presents five critical actions to jumpstart South Africa's journey to a 21st century energy sector which will be critical to powering green economic growth and unlocking a myriad of new employment opportunities and benefits.

Given South Africa's carbon intensity, the transition needs to be economy wide. This includes large emitters like Eskom and Sasol, as well as other heavy industries and the mining sector, who will need to undergo a fundamental pivot of their business models. The process needs to start now. The South African government and financial institutions will play a critical role in enabling and coordinating both the energy transition and broader cross sectoral transition to a green economic future.

5 REFERENCE LIST

IEA (2021) *Net Zero by 2050 - A Roadmap for the Global Energy Sector*. International Energy Agency, p. 224. Available at: https://www.iea.org/reports/net-zero-by-2050?utm_content=buffer5688e&utm_medium=social&utm_source=twitter-ieabirol&utm_campaign=buffer.

Mccall, B. *et al.* (2019) 'Least-cost integrated resource planning and cost- optimal climate change mitigation policy: Alternatives for the South African electricity system', *Southern Africa – Towards Inclusive Economic Development (SA-TIED)*, p. 51.

ME (2021a) *Comments on the amendment of Schedule 2 of the Electricity Regulation Act*. Available at: https://meridianeconomics.co.za/wp-content/uploads/2021/05/Meridian-comments-Schedule-2_21-May-2021-Full.pdf.

ME (2021b) 'SURVEY RESULTS: Scoping interest in the South African Distributed Energy Generation Sector', p. 2. Available at: <https://meridianeconomics.co.za/wp-content/uploads/2021/01/2021-01-19-Briefing-note-survey-results.pdf>.

Montmasson-Clair, G. (2020) *The global climate change regime and its impacts on South Africa's trade and competitiveness: A data note on South Africa's exports*. Trade and Industrial Policy Strategies, p. 29.

Montmasson-Clair, G. and Chigumira, G. (2020) *Green Economy Policy Review of South Africa's Industrial Policy Framework*. United Nations Environment Programme. Available at: https://www.tips.org.za/research-archive/sustainable-growth/green-economy/item/download/1897_f6c6556328e791a627b30f86cd28e739.