

South Africa as an Investment Destination amid the Energy Crisis

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Abstract

This paper examines the impact of load-shedding (energy crisis) and the performance of Special Economic Zones (SEZs) in South Africa, focusing on the experiences of the Coega Industrial Zone (IDZ). Despite their potential to attract Foreign Direct Investment (FDI) and foster economic growth in the country, SEZs have been plagued by unreliable electricity supply since 2008. This study analyses the consequences of load-shedding on SEZs, drawing on existing literature, Coega IDZ documents, reports, and newspaper articles from reputable sources. The findings reveal that load-shedding significantly hinders investor confidence, forcing businesses to contend with production losses, increased operational costs, and supply chain disruption. The study highlights how these challenges have resulted in a suspension of major investment projects, resulting in a loss of job creation and economic development. This research contributes to the under-researched literature on SEZs and FDI in Africa, emphasising how electricity supply, a key component of infrastructure and a critical pillar of competitiveness, can directly affect FDI and the country's global economic standing. The study underscores the urgent need for a sustainable solution to South Africa's energy crisis to unlock the full potential of its SEZs and foster inclusive economic growth.

Keywords: Load shedding, energy crisis, South Africa, Foreign Destination Investment, SEZs, Coega IDZ, SEZ Act, Development, Policy.

Introduction

South Africa faces up to eight hours of electricity supply cuts daily, dubbed load shedding. The shortage of electricity supply started in the late 2000s; however, the hardest impact hit South Africa in 2022, whereby citizens endured over 15,000 hours of lights out (Cape Talk, 2022), forcing some to close, resulting in the loss of investment opportunities and economic success. Several studies from institutions supported this, with findings showing that the negative effects of lack of energy reliability (World Bank, 2020; The Institute of Independent Studies, 2008). According to the World Bank (2020), reliable energy is critical in ensuring increased levels of investment within a country. This is further supported by the reduced levels of productivity and funding due to the energy crisis, as reported by The Institute of Independent Studies (2008).

The formation of SEZs is supported by legislative policy, which provides a framework that outlines the statutory obligations and processes of all parties involved. The SEZ Act 16 of 2014 forecasts the key role of the government in export promotion and the creation of related infrastructure. Additionally, it provides a clear and predictable systemic planning framework for the development of a wider range of SEZs to support industrial policy objectives. Special Economic Zones (SEZs) are widely recognised for their potential to drive economic development, attract foreign direct

investment, expand trade, foster infrastructure development, job creation, skills development, and technological advancement. The existing research consistently highlights the fundamental role of SEZs in attracting foreign direct investment (FDI) and generating employment and economic growth (Farole and Akinci, 2011). The studies that explore the relationship between the electricity supply of a country and its ability to attract FDI left a gap; moreover, there remains a significant gap in research specifically examining the negative implications of load-shedding on SEZs and FDI attractiveness (Wentworth, 2014; Pollet, Staffell and Adamson, 2016).

This research addresses this gap by investigating the political and economic consequences of South Africa's electricity supply shortage on SEZs between 2008 and 2022. Utilising a single-case study approach of the Coega Industrial Development Zone (IDZ), the research analyses how the energy crisis has affected the zone's attractiveness to FDI. This analysis is relevant because it highlights SEZs' crucial role in fostering national development, promoting trade and investment, driving economic growth, enhancing infrastructure, and advancing employment, skills and technological capabilities. By examining the impact of South Africa's energy crisis on Coega IDZ, the research highlights the critical importance of a reliable energy supply in attracting FDI.

This study adopts a qualitative single-case study approach to examine the impact of South Africa's energy crisis, specifically load-shedding, on the Coega SEZ and its ability to attract foreign direct investment. This methodology is particularly relevant due to the scarcity of comprehensive quantitative data on the SEZ and FDI nexus and the interplay of factors influencing investment decisions. Yin (2014) highlights that case study research provides a rich, contextual understanding of complex phenomena, especially when data limitations hinder large-scale quantitative analysis. This approach allows for advanced exploration of how load-shedding interacts with other challenges Coega SEZ faces, shaping investor perceptions and policy responses. The study utilised primary and secondary sources, including academic journals, government and organisation reports, Coega Development Corporation documents, and reputable news articles, to uncover the implications of load-shedding on SEZs' attractiveness to FDI. Using a multi-source data collection approach ensures data triangulation and enhances the credibility and validity of findings.

However, the study acknowledges the limitations of a single-case study design, as findings may not be generalisable to other SEZs or contexts. To mitigate this, the research offers an in-depth contextual examination of the Coega SEZ and the broader energy landscape of South Africa. This allows for a nuanced comprehension of factors involved in conducting a contextual analysis of SEZs. Additionally, the study highlights potential areas for future research on investigating the relationship between energy security and FDI in diverse SEZ contexts.

The article begins with a comprehensive literature review exploring the broader context of SEZs and the specific characteristics of South Africa's SEZs. It then provides a background of the country's energy crisis and the resulting load-shedding, drawing on scholarly literature to examine the implications of power outages on FDI and the effectiveness of SEZs in attracting investment. The methodology section outlines the single case study approach employed to analyse Coega IDZ, encompassing its economic outlook, challenges, and the impact of load shedding on its ability to attract FDI. In addition, the section examines government policy responses to the energy crisis and assesses the effectiveness of the strategies used. Finally, the article concludes by summarising key findings and offering recommendations for future research.

SEZ Effectiveness and FDI Attractiveness: Review of Literature

Assessing the effectiveness of SEZs requires understanding their intended goals and the development of relevant performance indicators. Farole (2011) provides a framework for this

assessment, focusing on the principal objectives driving SEZ establishment. These objectives include attracting FDI (Cheng, 2019), promoting exports, creating employment (Dobronogov & Farole, 2012), and fostering technology transfer, which vary depending on the economic and political context. However, Zeng (2022) points out that SEZ performance is not homogeneous but determined by a complex interplay of factors. A conducive legal and regulatory environment, effective zone-level governance, industrial infrastructure, strategic location and connectivity, skilled human resources, and access to a sizable market all contribute to the success of SEZs. Zeng (2022) further underscores the importance of reliable and efficient infrastructure, encompassing electric supply, water access, telecommunications, and transportation networks, for attracting investors and fostering economic activity within these zones. Deficiencies in these areas can significantly hinder the growth and attractiveness of SEZs, ultimately impacting their overall success.

Research has assessed the relationship between SEZs and FDI outcomes. For instance, Chakraborty, Gundimeda, and Kathuria's (2017) study on the impact of SEZ policies on FDI inflows in Indian states found that the SEZ policy induced more FDI flows. Likewise, Graham (2004) found that SEZs were a necessary first step in China's emergence as the largest developing nation for FDI, especially during the late 1980s. Wang (2013) measured the impact of SEZs on FDI by exploring the difference in the timing of creating SEZs in various municipalities in China. The findings revealed that the SEZs had an overall positive effect on FDI. Introducing an SEZ significantly raised FDI by 21.7% per capita on average. The study also found that the FDI growth rate increased by 6.9 percentage points (Wang, 2013).

The performance of SEZs in Africa presents mixed results, revealing both potential and persistent challenges. While intended to attract investment and stimulate economic growth, SEZs often struggle to achieve these objectives due to a complex interplay of factors. Farole (2011) examined case studies from firm-level surveys across six African countries, highlighting the significant variation in performance and underscoring the critical role of strategic location, efficient management, and strong linkages with the domestic economy for SEZ success. The study reveals that while some African SEZs, particularly in Ghana and Lesotho, demonstrate positive outcomes, many face challenges such as poor infrastructure, weak governance, and limited integration with local economies. Adding another component to this analysis, Rodríguez-Pose et al. (2023) investigate the factors hindering SEZ development in Africa, drawing on a dataset of 237 zones. Their findings challenge the prevailing emphasis on fiscal incentives as the primary driver of SEZ success. Instead, they underscore the importance of a conducive business environment, efficient infrastructure, and consistent government support throughout the SEZ lifecycle. The study emphasises that while fiscal incentives might attract initial investments, their long-term impact remains limited without addressing these factors.

Evaluating the performance of SEZs in Southern Africa, Makgetla (2021) found that regional inequality, dependence on mining exports, and inadequate infrastructure financing significantly hinder SEZs' effectiveness in the region. A comparative analysis by Phiri and Manchishi (2020) on SEZs in Zambia and South Africa corroborates this finding, which reveals the detrimental impacts of inadequate infrastructure financing and unreliable electricity supply on SEZ operations and investor confidence. This study highlights how frequent power cuts in Zambia disrupt the production process, increase costs, and create uncertainty for businesses, ultimately affecting the attractiveness of these zones to foreign investors.

While SEZs hold the potential to drive economic growth in Africa, their success depends on addressing the complex interplay of factors. A central focus on fiscal incentives without addressing the fundamental issues of infrastructure, governance, and economic and political context is unlikely to achieve the desired outcomes. This research aims to contribute to this understanding by

analysing the case of South Africa's Coega Industrial Zone, specifically examining how the persistent challenge of 'load-shedding', or rolling blackouts, may impact its ability to attract and retain foreign direct investment.

Numerous researchers, such as Makgetla (2021) and Nel (2013), view SEZs positively, primarily as 'vehicles of globalisation' and a key strategy for industrialisation and employment, particularly in Africa. In contrast, other scholars contend that SEZs remain controversial within the global economy concerning economic performance and FDI opportunities. SEZs have been criticised for neglecting environmental mitigation effects and exploiting cheap labour to make corporate profits, especially in China or Chinese-run zones (Thompson and Shirinda, 2021). Farole and Akinci (2011) contend that SEZs generate employment and attract foreign direct investment (FDI); however, they have struggled with long-term sustainability owing to the rising labour cost. Wang (2013) argues that the performance of many zones remains below what is expected, as they fail to attract the supposed significant investors that will generate economic benefits. In addition, policymakers not only face traditional challenges of making SEZs succeed, but they also need to include the need for sufficient strategic focus, regulatory and government models, and investment promotion strategies (Wang, 2013; UNCTAD, 2019).

South Africa and SEZs

In South Africa, the SEZ programme is supported by a policy framework for developing, operating, and managing a wide array of SEZs (Phiri and Manchishi, 2020). The central objective of the *Policy on the Development of Special Economic Zones in South Africa* is to accelerate industrial development through domestic and foreign investments and the development of industrial capabilities. The programme draws legal backing from the *Special Economic Zones Act 16 of 2014*, which outlines SEZs' purpose, policy and strategy and provides for SEZs' designation, promotion, and management. The SEZ policy was primarily designed to enable FDI, improve infrastructure, develop new industrial hubs, and reduce large-scale unemployment (RSA, 2012). The South African Government's mandate is to take advantage of SEZs as an essential strategic plan to prioritise industrialisation and develop the economy (Osuigwe, Gumbo and Aigbavboa, 2022). Presently, South Africa has eight SEZs located in different provinces. These include Saldanha Bay (Western Cape), Dube Trade Port (Kwa-Zulu Natal), OR Tambo (Gauteng), Coega (Eastern Cape), East London (Eastern Cape), Richards Bay (Kwa-Zulu Natal), Musina (Limpopo), and Maluti a Phafung (Free-State) (Osuigwe, Gumbo and Aigbavboa, 2022).

Despite the 2008 global economic crisis, the designated SEZs have made significant progress in attracting several investors working in the zones (DTI, 2017). Regarding performance, the number of operating investors in designated SEZs increased from 100 to 122 in the first quarters of the 2018/19 and 2019/20 financial years, with investment values totalling over ZAR 19 billion (DTI, 2017, p.35; 54). In the 2018/19 financial year, the report indicated that Coega SEZ currently has within its fold 45 operational investors who have a combined worth of investment value amounting to ZAR11.579 billion. The Dube Trade Port has 25 active investors with a value of ZAR1.8 billion and has created 3331 jobs (DTI, 2017, p.35; 54; UNCTAD, 2019). The designated SEZs also achieved a pipeline of 36 investments with an estimated value of ZAR10.2 billion. Among these investments are smartphones, which are worth ZAR1.3 billion investments and have the propensity to provide an estimated 1500 jobs over five years (DTI, 2017, p.35;54). The Saldanha Bay SEZ, which focuses on the oil and gas industry, has signed lease agreements with an investment of just over ZAR3 billion. The five investors include joint investment projects between South Africa and international investors from the United Kingdom, Europe, the Middle East, and Africa, with the rest being 100% local South

African projects (DTI, 2017, p.35; 54; Chauke, 2022). From this review, it can be said that South Africa's story of SEZs has achieved remarkable success in terms of attracting FDI.

South Africa's Energy and Load-shedding Crisis

Eskom is a South African electricity public utility established in 1923 as the Electricity Supply Commission (ESCOM), a government-owned company that is the country's main electricity supplier. Since the 1994 democratic transition in South Africa, Eskom management has appealed to the government to finance additional capacity to generate power. This is because the country was experiencing increasing economic growth and electricity demand, indicating that South Africa would experience capacity problems with supply before 2010. The appeals were not urgently addressed; instead, the government decided to put off increasing capacity through new construction and put minimal priority on providing access to residential consumers (Wentworth, 2014; Goldberg, 2015). By 2007, 4.2 million additional households were connected to the national grid. Additionally, the government's political and economic liberalisation policies attracted international interest and substantial FDI, rising from US\$15 billion in 1995 to US\$132 billion in 2010. The high electricity demand resulted in Eskom resorting to national rotation 'load shedding' from late 2007 to protect the power system from a total blackout, and a national emergency was declared on 25 January 2008 (Joffe, 2012; Goldberg, 2015).

Government efforts were implemented to manage the electricity supply shortage; however, all were ineffective, resulting in consistent load shedding. Since 2008, a structural deficit in the electricity supply has remained one of the country's most critical challenges. As a result, frequent load-shedding incidents have significantly impacted the economy (Wentworth, 2014; Goldberg, 2015). According to the World Economic Forum (2009), during the 2008/2009 financial years, the competitive index for South Africa was number 45, which was attributed to the energy crisis. What was expected to be a five-year struggle stretched to fifteen, and the effects thereof doubled, consequently affecting not only big enterprises but ordinary citizens, small businesses, and the country's overall gross domestic product (GDP).

During the 2006/2007 financial year, the country was ranked 35 out of 122 countries surveyed; the decline in ratings can be attributed to the second of the twelve pillars of global competitiveness. During the 2007/2008 ratings, South Africa was ranked 44 out of 134 surveyed countries. The electricity component of the second pillar was the weakest link, hence the low rating compared to previous years (Creamer, 2008). Disastrously, the situation only worsened in the last 15 years, and the competitive index slipped further down, leaving the economy and general welfare of the republic vulnerable. The South African energy crisis was estimated to last until 2013 (Engineering News, 2008), yet South Africans saw another dip in the global competitive index, with the main culprit being electricity, causing 200-day blackouts in 2022.

The Impacts of the Energy Crisis on FDI

Inward foreign direct investment (FDI) plays a crucial role in the economic development of host countries, particularly those in the developmental stages (Inglesi-Lotz and Ajmi, 2021). While the financial flows primarily benefit the host country, research indicates that both investor and recipient countries experience advantages through FDI, primarily through technology transfer, knowledge sharing, and strengthened trade relationships. Host countries, in particular, benefit from an influx of expertise, advanced technologies, human and physical capital, and improved organisational methods and production patterns (De Mello Jr, 1997; Inglesi-Lotz and Ajmi, 2021).

The decision to attract FDI and the geographical targeting of these investments are influenced by conditions within a host country. Since the 1970s, factors such as abundant natural resources, robust physical infrastructure, stable macroeconomic conditions, political stability, and investment certainty have been identified as key drivers of FDI attraction (Boateng et al., 2015; Dunning, 2015). However, in recent decades, access to a reliable and affordable energy supply has emerged as a critical factor complementing these traditional determinants. Given that energy is a fundamental input in the production process, its availability, reliability and price directly impact a business's viability and its potential for profit maximisation. Consequently, when investors assess potential destinations for FDI, the energy sector has become a decisive factor in their decision-making (Inglesi-Lotz and Ajmi, 2021).

Developing countries frequently suffer from frequent power cuts that affect operations and, to an extent, affect FDI opportunities. Policymakers have made substantive efforts to control and balance energy consumption with the energy supply capacity of countries such as China. Similarly, conditions for price fluctuations in overall energy markets or specific coal or electricity tariffs have affected countries' economic growth (Zeng, 2016; Shi and Sun, 2017). South Africa is also a developing country whose electricity supply and provision have been erratic since 2008, when the first wave of power cuts experienced severe economic consequences. Since then, load shedding (rolling blackouts) has been common in the country. In the same period, since 2008, the electricity prices in the country underwent a restructuring, with approximately an annual increase of 33% from 2008 until 2018 in real average electricity prices. (Department of Energy, 2018). These increases have significantly altered the weight of electricity costs in the business budgets and the country's attractiveness as a destination for business, where the production costs are affordable. Analysts have attributed some of the losses in investors' confidence, particularly to these interruptions, the unreliable provision of electricity and the increasing electricity costs (Hogg, 2020).

South Africa has experienced significant volatility in FDI inflows in recent years. Following a 15% decline in 2019, as reported by the World Bank, the FDI subsequently plummeted by 38.36% in 2020. While 2021 witnessed a 1209.5% increase in FDI, this proved unsustainable. Several factors, including sovereign credit rating downgrade to non-investment grade, grey listing by the Financial Action Task Force due to shortcomings in combating money laundering and terrorism financing, and persistent power supply disruptions, have adversely impacted investor confidence. Consequently, FDI contracted by 66.67% in the second quarter of 2022 alone (Reuters, 2022).

Case Study: The Coega SEZ

The Coega SEZ is the largest in Southern Africa by land area (9,003 hectares), and the first zone designated in South Africa in 2001 and became operational in 2002. It is in the Nelson Mandela Bay Metropolitan Municipality on the East-West trade route to service both global and African markets (DTIC, 2020). Coega SEZ broadly targets foreign and domestic direct investment in export-oriented manufacturing activities. Its mandate is to be the leading catalyst for championing socio-economic development through providing competitive investment locations, facilitating holistic infrastructure, and value-adding commercial business solutions. The SEZ consists of fourteen zones for supply chain integration, which garner investments in the energy, metals, logistics, automotive, chemicals, aquaculture, agro-processing, maritime, and business process outsourcing sectors. The Coega Development Corporation manages the Coega IDZ, a state-owned enterprise with a diverse portfolio of activities (Phiri and Manchishi, 2020; CDC, 2022b).

Coega is arguably South Africa's well-renowned SEZ and the preferred investment destination in Africa. Compared with other South African SEZs, Coega has become an exemplary model for other zones in diversifying its business model to include other income-generating activities beyond zone

development and management and investment attraction (CDC, 2022a). Coega has 45 operational investors, with an investment value of R11.5 billion in private sector investment and R9.53 billion in foreign direct investment. In line with its mandate, the CDC has achieved 112,947 jobs and trained more than 100,000 people since its inception in 1999 (Provincial Government of South Africa, 2023). In the financial year 2018/2019, the zone developer scored several accolades: Top Employer 2019-Certified Excellence in Employer Conditions; 2018 Top Performing Public Service Organisation, and 2019 Investor of the Year in the DTI Annual South African Premier Business Awards (CDC, 2019).

Initially, the Coega zone business model was primarily focused on leasing developed industrial land for predominantly industrial activities to stimulate economic growth and employment (CDC, 2019). Over time, this model has evolved to include a range of products and in-house commercial services, such as Coega Human Capital Solutions, The Coega Corporate Travel Agency, Coega Telecom, and Vulindlela Accommodation and Conference Centre. This strategic business shift comes from reduced government grant funding and the need to become self-sustainable. The zone provides road infrastructure, water and sewer, telecommunication, and electricity networks. Other support systems for supply chain management are also on offer, as well as a one-stop investor services centre offering human relations support and streamlined business licensing, customs registration, and permit approval services (CDC, 2019).

The zone's performance, primarily measured against a series of targets outlined in successive five-year strategic plans, shows that it has mainly been on or exceeded its annual targets. CDC (2022a) reports show that between 2010 and 2020, the Coega zone raised between ZAR11 billion and ZAR 700 million in investment annually, totalling an estimated ZAR45 billion. The 2015/16 and 2016/17 financial years were exceptional for CDC; they managed to secure a vast investment of ZAR24 million from Delta Natural Gas, focusing on liquid natural Gas importation, storage, and distribution. At the end of the financial year 2018/19, the zone had realised total domestic and foreign investments of ZAR9.53 billion. Additionally, in the 2021 financial report, the Coega SEZ acquired thirteen new investors with a combined pledged investment value of ZAR557.7 million (CDC, 2022a).

The manufacturing sector contributed the largest share of exports, followed by agriculture, forestry, and fisheries. Between 2015 and 2018, the total income in the zone increased from ZAR5.5 billion to ZAR9.9 billion, driven mainly by manufacturing activities. This represents a growth of 82% over the period or an annualised growth rate of 22 per cent (Stats SA, 2019). The most prominent investors at Coega include the ZAR3.5 billion 342MW Dedisa Peaking Power Plant and the ZAR11 billion BAIC-SA's Vehicle Manufacturing Plant (SKD) (Provincial Government of South Africa, 2023).

Significant infrastructure challenges persist in the Coega SEZ. These include the lack of a water return effluent (wastewater treatment) for industrial purposes; outdated ICT networks due to underinvestment in network upgrades; uncertainty on the cost of electricity, particularly for sizeable energy-intensive investment projects; and lack of funding for maintaining and upgrading legacy infrastructure (Phiri and Manchishi, 2020; CDC, 2022b).

Load-shedding and the impact of Coega FDI Attractiveness

When evaluating the impact of South Africa's unreliable electricity supply, 'load-shedding' poses a significant challenge to the performance and investor attractiveness of its SEZs. Ateba (2019) highlights that unreliable electricity can lead to industrial decline, making SEZs less appealing to both domestic and foreign investors. The persistent power outages can also create an uncertain business environment, forcing businesses to invest in costly backup power solutions and negatively impacting their competitiveness and profitability. This uncertainty is further exacerbated by potential supply chain disruptions and negative international perceptions of South Africa's economic stability (Ateba,

2019; Mlambo, 2023). Load-shedding also presents economic consequences, which could also have implications for investor confidence. Walsh et al. (2021) estimate that load-shedding reduced South Africa's GDP by R338 billion between 2007 and 2019, with the manufacturing sector, heavily reliant on a stable electricity supply, being most affected. This vulnerability is reflected in production stoppages, supply chain disruptions, and diminished investor confidence.

The CDC (2023) underscores the relationship between energy security and attracting FDI, emphasising that a reliable electricity supply is crucial for SEZs to achieve their economic growth potential. However, the case of Coega SEZ illustrates the detrimental effects that load-shedding may have on FDI. In 2008, Rio Alcan, the world's second-largest aluminium producer, was forced to suspend its planned R20 billion (US\$2.1 billion) aluminium smelter project in Coega due to Eskom's inability to guarantee the electricity supply (Mining Review Africa, 2008). This investment setback resulted in significant lost opportunities for Coega, including expanded trade, job creation, and broader benefits for the Eastern Cape province.

Mbambo's (2015) study further reveals that insufficient electricity supply and frequent power interruptions have consistently hampered investments in Coega SEZ. The study found that the power supply within the industrial zone was inadequate to meet existing and future demands, deterring potential investors and emphasising the urgent need for a sustainable solution to South Africa's energy crisis. Similarly, SeaArk Africa's prawn farming project did not materialise due to the Mandela Bay Municipality's inability to provide the necessary electricity supply (Woolmarans and Schroeder, 2017). These examples show that load-shedding is a severe obstacle to attracting FDI in South Africa's SEZs.

Coega failed because of poor central economic planning. The government embarked on a larger-scale project, which looked like it would create job opportunities. Special Economic Zones like Coega are likely to succeed when they start on a smaller scale and expand from there (Round table convened, 2012). Private funding and more relaxed regulations would have ensured a higher rate of success for the development zone. Special Economic Zones need to have a well-planned fallback plan coupled with smaller projects. Economic zones that are diverse in their business stand a better chance of succeeding. Although electricity was cheap and available in 2001, the warning signs of future scarcity were there; however, the government did not heed these warning signs (Freezone Focus, 2022). The South African government equips investors with education. The Special Economic Zones Act 16 of 2014 outlines the legal and institutional framework for the development, operation, and management of SEZs in South Africa. The legal framework sets out the investment rules, fiscal incentives and tax administration, licensing and regulation of business activities, institutional arrangements, trade facilitations and customs control, as well as to settle dispute settlement mechanisms. To ensure the success of an SEZ, the private sector, regulatory boards, and policymakers need to cooperate and create a working environment that fosters investor confidence and transparent policy predictability. In the South African context, the government relaxed regulations and provided incentives for investors. The government offers an investment allowance, which may be deducted from taxable income in the financial year when production starts.

The Department of Trade and Industry also offers a Tax Allowance Incentive for investors, which offers support for capital and investment and training to improve production. The tax allowance can go up to 55%. The lack of alternative energy for SEZs slowed down the economy, especially during the 2022-2023 period. Some SEZs managed to recover, but the money and jobs lost could have been salvaged. Investors are protected by the Protection of Investments Act of 2015, which sets out a national standard of treatment, protection of physical property, and the right to transfer funds. It aims to achieve a balance of rights between investors and the government of the republic. The Act is based on the South African Constitution; it provides that in the event of expropriation,

investors would no longer be assured of compensation at full market value; however, in line with the Constitution, there would be compensation that is fair and equitable. It provides investors with security subject to applicable domestic legislation if damages are suffered due to war, armed conflict, revolution, state of national emergency, revolt, insurrection or riot. The South African government will provide restitution or compensation to investors for loss or damage of property due to the requisitioning or destruction of property by government authorities if such action is required by the necessary action. The Act provides for mediation processes and allows the investor to approach a competent tribunal, court or statutory body (RSA, 1996).

Concluding Observations

This article has underscored the critical interdependence between energy security and foreign direct investment, particularly for developing economies to achieve sustainable economic growth and development. While traditional factors such as natural resource endowment, infrastructure, and political stability remain significant, the availability of reliable electricity has emerged as a paramount concern for attracting FDI. South Africa's recent experience with volatile FDI inflows exemplifies the potentially negative impact of energy insecurity. The persistent threat of load shedding, driven by underlying challenges within the energy sector and regulation, has created an environment of uncertainty that has demonstrably hindered investor confidence and hampered the country's ability to attract the long-term FDI needed to achieve its economic and development potential. This impact is evident in the challenges faced by Special Economic Zones, particularly the Coega Industrial Development Zone. The lack of a reliable electricity supply has undermined Coega's ability to attract and retain investors, contributing to job losses and hindering its intended role in driving economic growth. The case of Coega also highlights a link between energy insecurity and broader economic setbacks, including lost income, reduced tax revenue, and diminished competitiveness.

Addressing this energy crisis is not only an economic imperative but a fundamental prerequisite for South Africa to achieve sustainable, long-term growth and fulfil its developmental aspirations. This involves a multi-faceted approach that includes diversifying energy sources, strengthening energy infrastructure, and implementing policies that promote energy efficiency and attract investment in the renewable energy sector. Furthermore, exploring solutions that address the needs of SEZs, such as prioritising their access to reliable energy, a variety of incentives in the production of essential goods and services, as well as the acceptance of assistance from the private sector through the relaxation of red tape, could be beneficial for their success. The failure to address South Africa's energy challenges risks not only its own economic future but also holds broader implications for other developing nations navigating the complexities of attracting investment in an increasingly energy-dependent global context. By prioritising energy security, South Africa can create a more attractive investment environment, stimulate economic growth, and serve as a model for other developing countries seeking to harness FDI for sustainable development. Further research into a nuanced relationship between energy security, FDI and the success of SEZs is crucial for informing effective policy decisions and realising the full potential of these zones as drivers of economic growth and sustainable development.

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