



# 2023 MIRs LAUNCHED

## Highlights from the launch of GreenCape’s 2023 Green Economy Market Intelligence Reports

by Tshepo Morokong<sup>1</sup>, Cilnette Pienaar<sup>2</sup>, Sixolise Mcinga<sup>3</sup> and Sibusisiwe Maseko<sup>4</sup>

<sup>1</sup>Western Cape Department of Agriculture, <sup>2,3,4</sup> GreenCape



(MIRs) at the Cape Town International Convention Centre. This event marked the second formal launch of the MIRs.

**GreenCape’s team of experts presented key research findings tackling important topics, namely:**

- 1 Sustainable agriculture**
- 2 Water**
- 3 Energy services**
- 4 Large-scale renewable energy**
- 5 Electric vehicles**

### Introduction

On 16 May 2023, GreenCape launched its Green Economy Market Intelligence Reports

These studies involved extensive consultation with the industry and

funding support from the South Africa UK Partnership for Accelerated Climate Transition (UKPACT), Friedrich Naumann Foundation for Freedom Sub-Saharan Africa and the Western Cape Department of Agriculture (WCDa). The next section presents key highlights for the MIRs.

**Market Intelligence Reports key highlights**


The 2023 MIRs are a valuable resource for the industry and provide important information on some of the sector’s cutting-edge best practices and technologies. “Agriculture is dependent on natural resources, which are finite and also vulnerable to climatic conditions, hence research contributing to improving the resilience of primary agriculture and agri-processing serves a critical role,” said Minister Ivan Meyer, Western Cape Department of Agriculture.

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Trends in agricultural production show yield improvements because of favourable climatic conditions (e.g., rains) due to the El Niño phenomenon. However, the coming production season forecast much drier production conditions, which require a shift to more resilient production methods. The sustainable agriculture team of experts has honed into opportunities that speak to this phenomenon and highlighted new and attractive investment opportunities. This is specifically for investors who would like to invest in sustainable agriculture and for producers who are interested in market insights to learn where the sector is going.



↪ **Solar dryer dome.** Photo © Gerrit Rautenbach

 The next section is a summary of some of the key findings. »



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**A floating solar station on a farm dam saves arable land and helps against evaporation, Western Cape.**

Photo © Gerrit Rautenbach

**Regenerative agriculture:** Regenerative agriculture (RA) is a holistic farm management concept that not only includes maintaining current soil health but also rehabilitating soil that has been degraded due to exploitative production practices. RA introduces a low-cost production system in the long run as the benefits of this farming technology result in a significant reduction of input costs.

**1 SUSTAINABLE AGRICULTURE  
INVESTMENT OPPORTUNITIES  
HIGHLIGHTED IN 2023 MIR**

**Renewable energy applications:** While renewable energy alternatives, such as solar PV systems, solar-powered irrigation systems and wind energy, have remained popular, there are other technologies that could have substantial potential in agriculture, particularly solar drying technology. Solar drying technology presents an exciting opportunity in agriculture, not only for greater benefits on farms but also as an environmentally sustainable method of reducing post-harvest losses in low- and middle-income countries. This technology has successfully penetrated markets in Asia and Africa, especially in countries such as India, China, Kenya and Burkina Faso.



South Africa's agricultural sector is an untapped market for this technology.



**An apple orchard under nets for protection against threatening elements from nature, Western Cape.**

Photo © Gerrit Rautenbach



**Pilot agrivoltaic power project.**  
Photo © Tobi Kellner



This encompasses conservation agriculture and additional principles of living roots and animal integration for improved biodiversity and productivity.

**Smart farming:** Refers to the use of technology to inform where and how resources are dispensed on a farm. Farmers are starting to realise the benefit of investing in smart farming technologies, particularly in the face of the increasingly unpredictable impacts of climate change.



Other drivers of increased farmer interest have been the clear financial savings technology that suppliers have been able to demonstrate to farmers.

**Circular agriculture:** Anaerobic digestion (AD) technology can provide a solution to a growing number of issues in the agricultural sector, particularly energy security for both seasonal and continuous production; management of agricultural waste residues and wastewater; and replacement of chemical-based fertilisers with a nutrient-rich soil enhancer.



A circular economy in agriculture can be more resource efficient and potentially more resilient than the traditional linear economy in instances where producers can use circularity to reimagine production systems that have greater cost savings, income diversification and increased profitability.







There are related market opportunities in wastewater sludge beneficiation, including handling, transportation and off-take agreements.

**The implementation of renewable energy and energy efficiency interventions at public sector wastewater treatment works (WWTWs):**



There are various market opportunities related to WWTWs, including the supply, installation and operation of energy efficient and renewable energy technologies.

**2 WATER INVESTMENT OPPORTUNITIES 2023 MIR**

**The upgrade of wastewater infrastructure in the public sector:** R8.14 billion in investment is required to restore the wastewater treatment works (WWTWs) in the country to a functional state. The eight metros make up R2.76 billion of the total investment required.



The various market opportunities are related to infrastructure refurbishment, repair, replacement, maintenance and expansion.

**The beneficiation of public sector wastewater sludge:** Landfilling of wastewater sludge costs metropolitan municipalities across South Africa an estimated R132 million per annum.



**Wastewater irrigation.**  
Photo © John Carnemolla

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by 2035 at a market value of approximately R100 billion. This steady growth, which translates to the potential creation of approximately 1 250 jobs, is significant in the South African context, considering the ongoing need to reduce the current unemployment rate.



**Energy services investment opportunities highlighted for 2023, are:**

- Rooftop solar PV installations: 600-900 Megawatt-hours (MWh) p/a, R7.5 billion p/a.
- Behind-the-meter storage: 250 MWh p/a, R2 billion p/a.
- Smart meters: 100 000 to 300 000 upgrade P/A, R1.2 -1.6 billion p/a.

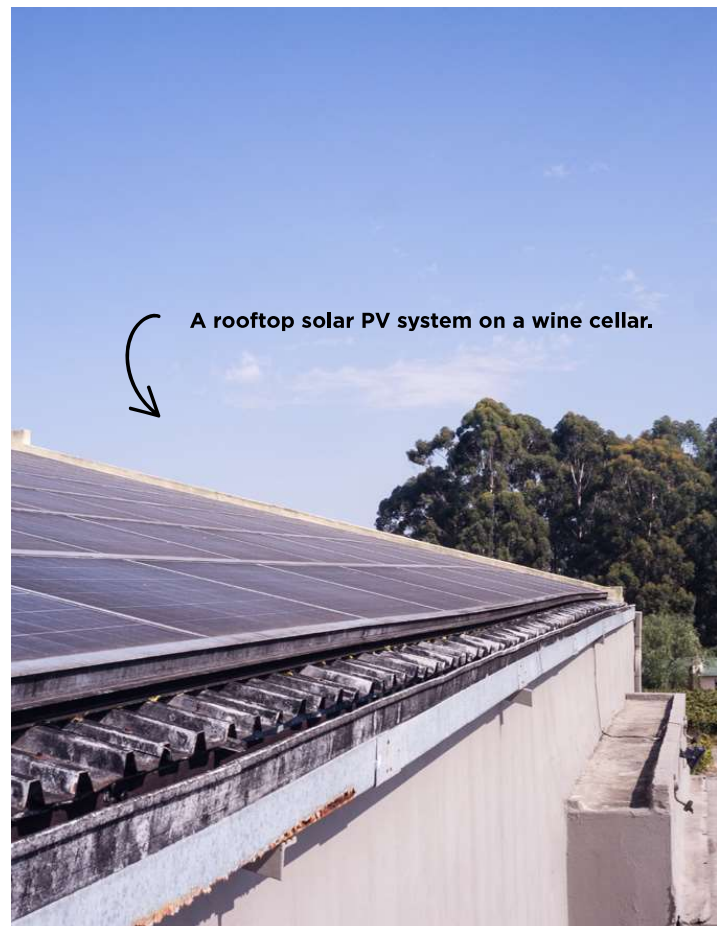


**3 ENERGY SERVICES 2023 MIR**

The term energy services (ES) is used to describe three interrelated energy market segments in the South African energy space, namely small-scale embedded generation (SSEG) [encompassing system sizes <1 Megawatt peak (MWp)]; energy storage; and energy efficiency (EE). Rising electricity prices, energy insecurity, dropping technology costs, supportive energy policies and policy-related incentives prompt consumers to explore alternative energy options driving the growth of the ES market in SA and creating a thriving value chain.

A positive regulatory movement, investor sentiment and steady recovery in the key commercial, industrial and agricultural sectors have led to continued market growth in 2022.

The market is still expected to reach a total capacity of 10 gigawatts peak (GWp)



A rooftop solar PV system on a wine cellar.



**4** LARGE-SCALE RENEWABLE ENERGY INVESTMENT OPPORTUNITIES 2023 MIR

**Public procurement of new generation capacity:** This opportunity is related to any new renewable energy capacity generated by Independent Power Producers (IPPs) either being sold to the national utility (procured through the Renewable Independent Power Producer Programme (REIPPP)) or to public entities such as local municipalities.

The Integrated Resource Plan (IRP) stipulates the total market size for electricity generation needed to meet the country's demand.

**Private procurement of new generation capacity:** The potential market size for this opportunity was approximated by the IRP

2019 to be approximately 500 MW per year. This has however already been exceeded in 2022. For example, the mining sector has reported a pipeline of renewable energy projects over 2 GW that could be brought on stream in 2022/23, with an estimated cost of between R30 billion and R40 billion.

The leading technology of interest is solar PV, alongside solar-diesel hybrid power projects or battery energy storage systems for overnight operations.

**Local manufacturing of renewable energy components and systems:** It is estimated that by 2030 approximately 14 million solar panels and approximately 3 600 wind turbines would be required to fulfil IRP 2019.

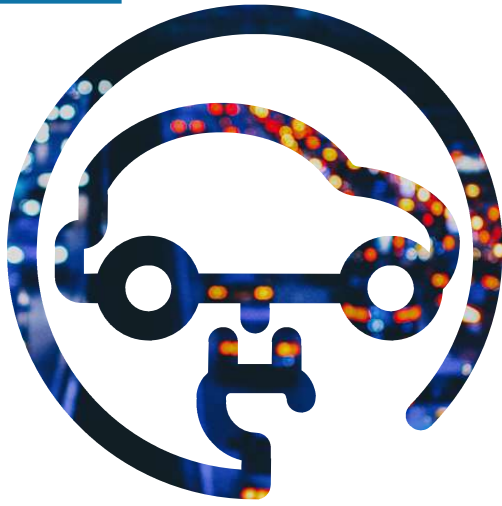
Annual production assumes 70-90% localisation of key components and 90% of the balance of the plant by 2030.



Wind turbines convert the kinetic energy of wind into electrical energy.  
Photo © Eco Pic

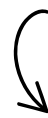


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**Four key market opportunities have been identified as attractive sectors for investment in the EV industry in South Africa:**

- Local manufacturing and electrification of public transport.
- Electric micro-mobility for last-mile delivery.
- Local manufacturing of electric private passenger vehicles.
- Local lithium-ion cell manufacturing.



**Monarch tractor, a 75-hp electric smart tractor manufactured in Livermore, California.**



**Learn more!**

Download the full reports here: <https://green-cape.co.za/market-intelligence/>

**5 ELECTRIC VEHICLES 2023 MIR**

The emerging electric vehicle (EV) market currently represents a small share of the South African automotive industry but presents substantial opportunities for businesses and investors active and interested in the sector. **AP**



**Learn more!**

<https://www.monarchtractor.com/mk-v-electric-tractor>

For more information, contact **Tshepo Morokong:** ✉ [Tshepo.Morokong@westerncape.gov.za](mailto:Tshepo.Morokong@westerncape.gov.za), **Cilnette Pienaar:** ✉ [clilnette@green-cape.co.za](mailto:clilnette@green-cape.co.za), **Sixelise Mcinga:** ✉ [sixelise@green-cape.co.za](mailto:sixelise@green-cape.co.za) or **Sibusisiwe Maseko:** ✉ [sibusisiwe@green-cape.co.za](mailto:sibusisiwe@green-cape.co.za)