RAND SANDTON CONSULTING GROUP

POLICY BRIEF

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Financing Clean Energy: Case Study of South Africa

Overview

This policy brief makes the case for clean energy financing in South Africa while also identifying some of the key factors which are holding back the effective implementation and adoption of renewable energy in the country. It provides an overview of the South African clean energy financing landscape; highlights current efforts and progress made so far by government, multinationals and the private sector, and the challenges and opportunities in the South African clean power sector. South Africa faces chronic shortages of electricity and it heavily relies on coal for electricity, leaving its vast renewable energy potential untapped. Moreover, the current sources of energy that South Africa is using are not sustainable and there is need to scale up the deployment of renewables in order to meet the targets of the Sustainable Development Goals such as Goal 7 on Affordable and Clean Energy, Goal 9 on Industry, Innovation and infrastructure and Goal 11 on Sustainable Cities and Communities among others. One of the targets under SDG Goal 7 is that United Nations member states must, by 2030, have enhanced international cooperation to facilitate access to clean energy and improve investment in clean energy infrastructure.

The deployment of renewables requires a huge amount of initial capital outlay, resulting in the need to increase public-private partnerships (PPPs). In addition, it cannot - and must not - be the sole responsibility of the government to finance green projects. The financing of green projects requires the involvement of all stakeholders, including the public and private sectors, non-governmental organizations (NGOs) and multilateral organizations. The policy brief concludes by outlying some of the clean energy financing gaps and policy recommendations.

Introduction

The South African economy growth trajectory has been constrained in the last decade, characterised by periods of stable growth followed by recession years. According to the International Monetary Fund (IMF), the South African economy has been on a downward spiral for most of the decade between 2011 and 2021, with its real gross domestic product (GDP) reaching an all-time low of minus 6.4% in 2020 attributed to the impact of the COVID-19 pandemic and a recession (IMF, 2021). The economy is forecast to rebound in 2021 and grow by 5%. Despite this turbulence, demand for sustainable and affordable energy has remained high, fueled by rising population and urbanisation.

According to the Southern African Power Pool (SAPP), peak electricity demand for South Africa has been stable around 37,600 megawatts (MW) (SAPP, 2019). Unfortunately, the demand is not matched by supply as shown by the constant loadshedding experienced by the country over the past few years. This calls for the South African government to take drastic measures to end energy insecurity and ensure there is universal access to affordable and clean energy. This policy brief explores some of the available measures to strengthen the country's capacity to meet its clean energy requirements.

According to the International Energy Agency, global electricity generation capacity needs to grow by 0.9 percentage points per annum if the SGD 7 target of universal access to affordable and clean energy by 2030 is to be attained. South Africa has so far done well in this regard, with 95.27% of the population having access to electricity as of 2017 (Statistics South Africa, 2019).

Electricity generated from renewables in South Africa has increased significantly in the past few years from 500 MW in 2013 to 3904 MW in 2018, according to statistics from the Department of Energy. Under the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) renewable energy projects are based on a private sector-led business model, whereby Independent Power Producers (IPPs), sell power to Eskom at predetermined rates. This approach allows the country to have clean alternative energy supply at prices lower than the current fossil fuel alternatives (IISD,2021).

Despite the recent progress, transition to renewables has continued at a slow pace and more progress is needed. The share of primary energy produced from renewables stood at two percent in 2019, compared to a global average of 11 percent. South Africa is currently experiencing its worst energy crisis and this is projected to get worse in the next five years, according to industry experts. Eskom estimate that, in the absence of additional generation capacity, the country will experience an electricity shortfall of between 4,000 and 6,000 MW over the next five years. To address the shortfall, the government issued a request for proposals for 2,600 MW from wind and solar (Tena, 2021). For South Africa to build a sustainable and climate-resilient economy, the country must invest heavily in renewables. While the South African government identified investment in energy as a key priority, public funds alone are not enough to meet the financing gap.

The following section presents the current South African clean energy financing landscape, looking at the key stakeholders, progress made so far, key challenges and opportunities.

South Africa Clean Energy Finance Landscape

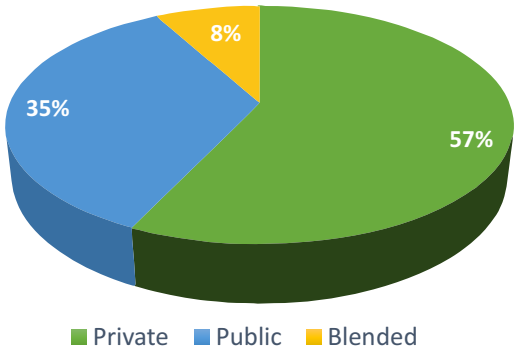
South Africa has over the past two decades adopted a range of national and sectoral policies, plans and strategies aimed at decarbonising the economy while meeting broad developmental objectives. The National Climate Change Response White Paper, National Development Plan and the Industrial Policy Action Plans emphasize the importance of the green economy in realising an equitable transition to a low- carbon economy.

South Africa's National Climate Change Response calls for the inclusion of the private sector in funding the green initiative. The International Finance Corporation (IFC) estimated that South Africa needs a total of R8.9 trillion over a 15-year timeframe (2015-2030) to achieve its National Determined Contributions (NDCs). This translates to annual investment of R596 billion if the country is to achieve its NDCs by 2030, a target that demands the active participation of all key stakeholders.
A total of R62.2 billion was invested into efforts to green the South African economy over the two-year period from 2017 to 2018 (GreenCape Sector Development Agency, 2021).

Climate financing is in this case defined as local, national, or transnational funding – drawn from public, private or alternative sources – intended to cover the costs of transitioning to a low-carbon economy and to adapt to, or build resilience against, current and future climate change impact. The largest proportion of the climate finance tracked by the GreenCape Sector Development Agency came from private actors, who contributed R35.3 billion or 57% of the funds. It is worth noting that commercial investors were the source of the bulk of the private climate financing (R19,3 billion). These included banks, institutional investors and venture capital.

Public finance actors committed R22 billion, or 35 percent of the climate financing tracked during the period 2017-18 (ibid, 2021). Public finance sources include the Government of South Africa and development finance institutions (DFIs). Blended finance, which is additional finance leveraged from the private sector, accounted for R4.9 billion of the tracked funds during the period of 2017-18. The above points are illustrated in the figure below:

Key Source of Climate Finance



Source: Green Cape Sector Development Agency, 2021

The private sector is playing a major role in financing the clean energy initiative and climate change mitigation projects in South Africa, which calls for policy clarity and consistency. The role and responsibilities of – and incentives for – the private sector need to be clearly outlined in national policies, plans and strategies to promote greater participation of private players. Several barriers have been identified as hampering "green" investments by the private sector, and these would need to be addressed to encourage the scaling up of private climate finance. The barriers include the perceived lack of investment-worthy opportunities and perceived high risks due to uncertain renewable energy subsidies; lack of a track record of previous green investments; and the fact that green growth demands significant infrastructure investments.

The Integrated Resource Plan 2019 lays out the government's coal decommissioning plans. Eskom is also playing an instrumental role in the decarbonization process. For example, the process of repurposing coal-fired power stations will begin in 2022 with a pilot project at Komati Power Station, which will be used to test an effective transition to renewables. However, it is important to note that Eskom currently has extensive debt challenges, and its role in the decarbonization agenda and transition to renewables may not be financially feasible as the State-Owned Enterprise would need extensive reform and financial restructuring.

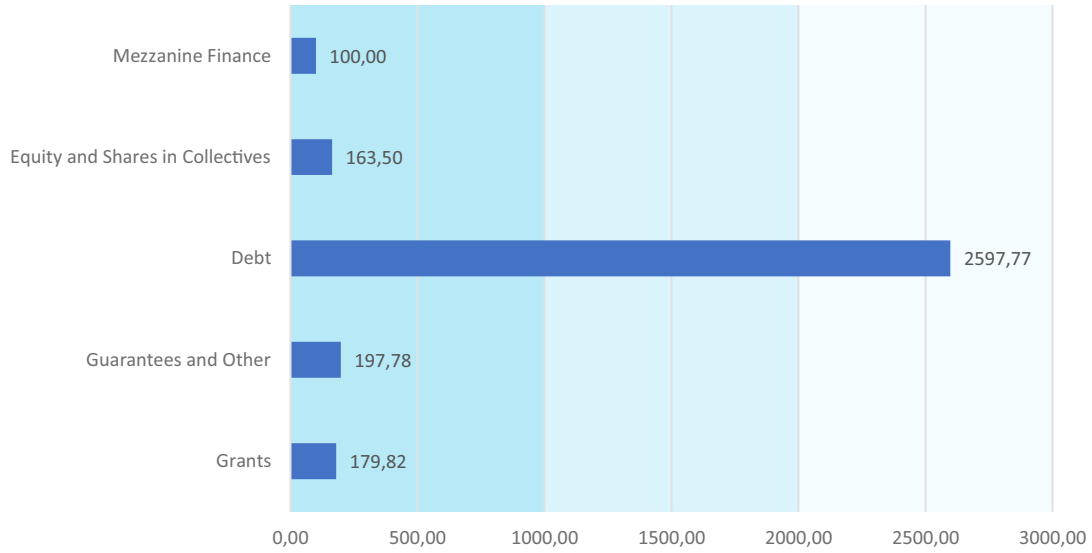
Financing instruments

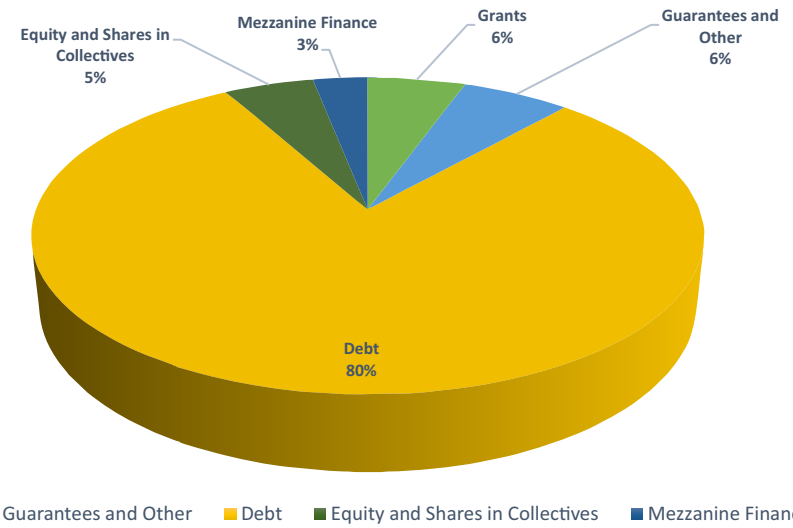
Climate finance is raised and disbursed through government, corporates and commercial banks using various instruments such as debt, equity, mezzanine finance, grants and guarantees as shown in the figure below:

The Climate Policy Initiative identifies five broad categories of economic and financial instruments that can be employed by private and public investors in South Africa and other countries to support climate change mitigation and adaptation projects:

- **Policy incentives:** These involve income-enhancing mechanisms such as feed-in tariffs and subsidies, tradable certificates, tax incentives and clean energy subsidies
- **Risk management instruments:** These come in the form of guarantees that mitigate the risks associated with low-carbon and climate- resilient investments
- **Grants:** These take the form of cash transfers and in-kind support of goods and services
- **Low-cost debt:** This is one of the more preferred forms of financing as comes with better conditions than those prevailing on the market, such as lower interest rates and longer loan terms, and
- **Capital instruments:** This involves project-level market rate debt, and project-level equity and balance sheet financing.

Key instruments used in clean energy financing (South Africa)





Source: IRENA, RE Public Investment, 2021

From the figure above it is clear that renewable energy investment is mostly raised through debt which indicates confidence and viability of climate mitigation projects in South Africa.

Trends and challenges

Clean energy finance is expected to grow over the next few years as the country moves to fulfil its NDC obligations by 2030. This is expected to provide impetus for investment in clean energy programmes and projects in the country. Industry experts have already reported a gradual increase in "green" investments in transport, water and waste management sectors. There is, therefore, need for a holistic look at the entire clean energy value chain to identify funding opportunities and bottlenecks.

The recent announcement that South Africa is set to receive US$8.5 billion from a global partnership to assist the country to finance a quicker transition from coal in a move expected to "choke off international financing for coal" and fast-track the closure of South Africa's coal plants ahead of schedule while investing in clean alternatives (Reuters, 2021). While President Cyril Ramaphosa has welcomed the agreement as marking a "watershed moment" for South Africa and the world, a lot of hard work is needed, and tough decisions must be taken if the country is to protect its energy security. This is critical given that South Africa currently gets more than 80% of its electricity from coal and can barely keep the lights on. Any fast-tracked transition would, therefore, worsen the already precarious electricity situation in the country.

The potential conflict between the transition to clean energy and the need for national energy security was recently evident when Eskom threatened to place the country under Level 8 load-shedding if its application to be allowed to pollute more than is legally allowable is rejected by the Department of Environmental Affairs (eNCA, 2021). This means that as South Africa gets down to discussing the nuts and bolts of this US$8.5 billion facility, its negotiators really need to stand their ground and only accept things that will move the country forward and not worse an already bad situation. For instance, it is widely acknowledged that the transition must be done over a gradual period of time and the agreed timeframe should be something that South African officials should have a major say on – given their previous experience in trying to decommission some coal plant and the havoc that caused.

As highlighted earlier, public actors play a crucial role in financing energy sector investments in South Africa. However, while the state-owned power utility Eskom is expected to continue to play a significant role in grid infrastructure, there may be unexpected challenges in mobilizing financing for clean energy projects.

This is particularly so, given that the country's public finances are currently strained and Eskom is saddled with huge debts estimated at more than R400 billion (Eskom, 2021). The situation is compounded by the fact that the parastatal is owed huge amounts of money by consumers who are unable to pay for energy usage. This, together with the parastatal's sub-investment grade level credit rating, is expected to continue to severely constrain Eskom's ability to invest in meaningful clean energy projects in the short to medium-term (ibid).

Equally concerning is the possible reduction in private sector investments due to the COVID-19 pandemic and reduced economic activity. Hence, there is need for innovative strategies to promote private investment. One way is through blended finance, which is becoming popular in financing clean energy initiatives. There are current efforts by the Development Bank of Southern Africa (DBSA) and Green Climate Fund to stimulate private sector capital using public funds.

Other challenges inhibiting growth in clean energy finance in South Africa include limited community interest in renewable energy sources and technologies. These efforts need to be increased as they will create a greater sense of public ownership and commitment. In addition, the sector faces the challenge of lack of capacity by government and private sector to track financial flows. This calls for the strengthening of existing bodies to promote the involvement of both the public and private sectors in clean energy financing as well as fully support the PPP and IPP frameworks.

It has been noted that poor project preparation capacity is hindering early-stage projects from reaching viability and bankability. The gaps include inadequate project development skills for project development/preparation and for accessing various financing opportunities (SADC and SARDC, 2018). In this regard, South Africa should make use of the services of the Southern African Development Community (SADC)'s Project Preparation and Development Facility (PPDF) established in August 2018 and hosted by DBSA. The PPDF supports SADC member states with funds to undertake feasibility, technical and engineering designs, environmental and social impact assessment studies, as well as preparation of tender documents and transaction advisory services to make projects bankable for financing and implementation.

In addition, high initial capital outlay is a major problem as well as regulation and policy bottlenecks create costly delays for investors and projects. Most South Africans cannot afford clean energy technologies such as solar equipment, while lack of awareness often hinders planning and project implementation. These would be easily addressed through a targeted awareness programme aimed at educating the public of the potential economic, social and environmental benefits of clean energy.

The renewable energy agenda is also marred by differences in political interest, leading to a resistance to privatization efforts by trade unions and other interest groups. This may require a deliberate effort to plugging cross-cutting and cross-sectoral gaps which include issues to do with climate change and gender mainstreaming in energy planning and development as well as integration of land-use, food security, water, forestry, biodiversity and social issues in clean energy planning.

Recommendations and conclusion

A number of recommendations follow the previous analysis of trends, challenges and opportunities associated with financing sustainable clean energy in South Africa and they include the following:

1.The government and other stakeholders should take advantage of the expanding clean energy opportunities presented by South Africa's NDC obligations to undertake a holistic scan of the entire clean energy value chain and identify funding opportunities and bottlenecks.

2. As South Africa discusses the terms and conditions of the proposed US$8.5 billion Just transition agreement with the EU and its partners, the government and other stakeholders need to ensure that any agreed way forward does not worsen the already precarious electricity crisis in the country. There will be need to ensure that an optimal balance is maintained between the decommissioning of coal-fired stations and some level of energy security.

3.There is need to urgently address the operational challenges faced by Eskom to improve its credit rating and facilitate its active involvement in clean energy investment.

4.There is need to strengthen existing institutions to promote the involvement of both the public and private sectors in clean energy financing as well as fully support the PPP and IPP frameworks. This should include development of a monitoring and evaluation frameworks with clear guidelines in order to track investments in the clean energy sector.

5. Combine financing instruments – combine resources across financing instruments and increase support for blended finance vehicles. There is need for lowering financing costs and increasing the role of private capital with blended finance.

6. The government and other stakeholders in the clean financing value chain should develop innovative strategies to catalyze private investment. Players in the value chain should make use of existing programmes such as the SADC PPDF to strengthen their capacity to develop bankable projects.

7. The government should also promote the development of local green industries and the diffusion of technologies from other parts of the world. A targeted awareness programme would be critical in promoting support for local industries and the uptake of green technologies.

8. Regulatory and policy consistency is required so as to create an enabling environment for climate finance.

9. The government should enhance financial markets, improve the visibility of public policies, remove distortions from energy markets, enable grids to better integrate renewable power, empower local entrepreneurs to develop smaller-scale clean energy solutions, as in energy efficiency, and build models for universal access to modern energy.

10. Scaling up the deployment of clean energy projects depends on robust policy and market conditions, as well as the sustainability goals increasingly set out by developers and investors, all of which influence the profitability of investments.

11. The Government should incorporate environmental impact criteria into private sector investments policies to monitor activities of the private sector. There is need to engage in further consultation with the multiple political groups and stakeholders is needed to ensure that renewable projects meet the satisfy the multiple groups involved.

References

Chetty, K., Kanyane, M., Pillay, K. & Hongoro, C. 2021. Financing clean energy technology in BRICS cities: Recommendations from renewable energy financing experts in BRICS. Human Sciences Research Council. Available: https://repository.hsrc.ac.za/handle/20.500.11910/15992.

eNCA. 2021. WATCH | Eskom warns SA could face Stage 8 blackouts | eNCA. Available: https://www.enca.com/business/watch-eskom-warns-sa-could-face-stage-8-blackouts [2022, January 20].

IISD. 2021. IISD Annual Report 2020–2021 - Roadmap to a resilient future. Available: https://www.iisd.org/publications/iisd-annual-report-2020-2021 [2022, January 20].

IMF. 2021. World Economic Outlook, October 2021: Recovery During A Pandemic. Available: https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021 [2022, January 20].

Mason, J., Shalal, A. & Rummey, E. 2021. South Africa to get $8.5 bln from U.S., EU and UK to speed up shift from coal | Reuters. Available: https://www.reuters.com/business/environment/us-eu-others-will-invest-speed-safricas-transition-clean-energy-biden-2021-11-02/ [2022, January 20].

Shingi. 2019. SADC Energy Monitor 2018 – Enabling Industrialization and Regional Integration in SADC. Available: https://www.sardc.net/en/energy-sector-publications/sadc-energy-monitor-2018-enabling-industrialization-and-regional-integration-in-sadc/ [2022, January 20].

Statistics South Africa. 2020. Sustainable Development Goals (SDGs) country report 2019: South Africa. Available: http://www.statssa.gov.za/MDG/SDGs_Country_Report_2019_South_Africa.pdf [2022, January 20].

Tena, N. 2021. Eskom rejects news that loadshedding will last 5 years. Available: https://www.esi-africa.com/industry-sectors/generation/eskom-rejects-news-that-loadshedding-will-last-5-years/ [2022, January 20].

The Green Cape Sector Development Agency. 2021. South African Climate Finance Landscape 2020. Available: https://www.green-cape.co.za/content/south-african-climate-finance-report-tracks-r62-2-billion-in-annual-climate-finance/ [2022, January 20].