



Opportunities for cannabis in Cape Town's pharmaceutical industry

Investment opportunities for cannabis in Cape Town

1 of 3

1. Pharmaceutical industry

2. Textiles

3. Construction material



Main Insights

- Globally, the cannabis sector is growing, valued at \$51.28 billion in 2023 [1].
- In South Africa, recent policy and regulatory changes create an enabling environment that is opening up local opportunities for investment and job creation within the cannabis sector.
- In Cape Town, and more broadly in South Africa, one of the key opportunities for investment in the cannabis sector, lies within the pharmaceuticals industry.
- Opportunities exist across the medicinal cannabis value chain, not only in the cultivation and processing but also in the companies that provide the required agro-technologies and services. Agro-technologies such as lighting, fertigation, drip irrigation, and water treatment are expected to see a growth in demand due to the emerging medical cannabis industry.
- The City of Cape Town is well-positioned to become a medicinal cannabis hub. Industrial zones, such as Epping, are well-suited for start-ups looking to repurpose existing warehouses and set up indoor facilities.
- Cape Town, which is already a leading destination for medical travellers in Africa, is an attractive location for investment in medical tourism that includes medicinal cannabis as a niche product.
- As the medical cannabis industry is nascent in South Africa, it faces a number of barriers, including difficulty in accessing finance and vulnerable export markets. However, the regulatory environment continues to become more enabling for this emerging sector.

This document is one of three sector-specific briefs that highlight opportunities for investment in the hemp and cannabis value chain in South Africa, with a focus on Cape Town. This brief is written for:



Investors interested in the opportunities for investment in medicinal cannabis in Cape Town.



Relevant technology suppliers looking to supply medicinal cannabis as a market.



Cities interested in developing markets for medicinal cannabis.



Context

Historically, the cultivation and consumption of cannabis has been restricted in most countries. This did not limit the industry, but rather drove activities underground and illicit trade continued. Recently this has changed, as more and more countries legalise cannabis use and have set up frameworks to regulate the commercial production of cannabis products.

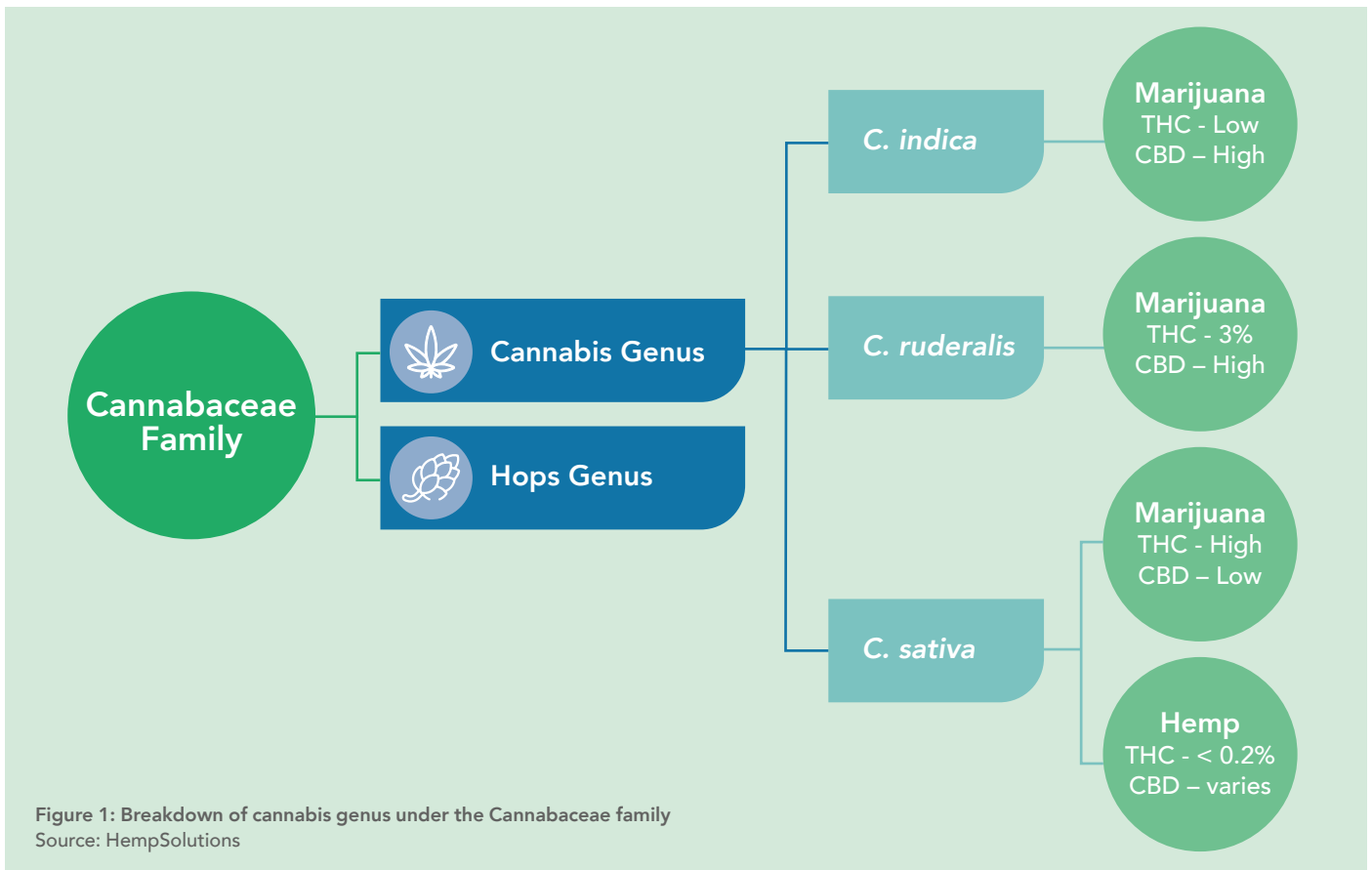
The economic benefits experienced by countries that legalised cannabis catalysed changes in South African (SA) regulations. In 2017, the Department of Health (DoH) introduced a licencing framework for the domestic cultivation and manufacture of medicinal cannabis. In 2020, the Minister of Health

rescheduled CBD as Schedule 4, CBD-containing products as Schedule 0 and THC as Schedule 6. This opened up the market for cannabis products, particularly CBD-containing products which are now available in retail stores. In his 2022 State of the Nation Address, President Cyril Ramaphosa stated that SA's cannabis industry could create more than 130 000 new jobs and be worth R406.3 billion by 2026.

This offers an opportunity for the City of Cape Town (CCT) to tap into this emerging sector, by leveraging existing infrastructure and skills and addressing structural barriers to entry.

1. Medicinal cannabis value chain analysis

Cannabis is a genus of flowering plants with three main varieties: cannabis indica, cannabis ruderalis, and cannabis sativa. Although fairly similar in physical profile, the varieties can have a vast range of chemical compounds unique to cannabis, called cannabinoids. There are more than a hundred identified cannabinoids, but the most well-known of them are delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD)



THC is the most popular cannabinoid due to its psychoactive properties, producing a “high” when consumed. In contrast, CBD is not psychoactive but shares many of the same medicinal properties as THC such as helping relieve pain, reduce nausea, ease anxiety, and insomnia as well as acting as an anti-inflammatory. Additionally, research has shown that CBD

has proven efficacy in trials when used in treating depression, seizures, and psychotic episodes [2]. Although cannabis is often used colloquially to refer to the plant with high THC, it is much clearer to use hemp when referring to the varietal with less than 0.2% THC¹ and marijuana for the rest.



¹ 0.2% is the limit commonly used for THC in order to prevent the misuse of cannabis and circumvention of regulations around cultivation since the cultivation of hemp is not regulated by the Department of Health, but by the Department of Agriculture, Land Reform and Rural Development

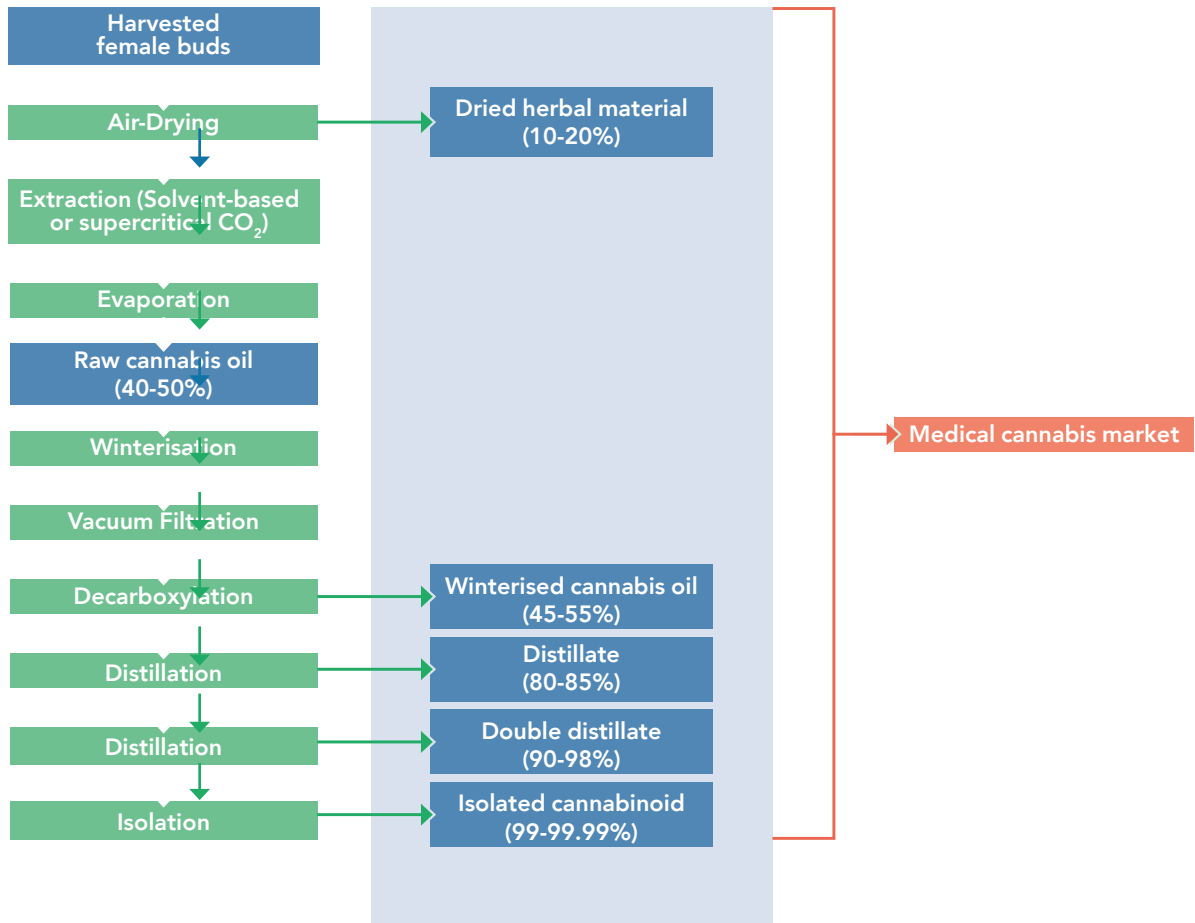


Figure 2: Medical cannabis value chain

Medicinal cannabis is “plant-based or plant-derived cannabis products prescribed by a medical practitioner for the treatment of a specific condition or disease (e.g. epilepsy, pain, MS). Medicinal cannabis uses the whole unprocessed plant, the processed plant or the chemicals contained within it” [3]. Figure 2 provides an overview of the process of manufacturing different medicinal cannabis products and their average cannabinoid content: dried herbal material, raw cannabis oil, winterised cannabis oil, distillate, double distillate, and isolated cannabinoid.



2. Investment opportunities for the CCT

2.1 Cape Town's medical cannabis production capacity

Medicinal cannabis can be grown in three different production systems: indoor, greenhouse or outdoor. As seen in Table 1 below, the most cost-effective production system is outdoors since it does not have high infrastructure requirements. However, outdoor production is vulnerable to the risk of weather fluctuations and species cross-contamination which could result in inconsistencies in yields of chemical properties.

Indoor has the highest capital investment costs since the growing environment (i.e. lighting, grow medium, heat, humidity, and ventilation) is artificially provided by expensive equipment and control systems. It is often used when greenhouse growing is not possible or when the quality and security of the cannabis are of the most importance and a premium can be obtained from the market.

Table 4: Primary production farming practices accreditations
Source: Adapted from Marijuana Business Fact Book, 2017

	Capital investment cost (USD/m ²)	Annual revenue (USD/m ²)	Annual operating costs (USD/m ²)
INDOOR	807	1625	872
GREENHOUSE (POLY-TUNNEL)	538	280	86
OUTDOOR	108	161	32

However, the most common production system for medicinal cannabis cultivation is in greenhouses, where producers can control growing parameters to some extent whilst taking advantage of natural light and heat from the environment. Many countries, such as France and the United Kingdom, were able to take repurpose greenhouses already established to produce tomatoes and that assisted in significantly reducing the upfront costs of many medicinal cannabis start-ups. South Africa is at a competitive disadvantage in comparison to those other countries as it does not have an extensive footprint of greenhouses.

2.1.1. Repurposed vacant buildings in industrial zones



Figure 3: Map of Epping Industria and Cape Town International Airport
Source: Western Cape Government

Cape Town's Urban Catalytic Investment (UCI) directorate has suggested that the industrial zone in Epping would be well-suited for medicinal cannabis start-ups looking to set up an indoor facility. As can be seen in Figure 3, Epping Industria already has several industrial warehouses that could be repurposed and its proximity to Cape Town International Airport (CTIA) (~ 6 km) makes it attractive as the majority of medicinal cannabis grown in South Africa is sold to international markets.



2.1.2. Controlled environment agriculture technologies

The most common agricultural technologies used in the cultivation of medicinal cannabis are illustrated in Figure 4

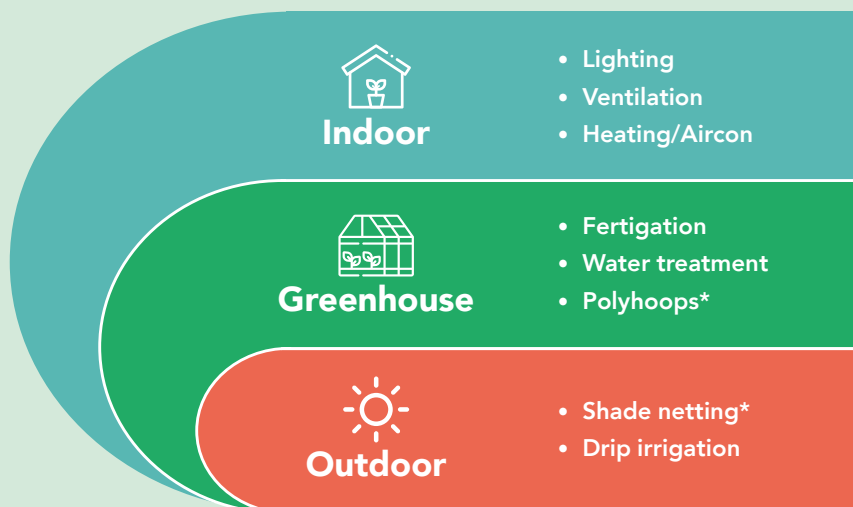


Figure 4: Main technology requirements for each production system

Note: *this technology type is relevant only for the production system under which it is listed

Outdoor production has the lowest technology requirements and with each move up in production, a stepwise addition of technology is necessary. The Western Cape has a strong agricultural sector – dominated by the horticultural sector – and several agricultural technology companies which support the sector. The medicinal cannabis companies in the

Western Cape use both greenhouse and indoor production systems and so agrotechnology suppliers of systems such as lighting, fertigation, drip irrigation, and water treatment etc., will benefit from the greater market demand as more medicinal cannabis start-ups set up facilities.

2.2. Cape Town's medicinal cannabis tourism industry

Medical tourism is the phenomenon when consumers – often from wealthier, more developed nations – travel to less developed countries to access health services which are more cost-effective [4]. In 2018, Cape Town was the leading medical destination for medical travellers in Africa and has a competitive advantage in that it has:

- World-renown doctors.
- A medical industry which has pioneered many ground-breaking surgeries.
- Mostly English-speaking personnel.
- A favourable currency exchange rate (in comparison to the US Dollar, Pound Sterling and Euro).

According to Statistics SA (StatsSA), less than 0.1% of tourists entering the country in 2022, were seeking medical treatment. The low number of medical tourists is supported by the fact that although South Africa's tourism department does make mention of wellness tourism, there is no national strategy for improving wellness or targets for investment in the sector [5]. This is a lost opportunity, since medical tourists spend on average 23% more than leisure travellers [5]. Cape Town could market itself more prominently as a premier medical tourism destination, highlighting medicinal cannabis as a

niche product offering available to interested consumers. Cape Town already has a medicinal cannabis clinic which has treated more than 100 000 patients, including patients from Germany, Canada, Australia, Poland, Denmark, France, Columbia, Portugal and the United Kingdom. Growing this market substantially would not only result in investment and job creation in Cape Town's tourism market but also result in increased demand for medicinal cannabis products which currently are largely absorbed by international markets.

3. Barriers

3.1. Load shedding

Load shedding has had a major negative impact on the South African economy, with Stage 6 power cuts costing the country an estimated R899 million per day [6]. Medicinal cannabis producers have highlighted the significant negative impact load shedding has had on production since it makes heavy use of automation to control various elements. This means that load shedding not only impacts the productivity of the day but could also risk the quality of produce, threatening the viability of the business.

The response to these challenges has differed by production type. A few businesses that use greenhouse production systems said that they shift their production schedule to match their load shedding schedule to mitigate as much as possible any loss in productivity. Some have also invested in diesel generators as a stopgap. For indoor facilities, the need for a consistent electricity supply is critical, so many businesses are investing in solar PV systems as well as battery storage. This additional capital expense is a costly, but necessary, choice to ensure that the business can operate long-term.



3.2. Access to finance

The cultivation and manufacture of cannabis-related pharmaceutical products for medicinal and research purposes are regulated by the South African Health Products Regulatory Authority (SAHPRA). As such, SAHPRA is the authority which issues licences for the cultivation, manufacture or import of cannabis. SAHPRA's guidelines require that the Law Enforcement/Regulatory Compliance officer conduct an audit of the applicants' growing or manufacturing operations to assess conformity with the best practices determined by DALRRD and SAHPRA.

This requires that the facility be fully set up before issuing a licence. Many financiers will not dispense funding when there is a risk the licence will not be approved.

3.3. Export markets

Many businesses have noted that international markets have become more difficult to penetrate as countries place restrictions on imports to protect and grow their medicinal cannabis industry. This makes the industry incredibly vulnerable, as there is no domestic market large enough to absorb current output. Producers should consider establishing an industry association that can lobby on their behalf for the government to step in and establish trade agreements with international markets as the government has done with other commodities.

The vulnerability of the sector also highlights how growing a domestic market, either through increased domestic use of medicinal cannabis or growing the medical tourism market, has compounding benefits for the CCT as well as the medicinal cannabis sector.



Next Steps

In summary, the medicinal cannabis value chain in Cape Town is an exciting emerging opportunity for investment and job creation, not only in cultivation and processing but also in the auxiliary services and technology suppliers. For further information and support on any of the content provided here, please contact GreenCape's Sustainable Agriculture sector desk: agri@green-cape.co.za



References

1. Statista, "Cannabis - Worldwide," Statista, 2023. [Online]. Available: <https://www.statista.com/outlook/hmo/cannabis/worldwide>. [Accessed 5 June 2023].
2. J. Fletcher, "A comparison of CBD and THC", 3 January 2023. [Online]. Available: <https://www.medicalnewstoday.com/articles/325871>.
3. Prohibition Partners, "The African Cannabis Report," Prohibition Partners, London, 2019.
4. N. Lunt, R. Smith, M. Exworthy, S. T. Green, D. Horsfall and R. Mannion, "Medical tourism: treatments, markets and health system implications: a scoping review," Directorate for Employment, Labour and Social Affairs, London, 2011.
5. Global Wellness Institute, "Wellness Economy Statistics & Facts," Global Wellness Institute, [Online]. Available: <https://globalwellnessinstitute.org/press-room/statistics-and-facts/>. [Accessed 1 June 2023].
6. Bloomberg, "Stage 6 load shedding costs South Africa R900 million a day: SARB," Business Tech, 6 February 2023. [Online]. Available: <https://businesstech.co.za/news/energy/662515/stage-6-load-shedding-costs-south-africa-r900-million-a-day-sarb/#:~:text=Stage%20%20load%20shedding%20costs%20South%20Africa%20R900%20million%20a%20day%3A%20SARB,-Bloomberg6%20February&text=South%20Africa's>. [Accessed 1 May 2023].

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