ENHANCING INDUSTRIAL RESILIENCE IN SOUTH AFRICA

FINAL REPORT – WORK OUTPUT 2

TECHNICAL SUPPORT TO INDUSTRIAL PARKS ON COVID-19 ECONOMIC RECOVERY PLANS

OCTOBER 2022

the dtic
Department: Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA
german cooperation
DEUTSCHE ZUSAMMENARBEIT
Implemented by: giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
NatuReS
NATURAL RESOURCES STEWARDSHIP PROGRAMME
Joint solutions for resilient economic growth

Published by the

Department of Trade, Industry and Competition (the dtic)
77 Meintjies Street Sunnyside,
0002, Pretoria, South Africa

in collaboration with

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Natural Resources Stewardship Programme (NatuReS) South Africa
333 Grosvenor Street, Hatfield Gardens Block C,
0028, Pretoria, South Africa

Research Author

Trade & Industrial Policy Strategies
Saul Levin, Gillian Chigumira, Mbofholowo Tsedu, Rapula Diale, Paul Jordan, Richard Goode
Editorial Inputs: Amanda Nyingwa, Faith Lawrence, Tanja Merensky-Hartinger (GIZ)

Acknowledgements

This publication is a collaborative effort and would not have been possible without the support and contribution of colleagues and individuals from respective industrial parks and special economic zones to the key informant interviews and park tenant survey.

The following organisations are recognised:

- Atlantis Special Economic Zone
- Coega Development Corporation – Coega Special Economic Zone
- East London Industrial Development Zone
- Nelson Mandela Bay Logistics Park
- Phuthaditjhaba Industrial Park – Free State Development Corporation
- Beijing International Automotive Corp SA (Coega Special Economic Zone)
- Dynamic Commodities (Nelson Mandela Bay Logistics Park)
- Faurecia (Nelson Mandela Bay Logistics Park)
- QPlas (Nelson Mandela Bay Logistics Park)
- Rehau Polimers (Nelson Mandela Bay Logistics Park)
- Voestalpine Automotive Components (East London Industrial Development Zone)

OVERVIEW

This document forms part of a set of outputs for the project: ***Support to Industrial Parks and Special Economic Zones for COVID pandemic prevention and response: Enhancing industrial resilience in South Africa***.

This document covers Work Output 2: Report on technical support on COVID-19 economic recovery plans to selected Industrial Parks and Special Economic Zones within the framework of the National Eco-Industrial Park Framework.

Please refer to the Table below for detail on each of the three reports.

Brief description of the three documents associated with the project

	TITLE	SHORT DESCRIPTION
Output 1	National guidelines for Industrial Parks and Special Economic Zones on COVID-19 and future pandemic resilience responses	Provide a first level contextualisation regarding the concept of resilience within the domain of industrial parks and to offer guidance on measures which need to be considered for a process of enhancing the resilience of industrial parks and special economic zones in South Africa.
Output 2	COVID-19 economic recovery plans to selected Industrial Parks and Special Econimic Zones within the framework of the National Eco-Industrial Park Framework	Provides guidance on recovery measures that industrial parks and special economic zones can adopt in order to support production to pre-pandemic levels or better.
Output 3	Standards Operating Procedure on pandemic prevention/response in Industrial Parks and Special Economic Zones	Articulates disaster risk reduction and pandemic prevention response measures for industrial parks and special economic zones.

CONTENTS

List of Figures

List of Tables

ABBREVIATIONS

CDC	Coega Development Corporation
CSEZ	Coega Special Economic Zone
dtic (the)	Department of Trade, Industry and Competition
EIP	Eco-Industrial Park
ELIDZ	East London Industrial Development Zone
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IDC	Industrial Development Corporation
IDZ	Industrial Development Zone
IP	Industrial Park
IPP	Independent Power Producer
IPRP	Industrial Park Revitalisation Programme
NIPF	National Industrial Policy Framework
NMBLP	Nelson Mandela Bay Logistics Park
sefa	Small Enterprise Finance Agency
SEZ	Special Economic Zone
SMEs	Small and Medium-sized Enterprises
SMMEs	Small, Medium and Micro Enterprises
TERS	Temporary Employer-Employee Relief Scheme
UIF	Unemployment Insurance Fund
UNIDO	United Nations Industrial Development Organization

1. INTRODUCTION

Industrial parks have become more important than merely land zoned for industrial activity. As part of the overarching effort to shift industrial production to a more sustainable mode, the location of a firm and its impact on surrounding communities and ecosystems has grown in importance. The International Framework for Eco-Industrial Parks (EIPs), developed by the United Nations Industrial Development Organization (UNIDO) along with other partners, has drawn together the threads of sustainability, impact and location for industries. When the global COVID-19 pandemic struck putting life, livelihoods and businesses at risk, the issues of sustainability and resilience took centre stage and gave renewed relevance to the eco-industrial park framework.

The aim of this report is to consider recovery measures that industrial parks and special economic zones can adopt to support production to pre-pandemic levels or even better. While it is not possible to specifically determine the economic impact of COVID-19 on industrial parks in particular, the overall economic outcomes for the manufacturing sector are outlined in the report.

The response of a set of South African industrial parks and firms operating in these areas is examined in this report in order to understand the impact and recovery from the COVID-19 pandemic. These observations are set against a background of how parks around the world responded to the pandemic. Many of the impacts were identical with interruptions to the normal course of business from public health measures to control the spread of infection that suspended business operations and shutdown transport and trade links. Firms were forced to build buffers to supply chain disruptions and put more effort into conserving or self-providing water and power inputs. National circumstances varied in the extent to which governments were able to provide support to firms and to workers to shield them from the impacts of disruption through measures such as grants, loans or tax holidays.

Lifting public-health restrictions allowed firms to start the process of recovering from the most severe disruption at the start of the pandemic; however, the weakened state of the economy prior to the pandemic has followed through to a more muted recovery.

2. CONTEXUAL CONSIDERATIONS FOR INDUSTRIAL SPACES IN SOUTH AFRICA

Industrial spaces not only provide a workspace for firms, they also provide an opportunity to crowd in economic support and stimulate economic development. Like many other countries, the South African government recognises the benefits of supporting the development of industrial spaces and these spaces form part of the overall strategy to build manufacturing capacity in South Africa. This approach forms part of South Africa's National Industrial Policy Frame (NIPF), which highlights their importance: "Support for appropriate forms of industrial infrastructure – such as industrial parks and industry specific infrastructure – can help kick start new economic activities in existing established areas as well as under-developed parts of the country with latent economic potential." (the dtic, 2007:5) The NIPF puts forwards specific programmatic proposals on establishing industrial infrastructure and developing a spatial industrial development strategy.

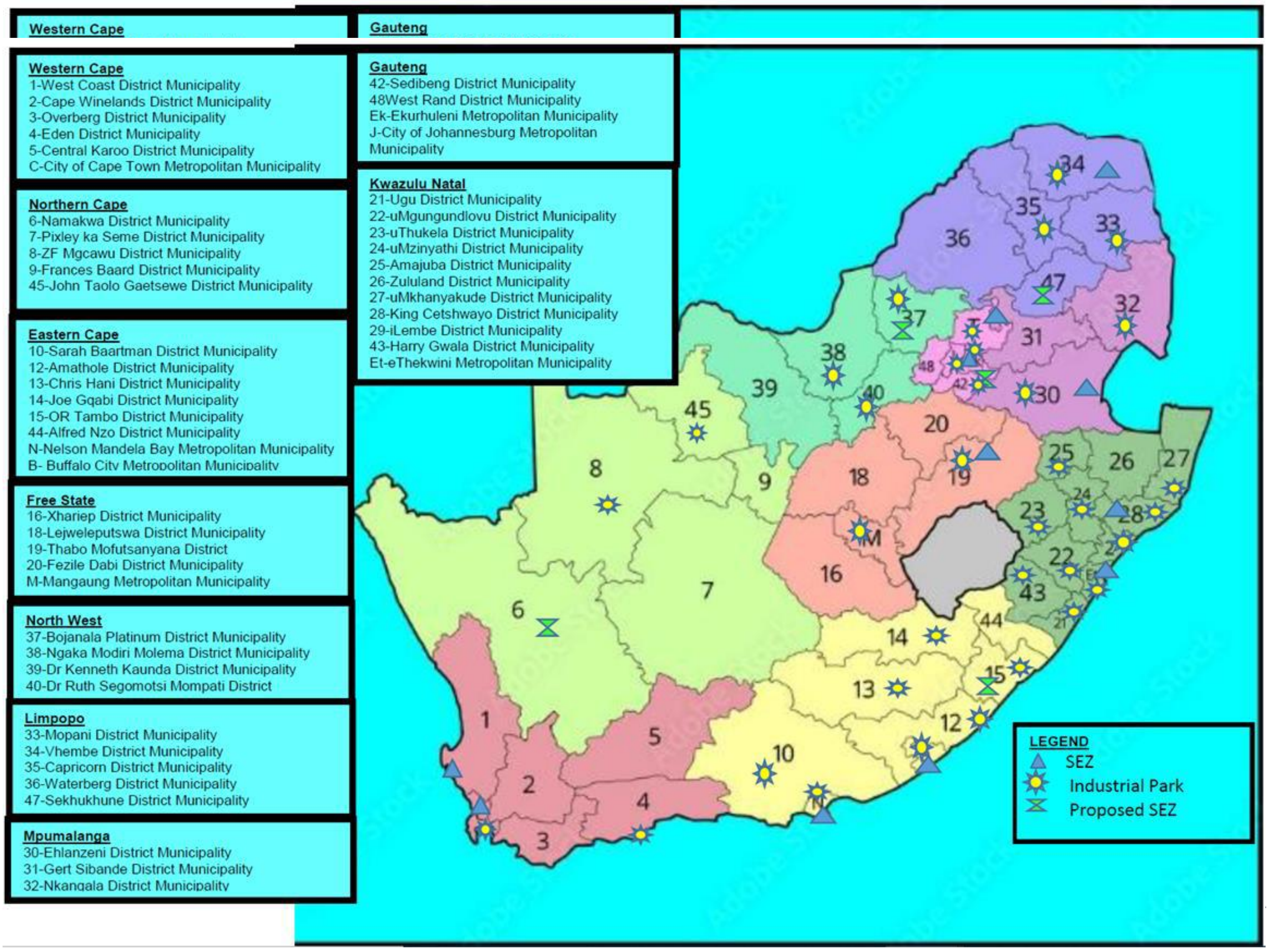
Since before democracy, industrial spaces have been part of the economic development landscape, and since 1994 this approach has been entrenched under two broad categories namely industrial parks and special economic zones (SEZs). To take forward the implementation of its approach to industrial spaces, the dtic incorporated this work into a division that focuses on the different aspects of spatial industrial development. Its efforts include revitalising existing industrial parks, establishing and supporting SEZs, and management of the Industrial Development Zone (IDZ) programme.

2.1. Industrial Parks

Understanding the historical circumstances of industrial parks established during apartheid is important in the context of resilience and economic recovery in the face of the COVID-19 pandemic. These industrial sites were part of the apartheid '"homeland" development strategy and located in decentralised economic nodes in rural areas that otherwise had limited economic activity and few linkages to the industrial heartland of the country. They were often economically sub-optimal and survived due to subsidies provided to companies in the industrial sites. The withdrawal of these subsidies in the early years of democracy impacted the viability of these sites, with many businesses closing down. Consequently the infrastructure and services provided to firms in these parks deteriorated. In recent years, steps have been taken to support these legacy parks as well as industrial parks in some of the townships, and as part of the revitalisation strategy of the dtic. The approach forms part of a dtic strategy to diversify the industrial capacity in the country, which includes the establishment of SEZs in each province.

A number of different forms of industrial parks characterise the industrial infrastructure landscape in South Africa. Beyond those owned by government, the total number of industrial parks in the country is, however, not known as there are no requirements to register industrial parks. Municipalities and private companies are able to establish industrial parks. The focus in this research is on the SEZs, IDZs and those industrial sites that are part of the Industrial Park Revitalisation Programme (IPRP).

Figure 1: Industrial parks and SEZs per district municipality



Source: the dtic, 2022

An overview of the SEZs and IDZs is provided below, as it is useful for understanding the approaches to developing response measures for industrial park resilience in South Africa, and formed the basis for much of the primary research done for this project.

2.2. Special Economic Zones and Industrial Development Zones

SEZs and IDZs are a special type of industrial cluster that benefit from a range of state support, such as special legislative arrangements and separate administrative, regulatory and fiscal incentives that are often different from those provided by other industrial clusters or industrial parks in the rest of the country (Nyakabawo, 2014; Makgetla, 2021). IDZs are located in close proximity to ports of entry such as an international airport or seaport.

SEZs, which came into being after the IDZ programme, are not required to be in close proximity to ports of entry but still offer significant incentives. SEZs aim to expand existing and develop new industrial capacity in regions. Furthermore, the scope of SEZs goes beyond industrial activities and includes other economic activities. SEZs offer free ports, free trade zones, tax incentives, infrastructure support, integrated and simplified investment procedures, and sector or industrial development zones (Dube, Matsika, and Chiwunze, 2020).

SEZs are governed by legislation, and firms operating in a SEZ benefit from incentives that include a preferential 15% corporate tax, building allowance, employment incentives, customs control areas, and 12I tax incentives (intended for green and brownfield investments). SEZs or IDZs in South Africa are not necessarily dedicated to one industry or cluster. As such they incorporate different industries, sectors and levels of technology.

South Africa has five formalised IDZs: Saldanha Bay, Dube Trade Port Coega Development Corporation, East London IDZ, and the Richards Bay IDZ. South Africa has six SEZs: Atlantis SEZ, The Tshwane Automotive Special Economic Zone, Musina/Makhado SEZ, Maluti-A-Phofung SEZ, and OR Tambo SEZ, with more in the pipeline.

2.3. Eco-Industrial Parks Programme and Industrial Park Revitalisation Programme

Industry, government and the international industrial development community are all becoming increasingly aware of the undisputable need to operate in a more sustainable manner, and new tools and methodologies are being introduced with increased regularity and success. The concept of eco-industrial park developments has consequently emerged as a means for more sustainable development. It forms part of an approach to ensuring production has a more positive effect on the communities and the ecosystems surrounding industry. It has also seen the "greening" of industrial parks and economic zones as well as improved governance and park management competencies, and the introduction of resource efficiency measures.

Eco-Industrial Parks are guided by an international framework. EIPs are also referred to as low-carbon zones, sustainable industrial parks, and green industrial areas, and are typically industrial parks with a strong emphasis on sustainability, including social, economic and environmental sustainability. The EIP definition by Lowe (2001) is referenced by many organisations active in this area (including UNIDO): "A community of manufacturing and service businesses located together on common property. Member businesses seek enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues."

Sustainability is integrated into the planning, operations, management, and decommissioning of such industrial parks. Eco-industrial parks encompass both greenfield industrial parks (industrial parks specially designed for this purpose) and brownfield industrial parks (an industrial park transformed to incorporate sustainable issues). The EIP framework also includes interrelated concepts of resource-efficient and cleaner production, climates change, industrial resilience, and shared infrastructure (Van Beers et al., 2020). The target market for EIPs comprises governments considering transitioning to green industrial development, particularly industrial parks, with green and circular manufacturing activities as well as private sector entities involved in developing and operating green manufacturing activities.

The Eco-Industrial Parks form part of the dtic's approach to bolster those industrial parks that are part of the dtic's Industrial Park Revitalisation Programme. Thirty parks have been identified for revitalisation and about R870 million spent to support their revitalisation. Already 12 industrial parks have completed part of their revitalisation. Within these 12 parks, 65 000 people are employed and these efforts therefore have a significant impact on the surrounding communities. The IPRP has had a positive impact on retaining jobs, and on attracting new clients – companies are seeing the positive role government is playing in providing an enabling environment for companies to thrive.

There is strong alignment between the IPRP, the International Framework for Eco-Industrial Parks, and the need for industrial park resilience initiatives. Industrial park resilience therefore contributes to the broader socio-political and environmental context of the country.

2.4. International and regional push for reindustrialisation vs effects of covid on ambitions

Over the past two decades, demand has been growing across the world to develop or redevelop industries. The revitalised demand for strengthened industries has been negatively affected by the interruption of global supply chains as a consequence of the public health response to the coronavirus pandemic. The effects of restrictions on travel and trade among countries have accentuated the need to develop domestic industries, reduce dependency on global value chains, and strengthen their industrial resilience.

The coronavirus outbreak took place in the context of increasing attempts by world governments, including that of Australia, China, the United States and even South Africa, to strengthen their industrial base to achieve growth and development. As such, it has become necessary for governments to consider the role of industrial parks in stimulating the growth and development of the manufacturing sector as part of the response measures. This renewed focus requires building industrial resilience to achieve sustainable (re)industrialisation.

In the African context where, despite improved macroeconomic management and a series of commodity price booms, the rate of human capital accumulation is slow, its labour force is stuck in low-productivity activity, coupled with very high levels of poverty. The need for sustainable inclusive growth in the region has never been more crucial.

3. ECONOMIC TRENDS AND THE IMPACT OF COVID ON THE MANUFACTURING SECTOR

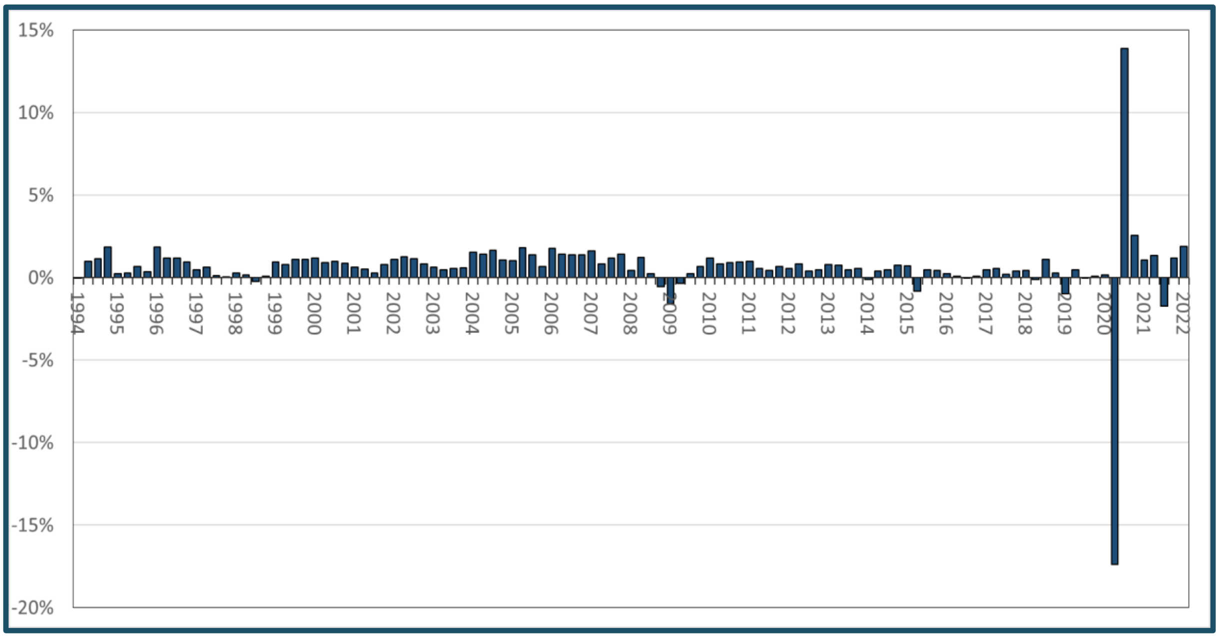
While limited data exits on the quantifiable impacts of COVIID-19 on industrial parks in South Africa, the EIPs showed some resilience during the pandemic with occupancy levels being maintained between 60% and 90%. Overall, however, the South African manufacturing sector did not fare well during the COVID-19 pandemic and a case could be made for well-designed industrial spaces as part of an overall economic resilience strategy.

Over the past three years, businesses in South Africa, particularly in the manufacturing sector, have faced harsh headwinds. In 2018 and 2019 South Africa saw several quarters of gross domestic production (GDP) contraction, followed almost immediately by a massive contraction as a result of COVID-19 response measures. The impact of these headwinds has been felt in the closure of businesses, loss of manufacturing jobs and higher unemployment levels. Currently the South African economy is returning to pre-COVID-19 economic levels, which bodes well for the business community. New shocks are, however, emerging that are having an impact on the economy. This section briefly outlines the headwinds faced by manufacturing firms in order to give context to what is being experienced by firms on the economic front. Resilience in the context of massive economic challenges or economic growth periods has an important bearing on the role of industrial parks.

This section outlines the changes in GDP, trade and exports, manufacturing sector jobs, investment rates and trends in the number of businesses in the country. It also looks at the implications of these trends for firms in industrial parks.

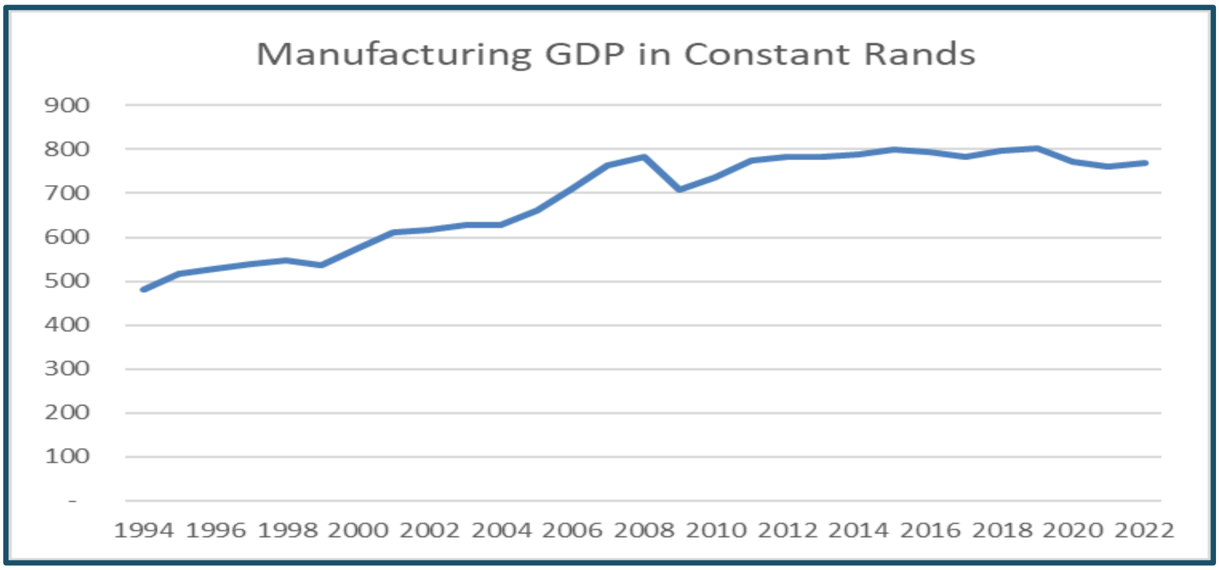
As shown in Figure 2, South Africa suffered a massive economic contraction during the "hard lockdown" of the COVID-19 pandemic. The economy was quick to rebound, largely put down to the rapid socioeconomic response measures itemised above. The contraction in 2021 was put down to the massive riots and looting surrounding the incarceration of former president Jacob Zuma. By Q1 2022 the economy had returned to its pre-COVID-19 levels. For the manufacturing sector, however, in constant rand terms, its quarterly GDP figures are still down on the pre-COVID period. As seen in Figure 2, the manufacturing sector contribution to GDP is at levels last seen in the early 2010s.

Figure 2: South Africa GDP growth



Source: Stats SA Quarterly GDP figures downloaded June 2022.

Figure 1: Manufacturing GDP in constant rands



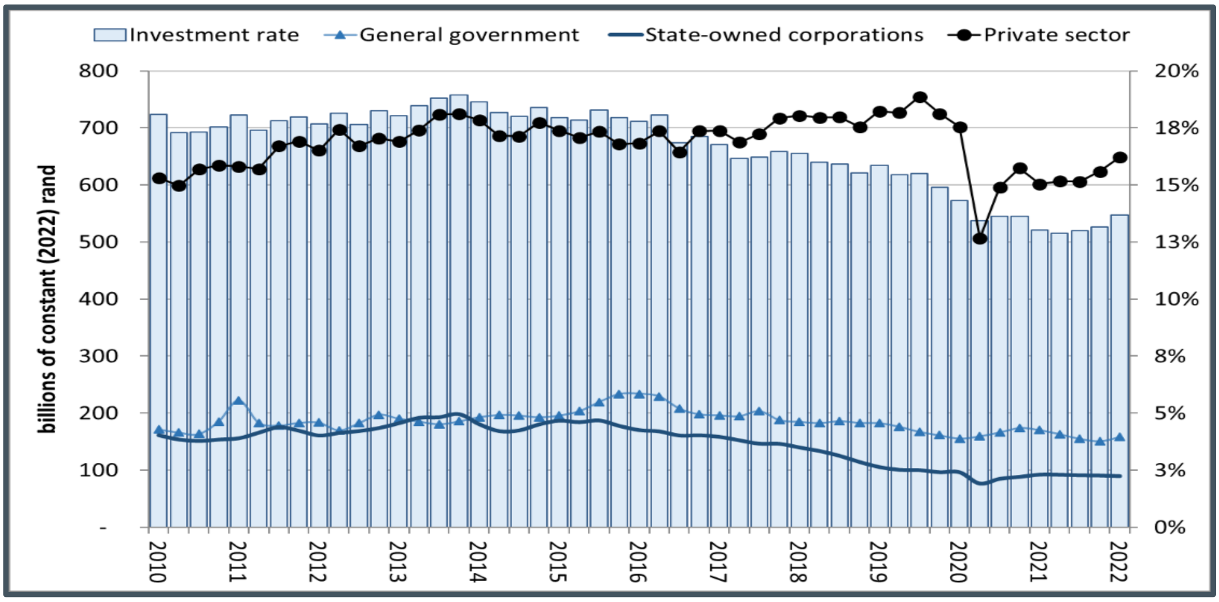
Source: StatsSA Quarterly GDP figures downloaded June 2022.

The broader slow economic growth and the weak performance of the manufacturing sector had played out in job numbers, which has seen manufacturing employment decline from 2.1 million people in 2008 before the global financial crisis to 1.58 million people at the tail end of the COVID-19 pandemic. There has, however, been some rebound with a 5% growth in employment in manufacturing between Q1 2021 and Q1 2022. (Stats SA, 2022)

Despite this weak performance, the export data shows an upward trend of manufacturing exports over the past decade (although a slight dip during the lockdown of COVID-19). This ongoing export growth of manufactured goods, alongside growth of minerals and agricultural exports, has seen South Africa experiencing several quarters of significant trade surpluses.

The low investment rates have been one of the most concerning trends, with significant implications for future economic prospects. Figure 4 highlights the low rates of investment, which is well below the target rates of 25% to 30% set by South Africa's National Development Plan as being the rate of investment required for strong economic performance.

Figure 4: Investment by type of investor and rate



Source: StatsSA Quarterly GDP figures downloaded June 2022.

Last, one of the worst impacts of COVID-19 was on business closures, which saw over 100 000 formal small businesses closing down from Q1 2020 (738 000) to Q1 2022 (638 000). In the informal sector there has been some return to the pre-COVID-19 levels, with over 200 000 informal businesses closing during the first year of the pandemic, and a return of over 180 000 informal businesses since then to a total of 1.74 million informal enterprises in Q1 2022. (Stats SA, 2022)

As can be seen from this data, there are significantly less formal small businesses in the economy than before the pandemic, less people employed in the manufacturing sector, and overall slower economic growth. The poor rates of investment do not bode well for businesses in South Africa, particularly smaller businesses that rely on the opportunities emanating from the rest of the economy. Increasingly, however, there are export opportunities.

In addition, the short run impacts of the pandemic on the economy included a sharp fall in household incomes due to higher joblessness, reducing demand both in South Africa and internationally. In South Africa, despite the GDP levels returning to pre-COVID levels by Q1 2022, the jobs had not returned. Unemployment remains at exceptionally high levels of 34.5% (Stats SA, 2022).

As noted, many small businesses that could not survive the shutdown and lower demand closed, while survivors faced deep liquidity constraints. The closure rates of businesses in industrial parks can be seen in the context of the broader economic developments and the impact of the pandemic on formal small businesses.

Although not evident in the data, during the COVID-19 period companies that were already in a weak position before the pandemic faced liquidation (e.g. iconic clothing department store Edgars) and others in tourism sectors were particularly hard hit, especially airlines. The construction sector remains particularly hard hit and this can be seen in the employment numbers, which are 50% lower in Q1 2022 than in Q1 2017 (Stats SA, 2022). Manufacturing has, however, started to rebound not only with the slight uptick in employment numbers noted above but also a rebound in sales volumes to above pre-COVID-19 levels, and improvements in business confidence. However, as noted in Figure 2, it is yet to return to pre COVID-19 levels in contribution to GDP.

The initial impact of COVID-19 saw a reduction of around 30% in municipal revenues for 2020/21, making it harder to maintain and extend infrastructure for industrial sites, logistics and households. National government saw significant constraints on its spending while seeing greater demands for social programmes and economic relief measures. This saw the budget deficit being increased over the pandemic period. The higher commodity prices (and resulting improvements in the fiscus), along with the quicker than expected rebound has seen the deficit being reduced, and increased funds available for the continuation of relief measures.

4. NATIONAL COVID-19 SUPPORT MEASURES TO SUPPORT ECONOMIC RECOVERY

COVID-19 and the lockdown measures in response to the pandemic pose the most serious economic challenge in decades. While the immediate impact was felt through a sudden stop in activities by companies affected by the lockdown restrictions, the subsequent disruptions to production processes and supply chains persisted and were exacerbated by period lockdowns in South Africa’s trading partners, the Russian invasion of Ukraine, and extreme climatic events.

In common with governments around the world, South Africa implemented a series of economic support measures to try to contain the economic impact of the pandemic. While a number of these initiatives were announced in President Cyril Ramaphosa’s speech on 21 April 2020 in the first few weeks of the pandemic, the package developed and grew, with changes made along the way.

Early in the pandemic, and based on experience of global shocks, it was recognised that the more robust the interventions the quicker would be the recovery. With limited resources South Africa put together a comprehensive package of economic relief that contributed to a much earlier return to pre-COVID-19 economic levels than previously expected.

Some of these measures were:

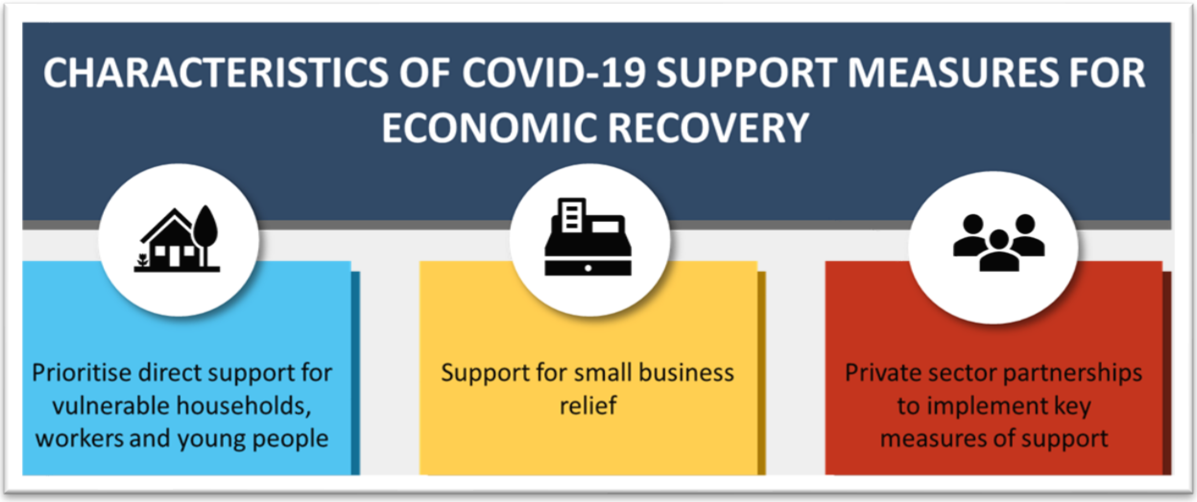
- The COVID-19 Social Relief of Distress grant. Initially R50 billion was allocated so that unemployed people who were not receiving any other social grants were able to get R350 a month for six months. The rapid roll-out of this measure was highly successful and staved off the worst of the pandemic for millions of unemployed people. The success of this programme has seen it extended well beyond the initial period.
- The Child Support grant was increase by R500 for six months, with other grants Increase by R250 for six months. This was also a measure to protect the most vulnerable.
- Business support packages came in a number of forms, including the Loan Guarantee Scheme for SMMEs (small, medium and micro enterprises) with R200 billion made available through the South African Reserve Bank to private sector banks to issue guaranteed loans. An easing of liquidly by the central bank saw private banks extending credit relief measures to their clients and allowing payments to be delayed.
- Through the South African Revenue Service, various tax subsidies were provided, more frequent reimbursements of VAT, an employment tax incentive, being able to delay a portion of employee and company tax liabilities without penalties, and tax payment holidays or delayed payment allowed on various statutory levies.
- One of the most significant measures was the Unemployment Insurance Fund (UIF) Temporary Employer-Employee Relief Scheme (TERS), which provided partial support to wage payments for firms that could not afford to pay their workers. This measure drew on the surpluses in the UIF, which saw up to R64 billion being paid out to workers over the two-year operation of TERS, which was extended multiple times.
- Another critical measure was a youth employment measure that ultimately led to about 500 000 young people being given work opportunities in various state institutions, particularly as assistants in schools.
- The state-owned development finance institution, the Industrial Development Corporation (IDC), provided several support measures, including finance for distressed firms, which saw R3 billion emergency loan finance being made available for firms unable to meet operational costs or debt repayments. IDC was also heavily involved in financial support for firms which were engaged in a programme to provide medical supplies and protective equipment as part of the COVID-19 response. This measure saw R500 million being made available as concessional loan finance to firms.
- Various sector initiatives, which included a R200 million Tourism Relief Fund for accommodation, restaurants, conference venues and tour operators; R800 million Agricultural Disaster Support for smallholder and communal farmers; and R400 million for a land acquisition programme.
- Over and above the guarantee scheme and payment relief, small businesses were offered support through the state-owned Small Enterprise Finance Agency (sefa), which provided R300 million for formal SMMEs able to supply essential goods or shortages resulting from the crisis, a further R100 million Spaza shop grant funding, and a job creation and protection scheme. The

Department of Small Business Development also provided R200 million for a Debt Relief Finance Scheme.

- Although not government led (but government endorsed and supported) numerous private firms and individuals contributed to a Solidarity Fund that provided humanitarian assistance. Individual households also contributed directly to those hardest hit by the pandemic through food handouts, among other things.

A number of characteristics can be drawn from the identified interventions. Figure 5 provides a summary of the distinguishing features.

Figure 2: Characteristics of COVID-19 economic support measures



- **First,** priority was given to direct support for vulnerable households, workers and young people. This was likely the best possible support available, for both the human and economic impact of the intervention. Securing the livelihoods of the most vulnerable is a moral necessity, but it similarly assured that underlying consumer demand remained steady, and able to support many of the most employment rich segments of the economy, such as retail.

- **Second,** priority was similarly given to small business relief. With the exception of the IDC facilities, no major sets of financial support were made available to larger firms. This appears to result from the identification of small businesses as particularly vulnerable to the impact of the crisis. However, it left a handful of larger firms vulnerable, particularly firms in industries that took longer to recover such as travel and tourism. Large firms participating in global value chains have seen various types of disruptions including availability of parts and shipment problems.

- **Third,** the use of private sector partnerships to implement key measures of support. While that introduced some complexity – notably in the case of credit guarantees, it enabled broader reach. The guarantee scheme was seen as a positive step that maximises the impact of government's limited resources. The scheme minimises bank exposure to issued loans by pooling profits from "good" loans issued under the scheme, and backing this with a state guarantee. It provides significant risk coverage to incentivise lending to strained firms that would have otherwise been cut off from funding. The uptake was, however, not as much as anticipated.

5. INTERNATIONAL CASE STUDIES ON COVID-19 RESPONSES AND INDUSTRIAL PARKS

5.1. Context

Globally, there are almost 5 383 special economic zones or industrial parks (SEZs/IPs) in 140 economies. SEZs/IPs can be catalysts and enablers for industrial development and economic growth but certainly they are not a panacea. In Vietnam they accounted for 55% or US$138 billion to the country's total exports in 2021, and employed four million people, while in India they accounted for 35% or US$112 billion in 2019 and employed over 2.5 million people, (Ministry of Commerce and Industry India, 2021 and Trade Map 2022).

Disruptions of any sort to SEZs/IPs, such as the COVID-19 pandemic, can have detrimental impacts on the production and supply of goods and services in the local and international economy. In 2021, relentless outbreaks of COVID-19 in the Vietnam Northern Province Bac Giang saw four industrial parks shut down for months, causing massive supply chain disruptions in the biggest production base in the world, and loss in revenue for global giant techs, Foxconn, Canon and Samsung. India's SEZs/IPs saw a US$10 billion decline in exports at the end of 2020 from the previous year (Ministry of Commerce and Industry India, 2021).

In light of this, governments and business across the globe have had to tackle the dual goals of economic recovery and fighting the pandemic. Some countries, such as Ethiopia, Vietnam and India, enacted targeted measures specifically for SEZs/IPs in addition to broader fiscal incentives for recovery. South Africa, in contrast, did not have targeted recovery measures for special zones/ industrial parks but identified them as growth drivers to reignite manufacturing-led industrialisation in an accelerated manner in the 2021 Economic Reconstruction and Recovery Plan (Government of South Africa 2021). As such, if the government identifies development drivers, it should take swift action and apply actively targeted policy or measures.

To assist in this process, this section tracks measures, strategies and actions used by the aforementioned countries as possible lessons and implications that the South African government can consider as it continues to roll out its recovery plans. This section highlights the direct economic contribution of SEZs/IPs to the economy and impact of COVID-19. It assesses SEZs/IPs specific responses by government and business, which have been collected and grouped into issues of transport and logistics, labour supply, subsidised electricity, rent waivers, liquidity constraints and access to markets, and looks at lessons or implications for South Africa.

It is essential to note that the impact of COVID 19 is still ongoing, and strategy or response to cope and tackle impacts in any economy is dynamic as economies adapt. Some strategies, policies, actions or mechanisms were time-specific, some are ongoing, but essentially all have ignited policy review for crisis and recovery.

5.2. Contribution of SEZs/IPs in the economy and impact of COVID-19

UNCTAD (2021a) defines the contribution of SEZs/IPs as direct or indirect. Direct contributions cover attraction of foreign direct investment (FDI), job creation and export growth for foreign earnings. Indirect contributions are supplier linkages beyond the zones, indirect and induced job creation, technology dissemination, skills and know-how transfers, and enhanced regional economic cooperation. Both lead to GDP growth.

This section will look at direct contributions as these are mostly reported on. The direct contribution of SEZs/IPs in India, Vietnam, Ethiopia, Argentina, South Africa and Kenya will be analysed alongside the impacts of COVID-19 in the respective countries.

India is host to 268 operational SEZs (with an additional 425 formal approvals) that house 5 604 units. Of the operational zones, 25 are multi-product while the remaining are sector specific. Employment contribution has grown tremendously over the years, from 135 000 personnel in 2006 to a staggering 2.5 million, (Ministry of Commerce and Industry India 2021). Publicly available information illustrates that one of the biggest impacts of COVID-19 was subsequent disruption in demand and supply. which saw exports drop from US$112 billion in the year 2019, to US$102 billion in 2020. Exports recorded at the end of 2021 were US$82 billion, (Ministry of Commerce and Industry India, 2021).

In Ethiopia, of the 22 industrial parks, 11 are operational – housing 189 firms, and accounting for 5% of total exports per annum but a much higher share of 43% of manufactured exports (Cepheus Capital, 2020). Employment contribution grew from 9 000 personnel in 2014 to 88 000 in 2020/2021 before dropping to 71 000 in 2021 (Ethiopian Chamber of Commerce and Sectoral Associations, 2021, World Bank, 2020). The World Bank and Government of Ethiopia conducted a survey in 2020 on the impact of COVID-19 that covered 11 parks and 107 firms. Results showed that 10% of firms temporarily closed with a large number being local. Three quarters (80) experienced a decline in sales of 42% and production volumes of 40% (Mengistu et al, 2020). Of the 3 163 women working in Hawassa (the largest SEZ, concentrating on textiles and garments), textile firms retained 56% on full employment, 24% went on paid leave, 7% unpaid leave, 11% left (temporarily or permanently returned to their rural origin communities) and 2% had contracts terminated (Mengistu et al, 2020).

Of the 369 SEZs/IPs set up countrywide in Vietnam, 280 are in operation, attracting 9 845 domestic and 11 00 foreign invested projects. In 2020, SEZs/IPs contributed 55% or US$138 billion to the country's export value and created four million jobs. (ASEAN Economic Community Strategy Center, 2022). One of the worst affected areas was the Northern Province of Bac Giang, which closed four industrial parks for a couple of months. These parks housed global tech giants Foxconn Canon and Samsung's largest production base. In the South province, 80% of Nike's footwear makers and half its apparel providers in Vietnam (200 firms) were forced to halt production in mid-July 2021, (Reuters, 2021). Massive revenue was lost due to delayed production and cancelled orders in both provinces.

Argentina is home to 405 industrial parks. Eighty percent are public, and nearly half were created in the past 13 years. Eight thousand industries operate in these parks, accounting for 15% of industrial employment. Small and medium-sized enterprises (SMEs) account for 80% of these companies, while large companies, mostly multinationals, account for 20% (NKF, 2020). SMEs in general account for 99% of Argentine companies and generate 70% of formal employment according to Newmark Knight Frank (NKF, 2020). The impact of COVID-19 has been significant in Argentina. The pandemic hit Argentina at a complex juncture as it had been in recession in the prior two years and had a change of government. In 2020, the country's GDP lost 9.9 percentage points, the largest contraction since 2002. Although the economy begun to recover, in mid-2021 its GDP was 3.3% below pre-pandemic levels, exacerbated by the second wave of the virus in that year (World Bank, 2021).

South Africa is home to 11 SEZs and several industrial parks. In 2020 industrial parks provided around 65 000 jobs while SEZs contributed to 15 747 jobs, (the dtic, 2020; 2021). Beyond information on value of private investments and employment, there is very little data on the overall value of exports and contribution to GDP of these parks. The largest zone, Coega, generated R508.7 million (US$32.8 million) (Coega, 2020). The recent value of private investments in SEZs/IPs has been listed as rising from R17.7 billion in 2019 to R18.8 billion in 2020 (the dtic, 2021). Impact of COVID-19 directly on SEZs/IPs is not documented. However, the pandemic, as noted, had a devastating impact on overall employment levels, which was 14.6 million (all sectors) prior to COVID-19 (in 2019) and dropped to 14.2 million in the third quarter of 2021. In response to the pandemic, an economic recovery plan was announced in 2020 which identified SEZs/IPs to reignite manufacturing-led industrialisation in an accelerated manner. However, there were no specific economic support measures for SEZs/IPs.

5.3. Assessment of response measure by government and business from SEZ/IP international cases for lesson learning in South Africa

An aggregation of measures from the aforementioned countries are captured in the following categories:

- Addressing labour supply through testing, track and trace, vaccination, on-site accommodation, job portals.
- Reducing costs and facilitating transport and logistics.
- Reducing costs in utilities (electricity) and rent for challenged firms.
- Addressing firm liquidity constraints.
- Providing access to local market in downturns.

5.3.1. Labour supply

The last two years have shown the detrimental impact of health (disease and illness) on economic activity. Shortage of labour supply due to sick leave, lockdowns and fear of returning to work had bearing costs for SEZs/IPs. Government and business have had to fight to figure out how to retain labour for continued physical production and services that could be provided virtually. All countries across the globe enacted health policies for regular testing, track and tracing and mandatory vaccination to ensure personnel could return to work.

However, other countries have gone an extra mile. Vietnam multinational firms in SEZs/IPs such as Samsung started a production-residence-combined model in the country to deal with the ongoing outbreaks in the SEZs/IPs. With this model, employees stay onsite with meals, shelter and healthcare provided. The construction of concentrated accommodation and catering for workers in a closed chain in industrial parks and factories will be a long-term solution for Vietnam. This model has been working for Vietnam (production has been efficient) although reactions are mixed. Some newspapers have reported workers appreciating free meals or subsidised meals and cutting transport costs to work, while others have reported workers complaining of being confined to small spaces, monotony and the effect on family cohesion. For services that could be provided online, most countries globally approved the working from home model with extra provision for data and WiFi, and training for technology use.

Vietnam has many textile firms in SEZs/IPs and employees are mostly females. In response, Vietnam increased childcare support especially for woman working in industrial parks (Hương 2021; Chau, 2021).

In 2021, most SEZs/IPs in Vietnam have built or extended health facilities onsite, for example the Hi-tech park set up a 200-bed medical facility to quarantine and treat people who are asymptomatic or have mild symptoms, (Vietnam News, 2021).

In Ethiopia (besides general testing and vaccination roll-outs), a public-private partnership led to the creation of a digitisation of the labour supply and matching database for factories in industrial parks. During COVID-19 and beyond, the industrial park labour database system significantly supported investors and government in mapping out labour demand and supply (Mastercard Foundation, 2020).

For South Africa, national formal employment had already stagnated even before the pandemic downturn, hence job retention (and generation) has been crucial. To curb the virus, national and provincial governments set up testing centres and various vaccination sites with some SEZs/IPs such as Coega Development Corporation building a wellness centre, which now serves the health needs of the zone and community, (Coega, 2021).

Summary of the lesson for South Africa

Strengthening the transport links between the SEZs/IPs and residential areas

Drawing from Vietnam, could a production-residence-combined model work? Theoretically onsite housing could address the supply of labour to SEZs/IPs during a pandemic (if done right so as not to create an apartheid style hostel system, and finances permit) and reduce transport costs for workers. If decent low-cost family units could be provided it could also help resolve the stark spatial divides that have persisted post-apartheid, which sees a physical separation of people from productive activity. Although Coega (2019/2020) is in pursuit of partnerships for social housing projects to develop around 600 units, this has not yet been realised. In recognising woman (Coega employs 30% females), providing childcare support in grants or care centres would be an added benefit to ensure a supply of labour.

5.3.2. Transport and logistics

Access to affordable transport is imperative for movement of goods and generally forms part of bulk costs to a firm. UNCTAD (2021b) highlights that the current surge in container freight rates, if sustained, could increase global import price levels by 11% and consumer price levels by 1.5% between 2021 and 2023, negatively impacting trade and undermining socioeconomic recovery. As government began to ease lockdowns, most firms had already taken financial knocks from loss of production and sales.

To support the exports of goods, the Ethiopian Ministry of Transport introduced free transport of goods on the Ethio-Djibouti railway from the Modjo dry port to Djibouti port (the main seaport servicing landlocked Ethiopia). There was a 50% cost reduction on inland transfer from industrial parks to Modjo rail connections, and demurrage costs at the dry port were waived. Manufacturing export freights passing through Mojo port to Djibouti had the entrance gate payment waived and all other charges had a 50% discount from their initial prices. In addition, the country's national airline and one of Africa's biggest air cargo operators provided industrial park-based businesses with discounted cargo service (Ethiopian Investment Commission, 2021).

Though specific to COVID-19-related equipment, Adani Ports and Special Economic Zone, India's largest private sector operator of seaports, waived charges for ships including any storage or handling, (Economic Times India, 2021).

Each mix of actions allowed some form of recovery for firms and igniting policy review on regulations and back-up plans in crisis.

Although some SEZs/IPs in South Africa enacted back-up plans, s uch as Dube Trade Port which used its own fleet to assist firms whose transport contractors could not provide services due to the pandemic, increases in freight costs exacerbate the ability to recover. Already there have been reports from associations such as the South African Citrus Growers' Association, which noted that, since 2020, freight rates had increased by 40% and the cost of getting fruit to the market was outstripping returns (Meinjis, 2021). Transnet National Ports Authority, which manages all eight commercial ports in South Africa, is looking to increase tariffs by up to 20% in the 2022/2023 financial year, though the South African Association of Freight Forwarders have proposed that an increase should be kept within the bounds of 3%-6%, (Transnet, 2020; Venter, 2021).

Summary of the lesson for South Africa

Diversify transport and logistic arrangements including port infrastructure with both government and private participation

For South Africa to achieve its industrial policy objectives, it needs to support its export industry through more effective and competitive port operations, as outlined in Operation Vulindlela[1], as well as moving freight from road to rail to increase the competitiveness of the economy. As the National Ports Regulator is assessing Transnet's tariff hike application, recovery needs to involve participation of government and private sector logistics suppliers as well.

5.3.3. Reducing costs for challenged firms (rent and electricity)

5.3.3.1. Property rents

All SEZs/IPs, whether government or privately owned, charge rents from firms that use land and space. Usually firms located in SEZs/IPs receive special rates for rentals to encourage long-term occupancy and attract business. However, in a crisis or shock, rents can be a burden on running costs. Most countries applied a rent waiver, freeze or reduction. In India, the government allowed rent deferments and no increases and encouraged the private sector to put a moratorium in place as well – although these mainly applied in 2020 and 2021, with some grace spilling into 2022.

In South Africa, the East London Industrial Development Zone (ELIDZ) board approved the implementation of a rental abatement (worth R5.3 million) which brought some relief to industries located in the zone (ELIDZ, 2021). Could government issue a waiver for rentals? Already, all SEZs /IPs in South Africa heavily rely on transfers from national and provincial governments for operating costs as rentals have not been able to cover these costs. An analysis of the true financial health of firms in SEZs/IPs would need to be conducted before any waivers or subsidies are provided, and such a waiver would need to come from government resources rather than that of the SEZ/IP.

Summary of the lesson for South Africa

Sustainability of rental waivers and subsidies requires analysis of the true financial health of firms in SEZs/IPs

[1] Operation Vulindlela was announced by President Ramaphosa as a Presidential programme to achieve structural reforms and support economic recovery in South Africa.

5.3.3.2. Electricity

Stability of energy supply is critical to growing the developmental goals of SEZS/IPs and attracting FDI. In term of utilities, only Vietnam of the aforementioned case studies had a support measure. In Vietnam, for both SEZs/IPs and general firms, the government applied a 10% reduction in electricity in 2020. India already had an exemption in electricity duty and tax on sale of electricity in certain states, (Dezan Shira & Associates, 2021).

Summary of the lesson for South Africa

SEZ/IPs including park tenants should consider alternative measures to improve energy security. Unlocking incentives linked to renewable energy use by government is also necessary.

Should South Africa offer similar measures for recovery? With the ever looming uncertainty of power supply and constant loadshedding exacerbated by electricity hikes, the only way for recovery is immediate action in support of stabilising the supply of energy – noting that electricity disruptions for many firms are more costly that the price hike. Swift action is necessary by government. A question, however, remains as to whether the SEZs/IPs should be seeking to establish their own electricity provision. A 100MW allowance for own generation was recently provided for, and the technology exists for small-scale provision of renewable energy. In addition, firms could undertake their own renewable installation and apply for the relevant tax incentive, which also applied to firms in SEZs/Ips, awarded on the basis of improved energy efficiency to improve firm competitiveness.

5.3.4. Fiscal incentives

To ease financial constraints and liquidity challenges faced by firms, governments from across the globe enacted economy-wide fiscal and industrial supportive measures economy wide, covering a wide range of firms in SEZs/IPs and SMMEs. The case studies in this report used, to various degrees, tax relief, debt relief, expediting VAT returns to support companies with cash flow, interest free or reduced loans, equity fusion, employment relief measures, and exemption from import tax for covid-related goods. In addition, there were targeted measures in certain sectors.

Summary of the lesson for South Africa

Diversify the mix of fiscal incentives and have a differentiated approach in terms of application

For example, India in 2020 introduced the Production Linked Incentive scheme worth up to US$30 billion for 10 key sectors in a bid to boost India's manufacturing capabilities and enhance exports. This included white goods manufacturing, specialised steel, pharmaceuticals, automobiles, telecoms, food products, textiles, solar photovoltaic and cell batteries, (Invest India, 2020). As noted, South Africa offered fiscal incentives to firms that encompassed a loan guarantee scheme for SMMEs, the SMME tax relief, tax payment holidays, the IDC Distressed Firms intervention, and the IDC Manufacturing Competitiveness Enhancement Programme intervention. In addition, the dtic already has incentives for SEZs/IPS such a preferential 15% corporate tax, building allowance, and the Employment Tax Incentive Act No. 26 of 2013.

5.3.5. Access to market

Disruptions in the supply chain and cancelations of orders created a need for local markets to absorb goods during shocks on the one hand, while creating shortages in other markets on the other hand. In some countries there is protection for local markets against unfair competition from the firms in the industrial parks, which receive substantial incentives and are aimed at growing exports. For example, in Bangladesh the industrial parks programme has restrictive policies in place, limiting local market sales to only 10% of production. For textiles and garment companies, which make up the bulk of export industrial parks enterprises, no local sales are allowed (Azmach, 2019). Mainly between 2020 and 2021, Ethiopia temporarily allowed sales to the domestic market. India as a consequence of the pandemic is assessing a new Act for SEZs to be able to sell goods in the domestic market at low duties and allow easier exit for loss-making units.

South African SEZs are not prohibited from selling to the domestic market, so part of the recovery should ensure to a greater extent that raw materials or intermediate goods are purchased locally – and also expose firms in zones to opportunities through export opportunities. Over the medium to longer term, greater trade with the rest of Africa should provide growth opportunities as the trade stimulating effects of the African Continental Free Trade Area (AfCFTA) agreement gather momentum.

Summary of the lesson for South Africa

Support and prioritise localization while balancing scope for exports and attraction of foreign direct investment

6. RESULTS FROM PARK TENANTS SURVEY ON IMPACT OF COVID ON THE ECONOMIC AND BUSINESS PROCESS OF INDUSTRIAL PARKS

6.1. Methodology

Industrial Park tenants were interviewed in February 2022 using a modified questionnaire to that used for park management. Four of the six respondents are automobile component suppliers, therefore their experience of the shocks of the COVID–19 pandemic was multiplied by the disruption to the global auto industry because of the shortage of semiconductors that overshadowed the pandemic disruption. Two automotive suppliers declined to be interviewed, noting that their sustainability during the pandemic was independent of the industrial park. “Unfortunately the single biggest issue is the drop in sales and this chaos was caused globally, nothing the IDZ or anyone locally could have done better. We are surviving this relatively well, however, that is our own doing.”– Plant Manager East London RG Brose Automotive Components

6.2. Overview of findings

Dynamic Commodities bucked the business contraction trend because its products are sold to the at-home eating market which did well through the pandemic as people were confined to their homes and treated themselves to little luxuries. All other companies experienced a significant downturn.

Referring to park management, tenants appreciated the work done to provide information, obtain permits to operate, apply COVID–19 health protocols effectively, secure the premises and parks (there was a noticeable increase in theft during the lockdown period), bring clinics to workplaces to make vaccination easy, and to efficiently maintain Park premises.

All companies applied COVID-19 protocols involving temperature checks, facemasks, sanitisers. Faurecia in Nelson Mandela Bay Logistics Park (NMBLP) was quite creative in applying a people traffic flow to its factory using wall and floor markings to direct people to move in certain ways around their plant to reduce contact and the risk of infection. Dynamic Commodities, which employs more than a thousand people, was regarded as a potential risk because of the high number of workers concentrated in the plant. Standard factory hygiene protocols involved swabs to test pathogens, work areas were separated by ozone curtains, and the factory has positive air so that air is always being displaced. These hygiene measures were very effective as no pathogens or bacteria were found.

6.2.1. Disrupted logistics

Disruption to supply chains resulting in more complex and more costly logistics management and affected all companies, summarised in Table 1. The lockdown led to a breakdown in predictable port services which, accompanied by severe disruption of global shipping lines, led to scarcity and drove the cost of freight higher. Even more disruptive was the termination of reefer services to support the services of the Ngqura terminal, which required companies to have the reefer containers road hauled from Cape Town to Durban for export.

The supply chain disruptions have severely affected planning, requiring companies to make adjustments to their production schedules on a weekly and sometimes daily basis. Companies also had to increase their inventory levels, finance more working capital and adjust to longer lead times, enforced changes that one person quipped “from just in time to just in case”.

Table 1: Summary of COVID-19 impact on logistics

PARK TENANT	IMPACT ON LOGISTICS
Beijing International Automotive Corp SA (Coega Special Economic Zone or CSEZ)	Staff air travel cost from China have quadrupled. Shipping costs are high especially for containers.
Dynamic Commodities (CSEZ)	Reefer ships stopped docking at the port in Gqeberha so reefer containers had to be road hauled to Cape Town and Durban.
Faurecia (NMBLP)	Significant increase in the cost of sea and air freight as well as longer lead times.
QPlas (NMBLP)	Experienced higher freight costs and disruptions, which necessitated switching to more costly air freight to transport required inputs and parts needed for operations.
Rehau Polimers (NMBLP)	Increased inventory to avoid premium freight charges.
Voestalpine Automotive Components (ELIDZ)	Supply chains have been disrupted most significantly by the semiconductor shortage.

6.2.2. Reduction of resources footprint

Cost reduction became more important to match the reduction in business caused by the pandemic, however, most companies had been monitoring the utility usage and looking for ways to mitigate rising power and water costs for some time. Gqeberha has been experiencing a severe water shortage for several years, caused by failure to invest in water resources, exacerbated by a regional drought. Measures taken by companies to reduce their water and energy footprint are shown in Table 4.

International companies in Tier 1 automobile assemblers are driving changes for their suppliers to reduce the Scope 3 carbon emissions. Both Faurecia and Voestalpine are the most carbon-intensive subsidiaries in their respective company groups because of their use of Eskom electricity. The Faurecia parent company plans to be carbon neutral by 2030 and will soon impose carbon reduction targets on South African subsidiaries. Faurecia and QPlas run large injection moulding machines with power needs that cannot be satisfied by embedded generation on their factory roofs. They are part of a pool of companies that supply Volkswagen, which might in the future obtain electricity from an Independent Power Producer (IPP) Volkswagen is considering.

Table 2: Summary of measures to reduce power and water consumption

PARK TENANT	RESOURCE FOOTPRINT
Beijing International Automotive Corp SA (CSEZ)	Factory is not in production yet.
Dynamic Commodities (CSEZ)	Uses large amounts of water. Carbon footprint is not a consumer issue yet.
Faurecia (NMBLP)	Rooftop solar not viable due to power needs. Recycles process water in closed-loop and uses flow reducers on taps.
QPlas (NMBLP)	Rooftop solar not viable for power needs, would only cover lighting needs. Installed all power factor correction equipment possible. Installed rainwater harvesting for 180kL
Rehau Polimers (NMBLP)	Made plans for rooftop solar before COVID-19. Reduced water consumption from 40kL to 1.7kL per month by switching to waterless cleaning. Could be part of Volkswagen's IPP plans.
Voestalpine Automotive Components (ELIDZ)	Wishes to have embedded generation but unable to obtain wheeling rights or a viable feed in tariff from Buffalo City Metro.

6.2.3. Enhancing resilience

Strategies to enhance resilience are shown in Table 4. Three key messages come out of the stakeholder engagement with industrial park tenants. First, the disruption of supply chains has forced a rethink for companies that are tied into the global automobile industry, which was shown to be extremely brittle and ill-prepared to cope with shocks arising from the COVID-19 pandemic. Localisation of supply chains was identified as a desirable route to go but not without difficulties, in particular sourcing competitively priced raw material inputs. Second, a key message is that cash flow is critical, and businesses need to be able to weather a complete interruption of sales when a high level of debt could push the company into insolvency. Third, paying attention to the needs of staff is crucial so that morale and loyalty can be called on when business conditions become tough.

Table 3: Summary of measures to enhance resilience

PARK TENANT	RESILIENCE MEASURES
Beijing International Automotive Corp SA (CSEZ)	No plans yet. Factory production plan to start at the end of 2022.
Dynamic Commodities (CSEZ)	Cash flow plus worker satisfaction makes a business resilient. The company can withstand any shocks if it has enough cash flow. If a company doesn't have workers satisfaction it will not be resilient.
Faurecia (NMBLP)	Supply of electricity is the key factor. Attempting to localise the supply chain to replace parts currently imported.
QPlas (NMBLP)	Paid staff throughout the lockdown which put company in good stead later on. Working to localise parts of supply chain to reduce vulnerability to supply chain disruptions.
Rehau Polimers (NMBLP)	Resilient leadership with experience of Black Swan events[2] and high cash balances. Emphasise and take measures to keep work healthy.
Voestalpine Automotive Components (ELIDZ)	Embedded generation,

[2] A Black Swan is an unpredictable event that is beyond what is normally expected of a situation and has potentially severe consequences. Black Swan events are characterised by their extreme rarity, severe impact, and the widespread insistence they were obvious in hindsight.

7. CONCLUSION

The economic recovery of firms in industrial parks form part of the overarching economic recovery processes affecting the South African economy. Of crucial importance are the special COVID-19 support measures that firms were able to benefit from, as well as measures that respond to security of electricity supply, currency volatility, and the declining performance of government institutions leading to breakdown in the quality and reliability of roads and utility services that are the responsibility of municipalities. Specific recommendations, however, can be identified for firms in industrial spaces beyond the broader economic recovery processes as these measures enable a more targeted response to firms in industrial spaces.

The companion volume to this report (Report *1 Responses of Industrial Parks to COVID-19 and Future Pandemics)* makes a number of recommendations that will strengthen not only the resilience of industrial spaces but also their economic viability. These recommendations include:

(a) Proposals to review South African legislation governing special economic zones achieving better alignment with national, provincial and local government.

(b) Improving resource efficiency through process changes to reduce water consumption – installing rainwater harvesting systems and rooftop solar systems is a mutually reinforcing strategy for firms and industrial parks.

(c) Making logistics more robust and identifying opportunities to localise supply chains.

(d) Highlighting the advantages that SEZs and industrial parks that apply sustainability practices provide to their tenants, which improves their attractiveness to businesses looking for locations close to their customers.

(e) The need for financial reserves to cope with interruptions and strengthen resilience.

(f) Managing staff relationships during times of crisis contributed to staff being more flexible about adjusting to disrupted work patterns and firms being able to recover faster.

The strength of these recommendations have been reinforced in this paper, which shows through the international case studies, responses that included transport and logistics, managing labour supply, providing subsidised and stable access to electricity, rent waivers, addressing liquidity constraints and fiscal support measures, and support measures to assist with access to markets. These were all issues that impacted on South African industrial spaces, and required active responses.

Going forward it has become clear that industrial spaces allow for more targeted economic responses to global, national or even localised disasters. What became clear in South Africa was that reliance on the national COVID-19 economic responses measures, while significant, meant that individual industrial parks had to implement their own specific responses. A co-ordinated approach in South Africa to supporting industrial spaces would have contributed to a more successful response and contributed to bolstering the overall manufacturing sector in the country. As noted by Andreoni (2021) (see Report 1) there is a benefit to the overall economic resilience of a country through a stronger manufacturing sector. A targeted approach to bolstering capacity in industrial parks can therefore be justified.

Report 3 (*Industrial Park Standard Operating Procedures for Disaster Risks Reduction and Response)* makes the case for a standard operating procedure that proactively contributes to industrial park response measures. The need identified in this paper is, however, for a co-ordinated national response strategy to disaster management in the early stages of a disaster to support the individual efforts of industrial parks, and as part of a national response to ensure that businesses are able to recover economically and retain competitiveness.

REFERENCES

Andreoni, A. 2021. Robustness to shocks, readiness to change and new pathways for resilient industrialization. UNU-WIDER Working paper 9/2021. United Nations Industrial Development Organization (UNIDO).

ASEAN Economic Community Strategy Center. 2022. Vietnam: Interest in eco-industrial zones gather capital pace. Available at: http://aec.utcc.ac.th/TH/vietnam-interest-in-eco-industrial-zones-gather-capital-pace/ (Accessed March 2022).

Azmach. W. 2019. Regulating Industrial Parks Development in Ethiopia: A Critical Analysis. In *Beijing Law Review Vol.10 No.01 (2019), Article ID: 90021, 38 pages10.4236/blr.2019.101003.* Available at: https://file.scirp.org/Html/3-3300717_90021.htm (Accessed April 2022).

Cepheus Capital. 2020. Ethiopia's Industrial Parks: A Data Pack on recent performance. Cepheus Capital Research Analytics. Available at: https://cepheuscapital.com/wp-content/uploads/2020/09/Industrial-Parks-Overview-2019-20.pdf (Accessed November 2021).

Chau, M. 2021. Thousands of Vietnamese Flee Industrial Areas After Virus Restrictions Ease. Bloomberg News. Available at: https://www.bloomberg.com/news/articles/2021-10-07/vietnam-warns-of-mass-worker-exodus-from-industrial-areas (Accessed April 2022).

Coega. 2020. Integrated Annual Report 2019/20. Coega Development Corporation. Available at: https://provincialgovernment.co.za/entity_annual/601/2020-eastern-cape-coega-development-corporation-(cdc)-annual-report.pdf (Accessed December 2021).

Coega. 2021. Women duo at the forefront of Conga's Covid-19 Strategy & Vaccination Drive. Coega Development Corporation. Media Release. 11 August 2021. Available at: https://www.coega.co.za/NewsArticle.aspx?objID=106&id=16787 (Accessed March 2022).

dtic (the). 2007. National Industrial Policy Framework (NIPF). Pretoria: Department of Trade, Industry and Competition.

dtic (the). 2020. Industrial Parks are Pillars of the Economy - Deputy. Pretoria: Department of Trade, Industry and Competition. Available at: http://www.thedtic.gov.za/industrial-parks-are-pillars-of-the-economy-deputy-minister-gina/ (Accessed October 2021).

dtic (the). 2021. Portfolio Committee On Trade And Industry Special Economic Zones Programme. Pretoria: Department of Trade, Industry and Competition. Available at: http://www.thedtic.gov.za/wp-content/uploads/SEZ_Implementation.pdf (Accessed December 2021).

dtic (the). 2022. Portfolio Committee on Trade and Industry: Status Update on the Implementation of Special Economic Zones & Industrial Parks. Draft 3 May 2022. Department of Trade, Industry and Competition.

Dezan Shira & Associates., 2022. India's Special Economic Zones: A Primer. India Briefing. Available at: https://www.india-briefing.com/news/guide-indias-special-economic-zones-9162.html/ (Accessed March 2022).

Dube, C., Matsika, W. and Chiwunze, G. 2020. Special economic zones in Southern Africa: Is success influenced by design attributes? UNU-WIDER Working Paper No. 2020/61. United Nations Industrial Development Organization (UNIDO).

Economic Times India. 2021. Adani Ports waives charges for ships carrying COVID equipment, gives priority berthing. Available at: https://economictimes.indiatimes.com/industry/transportation/shipping-/-transport/adani-ports-waives-charges-for-ships-carrying-covid-equipment-gives-priority-berthing/articleshow/82272762.cms (Accessed March 2022).

Ethiopian Chamber of Commerce and Sectoral Associations. 2021. Industrial Parks Development Corporation – Achievements So Far. January 2021. Addis Ababa. Available at: https://www.gtextopia.or.kr/lib/board_download.php?idx=5297&file_idx=4720 (Accessed January 2022).

ELIDZ. 2021. Annual Report 2020/2021. East London Industrial Development Zone. Available at: https://www.elidz.co.za/wp-content/uploads/2021/08/ELIDZ-Annual-Report-20-21_final.pdf (Accessed January 2022).

Ethiopian Investment Commission. 2021. Covid 19- Latest Government Measures & Support. Available at: https://www.investethiopia.gov.et/index.php/covid-19/latest-government-measures-support.html (Accessed January 2021).

Government of South Africa., 2021. The South African Economic Reconstruction And Recovery Plan. Available at: https://www.gov.za/documents/south-african-economic-reconstruction-and-recovery-plan-15-oct-2020-0000 (Accessed January 2022).

Hương, M. 2021. Việt Nam to protect production at industrial parks. Viet Nam News. 17 June 2021. Available at: https://vietnamnews.vn/economy/976092/viet-nam-to-protect-production-at-industril-parks.html (Accessed March 2022).

Invest India. 2020. Production Linked Incentive (PLI) Schemes in India. March 2020. Available at: https://www.investindia.gov.in/production-linked-incentives-schemes-india (Accessed April 2022).

Lowe, E. 2001. Eco-industrial Park Handbook for Asian Developing Countries Report to Asian Development Bank. Available at: https://www.researchgate.net/publication/334204752_Eco-industrial_Park_Handbook_for_Asian_Developing_Countries_Report_to_Asian_Development_Bank

Makgetla, N. 2021. Learning from experience: Special Economic Zones in Southern Africa. UNU-WIDER Working Paper No. 2021/124. United Nations Industrial Development Organization (UNIDO).

Mastercard Foundation. 2020. Factories Across Seven Industrial Parks in Ethiopia to be Revolutionized Through the Digitization of Labour Supply and Demand Matching. Available at: https://mastercardfdn.org/factories-across-seven-industrial-parks-in-ethiopia-to-be-revolutionized-through-the-digitization-of-labour-supply-and-demand-matching/ (Accessed January 2022).

Meinjis. F. 2021. Freight cost increases loom in South Africa. Eurofruit. Available at: https://www.fruitnet.com/eurofruit/freight-cost-increases-loom-in-south-africa/186628.article (Accessed March 2022).

Mengistu, A., Krishnan, P., Maaskant, K. and Meyer, C. 2020. University of Firms in Ethiopia's Industrial Parks: COVID-19 Impacts, Challenges, and Government Response. World Bank and UK AID Available at: https://openknowledge.worldbank.org/handle/10986/34573 (Accessed September 2021).

Ministry of Commerce and Industry India., 2021. Fact Sheet on Special Economic Zones: Available at: http://sezindia.nic.in/upload/62cfd78dd0a6cNew%20FACT%20SHEET%20ON%20SEZs%20as%20on%2030.06.2022%20.pdf (Accessed November 2021)

Nyakabawo, W. 2014. The geographic designation of special economic zones. TIPS Working Paper. Pretoria: Trade & Industrial Policy Strategies.

NKF. 2020. Buenos Aires Industrial Market. The COVID-19 Crisis. Newman Knight Frank. Available at: https://www.nmrk.com/storage-nmrk/uploads/fields/pdf-market-reports/1Q20-Buenos-Aires-Industrial-Market-Report-NKF.pdf (Accessed November 2021).

Reuters. 2021. Vietnam says its Nike manufacturers back to full operations. Available at: https://www.reuters.com/business/cop/vietnam-says-its-nike-manufacturers-back-full-operations-2021-11-03/ (Accessed April 2022).

Stats SA. 2022. Quarterly Labour Force Trends 2008-2022Q1. Statistics South Africa.

Trade Map. 2022. India Total Exports. Data Download April 2022. www.trademap.org

Transnet., 2020. Transnet National Ports Authority Tariff Application for Financial Year 2021/2. Available at: https://www.transnetnationalportsauthority.net/Port%20Tariffs/Documents/Tariff%20Application%20FY2021%2022-Final.pdf (Accessed April 2022).

UNCTAD. 2021a. Handbook On Special Economic Zones In Africa Towards Economic Diversification across the Continent. United Nations Conference On Trade and Development Available at: https://unctad.org/system/files/official-document/diaeia2021d3_en.pdf (Accessed March 2022).

UNCTAD. 2021b. High freight rates cast a shadow over economic recovery. United Nations Conference On Trade and Development. Available at: https://unctad.org/press-material/high-freight-rates-cast-shadow-over-economic-recovery (Accessed December 2021).

Van Beers, D., Tyrkko, K., Flammini, A., Barahona, C. and Susan, C. 2020. Results and Lessons Learned from Assessing 50 Industrial Parks in Eight Countries against the International Framework for Eco-Industrial Parks. In *Sustainability, 12(24), p.10611*.

Venter. L. 2021. Industry apprehensive as it awaits port tariff decision. Available at: https://www.freightnews.co.za/article/industry-apprehensive-it-awaits-port-tariff-decision. (Accessed December 2021).

Vietnam News. 2021 Workers' health, pandemic prevention at hi-tech park is top priority: HCM City official. November 2021. Available at: https://vietnamnews.vn/society/1078234/workers-health-pandemic-prevention-at-hi-tech-park-is-top-priority-hcm-city-official.html (Accessed January 2022).

World Bank. 2020. World Development Report 2020. Washington, DC: World Bank. Available at: https://www.worldbank.org/en/publication/wdr2020 (Accessed November 2021).

World Bank. 2021., The World Bank in Argentina. Overview. Available at: https://www.worldbank.org/en/country/argentina/overview (Accessed January 2022).

Trade & Industrial Policies Strategies (TIPS) is an independent, non-profit, economic research institution established in 1996 to support economic policy development. TIPS undertakes quantitative and qualitative research, project management, dialogue facilitation, capacity building and knowledge sharing. Its areas of focus are: industrial policy, trade and regional integration, sustainable growth, and a just transition to a sustainable inclusive economy.

info@tips.org.za I +27 12 433 9340 I www.tips.org.za