



The Partner Regions Baden- Württemberg and KwaZulu-Natal

Growth Industries, Conditions, Partners



Afrika-Verein
der deutschen Wirtschaft

In cooperation with



Deutsche Industrie- und Handelskammer für das südliche Afrika
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List of Abbreviations

AAAM	African Association of Automotive Manufacturers
AfCFTA	African Continental Free Trade Area
AHK	German Chambers of Commerce Abroad (Auslandshandelskammer)
AIS	Automotive Investment Scheme
APDP	Automotive Production and Development Programme
B-BBEE	Broad-Based Black Economic Empowerment
BMWi	German Federal Ministry for Economic Affairs and Energy (Bundesministerium für Wirtschaft und Energie)
BMZ	German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung)
BNC	Bi-National Commission
BOT	build–operate–transfer
BOO	build–own–operate
BOOT	build–operate–own–transfer
CIPC	Companies and Intellectual Property Commission
CwA	Compact with Africa
DBSA	Development Bank of Southern Africa
DEG	German Investment Corporation (Deutsche Investitions- und Entwicklungsgesellschaft)
DEFF	Department of Environment, Forestry and Fisheries
DIHK	Association of German Chambers of Industry and Commerce (Deutscher Industrie- und Handelskammertag e.V.)
DTIC	Department of Trade, Industry and Competition
EDTEA	KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs
EE	energy efficiency
EPA	economic partnership agreement
EPC	engineering, procurement and construction
EPR	extended producer responsibility
ESCO	energy service company
EUR	euro

FIG	foreign investment grant
G20	Group of the twenty leading industrialised and newly industrialised countries
GDP	gross domestic product
ICT	information and communications technology
IDC	Industrial Development Corporation
IRP	Integrated Resource Plan
ITAC	International Trade Administration Commission of South Africa
KZN	KwaZulu-Natal
MCEP	Manufacturing Competitiveness Enhancement Programme
MIP	Manufacturing Investment Programme
MoU	Memorandum of Understanding
NAACAM	National Association of Automotive Component and Allied Manufacturers
NAAMSA	National Association of Automobile Manufacturers of South Africa
NEDLAC	National Economic Development and Labour Council
NHI	National Health Insurance
NRW	non-revenue water
OEM	original equipment manufacturer
PPP	public-private partnership
PRO	Producer Responsible Organisations
RE	renewable energies
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
RMIPPPP	Risk Mitigation Independent Power Producer Procurement Programme
SAAM	South African Automotive Masterplan
SACU	Southern African Customs Union
SADC	Southern African Development Community
SDG	Sustainable Development Goal
SMEs	small and medium-sized enterprises
TIKZN	Trade and Investment KwaZulu-Natal
ZAR	South African rand

Introduction

Baden-Württemberg and the South African province of KwaZulu-Natal have been joined by a longstanding partnership since 1996. Most recently, Baden-Württemberg's Minister of Economic Affairs, Labour and Housing, Dr Nicole Hoffmeister-Kraut, visited the region in November 2019. A new partnership agreement is currently being drawn up, which promises to provide tailwinds for economic exchange between the two regions. This market study, commissioned by the Ministry of Economic Affairs, Labour and Housing Baden-Württemberg (Ministerium für Wirtschaft, Arbeit und Wohnungsbau Baden-Württemberg) is intended to help companies from Baden-Württemberg identify business opportunities in KwaZulu-Natal. As particularly relevant sectors for both regions, the study takes a close look at the manufacturing industry (automotive, chemicals, and plastics), the healthcare industry, renewable energies, water management, waste management, and the circular economy.

In the pandemic, new sales markets and the diversification of supply and value chains are taking priority for many companies. This makes it the right time to take a closer look at the most important markets of the future in Africa, and to take a structured approach to working out where growth opportunities lie, especially for small and medium-sized enterprises (SMEs) from Baden-Württemberg. This study is intended to support the existing activities of the Ministry of Economic Affairs, Labour and Housing in promoting the economy of Baden-Württemberg on the African continent. In 2019, for example, business representative offices were established in South Africa and Ethiopia to support companies from Baden-Württemberg in entering the markets of southern and eastern Africa, as well as to address specific issues and challenges. In parallel, events like the biennial Africa Business Summit draw attention to opportunities in African markets, and business missions accompanied by politicians serve to support establishing contacts and starting businesses. This market study also ties in with the 2018 study *Chancen in Subsahara Afrika nutzen*¹ by Prof. Dr Philipp von Carlowitz, which was also commissioned by the Ministry of Economic Affairs, Labour and Housing.

This study was finalised on 4 January 2021. The statistical data are valid as at 31 December 2020.

¹ Available for download at https://wm.baden-wuerttemberg.de/fileadmin/redaktion/m-wm/intern/Dateien_Downloads/Veranstaltungen/PM_219__Anlage_STUDIE_Chancen_in_SSA_PUB.pdf (German language version only).

1. South Africa and KwaZulu-Natal – an Economic Hub in Africa

Even though South Africa has been overtaken by oil-producing Nigeria as Africa's largest economy, the country on the Cape with its 59.3 million inhabitants remains the undisputed leader when it comes to a diversified and developed economy. The mining of commodities like gold, diamonds, platinum, and coal plays an important role. Mining, its automotive industry, and agricultural products firmly anchor South Africa in global value creation. Along with its important financial sector, South Africa's advantages include its diversified economy, independent food supply, as well as its relatively good communications, energy, and transportation infrastructure, and its stable financial and legal conditions. These make South Africa the first choice on the African continent for many international companies, as well as a location from which further sales markets in sub-Saharan Africa can be successfully reached.

South Africa is also a political heavyweight. It is the only African country in the G20, and plays a key role in the Compact with Africa (CwA) initiative, launched in 2017 under the German G20 Presidency. The CwA is led by the Africa Advisory Group, chaired by Germany and South Africa. Its aim is to promote sustainable investment in African countries in areas such as infrastructure. This is to be achieved through the private sector, with political support from the G20, and by improving the framework conditions in the CwA countries of Egypt, Ethiopia, Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Morocco, Rwanda, Senegal, Togo, and Tunisia (see BMF, 2020).

South Africa is a middle-income emerging market. Around ten million South Africans belong to the middle class (Businessstech, 2019). However, the country also has one of the most unequal income distributions in the world, with an income gap that has been widening since the mid-1990s. This is largely due to the legacy of apartheid, inadequate schooling despite high government spending on education, and because the nature of the country's economic growth does not generate enough jobs for the poor (World Bank, 2019). The recession that the country was already facing before the coronavirus pandemic, as well as the effects of the lockdown, resulted in the unemployment rate rising to 37 percent in 2020 (GTAI, 2020). There are particularly large divergences in the rates of youth unemployment, with up to half of black youth under 20 looking for work, but only nine percent of white youth (LIPortal, 2020). This exacerbates socioeconomic challenges like fighting crime – South Africa has one of the highest murder rates in the world. The country also continues to be severely affected by HIV/AIDS, with approximately 7.5 million cases in 2019, representing 20 percent of all cases worldwide (UNAIDS, 2020). The government is trying to address growing inequality and improve the economic participation of previously disadvantaged populations groups with programmes like Broad-Based Black Economic Empowerment (B-BBEE) (see Chapter 3.2.6).

On the positive side, the Gupta family's state capture (thanks to their close ties and business activities with former President Jacob Zuma) and the prosecution of corrupt senior members of the African National Congress have finally begun to be addressed. Since 2018, President Cyril Ramaphosa has advocated rigorous action against corruption. During the Zuma era, the equivalent of 70 billion euros of taxpayer money was embezzled. This has been a trying time for the ruling party, and there have once again been serious incidents of corruption related to the national COVID-19 stimulus package. Ramaphosa has inherited additional problems, including the insolvent state-owned airline South African Airways and the state-owned power utility Eskom, which is in need of restructuring. Although the utility generates more than 90 percent of South Africa's electricity, it is heavily indebted and has not invested enough in infrastructure, resulting in recurrent power outages (Winning, 2020; Najjar, 2020a). While these

challenges affect the entire country, there are significant differences among the country's nine provinces (see Figure 1).

Baden-Württemberg's partner province of KwaZulu-Natal is South Africa's second-largest economic region after Gauteng province (which contains the capital Pretoria and the metropolis of Johannesburg), and accounts for 16 percent of South Africa's GDP. Its economic centre is Durban, while the capital of the province is Pietermaritzburg. The province has a highly diversified economy and very good logistics and transport infrastructure, which allows it to serve as an effective gateway for economic activity throughout Africa. Chapter 2 addresses these aspects of KwaZulu-Natal in more detail.

Figure 1 South Africa's Provinces



Source: Nations Online (2020)

1.1. South Africa as a Gateway Country to Africa: an Economic Overview

South Africa is Germany's most important economic partner in Africa. Currently, around 600 German companies with a combined investment volume of more than 5.3 billion euros are represented in the country, and directly employ almost 100,000 people. Of these companies, around 100 are from Baden-Württemberg, and a third of these are active in KwaZulu-Natal with branches or partners.² Among these, automotive suppliers, mechanical engineers, automation engineers, and electrical engineering and electronics companies are particularly well represented. This makes Germany the most important investor in the province's manufacturing sector, ahead of China. German companies support their businesses with activities in the fields of education and training, as well as healthcare (Auswärtiges Amt, 2019).

South Africa is currently in an economic crisis, with growth falling in recent years – from 1.4 percent in 2017 to a low 0.2 percent in 2019, and a projected negative eight percent in 2020 (GTAI, 2020). There has been talk of declining industrialisation due to slumping consumption and a wave of bankruptcies. Nevertheless, South Africa's GDP was USD 368 billion in 2018, behind Nigeria's GDP of USD 398 billion, but well ahead of Egypt's GDP of USD 251 billion (World Bank, 2020). There is hope that the low point of the COVID-19-induced recession has been passed, and growth is expected to reach three percent in 2021.

South Africa has traditionally had a negative balance of trade, which was negative three percent of GDP in 2019 (World Bank, 2020). In 2020, the trade surplus doubled in the first quarter of 2020, and increased again in the third quarter, mainly due to high export performance and low oil imports. As a result, the country could post a positive current account balance in 2020 – for the first time in 40 years (Wasserman, 2020).

Although the mainstays of South Africa's GDP are mining and industry, the service sector contributes the most to GDP (61 percent), a rate comparable to that in Germany. Mining and industry account for nearly 26 percent of GDP (World Bank, 2020), and nearly 80 percent of the world's platinum supply comes from South Africa. The country also has the world's largest gold deposits, as well as other mineral resources such as coal and diamonds. As a result, mining is an important source of foreign exchange and, along with tourism, is the most important job engine (also for low-skilled workers). The general decline in commodity prices during the COVID-19 crisis has had little impact on mineral ores, so the country has retained its revenues here for the time being (Najjar, 2020b).

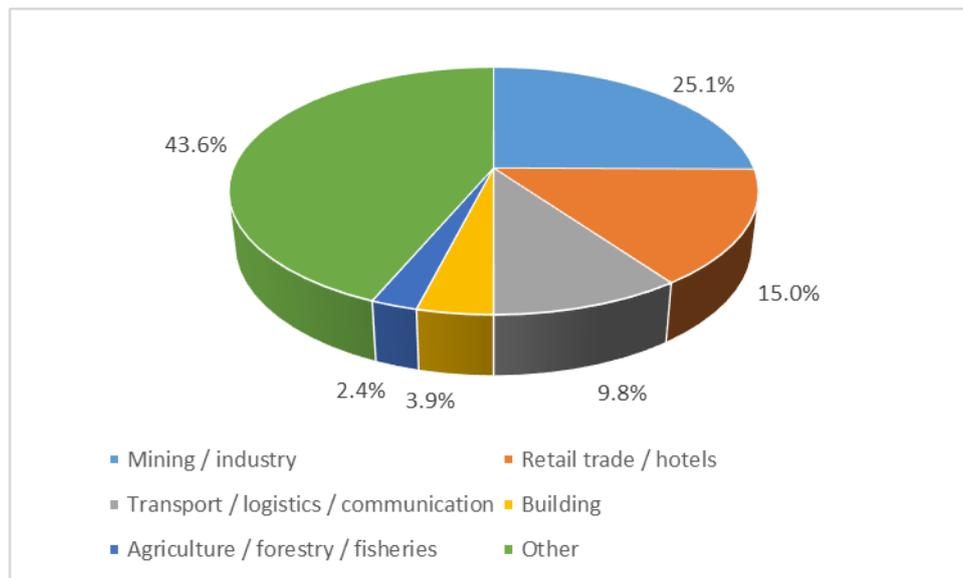
In the industrial sector, the automotive industry plays a central role, accounting for a total of about seven percent of GDP and 30 percent of the country's industrial production. The German automakers BMW, Daimler, and Volkswagen have production sites in South Africa, primarily for manufacturing cars for export; nearly 20 international vehicle manufacturers employ around 30,000 people throughout South Africa. The supplier industry is also very strongly represented. Around 80,000 employees work for 130 system suppliers (75 percent of which are multinationals) and over 200 downstream suppliers – commonly local companies operating across sectors (Moothilal, 2020).

Compared with the many other African countries where subsistence agriculture dominates, the agriculture, fisheries, and forestry industries contribute a very small share to GDP in South

² Two companies from Baden-Württemberg established in both South Africa and KwaZulu-Natal, Robert Bosch (Pty) Ltd and SICK AG, share their insights and experience in interviews in Chapter 2.

Africa – only 1.9 percent (this figure is 0.8 percent in Germany). The country produces enough for its own needs, so it is not dependent on imports. The tourism industry is also an important pillar of the economy, with ten million visitors to the country every year (LIPortal, 2020). Figure 2 presents an overview of the relative importance of the various sectors and industries in the country.

Figure 2 Sectoral Share of Nominal GDP (2018)



Source: German-African Business Association, based on GTAI (2020)

1.2. Impact of the COVID-19 Pandemic

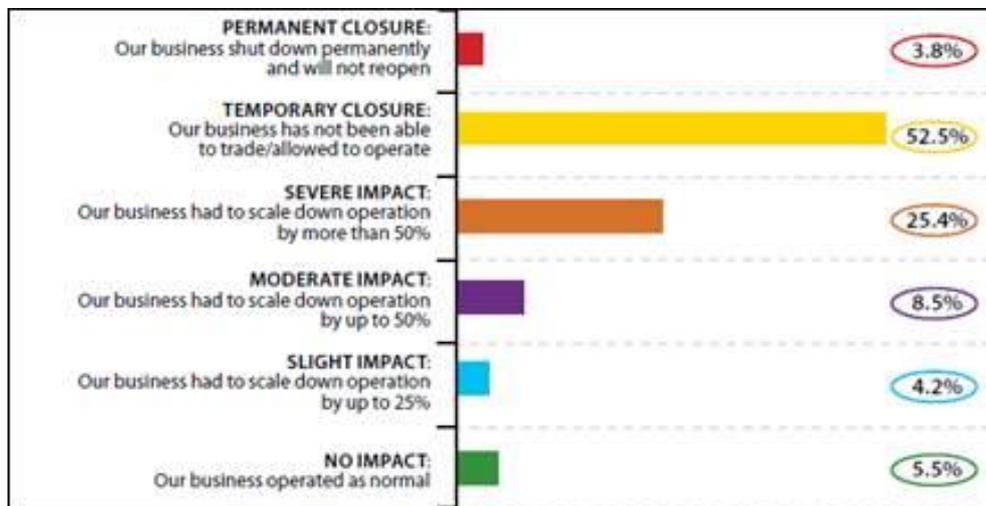
South Africa has more recorded infections of COVID-19 than any other country in Africa, accounting for over half of all cases on the entire continent (WHO, 2021). At the end of 2020, KwaZulu-Natal had recorded nearly 200,000 infections, about 19 percent of the country's cases, and nearly 4,400 deaths. The peak of the first wave in the country was reached in July 2020, with almost 20,000 daily infections, and the number increased again in December 2020, with 18,000 daily infections at the turn of the year (SAcoronavirus, 2021).

The lockdown in South Africa between March and August 2020 was one of the strictest in the world, encompassing business closures and a ban on alcohol and tobacco. This further exacerbated the country's economic problems. In addition to the demand shock from falling consumer spending, the country was hit by a supply shock as early as April 2020, when prices for materials and services rose more than usual (Department of Statistics South Africa, 2020). The lockdown hit informal workers particularly hard. The public healthcare system was overburdened even before the COVID-19 pandemic, and, although South Africa has a world-class private system, only 17 percent of the population are privately insured and so have access to it (Cocks, 2020).

KwaZulu-Natal has also been hard hit by the crisis. A survey of local businesses from mid-May to mid-June 2020 indicates that 82 percent of respondents had experienced strong negative

impacts, and were operating at less than 50 percent of normal levels, or had to close their businesses temporarily or permanently (see Figure 3).

Figure 3 Impact of COVID-19 on Businesses in KZN (June 2020 Survey)



Source: Business Sense: Economic and Business Impact Assessments 2020, p. 11

In addition, 70 percent of companies have noticed lower consumer spending and reduced demand for their products and services, which has caused payment difficulties for wages, loans, and fixed costs (KZN Business Chambers Council, 2020). In response, to prevent large-scale job losses and get the economy moving, the responsible department, EDTEA, announced the KZN Localisation Framework to strengthen local production (Daniel J. , 2020).

The South African government is also working to revitalise the economy, and has launched a number of programmes and initiatives to boost the local economy, finance infrastructure projects, and encourage more public-private partnerships (PPPs). For example, following the Sustainable Infrastructure Development Symposium held in late June 2020, it signed a Memorandum of Understanding (MoU) to establish an infrastructure fund worth 100 billion rand (about 5.3 billion euros³), which is to be managed by the Development Bank of South Africa. In addition, the current legal framework for PPPs will be adjusted to facilitate their future implementation. Support for companies is one of the government's central concerns, and infrastructure investment is expected to become a lever for rescuing the economy. To this end, in July 2020, 62 previously announced projects were approved for implementation – for housing, water projects, transportation, and agriculture (Najjar, 2020b). In addition, in October 2020, the South African government launched the Economic Reconstruction and Recovery Plan, which also includes a mass public employment programme.

Ad hoc support is also coming from German companies. For example, with the support of the German federal government, Volkswagen has converted a vacant production hall in Gqeberha (known as Port Elizabeth up to 2020) into a hospital with 3,300 beds, BMW is co-financing 750 additional hospital beds and providing a fleet of cars for the Red Cross, and Siemens is producing respiratory equipment for local needs.

³ Conversion from rand to euro made using the average annual exchange rate of the German central bank (Deutsche Bundesbank) (2020).

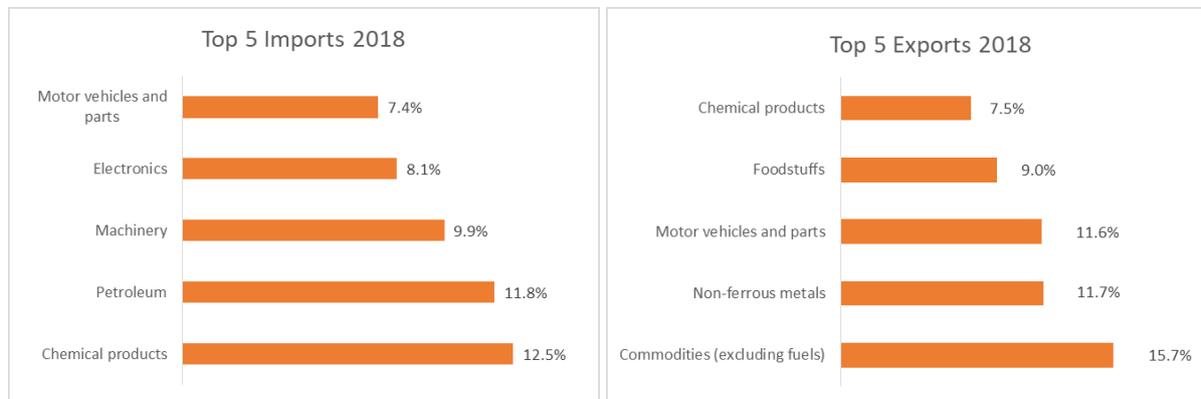
In October 2020, South Africa opened its borders to international travellers, which was a relief for the beleaguered tourism industry (DW, 2020). However, many countries, including Germany, are on the list of high-risk countries, meaning that people from these countries are not allowed to enter South Africa for the purpose of tourism (Department of Home Affairs South Africa, 2020). The South African government publishes information on developments and entry requirements in the country at <https://www.gov.za/covid-19/models/current-alert-provincemetro>.

1.3. South Africa's Economic Relations

South Africa is considered a champion of multilateralism, not only politically, but also economically. South African companies are among the most important investors on the African continent. Between 2014 and 2018, South Africa invested more than USD ten billion in 199 projects in African countries, creating over 20,000 jobs, and making it number one in terms of intra-African investment. South Africa was second only to Egypt as an investment recipient in 2018 (Madden, 2019).

South Africa's main imports are chemical products, petroleum, and machinery. Its most important exports are commodities, metals, and motor vehicles (see Figure 4). The country's largest trading partner is China, followed by Germany. Of Germany's total exports to sub-Saharan Africa, over two-thirds go to South Africa (GTAI, 2020).

Figure 4 Foreign Trade Structure of South Africa (2018)



Source: German-African Business Association, based on GTAI (2020)

South Africa is also Baden-Württemberg's most important trading partner in Africa. In 2018, the German state exported goods worth 1.3 billion euros to South Africa, primarily motor vehicles (51 percent) and machinery (18 percent). This puts South Africa in 28th place among Baden-Württemberg's most important export countries. Baden-Württemberg imported 1.5 billion euros worth of goods from South Africa in 2018, making South Africa the state's 23rd most important import country. Here too, motor vehicles and motor vehicle parts also account for the lion's share (58 percent), followed by machinery (21 percent) (Ministerium für Wirtschaft, Arbeit und Wohnungsbau Baden-Württemberg, 2019).

Excursus: The Big Picture – 2030 Agenda

The 2030 Agenda for Sustainable Development, adopted by all member states of the United Nations in 2015, is a universal framework for global policy in this decade. At its core are 17 Sustainable Development Goals (SDGs; see Figure 5), which lay out a roadmap for economic, environmental, and social development. The implementation of these goals involves governments, the private sector, civil society, and academia in equal measure.

Figure 5 The 17 Sustainable Development Goals (SDGs)



Source: United Nations (2020)

Sustainable Development Goal Eight stands for sustainable economic growth, employment, and decent work for all. South Africa has long advocated internationally binding rules for human rights due diligence along global supply and production chains.⁴ In Germany, too, various measures have been launched to help business enforce sustainability, including the CSR Directive on non-financial reporting obligations for business and the draft supply chain law, which was in the consultation process following the business survey as part of National Action Plan for Business and Human Rights at the end of 2020. The European Commission is also planning to enter into a legislative process for a supply chain law from 2021.

With *global verantwortlich BW – Lieferketten nachhaltig gestalten* (globally responsible BW – designing sustainable supply chains), Baden-Württemberg has launched a programme aimed primarily at local small and medium-sized enterprises that want to implement sustainable value and supply chain management in the global competitive environment. The programme focuses on practice-oriented events and a free online guide, available at www.global-verantwortlich-bw.de (German language only).

⁴ As early as 2014, South Africa, together with Ecuador and several other countries, introduced a resolution at the UN Human Rights Council for the elaboration of an international legally binding instrument on transnational corporations and other business enterprises with respect to human rights (see <https://digitallibrary.un.org/record/776246>).

1.3.1. Relationship with Other African Countries

The African Union is currently implementing the African Continental Free Trade Area (AfCFTA), a flagship project covering 1.3 billion people and a combined GDP of USD 3.4 trillion, which officially came into force in May 2019. The participation of 54 countries⁵ in the free trade area is considered a major achievement in and of itself. The goal is to establish a single market, form a customs union, eliminate non-tariff barriers, and thereby drive the industrialisation of the continent. As such, the AfCFTA has the potential to increase intra-African trade by 81 percent by 2035 and lift 30 million people out of extreme poverty (World Bank, 2020). According to the United Nations Economic Commission for Africa, intra-African trade amounts to only 15 to 18 percent of all trade on the continent, in contrast to intra-European trade, which accounts for 70 percent of all trade within Europe.

The COVID-19 pandemic has shone the spotlight on the low level of intra-African trade, which is due not only to the need for infrastructure development, but also to a lack of common regulations and standardisation issues. For individuals with experience working in Africa, these are all reasons “why the current regional trade pacts in Africa are largely not working” (Thill, 2020). The coronavirus crisis may provide an opportunity to move this process forward, even if it caused the official implementation date of the AfCFTA to be pushed back from 1 July 2020 to 2 January 2021 (George, 2020). Nevertheless, the AfCFTA office in Ghana, headed by its South African Secretary General, Wamkele Mene, was able to open as planned in mid-August (Africa Times, 2020). Moreover, the negotiations alone are raising high hopes among both African and European companies.

South Africa is expected to particularly benefit from the AfCFTA because, together with Egypt, it accounts for almost half the value of industrial production in Africa and can build on good infrastructure. Currently, manufactured products, industrial machinery, and transport equipment account for over 50 percent of African imports (Global Africa Network, 2020). With the elimination of tariffs on machinery and other industrial equipment produced in South Africa, domestic products will become more attractive on the African continent. The AfCFTA is intended to complement existing regional economic communities, such as the Southern African Development Community (SADC).

In addition to South Africa, the SADC includes 15 heterogeneous countries,⁶ some of which are members of other regional organisations. With the exception of Angola and the Democratic Republic of the Congo, all members of the SADC participate in the SADC Free Trade Area, which was established in 2008. Since then, 85 percent of intraregional trade has been duty free (SADC, 2012), although further integration currently appears difficult. At the same time, Botswana, Eswatini, Lesotho, Namibia, and South Africa are members of the Southern African Customs Union (SACU), which has been in existence since 1910. The countries do not levy tariffs among themselves and have common external tariffs on third countries (SACU, 2020).

Furthermore, an Economic Partnership Agreement (EPA) between the EU and the SADC EPA Group of Botswana, Eswatini, Lesotho, Mozambique, Namibia, and South Africa has been in place since 2016. This provides the partner countries with duty-free and quota-free access to

⁵ With the exception of Eritrea, all African countries have signed the agreement, and 36 countries have ratified it (as at early 2021). An up-to-date overview of the status of AfCFTA ratification is available at <https://www.tralac.org/resources/infographic/13795-status-of-afcfta-ratification.html>.

⁶ Angola, Botswana, Comoros, the Democratic Republic of the Congo, Eswatini (officially known as Swaziland up to 2018), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Tanzania, Zambia, and Zimbabwe.

the EU market, while allowing the EU better access to the SADC market (European Commission, 2020).

1.3.2. Relationship with China

China and South Africa maintain very good diplomatic and economic relationships. Three platforms form the basis for political cooperation: the Forum on China-Africa Cooperation, cooperation within the framework of the five BRICS countries (Brazil, Russia, India, China, and South Africa), and the Belt and Road Initiative (Songtian, 2018).

China is South Africa's most important trading partner. Twelve percent (USD 9.6 billion) of South Africa's exports go to China, followed by Germany, which receives USD 7 billion worth of exports. South Africa also sources 19 percent (USD 16.3 billion) of its imports from China, followed again by Germany, which provides 10 percent of all of South Africa's imports (Trading Economics, 2020).

By mid-2017, China had cumulatively invested over USD 25 billion in South Africa. According to the Chinese ambassador in Pretoria, more than 180 large Chinese companies and thousands of Chinese SMEs were active in the country in 2018. These are mainly involved in infrastructure projects, manufacturing, and the energy sector. In 2018, for example, Chinese state banks extended loans to two South African state-owned companies, Eskom (power supply) and Transnet (rail, port, and pipeline operations) (Daniel L. , 2018). The most significant Chinese investment to date was the Industrial and Commercial Bank of China's purchase of a 20 percent stake in Standard Bank for USD 5.5 billion in 2007.

Cultural exchange is also gaining popularity. Both intercultural and Mandarin training are in vogue in South Africa. In 2017, a people-to-people exchange mechanism was agreed between the two countries, promoting mutual understanding, cultural exchange, and projects in areas such as health, tourism, education, and the sciences. More Chinese tourists are also visiting South Africa since visa requirements for travel between the two countries were relaxed in 2018 (Erasmus, 2019).

Despite the advantages of close cooperation with China, South Africans are increasingly critical of the growing dependency. Some industries are suffering from Chinese competition, and South African companies are being squeezed out of the market because Chinese firms are often able to offer goods at lower prices thanks to government subsidies and greater economies of scale. The textile and metal industries are facing particular hardship. In addition, there are concerns that the establishment and development of the country's own local industry for machinery and electronics will be neglected due to low-cost competition (Monyamane & Adney, 2020). However, Chinese presence is less significant in South Africa than in its neighbouring countries because the Chinese business model is hampered by the B-BBEE programme to promote economic equality (see Chapter 3.2.6).

1.4. Partnership between Baden-Württemberg and KwaZulu-Natal

The state of Baden-Württemberg and KwaZulu-Natal are bound by a long-standing friendship, which was formalised as early as 1996 in a joint political declaration – shortly after the end of apartheid in 1994. In addition to economic cooperation, which has recently become central again, there is cooperation in higher education, in the exchange of scholarship holders, and in vocation training. Over the years, partnerships have developed between the University of KwaZulu-Natal and the universities of Konstanz, Stuttgart, and Tübingen. In addition, Baden-Württemberg finances annual scholarships for up to ten South African students and young academics. There is also cooperation between Baden-Württemberg and KwaZulu-Natal within the framework of the Under2 Coalition climate protection alliance.

Delegations regularly visit, including in the fields of education, agriculture, and climate protection (World University Service, 2020). South African business missions visited Germany and Baden-Württemberg in 2013, for example, with numerous companies from KwaZulu-Natal from the energy, tourism, and infrastructure industries, in cooperation with Trade and Investment KwaZulu-Natal and the German-African Business Association (Afrika-Verein der deutschen Wirtschaft). A comprehensive overview of the history of the cooperation between the two regions can be found in the paper *Afrika im Blick* by the Arnold Bergstraesser Institute (Adelmann, 2019).⁷

The goal of the Ministry of Economic Affairs, Labour and Housing Baden-Württemberg is to intensify regional cooperation. The delegation in November 2019 of Minister Dr Nicole Hoffmeister-Kraut to Johannesburg and Durban on the topics of environmental technology, the automotive industry, mechanical engineering, and automation sent a clear signal and brought important industries into focus. On the occasion, Minister Hoffmeister-Kraut signed a Memorandum of Understanding (MoU) to renew the partnership agreement with the then Acting Premier, Nomusa Dube-Ncube. The MoU identified vocational training, Industry 4.0, environmental and climate protection technologies, the automotive industry, and logistics as the key topics for the future partnership.

As a first point of contact for companies from Baden-Württemberg in South Africa, a business representative office for the state was established in June 2019, based at the Southern African-German Chamber of Commerce and Industry. Together with a Business Scout for Development for KwaZulu-Natal, the Baden-Württemberg business representative office in Johannesburg supports small and medium-sized enterprises in particular in their efforts to enter the markets of southern Africa, as well as in addressing specific issues and obstacles. To initiate further business partnerships, the Ministry of Economic Affairs, Labour and Housing also organised the second Africa Business Summit in the autumn of 2020. Minister Hoffmeister-Kraut and the Premier of KwaZulu-Natal, Sihle Zikalala, opened the virtual seminar series.

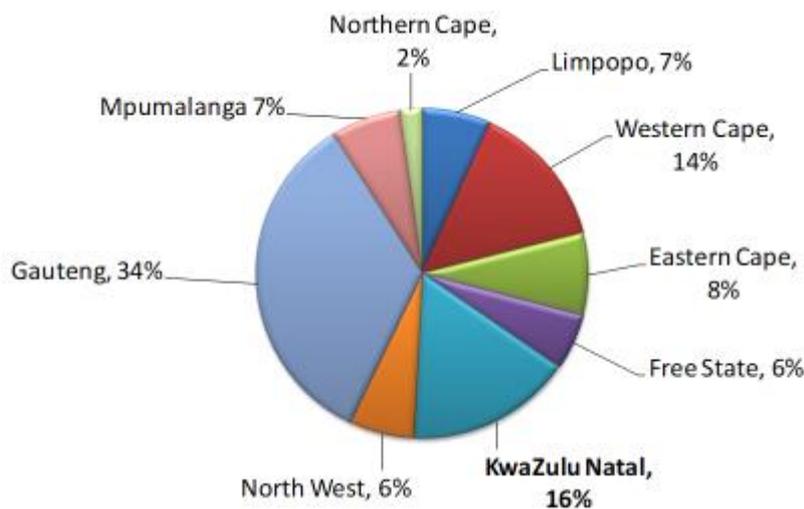
⁷ Available at https://www.arnold-bergstraesser.de/sites/default/files/2019-06-03_afrikakonzzept_-_ueberarbeitete_fassung.pdf (German language only).

2. KwaZulu-Natal: Business Opportunities in Selected Priority Industries

2.1. Overview: Country, Economy, and People

In economic terms, KwaZulu-Natal is South Africa's second-most important province after Gauteng: with 11.5 million people, it accounts for 35 percent of South Africa's population and generates 16 percent of the country's GDP – followed by the Western Cape, which contributes just under 14 percent (see Figure 6 below). This is roughly equivalent to Baden-Württemberg's economic position in Germany, which accounted for 15 percent of GDP in 2018 (Statistisches Landesamt Baden-Württemberg, 2019).

Figure 6 Contribution of South African Provinces to GDP



Source: TIKZN (2020)

The three South African provinces have grown by an average of three percent since 2008, and are less dependent on commodity prices than other regions of the country. The following table presents an overview of data on KwaZulu-Natal. A direct comparison with Baden-Württemberg is also informative: the province of KwaZulu-Natal is around 2.5 times larger than the German state, which has an area of just under 36,000 km². However, in terms of GDP, Baden-Württemberg's GDP of 522,420 billion euros (46,300 euros per capita) puts it clearly ahead.

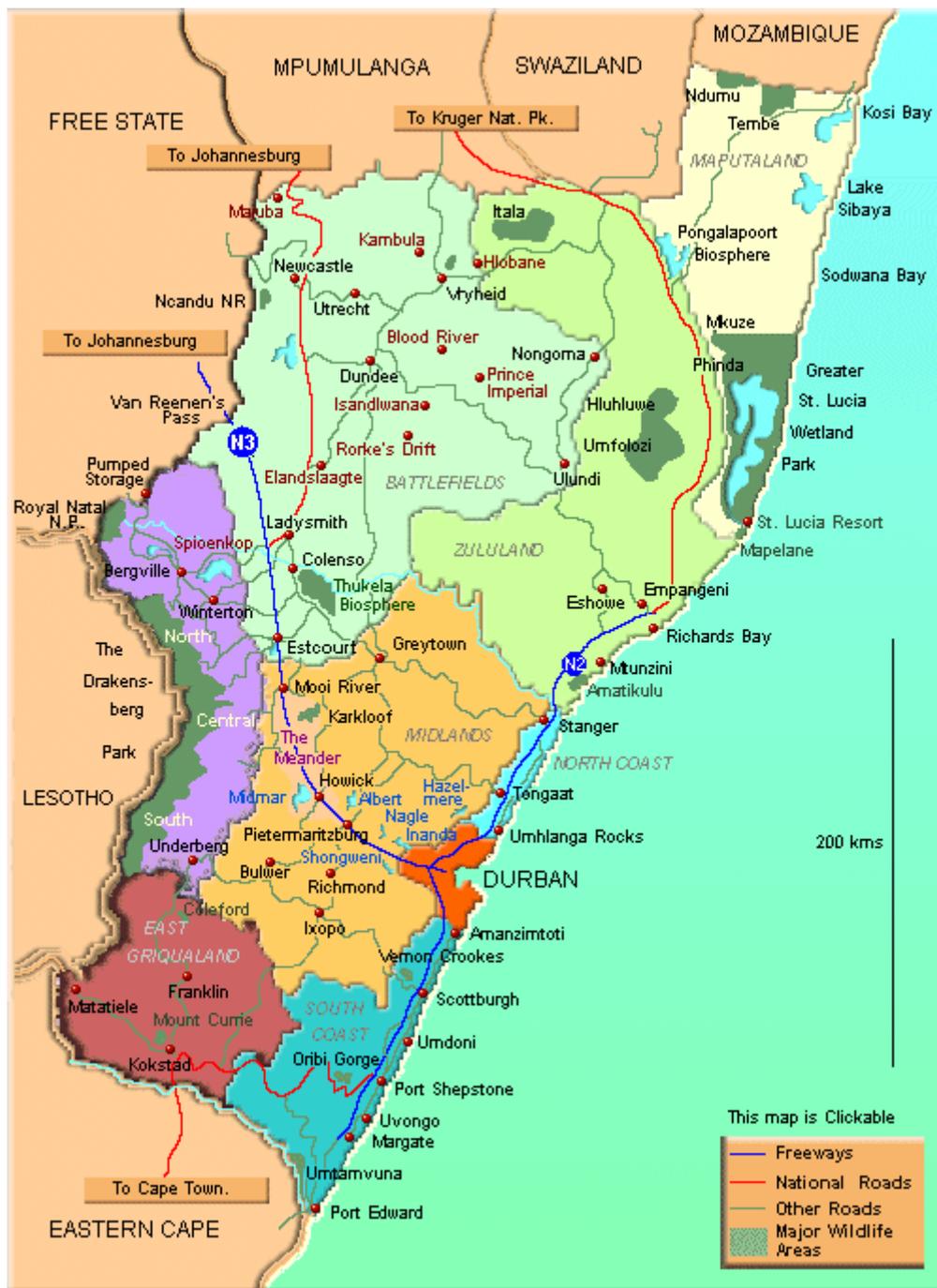
Table 1 KwaZulu-Natal Fact Sheet

KwaZulu-Natal Fact Sheet	
Capital	Pietermaritzburg
Other major cities	Durban, Ulundi, Eshowe, Newcastle, Richards Bay
Premier	Sihle Zikalala (since 2019)
Area	94,400 km ² (7 th of the 9 provinces)
Languages	isiZulu (78%), English (13%), isiXhosa (3%), Afrikaans (2%)
Population in millions (2019)	11.5 (total for South Africa: 58.8)
Population growth in % (2019)	2.15
Economy and Finances	
GDP (2019, EUR billion) – South Africa	311
GDP (2019, EUR billion) – KwaZulu-Natal	30.9
Per capita GDP (2019, EUR) – South Africa	5,284
Per capita GDP (2019, EUR) – KwaZulu-Natal	4,052
GDP growth in % (2019, real) – South Africa	0.2
GDP growth in % (2019, real) – KwaZulu-Natal	1.8
Share of South African GDP in % (2018)	16.2
Rate of inflation (2019, %, year-on-year) – KwaZulu-Natal	4.1
Currency	South African rand (ZAR)
Average exchange rate 2019	1 EUR = 16.18 ZAR
Average exchange rate 2020	1 EUR = 18.77 ZAR
Business Environment South Africa	
Hermes Country Classification	4
Ease of Doing Business 2020	84 th of 190 countries
Global Competitiveness Index 4.0 2019	60 th of 141 countries
Corruption Perceptions Index 2019	70 th of 180 countries
Human Development Index	113 th of 189 countries

Sources: Bundesbank, GTAI, South African Market Insights, TIKZN (2020)

The following figure shows a detailed map of the province. On the map, Pietermaritzburg is located inland on the edge of the N3 highway from Durban to Johannesburg; Richards Bay is north of Durban on the Indian Ocean, and Eshowe is another 85 kilometres inland; Newcastle is located on the national highway in the direction of Johannesburg, near the border with Mpumalanga and Free State; and Ulundi is about halfway between Richards Bay and Newcastle.

Figure 7 Map of KwaZulu-Natal



Source: TIKZN (2020)

The economic structure in KwaZulu-Natal is not only the most highly industrialised in the country, but also has the greatest tendency to export. Two of Africa’s most important seaports are located in KwaZulu-Natal – in Durban, the busiest port, and in Richards Bay, through which South Africa’s massive coal exports pass. King Shaka International Airport completes the province’s status as a logistics and transportation hub.

Financial and business services and real estate constitute almost 20 percent of KwaZulu-Natal’s economy (South African Market Insights, 2020). However, growth is primarily driven by the manufacturing sector, in particular the paper and paper products industry, ferroalloys (such as aluminium), and other parts of the chemical industry. Other important subsectors include the manufacture of motor vehicles and their components, printing and publishing, food and beverage production, non-electrical machinery, iron and steel, wooden furniture, and textiles and clothing (TIKZN, 2020). Overall, manufacturing accounts for 22 percent of regional GDP, trade and tourism for 15 percent, and transportation and communications for 14 percent. Although the agricultural sector accounts for only four percent of regional GDP, the province is important to South Africa’s food security; some 30 percent of South Africa’s agricultural production comes from KwaZulu-Natal (KZN Top Business, 2016).

Economic centres in the province include the eThekweni Metropolitan Municipality around Durban, as well as Pietermaritzburg and Richards Bay. eThekweni is particularly noteworthy; the municipality is not only a tourism centre and, with the Durban Hub, a driving force behind the start-up culture, but also the location of the Durban Automotive Cluster, the Durban Chemicals Cluster, as well as the Dube TradePort Special Economic Zone near the international airport. Together with the Richards Bay Industrial Development Zone, these are all successful examples of the provincial government’s local policies.

In addition to the eThekweni Metropolitan Municipality, KwaZulu-Natal is divided into a total of ten district municipalities and 43 local municipalities (see Figure 8). For each of the district municipalities, TIKZN has identified a main industry (see Table 2).

Table 2 District Industrial Hubs

District	Industrial Hub
Amajuba	Clothing and textile
eThekweni	Automotive supplier park
iLembe	Renewable energy
King Cetshwayo	Metals beneficiation; renewable and clean energy; ship building and repair; oil and gas
Sisonke / Harry Gwala	Wood processing
Ugu	Perishables
uMgungundlovu	Leather processing
uMkhanyakude	Agricultural mechanisation
uMzinyathi	Coal beneficiation
uThukela	Electronics hub
Zululand	Agri-processing (meat)

Source: TIKZN (2019)

Figure 8 District and Local Municipalities of KwaZulu-Natal



Source: Wikipedia (2020)

Insights from Practice in South Africa

Bosch has been represented in Africa since 1906, and today has staff in 13 African countries – from Casablanca to Cape Town. All four Bosch business sectors (Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology) operate on the continent. In 2019, Bosch generated around half a billion euros in sales in Africa with approximately 2,000 staff. Bosch has been active in South Africa since 1965 with its own subsidiary and, since 1976, with a plant to supply the local automotive industry. Bosch is now represented in all parts of South Africa with its own subsidiaries; in KwaZulu-Natal, these are located primarily in Durban, Richards Bay, and Newcastle.



Interview with Dr Markus Thill, President Region Africa, Robert Bosch (Pty) Ltd

Dr Thill, Bosch has been active in South Africa since 1906, and has had its own subsidiary there since 1965. What is your SWOT analysis for the country – and what is your forecast for the post-COVID-19 economy?

South Africa faces major challenges, both social and economic. The COVID-19 pandemic has exacerbated the situation. Nevertheless, South Africa possesses a great deal of potential across a wide variety of sectors, from the automotive industry to tourism. However, this has to be consistently leveraged; attractive investment conditions are a basic prerequisite for this.

You are personally involved not only on the board of the German-African Business Association, but are also Chair of the Training and Education Committee of the Southern African-German Chamber of Commerce and Industry, and thus involved in the expansion of vocational training in South Africa. Please tell us about your work in this area.

Vocational training plays a particularly important role in creating a foundation for effective and efficient business. The German dual education system provides a very good basis for this. For some years now, we have been intentionally expanding this system in South Africa in cooperation with German, European, and South African companies. After piloting the programme in Gauteng Province, we are now planning to extend it to KwaZulu-Natal. We are already in contact with companies in Baden-Württemberg, among others, regarding this.

Another concern of yours is the development of an African automotive industry and the associated regional value chains in Africa. What role could KwaZulu-Natal play in this context?

KwaZulu-Natal already has the most important deep-water port in South Africa and a number of very relevant locations in the automotive industry, such as the Durban Automotive Cluster. These offer very good conditions for expanding existing international supply relationships.

In addition to the automotive sector and its cooperation with industry, Bosch is strong in the consumer products business. What should German companies know about the (South) African consumer? Do German business models need to be adapted for Africa?

Africa is largely a frontier market, which is often even less developed and not as easily accessible as other emerging markets. The usual rules and business models in Germany are

often not suited for expanding business quickly and profitably. This also applies to large parts of South Africa, especially informal trade.

What other advice can you give to market entrants from Baden-Württemberg?

Africa is not a sprint, but a marathon. Patience and agile adaptation to changing conditions are very important prerequisites for sustainable success.

The province of KwaZulu-Natal and the state of Baden-Württemberg have a longstanding political partnership. To what extent would you like this to be intensified, particularly in order to strengthen economic exchange?

The further industrialisation of South Africa is important for creating more jobs in the country, in both the short and long term. As an important industrial state in Germany, Baden-Württemberg can help in the transfer of expertise to its partner province in many ways, not least in the area of vocational training. For example, the dual education system in KwaZulu-Natal can be strengthened through training local vocational teachers according to the German model, or through vocational school exchanges, and so on.

2.2. Sector Overview: Relevant Priority Industries in KwaZulu-Natal

In addition to strengthening existing industries, the focus of investment and economic development activities in KwaZulu-Natal is primarily on further expanding the manufacturing sector with the help of industrial centres and special economies zones, promoting shipping and tourism, environmental management, and sustainable economic restructuring. The TIKZN agency and the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA) are responsible for this and are important contact points. The following table provides an overview of the priority industries and growth options.

Table 3 Priority Industries in KwaZulu-Natal

	Manufacturing	Tourism	Agriculture and agro-processing	Property and infrastructure development	Services, transport & logistics	Oceans economy (incl maritime industry)
Traditional	<ul style="list-style-type: none"> Automotive and component manufacturing Clothing, textiles, footwear, leather and leather products Chemical and plastics manufacturing (transitioning to bio-based, renewables) 	<ul style="list-style-type: none"> Nature-based tourism Arts, culture and heritage tourism Hotels, resorts, houseboats and other accommodation MICE 	<ul style="list-style-type: none"> Fruit (citrus and subtropical), vegetables, grains, honey, and livestock Paper, furniture and other wood products Food and beverage processing and packaging (sugarcane, livestock, vegetables, fruit, soya, maize, nuts) 	<ul style="list-style-type: none"> Residential and commercial Industrial parks Road and rail infrastructure Bulk infrastructure 	<ul style="list-style-type: none"> Trade (retail) Business services (BPO, finance, insurance, and other professional services) 	<ul style="list-style-type: none"> Ocean based tourism Cruise tourism Ports
Growth	<ul style="list-style-type: none"> Pharmaceuticals and cosmetics Mineral beneficiation Advanced manufacturing Renewable industry technology Industrial waste recycling 	<ul style="list-style-type: none"> Medical tourism Adventure tourism Film tourism 	<ul style="list-style-type: none"> Energy (biofuels), cellulose and other biomass processing Agricultural technology Cut flowers Medicinal and herbal plants 	<ul style="list-style-type: none"> Healthcare and facility development Private education institutions Green buildings Smart buildings 	<ul style="list-style-type: none"> ICT and software development Aviation and related services Film and media 	<ul style="list-style-type: none"> Oil and gas Small craft harbour and waterfront development Boat and ship building and repair (floating docks) Aquaculture

Source: TIKZN (2019)

Taking into account the economic sectors that are equally relevant to Baden-Württemberg and KwaZulu-Natal, this study focuses on identifying business opportunities for companies from Baden-Württemberg in the manufacturing sector (particularly the automotive industry and the chemical and plastics industry), the healthcare sector, renewable energies, and environmental technology (including water resource management, waste management, and the circular economy). As a cross-sectoral issue, potential for Industry 4.0 and digitisation are identified for each of the industries considered. The study is based on extensive research of secondary sources, newspaper articles, online resources, as well as on 19 in-depth background interviews with government authorities and entrepreneurs from the above-mentioned industries.

Relevant cross-sector contacts can be found in Chapter 3.1; industry-specific contacts are located at the end of each respective sub-chapter.

2.2.1. Manufacturing Sector

The manufacturing sector accounted for around 14 percent of national GDP in South Africa in 2019. This represents a decline relative to 1980, when the sector accounted for around 24 percent of GDP. This decrease is mainly because other industries have developed much more dynamically in recent decades, and thus play a more significant role in the South African economy now, which has grown almost threefold in the intervening period. However, as South Africa is suffering from high unemployment, the manufacturing sector continues to play a decisive role as an engine for job creation. As such, it is in the interest of both policymakers and industry to once again increase the manufacturing sector's share of GDP (SASSDA, 2017).

At the political level, the responsible department, the Department of Trade, Industry and Competition (DTIC), drives forward the promotion of the manufacturing sector. It supports the sector through programmes such as the Manufacturing Competitiveness Enhancement Programme (see also Chapter 3.3), which is intended to strengthen the sector's competitiveness, especially against low-cost manufactured goods from Asia (DTI, 2013). The subsectors that the South African government particularly focuses on include the automotive, chemical, plastics, and textile industries. For its part, industry has formed the Manufacturing Circle, an association of over 40 manufacturing companies that aims to help improve the policy framework for manufacturing in South Africa, so as to boost growth in the sector (Manufacturing Circle, 2020). The Manufacturing Circle has also joined forces with various manufacturing associations to launch an initiative that aims to create around one million new jobs over in the coming years (SASSDA, 2017).

The manufacturing sector in KwaZulu-Natal is of above-average importance by South African standards, contributing about 22 percent of economic output (TIKZN, 2019). After Gauteng, the manufacturing sector in KwaZulu-Natal is the second largest in the country, and increasing the scale of the sector is also one of the provincial government's priorities. To this end, the government has created two special economic zones, the Richards Bay Industrial Development Zone and the Dube TradePort Special Economic Zone, which is also home to the KwaZulu-Natal Automotive Supplier Park. These offer companies various incentives to locate here, such corporate income tax concessions (15 percent instead of 28 percent). In addition, a number of industrial parks have been established, including in areas that are less well known internationally, such as Mandeni, Newcastle, and Ladysmith.

Outside of the industries considered in more detail below, the largest manufacturers in KwaZulu-Natal include Defy Appliances and KIC/Whirlpool (white goods manufacturers), DB Schenker, and from the minerals and energy sector BHP Billiton, Engen-Petronas, Richards Bay Minerals, Rio Tinto, SAPREF-Shell, South 32, and Vopak Terminals, as well as Samsung, Somta Tools, Unilever, and Yangtze Optical Fibre and Cable. Companies of note in the paper and plastics industries include Mondi, SAPPI, and SRF Plastics.

Industry 4.0 represents a cross-sectoral future market. There is growing interest in digital transformation and a high dependence on imports for digitisation technologies. German products enjoy a very good reputation and can take advantage of the large leapfrog potential in South Africa and the region of southern Africa (see the digitisation and Industry 4.0 target market analysis on South Africa 2020 by the Southern African-German Chamber of Commerce and Industry). The analysis identified the automotive and chemical and plastics industries as presenting the greatest market opportunities for companies from Baden-Württemberg in

KwaZulu-Natal's manufacturing sector. These industries are also receiving particularly strong political support.

2.2.1.1. *Vehicle Manufacturing*

South Africa is a longstanding leader in the African automotive industry. In 2018, approximately 600,000 vehicles rolled off the assembly line, of which more than 360,000 were sold in the country itself (South African Government, 2018; Knupp, 2019). According to the National Association of Automobile Manufacturers of South Africa (NAAMSA), some 22 companies now have production sites and assembly plants for passenger cars and commercial vehicles in South Africa, including major German manufacturers such as BMW, MAN Truck & Bus, Mercedes-Benz, and Volkswagen. Other large manufacturers include Ford, Isuzu, Mahindra, Nissan, and Toyota. Currently, around 500 supplier companies also have operations in South Africa, including about 180 first-tier suppliers (NAAMSA, 2020). The sector also creates about 112,000 jobs in South Africa and attracts investments averaging 12.2 billion rand (around 650 million euros) per year (South African Government, 2018). Vehicle sales grew steadily in South Africa until 2016, but have dropped slightly in recent years, particularly for trucks and buses. In contrast, there have been strong increases in the export segment, with the export ratio for passenger cars and light commercial vehicles at around 64 percent in 2020. The biggest customers for complete vehicles are the UK, Germany, Japan, France, and Australia. Germany is the largest customer for automotive parts, ahead of the United States, the Czech Republic, Thailand, Namibia, and the UK (Knupp, 2020). However, the EU is considering limiting the import of gasoline or diesel-powered vehicles with import quotas in the near future. In order to maintain a high level of exports to the EU, the first South Africa-based car manufacturers, such as BMW and Nissan, are already including electric and hybrid models in their product portfolios (Knupp, 2019; Afrika-Verein der deutschen Wirtschaft, 2018).

Alongside Gauteng and the Eastern Cape, KwaZulu-Natal is one of the three most popular African provinces for automakers to settle. In 2018, approximately 23.5 percent of all vehicles manufactured in South Africa were produced in the province. In addition, KwaZulu-Natal contributes 14.8 percent of total South African vehicle exports and represents 13.3 percent of the sales market in South Africa. Between 2009 and 2018, vehicle production in the province increased by about three percent annually, from about 121,000 vehicles to 147,000 vehicles, driven mainly by increased production volumes of light commercial vehicles.

At the national level, the government of South Africa promotes the sector primarily through the Automotive Production and Development Programme (APDP), an incentive programme aimed at both increasing the production of motor vehicles in South Africa as well as attracting suppliers to create long-term jobs in the industry. Specific incentives include, for example, a tax-free cash grant starting at 20 percent of the value of qualifying investments (IOL, 2020). The APDP succeeded the 1995-initiated Motor Industry Development Programme, and covers the period from 2013 to 2020. The South African Automotive Masterplan (SAAM) heralds the second phase of the APDP, and governs the period from 2021 to 2035. The plan's objective is to relocate one percent of global vehicle production to South Africa by 2035, which would represent an increase in local vehicle production from the current 600,000 vehicles to 1.4 million vehicles. The plan also aims to increase local input for production from the current 39 percent to 60 percent, as well as to double the number of jobs in the local automotive value chain (South African Government, 2018). To achieve this, some specific incentive mechanisms

have been changed. For example, the first phase of the APDP included a mechanism that allowed tariffs on imports to be reduced in exchange for increased local production. In the second phase, this will only be possible if it can be demonstrated that more locally produced inputs have been incorporated into production (Creamer Media, 2019).

The coronavirus crisis, which has hit South Africa much harder than other countries on the continent, has also left its scars on the local automotive industry. At present, it is not possible to predict how the crisis will affect the 2035 targets set by the SAAM. Smaller companies are particularly vulnerable, which has a massive impact on the government's plans to increase local value creation (IOL, 2020).

KwaZulu-Natal, the second-most populous province in Africa, has a low rate of vehicles per capita. Just under 200,000 vehicles were sold in 2018, so the region will also be a relevant sales market for passenger cars in future (Durban Automotive Cluster, 2020). As one of the seven original equipment manufacturers (OEMs) based in South Africa, Toyota has set up shop there and locally manufactures the Corolla, Fortuner, Hilux and Quantum models. In 2019, the company announced plans to invest a further 2.4 billion rand (around 128 million euros) in expanding production at the Prospecton plant, where a new model is expected to roll off the production line from 2021 (Creamer Media, 2019a). Similarly, new players such as Mahindra have set up assembly plants, and MAN and Volvo produce commercial vehicles in KwaZulu-Natal. An overview of selected automakers and their activities in KwaZulu-Natal can be found in Table 4 below.

Table 4 Automakers in KwaZulu-Natal

Company	Location	Activities
Bell Equipment	Richards Bay	Considered the world's number three manufacturer of transport vehicles for the mining, construction, and agricultural industries, among others. Its European centre is located in Eisenach (Thuringia), where dump trucks are also produced.
MAN Truck & Bus	Pinetown (eThekweni)	Assembles medium and heavy vehicles at the Truck & Bus Centre, and has six other dealers active in KZN. In addition, MAN Automotive assembles vehicles in Olifantsfontein in Gauteng and operates MAN Retail in Gqeberha (Port Elizabeth).
Mahindra	Dube TradePort Special Economic Zone	In 2018, opened up semi-knocked-down assembly of its PiKUp model. Target is the production of 4,000 vehicles per year.
PowerStar	Pietermaritzburg	Produced around 550 vehicles in 2017.
Toyota	Durban	Employs around one-fifth of the region's automotive suppliers. Manufactures the Corolla, Fortuner, Hilux and Quantum models. Also assembles medium and heavy vehicles under the Hino brand.
Volvo Trucks & Buses	Amanzimtoti (eThekweni)	Completely-knocked-down plant for circa 12 trucks per day; produced nearly 4,800 vehicles in 2017. Additional plant in Rosslyn for UD brand trucks.

Sources: Company websites, Nash (2020)

In addition, around 80 suppliers are currently located in the province. Of the first-tier suppliers, around half are South African and half are multinational companies. Of the second and third-tier suppliers, 93 percent are South African (Durban Automotive Cluster, 2020). The largest producers include Mahle Behr, Metair, and Sumitomo Rubber SA. The local hub for the automotive industry in KwaZulu-Natal is the eThekweni Metropolitan Municipality around Durban (see the light-red marking on the map in Figure 7).

To promote the sector, the provincial government in KwaZulu-Natal has launched its own initiatives. One such initiative, the Durban Automotive Cluster, was established as a public-private partnership between the eThekweni Metropolitan Municipality and companies in the automotive sector to promote the growth and competitiveness of the local automotive industry. The cluster consists of 45 companies, which together employ around 17,000 people. The cluster includes international companies, such as Mahle, Federal Mogul, and Freudenberg from Germany, as well as South African industry giants GUD Filters and PFK Electronics. Interested companies can receive support in localisation. In addition, the cluster maintains an education and training programme, and advises its companies.

Insights from Practice in the Automotive Industry

Interview with Douglas Comrie, CEO, B&M Analysts / Chief Facilitator & Director, Durban Automotive Cluster

What opportunities do you see for companies from Baden-Württemberg in KwaZulu-Natal?

There are important technology changes taking place in the automotive industry globally. If one considers these broader global trends together with the projected requirements of domestic and regional markets in the future, four areas of opportunity for investment are likely to emerge:

1. Internal combustion engine (ICE) powertrains: The ICE is likely to remain prominent in the local and regional market far longer than in markets such as Europe. The drive towards increasing local content will, in some cases, therefore be associated with new investment in ICE technologies, even though declining levels of investment in these technologies are evident elsewhere.
2. Electric vehicle (EV) powertrains: Demand for EV technologies will increase over time, with this pressure likely emerging earlier amongst OEMs with a greater focus on markets with more advanced requirements. It is expected that hybrid technologies will play a prolonged bridging role in the transition from ICE to EV technologies, particularly given the importance of light commercial vehicle production.
3. Vehicle mass: The strong move towards the use of lightweight materials and associated manufacturing processes presents an opportunity to introduce new manufacturing capabilities. This could conceivably be in a variety of forms, including greenfield investments, acquisitions, joint ventures, or other licensing arrangements.
4. Intelligent mobility technology: CASE (connected, autonomous, shared, electric) technologies represent an increasingly large portion of the overall vehicle's value. At present, a very small proportion of control units, sensors, and actuators are produced locally.

What is your assessment of the availability of skilled workers in South Africa and KwaZulu-Natal?

The automotive manufacturing industry in South Africa employs approximately 100,000 people and manufactures everything from electronics through to engines. While there can be challenges pertaining to skills at certain points in time, the existing scale and scope of automotive manufacturing in the country indicates that availability of skilled workers is not typically one of the primary constraints that investors in the major industrial hubs face.

Do you have further advice for market entries from Baden-Württemberg? What should newcomers to the market be aware of?

It is important that prospective investors familiarise themselves with local requirements. Working with local partners, whether investment promotion agencies or organisations such as the Durban Automotive Cluster, can assist with this process.

The province of KwaZulu-Natal and the state of Baden-Württemberg have a longstanding political partnership. To what extent would you like this to be intensified, particularly in order to strengthen economic exchange?

It would be tremendously beneficial to develop some form of a roadmap that would see the long-term strengthening of business relationships between the two regions, particularly in relation to the automotive manufacturing sector. I would imagine that automotive companies in Baden-Württemberg are looking for opportunities to grow, invest, and license technology – local automotive OEMs and suppliers are actively looking for new sources of local content and that suggests a good potential fit.

In order to support qualifications, the Southern African-German Chamber of Commerce and Industry is planning to expand the existing dual education programme to KwaZulu-Natal together with companies from Baden-Württemberg. Industry-oriented training programmes for freight forwarding and logistics services, as well as mechatronics are to follow in Durban. The trainees will spend a large proportion of their time in the field. The German and South African curricula will be combined, and the qualification will be certified both in South Africa and by the AHK/DIHK. German automakers also train apprentices themselves – Daimler at its own Mercedes-Benz Learning Academy in East London opposite the production plant, in existence since 1981, and Porsche at its training centre in Cape Town, where automotive service technicians are trained.

The African Association of Automotive Manufacturers (AAAM), of which Bosch is a board member, has its headquarters in South Africa and can provide local advice. The current political tailwinds for the development of value chains in the automotive sector in African countries, both at the federal level in Germany and at the state level in Baden-Württemberg and KwaZulu-Natal, can also make market entry immensely easier.

Summary: Ambitious targets for increasing production volumes and activities to localise production: political tailwinds are making expansion into the already well-positioned automotive sector in KwaZulu-Natal even more interesting, especially in view of their proximity to OEMs for many automotive suppliers. Local content requirements increase incentives to manufacture components locally. Control units, sensors, and actuators have not been manufactured to any significant extent in South Africa yet. Increasing demand for vehicles within the province will also boost demand for aftermarket products, and the removal of regional trade barriers will further benefit South Africa as an industrialised location and hub for the entire region. In addition to the expansion of production, business opportunities for companies from Baden-Württemberg are particularly evident in the areas of innovation and development, system optimisation, supplier development, and technology transfer.

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2.2.1.2. Chemical and Plastics Industry

The chemical industry in South Africa is the largest of its kind in Africa, and is highly diversified. It covers the production of everything from fuels to plastics and pharmaceuticals. In addition, South Africa is a world leader in the production of liquid fuels and petrochemical products based on synthetic coal and natural gas.

The industry contributes around five percent of the GDP of the entire country and about 23 percent to the output of the manufacturing sector (Durban Chemicals Cluster, 2017; Invest SA, 2020). Sales in the chemical industry (including pharmaceuticals, plastics, and rubber) in South Africa totalled about 522.4 billion rand (around 28 billion euros) in 2017. Regional concentrations of the industry are in the Johannesburg region in Gauteng, the Durban region in KwaZulu-Natal, and in the Western Cape. However, locations close to the coast, such as Richards Bay, have become increasingly relevant in recent years (Knupp, 2020). The chemical industry also plays an important role in trade relations with Germany. Chemical products account for around three percent of products imported from South Africa. The figure for products exported to South Africa is even higher, at 16 percent (GTAI, 2020).

The most important subsector for chemical products in South Africa is the petrochemical industry (especially coal-based petrochemicals), which accounts for 55 percent of the chemical industry's production output. At the same time, the mining sector is inherently an important supplier of raw materials for the manufacture of chemical products, which makes it attractive for companies in the chemical industry to locate to the resource-rich country. The state of the chemical industry in South Africa is accordingly closely linked to developments in the mining industry. According to statistics from the Minerals Council of South Africa, this dependence has further intensified in recent years. The domestic mining industry has increasingly become one of the most important buyers of chemical products, and currently accounts for around 15 percent of the local industry's total sales. With the coronavirus crisis, the mining industry also experienced a dramatic downturn, but was among the first industries to ramp up again after the March to August 2020 lockdown in South Africa. Combined with strengthening commodity prices, the mining industry is expected to be one of the first to recover in the short to medium term. A strong rebound is anticipated for the gold and platinum industries in particular, which

should also have a positive impact on the local chemical industry (Minerals Council South Africa, 2020; TIKZN, 2020). The DTIC is generally an important supporter of the chemical companies at the national level.

Other important customers for chemical products include the automotive industry (plastic parts, coatings, and engine parts – see the previous chapter), the agricultural industry (fertilizers and crop protection), and the construction industry (paints, building materials, and plastic products). Recently, growth in the construction industry has been on the decline. However, there are signs that more growth can be expected here again in the medium term. The infrastructure investment fund launched by the South African government in June 2020 provides for massive investment in construction projects. According to the plan, 71 housing projects with a total investment volume of 1.4 trillion rand (around 75 billion euros) are to be implemented. The agricultural sector is also expected to benefit from the newly established fund, with 33 planned projects worth 28.5 billion rand (around 1.5 billion euros). The only downside is that many of these projects have not been able to secure funding so far (Bloomberg, 2020). Nevertheless, forecasters predict that the agricultural industry will grow strongly even without the fund, especially if the AfCFTA is implemented in timely manner, and will drive demand for chemical products further (TIKZN, 2020).

In the plastics industry, a subsector of the chemical industry, South Africa consumed 1.49 million tons of basic polymers in 2017. Some 343,000 tons of plastics were obtained through recycling. More than half of the end products are used for packaging. This downstream plastics business has seen particularly strong annual growth rates of three to five percent over the past decade. In addition, small companies are strongly represented in this segment, as market entry in this industry is relatively simple and straightforward (Knupp, 2020; Invest SA, 2020).

The chemical and plastics industry also plays an important role in KwaZulu-Natal. The province is a national leader in the production of chemicals and plastics. Since 2012, the industry has recorded steady average year-on-year growth of 3.3 percent. While this lags behind other industries in the province, the chemical industry continues to be a major contributor to the economic development of the province and the local economy (KZN Top Business, 2020; Durban Chemicals Cluster, 2017). In 2015, one-fifth of South Africa's gross added value in the chemical industry came from KwaZulu-Natal, and about one-third of the country's plastics production also comes from the province. The chemical industry in KwaZulu-Natal is extremely diversified, with few large production facilities and many specialised SMEs. At the heart of the industry are two refineries in Durban (Engen Petroleum's Enref refinery, and Shell and BP's SAPREF refinery).

The majority of KwaZulu-Natal's chemical production takes place in the eThekweni Metropolitan Municipality. In 2015, just over 32,000 people were directly employed in the chemical industry in the province, with 69 percent of these employees working in eThekweni. They are primarily employed in the following value chains:

- coatings, inks, adhesives, and dyes;
- petroleum and gas;
- pulp and paper;
- resins and polymers; and
- water supply.

One of the largest companies in the country is the multinational petrochemical company Sasol, which also has sites in KwaZulu-Natal, such as those in Durban and Pietermaritzburg. In addition to Aspen Pharma, BASF also undertakes production in Durban, where it maintains a plant for agricultural products, and has an office and warehouse for its construction chemicals division. Evonik Peroxide is also involved in production in Umbogintwini (in eThekweni), while Laxness operates two plants KwaZulu-Natal, producing sodium dichromate (in Newcastle) and chrome tanning salts from sodium dichromate (in Merebank). However, the company announced in 2019 that it would exit the chlorine chemicals business. The Newcastle plant has already been sold to a Chinese investor, while the Merebank plant will remain in operation until around 2024 (Knupp, 2020).

The industry in KwaZulu-Natal is extremely well connected logistically. Large quantities of chemicals are imported and exported via Richards Bay and the Port of Durban. Both ports have large tanks for storing chemicals. One of the new projects in the chemical industry can be found in Richards Bay – another petrochemical refinery currently in the planning stage (KwaZulu-Natal Freight Transport Data Bank, 2020; Knupp, 2020).

The provincial government has also identified the chemical and plastics industry as a priority industry within the framework of promoting the manufacturing sector. As with the automotive industry, the establishment of the chemicals manufacturing industry is supported via a cluster approach: with the Durban Chemicals Cluster, a public-private partnership between the eThekweni Metropolitan Municipality and currently 58 companies from the chemical industry, including BASF, Engen, and Sika. The objective of the Durban Chemicals Cluster is to strengthen the competitiveness and development of the local chemical industry and to build up mutual competitive advantages for the companies. To this end, the cluster focuses on three programmes – facilitating investments in the sector, providing legal advice, and improving the training of skilled workers in the industry (Durban Chemicals Cluster, 2017a).

Summary: For the chemical industry, the South African province of KwaZulu-Natal is an important and broadly positioned location. In line with South Africa as a whole, it is expected that the agricultural and mining industries in the province will recover most quickly from the consequences of the coronavirus pandemic, and thus represent the most important customers in the short term. Growth potential for the chemical industry is evident in the massive investments from the government fund for construction projects, as well as in the agricultural industry, which may also experience immense stimulus for growth through prompt implementation of the AfCFTA. There are promising business opportunities in the both the technology-intensive upstream industry (liquid gases) and downstream (special chemicals, plastics, and rubber products).

Many small and medium-sized enterprises are facing digitisation, which may call for the expertise of companies from Baden-Württemberg, including in the fields of mechanical engineering, automation technology, and sensor technology. However, plastic waste and plastic recycling are also gaining increasing public attention. In 2019, for example, KwaZulu-Natal used plastic waste as the foundation for building a road as part of a pilot project. Due to rising environmental awareness, there could be room in the future for plastic-producing companies that focus on the entire lifecycle of the product, such as manufacturers of reusable plastics.

Chapter 3.1 contains contacts that are also relevant for the chemical industry.

Insights from Practice in the Sensor Technology Industry



SICK AG, headquartered in Waldkirch / Southern Baden, Germany, established a subsidiary in Gauteng province in South Africa in December 2010. Satellite offices have also been set up in KwaZulu-Natal, Cape Town, and Gqeberha (formerly Port Elizabeth). In addition, the sensor technology specialist works with distributors and partners in South Africa and throughout sub-Saharan Africa. In KwaZulu-Natal, SICK works with Fogarty Electronics in Durban as a distributor.

Interview with Luxy Moodley, Managing Director, SICK Automation Southern Africa Pty Ltd

Mrs Moodley, how do you assess the current South African market and your business in KwaZulu-Natal as compared to the other provinces in which you are present?

Gauteng has the largest industrial and manufacturing sector in the country and is our biggest market. Other key sectors are located countrywide, for example, automotive in Gqeberha and Durban, power in Mpumalanga, agriculture in Cape Town, and mining in the North West.

What is your prognosis for the economic development of the country and its provinces for the coming years?

South Africa has been in a deep recession and the country has battled to stimulate economic growth and greater foreign investment for a number of years. Among the biggest obstacles to increasing growth are the country's inadequate power generation capabilities, the global competitiveness of the national labour market, as well as investment grade security. This decline in economic capability has now been compounded by the COVID-19 crisis.

The focus is on creating jobs in defined priority areas to rebuild the economy. This is why, in the coming months, the government will expedite the implementation of at least 50 infrastructure projects with a total investment value of more than ZAR 340 billion (EUR 18 billion). The fast tracking of the projects forms part of the reconstruction and recovery of the South African economy. The weak rand may also be of benefit to South Africa's trade exports, as the increase in the cost of importing and the government's need to stimulate and boost the economy will result in an increase in local production, presenting opportunities for new businesses.

The economic recovery from the pandemic will be slow. The government's swift response to the crisis will determine the rate of sustainable growth. In mid-September 2020, the government announced that the National Economic Development and Labour Council (NEDLAC) – a body comprised of representatives of government, business, labour and the community – agreed to an economic recovery plan for South Africa. According to a statement issued by the Presidency following a meeting between President Cyril Ramaphosa and NEDLAC, the details of the plan will be announced once it is finalised by the Cabinet.

South Africa has excellent physical infrastructure conducive for business, and an abundant supply of resources, including diamonds, gold, coal, and iron ore. And it is the world's largest producer of platinum group metals, chrome, manganese, and vanadium. In the past years, considerable work has been undertaken to strengthen the country's institutions to ensure

greater accountability and transparency in state-driven capital projects. This is having a positive effect on helping investor and business confidence return, which will be critical for the country's economic growth in the future. We are a nation of entrepreneurs, flexible and resilient, and, as our history demonstrates, have overcome great adversity. We will recover from this crisis in time.

Please describe your main activities in South Africa.

The South African SICK subsidiary focuses on local sales and service support for our sensor product and solution offering. Our key industries include consumer goods, automotive, machine building, mining, pulp and paper, cement, oil and gas, chemical, petrochemical and refineries, and power generation. Our route to market is a direct sales team based in Gauteng, KwaZulu-Natal, Gqeberha, and Cape Town, supported by strategic relationships with distributors and system integrators.

In which sectors do you see greatest market entry potential for companies from Germany or Baden-Württemberg in KwaZulu-Natal?

KwaZulu-Natal boasts a number of established industrial sectors, such as petrochemicals, chemicals, pulp and paper (including forestry), automotive, smelting, logistics, and engineering. An exciting new market is the maritime industry, with South Africa benefitting from our strategic location on many important global maritime routes. For example, the Port of Durban is the largest shipping terminal in sub-Saharan Africa, and the fourth-largest container terminal in the southern hemisphere. With the South African government's commitment to renewable energy, KwaZulu-Natal also offers new opportunities in power generation decoupled from fossil fuels, whether it be solar, wind, or hydroelectric power.

Despite South Africa's negative economic outlook, agriculture grew by 28 percent in the first quarter of 2020, and is expected to grow by ten percent this year. As food security is a concern in Africa, all related sectors have substantial potential. E-commerce transactions are expected to surge to 225 billion rand (around 12 billion euros) over the next five years in response to the already increased online consumer spending due to the pandemic. This will result in significant potential in the courier, express, and warehousing sectors.

Environmental technologies and digitisation / Industry 4.0 are future focal areas for companies from Baden-Württemberg and South Africa. What differences are there here, and how do German companies have to adapt their mindsets to the South African market?

One of the main challenges in the uptake of Industry 4.0 enterprises is about changing mindsets and overcoming significant conservatism, where operators and managers are hesitant to diverge from age-old industrial processes. Migration to Industry 4.0 is also incorrectly seen as a massive upfront capital expense, and so there is a need for Industry 4.0 suppliers to work with customers and walk their journey to Industry 4.0 with them by providing scalable and practical solutions aligned with their business goals. An additional challenge is the need to upskill the labour force to grapple with the requirements of Industry 4.0 – this is the case in both Germany and South Africa.

With regard to environmental technologies, South Africa has introduced new environmental regulations, notably a carbon tax. This tax will apply to any organisation, including municipalities, with emissions.

Many companies view a lack of qualified personnel and regulatory requirements, especially B-BBEE regulations, as the biggest challenges for entering the South African market. As an established company, do you have recommendations for newcomers on how to deal with these requirements?

Shortage of qualified personnel is a challenge due to highly skilled individuals leaving the country to work abroad. Consequently, securing highly skilled personnel can be very expensive.

It is a common misconception to view Broad-Based Black Economic Empowerment (B-BBEE) as a law. In fact, it is a policy that affects capacity to conduct business. It encourages businesses to integrate black people in the workspace, upskill and mentor, support black businesses, and invest in mainly poor communities across the country. The new system for grading became effective from April 2017. These new codes have made it more challenging for better levels to be obtained. The new system places more importance on company ownership, skills development, and supplier development, with black ownership of the supplier becoming critical.

SICK has formed strategic alliances with trusted partners, either distributors or system integrators, who are B-BBEE compliant and approved by end users. OEMs have an advantage in some instances due to the customer-specific technology requirements, where B-BBEE is not the key criteria to securing business, however this is becoming more challenging.

What should companies from Baden-Württemberg keep in mind with regard to South African customers?

Business is built and maintained on relationships. Customers are brand loyal, but price sensitive. Excellent aftersales service is critical to securing repeat business, therefore a competent and readily available service team is a key to excellent customer service.

Do German business models have to be adapted in order to succeed in the South African market?

Yes. Customers prefer a turnkey solution provider, a one-stop-shop to provide them with a definitive solution rather than dealing with multiple suppliers. The common German business model of supplying siloed technology offerings must be re-evaluated, and joint ventures or partnerships with local business considered. Businesses must be flexible and adaptable.

The province of KwaZulu-Natal and the state of Baden-Württemberg have a longstanding political partnership. To what extent would you like this to be intensified, particularly in order to strengthen economic cooperation?

South Africa is a country reliant on foreign investment for economic growth. Continued investment and business cooperation is needed at a time when many global companies are disinvesting in South Africa - and it offers great potential for German businesses!

2.2.2. Healthcare and Medical Technology

The South African healthcare industry is divided into a public system and a private system. Healthcare ranges from primary healthcare, which is provided free of charge by the state, to highly specialised high-tech healthcare services, which are offered in both the public and private systems. Currently, there are approximately 400 public and 211 privately operated hospitals in South Africa, of which 62 public and 35 private hospitals are located in KwaZulu-Natal (KZN Transport, 2020). Private hospitals are largely commercially operated and cater to middle and high-income populations. The largest operators of private hospitals include Life Healthcare, Mediclinic, Netcare, and the Busamed Hospital Group.

South Africa's public healthcare system has an enormous amount of catching up to do. Currently, the government is busy introducing one of the biggest reforms in the South African healthcare industry – the National Health Insurance (NHI), which is expected to be completed within the next ten years. This will significantly change the way healthcare is financed. A fund to finance healthcare for the entire population is to be set up to provide better access to medical services, especially for disadvantaged sections of the population. Uncovered services can be covered or paid for by private providers as needed. At present, however, the financing of the fund has not yet been secured. Comprehensive modernisation of public healthcare structures is also planned. Specifically, all 872 public hospitals and health centres in eleven pilot districts – including Amajuba in KwaZulu-Natal – are to be comprehensively modernised as well as re-equipped for this purpose (trAIDE GmbH, 2019). Government spending in the healthcare industry is projected to increase by over 85 percent between 2017 and 2027, from USD 13.1 billion to USD 24.4 billion.

In KwaZulu-Natal, there continues to be particularly high investment in the healthcare industry to combat rising rates of HIV/AIDS, cholera, and malaria. At the same time, chronic diseases related to high blood pressure and obesity are on the rise. The topic of digitisation is also becoming increasingly important. The government has published a national digital health strategy for the period 2019 to 2024, which is intended, among other things, to promote the use of information and communication technologies in the healthcare industry. Individual digital health apps are quite common, such as the mobile news platform MomConnect.

South Africa is one of the largest markets for medical technology in the region of the Middle East and Africa. Around four percent of total healthcare spending goes towards medical devices (2015), putting the country slightly below the regional average for southern Africa. However, forecasts show that the market can continue the growth trend of around seven percent annually and reach USD 1.8 billion by 2023. The majority of medical devices are imported. About 70 percent of the revenue generated by medical device manufacturers selling their products to South Africa is from sales to clients in the private sector (TIKZN, 2016).

American companies dominate the market for medical devices in South Africa across all product categories, but particularly in the areas of orthopaedics, prosthetics, patient aids, and medical disposables. However, buyers are also increasingly looking for products from Asian markets to cut costs. Germany is second only to the United States as a source for medical devices, followed by China, Switzerland, the UK, and Japan. China, however, is making significant progress with an increased market share, currently sitting at around ten percent (Ramkissoo, 2020).

Future market growth is likely to be influenced by the following factors in particular: national legislation in connection with the NHI; higher government spending on healthcare programmes, especially in the aftermath of the coronavirus pandemic; and the Competition Commission's investigation into the cost of private healthcare. However, higher government spending related to the coronavirus pandemic has also resulted in further corruption scandals in South Africa. For example, the government is currently investigating the awarding of contracts in connection with the procurement of protective clothing for medical personnel (Deutsche Welle, 2020).

KwaZulu-Natal is one of South Africa's strongest provinces economically, and is also one of the largest buyers of medical devices. A survey of medical technology companies indicated that KwaZulu-Natal is the third-largest sales market after Gauteng and the Western Cape (KPMG, 2011).

The responsible health authority in KwaZulu-Natal has also launched its own programmes, such as the Hospital Revitalisation Programme (a programme to strengthen local healthcare infrastructure). In addition to specific investments in infrastructure, the programme also provides for the modernisation of the medical device inventory. As part of the programme, the Dr Pixley Ka Isaka Seme Memorial Hospital in Durban was recently built, with an investment volume of three billion rand (about 160 million euros). It is one of the largest hospitals in South Africa, and is scheduled to open in 2021 (IOL, 2020).

In the private segment, KwaZulu-Natal is among the three provinces (along with Gauteng and the Western Cape) with the highest private investment in the healthcare industry (Africa Health, 2020). More than 15 percent of the country's private hospitals are located in KwaZulu-Natal. In addition, approximately 50 percent of national healthcare spending comes from the private sector, making KwaZulu-Natal one of the most attractive markets for medical technology in all of South Africa (Econex, 2013).

The most important international companies already based in KwaZulu-Natal include Chinese manufacturers, General Electric, and Indian manufacturers such as CIPLA. South Africa's Aspen Pharmacare is also based in Durban. German manufacturers also have a presence in the province, such as the Hessian medical technology company B. Braun, which has branches in Pietermaritzburg and eThekweni.

Summary: The underdeveloped market for medical products (about 91 percent of medical equipment in South Africa is imported) offers growth potential, but is limited by constraints such as funding problems in the public sector. Nevertheless, government plans for major upgrades and expansion of hospital infrastructure will create opportunities for suppliers of medical equipment in KwaZulu-Natal. Products with particularly good opportunities include diagnostic imaging equipment, radiation equipment, dental equipment, disposables (e.g., bandages), and surgical equipment. There are also many opportunities for cooperation with private hospitals, which are already the largest purchasers of medical devices. Important contacts in this industry include government bodies and the operators of private hospitals.

It is important for suppliers of medical technology from Baden-Württemberg to place special emphasis on training and continuing education measures in South Africa and KwaZulu-Natal. There is often a lack of expertise in the public sector in particular. The transfer of knowledge can create a win-win situation. Establishing local application expertise can, in turn, result in demand potential – medical professionals in the private sector prefer to work with the medical technology they were trained with.

Contacts

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International Trade Administration Commission of South Africa (ITAC)

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South African Spine Society

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Other Sources of Information

Africa Health

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eHealthNews

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2.2.3. Renewable Energies

The South African electricity market is undergoing transformation. Previously, the national power utility Eskom maintained a quasi-monopoly on the electricity market and was responsible both for the construction and operation of power plants to generate electricity, as well as for the transmission and distribution networks. However, in recent years, there have been recurring power supply bottlenecks and planned power cuts (known as load shedding). Although the situation improved briefly from 2015 to 2016 due to the commissioning of two coal-fired power stations (Kusile in the province of Limpopo and Medupi in the province of Mpumalanga), load shedding has been increasing for around two years, affecting not only private consumers, but also industry. Due to the negative economic impact of the ongoing power supply crisis, policies to reform the electricity market (some of which were formulated in the 2000s) are now being gradually implemented and long-awaited policies for the industry are being adopted (Hauser, 2020).

In 2019, the long-delayed new version of the Integrated Resource Plan (IRP) was presented, which outlines South Africa's power supply up to 2030. According to the IRP, grid-connected renewable energy (RE) capacity is to reach 28 GW by 2030 (37 percent of the total power supply capacity). The focus of the grid-connected RE sector is clearly on solar photovoltaics (around 8 GW by 2030) and wind power (around 11.5 GW by 2030) (Hauser, 2020). For comparison, according to the *South African Energy Sector Report 2019*, the share of RE was most recently 11 percent of a total installed generation capacity of 48 GW (Department of Energy, 2019). Achieving the IRP targets therefore requires a huge addition of RE capacity.

The main instrument to promote the expansion of grid-connected RE is the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), which is based on a competitive bidding process. Since 2011, a total of 92 large-scale projects with a total capacity of over six GW have been approved through the REIPPPP in four bidding rounds (Hauser, Jens, 2018). According to media reports, the fifth bidding round is now expected for the second quarter of 2021 after several delays (Creamer Media, 2020). Furthermore, due to the drastic power shortage, the responsible Department of Energy launched the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP), which provides for the short-term addition of 2,000 MW of generation capacity.

In addition to government measures to increase the share of RE in the electricity mix, the electricity market is also undergoing progressive liberalisation, including the improvement of framework conditions, the establishment of new forms of electricity generation and distribution, and the growing presence of private sector participants in the market. In addition to allowing independent power producers to enter the market through the REIPPPP, in mid-2019, the then Minister of Energy Jeff Radebe also paved the way for companies to build their own plants, ranging in capacity from one to ten MW, to directly supply electricity and feed surplus power into the grid. This was an important milestone in helping manufacturing companies manage their power supply independently of Eskom. It also further opened up the generation market by allowing private companies to feed power into the grid alongside Eskom. In addition, the IRP provides for an annual allocation of 200 MW for the embedded generation (onsite generation and supply of electricity for internal use) of RE. Solar photovoltaics currently dominate in the field of onsite generation for internal use (Hauser, 2018; Afrika-Verein der deutschen Wirtschaft, 2019).

By national standards, KwaZulu-Natal has so far played a minor role in large-scale RE projects. Only one of the projects approved under the competition-oriented REIPPP is located in KwaZulu-Natal, a 17 MW biomass plant (Deloitte, 2019). Nevertheless, the province offers sizeable potential for RE, and demand for energy will increase by between 400 to 470 MW annually if growth rates remain at six to seven percent. In particular, along with the Western Cape, KwaZulu-Natal has the greatest biogas potential in the country, largely due to the sugar and wood processing industries located there. According to the TIKZN agency, the South African Sugar Association is prepared to invest 20 to 30 billion rand (about one to 1.6 billion euros), which, in addition to maintaining sugar production, would also contribute to the development of two new energy industries in the province – electricity cogeneration and ethanol fuel production (TIKZN, 2016a).

The embedded generation market segment also continues to develop dynamically, independently of the REIPPP, and has now become the driving force for the expansion of RE. An additional 500 MW is expected for the whole of South Africa in the segment this year. KwaZulu-Natal is also seeing increasing opportunities in this area, particularly in eThekweni, the first municipality in KwaZulu-Natal to provide embedded generation systems the opportunity to feed surplus generation into the public grid (South African Local Government Association, 2018). The municipality also encourages the addition of RE beyond this. For example, it recently initiated the Durban Climate Action Plan, making Durban one of only twelve cities in the world to have launched its own climate action plan. The plan aims to ensure that 70 percent of private electricity demand in the city is supplied by self-generated RE by 2050, in part through the expansion of smart grids and RE systems (CGTN Africa, 2020).

Summary: RE has high potential in KwaZulu-Natal and the regional government will further promote its development. There are particularly strong opportunities with respect to decentralised applications of RE. Here, there is great potential for expansion in digital operations management, which has played a subordinate role to date.

Increasing electricity prices, falling technology costs, and supportive energy policy measures and incentives are all leading to increased interest in alternative energy supply concepts in industry, businesses, and municipalities. This, in turn, results in a growing market for energy services and a strengthening value chain in the areas of RE and energy efficiency throughout South Africa, and in KwaZulu-Natal in particular.

By and large, companies from Baden-Württemberg are favourably positioned for successfully participating in the growing market for decentralised RE solutions in South Africa and KwaZulu-Natal. German companies already occupy the leading position as suppliers of plant technology and machinery. South African companies are aware of German companies' expertise in the field of RE and energy efficiency, and German technology is greatly valued in the country for its high quality.

There are market opportunities for companies along the entire value chain, from project development to the production of RE systems and the financing of RE projects. The following areas have particularly promising market opportunities:

- advanced services, innovative distribution and operating models: financing, build-operate-transfer (BOT), build-own-operate (BOO), shared-saving models, etc.;
- component and technology suppliers: hardware and software for RE and deregulated electricity markets;
- downstream and upstream services, such as condition monitoring and operations management; and

- products for embedded generation optimisation and load management.

International references and an established brand (brand power) present an advantage in all these cases (Hauser, 2020).

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Stellenbosch University

Centre for Renewable and Sustainable Energy Studies
Tel.: +27 (0)21 808 3605
Email: crses@sun.ac.za
Website: <http://www.crses.sun.ac.za>
Corner of Banghoek and Joubert Street
Stellenbosch, 7600

The Council of Scientific and Industrial Research (CSIR)

Scientific and technological council for research and development. The newly established Energy Centre is particularly relevant
Tel.: +27 (0)12 841 2113
Website: <http://www.csir.co.za>
Meiring Naude Road
Pretoria

⁸ This list was compiled by the Southern African-German Chamber of Commerce and Industry.

**Nelson Mandela Metropolitan University
Centre for Energy Research (CER)**

Energy research centre with a focus on sustainable energy alternatives

Tel.: +27 (0)41 504 3051

Email: info@mandela.ac.za

Website: www.nmmu.ac.za

Gqeberha

GreenCape

GreenCape is a development agency, established by the Western Cape Provincial Government and the City of Cape Town, with a focus on green technology

Tel.: +27 (0)21 811 0250

Website: www.green-cape.co.za

18 Roeland St, Cape Town

South African Renewable Energy Business Incubator (SAREBI)

Tel.: +27 21 577 2719

Website: www.sarebi.co.za

9 Novel Building

Cnr John Dreyer and Neil Hare Road

Atlantis, 7349 Cape Town

South African National Energy Development Institute (SANEDI)

Research, development, and demonstration in energy efficiency

Riaz Hamid

Tel.: +27 (0)11 038 4300

Email: information@sanedi.org.za

Website: www.sanedi.org.za

2nd Floor, Block E, 150 Linden Street, Sandton

Green Building Council

Tel.: +27 (0)86 104 2272

Email: info@gbcsa.org.za

Website: www.gbcsa.org.za

2nd Floor, The Old Warehouse Building

Black River Office Park

2 Fir Street Observatory, 7925

South African Renewable Energy Council (SAREC)

Terence Govender

Email: admin@sarec.org.za

Website: www.sarec.org.za

South African Renewable Energy Technology Centre (SARETEC)

SARETEC is a national centre for education and training in the field of RE and EE

Tel.: +27 (0)21 9538665

Website: www.saretec.co.za

Symphony Way

Bellville South Industrial, Cape Town, 7530

The South African National Energy Association (SANEA)

National energy association

Tel.: +27 (0)31 368 8000

Email: sanea@turnergroup.co.za

Website: www.sanea.org.za

c/o Turners Conferences

P. O. Box 1935, Durban

National Cleaner Production Centre (NCPC)

National programme to support energy efficiency and sustainable production through measures such as training programmes and energy audits

Tel.: +27 (0)21 658 2776

Email: ncpc@csir.co.za

Website: <http://ncpc.co.za>

15 Lower Hope Road, Cape Town

Atlantis GreenTech Special Economic Zone (SEZ)

The Atlantis GreenTech Special Economic Zone is one of the support initiatives to attract companies from the green economy sector

Mike Mulcahy

Tel.: +27 (0)21 811 0250

Website: www.green-cape.co.za

44a Bloem Street, 2nd Floor

Cape Town, 8001

National Business Initiative (NBI)

Tel.: +27 (0)11 544 6000

Email: info@nbi.org.za

Website: www.nbi.org.za

3rd Floor, Building D, Sunnyside Office Park

32 Princess of Wales Terrace

Parktown, Johannesburg, 2193

Sustainable Energy Society of South Africa (SESSA)

Association for RE with a focus on solar and energy efficiency

Tel.: +27 (0)11 513 4071

Email: office@sessa.org.za

Website: www.sessa.org.za

Photovoltaic & Solar Thermal Companies

Due to the large number of local market participants, the following directory lists the leading companies according to installed capacity in 2017/18, as well as capable companies known to the Southern African-German Chamber of Commerce and Industry from previous cooperation. Additional PV companies can be found at www.pvgreencard.co.za

Solareff (Pty) Ltd

Tel.: +27 011 675 1114
 Email: info@solareff.co.za
 Website: www.solareff.co.za
 Building 3 Quadrum Office Park, 50 Constantia Boulevard, Constantia Kloof, Roodepoort, Johannesburg, Gauteng, 1709

Emergent Energy

Tel.: +27 (0)11 028 8060 (Johannesburg Office)
 Tel.: +27 (0)21 828 4202 (Cape Town Office)
 Email Info@emerg.co.za
 Website: www.emerg.co.za

Cape Town Office	Johannesburg Office
17 Queenspark Avenue	89 Bute Lane
Salt River	Sandown
Cape Town	Sandton 2196

Sunworx (Pty) Ltd

Tel.: +27 021 981 3589
 Email: info@sunworx.co.za
 Website: www.sunworx.co.za
 17 Dana Street, Springbok Park Brackenfell, Cape Town

Rhino Energy

Tel.: +27 (0) 83 227 7072
 Website: www.rhinoenergy.co.za

African Sun Energy

Tel.: +27 076 3638 882
 Website: www.african-sun-energy.de
 Renewable Energy Development
 African Sun Energy LTD
 149 Galbossie Road/ Pretoria 0182

Sustainable Power Solutions

Tel.: +27 021 851 6303
 Email: contact@sps.africa
 Website: www.sps.africa
 Lourenshof Wine Estate
 Lourenshof Avenue
 Somerset West 7137, Cape Town

Energy Partners Solar

Tel.: +27 (0)21 941 5140
 Email: info@energypartners.co.za
 Website: www.energypartners.co.za
 Building 5, 4th Floor, Tygervalley Chambers
 Willie van Schoor Avenue, Bellville, Cape Town

BrightBlack Energy

Tel.: +27 0100 150 700
 Website: www.brightblack.co.za
 Lanseria Corporate Estate
 Stand 662, 60 Amelia Lane
 Lanseria Ext. 26, Johannesburg 1739

New Southern Energy

Tel.: +27 011 805 0582
 Website: www.newsouthernenergy.com
 Unit 7 Coventry Park
 675 Old Main Road
 Halfway House/ Midrand 1685
 Johannesburg

Romano

Tel.: +27 087 805 7300
 Email: info@romano.co.za
 Website: www.romano.co.za
 90 Marine Drive/Service Road
 Paarden Eiland – Cape Town 7405

Renewable Energy Design

Tel.: +27 021 820 4888

Email: info@redengineering.co.za

Website: www.redengineering.co.za

Pinelands, Cape Town, South Africa
Cape Town

Matla Engineering

Tel.: +27 012 004 0635

Email: info@meebs.co.za

Website: www.meebs.co.za

446 Bushwillow Avenue
Centurion / Pretoria

Sonnenkraft SA

Tel.: +27 011 326 3956/7

Website: www.solarenergy.co.za

168 Bram Fischer Drive, Randburg, 2194

Terra Firma Solutions

Tel.: +27 021 300 1620

Website: www.terrafirma-solutions.com

Suite 1 B Ground Office Floor level
Alphen Office Park, Constantia/ Cape Town

BBEnergy (Pty) Ltd

*Design and construction of solar thermal systems
in industry*

Tel.: +27 011 706 9800

Email: bbe@bbe.co.za

Website: www.bbe.co.za

24 Sloane Street
Bryanston Ext 34
2060 Gauteng South, Johannesburg

Kyasol Green Building Solutions

Tel.: +27 11 466 3584

Website: www.kyasol.co.za

32 Monte Carlo Crescent
Kyalami Business Park
Midrand 1684

E3 Energy

*Design and construction of solar thermal systems
in industry*

Tel.: +27 021 511 1661

Email: info@e3energy.co.za

Website: www.e3energygroup.com

54 Neptune St, Paarden Eiland, Cape Town, 7405
Cape Town

Solarzone

*Design and construction of solar thermal
systems in industry*

Tel.: +27 021 813 6680

Email: info@solarzone.co.za

Website: www.solarzone.co.za

6a Erica Way, Somerset West Business Park,
Somerset West, 7130 Cape Town

SolarWorld Africa (Pty) Ltd

Tel.: +27 21 421 8001

Email: gk@solarworld.co.za

Website: www.solarworld.co.za

24th Floor, 1 Thibault Square, Lower Long Street,
Cape Town

Biogas Companies (South African Biogas Project Developers and EPC)

Biogas SA

Tel.: +27 082 445 4739

Website: www.biogassa.co.za

Ibert (Pty) Ltd.

Tel.: +27 010 590 8373

Email: info@ibert.co.za

Website: www.ibert.co.za

Bedford Arcade, Van Buuren Rd, Bedfordview,
Germiston, 2007, Johannesburg

Bio2Watt

Tel.: +27 087 135 2409
Email: info@bio2watt.com
Website: www.bio2watt.com
1st Floor Palazzo Towers West
Montecasino Fourways
Johannesburg

Ennovation BioEnergy

Tel.: +27 083 2995 164
Website: www.ennovation.co.za
Durban

Selectra

Tel.: +27 0861 246 427
Email: info@selectra.co.za
Website: www.selectra.co.za
Address: 36 Merriman Ave, Highlands North,
2192, South Africa
Johannesburg

ELB Engineering Services

*Planning and construction of commercial biomass
power plants*
Tel.: +27 011 772 1400
Email: sales@elb.co.za
Website: www.elbengineering.co.za
345 Rivonia Blvd Rivonia, Sandton
Johannesburg

Wind Power Project Developers

Other market participants in the wind power industry are listed in the South African Wind Energy Association (SAWEA) membership directory: www.sawea.org.za/members/directory/

**South Africa Mainstream Renewable Power
Developments (PTY) Ltd**

Tel.: +27 (0)21 657 4040
Website: www.mainstreamrp.com/south-africa/
4th Floor Mariendahl House,
Newlands on Main
Corner Main & Campground Roads
Claremont, 7708, Cape Town

G7 renewable energies (Pty) Ltd

Tel.: +27 (0)21 300 0610
Email: info@g7energies.com
Website: www.g7energies.com
125 Buitengracht street, 5th floor
Cape Town

Global Energy Biogas (Pty) Ltd

Tel.: +27 021 020 0752
Email: info@globalenergy.co.za
Website: www.globalenergy.co.za
The Sustainability Institute
Lynedoch Road
Stellenbosch/ Cape Town

Shift Innovation

Tel.: +27 032 482 0224
Website: www.shiftinnovation.co.za
KwaZulu-Natal 4450
Durban

Fountain Green Energy

Tel.: +27 031 764 7914
Email: fge@fountain.co.za
Website: www.fge.co.za
Cycad Building
Fairway Green Office Park
3 Abrey Road, Kloof, 3640
Durban

Red Cap Energy (Pty) Ltd

Tel.: +27 (0) 21 790 1392
Email: info@red-cap.co.za
Website: www.red-cap.co.za
Unit B2, Mainstream Centre, Main Road,
Hout Bay, Cape Town

InnoWind Limited

Tel.: +27 41 487 2418
Website: www.innowind.com
1 Oakdale road - The Oval
Cape Town

Rainmaker Energy

Tel.: +27 (0)21 674 0429
Email: wind@rainmakerenergy.co.za
Website: www.rainmakerenergy.co.za
95 Garfield Rd, Claremont
Cape Town

African Clean Energy Developments

Tel.: +27 21 813 2768
Website: www.aced.co.za/
Fernwood House, 2nd Floor,
The Oval, 1 Oakdale Road, Newlands
Cape Town

Windlab Developments South Africa

Tel.: +27 21 701 1292
Website: www.windlab.com
Unit 3, Demar Square, 45 Bell Crescent Road,
Westlake,
Cape Town

Cennergi (Pty) Ltd.

Tel.: +27 12 675 6655
Website: www.cennergi.com
Block A, Ground Floor Lakefield Office Park
272 West Avenue, Centurion

Energy Service Companies (ESCOs) & Project Developers

EnergyPartners

RE and EE in industry: Planning, construction, financing

Tel.: +27 (0)21 941 5140
Email: info@energypartners.co.za
Website: www.energypartners.co.za
Building 5, 4th Floor, Tygervalley Chambers
Willie van Schoor Avenue, Bellville, Cape Town

Clean Energy Africa

CEA is an Africa-focused investment firm that develops and finances alternatives energy technologies in southern Africa.

Tel.: +27 (0)11 486 0982
Email: info@cleanenergyafrica.com
Website: www.cleanenergyafrica.co.za
33 The Valley Road
Parktown, Johannesburg, 2193

Shared Energy Management (SEM)

Tel.: +27 012 663 3125
Website: www.semsolutions.co.za
S&P House
Cnr Lenchen Avenue
North & South Street
Centurion, Johannesburg

EOH Intelligent Infrastructure

Tel.: +27 011 844 3200
Website: www.eohii.co.za
Cambridge Commercial Park,
6 Trinity Close,
Paulshof
Sandton

BBEnergy (Pty) Ltd

Tel.: +27 011 706 9800
Email: bbe@bbe.co.za
Website: www.bbe.co.za
24 Sloane Street/ Bryanston Ext 34
2060 Gauteng South/ Johannesburg

Basia Consulting (Pty) Ltd

Tel.: +27012 345 1046
Email: info@basia.co.za
Website: www.basia.co.za
90 Sovereign Drive/
Route 21 Corporate Park/ Centurion/ JHB

Zamori Engineering Services

Tel.: +27 012 543 3487
Email: zamori@zamori.net
Website: www.zamori.net
349 Borage avenue
Annlin West
Pretoria

Grey Green Sustainable Energy Engineering

Tel.: +27021 447 7801
Email: info@greygreen.co.za
Website: www.greygreen.co.za
Unit 403 Salt Circle, 19 Kent Street,
Woodstock, Cape Town

Biotherm Energy

A leading IPP in South Africa: PV, wind & biogas

Tel.: +27 011 367 4600

Website: www.biothermenergy.com

Building 1, Ground Floor, Leslie Ave, Fourways,
Sandton, 2067
Johannesburg

Genesis Eco-Energy Developments

Development and financing of RE projects

Tel.: +27 083 460 3898

Website: www.genesis-eco.com

Unit B10,
Century Plaza,
Heron Crescent,
Century City, Cape Town

2.2.4. Environmental Technology

South Africa is considered one of neighbouring continent's pioneers in environmental technology. Promoting the green economy has long been central to development plans and is seen as an opportunity to create jobs and secure competitive advantages. Plans published in July 2020 to revive the economy after the COVID-19 slump with infrastructure investments of 18.6 billion euros also include several projects for environmental technologies. As such, thanks to government spending, the economic crisis can also be viewed as an opportunity for infrastructure development, particularly for water and wastewater. South Africa is also the most important market on the African continent for companies from Baden-Württemberg. South Africa's import volume in environmental technology amounted to 1.8 billion euros in 2017. Of this, companies from Baden-Württemberg exported goods and services worth 57 million euros – primarily in the leading markets of green energy generation and storage (29 percent), energy efficiency (22 percent), the circular economy (21 percent), water resource management (eleven percent), resource and material efficiency (ten percent), and air pollution control (seven percent). The growth potential is also rated as above average by global comparison, at eight percent per year from 2017 to 2025 (Umwelttechnik BW, 2019).

South Africa's regulatory environment is generally favourable for the implementation of green technologies. The country also has sound environmental legislation, for example, on pollution and on water use. The broad National Framework for Sustainable Development contains a large number of sector-specific strategies that relate directly or indirectly to the promotion of green technologies. The areas particularly relevant for South Africa's transition to a green economy include sustainable mobility, RE (see Chapter 2.2.3), energy efficiency, sustainable waste management, as well as water management – especially effective water usage, alternative technologies for wastewater management, municipal water metering (demand-side management), and reduction of water losses in agriculture, mining, and municipalities.

South Africa has been a major greenhouse gas emitter, particularly due to its coal-based energy sector. To address this, in mid-2019, South Africa became the first country in Africa to introduce a carbon tax. Regulated by the Carbon Tax Act 15 of 2019, the carbon tax aims to reduce greenhouse gas emissions by making polluters bear the costs of remediation. This is intended to incentivise an increased use of renewable energies and help counteract climate change.⁹ The promotion of environmental technologies is organised in a decentralised manner.

⁹ The tax, planned since 2010, will come into force in two phases: In the first phase (from June 2019 to the end of 2022), the tax will be 120 rand (about seven euros) per ton of carbon dioxide equivalent. However, once tax allowances are deducted from this, the tax effectively amounts to between six and 48 rand (around 0.30 to three euros) per ton. In the second phase (planned from 2023 to December 2030), the effectiveness of the tax is to be

The responsible department is the DTIC, with the involvement of many other departments and ministries, such as the Department of Environmental Affairs and the Ministries of Science, Rural Development, and Energy. The Western Cape Province is a pioneer in South Africa in the promotion of green technologies. Back in 2010, it established the GreenCape development agency to assist companies and investors with market access, training, and advocacy. Although GreenCape originally focused on its home province, it is expanding activities globally (e.g., in the International Cleantech Network) and nationally, for example, by advising other provinces such as Mpumalanga. Market information and best practice examples are also being used by companies in other South African provinces. In October 2020, an open-source digital directory of green business support services in South Africa was published in cooperation with the Friedrich Naumann Foundation to connect local entrepreneurs with potential partners. In KwaZulu-Natal, EDTEA is leading the effort along with TIKZN. However, the implementation of environmental technologies is left to the municipalities, whose interest in this can vary from municipality to municipality. International donors still play an important role in funding environmental technology projects (see Chapter 3.3). Companies from across Europe are well represented, especially from France (Veolia, for example, is involved in a PPP in eThekweni for water treatment), the UK, the Netherlands, the United States, and India, as well as Japan (Hitachi) and Australia (Entura) (Moodliar, 2020). An industry meeting for environmental technologies in South Africa is planned for the IFAT Africa 2021 trade fair, which will be held in Johannesburg in July 2021.

Challenges such as financing, a lack of skilled workers, bureaucracy, and regulatory uncertainties remain obstacles to the growth of environmental technologies. The coronavirus crisis is also weighing heavily on further development. “The worsening of the economic crisis as a result of the COVID-19 pandemic is likely to have a negative impact on the bottom lines of local municipalities in the province. Some of the population will no longer be able to pay water and sanitation bills due to job losses and the resulting economic hardship. National government support will therefore be needed to prevent a further decline in the funding available for water utilities” (Massie, 2020).

Environmental technologies are cross-sectoral. Renewable energies are also an environmental technology, however, due to their importance, a separate chapter has been dedicated to them. Aside from renewable energies, water and waste management are the most important industries in this area.

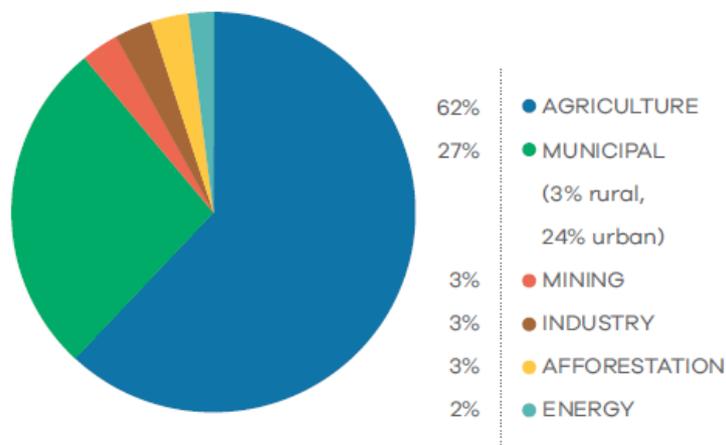
South Africa causes some of the worst air pollution in Africa. Numerous coal-fired power plants, heavy industry (smelters, cement and chemical factories), frequent forest fires, and the use of biomass as a domestic heating fuel are among the main causes. At the same time, South Africa is a signatory to the Paris Climate Agreement, and takes its multilateral commitments seriously. It has committed to reducing its greenhouse gas emissions by 42 percent and introduced a carbon tax in 2019 (Umwelttechnik BW, 2019). KwaZulu-Natal is also very active in climate protection and, together with co-chairs from Baden-Württemberg, Santa Fe and Washington, has been a member of the Under2 Coalition climate initiative since 2017. The province is also a participant in the Climate Footprint Project, where it is currently conducting an inventory of greenhouse gas emissions at the district level – particularly for the energy and waste sectors.

In 2017, the South African import volume for air pollution control products totalled 57 million euros for exhaust air purification and measurement products, and 76 million euros for filter technology and catalysts. The latter category is regarded as having particularly strong growth potential (Umwelttechnik BW, 2019).

2.2.4.1. Water Resource Management

Decreasing rainfall due to climate change, uneven rainfall distribution, badly maintained and aging infrastructure, mismanagement, and stalled projects: South Africa's water sector faces major challenges. The water shortage, which particularly affects KwaZulu-Natal, Gauteng, Mpumalanga, the Western Cape, and the Eastern Cape, highlights the need to address the problem and invest in the sector. By 2030, water supply in South Africa could fall 17 percent short of demand; the water crisis is already cited as the second-highest risk in doing business in South Africa. At the same time, daily consumption is 223 litres per capita, which is well above the international benchmark of around 180 litres. The figure below shows that agriculture is the greatest consumer, followed by municipalities, which account for around a quarter of water usage. Demand in these sectors will rise with the expansion of agribusiness and increasing urbanisation, and with it the demand for alternative water sources and more efficient water usage. In KwaZulu-Natal, the agricultural industry is strongly represented in eThekweni.

Figure 9 Water Usage in South Africa



Source: GreenCape (2020, p. 7)

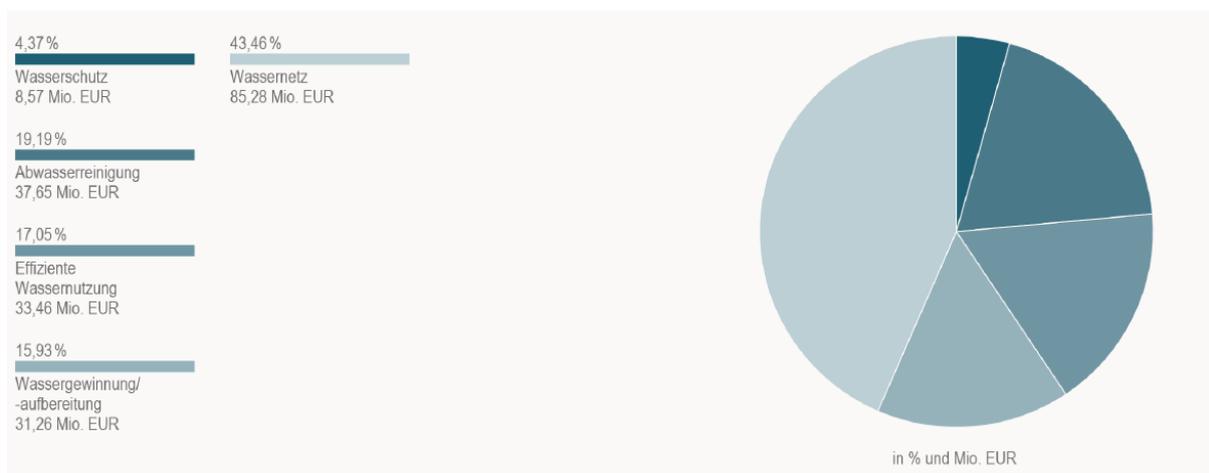
Inadequate treatment of municipal and industrial wastewater is also contributing to environmental damage to rivers, and countermeasures need to be taken. Of the country's existing wastewater facilities, about 56 percent are in poor or critical condition, as are around 44 percent of water treatment facilities. These facilities are in urgent need of repair or require skilled labour. Nearly 4.6 billion euros (86 billion rand) needs to be invested over the next decade to ensure safe drinking water and proper wastewater treatment (GreenCape, 2020; Southern African-German Chamber of Commerce and Industry, 2019).

A start has been made. The government's infrastructure investments announced in summer 2020 to tackle the coronavirus crisis include eleven water projects worth 5.5 billion euros. For the most part, these are projects that had already been announced and are now entering the

implementation phase, and there are opportunities for German companies to participate in them. On the list is the uMkhomazi Water Project, according to which around 280 million euros are to flow into the water supply for Durban and Pietermaritzburg (Najjar, 2020c). Tenders for this have been published by the Department of Water and Sanitation, the national tender database (etenders.treasury.gov.za), and Germany Trade & Invest (Najjar, 2020d). A number of water projects have also been implemented in KwaZulu-Natal in recent years due to the precarious situation, such as South Africa's first seawater desalination plant in Richards Bay, which started operating in 2017. In the 2019/2020 financial year, around 1.4 billion rand (approximately 75 million euros) was planned for investment in infrastructure projects in the water sector by KwaZulu-Natal's responsible water utility. A PPP is also currently planned, with a 20-year BOOT (build-operate-own-transfer) concession for wastewater treatment in eThekweni, in KwaMashu, and at the Northern Wastewater Treatment Works in Durban. A feasibility study has been prepared for this, and a transaction adviser is currently being appointed (Green Cape 2020, p. 41).

The import volume for goods and services related to water resource management is also trending upwards in South Africa: a 67 percent increase to 328 million euros is forecast between 2017 and 2025. In 2017, demand was primarily for goods for the water network, wastewater treatment, efficient water usage, and water extraction (see Figure 10 below).

Figure 10 South African Water Resource Management Imports by Market Segment (2017)



Source: Umwelttechnik BW GmbH (2019)

Demand for products from Baden-Württemberg developed dramatically between 2008 and 2017, particularly in the water efficiency and water network market segments (Umwelttechnik BW, 2019).

Challenges to doing business in the water sector include the low water tariffs, high losses, and low cost recovery. "Cost recovery is mainly affected by non-revenue water (NRW). NRW is the percentage of treated water that has been discharged into the network but not billed." In some municipalities, this is as high as 50 percent (Moodliar, 2020). "This ratio is driven by physical losses (e.g., leaks, burst pipes), apparent losses (e.g., through theft or metering inaccuracies), and authorised unpaid water use (e.g., for putting out fires). The average rate of NRW in South Africa is 41 percent of the water supply. The dilapidated infrastructure is strongly evident here – as much as 35 percent of the water supply is lost to leakage. In total, municipalities lose about 1,660 million cubic meters in NRW annually, equivalent to around 9.9 billion rand (527

million euros). In addition, an investment gap of approximately 33 billion rand (1.8 billion euros) will need to be covered over the next decade to ensure safe water supply” (Southern African-German Chamber of Commerce and Industry, 2019, p. 23). However, the problems with NRW also present opportunities with respect to performance-based contracting and the replacement of pipes and meters (Moodliar, 2020).

The target groups for products and services from companies from Baden-Württemberg are either industrial companies – where there are opportunities in agricultural processing in particular – or municipalities, which are also key decision makers in the value chain for water. Larger municipalities are of particular interest here. The need for technology and the financial and administrative capacities vary greatly. In smaller municipalities, “water boards are important interlocutors, as they can act as intermediaries.” These are contracted by municipalities to provide water, act as intermediate suppliers of raw and potable water, and calculate groundwater tariffs (Southern African-German Chamber of Commerce and Industry, 2019, p. 26). In KwaZulu-Natal, these are primarily Mhlathuze Water and Umgeni Water (Global Africa Network, 2019).

According to interviewees, PPPs offer great opportunities, and could help circumvent the annual funding gap of 1.8 billion euros. For companies, long-term profits and risk minimisation are key in this context. PPPs are already being successfully implemented in KwaZulu-Natal (Massie, 2020). However, municipalities need support in implementation planning, which is why direct contact should be established with them, ideally during the quiet period in the coronavirus crisis, in order to better understand their needs.

Further market opportunities will develop in the coming years in the area of alternative water sources, such as for suppliers of groundwater products and services, the treatment of groundwater to obtain drinking water, as well as monitoring systems for quality, quantity, and consumption patterns for municipalities. There will also be demand for more desalination plants, preferably with autonomous energy solutions. Manufacturers of membranes for reverse osmosis are also not yet strongly represented in the local market.

Because of rising water tariffs, water consumption-reducing technologies are becoming increasingly interesting for both private and municipal customers. For the latter, advanced metering technologies (smart water meters) are relevant, as well as solutions to locate and combat leaks. “Here again, there will likely be differences in demand between urban and rural communities, as rural communities will be more affected by leaks and other causes of water loss. It should be noted, however, that smart meters are also manufactured in the local market. Nevertheless, foreign makes are often used for water meters, with brands like Elster-Kent and Honeywell particularly well represented. Manufacturers of pre-paid water meters will also likely serve the growing demand in future. Here too, South African manufacturers are quite prepared to compete. The potential market for products and services in the field of water conservation in urban areas is around two billion rand (107 million euros) per year nationwide; however, about 500 million rand (27 million euros) of this is unfunded” (Moodliar, 2020). According to GreenCape, the pulp and paper industry offers the greatest potential for water conservation. This industry includes Mondi Merebank, a KwaZulu-Natal-based multinational manufacturer of paper and packaging, which plans to invest 600 million euros in improving environmental standards in the coming years, with a focus on water conservation.¹⁰

¹⁰ The company was visited in November 2019 as part of the business mission of Baden-Württemberg’s Minister of Economic Affairs, Labour and Housing, Dr Nicole Hoffmeister-Kraut.

Water consumption monitoring is growing only marginally among private households, mainly due to a lack of trust in municipal water meters. However, products to increase consumption efficiency are in high demand. In the agricultural industry, efficient irrigation systems are needed, especially for growing grapes and fruits, and the South African company Turf-Ag, which has a branch in Durban, is active in this field. There is also a need for water quality monitoring. Progress is being made in regulating the quality and quantity of rainwater discharge; indeed, there is a separate rainwater system that does not discharge into sewers. There are market opportunities for measuring devices and systems for water treatment, suppliers of software products for water analysis, as well as analysis of water samples. In this context, digital solutions (including SCADA systems) are also important for municipalities (Moodliar, 2020).

Companies may shy away from the high capital costs of wastewater reuse, especially during the current economic crisis. Nevertheless, the gross added value of reuse is estimated at around 155 billion rand (8.3 billion euros) nationwide (Southern African-German Chamber of Commerce and Industry, 2019, pp. 39 et seq.)

Summary: All of South Africa is suffering from water shortages and a major investment backlog in drinking water supply and wastewater disposal. Companies from Baden-Württemberg have good opportunities in KwaZulu-Natal, especially in the agricultural industry, but also in the mining industry and municipalities with respect to supplying products for the extraction of alternative water sources, wastewater technologies, measurement technologies, monitoring systems, water reuse technologies, and water-conservation technologies.

Contacts

Government Bodies

Department of Water and Sanitation (DWS)

Tel.: +27 (0) 12 336 8387
Website: www.dwaf.gov.za
Sedibeng Building, 185 Francis Baard Street
Pretoria

Department of Trade, Industry and Competition (DTIC)

Tel.: +27 (0)12 394 9500
Email: contactus@thedtic.gov.za
Website: www.dtic.gov.za
77 Meintjies Street
Sunnyside, Pretoria

eThekweni Metropolitan Municipality

Tel.: +27 (0) 31 311 1111
Website: www.durban.gov.za
City Hall, 263 Dr Pixley Ka Seme St,
Durban

Research Institutions

Water Research Commission

Tel.: +27 (0) 12 761 9300
Email: info@wrc.org.za
Website: www.wrc.org.za
4 Daventry Street, Lynnwood Manor
Pretoria

Council for Scientific and Industrial Research

Tel.: +27 (0) 12 841 2911
Email: Enquiries@csir.co.za
Website: www.csir.co.za
Offices in Pretoria, Durban, Stellenbosch, and
Cape Town

Water Utilities in KwaZulu-Natal

Mhlathuze Water

Tel.: +27 (0) 35 902 1000
Cnr South Central Arterial & Battery Bank Alton
Richards Bay

Umgeni Water

Tel.: +27 (0) 33 341 1042
310 Burger Str.
Pietermaritzburg

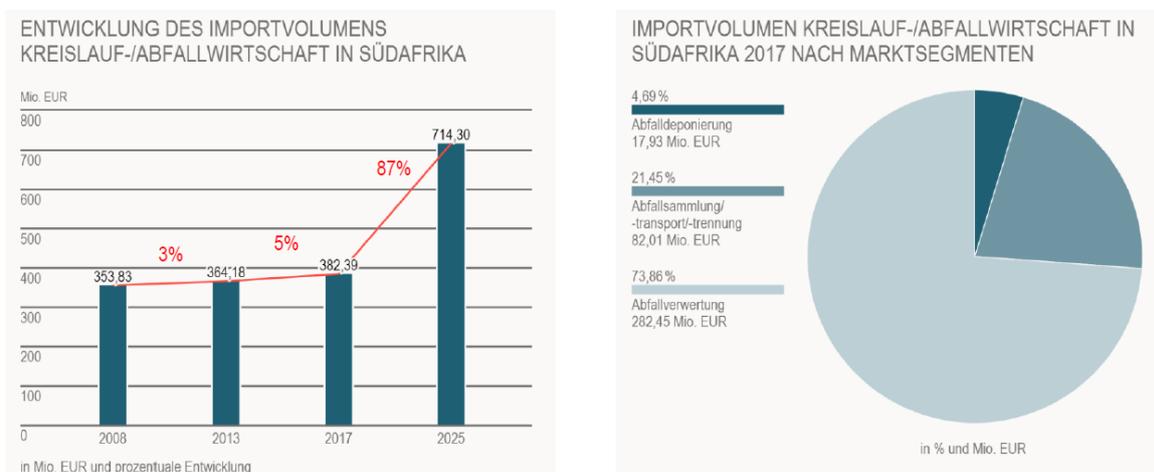
Talbot

Tel.: +27 (0) 33 346 1444
Email: talbot@talbot.co.za
20 Pentrich Road, Masons Mill
Pietermaritzburg

2.2.4.2. Waste Management

In recent years, positive momentum has developed in the South African waste management sector: in 2011, the recycling rate of the country’s 108 million tons of waste was only ten percent. According to the *State of Waste Report*, there has been great progress since then, but there is no current sold data. In 2016, waste management contributed about 24.3 billion rand (1.3 billion euros) to South Africa’s GDP, and provided 36,000 formal jobs and 80,000 informal jobs. Recycling up to 20 million more tons of waste per year is expected to generate an addition 11.5 billion rand (613 million euros) annually by 2023, and create 4,300 new SMEs (GreenCape, 2020, p. 1). The import volume for the circular economy and waste management amounted to 382.4 million euros in 2017, mainly in waste recycling (see the figure below).

Figure 11 South African Circular Economy and Waste Management Imports



Source: Umwelttechnik BW GmbH (2019)

The figure also shows a steep increase up to 2025, especially for landfill securing and remediation, material recycling, raw material recovery at landfills, and waste collection. Companies from Baden-Württemberg have thus far concentrated their activities primarily in waste collection, transport, and separation; less momentum is expected here.

The positive momentum slowed in 2019, largely due to leadership changes at the Department of Environmental Affairs and the responsible Department of Environment, Forestry and Fisheries (DEFF). However, the waste management sector is hopeful that Minister Barbara Creecy will provide regulatory certainty in a timely manner, as the economic benefits from

waste management are becoming increasingly visible. Private sector investment has already increased, and municipalities are increasingly integrating material recovery in their budgets. Rising public awareness of environmental issues is also putting pressure on companies to divert less waste to landfills and use recycled materials in products (GreenCape, 2020).

Further progress is expected from the planned introduction of extended producer responsibility (EPR), which has been long discussed and was in the legal consultation process as of July 2020. Based on a voluntary industry initiative, companies from the paper and packaging industry, the electrical and electronics industry, and the lighting industry have already created industry plans for the sector-specific minimisation of waste with the aim of achieving a circular economy: “Waste management has perhaps never been so dynamic” (Baker McKenzie, 2019).

In principle, waste management is the responsibility of the municipalities, but they can also award waste disposal service contracts to companies. These contracts may not exceed a period of three years, and are awarded through a tendering process. Municipalities are required to offer waste management services to households for a fee, but not to the private sector. In principle, municipalities are expected to provide the infrastructure for waste collection and storage, so a company can independently contract its waste management services from the municipality for a fee, or from private waste management companies. Interwaste in Durban is an example of one such waste management service provider. Figure 12 below provides an overview of waste management in South Africa.

Figure 12 Waste Management in South Africa

		Collection	
		Local Municipalities	Private sector
Generation	Household	Local municipalities are constitutionally mandated to ensure that household waste is collected. They can either provide the collection service themselves, or appoint private waste contractors.	Waste management companies can be contracted by local municipalities (through a procurement process) to collect household waste, or to manage drop-off facilities open to households.
	Commercial / Industrial	Local municipalities are not obligated to service commercial/ industrial waste generators. However, the latter may ask local municipalities to collect waste, thereby incurring a service fee.	Commercial and industrial waste generators are responsible for the management of their own waste, including safe disposal. This is usually outsourced to private waste management enterprises.
Treatment / Disposal		Municipalities are mandated to ensure the availability of disposal facilities (landfills). They can support alternative waste treatment by means of providing material recovery and aggregation infrastructure. Such facilities can be managed by the municipality itself, or contracted to the private sector through a procurement process.	The private sector can either have its own waste treatment and/or disposal facilities; or it can be contracted by local municipalities to manage municipal recovery, aggregation, or disposal facilities.

Source: GreenCape (2020, p. 9)

Through municipal ordinances, local municipalities can decide on how waste is managed within their borders. These ordinances often contain requirements for both generators and

disposers of waste, as well as accreditations and reporting requirements. The Department of Environmental Affairs in the Western Cape is currently drafting legislation for municipalities that proposes a separation-at-source process, meaning waste separation at the household level (South African Government, 2020), which is likely to have an impact on municipalities in KwaZulu-Natal. In general, household waste separation is not common in South Africa and is not incentivised, raising the cost of value addition. Johannesburg is an exception to this, where mandatory waste separation requirements already exist.

Summary: In the medium-term (the next three to five years), there will be an increasing focus on recycling and reprocessing waste rather than simply disposing of it in landfills. The key drivers of this include:

- increased awareness among the public and policymakers of the negative impacts of waste;
- a growing understanding of the economic value of waste;
- new regulations at the national and regional levels: these could open up functioning waste streams, especially for organic waste, plastic waste, and e-waste. Furthermore, the waste management sector is expecting simplified rules for alternative waste treatment technologies as well as the availability of financing in the sector;
- partnerships between producer responsible organisations (PROs¹¹), organised industry, and the DEFF for EPR and industry-based voluntary undertakings regarding the circular economy;
- increased pressure on municipal landfills, both in terms of cost (which increases demand for alternative waste solutions) and available space; and
- government recognition of the jobs potential in waste management, and investor interest in the waste sector.

There are particularly strong market opportunities with regard to the recycling of organic waste, plastic waste, electronic waste, and construction waste. The private sector is an especially important target group, but the heightened cost awareness of companies during the COVID-19 pandemic poses problems.

Tenders are issued at the local level. In some provinces, the public sector is already involved in setting up recycling plants and logistics stations. However, municipalities do not always have the necessary level of expertise, which is why it can be useful for companies to be involved in tender processes at an early stage and advise on the design. In addition, the digitisation of waste collection and separation is yet to occur in South African cities, and could be particularly relevant for waste-to-energy plants. The employment effects of waste collection should not be ignored in this context. Semi-automated waste collection could be an interesting solution in the medium term.

Contacts

¹¹ The PROs consist of Polyco (polyolefin), PETCO (PET), The Glass Recycling Company (glass packaging), MetPac-SA (metal packaging), the Polystyrene Association of South Africa (high impact and expanded polystyrene), the Southern African Vinyls Association (vinyl products), and the Paper Manufacturers Association of South Africa (paper products).

Government Bodies

Department of Environment, Forestry and Fisheries

Cnr. Steve Biko (previously Beatrix Street) and Soutpansberg Rd, Environment House, 473 Steve Biko, Arcadia, Pretoria, 0083
Tel.: +27 (0) 86 111 2468
Website: www.environment.gov.za

eThekweni Metropolitan Municipality

Tel.: +27 (0) 31 311 1111
Website: www.durban.gov.za
City Hall, 263 Dr Pixley Ka Seme (West) Street
Durban

Department of Science and Technology

DST Building (53), CSIR (Scientia Campus), Meiring Naudé Road, Brummeria, 0001
Tel.: +27 (0)12 843 6333
Website: www.dst.gov.za

Durban Solid Waste

PO Box 1038, Durban, 4001
Tel.: +27 (0) 31 311 8804
Website:
http://www.durban.gov.za/City_Services/cleansing_solid_waste/Pages/default.aspx

Associations and Research Institutions

The Council for Scientific and Industrial Research (CSIR)

CSIR IU, Meiring Naude Road, Brummeria, Pretoria
Tel.: +27 (0)12 841 4801
Website: www.csir.co.za

The e-Waste Association of South Africa (eWASA)

1st Floor Liberty Life Building, 21 Aurora Road, Umhlanga Ridge, 4320
Tel.: +27 (0)31 535 7146
Website: <https://www.ewasa.org/>

The Institute of Waste Management of Southern Africa (IWMSA)

PO Box 79 | Allen's Nek | 1737
Tel.: +27 (0)11 675 3462
Website: <https://iwmsa.co.za/>

National Recycling Forum

Plastics Federation of SA, Private Bag X 68, Halfway House, 1685
Tel.: +27 (0)11 314 4021
Website: <http://www.recycling.co.za/>

Packaging Council of SA (PACSA)

P.O. Box 131400 Bryanston 2021
Tel.: +27 (0)12 001 1914
Website: www.packagingsa.co.za

South African Waste Information Centre (SAWIC)

Website: <http://sawic.environment.gov.za>

Companies

The Glass Recycling Company

P O Box 623, Paulshof 2056
Tel.: +27 (0)11 803 0767
www.theglassrecyclingcompany.co.za

Nampak Recycling

Private Bag X85, Bryanston 2021
Tel.: +27 800 018 818
Website: www.nampak.com

PET Recycling Company (Pty) Ltd

Trading as PETCO unit 3, Parade on Kloof, 132 The Parade Oriel, Bedfordview
Tel.: +27 (0)11 615 8875
Website: www.petco.co.za

Plastics SA

18 Gazelle Ave, Corporate Park South, Old Pretoria Rd, Midrand
Tel.: +27 (0)11 314 4021
Website: www.plasticsinfo.co.za

POLYCO

Tel.: +27 (0) 71 475 6586
Website: www.polyco.co.za

3. Practical Information for Companies from Baden-Württemberg

Good contacts are essential for entering or expanding markets. In addition to the industry-specific contacts in the previous chapter, the following contacts are worth getting in touch with.

3.1. Cooperation Partners and Contacts

In KwaZulu-Natal

Durban Office of the Southern African-German Chamber of Commerce and Industry

Danilla van Jaarsveldt
Regional Representative KwaZulu-Natal
Tel.: +27 31 830 5210
Email: durban@germanchamber.co.za
www.suedafrika.ahk.de

Trade and Investment KwaZulu-Natal (TIKZN)

Claude Jerome Pretorius
Destination Marketing Manager
Tel.: +27 31 368 9600
Email: claudio@tikzn.co.za
www.tikzn.co.za

Dube TradePort

Email: info@dubetradeport.co.za
www.dubetradeport.co.za

Durban Chamber of Commerce and Industry

Email: info@durbanchamber.co.za
www.durbanchamber.co.za

Durban Chemicals Cluster

Tel.: +27 (0) 31 764 6100
Email: dcc@bmanalysts.com
www.durbanchemicalscluster.org.za

Moses Kotane Institute

Durban-based research institute of the KZN provincial government, working on economic development and innovation. Co-funded by the KZN Department of Economic Development, Tourism & Environmental Affairs
Email: info@moseskotaneinstitute.com
www.moseskotaneinstitute.com

Richards Bay Industrial Development Zone

Email: info@rbidz.co.za
www.rbidz.co.za

In South Africa

Business Representative Office Baden-Württemberg in South Africa

c/o AHK Südliches Afrika
Tel.: +27 11 486 2775
Email: info@germanchamber.co.za

German Embassy in Pretoria

Tel.: +27 (0)12 427 8935
Email: wi-1@pret.diplo.de
www.southafrica.diplo.de
201 Florence Ribeiro Avenue
Groenkloof, Pretoria

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

South Africa-German Energy Programme (SAGEN)
Tel.: +27 (0)12 423 5900
Email: sascha.thielman@giz.de
www.giz.de/de/weltweit/17790.html

KfW IPEX-Bank GmbH

Representative office in Johannesburg
Tel.: +27 11 507 25 00
Email: Joseph.Mbuyi@kfw.de

South African Contacts

Department of Trade, Industry and Competition (DTIC)

Tel.: +27 (0)12 394 9500
Email: contactus@thedtic.gov.za
Website: www.dtic.gov.za
77 Meintjies Street
Sunnyside, Pretoria

Invest SA

National investment promotion agency
Website: www.investsa.gov.za

State Information Technology Agency

Government agency, authority for digitisation strategies

Tel.: +27 12 482 3000
Email: contact.centre@sita.co.za
Website: <http://www.sita.co.za/contact>
459 Tsitsa Street
Pretoria

In Baden-Württemberg

Baden-Württemberg International

Anja Kümmel
Regional Manager Africa
Department International Economic Cooperation
and Location Marketing
Tel.: +49 711 22787-935
Email: anja.kuemmel@bw-i.de
Website: www.bw-i.de

Baden-Württembergischer Industrie- und Handelskammertag

Tassilo Zywietz
Managing Director, IHK Export Academy
Business Unit Manager International, Chamber
of Commerce and Industry Stuttgart Region
Tel.: +49 711 2005 1231
Email: tassilo.zywietz@stuttgart.ihk.de
Website: www.bw.ihk.de

Business Scout for Development

Seconded by BMZ to IHK Reutlingen with IHK
Competence Centre Sub-Saharan Africa
Simone Iltgen
Tel.: +49 7121 20 11 89
Mobil: +49 151 55131723
Email: ez-scout@reutlingen.ihk.de
Website: www.reutlingen.ihk.de

Ministry of Economic Affairs, Labour and Housing Baden-Württemberg

Tobias Schill and Iris Wandrei
Foreign Trade Department
Tel.: +49 711 123-2440 and -2413
Email: tobias.schill@wm.bwl.de /
iris.wandrei@wm.bwl.de
Website: www.wm.baden-wuerttemberg.de

South African Consulate General

Roleta Julieta Susana Lebelo
Consul General
(responsible for Baden-Württemberg and Bavaria)
Sendlinger-Tor-Platz 5
80336 Munich
Tel.: +49 89 231 163 0
Email: weigm@dirco.gov.za (Office)

Umwelttechnik BW GmbH

Michaela Gerdes
Project Manager Internationalisation
Friedrichstraße 45
70174 Stuttgart
Tel.: +49 711 252841-44
Email: michaela.gerdes@umwelttechnik-bw.de
Website: www.umwelttechnik-bw.de

There are numerous other parties involved in development policy with African countries. An overview of these is available at stm.baden-wuerttemberg.de/de/themen/europa-und-internationales/entwicklungszusammenarbeit/.

In Germany

**German-African Business Association
(Afrika-Verein der deutschen Wirtschaft e.V.)**

Melanie Eckhard
Adviser to the CEO, Country Representative
Southern Germany
Tel.: +49 30 2060 719 66
Email: eckhard@afrikaverrein.de
Website: www.afrikaverrein.de

**Agency for Business and Economic
Development
(Agentur für Wirtschaft und Entwicklung)**

of the Federal Ministry for Economic
Cooperation and Development (BMZ)
Haus der Verbände
Am Weidendamm 1A
10117 Berlin
Tel.: +49 30 7262 5680
Email: info@wirtschaft-entwicklung.de
Website: www.wirtschaft-entwicklung.de

Germany Trade and Invest – GTAI

Villemombler Str. 76, 53123 Bonn
Fausi Najjar
Economic correspondent based in Johannesburg
Email: fausi.najjar@gtai.de
Website: www.gtai.de

**Africa Business Network
(Wirtschaftsnetzwerk Afrika)**

of the Federal Ministry for Economic Affairs and
Energy (BMWi)
Potsdamer Str. 19
910783 Berlin
Tel.: +49 30 27575760
Email: beratung@wirtschaftsnetzwerk-afrika.de
Website: www.wirtschaftsnetzwerk-afrika.de

3.2. Legal Framework of South Africa

The Republic of South Africa is a centralised state with certain federal elements that allows provinces like KwaZulu-Natal to enact their own laws in certain areas. National legislation governs economic exchange and investment. The legal system in South Africa is based both on common law, under which previous court rulings are used as precedents, and civil law, the primary form of law in continental Europe. The following section outlines certain regulations, such as those for imports, entries, and investments, and also looks at special features of South African law, for example, Broad-Based Black Economic Empowerment, which has the aim of promoting equal opportunities for previously disadvantaged population groups.

3.2.1. Import Regulations and Customs Duties

Most goods from Germany can be imported into South Africa without an import license, except for products classified as potentially dangerous and some foodstuffs. An overview of the goods requiring an import license is provided in Schedules 1-3 of the ITAC's Import Control Regulations. The DTIC may also regulate the import of some goods in the national interest, and some products (e.g., foodstuffs, beverages, and animals) may require a separate import permit from a special authority (Rödl und Partner, 2020).

The import of foreign currencies is unrestricted, but must be declared if their value exceeds the equivalent of USD 10,000. Imports of South African rand over 25,000 must be declared, and only up to 5,000 rand may be exported (Auswärtiges Amt, 2020).

3.2.2. Entry and Residence Regulations

In general, German citizens do not require a visa for a stay of up to 90 days in South Africa. In addition to tourist stays, the exemption from the visa requirement also applies to business meetings and participation in conferences, for example. A residence or work permit must be

applied for prior to entry for stays longer than 90 days or for the purposes of a stay that are not exempt from the visa requirement, such as taking up employment. The type of visa required depends on the reason for the trip (Grünewald, 2019; Auswärtiges Amt, 2020).

The following work permit categories are available in South Africa:

- *Visitor Visa Section 11(2)*: In accordance with Section 11(2) of the Immigration Act (Act No. 13 of 2002), tourist visas can be extended to a 90-day work authorisation for workers needed on short notice.
- *Intra-Company Transfer Work Visa*: Valid for up to four years. German parent companies may send employees to a South African subsidiary if this benefits the transfer of knowledge to South African employees.
- *Critical Skills Work Visa*: Valid for up to five years, and may be renewed. Occupational groups in which there is a shortage of skilled workers (as specified by the South African government) qualify for this visa category.
- *General Work Visa*: Valid for up to five years, and may be renewed. This visa may be issued to foreign nationals that do not fall into the previous categories. It is particularly difficult to obtain, as it must be proven that the vacant position cannot also be filled by a South African.
- *Corporate Visa*: Valid for up to three years, and may not be renewed. South African companies can apply for multiple foreign workers if they can demonstrate why and how many of these workers are needed. The foreign workers must also apply for a corporate worker certificate (Rödl und Partner, 2020).

3.2.3. Distribution Law

Any natural person or legal entity can be a commercial agent in South Africa as long as this is indicated to third parties or it is recognisable that the agent is acting on behalf of the company and not for themselves. A commercial agent does not have to be entered into the commercial register. A commercial agency agreement should be concluded between the commercial agent and the company, clearly indicating rights and obligations, such as the scope of the power of representation (Rödl und Partner, 2020).

3.2.4. Formation and Legal Forms of Companies

In South Africa, it is possible to form companies that are 100 percent foreign owned. To incorporate, companies need to reserve a company name and register with the Companies and Intellectual Property Commission (CIPC). In order to start operations, a bank account also needs to be opened and the company needs to be registered with the tax office and take out unemployment insurance and workers' compensation insurance. The following legal forms are available for branches or companies in South Africa:

The most popular legal form for companies in South Africa is the private company (Proprietary Limited = Pty Ltd.). It is similar in form to the German GmbH because of its limitation of liability to the company assets. A Memorandum of Incorporation (MOI) is required for the company, in which the rights and obligations of shareholders are regulated. There are no restrictions on the number of foreign shareholders or managing directors.

Another possibility is the formation of a public company (Ltd.), which requires at least one shareholder and three board members. The public company is similar in form to the German

Aktiengesellschaft (AG). Only public companies can be registered on the Johannesburg Securities Exchange, and they need to publish half-yearly and annual financial statements with the CIPC.

A foreign company may also establish an external company in South Africa, which is only subject to certain provisions of company law. In order to establish an external company, at least one representative needs to be on site, and the branch has to be registered with the CIPC within 20 days of commencing business.

Other potential legal forms include joint ventures, partnerships, and (business) trusts (Grünewald, 2019; Rödl und Partner, 2020).

3.2.5. Investment Law

The legal basis for the regulation of investments in South Africa is the Protection of Investment Act of 2015, which came into force in 2018. This replaces South Africa's bilateral investment treaty with Germany, which was unilaterally terminated by South Africa in 2013 (see below). The aim of the act is to treat all investors equally and not provide advantages to either domestic or foreign investors. Special economic zones fall under the Special Economic Zones Act enacted separately in 2014, and provide numerous incentives for investors.

To make it easier for investors to get started, the responsible Department of Trade, Industry and Competition has created InvestSA, a one-stop-shop that supports and advises investors (Grünewald, 2019).

3.2.6. Broad-Based Black Economic Empowerment (B-BBEE)

South Africa has been in a process of change since the end of apartheid. Groups that were previously disadvantaged are to be given the opportunity for greater economic participation. To this end, the Broad-Based Black Economic Empowerment (B-BBEE) programme came into force in 2003. The aim of B-BBEE is to increase:

- the share of black entrepreneurs as well as number of black people in top management positions in companies;
- the number of companies in which black people have equity ownership;
- the share of black people who own factors of production (e.g., real estate, capital);
- the access of black people to education and training opportunities; and
- the income level of black people.

While the regulations are not binding for the private sector, they do affect the extent to which companies can qualify for government tenders or for supplying companies participating in tenders. Companies taking part in government tenders need to achieve a good B-BBEE level, which is measured by a standardised points system on a scorecard. Points are awarded based on the following scorecard criteria: ownership, management control, skills development, enterprise and supplier development, and socioeconomic development. The five criteria are weighted differently, and requirements may vary or be more extensive depending on the sector.

Foreign companies that have their principal place of business outside South Africa are exempt from the ownership requirements if they instead participate in the Equity Equivalents

Programme. This comprises public and private support programmes in the field of socioeconomic development.

Detailed information on B-BBEE prepared by the Southern African-German Chamber of Commerce and Industry is available at https://suedafrika.ahk.de/fileadmin/AHK_Suedafrika/Informationsbroschuere_B-BBEE_2017.pdf (German language only).

3.2.7. Taxes

Taxes in South Africa are levelled by the central government. The South African Revenue Service is responsible for levying taxes on profits and income.

The corporate tax rate in South Africa is 28 percent, and is levied on the worldwide profits of companies resident in the country. Companies are deemed to be resident in South Africa if their registered office is entered in the commercial register or if their effective management is based in South Africa. Non-resident companies with a branch are also subject to tax on all income from a source within South Africa. In addition to corporate income tax, a tax of 20 percent is levied on distributed dividends. Individuals resident in South Africa are also assessed on their worldwide income. The personal tax rate varies depending on income, and can range from 18 to 45 percent. Companies or individuals that are not residents only have to pay tax on income that originates in South Africa. For companies, the assessment period is their fiscal year, and for individuals, it is from the beginning of March until the end of February.

The value added tax (VAT) rate in South Africa is 15 percent. All goods and services that a company exports from South Africa are subject to VAT. Imported goods and (certain) services are subject to import VAT. A VAT return needs to be filed if annual sales are expected to exceed one million rand.

Since 1 June 2019, there has also been a carbon tax in accordance with the Carbon Tax Act. The aim of the act is to reduce greenhouse gas emissions and thus combat climate change. The carbon tax is based on the polluter pays principle (i.e., the generators of environmental pollution should bear the costs of remediation).

3.2.8. International Agreements and Agreements with Germany

In addition to South Africa's membership in continental and regional groupings such as the SADC and the SACU, the country is also party to a large number of bilateral and multilateral trade agreements. One of these is the previously mentioned EU Economic Partnership Agreement with the SADC. There is also a trade agreement between the SACU and the Mercosur countries of Argentina, Brazil, Paraguay, and Uruguay. Furthermore, through the Generalised System of Preferences and the Africa Growth and Opportunity Act, certain products manufactured in South Africa have preferential access to the markets of the EU, Norway, Switzerland, Russia, Turkey, the United States, Canada, and Japan (Department of Trade, Industry and Competition, 2020).

As with many other countries in sub-Saharan Africa, Germany established a bilateral investment treaty with South Africa, which was, however, unilaterally terminated by South Africa in 2013, and expired in the following year. Investments already made are still protected for a period of 20 years. New investments are covered by South Africa's Protection of Investment Act, which came into force in 2018 (see above). However, the scope of protection

afforded by the act is considered lower than the previous bilateral investment treaty. Nevertheless, the double taxation agreement concluded with Germany in the 1970s remains in force.

3.3. Support Programmes and Financing Options

3.3.1. Local Bank Financing

In general, South Africa has a competitive financial sector that meets Western standards and represents the largest and most developed financial market in all of sub-Saharan Africa. The sector is dominated by five internationally active banks: Absa, First National Bank, Nedbank, Rand Merchant Bank, and Standard Bank. Major German financial institutions such as Commerzbank and Deutsche Bank also have branches in South Africa. In addition, there are two state-owned development banks: the Development Bank of Southern Africa (DBSA) and the Industrial Development Corporation (IDC). While the DBSA primarily finances large-scale infrastructure projects with a focus on the water, energy, transport, and information and communications technology sectors, the IDC provides cross-sector financing for projects that serve South Africa's industrial development. In general, the terms of loans are quite strict compared to European banks, as South African banks are very risk averse. Interest rates are also extremely high compared to European levels, with average rates of 8.5 – 10 percent (Hauser, 2018; Rödl und Partner, 2020).

3.3.2. South African Government Support Programmes

The government of South Africa has undertaken a variety of measures to encourage foreign investment. These include simplified tax regulations, investment incentives, improvements in competition policy, and measures to protect intellectual property. These measures include:

For the manufacturing industry

- The Manufacturing Competitiveness Enhancement Programme (MCEP) comprises two sub-programmes – Production Incentive, for which the Department of Industry, Trade and Competition is responsible, and the Working Capital Facility Loan & Niche Policy Project Fund, which is the responsibility of the Industrial Development Corporation. The former includes a cost-sharing grant of 30, 40, or 50 percent of the actual investment costs for upgrading capital equipment and expanding production capacity. Similar grants are available for investments in technologies or processes for cleaner and more energy efficient production. A comprehensive overview of the programme and its components is available at http://www.energy.gov.za/files/biogas/presentations/2013-NBC/DTI_The-Manufacturing-Competitiveness-Enhancement-Programme.pdf.
- The Manufacturing Investment Programme (MIP) provides a reimbursable grant to local or foreign manufacturing companies that wish to establish a new production facility, expand an existing production facility, or upgrade an existing facility in the clothing and textiles sector.
- The Foreign Investment Grant (FIG) provides qualifying foreign investors with a grant of 15 percent of the value of machinery and equipment (excluding vehicles) that are part of an investment project and need to be brought to Africa. Alternatively, the actual transport costs can be reimbursed up to an amount of ten million rand (around 533,000 euros).

Automotive industry

- The Automotive Investment Scheme (AIS) provides targeted grants to support the growth and development of the automotive industry. It encourages investment in new and/or replacement models and components that increase plant production volumes, maintain employment, and/or strengthen the automotive value chain. The AIS provides a grant of 20 to 30 percent of the value of a qualifying investment.

Comprehensive overviews of all South African government incentive programmes and mechanisms are available at <http://www.investmentincentives.co.za/index.php> and <http://incentivesa.co.za/dti/>.

3.3.3. KwaZulu-Natal Government Support Programmes

In KwaZulu-Natal, the provincial government supports businesses with funding through programmes like the KwaZulu-Natal Growth Fund. The fund falls under the purview of EDTEA, and is mandated with stimulating economic and social growth in the province. It focuses on promoting projects and investments in industries such as transport and logistics, manufacturing, telecommunications, energy, health, education, food processing, mining, and mineral processing. In individual cases, projects in other industries may also be supported insofar as they contribute to the fund's objectives. Various types of financing are offered under the fund, with loan terms ranging from five to nine years. The granting of loans requires, among other things, that a company has achieved a B-BBEE level of four and that the project contributes to the creation of jobs in the province. A comprehensive overview of the requirements and conditions is available at <http://kzngrowthfund.co.za/offering.html>.

Companies also receive various incentives, such as tax breaks, in special economic zones like the Richards Bay Industrial Development Zone and the Dube TradePort Special Economic Zone.

3.3.4. German Federal Government Support and Financing Programmes

German Investment Corporation (Deutsche Investitions- und Entwicklungsgesellschaft, DEG)

The DEG is part of the KfW banking group and offers financing and support programmes tailored to the needs of small and medium-sized enterprises in developing and emerging countries. For example, it supports companies in the pilot phase of projects by financing feasibility studies and other accompanying measures. In the development and expansion phases, it offers support in the form of up-scaling programmes, in which companies can be granted up to 500,000 euros or a maximum of 50 percent of the investment sum as a grant, which is repayable in the event of success. Established companies can make use of various financing instruments, such as long-term loans, guarantees, and other instruments. An overview is presented below.

Table 5 DEG Support and Financing Instruments

Support	How much and for whom?	Target / purpose
Feasibility studies	Maximum 50% of costs (up to EUR 200,000) for German/European companies with up to EUR 500 million turnover	Examination of the economic, technical, and legal feasibility of investment projects (market analyses, legal opinions, environmental studies, etc.) in

		preparation for a specific investment
Up-Scaling	Maximum 50% of total investment volume (up to EUR 500,000) as a grant repayable on success for German/European and local SMEs in developing countries	Innovative pioneering investments by SMEs on the threshold of commercialisation (start-up phase)
Business Support Service	Maximum 50% of costs (up to EUR 200,000) for German/European and local companies	Project preparation or accompanying measures in connection with DEG financing (e.g., preparation of business plans)
develoPPP.de	EUR 100,000 to 2 million of public funding in addition to the company contribution ($\geq 50\%$); For companies with: \geq EUR 800,000 annual turnover \geq 8 employees \geq 2 audited annual financial statements	Companies with development project ideas that go beyond the investments of their core business
AfricaConnect	Loans of EUR 750.000 to EUR 4 million; term of up to 7 years, optional grace period; Risk-based own equity contribution of 20% to 50%; annual interest rate of 1% to 7%	Subsidiaries of European companies already active in Africa or planning to enter the market; African companies with long-term business relationships with European companies that are sustainability profitable and help achieve development policy goals

Source: German-African Business Association, based on DEG (2020)

As part of the develoPPP.de programme, the German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Kooperation, BMZ), with the DEG as implementing partner, provides financial and technical support to private sector actors wishing to invest in emerging and developing countries. Up to 50 percent of the total costs are borne by the BMZ. The projects encompass a wide variety of sectors and topics, and range from training local skilled workers, to piloting innovative technologies and demonstration plants, to securing value chains and improving environmental and social standards in production plants. Funding can range from 100,000 euros to two million euros from public funds in addition to the company contribution (≥ 50 percent). The term of the funding is up to three years.

More information is available at <https://www.developpp.de/en/>.

Development Investment Fund

In June 2019, the German federal government announced the Development Investment Fund. A complementary component of the G20 Compact with Africa initiative, the fund consists of three components – AfricaConnect, AfricaGrow, and the Africa Business Network. Through the Development Investment Fund, European companies taking advantage of the AfricaConnect programme can obtain attractive loans for projects in CwA countries and

beyond. The DEG's financing of investment projects provides loans ranging between 750,000 and four million euros for a maximum period of seven years. The loans can be granted in euros, U.S. dollars, or selected local currencies. More information is available at <https://www.deginvest.de/Unsere-L%C3%B6sungen/AfricaConnect/index-2.html>.

Export Credit Guarantees (Hermes Cover)

Euler Hermes AG issues state export credit guarantees for exports of goods and services on behalf of the German Federal Ministry for Economic Affairs and Energy (Bundesministerium für Wirtschaft und Energie, BMWi). By granting Hermes cover, the risk of default is largely transferred from the exporter or financing bank to the Federal Republic of Germany, for which the policyholder pays a risk-related premium (fee). The amount of the premium depends mainly on the country category in which the buyer country is classified. South Africa currently falls into country category 4 (country categories range from low risk (1) to high risk (7)). The premium is also determined by the contract value covered, the payment terms (term of the transaction), the status of the buyer/collateral provider (government or private), and, if applicable, the amount of the deductible (coverage rate). More information is available at <https://www.agaportal.de/en/exporkreditgarantien/grundlagen/grundzuege>.

Investment Guarantees

The German federal government has mandated PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft to manage investment guarantees. These guarantees protect eligible German direct investments in developing and emerging countries against political risks. The subject of the guarantee is primarily the capital invested in cash or cash in kind (capital cover). Additionally and depending on the individual project, earnings due can also be included in the guarantee, for example in the form of dividends or interest (earnings cover). The duration of the investment guarantee is generally 15 years. Further information is available at <https://www.investitions Garantien.de/en>.

3.3.5. International Funds and Financing Instruments

International funds and financing institutions also provide support and funding for some of the industries examined in this study. Examples of these are presented below:

Energy Sector

- The Sustainable Energy Fund for Africa is a multi-donor special fund managed by the African Development Bank that provides financing to enable private sector investment in renewable energy and energy efficiency. More information is available at <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/sustainable-energy-fund-for-africa>.
- The African Energy Guarantee Facility is an initiative of the European Investment Bank. The fund is designed to help achieve the goals of the United Nations Sustainable Energy for All initiative. More information is available at <http://www.ati-aca.org/energy-solutions/facilities/african-energy-guarantee-facility/>.
- GET.Invest is a European programme that aims to mobilise investment in decentralised renewable energy projects. It supports private companies, project developers, financiers, and regulators in building sustainable energy markets. More information is available at <https://www.get-invest.eu/>.

Healthcare Industry

- The International Finance Corporation and other partners launched the Global Health Platform in March 2020; a USD 4 billion financing platform for the improvement of access to healthcare in emerging and developing countries. More information is available at <https://www.ifc.org>.
- In April 2020, the African Import-Export Bank announced the USD 3 billion Pandemic Trade Impact Mitigation Facility to assist African countries with the economic and health impacts of the COVID-19 pandemic. More information is available at <https://www.afreximbank.com/>.

Environmental Technology

- The African Water Facility provides grants and technical assistance to implement innovative water projects and encourage investment in water projects across Africa. More information is available at <https://www.africanwaterfacility.org/en/>.
- The African-EU Water Partnership Programme aims to increase the economic viability of projects by improving access to capital. The programme also supports African governments through capacity building and institutional advice on water sector governance and water infrastructure investment. More information is available at <https://europa.eu/capacity4dev/african-eu-water-partnership-programme>.

This list is not exhaustive. The Agency for Business and Economic Development (Agentur für Wirtschaft und Entwicklung) provides an overview of instruments of foreign trade promotion and development cooperation of the German federal and state governments, the EU, and multinational institutions in its support database for developing countries at <https://www.foerderdatenbank-entwicklungslaender.de/> (German language only).

If you have any questions, please feel free to contact the cooperation partners and contacts (see Chapter 3.1).

4. Summary

South Africa has one of the most powerful economies in Africa. Thanks to its diversified industry, the province of KwaZulu-Natal is a special location on the continent, and particularly interesting for small and medium-sized enterprises from southwestern Germany, despite the major economic and political challenges facing the South Africa. According to Frank Aletter, Economic Representative of Baden-Württemberg in South Africa until 31 January 2021, the country will particularly benefit from the AfCFTA: “The African Continental Free Trade Agreement lays the foundation for the world’s largest free trade zone. Companies that are already positioned in South Africa are in pole position.” Dr Christian Herzog, CEO of Baden-Württemberg International, says “South Africa is not new territory for Baden-Württemberg, but is still an underestimated future market among local companies. We can look back on a partnership with KwaZulu-Natal of almost 25 years, and the regional involvement of large companies and SMEs from Germany’s southwest stretches back much further still. The 100 or so companies from Baden-Württemberg already active in the region are doing good business. This, among other reasons, should encourage other companies to invest in the region.”

KwaZulu-Natal is highly industrialised and, thanks in part to Africa’s leading cargo port in Durban, possesses outstanding logistics infrastructure. As a result, the province is ideally positioned as a hub for the entire region, and offers a wide range of opportunities in several sectors in which Baden-Württemberg’s economy has strengths:

- The manufacturing sector is at the centre of all government strategies, and is expected to create the jobs urgently needed in KwaZulu-Natal. The localisation of production steps will (have to) increase, and incentive systems will make it attractive for new companies in the automotive sector to set up operations or enter into partnerships with local producers, and will also increase the demand for technology transfer.
- Many SMEs in KwaZulu-Natal are facing cross-sector digitisation processes in manufacturing, for which the expertise of companies from Baden-Württemberg may be in demand. There is growing interest in digital transformation and, at the same time, a high dependence on imports for digitisation technologies.
- The chemical industry will recover due to the massive investments expected in the construction and agricultural industries, and offers market opportunities thanks to the proximity to raw materials and the mining industry.
- In the healthcare industry, the coronavirus crisis has released planned government investments to modernise and drive forward the expansion of hospital infrastructure. KwaZulu-Natal is an extremely relevant market for medical technology and healthcare infrastructure, primarily due to its well-funded private hospitals.
- In the renewable energy sector, the government’s long-planned reforms are finally coming to fruition, and there are new tenders on offer in the sector as well. Here, a sensible course of action would be to seek contact with manufacturing companies that have an interest in off-grid power supply.
- Environmental technologies will play an increasingly important role, but more in the medium term. Catalysts and filter technology are in particular demand in the air pollution control segment.
- The water shortage and the investment backlog in water supply will spur investments, as will the post-coronavirus recovery package of the South African government. There are opportunities for the private sector to sell products and services, extract alternative water

sources, introduce wastewater technologies, and deploy metering, particularly in the agribusiness and mining industries.

- The market for waste management is not fully mature in South Africa; the private sector target group will probably not prioritise the circular economy in the near future for reasons of cost. Nevertheless, public tenders in waste management can be expected in the medium term.

For initial market entry, companies can cooperate with partners who already have local experience and contact investment promotion authorities, chambers of commerce and industry, and clusters. There are very good opportunities for companies to expand business in KwaZulu-Natal, South Africa, and the SADC region, especially with the appropriate support from policy and structures from Baden-Württemberg, such as Baden-Württemberg International, the Chambers of Industry and Commerce, the business representative office of Baden-Württemberg at the Southern African-German Chamber of Commerce and Industry, as well as the German-African Business Association.

In addition, the Ministry of Economic Affairs, Labour and Housing Baden-Württemberg offers SMEs practical assistance and guidance on the topic of sustainable supply chain management as part of the *global verantwortlich BW – Lieferketten nachhaltig gestalten* programme (see <https://gvbw.de/>). With regard to medium to longer-term cooperation within the framework of the regional partnership between Baden-Württemberg and KwaZulu-Natal, stronger policy support for entrepreneurial projects is recommended – especially for sectors that have not yet reached an appropriate level of market maturity. This applies, in particular, to water and wastewater technologies, as well as to the circular economy. Combined projects with the agricultural sector make sense in this context. Stronger networking of the automotive industry in both regions and the initiation of joint projects on the future of mobility are also feasible. Another area of overlap between all parties for intensified cooperation is vocational training and the networking of young entrepreneurs. Here, too, the Ministry of Economic Affairs, Labour and Housing can provide policy support and initiate cooperation. Furthermore, the Ministry should continue to hold the biennial Africa Business Summit with the involvement of African partners and countries, and organise regular business missions accompanied by politicians to KwaZulu-Natal.

Bibliography and Sources

- Adelmann, M. (2019). *Afrika im Blick. Bestandsaufnahme und Perspektiven einer vertieften Kooperation von Akteuren in Baden-Württemberg und Afrika*. Freiburg: Arnold-Bergstraesser-Institut Freiburg.
- Africa Health. (2020). *Healthcare Market Insights for South Africa*. Retrieved from https://www.africahealthexhibition.com/content/dam/Informa/africahealthexhibition/en/2020/pdf/AFH20_Industry_Insights_Healthcare_Market_South-Africa.pdf
- Africa Times. (2020, August 18). *AfCFTA Secretariat ceremony held in Ghana*. Retrieved from <https://africatimes.com/2020/08/18/afcfta-secretariat-ceremony-held-in-ghana/>
- Afrika-Verein der deutschen Wirtschaft. (2018). Autos für Afrika. *afrika wirtschaft*, 22.
- Afrika-Verein der deutschen Wirtschaft. (2019, April). *Newsletter South Africa - April 2019*.
- Auswärtiges Amt. (2019, August 08). *Südafrika: Beziehungen zu Deutschland*. Retrieved from <https://www.auswaertiges-amt.de/de/aussenpolitik/laender/suedafrika-node/bilateral/208386>
- Auswärtiges Amt. (2020, September 28). *Südafrika: Reise- und Sicherheitshinweise*. Retrieved from <https://www.auswaertiges-amt.de/de/ReiseUndSicherheit/suedafrikasicherheit/208400>
- Baker McKenzie. (2019, März 05). *South Africa's Transformative Shift to EPR: Beyond Waste*. Retrieved from <https://www.lexology.com/library/detail.aspx?g=913e5f8a-e7e2-43e8-b679-eb86d35b649c>
- Bloomberg. (2020, Juni 23). *South Africa Outlines Plan for \$133 Billion Building Boom*. Retrieved from <https://www.bloomberg.com/news/articles/2020-06-23/south-africa-wins-investor-backing-for-new-infrastructure-drive>
- BMF. (2020, Februar 03). *G20 Compact with Africa*. Retrieved from https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Internationales_Finanzmarkt/G7-G20/2017-06-29-g20-cwa.html
- Bundesregierung. (2020, August 17). *Nachhaltigkeitsziele verständlich erklärt*. Retrieved from <https://www.bundesregierung.de/breg-de/themen/nachhaltigkeitspolitik/nachhaltigkeitsziele-verstaendlich-erklaert-232174>
- Businesstech. (2019, September 18). *This is how big South Africa's middle class really is – and how much they are worth*. Retrieved from <https://businesstech.co.za/news/wealth/341933/this-is-how-big-south-africas-middle-class-really-is-and-how-much-they-are-worth/>
- Businesstech. (2020, Juni 1). *Level 3 lockdown rules in South Africa - here are all the changes from today*. Retrieved from <https://businesstech.co.za/news/government/403657/level-3-lockdown-rules-in-south-africa-here-are-all-the-changes-from-today/#:~:text=South%20Africa%20officially%20moved%20to%20level%203%20lockdown,million%20people%20now%20expected%20to%20return%20to%20wo>
- Carlowitz, P. v. (2018). *Chancen in Subsahara Afrika nutzen*. Tübingen: Institut für Neue Märkte (InNeMa GmbH).
- Central Intelligence Agency. (2020, 08 11). *CIA World Factbook - South Africa*. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/sf.html>
- CGTN Africa. (2020, September 4). *Durban goes greener after launch of Africa's first city climate action plan*. Retrieved from <https://africa.cgtn.com/2020/09/04/durban-goes-green-after-launch-of-africas-first-city-climate-action-plan/>
- Cocks, T. (2020, Juli 31). *How inequality and poverty undermined South Africa's COVID response*. Retrieved from Reuters World News: <https://www.reuters.com/article/us-health-coronavirus->

safrica-response-a/how-inequality-and-poverty-undermined-south-africas-covid-response-idUSKCN24W1OL

- Creamer Media. (2019, Februar 1). *Engineering News*. Retrieved from New-look APDP could change face of the local auto industry, says Naacam: <https://www.engineeringnews.co.za/print-version/new-look-apdp-could-change-face-of-the-local-auto-industry-says-naacam-2019-02-01>
- Creamer Media. (2019a, November 6). *Toyota to invest R2.4bn to produce new passenger car in Durban*. Retrieved from https://www.engineeringnews.co.za/article/toyota-to-invest-r24bn-to-produce-new-passenger-car-in-durban-2019-11-06/rep_id:4136
- Creamer Media. (2020, Juni 23). *Next renewables bidding round to be launched only in second quarter of 2021*. Retrieved from <https://www.miningweekly.com/article/next-renewables-bidding-round-to-be-launched-only-in-second-quarter-of-2021-2020-06-23>
- Creamer Media. (2020a, August 22). *DMRE launches procurement process for 2 000 MW of 'dispatchable' power*. Retrieved from https://www.engineeringnews.co.za/article/dmre-launches-procurement-process-for-2-000-mw-of-dispatchable-power-2020-08-22/rep_id:4136
- Daniel, J. (2020, Juni 18). *Independant Online*. Retrieved from KZN survey reveals 'devastating' effect of Covid-19 on employee mental health: <https://www.iol.co.za/news/south-africa/kwazulu-natal/kzn-survey-reveals-devastating-effect-of-covid-19-on-employee-mental-health-49565605>
- Daniel, L. (2018, Juli 24). *Three major agreements just signed by China and South Africa*. Retrieved from <https://www.thesouthafrican.com/news/three-major-agreements-just-signed-by-china-and-south-africa/>
- DEG. (2020, September 29). *Unsere Förderprogramme*. Retrieved from <https://www.deginvest.de/Internationale-Finanzierung/DEG/Unsere-L%C3%B6sungen/F%C3%B6rderprogramme/>
- Deloitte. (2019). *Renewable energy in South Africa*. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/za/Documents/finance/za_renewable_energy_south_africa_valuation_insights_march2019.pdf
- Department of Energy. (2019). *The South African Energy Sector Report 2019*. Retrieved from <http://www.energy.gov.za/files/media/explained/2019-South-African-Energy-Sector-Report.pdf>
- Department of Home Affairs South Africa. (2020, Oktober 20). *Government issues a revised list of high risk countries*. Retrieved from <http://www.dha.gov.za/index.php/statements-speeches/1382-government-issues-a-revised-list-of-high-risk-countries>
- Department of Statistics South Africa. (2020). *Business impact survey of COVID-19 pandemic in South Africa*. Pretoria.
- Department of Trade, Industry and Competition. (2020). *Trade Agreements*. Retrieved from <http://www.thedtic.gov.za/sectors-and-services-2/1-4-2-trade-and-export/market-access/trade-agreements/>
- Deutsche Bundesbank. (2020, Dezember 14). *Wechselkursstatistik*. Retrieved from <https://www.bundesbank.de/resource/blob/804110/33b56fe1f59b83ffa256e3370cb3942/mL/0-wechselkursstatistik-data.pdf>
- Deutsche Welle. (2020, August 3). *South Africa's double blow: Corruption and the coronavirus*. Retrieved from <https://www.dw.com/en/south-africas-double-blow-corruption-and-the-coronavirus/a-54423065>
- DTI, D. o. (2013). *The Manufacturing Competitiveness Enhancement Programme*. Retrieved from http://www.energy.gov.za/files/biogas/presentations/2013-NBC/DTI_The-Manufacturing-Competitiveness-Enhancement-Programme.pdf

- Durban Automotive Cluster. (2020). *Understanding the local automotive industry, capabilities and role of DAC in supporting localisation and growth*.
- Durban Chemicals Cluster. (2017). *About the KwaZulu-Natal chemicals industry*. Retrieved from <https://durbanchemicalscluster.org.za/sector-profile/>
- Durban Chemicals Cluster. (2017a). *About the DCC*. Retrieved from <https://durbanchemicalscluster.org.za/about-dcc/>
- DW. (2020, Juli 13). *Coronavirus: South Africa's new alcohol ban sparks fury*. Retrieved from <https://www.dw.com/en/south-africa-alcohol-ban-coronavirus/a-54164602>
- Econex. (2013). *The South African Private Healthcare Sector: Role and Contribution to the Economy*. Retrieved from https://econex.co.za/wp-content/uploads/2016/09/Econex_private_health_sector_study_12122013-1.pdf
- Erasmus, C. (2019, April 27). *South China Morning Post*. Retrieved from How China's belt and road plan is making South Africans study Mandarin: <https://www.scmp.com/news/world/africa/article/3007946/how-chinas-belt-and-road-plan-making-south-africans-study>
- Europäische Kommission. (2020, Mai 15). *Southern African Development Community (SADC)*. Retrieved from <https://ec.europa.eu/trade/policy/countries-and-regions/regions/sadc/>
- FAZ.net. (2020, September 09). *Kurze Meldungen*. Retrieved from Südafrikas BIP halbiert: <https://zeitung.faz.net/faz/wirtschaft/2020-09-09/kurze-meldungen/503027.html>
- George, L. (2020, Mai 1). *African free trade deal launch unlikely this year, AfCFTA Secretary-General says*. Retrieved from Reuters Business News: <https://www.reuters.com/article/us-health-coronavirus-africa-trade/african-free-trade-deal-launch-unlikely-this-year-afcfta-secretary-general-says-idUSKBN22D5QV>
- GhanaWeb. (2020, Juli 06). *AfCFTA to take-off January 2021*. Retrieved from <https://www.ghanaweb.com/GhanaHomePage/business/AfCFTA-to-take-off-January-2021-999529>
- Global Africa Network. (2019, September 28). *Meeting the challenges of water security in KwaZulu-Natal*. Retrieved from <https://www.globalafricanetwork.com/company-news/meeting-the-challenges-of-water-security-in-kwazulu-natal/>
- Global Africa Network. (2020, Februar 13). *Who will benefit from the African Continental Free Trade Area?* Retrieved from <https://www.globalafricanetwork.com/company-news/the-african-continental-free-trade-area-who-will-benefit/>
- GreenCape. (2020). *Waste: Market Intelligence Report 2020*. Cape Town: GreenCape.
- Grünewald, K. (2019, August 13). *Recht kompakt Südafrika*. Retrieved from <https://www.gtai.de/gtai-de/trade/recht/recht-kompakt/suedafrika/recht-kompakt-suedafrika-223924>
- GTAI. (2019). *Wirtschaftsdaten kompakt - Nigeria, November 2019*. Bonn: GTAI.
- GTAI. (2020, Januar). *Wirtschaftsausblick - Südafrika*. Retrieved from <https://www.gtai.de/gtai-de/trade/wirtschaftsumfeld/wirtschaftsausblick/suedafrika/wirtschaftsausblick-suedafrika-212792>
- GTAI. (2020, November). *Wirtschaftsdaten kompakt: Südafrika*. Retrieved from https://www.gtai.de/resource/blob/585288/7013d9c2623a72b089ccf65c4d9a0ed4/GTAI-Wirtschaftsdaten_November_2020_Suedafrika.pdf
- Harbs, C., & van Jaarsveldt, D. (2020). *Digitalisierung und Industrie 4.0. Zielmarktanalyse 2020 mit Profilen der Marktakteure*. Deutsche Industrie- und Handelskammer für das Südliche Afrika.
- Hauser, J. (2020, August). Hintergrundinterview Erneuerbare Energien.

- Hauser, Jens. (2018, Juni). *SÜDAFRIKA: Erneuerbare Energien zur Eigenversorgung in Industrie und Kommunen*. Retrieved from https://www.german-energy-solutions.de/GES/Redaktion/DE/Publikationen/Marktanalysen/2018/zma_suedafrika_2018_erneuerbare-energien-industrie.pdf?__blob=publicationFile&v=3
- Invest SA. (2020). *Chemicals*. Retrieved from <http://www.investsa.gov.za/investment-opportunities/advanced-manufacturing/chemicals/>
- IOL. (2020, Mai 6). *Covid-19 has put South Africa's car manufacturing plans in jeopardy*. Retrieved from <https://www.iol.co.za/motoring/industry-news/covid-19-has-put-south-africas-car-manufacturing-plans-in-jeopardy-47607141>
- IOL. (2020, Juni 10). *New R2.8bn Durban hospital 99% complete but will be used for Covid-19 patients for now*. Retrieved from <https://www.iol.co.za/dailynews/news/kwazulu-natal/new-r28bn-durban-hospital-99-complete-but-will-be-used-for-covid-19-patients-for-now-49149416>
- Knupp. (2020). *Marktchancen Automobil- und Kfz-Teile-Produktion*. Bonn: GTAI.
- Knupp, M. (2019, November 15). *Branche kompakt: Automobilsektor in Südafrika leidet unter schwacher Konjunktur*. Bonn: GTAI. Retrieved from <https://www.gtai.de/gtai-de/trade/branchen/branche-kompakt/suedafrika/branche-kompakt-automobilsektor-in-suedafrika-leidet-unter-172002>
- Knupp, M. (2020, Januar 22). *Branche kompakt: Chemische Industrie in Südafrika in abwartender Stagnation*. Bonn: GTAI. Retrieved from Branche kompakt: Chemische Industrie in Südafrika in abwartender Stagnation: <https://www.gtai.de/gtai-de/trade/branchen/branche-kompakt/suedafrika/branche-kompakt-chemische-industrie-in-suedafrika-in-210986>
- KPMG. (2011). *Industry overview and economic impact assessment for the South African medical technology industry*. Retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjL_XR74vsAhUQ6qQKHcAsD2kQFjABegQIAhAB&url=https%3A%2F%2Fpdf4pro.com%2Fcdn%2Fprepared-for-the-south-african-medical-device-efb1a.pdf&usq=AOvVaw3CtXFZPq7UhzxyLPB6zInI
- Kumwenda-Mtambo, O. (2020, Juli 2). *Reuters*. Retrieved from South Africa records first current account surplus in 17 years: <https://www.reuters.com/article/us-safrica-currentaccount-idUSKBN24319P>
- Kwa-Zulu Natal Freight Transport Data Bank. (2020). *Chemical Manufacturers and Distributors*. Retrieved from http://www.kzntransport.gov.za/public_trans/freight_databank/kzn/industries/chemicals_manufacturers/index_xml.html
- Kwa-Zulu Natal Top Business. (2020). *Manufacturing Sector*. Retrieved from <http://kzntopbusiness.co.za/site/manufacturing>
- KZN Business Chambers Council. (2020, Juli 01). *Business Sense Vol. 6.3*. Retrieved from http://kznchamber.co.za/News/index.php/?focus=HETZA_cm4all_com_widgets_News_757729&path=?m=d&a=20200701142109-4851&cp=1#HETZA_cm4all_com_widgets_News_757729
- KZN Top Business. (2016). *KZN: Contributing Significantly To Economic Development*. Retrieved from <http://kzntopbusiness.co.za/site/overview>
- KZN Transport. (2020). *Road and Traffic Information - Provincial and Private Hospitals*. Retrieved from http://www.kzntransport.gov.za/rd_traffic/rti/hospitals/index.htm
- LIPortal. (2020, Juli). *Südafrika*. Retrieved from <https://www.liportal.de/suedafrika/wirtschaftsentwicklung/#c1796>

- Madden, P. (2019, Oktober 9). *Africa in Focus*. Retrieved from Figure of the week: Foreign direct investment in Africa: <https://www.brookings.edu/blog/africa-in-focus/2019/10/09/figure-of-the-week-foreign-direct-investment-in-africa/>
- Manufacturing Circle. (2020). *The Manufacturing Circle is the Voice for South African Manufacturing*. Retrieved from <https://www.manufacturingcircle.co.za/about-us>
- Massie, V. (2020, September 11). Market Opportunities for companies from Baden-Wuerttemberg in KwaZulu-Natal. (D. van Jaarsfeldt, & P. Schulz, Interviewers)
- Minerals Council South Africa. (2020). *DURBAN CHEMICALS CLUSTER - Unpacking the South African market outlook for key end markets*.
- Ministerium für Wirtschaft, Arbeit und Wohnungsbau Baden-Württemberg. (2019, November 24). *Wirtschaftsministerin reist mit Delegation nach Südafrika und Äthiopien – Umwelttechnik und Automotive im Fokus*. Retrieved from <https://wm.baden-wuerttemberg.de/de/service/presse-und-oeffentlichkeitsarbeit/pressemitteilung/pid/wirtschaftsministerin-reist-mit-delegation-nach-suedafrika-und-aethiopien-umwelttechnik-und-automoti/>
- Monyamane, M. M., & Adney, M. (2020, April 20). *Time to make South Africa's relationship with China mutually beneficial*. Retrieved from Daily Maverick: <https://www.dailymaverick.co.za/article/2020-04-20-time-to-make-south-africas-relationship-with-china-mutually-beneficial/#gsc.tab=0>
- Moodliar, S. (2020, September 15). Market Opportunities for companies from Baden-Wuerttemberg in KwaZulu-Natal. (D. van Jaarsfeldt, & P. Schulz, Interviewers)
- Moothilal, R. (2020). The SA Automotive Component Supply Chain: Supporting African Industrialisation . *German-African Automotive Forum, 11.2.2020*. Stuttgart: Afrika-Verein der deutschen Wirtschaft.
- NAAMSA. (2020). *Industry Overview*. Retrieved from <https://naamsa.net/industry-overview/>
- Najjar, F. (2019). *Verhandlungspraxis kompakt - Südafrika* . Bonn: GTAI.
- Najjar, F. (2020a, Juni 18). *Corona-Pandemie trifft Wirtschaft besonders stark*. Bonn: GTAI. Retrieved from <https://www.gtai.de/gtai-de/trade/wirtschaftsumfeld/wirtschaftsausblick/suedafrika/corona-pandemie-trifft-wirtschaft-besonders-stark--255988>
- Najjar, F. (2020b, Juni 05). *Zwischen Bekämpfung von Covid-19 und einer weiteren Öffnung*. Bonn: GTAI. Retrieved from GTAI: <https://www.gtai.de/gtai-de/trade/specials/special/suedafrika/im-spannungsfeld-zwischen-lockdown-und-wirtschaftskrise-240824>
- Najjar, F. (2020c, Juli 03). *Branchencheck Umwelttechnik*. Retrieved from <https://www.gtai.de/gtai-de/trade/branchen/umwelttechnik-261586.pdf>
- Najjar, F. (2020d). *Regierung will Wasserprojekte anschieben*. Johannesburg: Germany Trade and Invest.
- Nash, M. (2020, Februar 17). *AMS on Africa: Part 6 – Volvo Trucks of the trade*. Retrieved from Automotive Manufacturing Solutions: <https://www.automotivemanufacturingsolutions.com/heavy-vehicle/ams-on-africa-part-6-volvo-trucks-of-the-trade/40151.article>
- Nations Online. (2020, August 17). *Map of South African Provinces*. Retrieved from https://www.nationsonline.org/oneworld/map/za_provinces_map2.htm
- Pienaar, C., Basson, L., Williams, Q., & Fordy, N. (2020). *Waste: Market Intelligence Report 2020*. Cape Town: GreenCape.
- Ramkissoo, A. (2020, August). Hintergrundinterview Gesundheit mit dem CEO von MatCH.

- Rödl und Partner. (2020). *Investitionsführer Südafrika - Rahmenbedingungen für Investoren*. Retrieved from <https://www.roedl.de/de-de/medien/publikationen/investitionsfuehrer/documents/investitionsfuehrer-suedafrika-roedl-partner-de.pdf>
- SA News. (2020, Juni 23). *SA unemployment reaches 30,1%*. Retrieved from <https://www.sanews.gov.za/south-africa/sa-unemployment-reaches-301>
- SACoronavirus. (2021, Januar 08). *Covid-19 Online Ressource & News Portal*. Retrieved Juli 20, 2020, from <https://sacoronavirus.co.za/category/press-releases-and-notice/>
- SACU. (2020). *South African Customs Union*. Retrieved from <http://www.sacu.int/show.php?id=471>
- SADC. (2012). Retrieved from <https://www.sadc.int/about-sadc/integration-milestones/free-trade-area/>
- SASSDA, S. A. (2017, Juli). *Manufacturing sector has the potential to add 1-million jobs to SA's economy*. Retrieved from <https://sassda.co.za/news-home/sassda-news-flash/manufacturing-sector-has-potential-to-add-1-million-jobs-to-sas-economy/>
- Songtian, L. (2018, Februar 27). *IOL*. Retrieved from South Africa and China are beneficial partners: <https://www.iol.co.za/pretoria-news/south-africa-and-china-are-beneficial-partners-13508542>
- South African Government. (2018, November 23). *Minister Rob Davies: South African Automotive Masterplan and Extension of Automotive Production and Development Programme*. Retrieved from <https://www.gov.za/speeches/minister-rob-davies-media-statement-south-african-automotive-masterplan-2035-and-extension>
- South African Government. (2020, September 22). *National Environmental Management Act*. Retrieved from <https://www.gov.za/documents/national-environmental-management-act>
- South African Local Government Association. (2018, Oktober). *Status of Small Scale Embedded Generation (SSEG) In South African Municipalities*. Retrieved from <https://www.sseg.org.za/wp-content/uploads/2019/03/Status-of-Small-Scale-Embedded-Generation-in-Municipalities-October-2018.pdf>
- South African Market Insights. (2020, März). *Contribution of South Africa's provinces to South Africa's overall GDP for 2018*. Retrieved from <https://www.southafricanmi.com/contribution-of-provinces-to-south-africa-gdp-9mar2020.html>
- South African Market Insights. (2020, September 24). *South Africa's Population Density Map*. Retrieved from <https://www.southafricanmi.com/population-density-map.html>
- Statistisches Landesamt Baden-Württemberg. (2019). *Wirtschaftsdaten Baden-Württemberg*. Stuttgart: Ministerium für Wirtschaft, Arbeit und Wohnungsbau Baden-Württemberg.
- Thill, M. (2020, Februar). Die afrikanische Freihandelszone: Chancen und Herausforderungen für Afrika, die Wirtschaft und Unternehmen. *afrikawirtschaft*.
- TIKZN. (2016). *Pharmaceuticals, Medical Technology and Machinery*. Retrieved from https://www.tikzn.co.za/open.php?cat=key_sectors&page=health_services
- TIKZN. (2016a). *Renewable Energy*. Retrieved from https://www.tikzn.co.za/open.php?cat=key_sectors&page=energy_and_water
- TIKZN. (2019, November 25). *Welcome to KwaZulu Natal*. Präsentation während Delegationsreise, Durban, Südafrika.
- TIKZN. (2020). Chemical Sector. Information collected by TIKZN for market study. Durban, South Africa.
- TIKZN. (2020, September 24). *Economic Overview*. Retrieved from https://www.tikzn.co.za/open.php?cat=invest/doing_business_in_kzn&page=invest_economic_overview

- TIKZN. (2020, Oktober 22). *Welcome to KwaZulu Natal*. (S. Ngcamu, Performer) Stuttgart.
- Trading Economics. (2020, August 18). *South Africa Imports By Country*. Retrieved from South Africa Exports By Country: <https://tradingeconomics.com/south-africa/imports-by-country>
- Trading Economics. (2020, August 17). *South Africa Unemployment Rate*. Retrieved from <https://tradingeconomics.com/south-africa/unemployment-rate>
- trAIDE GmbH. (2019, August). *Zielmarktanalyse Südafrika - Gesundheitswirtschaft, Medizintechnik, Pharmaindustrie*. Retrieved from https://www.spectaris.de/fileadmin/Infothek/Verband/Au%C3%9Fenwirtschaft/Markterschlie%C3%9Fungsprogramm/Zielmarktanalyse_S%C3%BCdafrika_2019.pdf
- Umwelttechnik BW. (2019). *Länderprofil Südafrika*.
- UNAIDS. (2020, November 26). *Country Factsheet South Africa*. Retrieved from <https://www.unaids.org/en/regionscountries/countries/southafrica>
- Wasserman, H. (2020, Dezember 10). *South Africa's current account is in great shape — here's what that means*. Retrieved from Business Insider South Africa: <https://www.businessinsider.co.za/south-africas-current-account-is-looking-great-2020-12>
- WHO. (2020, August 18). *Covid-19 Dashboard*. Retrieved from <https://covid19.who.int/region/afro/country/za>
- WHO. (2021, Januar 8). *COVID-19 in the WHO African Region*. Retrieved from <https://who.maps.arcgis.com/apps/opsdashboard/index.html#/0c9b3a8b68d0437a8cf28581e9c063a9>
- Wikipedia. (2020, September 28). *List of municipalities in KwaZulu-Natal*. Retrieved from https://en.wikipedia.org/wiki/List_of_municipalities_in_KwaZulu-Natal
- Winning, A. (2020, Juli 15). *Reuters*. Retrieved from South Africa's Eskom cannot say how long latest power cuts will last: <https://in.reuters.com/article/safrica-eskom-idINL5N2EM3FY>
- WKÖ. (2020). *Länderprofil Südafrika*. Wien: WKÖ.
- World Bank. (2019, Oktober 10). *Overview South Africa*. Retrieved from <https://www.worldbank.org/en/country/southafrica/overview>
- World Bank. (2020). *DataBank: World Development Indicators*. Retrieved from <https://databank.worldbank.org/source/world-development-indicators>
- World Bank. (2020). *The African Continental Free Trade Area: Economic and Distributional Effects*. Washington, DC: World Bank.
- World University Service. (2020, August 19). *KwaZulu-Natal (Südafrika) und Baden-Württemberg - Regionalpartnerschaft*. Retrieved from <https://ez-der-laender.de/bundesland/baden-wuerttemberg/partnerschaft/kwazulu-natal-suedafrika-und-baden-wuerttemberg>

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