

# Assessing the Energy Crisis in South Africa: The Socio-Economic Implication and Challenges Ahead



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## ABSTRACT

This paper examined the socio-economic implications caused by the current energy crisis South Africa is facing. Although the crisis is not at its worst stage when compared to other countries in Africa, there are still challenges ahead if the crisis at this stage is not nipped in the bud. This paper aims at providing an overview of the energy crisis and reasons for its persistence in South Africa taking a departure from 2007. It thus examined the effect of the energy crisis on human livelihood, manufacturing businesses and the economic growth of South Africans. It discussed the concerted efforts made by the government in terms of policy intervention to solve the energy crisis, vis-à-vis policy successes and the challenges in South Africa. Using secondary data sources, this paper analysed the problems behind the energy crisis and its persistent nature in South Africa. It reviewed the extant literature intending to showcase government activities in terms of policies and actions toward subduing the energy crisis in South Africa. It also underlined the strengths and the weaknesses of government policies on the energy crisis in South Africa. This paper found that population expansions and ever-increasing human activities constitute major reasons for the persistent energy crisis in South Africa. This paper concluded that the energy crisis in South Africa may continue to take its negative recourse on the people and economy if adequate attention is not being paid to alternative energy sources at provincial and municipal levels. The attention should aim at complementing the existing energy infrastructure as well as accommodating the energy needs of the population and ever-increasing human activities. This study contributes to the existing debate on securing energy transition in the developing economy of South Africa.

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## INTRODUCTION

The quality of life and the development of industrial civilization have been directly impacted by the availability and use of energy over time.<sup>1</sup> The current energy crisis cannot be ignored because human existence depends significantly on the use of energy. Pandarum has noted that the difficulties often confronted, as a result of an energy crisis, harm the economy as well as the standard of living for both

<sup>1</sup> M. Aphelele, "The Persistent Reality of Load-Shedding: How South Africa's Energy Crisis Is Impacting Businesses, Health Care, And Citizens," 2023, <https://rightforeducation.org/2023/02/23/persistent-reality-load-shedding/>.

present and future generations.<sup>2</sup> An energy crisis is a complex problem with many contributing aspects.<sup>3</sup> These include aspects of energy availability, supply, distribution and consumption. The rising worldwide demand for energy is one of the main elements causing the crisis.<sup>4</sup> Energy demand keeps increasing as economies and populations around the world grow. The existing energy infrastructure and supplies are put under pressure, which increases their susceptibility to interruptions such as natural catastrophes, geopolitical conflicts, and technical failures. An energy crisis is also brought on by a shortage of fossil resources.<sup>5</sup>

Coal, oil, and natural gas are examples of finite fossil fuels that are getting harder and more expensive to extract.<sup>6</sup> As a result, it will become more challenging for people and businesses to acquire inexpensive and reliable energy due to the rising cost of energy generation. Energy crises are also a result of political unrest in important producing regions.<sup>7</sup> Fossil fuel production is largely concentrated in politically unstable areas, like the Middle East and Africa. Conflicts in these regions have the potential to interrupt energy supplies, increase prices, and cause shortages. For instance, the political unrest between Russia and Ukraine hindered the supply of natural gas to Europe, and in the end, causing an energy crisis. The majority of energy crises have been brought on by regional shortages, conflicts, and market manipulation.<sup>8</sup> Some claim that government initiatives like tax increases, the nationalization of energy firms, and regulation of the energy sector cause the supply and demand for energy to diverge from its equilibrium economics.<sup>9</sup> These variables did not, however, contribute to the recent historical energy crises. When markets are manipulated by monopolies, market failure may result. Industrial activities like union-organized strikes and government embargoes can cause a crisis to arise. Overconsumption, outdated infrastructure, choke point disruption, or fuel supply bottlenecks at oil refineries and port facilities could be the root of the problem. Due to increasing energy usage during extremely cold winters, an emergency may arise.<sup>10</sup>

As a result of integrated energy supply chains, the most recent energy crisis is the first to have a global scale and necessitates a thorough rethinking of the energy security strategy in light of the changing risk environment. The crisis has also demonstrated the possibility of more rapid adjustments to the energy system, as evidenced by Europe's decreased reliance on Russian gas. Additionally, the global energy crisis brought to light other facets of the inclusivity of the energy transition. Energy affordability was significantly impacted by the unexpected rise in energy prices, with poor households—who spend a larger percentage of their income on energy—being the most negatively impacted. Food inflation caused by high energy costs generated a cost-of-living issue in several nations. Volatility in the energy market had an impact on some regions' energy-intensive sectors' ability to compete. Concerns about employment in local communities are growing as businesses attempt to relocate operations to regions with more affordable and stable energy sources.<sup>11</sup>

Given these changes, this paper discusses the trends and trajectories of the energy crisis. It is of major concern how the crisis has influenced human livelihood, business, and economic growth. It explicates the policy intervention of the government on energy crisis and evaluates successes and challenges of the intervention. This paper aims to answer these questions: Why is the energy crisis in South Africa taking a departure from 2007? What are the reasons for the persistent energy crisis in South Africa?

<sup>2</sup> A. Pandarum, "An Overview of The Global and Local Energy Crisis.," *Academy of Science of South Africa (ASSAf) Quest* 19, no. 2 (2023).

<sup>3</sup> Rim Berahab, "The Nigerian Energy Crisis: What Prospects for Green Recovery And," 2021.

<sup>4</sup> Catrina Godinho, "What Will Drive South Africa's Energy Transition? 3 Factors to Watch," *Energy for Growth Hub*, 2022.

<sup>5</sup> M. Connie, *Fixing South Africa's Electricity Crisis Ensuring That the Light at the End of the Tunnel Is On* (Solidarity Research Institute, 2023).

<sup>6</sup> C. Horman, "The Political Economy of Energy Policy in South Africa: From a Gender Agenda to a Class Project," 2017.

<sup>7</sup> I. Roula, "The Impact of Electricity Shortage on South Africa's Economy National Load Shedding and Power Cuts – What Is Really Going On?," *Science and Technology Forum (NSTF)*, 2012, 25–26.

<sup>8</sup> Berahab, "The Nigerian Energy Crisis: What Prospects for Green Recovery And."

<sup>9</sup> Roula, "The Impact of Electricity Shortage on South Africa's Economy National Load Shedding and Power Cuts – What Is Really Going On?"; N. Palesa, "Energy Crisis: How Did We Find Ourselves in the Dark?," in *Briefing Paper 378* (South African Catholic Bishops' Conference. Parliamentary liaison Office., 2015); Apehele, "The Persistent Reality of Load-Shedding: How South Africa's Energy Crisis Is Impacting Businesses, Health Care, And Citizens."

<sup>10</sup> Tim Heinemann, "Energy Crisis in South Africa—a Barrier to Higher Economic Growth," *KfW Research Economics in Brief* 178 (2019).

<sup>11</sup> Berahab, "The Nigerian Energy Crisis: What Prospects for Green Recovery And."

To what extent has the crisis affected human livelihood, manufacturing businesses and the economic growth of South Africans? What are the concerted efforts made by the government in terms of policy intervention to solve the energy crisis in South Africa? What are the policy successes and the challenges that lie ahead in South Africa? This paper is organized in six (6) sections. Following this introductory section is the theoretical elucidation. The third section discusses the origin and trends of the energy crisis in South Africa. The fourth section explains the persistent nature of the energy crisis. The fifth section evaluates the influence of the energy crisis on economic growth. The sixth section discusses the government intervention through policy on the energy crisis. The last section presents the concluding remarks.

## **THEORETICAL ELUCIDATION**

Any major gap in the flow of energy resources to an economy is referred to as an energy crisis or a lack of energy. In literature, it frequently alludes to a particular energy source that was in use at the period and place in question, particularly one that supplied the country's power grids or served as fuel for the development of industries. The need for energy has increased dramatically over the world in recent years due to population expansion. A deficit in or interruption in the supply of energy, as defined by Collins Dictionary, illustrates the continuous problem in South Africa and many other nations throughout the world. According to Berahab, frequent power outages, outdated energy infrastructure, and a disproportionate reliance on oil are all symptoms of the energy crisis.<sup>12</sup>

The energy crisis is caused by the predictable depletion of oil, gas, and coal, which have also been responsible for a significant rise in greenhouse gases (GHG). Many experts have spoken out in recent years to warn about climate change, which is mostly brought on by the burning of coal and oil for energy. The energy crisis fears that as the demand for the finite natural resources utilized to power modern society increases, supply will not keep up. There is a finite amount of these natural resources. They do exist naturally, but the process of replenishing the stockpiles can take hundreds of thousands of years.<sup>13</sup>

According to Hubbert's peak theory, world crude oil output will eventually reach its peak and enter a terminal decline along a roughly bell-shaped curve because oil is a non-renewable resource. Although numerous resources can be used with this model, it was created particularly for the production of oil. A geologist who worked for Shell in the 1950s, Marion King Hubbert is the source of Hubbert's peak theory. It asserts that the Hubbert curve, which is used by exploration and production (E&P) companies to forecast future production rates, will show maximum production from individual or worldwide oil reserves around the middle of the reserve's life cycle. After that, resource depletion and declining returns cause production to drop more quickly. Because there is a limited supply of conventional light and sweet crude in the earth's crust, the world will eventually hit peak oil if new reserves are not developed quicker than extractable reserves are depleted.

Incrementalism was the dominant theory of the policy process from the mid-1950s to at least the 1970s.<sup>14</sup> Braybrooke and Lindblom, and Dahl each published works in 1963. According to this idea, the policy changed in discrete tiny steps. A policy is directed at a problem; it is tried, altered, tried in altered form, altered again, and so on. In this case, the energy crisis is the most current socio-economic problem in South Africa. This is, particularly because the incredibly quick economic recovery following the epidemic, caused the energy markets to tighten up in 2021. However, once Russia invaded Ukraine in February 2022, the situation quickly worsened and turned into a full-fledged global energy crisis. Natural gas prices hit record highs, which had an impact on electricity prices in several markets. The price of oil reached its highest point since 2008.<sup>15</sup> In addition to making families poorer, forcing some factories to reduce output or even close their doors, and slowing economic growth to the point that some nations are in the midst of a severe recession, higher energy prices have also led to uncomfortably high inflation. This winter, gas restriction may be necessary in Europe because of its historic reliance on Russian gas supplies, while many emerging economies are experiencing dramatically higher energy import costs and fuel shortages.

<sup>12</sup> Berahab, "The Nigerian Energy Crisis: What Prospects for Green Recovery And."

<sup>13</sup> Horman C., "The Political Economy of Energy Policy in South Africa: From a Gender Agenda to a Class Project."

<sup>14</sup> Heinemann, "Energy Crisis in South Africa—a Barrier to Higher Economic Growth."

<sup>15</sup> Connie, *Fixing South Africa's Electricity Crisis Ensuring That the Light at the End of the Tunnel Is On.*

One of Africa's most industrialized nations, South Africa, has a collapsed energy grid. The continuous era of massive national electrical supply blackouts is known as load shedding or the energy crisis. It started in the latter months of 2007 and is still going now. Cyril Ramaphosa, the president of South Africa, announced a "state of disaster".<sup>16</sup> On February 9, residents in some areas of the nation will suffer planned blackouts that might last up to 12 hours per day. Amidst mudslinging between political class and bureaucracy, this one firm (ESKOM), which is currently working at less than half of its installed capacity, supplies almost all of South Africa's electricity. This topic involves more than just outdated coal plants. It also discusses the drawbacks of a state-owned monopoly in a corrupt system.

Prior to the start of the present energy crisis in South Africa, the globe was not doing enough to guarantee fair access to energy for everyone. Worldwide, there are 770 million people without access to electricity, making it impossible to eradicate poverty and accomplish other development objectives. At the same time, nearly one-third of the world's population still relies on firewood and charcoal for cooking their meals since 2.5 billion people lack access to clean cooking. This has detrimental health effects and endangers women and girls' safety and well-being disproportionately. Additionally, it contributes to resource scarcity and deforestation, which can lead to societal unrest.

### **Energy Crisis in South Africa: Origin and Trends**

South Africa is having a hard time keeping up with the rising energy needs brought on by a growing population and increasing industrialization due to inadequate infrastructure investment. The obsolete energy infrastructure in that nation is another problem. These infrastructure parts have lost reliability over time due to improper maintenance and delayed renovations, which have resulted in breakdowns and more power outages.<sup>17</sup>

Furthermore, the inclusion of renewable energy sources in the energy mix has been hampered by inadequate infrastructural investment. Solar and wind resources, among other renewable energy sources, are abundant in South Africa. However, the nation's capacity to successfully exploit these clean energy sources has been constrained by a lack of suitable infrastructure. However, the country continues to rely largely on conventional coal-fired power plants, which puts additional strain on the power grid and exacerbates the energy problem.<sup>18</sup>

For many years, coal has dominated the energy landscape in South Africa, contributing up to 87% of the country's electrical production. Despite being essential to addressing the country's energy needs, its shortcomings have come to light more and more. Major sources of greenhouse gas emissions that contribute to climate change and air pollution include coal-fired power stations.<sup>19</sup>

Furthermore, South Africa's extensive reliance on coal has prevented a more diverse mix of energy sources. Over-reliance on one energy source increases the risk of supply interruptions in the nation. Blackouts that last for several hours or more are a daily occurrence for South Africans due to shortages of coal or maintenance issues in coal-fired power plants.<sup>20</sup>

Bartlett claimed that the absence of a revised Integrated Resource Plan (IRP) as a result of regulatory and policy challenges is one of the main reasons fueling the energy crisis.<sup>21</sup> A revised plan is required due to the rapidly advancing energy-generating technology and the fact that the existing IRP, adopted in 2019, is already out of date. The absence of any mention of the IRP review in President Ramaphosa's recent State of the Nation Address, however, has raised questions about the government's commitment to keeping up with developments and adjusting the plan to best-case scenarios for energy generation.

The energy issue was exacerbated by construction project delays. In fact, development projects have seen severe delays despite the 2019 plan to increase wind, solar, and electricity storage capacity.

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<sup>16</sup> Hannah Ritchie, "See South Africa's Energy Crisis in Four Charts," 2023, <https://www.washingtonpost.com/opinions/2023/03/02/south-africa-blackouts-charts/>.

<sup>17</sup> Pandarum, "An Overview of The Global and Local Energy Crisis. ."

<sup>18</sup> Godinho, "What Will Drive South Africa's Energy Transition? 3 Factors to Watch."

<sup>19</sup> Horman C., "The Political Economy of Energy Policy in South Africa: From a Gender Agenda to a Class Project."

<sup>20</sup> Marcus Carson et al., "Rethinking Southern Africa's Energy Crisis," 2018.

<sup>21</sup> Kate Bartlett, "South Africa Looks to China to Shed Light on Power Crisis," 2023, <https://www.voanews.com/a/south-africa-looks-to-china-to-shed-light-on-power-crisis/7154861.html#:~:text=A combination of factors including,intensified over the past year.>

They were originally projected to be operating by 2022, but are now only anticipated to be ready in early 2024. For projects slated for 2023, such as new coal, wind, and solar plants, the identification of sites and developers hasn't even begun.<sup>22</sup> The deadline for resolving the energy problem has been delayed and progress has slowed as a result of these setbacks. Rolling blackouts being experienced by South Africans are unsettling since a nation's development must have an effective energy sector.<sup>23</sup> The third-largest user of coal for the production of power worldwide is South Africa. Compared to other growing economies like China, India, and Brazil, it relies far more on coal for its energy needs. Only Botswana comes close in Africa.

Eskom, a firm that provides energy, was praised in the 1990s, and the Financial Times named it "power company of the year" in 2001. Up to the first year of load-shedding, or planned blackouts, in 2007, South Africans were among those who enjoyed the cheapest electricity prices in the entire world. Prices doubled between 2008 and 2012. Even before the Russia-Ukraine war which drove up energy costs globally in 2021, they had more than tripled.<sup>24</sup> There have been major power shortages in South Africa for the past year, and the situation has only gotten worse due to several issues, including outdated and neglected coal power plants, alleged government corruption, and poor management at state-run utility Eskom. Blackouts can last up to 12 hours a day in South Africa because of the terrible energy crisis that the country is now experiencing. Eskom, the nation's primary energy provider, has been unable to meet demand for electricity since 2007, and this is now the worst time of the problem. The rampant corruption linked to the patronage system of the ruling African National Congress is one of several explanations suggested for how this situation came to be.<sup>25</sup>

Lei claims that South Africa is presently experiencing its worst energy crisis, which is characterized by frequent and protracted blackouts that can last up to 10 hours per day or even longer.<sup>26</sup> The country's economy, social welfare, and overall development are all significantly impacted by the protracted crisis, which President Cyril Ramaphosa and the administration are under increasing pressure to address. It is crucial to look at a variety of variables, from mismanagement and corruption to dependency on coal and insufficient investment in alternative energy sources, in order to understand the origins of this energy problem and what is driving the ongoing blackouts.

Eskom, the government-owned national power provider that produces over 95% of the country's electricity as well as a sizeable portion of the electricity produced on the African continent, is a crucial factor in South Africa's energy problem. Since 2007, Eskom has been plagued by mismanagement, which includes subpar maintenance procedures, insufficient investments, and ineffective operations, which has stressed the supply of electricity. Blackouts and breakdowns have thus increased in frequency, significantly interfering with daily life and economic activity.<sup>27</sup>

Data released by the company indicates that South Africa will have a serious electricity crisis in 2023 that will be worse than the number of power outages experienced in 2016. The nation had more than 200 days without power in 2022, which was already regarded as the worst year for blackouts in the nation's history. The current state of affairs has gotten so bad that South Africans are experiencing "Stage 6" power outages, which cause daily blackouts that last six to eight hours and affect the majority of the population.<sup>28</sup>

Additionally, Godinho revealed that Eskom has been the target of several accusations of corruption and state capture, which have seriously harmed its capacity to provide reliable and consistent electricity.<sup>29</sup> A large amount of debt, believed to be approximately 450 billion rands (about US\$31 billion), has been accumulated by the company. This has reduced its ability to make investments in modernizing and upgrading its infrastructure. This debt load has made Eskom's operations even more difficult, escalating

<sup>22</sup> Sophie Jahns, "How Has the Current Electricity Crisis in South Africa Affected the Development of Renewable Energy within the Independent Power Producer Procurement Programmes?," 2023.

<sup>23</sup> Palesa, "Energy Crisis: How Did We Find Ourselves in the Dark? ."

<sup>24</sup> Bartlett, "South Africa Looks to China to Shed Light on Power Crisis."

<sup>25</sup> S. William, "South Africa's Energy Crisis," 2023, <https://africasacountry.com/feed>. <https://africasacountry.com/2023/03/south-africas-energy-crisis>.

<sup>26</sup> Lei Nguyen, "The Advantages and Disadvantages of Nuclear Energy," 2023, [https://earth.org/energy-crisis-south-africa/#:~:text=Mismanagement – including poor maintenance practices,daily life and economic activities](https://earth.org/energy-crisis-south-africa/#:~:text=Mismanagement%20including%20poor%20maintenance%20practices,daily%20life%20and%20economic%20activities).

<sup>27</sup> Berahab, "The Nigerian Energy Crisis: What Prospects for Green Recovery And."

<sup>28</sup> Connie, *Fixing South Africa's Electricity Crisis Ensuring That the Light at the End of the Tunnel Is On*.

<sup>29</sup> Godinho, "What Will Drive South Africa's Energy Transition? 3 Factors to Watch."



the energy crisis and jeopardizing the utility's capacity to give South Africans continuous and dependable power.

Similar to this, claims of state capture have sparked worries about political meddling within Eskom, with contracts allegedly going to people and organizations with political affiliations. Transparency has been harmed as a result, and funds meant for crucial infrastructure improvements have been diverted. Mismanagement and corruption have negative effects on the economy, businesses, and vital services like healthcare and education in addition to the energy industry. Long-lasting blackouts have impacted public safety, discouraged foreign investment, and interrupted productivity.

### **Persistent Nature of Energy Crisis and Socio-Economic Implications in South Africa**

Aphelele reports that Eskom, the state-owned utility company of South Africa, has recently realized that load-shedding will likely be a semi-permanent reality for the next two years.<sup>30</sup> Many South Africans are now wondering when this energy crisis will end as a result of this. Since 2007, South Africa has struggled with load-shedding, a situation that many sub-Saharan nations are dealing with.<sup>31</sup> Daily outages started to become the norm in 2019.

Another problem is that both medical staff and patients have suffered as a result of the power disruptions. Vaccines for immunizations kept in refrigerated systems are susceptible to deterioration and failure. Patients have also been left without care as surgeries have been put off and the expense of maintaining patients on ventilators has skyrocketed. In addition, the necessity to move between power sources has interfered with the effectiveness of those ventilators, leaving patients less effective. Leading surgeon in the Western Cape, Dr. Wimpie Odendaal, claims that keeping patients on ventilators has become too expensive and that switching between power sources also impairs the efficiency of such ventilators.<sup>32</sup>

Eskom has been compelled to adopt rotational power cuts, or planned power outages, which it refers to as "load shedding," as a result of the crisis in the management of supply and demand of electricity inside South Africa. Working-class neighborhoods and small businesses have been disproportionately affected because they frequently cannot afford backup generators and private, off-grid solar projects. The Ramaphosa administration intended to increase the use of renewable energy under the Independent Power Producers Policy under the previous IRP 2019. The method chosen to carry out this re-prioritization was quickly criticized and contested by Numsa and a number of other organizations as a vehicle to privatize electricity provision in the interests of white monopoly capital, an affiliated group within the ANC, and the black business elite.

Catrina asserts that despite popular belief to the contrary, the urgency to conduct private sector reform in the power generation industry is what is really driving the rapid shift toward renewable energy.<sup>33</sup> By utilizing developments in renewable energy systems, this is accomplished. This is evident in the proclaimed desire to speed up the adoption of renewable energy systems in South Africa, where a strong focus is placed on the necessity to improve network dependability, cut generation costs, and gain access to finance needed for new infrastructure. Environmental 29 considerations, the creation of good jobs, and community advantages continue to be ancillary benefits utilized to promote the developing public-private cooperation.

The South African electrical landscape has started to resemble its early stages of development as the pace of private sector transformation quickens. Investment in capital-intensive infrastructure, which is linked to machines and heavily dependent on knowledge rooted in imperial centres, is once again dominated by international finance. Due to rising electricity prices in the nation and Eskom's unreliability, the mining and manufacturing industries are increasingly turning to small-scale private power generation.<sup>34</sup> The massive requests for proposals issued by the oil business Sasol and the steel giant ArcelorMittal, which signal a shift towards a greater divestment from the state, serve as evidence of this.

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<sup>30</sup> Aphelele, "The Persistent Reality of Load-Shedding: How South Africa's Energy Crisis Is Impacting Businesses..."

<sup>31</sup> Aphelele, "The Persistent Reality of Load-Shedding: How South Africa's Energy Crisis Is Impacting Businesses..."

<sup>32</sup> Bartlett, "South Africa Looks to China to Shed Light on Power Crisis."

<sup>33</sup> Godinho, "What Will Drive South Africa's Energy Transition? 3 Factors to Watch."

<sup>34</sup> World Bank, "Africa Overview: Development News, Research, Data," 2023, <https://www.worldbank.org/en/region/afr/overview>.

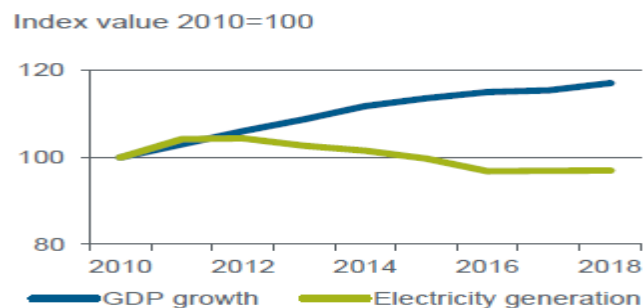
The COVID-19 pandemic has exacerbated structural issues and weak growth, which have hampered efforts to reduce poverty, according to the World Bank.<sup>35</sup> Rising unemployment, which hit an all-time high of 35.3% in the fourth quarter of 2021, severely restrains the advancement of household welfare. Youths between the ages of 15 and 24 have the greatest unemployment rate, which is roughly 66.5%. With a consumption expenditure Gini coefficient of 0.67 in 2018, South Africa's dual economy continues to have one of the highest and most enduring rates of inequality in the world. A history of exclusion and the nature of economic growth, which is not pro-poor and does not produce enough jobs, both contribute to high inequality. Inequalities are passed down from generation to generation with little change over time since wealth inequality is much larger and intergenerational mobility is poor.

### Energy Crisis and Economic Growth in South Africa

Increased load shedding has had a detrimental effect on many people's psycho-social well-being as well as the economy and health care systems. Since September 2022, the economy has barely recovered on a macro level. The GDP climbed from 0.6% in September 2022 to 1.6% in January 2023, according to Stats SA.<sup>36</sup> Although this expansion is good for business and the economy, it has no positive knock-on effects for South African companies. These enterprises have experienced considerable losses in profit margins as a result of the rolling blackouts, which have also caused a loss in productivity and an increase in operating expenses due to the need for power backup generators. Other small firms that were struggling to maintain their operating costs due to a lack of funding and resources were forced to close.

According to information released by the IMF's African Department in June 2023, South Africa's economy expanded by 0.4% between January and March 2023. To make matters worse, frequent power outages, erratic commodity prices, and a difficult external environment have all hampered the nation's ability to thrive. The rate of recovery is too slow to lower unemployment, which is still near an all-time high at 32.9%.

Being subjected to load shedding for nearly fifteen years, ordinary individuals have been hurt the hardest. Many people have altered their lives to accommodate power outages as they have grown accustomed to them. While this might be the case, going two to six hours without power can make you feel much more helpless, frustrated, and angry. This is because these disruptions leave people without network connectivity and power. As a result, productivity, time management, and communication are hampered. People are therefore switching to alternate energy sources like gas, paraffin, or solar electricity.



Source: Reuters Eikon, own calculations

**Figure 1. Power supply and GDP growth are drifting apart**

Efficiency improvements alone cannot account for the discrepancy between power supply and economic growth shown in Figure 1. An exceptionally old stock of power plants (35 years on average) that has also been badly maintained is the root of the diminishing power supply. The problem is being made worse by the delays in the construction of the two new power plants, Medupi and Kusile. Due to

<sup>35</sup> World Bank, "Africa Overview: Development News, Research, Data ."

<sup>36</sup> Statistics South Africa (StatsSA)., "General Household Survey 2019," 2019, <https://www.statssa.gov.za/publications/P0318/P03182019.pdf>.

these delays, Moody's predicts that generation capacity will not increase until they are finished in 2023. As a result, the power supply will be limited for some time. The short-term issue might potentially get worse as the warm season approaches its peak and increases demand for electricity.<sup>37</sup>

### **Government Interventions on the Issues of Energy Crisis in South Africa**

The government is moving to greater executive - frequently presidential - crisis interventions as a result of the decline in Eskom's plant performance and the delays in acquiring fresh power. Regulations were loosened from the top as load shedding increased to bring more electricity online. The Electricity Act was amended earlier, increasing the license exemptions for private power from 1 to 100 MW and enabling towns to buy power directly from independent power producers. In February 2022, a significant draft regulation measure was also introduced. If approved, it would increase competition while also giving the Minister of Minerals and Energy more latitude. Additionally, the National Energy Crisis Committee (NECOM) was created by the president in July 2022 to implement and coordinate several emergency measures.

At the beginning of 2023, the president declared a "State of Disaster" in the power sector, opening the door for additional executive-level actions. The Disaster Management Regulations, which were just released, will allow Cabinet members to have more executive power. This entails giving orders to: remove obstacles to the construction of power plants; grant exemptions or speed up necessary approvals; streamline decisions pertaining to the procurement of electricity; and exempt upgrades, refurbishments, adjustments, and repairs of existing energy infrastructure from environmental regulations. The new Minister of Electricity was appointed on March 6, 2023 by the President, who simultaneously established a new ministerial office inside the Presidency to oversee the implementation of crisis measures.<sup>38</sup>

Additionally, a further sizable bailout of Eskom is included in the National Budget, which was unveiled on February 22, 2023 with terms set by the Minister of Finance. In addition to the R263 billion supplied between 2009 and 2022, R254 billion will be given in loans and bailouts over the following three years. Regardless of South African perspective, load-shedding is becoming the new standard in South Africa. The idea of an uninterrupted supply of energy would be an unreasonable expectation in the immediate future, the government has declared. This is true even though the White Paper on Energy emphasizes the importance of energy security for low-income households as a way to fight poverty, boost the economy, and raise living standards. On the other hand, the nation's efforts to fight poverty are hampered by the new energy shortage.<sup>39</sup>

### **Energy Crisis in South Africa: Policy Successes and Challenges**

The extent of Eskom's problems was already apparent in 2019. At the time, four key indicators were emphasized: growing debt, declining generation capacity availability, an increase in load-shedding, and rising electricity prices. The following actions were taken or started by the government in the same year. South African government published a roadmap outlining goals for the three-year separation of generation, transmission, and distribution. Andre de Ruyter, a newly appointed CEO of Eskom, was tasked with enhancing plant performance, preparing the business for market reforms and restructuring, and correcting corruption and underinvestment-related harm. The South African government announced ten-year bailouts totaling R150 billion (\$8 billion), including an R59 billion (\$3.2 billion) upfront investment between 2019 and 2021. The South African government updated the 2019 Integrated Resource Plan, the country's energy strategy. However, more than three years later, things at Eskom have only become worse. Despite government assistance, the level of debt, at R423 billion, remains unacceptably high. By 2022, the energy availability factor had dropped from 66% to 58%. According to Godinho, load-shedding increased by 16 times to 22,529 GWh or 157 full days in 2022.<sup>40</sup>

Customers were currently affected by load-shedding for up to ten hours each day. In 2023, rates increased 34% to R1.40/kWh. The utility needs fresh electricity to increase supply, but the Ministry of

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<sup>37</sup> Heinemann, "Energy Crisis in South Africa—a Barrier to Higher Economic Growth"; Godinho, "What Will Drive South Africa's Energy Transition? 3 Factors to Watch."

<sup>38</sup> Bartlett, "South Africa Looks to China to Shed Light on Power Crisis."

<sup>39</sup> Berahab, "The Nigerian Energy Crisis: What Prospects for Green Recovery And?"

<sup>40</sup> Godinho, "What Will Drive South Africa's Energy Transition? 3 Factors to Watch."



Minerals and Energy has been unable to secure it. A bungled new emergency power procurement is currently bogged down in legal disputes. To bring 2,000 MW of new electricity online over two years, the 2020 Risk Mitigation Independent Electricity Producer Procurement Programme (RMI4P) was created. However, Karpowership's "floating power plants" won two-thirds of the 1,845 MW in chosen bids due to procurement violations, which resulted in various legal disputes. Early in March, a final decision on the environmental issues is anticipated, although the transaction is likely to face ongoing opposition.

From the viewpoint of Pandarum, the once-promising renewable energy program is barely making a comeback.<sup>41</sup> Due to political intervention, the Renewable Energy Independent Power Producer Procurement Programme (REI4P) notoriously came to an end in 2015 and wasn't reinstated until 2021. Only two bid windows have opened, despite repeated promises of more regular procurement cycles (every six months). According to Bartlett, inadequate investment in transmission infrastructure is limiting new electricity options.<sup>42</sup> Investments in transmission have been postponed, in part because of financial limitations and uncertain policies. This has now restricted the purchase of power. For example, the Ministry of Minerals and Energy rejected proposals for sizeable wind generating capacity in bid window 6, ostensibly because of transmission limitations.

It is now more crucial than ever for nations to speed up their energy transition in a way that balances and fulfills the requirement for an egalitarian, sustainable, and secure energy system, ensuring that it is appropriate for the present and the future. By supporting investments in clean energy, fostering innovation, boosting energy efficiency, and ensuring that the change benefits all facets of society, policies will be at the center of defining a balanced energy transition.

## RECOMMENDATIONS

In light of the aforementioned, load-shedding disruption is observed in various sectors and has a significant impact on individuals. It will take the current administration to go beyond only finding a technological solution to the nation's energy dilemma and to demonstrate a strong political resolve in order to alter the current situation. Increased supply, such as the construction of additional power plants and urging users to turn their lights off when not in use, are necessary for a better solution to South Africa's exhausting energy dilemma. More specifically, creating new facilities with solar panels and battery storage can aid in solving the problem of the energy crisis. The government must carry out important measures that were designed to increase Eskom's operational effectiveness, openness, and financial viability.

## CONCLUSION

This paper has explicated the policy intervention of the government on the energy crisis and evaluated the successes and challenges of the intervention. It is therefore noted that governments at all levels need to boost their policy strengths towards the sustainability of power and electricity supply in South Africa. It also becomes a theoretical stance that the energy crisis frequently alludes to a particular energy source that was in use at the period and place in question, particularly one that supplied the country's power grids or served as fuel for the development of industries. Furthermore, the origin and trend of the energy crisis have multiple dimensions, with little or no end spot within the South African economy. It is therefore essential for the government to note that the population expansions and ever-increasing human activities constitute major reasons for the persistence of the energy crisis in South Africa. This paper concludes that the energy crisis in South Africa may continue to take its negative recourse on the people and economy if adequate attention is not being paid to alternative energy sources at provincial and municipal levels. The attention should aim at complementing the existing energy infrastructure as well as accommodating the energy needs of the population and ever-increasing human activities.

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<sup>41</sup> Pandarum, "An Overview of The Global and Local Energy Crisis. ."

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