CK RUMBOLL
& PARTNERS

CONSENT USE: RENEWABLE ENERGY STRUCTURE

Remainder of Portion 7 of Farm Palmiet Drift No. 80,

George Registration Division

GE/13712/RP

18 September 2025

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1. EXECUTIVE SUMMARY

About The CHARGE Project

Zero Carbon Charge (Pty) Ltd (CHARGE) is a local company developing a national network of electric vehicle (EV) charging stations, all powered by onsite renewable energy. The charging stations will be approximately 150 km apart, servicing all national routes in South Africa – establishing a national network of clean energy powered charging stations. Each charging location will incorporate renewable energy infrastructure (solar panel and battery storage system), an EV charging station and a safe and convenient refreshment facility with restrooms.

Electric Vehicles uptake

The ***Electric Vehicle White Paper***, delivered by the South African Government Department of Trade, Industry and Competition in November 2023, **underscores the expected accelerating adoption of electric vehicles (EVs) across South Africa.** This strategic document highlights the country's commitment to embracing sustainable mobility solutions to drive economic growth and environmental stewardship. The CHARGE project also aligns with the **Department of Transport's *Green Transport Strategy for South Africa (2018 – 2050)*** and The Presidency ***National Development Plan 2030*** **(NDP).** It supports goals related to climate change mitigation, infrastructure development, energy accessibility, innovation, and economic development, thereby contributing to South Africa's sustainable development objectives.

Solar Energy

- Choosing solar power isn't just beneficial for the environment; it's also a smart economic choice for the South African and rural economies.
- Distributed Energy Systems like the planned CHARGE network will alleviate strain on the Eskom power grid and ensure scalability to meet future charging demand.

2. INTRODUCTION

Although South Africa is the 27th largest economy in the world, it is the 12th largest carbon dioxide emitter mainly because of a dependence on carbon-based fuels. The National Development Plan (2030) has identified the reduction of carbon dioxide emissions as a priority for advancing an environmentally sustainable – low carbon economy. Data from the Draft National Greenhouse Gas Inventory for South Africa suggests that the transport sector contributes 9% of the country's emissions and the NDP emphasizes the importance of alternatively powered vehicles, such as electric and bio-fuel, to reduce vehicle emissions. The NDP further anticipates that South Africa can expect to see greater use of electric vehicles over the next 20 years making decarbonised electricity generation even more important.

Currently, it is estimated that there are less than 1000 electric vehicles (EV's) in South Africa with an expected growth of approximately 200 000 EV's by 2027 and that by 2032 majority of new cars will be EV's. Growth of the market share of eco-friendly cars that are less dependent on fossil fuels will be driven by higher and stringent taxation on carbon-emitting vehicles, which is proposed in

the NDP, as well as a global trend towards decarbonisation – to this end, major automotive manufacturers such as; Volkswagen, Ford, Mercedes-Benz, General Motors and Volvo have pledged to stop the manufacture of internal combustion engine (ICE) cars by 2030.

To allow for a successful transition from fossil fuel dependent cars to EV's, it is critical that supporting infrastructure be available to ensure EV's are functional. For the 1000 or fewer EV's in South Africa, there are 250 charge points of which most are at dealerships. A substantial rollout of charge points is thus necessary to accommodate the expected growth[1] in EV's. Apart from the requirement for new charge points, there are also challenges relating to travel distance, inter-provincial travel, the time it takes to charge an EV's, and how the electricity is generated and/or sourced.

The Achilles heel of EV's is that 'refueling' times[2] are uncompetitive compared to ICE vehicles. Charging could be improved by the introduction of purpose-built, fast-charge points that offers 150KW and enables a range of 250km after 20 minutes of charging or 500km after 40 minutes. Providing purpose-built charge points along key national roads such as the N1, N2 and N7 will enable fast, efficient inter-provincial travel (considering that most EV's are currently used for daily commutes due to limited facilities along national routes).

Equally important is how electricity is generated and/or sourced. Most of the existing charge points, within urban areas, make use of grid electricity which is supplied either directly or indirectly by ESKOM – which heavily relies on fossil fuels to generate electricity and is becoming less and less reliant with the advent of loadshedding. An EV's powered by electricity generated from coal has the same carbon footprint as a petrol vehicles and therefore, to amplify the effectiveness of eco-friendly vehicles, the electricity used to power EV's has to be generated in sustainable ways such as wind, hydro or solar electricity. Accordingly, EV's must make use of "clean" energy and are robust to the challenges of the national grid. The market adoption of EV's is anticipated to have profound implications for the energy market as a whole and electricity demand as EV's share of total electricity consumption is expected to reach 10% of total grid capacity and up to 20% in certain areas[3]. Consequently, the adoption of EV's will require an increased electricity generation output.

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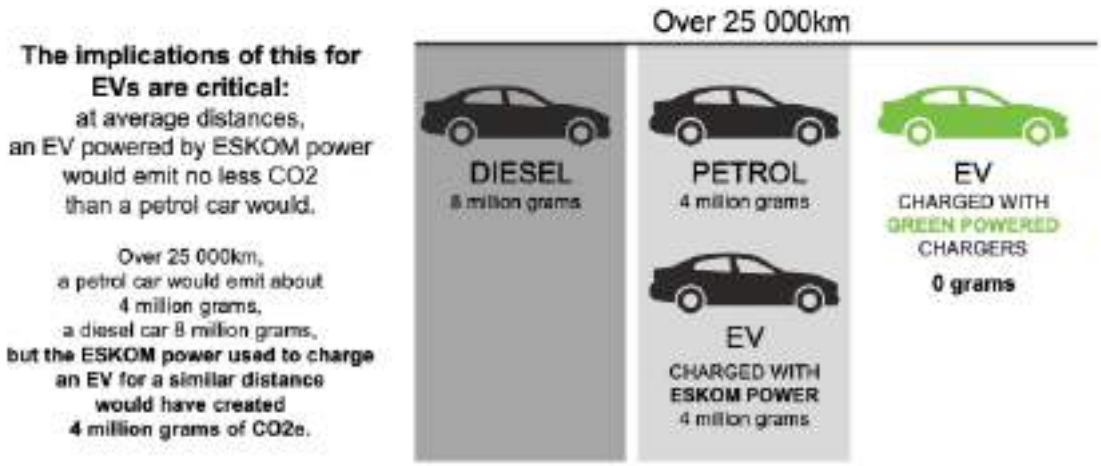
1 Major manufacturers have committed to producing EV's and sales penetration continues to exceed expectations; in late 2021 the market share of EV's as a percentage of new vehicle sales measured 28% in the UK and 34% in Germany. SA new sales are circa 250,000 a year. A 20% market share of new sales would result in over 50,000 EV's sold in South Africa in a year and, at a conservative ratio of 1:20 chargers to EV's, would require 2000 chargers to be added each year.

2 A typical electric car (60kWh battery) takes just under 8 hours to charge from empty-to-full with a 7kW charging point.

3 EV Driver Survey, New Motion, 2021, P10



This application addresses the posed dilemma by facilitating the national rollout of fast-charge points along strategic national routes which will enable inter-provincial travel, help to reduce the reliance on fossil fuels and will advance the transition to eco-friendly cars by providing the necessary infrastructure to allow for market adoption (considering range anxiety and a lack of ubiquitous charging stations are currently a deterrent for would-be EV owners[4]). The development proposal incorporates a renewable energy structure adjacent to the charging point which ensures; (a) that the electricity used to power vehicles is clean and (b) that the development does not rely on or place a further strain on the national grid.

3. BACKGROUND

CK Rumboll & Partners have been appointed by Mr. Joubert Roux, representative of Zero Carbon Charge (Pty) Ltd (CHARGE), to handle all town planning actions required to secure the necessary land use rights to establish a tourist facility and renewable energy structure (Solar Photovoltaic Facility) and accompanied charging station on the Remainder of Portion 7 of Palmiet Drift Farm No. 80, George Registration Division[5]. CHARGE have been appointed by Frikkie Jonck, registered owner of the subject property, to lodge the necessary applications for the proposed development, as mentioned.

4. PURPOSE

The purpose of this application is to apply for:

- A **Consent Use** in accordance with Section 15(2)(o) of the **George Municipality Land Use Planning By-Law (21 April 2023)** in order to permit a Tourist Facility on The Property.
- A **Consent Use** in accordance with Section 15(2)(o) of the **George Municipality Land Use Planning By-Law (21 April 2023)** in order to permit renewable energy structures on a portion (9609.35m²) of Portion 7 of Farm Palmiet Drift No. 80, George RD;

4 Electric Mobility Insights Report by New Motion, May 2020, P5

5 **Hereinafter referred to as The Property**

5. LOCALITY

The Property is situated approximately 20km north-west of George, and approximately 700m from the N9-N12 intersection, and gains direct access from the N12 national road connecting Oudtshoorn, to the north, with the N9 towards George, in the south.

Figure 1: *Locality of Property*

6. PROPERTY DESCRIPTION

5.1. Summary of property particulars

Property description	:	Remainder of Portion 7 of Farm Palmiet Drift No. 80, George RD
Property size	:	29.6249Ha
Owner	:	Frikkie Jonck
Local Authority	:	George Municipality
Title Deed	:	T19036/2016
Zoning	:	Agricultural Zone 1

5.2. Restrictive title conditions

The title deed[6] does not include any restrictive title conditions that prevent the proposal.

[6] *Title Deed & SG Diagrams – Annexure C*

5.3. Bondholder

The Property is not encumbered by a bond. Thus, no bondholders' consent is required.

5.4. Servitudes

The title deed makes reference to service servitude(s), namely:

- Powerline Servitude in favour of ESKOM.

5.5. Zoning and surrounding land uses

The subject property is zoned as Agricultural Zone 1 and is currently outfitted with a couple of structures. These include an unauthorised Tourist Facility and farm sheds/warehouse, although the farm is used for agricultural purposes, the tourist facility consisting of various uses, including a farm stall and restaurant does bring a certain business land use to the property. The land itself serves primarily agricultural purposes, comprising cultivated areas and natural vegetation zones. It's pertinent to highlight that irrigation, although used for certain cultivated land, is not the dominant usage on the property; rather, the land is predominantly utilised for grazing, owing to its significant coverage by natural vegetation. The surrounding properties are also zoned Agricultural Zone 1 and used for such purposes.

5.6. Restrictions and Opportunities

On the subject property, although there is no restriction in the title deed, an overhead powerlines' location to be confirmed. Additionally, an environmental checklist was submitted to assess whether the proposed development would trigger any provisions of the National Environmental Management Act (NEMA). The response from the Department of Environmental Affairs and Development Planning (DEADP) confirmed that NO written authorisation is required.

One notable advantage of the property is its strategic location along a National - (N12), near the N9-N12 intersection, offering excellent commercial prospects. The presence of these well-connected roads ensures high accessibility and visibility, making the property particularly desirable for any commercial activities, in this case the authorisation of the existing tourist facility operating from The Property and in addition thereto, the establishment of an solar powered Electric Vehicle Charging Station.

Considering the inherent volatility of nature-dependent agriculture, where factors like rainfall and climate can significantly impact success, it is crucial for agricultural land units to strengthen their financial sustainability against both natural and man-made disasters. One way to achieve this is by establishing complementary land uses on the property. This approach, as acknowledged in Section 8.1 of the Western Cape Land Use Planning Guidelines for Rural Areas, enhances the property's resilience and safeguards its financial stability. By incorporating diverse land uses that complement agriculture, such as renewable energy structures, the property can navigate uncertainties and reinforce its ability to withstand various challenges. This proactive approach contributes to long-term viability and ensures a more robust and resilient land-use strategy.

6. DEVELOPMENT PROPOSAL

Firstly, the proposed development involves the creation of a renewable energy facility in two phases, situated on the Remainder of Portion 7 of Farm Palmiet Drift No. 80, George RD. The initial phase comprises 480 solar panels and associated battery storage containers. The renewable

energy will be used solely on-site and no generated electricity will be sold off.

Considering that the existing tourist facility is considered as an unlawful land use while also being proposed as a Complimentary and welcoming land use to the proposed EV Charging Station, this application also entails lawfully securing the land use rights for the existing tourist facility.

The existing tourist facility comprises out of the following:

- Shop Area (25m²);
- Shop Display Area (22 m²);
- Liquor Display Area (24 m²);
- Cashier Area (7 m²);
- Kitchen (15 m²);
- Seating area with a wood fire pizza oven (66 m²);
- Storage (26 m²);
- 2 toilets (6 m²).

In the first phase, the EV charging station is designed to provide a reliable supply of 1000 kWh of energy per day, in order to charge 20 EVs. The intent is to generate enough energy using approximately 270 kiloWatt 'Peak' (kWp) power of PV. The PV is sized in such a way that as close to a 1000-kiloWatt hour (kWh) per day is generated, even in the months with the poorest generating capacity. – so that there may be excess generation in the good months that can be curtailed. The energy generated will be fed into a battery energy storage system (BESS) and drive the chargers as necessary.

Further, within this phase, an associated parking area, along with a charging station for EVs will also be erected. The charging station will consist of six (6) parking bays equipped with charging stations, functioning in a self-help manner without requiring staff attendance. This equipment will be designed to meet safety and accessibility standards. Four (4) of these parking bays will be covered with a canopy (78m²). Two (2) parking bays will be uncovered. Figure 2 illustrates a typical design of such a charging station.

The charging area will be located at the back of the existing unauthorised Tourist Facility and warehouse. The parking area will consist of five (5) 2.5m x 5m bays and a disabled parking bay along with the charging station, providing an additional six (6) parking spaces for the existing tourist Facility.

Figure 2: Typical design of a charging station

Considering that EVs typically charge between 30 minutes and 1 hour, the charging station will be complementary to the existing Tourist Facility. The close proximity between the Tourist Facility and the charging station is anticipated to be mutually beneficial. The charging station can serve as additional parking space, allowing visitors to spend time at the tourist facility while their EVs charge. Thus, the strategic proximity facilitates a clustered development.

The second phase of development encompasses an expansion of the renewable energy facility on the same property and within the proposed fenced area, featuring 488 solar panels. Phase 2 is to supply double the amount of energy. The aim of Phase 2 is to double up on the required PV and BESS, and on the output power of the chargers. **Notably, the execution of the second phase is subject to consumer demand.** In the broader context, similar facilities are proposed across SA along major transport routes. Realistically, not all sites are expected to experience high consumer demand. Therefore, the decision to proceed with the second phase will hinge on demonstrated necessity determined by consumer demand. The phased construction approach enables adaptation to site-specific requirements, ensuring responsible and scalable development tailored to the unique demands of each location.

The renewable energy infrastructure will be made up of photovoltaic panels mounted on fixed tilted photovoltaic panels mounted onto structures and faced north in order to maximise solar exposure. The panels will be connected to a central inverter that will convert the DC power generated by the panels into AC power that is suitable for use by the charging station. The solar panels will be constructed in a means that allows for potential grazing underneath the solar panels which in return prevents the loss of extensive tracts of vegetation. The height of the solar panels will be between 3 and 5 meters.

To connect the charging station to the solar farm, an underground electrical distribution system will be constructed. This system will include conduit, wiring, and associated equipment. The distribution system will be designed to minimize power losses and ensure reliable power delivery. Overall, the project will be designed to be integrated with the surrounding landscape and environment to ensure minimal visual impact and maximum sustainability.

The following figure illustrates the proposed development on application property[7].

[7] Site Development Plan – **Annexure E**.

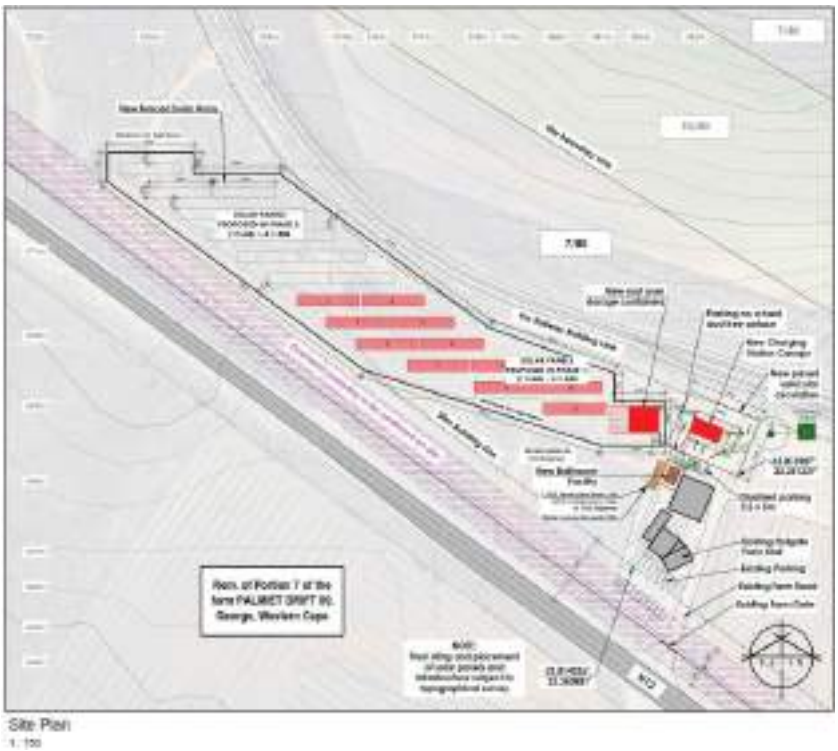


Figure 3a: *Site Development Plan*

SCHEDULE OF RIGHTS		
Farm	Rem. of Portion 7 of the farm PALMIET DRIFT 80, George, Western Cape	
Erf Area	291.6249 Ha	
Zoning	Agricultural Zone 1	
Building Lines	Street: 30 m | Sides & Back: 3 m	
Proposed Development Footprint	1. Solar Array area, incl:	8 630.05 m²
	Container Roof (Battery Storage)	130.50 m²
	2. Canopy area, incl:	977.03 m²
	New Farm Stall	NA
	Charging Station Canopy	76.00 m²
	Additional Bathroom Facility	31.00 m²
	3. Connecting Entrance Road:	NA
	Total Development Footprint	= 9 607.08 m² = 0.9607 Ha = 0.329 %
Coverage	Existing Development:	448.12 m² = 0.015 %
	Proposed Additional Development:	239.50 m² = 0.008 %
	Total:	308.30 m²
Height	1 storey	

Figure 3b: *Site Development Schedule*

A notable aspect of the proposed development is the design of the solar panels, which have been carefully planned to promote dual land use and harmonize with agricultural practices. The solar panels will be constructed at a height ranging between 3 and 5 meters, striking a balance between efficient energy generation and facilitating agricultural activities. One innovative feature of the design is that the panels will be elevated from the ground, allowing ample space for livestock to graze underneath in the future. This integration of solar infrastructure with grazing areas demonstrates a thoughtful approach

that optimizes land utilization while minimizing any potential disruption to existing agricultural practices. By providing shade and shelter for livestock, the solar panels not only contribute to sustainable energy production but also enhance the viability of livestock farming in the area. This dual-use approach exemplifies the project's commitment to both renewable energy and the preservation of agricultural activities, ensuring a beneficial coexistence between clean energy generation and livestock farming within the same land area.

The solar panels will conform to the 30m agricultural building lines. The application has been circulated to SANRAL, and it has been determined that they hold no jurisdiction for the applicable road.

ACCESS

The property's access is currently gained directly from the N12 and the access point is situated approximately ±700m away from the N9-N12 intersection.

Figure 4: *Example of agri-friendly solar panel construction.*

SERVICES

The proposed development does not require conventional civil services such as sewage or electricity as electricity will be generated by the facility itself.

- **Water supply:** The entire site development is considered a clean site, meaning there is no pollutants generated on the site that is not allowed to be directly discharged into the environment. Stormwater generated on the site will be harvested as far as possible for re-use, the remainder will be released into the environment in a controlled manner via overland flow. The PV panels will be mounted on elevated structures where a gutter system will be mounted to collect the water runoff from the panels. The rainwater will then be collected through a

reticulation network of tanks, pipes and pumps. For human consumption, the water will be treated through a reverse osmosis plant. However, the property is already improved with structures thereon which has suitable potable water.

- **Sewage:** The additional bathroom facilities will make use of a chemical-resistant, conservancy tank to dispose of both black and grey water. The tank will serve as temporary storage only, requiring the waste to be pumped out whenever the tank is full. A licensed waste disposal company will collect the waste by means of a Honeysucker truck and dispose it at the Municipality's sewage plant.
- **Electricity:** The facility will make use of electricity generated by the renewable energy structure.

DECOMISSIONING

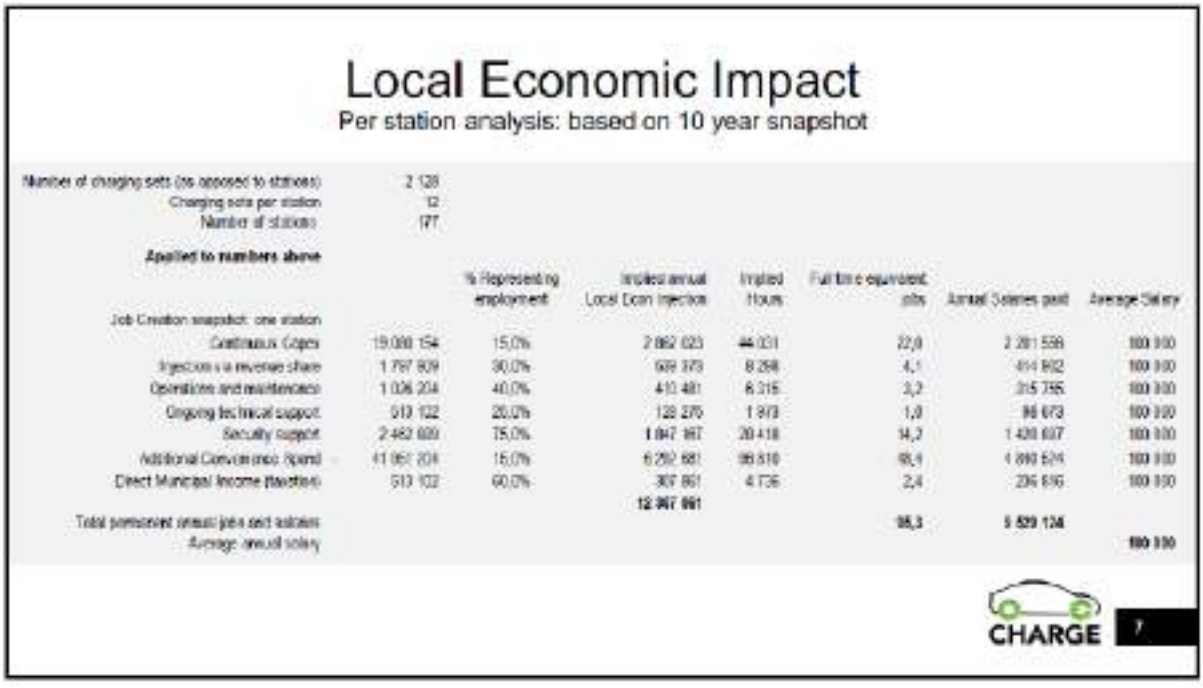
The renewable energy facility is designed to operate for approximately 25 years before decommissioning and site rehabilitation. The facility's decommissioning is likely to occur due to technological advancements or economic factors that make the facility obsolete, although the developer has the option to extend the facility's lifespan. To promote sustainable waste management, solar panels are considered hazardous waste and cannot be disposed of in landfills in South Africa since August 2021. Instead, the panels must be recycled because they contain valuable components. Countries with established recycling and manufacturing facilities often offer to purchase old solar panels. Cape Town is a well-known recycling centre for solar panels, and the facility owner plans to engage with appropriate parties to dispose of the panels responsibly after decommissioning

SOCIO-ECONOMIC IMPACT

The roll-out of a national EV charging station network across South Africa is expected to have substantial socio-economic benefits. Currently, South Africa spends over R300 billion annually on oil and fuel imports for petrol and diesel vehicles. By reducing reliance on fossil fuel imports through the adoption of electric mobility, significant foreign exchange savings can be retained within the country, creating an opportunity for reinvestment into the local economy. Moreover, the development and operation of charging stations, which are supported by on-site solar photovoltaic facilities, will generate localised employment opportunities in construction, engineering, and ongoing maintenance. These facilities, often integrated with tourist facilities, farm stalls and hospitality nodes, are likely to stimulate additional tourism and rural economic activity along national and regional routes

From an environmental and social perspective, the use of renewable energy to power EV charging stations ensures that each site becomes a net energy producer, avoiding additional strain on the already constrained national grid. This approach not only provides resilience against load-shedding but also helps reduce carbon emissions by enabling zero-emission travel when powered by solar energy. The localisation of renewable generation prevents the need for extensive new transmission infrastructure, ensuring that economic benefits remain in rural communities while also enhancing accessibility and mobility. Over time, the charging network will contribute to positioning South Africa as a more competitive, sustainable economy, aligned with global trends toward carbon reduction and green growth

The rise of electric vehicles, along with the necessary charging infrastructure and energy generation, will significantly impact rural economies and employment. The business model of charging stations, situated approximately 75km apart on national and main highways in South Africa, is specifically targeted at rural areas. The Zero Carbon Charge plan outlines the construction of 500 to 1000 charging stations and convenience facilities nationwide, with a long-term focus on sustainability. As the maintenance of the complex charging and energy systems requires technical expertise, the charging stations will create a demand for a skilled local workforce. The proximity of skilled workers is essential to ensure the 24/7 operation of the charging stations.



DESIRABILITY

The development proposal is considered desirable, and should be supported based on the following points:

I. **Reduced greenhouse gas emissions:** EVs produce no direct emissions, and when they are charged with electricity from a renewable source, such as a small solar farm, their use results in significantly reduced greenhouse gas emissions;

II. **Environmental benefits:** A charging station powered by renewable energy helps to reduce reliance on non-renewable energy sources and reduce the overall carbon footprint of the transportation sector;

III. **Reduced carbon footprint:** Using surplus electricity from a small solar farm for an agricultural

property reduces the carbon footprint of the property. This is especially important for environmentally conscious consumers and for businesses that want to demonstrate their commitment to sustainability;

IV. **Reduced electricity costs:** By using surplus electricity generated by the small solar farm, the agricultural property will significantly reduce their electricity costs and may even eliminate them altogether;

V. **Increased energy independence:** By generating electricity from a renewable source such as a small solar farm, the agricultural property can increase its' energy independence and reduce its' reliance on the grid;

VI. **Improved energy reliability:** By generating electricity, the agricultural property will ensure a reliable source of energy, even in the event of power outages or other disruptions to the grid;

VII. **Business opportunities**: The increasing demand for electric vehicles and the need for EV charging infrastructure presents opportunities for businesses to enter the EV charging market and generate revenue. With a charging station powered by renewable energy, the business can appeal to environmentally conscious customers who are looking for a sustainable and clean energy source for their EVs;

VIII. **Enhanced community relations:** Using surplus electricity generated by a small solar farm to provide electricity to an agricultural property will enhance community relations by demonstrating a commitment to sustainable energy practices and supporting the local agricultural community.

SITE SELECTION CRITERIA

The site selection process incorporates several criteria which include:

1. **Accessibility:** Assessing the property's accessibility is crucial, considering factors like line of sight, slope, and any limitations that may hinder access. It's important to determine if there are existing access points available or if new ones need to be established.
2. **Location:** Evaluating the property's location is essential in terms of its proximity to important routes and transportation networks. Additionally, the amount of sunlight available at the location is a key factor to consider, ensuring optimal solar energy generation.
3. **Potential for future expansion:** Assessing the site's potential for future expansion is important to accommodate potential growth and increased capacity of the solar farm. This allows for scalability and flexibility in the long run.
4. **Property owner cooperation:** The willingness of the property owner to come to an agreement for utilizing their land is a critical aspect. Cooperation and consent from the property owner are necessary to proceed with the project.
5. **Natural constraints:** Identifying and considering any natural constraints on the property is crucial, such as the presence of critical biodiversity areas or rivers. Preserving and protecting these areas is vital for maintaining ecological balance and sustainability.
6. **Agricultural potential:** Evaluating the agricultural potential of the land in question is necessary to ensure that the proposed solar farm does not encroach upon high potential agricultural land. It is important to avoid areas that could compromise food production or existing agricultural activities.

WHY THIS SITE?

The following points informed the location of the chosen site:

1. **Synergy with Agricultural Practices:** Placing the facility in an agricultural area aligns with the region's focus on agriculture. It demonstrates a commitment to sustainable development by integrating renewable energy generation with farming practices. Apart from the commercial opportunity relating to the charging of electric vehicles, the proposal will provide clean energy for farming activities such as to power irrigation systems. This fosters collaboration between the renewable energy sector and the agricultural community, promoting economic and environmental benefits. Surplus electricity will be used by the

property owner to power the buildings and machinery on the property, making the property more robust in the face of rolling blackouts.

2. **Low environmental impact:** The chosen site does not have environmentally sensitive areas such as critical biodiversity zones and is located outside of any river buffers and water bodies. This reduces the potential impact on wildlife habitats and helps preserve the ecological balance of the region.
3. **Future expansion potential:** The selected location has ample space to accommodate the proposal and allows for the proposed second phase as indicated on the Site Development Plan and has the for potential future expansion. **Notably, the implementation of the second phase and any future possible expansion is contingent on consumer demand**. This flexibility ensures that the facility can be scaled up in the future to meet increasing energy demand, however, all future expansions, other than the two phases applied for will be subject to Municipal Approval.
4. **Proximity to N9 and N12:** The proposed location for the facility in close proximity to the N12 and N9 intersection presents several distinct advantages over alternative locations, especially given the topography of the area. By choosing this specific site, the facility can enjoy enhanced visibility and accessibility, ensuring a more convenient experience for visitors and users. The proposed location is relatively flat in comparison with alternative locations in the area. Placing the facility at the proposed site allows for safe access, albeit via the N12, which can efficiently accommodate the traffic flow. Moreover, being situated at the intersection of these two major roads offers an opportunity to capture additional traffic. If the facility were located further north along the N12, only commuters traveling along the N12 would be exposed to it. However, by selecting the proposed site along the N12, and next to an existing tourist facility, the facility can "capture" the traffic from both roads, expanding its potential customer base and increasing exposure to a broader range of potential users. This strategic location benefits the facility by maximizing its visibility and accessibility.
5. **Preservation of Urban Space:** The strategic decision to locate the proposed facility outside of established urban areas is rooted in the need to safeguard limited and increasingly valuable urban land for higher-order uses such as housing, commercial development, and community facilities. By positioning the development on land beyond the urban edge, pressure on developable land within towns is alleviated, thereby reducing the risk of urban sprawl and ensuring that urban expansion occurs in a planned and sustainable manner.

   Furthermore, facilities of this scale are often land-intensive and may not be compatible with the density, land values, or character of urban areas. Situating the development outside of urban centres allows for the efficient use of more readily available rural land while minimising potential land-use conflicts. This approach not only preserves the functional integrity of urban cores but also supports balanced spatial development by distributing economic opportunities to rural areas, thereby enhancing regional growth and resilience.

7. MUNICIPAL ZONING SCHEME BY-LAW

The George Integrated Zoning Scheme By-Law 2023 determines the scope of permissible land uses under the current Agricultural I zoning. The objective of Agricultural Zone I areas are: "*to promote and protect agriculture on farms as an important economic, environmental and cultural resource. Limited provision is made for non-agricultural uses to provide rural communities in more remote areas with the opportunity to increase the economic potential of their properties, provided*

these uses do not present a significant negative impact on the primary agricultural resource".

"Tourist Facility" –

a) Means amenities for tourists or visitors and-

b) Includes lecture rooms, restaurants, gift shops, restrooms, farmers market, museum, micro-brewery, micro-distillery and recreational facilities.

"renewable energy structure" -

a) means any wind turbine, solar energy generating apparatus, including solar photo-voltaic and concentrated solar thermal, hydro turbines or bio mass facility or any grouping thereof, that captures and converts wind, solar radiation or bio mass into energy for commercial gain; and

b) includes any appurtenant structure necessary for, or directly associated with, generation of renewable energy, or any test facility or structure that may lead to the generation of energy on a commercial basis, excluding electrical grid connections.

The development proposal entails applying for a Tourists Facility and renewable energy structures. The Development proposal is considered to be a "renewable energy structure" on the basis that it uses solar energy to generate electricity. For this reason, application is made in accordance with Section 15 (2) (o) of the George Municipality Land Use Planning By-Law in order to permit the existing Tourist Facility and proposed renewable energy structure as a consent use on a portion (9609.35m²) of the Remainder of Portion 7 of Farm Palmiet Drift No. 80, George Registration Division. The proposal is evaluated in accordance with the prescribed development parameters in the section below.

While there are numerous development parameters applicable to renewable energy structures, most are specifically applicable to wind turbines. Only a few of these parameters relate directly to solar panels notwithstanding the development conforms to the specifications of the zoning scheme as relates to building lines, height, and setback. The applicant will work closely with George Municipality to ensure the facility is to their satisfaction.

Height: Max height of renewable energy structures is technology dependant, buildings may not exceed 8,5m.	 No wind turbines are proposed. The height of the proposed containers will be one storey.
Setback: In the case of a wind turbine the setback is: (i) a distance equal to 1,5 times the overall blade tip height of the turbine, measured from the nearest residential, commercial or critical agricultural structures including animal housing, outbuildings, store rooms, excluding structures such as water troughs, feed dispensers, and windmills; (ii) a distance of 100m from the cadastral boundary of the land unit, unless the renewable energy structure straddles two or more cadastral boundaries, in which case no setback applies; (iii) a distance of 100m from any public road or private or public right of way, unless it provides access to the turbine;	 No wind turbines are proposed.

(iv) a distance of 100m from any electrical infrastructure; and (v) a distance of 1000m from towns, settlements or urban areas.	
Site Development Plan: (i) A site development plan must be submitted to the Municipality for its approval. (ii) The site must be surveyed and the exact delineation of the construction footprint must be shown in the site development plan. (iii) To the extent necessary, any relevant measures contained in these regulations must be incorporated into the site development plan submitted to the Municipality for approval.	✓ The Site Development Plan is attached.[8]
Land clearing, soil erosion and habitat impact: (i) The clearing of natural vegetation is limited to that which is necessary for the construction, operation and maintenance of the renewable energy structure as regulated by applicable environmental legislation. (ii) Wind turbines, solar structures, access roads and other infrastructure must be located to minimise damage to natural vegetation, water courses and wetlands. (iii) All land cleared that does not form part of the footprint of a renewable energy structure must be rehabilitated according to a rehabilitation plan for the land concerned, approved by the Municipality. (iv) Constructing or operating the renewable energy structure may not cause soil erosion, and any high-risk erosion areas must be rehabilitated by the operator, to the satisfaction of the Municipality. (v) The applicant must prove, to the satisfaction of the Municipality, that planning for the renewable energy structure concerned has taken into account and mitigated the risk of all impacts on, and necessary distances that should be maintained from, wetlands, water bodies, threatened ecosystems, mountains, ridges, hills, coastal buffers, settlements, telecommunication towers, transmission towers and power lines. (vi) The applicant must provide exact coordinates relevant to land clearing, soil erosion and habitat impact to assist the Municipality to evaluate the risk of possible negative environmental impacts of the renewable energy structure concerned.	✓
Noise, air quality and nuisance: The renewable energy structure may not exceed a noise limit of 45 dB(A) during the night and 55 dB(A) during the day at the nearest dwelling.	✓
Finishing, colour and design: (i) A wind turbine structure must be treated with a neutral, non-reflective exterior colour and designed to blend in with the surrounding natural environment, to the satisfaction of the	

[8] Site Development Plan – **Annexure E.**

Municipality. (ii) A solar structure must minimise any adverse effects related to its reflective surfaces and must be designed and built in a way that mitigates this impact, as required by the Municipality.	
Appurtenant structures: (i) All appurtenant structures to a renewable energy structure prescribed by the Municipality concerning bulk, height, yard sizes, building lines, open space, parking and building coverage requirements are subject to applicable by-laws. (ii) Appurtenant structures, including equipment shelters, storage facilities, transformers and sub-stations must be architecturally compatible with the receiving environment as required by the Municipality, and contained within a renewable energy structure site development plan submitted for approval by the Municipality. (iii) Appurtenant structures may only be used for the storage of equipment or other uses directly related to the operation of the particular facility that they are associated. (iv) Appurtenant structures must be screened from view by indigenous vegetation or be joined and clustered to minimise adverse visual impacts.	
Lighting: (i) A renewable energy structure or any part of such a structure may only be lit for safety and operational purposes and the lighting must be appropriately screened from abutting land units. (ii) A renewable energy structure must comply with the lighting air safety requirements of the South African Civil Aviation Authority in terms of the Civil Aviation Act, 2009 (Act 13 of 2009).	 No wind turbines are proposed
Signage and advertising: Signs on renewable energy structures must comply with the national and local signage regulations and be limited to signage necessary to— (i) identify the operator; (ii) provide 24-hour emergency contact numbers; and (iii) provide warning of any dangers associated with the structure. No commercial advertising, including advertising for the provider or operator, may be displayed on any renewable energy structure.	 No advertising is to take place on structures.
Maintenance: The owner is responsible for maintaining a renewable energy structure in good condition, including any access road, unless deemed a public way, and for paying the cost of repairing any damage resulting from construction or operation. Maintenance includes— (i) painting; (ii) structural repairs; (iii) rehabilitation measures; and	

(iv) the upkeep of security and safety measures.	
Modification: Any modification to a renewable energy structure, excluding inconsequential in situ technical improvements, made after approval and that is not in accordance with the approval and its conditions, requires authorisation from the Municipality within the parameters of these regulations by means of— (i) the amendment of approved conditions; (ii) a new consent use approval; (iii) amendment of the approved site development plan; or (iv) amendment of the approved building plan.	
Decommissioning: (i) Any renewable energy structure and associated infrastructure which has reached the end of its productive life or has been abandoned, including buildings, cables and roads, must be removed by the owner. (ii) A renewable energy structure is considered abandoned when the structure fails to continuously operate for more than two years. (iii) When a renewable energy structure is scheduled to be decommissioned or operations have been discontinued or it has been abandoned, the land owner must, by registered mail, notify the Municipality within 30 days after the operation ceased, and of plans for removal of the structure and infrastructure referred to in subparagraph (i). (iv) The owner is responsible for the removal of the structure in all its parts, within 150 days after the date of discontinued operation, or as agreed upon by the Municipality after submission of a plan for decommissioning. The Municipality may, for reasons which are justifiable in its opinion, grant an extension of the deadline for removing the structure and its parts. The land must then be rehabilitated by the owner, to the satisfaction of the Municipality, to the condition prescribed in the approved environmental management plan and the approved decommissioning plan. (v) Decommissioning must include, inter alia— i. the removal of all renewable energy structures and appurtenant structures, including equipment, bases, foundations, security barriers and transmission lines directly related to the renewable energy; ii. disposal of all solid and hazardous waste in accordance with provincial and local waste disposal regulations; and iii. the stabilisation and re-vegetation of the site with indigenous vegetation to minimise erosion. (vi) The Municipality may, in order to minimise erosion and	

	disruption to natural vegetation and habitats, grant permission to the owner to depart from the decommissioning plan in respect of removing landscaping, underground foundations or other underground components, provided these do not cause any pollution.	
(vii)	Prior to the construction of the renewable energy structure commences, the owner must make financial provision or an alternative reasonable arrangement, to the satisfaction of the Municipality, for protection against failure at any time after site construction has started for the rehabilitation or management of negative environmental impact of decommissioning or of abandonment in the event of the owner being unable to fulfil necessary financial obligations	
(viii)	If the owner fails to remove the structure or its parts in accordance with the requirements of these regulations within 150 days of abandonment or the date of decommissioning or an approved extension date, the Municipality may enter the property and remove the structure and its parts, and recover all removal costs incurred from the owner.	
(ix)	If the owner fails to meet the requirements of subparagraph (i), the Municipality may, after written notice to the owner, use all or part of the financial provision or other provision referred to in subparagraph (vii) to rehabilitate or manage the negative environmental impact concerned, or to remove the facility.	

8. MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK (MSDF)

The George Municipal Spatial Development Framework (MSDF) provides the planning guidelines for future planning and development within the region. The MSDF's rural development map identifies the property as being an intensive and core agricultural area. The portions of the N12 road, which are adjacent to the property, and the nearby N9, is identified as a Scenic Route which is recognised as holding a high value scenic and tourism potential. Both routes are important transport routes. The Property falls just outside any urban edge thus, given the rural locality of the property, no specific guidance is provided for development of the property and as result thereof, the appropriateness of the proposal needs to be evaluated in respect of the general principles and goals of the document.

The MSDF seeks to align with the PSDF policy statements which promote the sustainable use and safeguarding of cultural and scenic assets and mitigate climate change by encouraging and supporting renewable energy generation at scale, developing integrated and sustainable settlements, improving inter and intra-regional accessibility, using regional infrastructure investment to leverage economic growth and diversifying and strengthening the rural economy. The MSDF further seeks to progressively comply with the process and content requirements for SDFs as prescribed in terms of SPLUMA and LUPA. This is consistent with the hierarchy of plans and consistency principle which requires that lower-order plans and policies be consistent with higher-order spatial plans and policies. The hierarchy of plans and consistency principle also

means that if the development supports the directives of the higher-order spatial frameworks or plans (such as the Provincial Spatial Development Framework), it should also supports the Municipal Spatial Development Framework.

The MSDF emphasizes the importance of sustainable development of agricultural land which requires the integration of social, economic and environmental considerations in both forward planning and ongoing agricultural land management. It is also stated that it is in the national interest to preserve, and promote sustainable use and development of agricultural land for the production of food, fuel, and fibre. The electricity generated by the PV panels for the charging of electric vehicles could be considered as a form of fuel generated on agricultural land. The development proposal addresses renewable energy on a micro-level by providing a renewable energy structure that is far smaller, and will consequently have a smaller development footprint and visual impact, compared to larger renewable energy structures. The value of the proposal lies in its potential to have a positive cumulative impact on a national level. It is consequently argued that the development proposal is aligned and in support of the MSDF. The proposal also advances the rural economy by promoting tourism and facilitating a use that diversifies income for agricultural properties which can in turn be used to subsidise farming activities.

Considering the above, and with specific reference to the recognised scenic and tourism value of the N12, it is important to highlight the unique location of the proposed development. Within George Municipality, the N12 and N9 coincide for a considerable distance before diverging near the George–Oudtshoorn municipal boundary. The proposed development falls along the N12 just beyond this point of divergence, placing it within close proximity to the boundary itself. From the split, only approximately 1 500 meters of the N12 remain within George Municipality before the route transitions into Oudtshoorn. The property is therefore positioned as a transitional site of regional significance, serving as a gateway landmark that has the potential to welcome travellers entering George or departing towards Oudtshoorn.

Given the scenic and tourism value of the N12 corridor, it is essential that development here is sensitively integrated into the surrounding landscape. To achieve this, the following mitigation measures will be implemented:

- **Compact footprint**: Concentrating development to avoid unnecessary sprawl and minimise landscape intrusion.
- **Siting on disturbed land**: Prioritising areas that are already degraded or impacted to reduce disturbance of pristine environments.
- **Landscaping and screening**: Establishing indigenous tree planting, berms, hedges, and creeper-covered fencing to soften visual impacts and integrate structures into the natural setting.
- **Sensitive building design**: Using muted, non-reflective colours and materials that blend with the landscape and reduce visual contrast.
- **Lighting control**: Minimising lighting at night, shielding light sources, and avoiding unnecessary glare to preserve the rural nightscape.
- **Discreet signage**: Ensuring that signage is context-sensitive, functional, and unobtrusive, with billboard-type advertising excluded along this scenic route.
- **Preservation of view corridors**: Aligning and scaling development to maintain key scenic vistas from the N12, particularly towards the Outeniqua mountains and surrounding rural landscapes.

With these measures in place, the proposed development will not compromise the scenic qualities of the N12. Instead, it can be viewed as a carefully integrated gateway element that complements

the landscape character of this important corridor while supporting the broader economic and tourism potential of the route.

9. OTHER LEGISLATION & GUIDELINES

9.1. CONSTITUTION OF SOUTH AFRICA

Chapter 2 of the Constitution is the Bill of Rights. The Bill of Rights is a cornerstone of democracy in South Africa. It enshrines the rights of all people in our country and affirms the democratic values of human dignity, equality and freedom. Section *2(24) Environment* affirms the right of every person to (a) an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that; (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. The proposal supports the rights of Section 2(24) of the Bill of rights by supporting reducing the impacts of a carbon based economy and greenhouse gasses to promote a transition to a low carbon, sustainable energy future, which delivers clean sources of energy to urban consumers, and mitigates the effects of climate change.

9.2. ELECTRICITY REGULATION ACT (ACT 4 OF 2006) & INTEGRATED RESOURCE PLAN (IRP 2019)

The Integrated Resource Plan for Electricity (IRP) provides South Africa's long-term plan for electricity generation to ensure the security of electricity supply, minimise the cost of that supply, limit water usage and reduce greenhouse gas (GHG) emissions while allowing for policy adjustment in support of broader socio-economic developmental imperatives. The IRP 2019 calls for 37 696 MW3 of new and committed capacity to be added between 2019 and 2030 from a diverse mix of energy sources and technologies as aging coal plants are decommissioned and the country transitions to a larger share of renewable energy. By 2030, the electricity generation mix is set to comprise of 33 364 MW (42.6%) coal, 17 742 MW (22.7%) wind, 8 288 MW (10.6%) solar photovoltaic (PV), 6 830 MW (8.7%) gas or diesel, 5 000 MW (6.4%) energy storage, 4 600 MW (5.9%) hydro, 1 860 MW (2.4%) nuclear and 600 MW (0.8%) concentrating solar power (CSP). Furthermore, a short-term gap at least 2 000 MW is to be filled between 2019 and 2022, thereby raising new capacity requirements, while distributed or embedded generation for own use is positioned to add 4 000 MW between 2023 and 2030. In May 2020, NERSA concurred with a determination for the procurement of various technology solutions to close the 2 000 MW gap (between 2019 and 2022), while another determination is undergoing public consultation and awaiting concurrence by NERSA.

With reference to the above, it is clear that there is a shortage of alternative energy-producing facilities. While the proposal will not contribute to the generation of electricity that will be fed into the grid, it will facilitate the adaption of EV's without placing further strain on the already over-burdened electric network. Without such facilities, it is difficult to envisage a large-scale market adaption to EV's due to inconsistent electricity provision and limited availability.

9.3. NATIONAL DEVELOPMENT PLAN 2030 (NDP 2012)

The National Development Plan (NDP, National Planning Commission, 2012) sets out six interlinked priorities (National Planning Commission, 2012 - p. 29):

- Uniting all South Africans around a common programme to achieve prosperity and equity;
- Promoting active citizenry to strengthen development, democracy and accountability;

- Bringing about faster economic growth, higher investment and greater labour absorption;
- Focusing on key capabilities of people and the state;
- Building a capable and developmental state; and
- Encouraging strong leadership throughout society to work together to solve problems.

Transforming the South African economy is a challenging, long-term project. The NDP proposes to enhance human capital, productive capacity, and infrastructure to raise exports, which will increase resources for investment and reduce reliance on capital inflows. Higher investment, supported by better public infrastructure and skills, will enable the economy to grow faster and become more productive. Rising employment and productivity will lead to improved incomes and living standards and less inequality. Shifting the economy towards more investment and lower consumption is thus necessary for long-term economic prosperity (p. 42). The proposed facility contributes to achieving this goal by providing infrastructure that supports the adaption of EV's which contributes to reducing the carbon footprint of South Africa.

9.4. WESTERN CAPE PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK

The Western Cape Provincial Spatial Development Framework (Provincial Government of the Western Cape (2014) refers to the importance of a coherent framework for the Province's urban and rural areas that gives spatial expression to the National and Provincial development agendas. The Spatial Development Plan proposed a number of spatial policies, including policy R4 which relates to "Recycle and recover waste, deliver clean sources of energy to urban consumers, shift from private to public transport, and adapt to and mitigate against climate change". Specific objectives related to energy include pursuing energy diversification and energy efficiency for the Western Cape to transition to a low carbon, sustainable energy future, and delink economic growth from energy use. Furthermore, emergent Independent Power Producers (IPPs) and sustainable energy producers (wind, solar, biomass and waste conversion initiatives) should be supported in suitable rural locations. In short, The Western Cape's energy is primarily drawn from the national grid which is dominated by coal-based power stations and the goal is to develop the renewable energy sector. The proposal supports the objectives of the PSDF by proposing a land use that contributes to the transition to a low carbon, sustainable energy future, which delivers clean sources of energy to urban consumers, and mitigates the effects of climate change.

9.5. GEORGE MUNICIPAL PRE-APPLICATION CONSULTATION

Kindly refer to the table below containing the responses of the first and second Pre-Consultations and this offices response thereon.

Comment	Response
1. To clarify the scale of the proposed renewable energy facility in relation to the uses on the property. Confirm the energy required for the operation of the proposed EV facility and farm use in relation to the energy that will be generated by the solar farm.	The EV charging station is designed to provide a reliable supply of 1000 kWh of energy per day, in order to charge 20 EVs. We intend on generating this energy using approximately 270 kWp of PV. The PV is sized such that we can get as close to the 1000 kWh per day even in the months with the poorest generation - so there may be excess generation in the good months that we must curtail. The energy will be fed into a battery energy storage system and drive the chargers as necessary.

2. To clarify the need and desirability for such a large power generation establishment.	Phase 1 will consist of approximately 270 kWp of PV to cater for a demand of 1000 kWh of energy per day. This will be used, along with batteries, to power a 240 kW EV charger. Phase 2 is to supply double the amount of energy - We will double up on the required PV and BESS, and on the output power of the chargers.
3. According to the plan presented multiple phases are proposed. Please specify rationale.	Although multiple phases are proposed, it is important to note that the proposed development is considered as a singular facility, with the construction and installation of solar panels in **Phase 2 being dependent on the viability of the proposed development and on consumer demand**. In light of the afore-mentioned construction for installation of solar panels have been divided into 2 phases, in an effort to minimise any potential financial loss and cause any unnecessary potential environmental impact by the proposed development.
4. To clarify/confirm proposed future intend. (Is the intention to formally develop a truck stop/service station any/or other development on the premises in future)	This application is solely for the purpose of obtaining the right(s) to legalise the existing Tourist Facility and construct the renewable energy structures (solar panels) and the charge stations. No formal truck stop/service station or any other development is proposed in addition to the solar panels and the charging stations.
5. To clarify the need and desirability for an EV at this location.	The proposed location for the facility in close proximity to the N12 and N9 intersection presents several distinct advantages over alternative locations, especially given the topography of the area. By choosing this specific site, the facility can enjoy enhanced visibility and accessibility, ensuring a more convenient experience for visitors and users. The proposed location is relatively flat in comparison with alternative locations in the area. Placing the facility at the proposed site allows for safe access, albeit via the N12, which can efficiently accommodate the traffic flow. Moreover, being situated at the intersection of these two major roads offers an opportunity to capture additional traffic. If the facility were located further north along the N12, only commuters traveling along the N12 would be exposed to it. However, by selecting the proposed site along the N12, and next to an establish tourist facility, the facility can "capture" the traffic from both roads, expanding its potential customer base and increasing exposure to a broader range of potential users. This strategic

	location benefits the facility by maximizing its visibility and accessibility.
6. Need to address compliance with MSDF, LSDF, SPLUMA, Zoning Scheme etc.	For compliance with MSDF see section 8. For compliance with SPLUMA see section 10. For compliance with Zoning Scheme see section 7.
7. Departure from building lines will need to be applied for where applicable. 8. To consider statutory building lines applicable to railway lines and the N12 (to show setbacks/building lines)	Setbacks/building lines are indicated on the Site Development Plan. All proposed structures are located outside of the building lines; therefore, no departure is required.
9. To confirm the legality of the existing Farm Stall (Confirm approval on building plan).	Since no approved building plans could be located, As-Built plans have been prepared. This application is submitted together with a Consent Use request to secure the required land use rights for the existing Tourist Facility.
10. Comments from DEA&DP (Planning & Environmental) will be required prior to the submission of the application.	Environmental: Requested information contained in points no. 3 & 4 above. Planning: Requested information contained in points 1, 2, 5 & 9 above, and additional details contained in Section 9.6 below.
11. Comments from Western Cape Agriculture is required as the proposed development is located on established active agricultural fields.	This department has no objection against the proposed development. This department recommends the following: “It is recommended that the municipality impose a condition requiring the owner to make a financial provision (or alternative arrangement) to cover the cost of decommissioning and rehabilitation.”
12. Comments from SANRAL or Provincial will be required in terms of Access.	The application was circulated to SANRAL for comments. It has been determined that SANRAL holds no jurisdiction over the applicable road. Provincial Authority to comment on Application during Public Participation.
13. Comments from ESKOM will be required.	Eskom has no objection against this application.
14. PARKING: • All parking must be provided on-site, in compliance with the GIZS 2023 parking requirements. • No parking is allowed within the road reserve, and the owner may be held liable for any costs incurred to prevent unauthorised parking in this area. • All vehicle mobility should be done on site.	
15. Development charges: if applicable, Normal Development Charges, if applicable, will be levied in accordance with the DC policy and the applicable By-law or policy.	

16. Water & Sewer: No Municipal water or sewer are available, and the owner will be required to provide the required services. Should the services by extended to this area, the developer will be required connect and make the development charges payment, applicable on the time of connection.	
17. Stormwater: the developer must ensure full compliance with the relevant stormwater By-Law.	

Refer to **Annexure K** for the comments above, as obtained prior to submission of this report.

9.6. RURAL DEVELOPMENT GUIDELINES, MARCH 2019

The following table contains extracts from the Rural Development Guidelines which have specific bearing on the proposed development and our response thereon.

The Western Cape economy is founded on the province's unique asset base, which comprises farming resources, natural capital (Biological diversity) and varied scenic and cultural resources, which are the attractions that make Western Cape the country's premier tourist destination.	The proposed development represents a natural extension of not only the property owner, or CHARGE's but also the province's commitment to sustainability and innovation. By embracing renewable energy and catering to the needs of electric vehicle users, the proposed development will help contribute to the Western Cape's identity as a premier tourist destination while demonstrating the economic and environmental benefits of forward-thinking development practices. Furthermore, the charging station promotes sustainable transportation practices in rural areas, providing crucial infrastructure for electric vehicles and helping to reduce carbon emissions. Additionally, unlike traditional filling stations, the proposed development is unlikely to significant attract other businesses to relocate or be established at this node, minimising potential disruptions while enhancing the region's sustainability and economic resilience. In considering the long-term impact on the Municipality, agricultural activities, and the scenic route and landscape, the proposed electric charging station emerges as a sustainable and beneficial addition to the rural environment. It enhances economic opportunities, supports environmental sustainability, and preserves the cultural and possible scenic heritage of the area, aligning with the overarching objectives of responsible rural

	development.
The Western Cape seeks to ensure (1) sustainable development of rural areas, (2) conservation of biological diversity, (3) functionality of ecosystems, (4) the protection of agriculturally productive land and (5) safeguarding rural heritage and culture.	The long-term vision articulated for the Western Cape underscores the intricate balance between economic development, environmental conservation, and cultural preservation. While it's essential to safeguard agriculturally productive land, it's equally imperative to recognise that sustainable development often necessitates strategi compromises. In this context, the proposed sacrifice of a small portion of low potential agricultural land to accommodate the development aligns with broader objectives of promoting and protecting all the concerns outlined. By facilitating the integration of renewable energy infrastructure, such as electric charging station, the region advances its commitment to sustainable development in rural areas. The installation of electric charging stations contributes to reducing carbon emissions and mitigating the impacts of climate change, thereby supporting the conservation of biological diversity and ecosystem functionality. Moreover, by diversifying land use and embracing innovative solutions, the region demonstrates its proactive approach to safeguarding agriculturally productive land while meeting evolving energy needs. The proposed development at the intersection of agricultural and tourism activities fosters the preservation of rural heritage ad culture. It represents a harmonious integration of traditional farming practices with modern technologies, showcasing the region's rich cultural tapestry and its capacity for innovation. In essence, while the sacrifice of a small portion of agricultural land may seem counterintuitive at first glance, it ultimately serves to promote and protect the broader concerns articulated in the Western Cape's long-term vision. By embracing sustainable development principles and leveraging innovative solutions, the region paves the way for a more resilient, inclusive, and prosperous future for its rural communities. The proposed development achieves a delicate balance between sustainable rural development,

	biodiversity conservation, ecosystem functionality, and the preservation of agriculturally productive land, all while safeguarding rural heritage and culture. Charge's approach in selecting properties for development across South Africa prioritises sites adjacent to existing roads with established access points, minimising potential additional impacts. Through careful studies and site selection, the proposed development minimises negative effects on these aspects, apart from some impact on agriculture. However, Charge mitigates this impact by compensating the landowner, thereby providing support for other existing agricultural activities on The Property.
The guidelines set out specific type of land use activities permitted within the Agricultural Spatial Planning Category, where to located said uses and the appropriate scale and form.	While the guidelines provide clarity on supported land uses and activities within the Agricultural Spatial Planning Category, its's important to recognise the value of diversifying farm operations to add value to locally produced products and enhance the overall farm experience. Activities such as farm tourism, restaurants, tourist facilities, farm stalls, and farm stores offer opportunities to generate additional revenue streams without detracting from farm production. Additionally, integrating an electric charging station into the farm's offerings can complement these activities, providing a convenient amenity for visitors while supporting sustainable transportation options. By adhering to appropriate scale and form guidelines, farms can enhance their appeal to tourists and locals alike while preserving the integrity of agricultural operations and promoting the region's unique agricultural heritage.
The following principles underpin the Rural Areas Guidelines:	
Good quality and carefully sited development should be encouraged and located as far as possible in existing settlements. (Page 35)	There is a shortage of developable land which would be able to accommodate the proposed development in and around the surrounding towns, which poses a significant challenge in finding suitable locations. Given the limited availability of developable land, it's imperative to explore alternative options. Furthermore, the efficiency of a solar array is closely tied to its location, the placement thereof in a town could compromise its efficiency and it will have a greater impact on the residents of the town.
All development in rural areas should be in keeping and in scale with its location, and sensitive to the character of the rural	The principle that all development in rural areas should be in keeping with its location and sensitive to the character of the rural landscape

landscape and local distinctiveness. (Page 35)	and local distinctiveness is paramount in guiding sustainable development practices. Clustering of developments in rural areas can indeed contribute to the formation of nodal areas. The placement of the Proposed Development is situated adjacent to the existing farmstall on The Property which consists out of several buildings used for agricultural, tourism and commercial purposes. This proposed development provides a valuable amenity for visitors and the placement could be considered as a form of clustering due to the close proximity between the existing farmstall and activities on The Property, and the proposed development. When done thoughtfully and in harmony with the rural landscape, such clustering can contribute to the vitality of rural nodes while preserving the agricultural landscape.
The cumulative effect of all ancillary and non-agricultural land uses should not detract from the rural character of the landscape and the primary agricultural activities (page 35).	By strategically integrating ancillary amenities like a tourist facility/ convenience shop, a solar array and accompanied charging station, the landowner can diversify revenue streams and bolster the financial sustainability of the existing agricultural operation. This new income can directly be reinvested into supporting and enhancing existing agricultural land uses, such as improving infrastructure, implementing sustainable farming practices, or expanding agricultural production. Furthermore, when done thoughtfully and in harmony with the rural landscape, the clustering of ancillary activities can contribute to the vitality of rural nodes while preserving the agricultural and possible cultural heritage of the area. By ensuring that these activities complement rather than overshadow primary agricultural activities, the landowner can maintain the rural character of the landscape while capitalising on new financial opportunities. While it is important to avoid detracting from the rural character of the landscape and primary agricultural activities, the strategic integration of ancillary amenities like tourist facilities accompanied by charging stations can provide additional financial benefits to the landowner. This new financial gain can directly contribute to supporting and enhancing existing agricultural land uses on the property, reinforcing the

	symbiotic relationship between rural development and agricultural sustainability.
Rural activities must have a focus on sustainability and be in harmony with the surrounding agricultural landscape.	Firstly, the established shop with the charging station will help with the promotion of tourism within the area, where several surrounding existing activities could be introduced and exposed by means of pamphlets. The charging station promotes sustainable transportation by providing a convenient and environmentally friendly option for electric vehicle owners. This reduces reliance on fossil fuels and lower carbon emissions, aligning with broader sustainability goals. Additionally, the shop enhances the overall visitor experience to the charging station, attracting environmentally conscious consumers who value sustainable practices. This not only supports the economic viability of the farm, shop and charging station, but also fosters a culture of sustainability within the local community. The proposed charging station embodies the principle of sustainability and harmony with the agricultural landscape by promoting renewable energy use, reducing carbon emissions, and enhancing visitor experience. By leveraging the off-grid infrastructure and embracing innovative solutions, the landowner demonstrates a proactive approach to sustainable rural development that benefits both the environment and the local economy.
Agricultural resources should be protected for increased agricultural production.	It is well known that the agricultural sector is significantly negatively impacted by loadshedding. For instance, the poultry industry incurs millions in cost for backup power to maintain air-conditioning, while the fruit industry suffers heavy losses due to inadequate electricity for irrigation and storage purposes. Similarly, the wine industry faces substantial losses in managing their cellars due to loadshedding. This pattern of disruption extends throughout the entire agricultural sector. Any initiative that supports the national grid, whether directly or indirectly, should be wholeheartedly supported. The temporary use of agricultural land for electricity generation purposes is strongly endorsed by the agricultural sector, as it helps mitigate the adverse effects of loadshedding and promotes overall stability in

	agricultural production. The proposed development, particularly the integration of the established farmstall, charging station accompanied by a solar farm alongside existing agricultural activities, will have a greater impact in the long run by protecting agricultural resources for increased agricultural production. By diversifying the income streams of The Property through the proposed development, the landowner can generate additional revenue without compromising the agricultural land's integrity. This additional financial support can be reinvested into the agricultural infrastructure, equipment, and sustainable farming practices, ultimately leading to increased agricultural productivity. Moreover, the presence of the charging station can attract more visitors to the area, including tourists and local residents, who may also enjoy the farmstall and existing land uses on The Property. This possible increased foot traffic can provide opportunities for agritourism activities in the surrounding areas, further boosting the agricultural sectors' visibility and economic viability. Furthermore, the charging station's integration into the existing agricultural landscape demonstrates a harmonious relationship between rural development and agricultural preservation. By showcasing innovative solutions that complement rather than compete with agricultural activities, the proposed development reinforces the importance of protecting agricultural resources for long-term sustainability
Other intrusive land uses (e.g. industries and schools) should be located in urban areas as far as possible and should only be considered when the locational factors warrant such a land use in the rural area in the obligation is on the applicant to illustrate why the land use cannot be accommodated in the urban area (page 41).	It is essential to consider the unique circumstances surrounding the proposed development of an Electric Vehicle Charging station which is independently powered by a solar array by the CHARGE team. The shortage of developable land in and around the surrounding towns poses a significant challenge in finding suitable locations for infrastructure projects. Given the limited availability of land, it's imperative to explore alternative options, even if they deviate from

	conventional guidelines. The efficiency of a solar array is closely tied to its location, with agricultural landscapes often offering more favourable conditions for solar energy generation compared to urban areas. Placing the solar array in a town could not only compromise its efficiency but also have a greater negative impact on residents due to factors such as visual intrusion and land use conflicts. The CHARGE team's status as early adopters of the initiative should not be overlooked. Their commitment to promoting sustainable energy solutions warrants careful consideration of the challenges they face in accessing better-located sites for their facilities. While guidelines provide valuable guidance, they should not be applied rigidly in every circumstance, especially when innovative solutions are at stake. Furthermore, the absence of competitors in the market underscores the pioneering nature of the CHARGE team's efforts. Their willingness to lead the way in sustainable energy development should be commended rather than penalized for deviating from guidelines. While adherence to guidelines is important, it's equally essential to recognize the unique constraints and opportunities inherent in each development proposal. The CHARGE team's proposal should be evaluated on its own merits, taking into account the challenges of land availability, energy efficiency, and the pioneering nature of their initiative. By striking a balance between guidelines and practical considerations, authorities can support innovative solutions that advance sustainable development goals. In addition to the challenges of land availability and energy efficiency, it's crucial to highlight the economic benefits that the proposed development on agricultural land can bring to the landowner and the local community. Agricultural land, especially in rural areas like where the proposed development is proposed, often faces economic pressures and challenges. By diversifying land use through the installation of a solar array, the landowner stands to gain a sustainable source of income that complements

	traditional agricultural practices. This not only enhances the financial viability of the land but also contributes to the long-term resilience of the agricultural sector. Furthermore, the revenue generated from leasing the land for the solar array can provide much-needed support for the local economy, fostering job creation and investment in infrastructure and services. Thus, the proposed development on agricultural land offers a practical and economically viable solution that benefits both the landowner and the wider community. In addition to the above, the model CHARGE has implemented to govern the agreement between themselves and the landowners, makes provision that 5% of the turnover are paid to the landowner along with utilisation of excess energy generated through the proposal, this allows for an additional financial opportunity to the landowner which could be utilised for the implementation and upgrading of farm equipment allowing for more sustainable agricultural activities which could in return to greater employment opportunities.
Only activities that are appropriate in a rural context, generate positive socio-economic returns, and do not compromise the environment or ability of the municipality to deliver on its mandate should be accommodated. The long-term impact on the municipality (resources and financial); agricultural activities, production and sustainability, risk and finances; and the scenic, heritage and cultural landscape should be considered when decisions are taken (page 41).	A charging station, accompanied by a shop / tourist facility powered by a solar array, align perfectly with the principle of sustainable rural development and compliance with municipal mandates. See the following as motivation: **Appropriate Rural Activity**: • The established tourist facility are inherently rural activities, offering locally sourced products and authentic experiences that draw visitors to the area. This kind of development enhances the rural character by promoting local culture and agriculture. • The EV charging station complements this by providing necessary infrastructure for modern travellers, encouraging eco-friendly tourism that aligns with rural settings. **Positive Socio-Economic Returns**: • The tourist facility generates direct economic benefits through the sale of local produce and goods, supporting local farmers and artisans. This boosts the local economy and provides a market for regional products. • The tourist facility attracts visitors, increasing

	local spending on accommodation, food, and other services, thus driving further economic activity. • The EV charging station supports the growing number of electric vehicle owners, promoting longer stays and more spending in the local area. **Environmental Protection**: • The solar array powering the EV charging station exemplifies a commitment to renewable energy, reducing reliance on fossil fuels and minimizing environmental impact. • The integration of renewable energy supports national and local sustainability goals, aligning with broader efforts to combat climate change. • By situating the development within a rural setting, the project minimizes disruption to natural landscapes and biodiversity. **Municipal Resource Management**: • The project is designed to be self-sufficient, with the solar array providing necessary energy, thus not placing additional strain on the municipal electricity grid. • By attracting visitors, the development can increase municipal revenue through tourism-related activities without requiring significant new infrastructure investments. **Long-Term Impact Considerations**: • The development is low-impact and sustainable, designed to blend with the rural landscape, preserving the scenic, heritage, and cultural values of the area. • The tourist facility enhances the area's cultural landscape, offering educational opportunities about local agriculture and heritage. • The EV charging station ensures the area remains accessible to modern travellers, supporting long-term tourism sustainability. **Support for Agricultural Activities**: • The established tourist facility provides an additional revenue stream for local farmers, encouraging continued agricultural production and sustainability.

	• The project does not take away productive agricultural land but rather integrates with existing uses, enhancing overall farm viability. **Risk and Financial Considerations**: • The development mitigates financial risks by diversifying income sources for the landowner and the local economy. • It supports local employment opportunities, reducing economic vulnerability and enhancing community resilience. **Visual and Heritage Integration**: • The project includes careful planning to ensure visual harmony with the rural landscape, including design elements that reflect local architectural styles. • Efforts will be made to preserve and enhance the heritage value of the area, with the tourist facility acting as custodians of local traditions. In summary, the proposed development represents a well-considered, sustainable development that aligns with rural context appropriateness, generates positive socio-economic returns, protects the environment, and supports municipal and agricultural sustainability.
Place-bound businesses (businesses ancillary to agriculture or serving rural needs) include farm stalls and farm shops, restaurants and venue facilities (e.g. conferences and weddings) (page 56).	The proposed development aligns with the concept of place-bound businesses, which are ancillary to agriculture or serve rural needs. By integrating the proposed development near the existing farmstall, the development enhances the overall appeal and functionality of the rural area. The proposed development provides essential services that meets the needs of both locals and visitors, supporting sustainable transportation practices and addressing growing demand for electric vehicle infrastructure in rural areas. This amenity enhances the accessibility and attractiveness of the area, contributing to the success of the other place-bound businesses situated in the close vicinity. By attracting more visitors to the area, the proposed development stimulates the economic activity and supports the viability of local

	businesses such as tourist facilities, farm stalls, shops and restaurants. The increased foot traffic creates opportunities for these businesses to thrive and expand their offerings, further enriching the rural experience for residents and visitors alike.
Non-place-bound businesses (businesses not ancillary to agriculture or serving rural needs), should be located within urban areas and should only be considered in the rural area when exceptional cases and locational factors warrant such a land use. The obligation is on the applicant to illustrate why the land use cannot be accommodated in the urban area. Examples include a petrol station, hardware store, truck stop, transport contractors, wellness centers, frail care facilities and animal feed factory (page 57)	Please refer to the point above, motivating why the proposed development could be considered as a place-bound business.
With respect to infrastructure… where locations inside urban areas are impractical, extensive agricultural areas peripheral to settlements are the preferred alternative (Page 62)	The Western Cape Rural Guidelines states that where proposed bulk infrastructure installations are planned to serve the broader community, due to the extensive space required, it could be supported outside urban areas. (Page 62)
Where possible, installations should be located on previously disturbed terrain, or land of low biodiversity or agricultural value and should not interfere with, or impact negatively on existing or planned production areas, as well as agricultural infrastructure.	While the proposed development is proposed on Agricultural land, it is important to note that, the portion of agricultural land where the development is proposed on, are considered to be low agricultural potential land. The development adheres to the principle of minimising interference with existing agricultural activities and infrastructure. By selecting suitable sites and implementing mitigation measures, the installation can be integrated sensitively into the landscape while still meeting the demand for sustainable transportation infrastructure. It is also important to note that due to substantial cost for transporting electricity, it is most efficient to situate the generating facility adjacent to the charging station.
Within the Agricultural SPC, only essential installations should be accommodated. In such instances, installations should be on land with a low agricultural value and should not interfere with, or impact negatively, on existing or planned production areas or agricultural infrastructure.	Noted. Please refer to the point above with regards to the agricultural value of the portion of The Property where the development is proposed upon.

10. PRINCIPLES OF LAND USE PLANNING

In accordance with Article 42 of the SPLUMA, a Municipal Planning Tribunal must be guided by

the development principles as set out in Chapter 2 when considering an application. In terms of section 6(1), the general principles set out in Chapter 2 apply to all organs of state and other authorities responsible for the implementation of legislation governing the use and development of land. The following principles apply in terms of section 7 to spatial planning, land development and land use management, namely: Spatial justice, Spatial sustainability, Efficiency, Spatial resilience and Good administration. Accordance to section 59(2) of LUPA, a municipality considering a land-use application should take into account, among other things, the principles referred to in Chapter VI. Pursuant to Rule 58, the Land Use Planning Principles set out in Chapter VI apply to all organs of state responsible for implementing legislation that governs land use planning and development. These principles correspond with those of SPLUMA namely: Spatial justice, Spatial sustainability, Efficiency, Spatial resilience and Good administration.

Spatial Justice: The proposed development is in line with provincial goals and to generate renewable energy in order to pursue sustainable energy initiatives. The application will not result in the exclusion of any groups. The proposed facility will create job opportunities in the construction phase and will subsidise the farms' income and will create jobs for employees of the tourist facility.

Spatial Sustainability: The proposal aims to use the most efficient method (which is cost-effective and utilises the least space) to generate sustainable energy. The proposal supports a transition to a low carbon, sustainable energy future, which delivers clean sources of energy to urban consumers, and mitigates the effects of climate change without threatening any ecological resources. The application will not result in extensive loss of agricultural land with high potential, due to the small extent that will be used to accommodate the proposed facility. The development will be self-sustaining, making use of electricity generated by the facility. Water and waste-related infrastructure will be provided and maintained by the developer. These services will not be similar to those provided for residential occupancy as the facility will be remotely operated with inspections and occupancy only recurring from time to time. The facility will promote long-term financial sustainability for the property. The Tourist Facility will not put a strain on the municipal service infrastructure as services will be provided by the landowner.

Spatial Efficiency: Natural resources will be used and less pressure will be on non-renewable resources. The proposal will result in the efficient use of land by capitalising on the opportunity created by the location of the property and the unique climate, without threatening the prosperity of the larger agricultural landscape.

Spatial resilience: The proposed development can be easily decommissioned and demolished allowing for the reinstatement of farming activities.

Principles of Good Administration: The application will be taken through the advertisement process by the Municipality and all relevant departments will be notified to comment. The decision-making process will be guided by statutory land use planning systems.

11. CONCLUSION

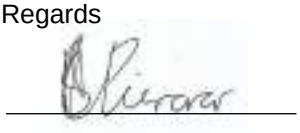
The proposal can be seen positively in the light of the following:

- The development will not have a negative effect on any Critical Biodiversity or protected areas, seeing that the site is already disturbed.
- It supports the initiative to use the farm to its full potential and creating additional form of income to the land owners.
- It promotes the decrease of unemployment in the region.

- The character of the area will remain unchanged and the current agricultural productions on the property will continue.
- The proposal will make use of the existing access from the N12 and accordingly will not result in the creation of new access points;
- The facility will Increase electricity capacity to contribute to the alleviation of SA's energy crisis;
- The facility will meet the demand for diversified energy sources;
- Ensure the future of sustainable energy use;
- Provide local employment opportunities;
- Reduce CO2 emissions and the nation's carbon footprint;
- The proposed development is supported by the MSDF;
    - Taking into account that certain mitigation measures be implemented to ensure minimum visual intrusion on the N12 scenic road.
- The proposed development supports spatial sustainability in terms of LUPA and SPLUMA;
- The proposed development is supported by the Western Cape Provincial Spatial Development Framework (WCPSDF) which guides sustainable future development in the Western Cape area.;
- The proposed development is supported by the National Development Plan 2030 (NDP).
- The proposal has an array of socio-economic benefits including:
    - **Increased energy security:** The current energy crisis in South Africa emphasizes the important role that renewable energy can play to generate electricity.
    - **Reduced pollution levels:** The emissions of carbon dioxide by-products generated from burning fossil fuels to generate power have a very harmful impact on human health and contribute to the deterioration of ecosystems. The generation of electricity will not result in any emissions.
    - **Acceptability to the community:** Energy generation through solar has a number of benefits to the community such as reduced pollution, improved human and ecosystem health, generation of jobs in the short term, and no contribution to factors that cause climate change.

It is therefore clear that in terms of the above, the proposed application can be supported. For all the above reasons, the application is strongly recommended by CK Rumboll & Partners and requests that Council consider it positively.

Regards



Roeben Pienaar
Pr. Pln A/3045/2021
CK RUMBOLL & PARTNERS

CK RUMBOLL &
VENNOTE / PARTNERS

PROFESSIONELE LANDMETERS ~ ENGINEERING AND MINE SURVEYORS ~ STAD- EN STREEKSBEPLANNERS ~ SECTIONAL TITLE CONSULTANTS

POWER OF ATTORNEY

I, Stephanus Joubert Roux, the undersigned Director of ZERO CARBON CHARGE (PTY) LTD, hereby authorize Messrs CK RUMBOLL AND PARTNERS to act on my behalf in submitting any necessary applications or documentation in terms of the Municipal Land Use Planning Regulations or any other applicable legislation, aiming to secure the necessary land use rights for the development of a Renewable Energy Facility, Charging Station, Farm Stall/Tourist Facility, and/or Truck Stop.

Signed at Vredendal on this 12th day of January 2024

COMPANY RESOLUTION

ZERO CARBON CHARGE (PTY) LTD

Minutes of a meeting of the Directors of ZERO CARBON CHARGE (PTY) LTD

PASSED AT Mica ON THIS 05 DAY OF December 2022.

RESOLVED THAT:

1. Stephanus Joubert Roux **[DIRECTOR NAME]**, in his capacity as Director, makes Application to the authorities as may be deemed necessary for **any application that may be required for the development of a Renewable Energy Facility, Charging Station, Farm Stall and/or Truck Stop** in terms of the Spatial Planning & Land Use Management Act (Act 16 of 2013) (SPLUMA), Act 70 of 1970 or other applicable legislation and sign the application on behalf of the Company. In addition, make any other necessary submissions and presentations in relation to the above mentioned matter.

2. Stephanus Joubert Roux **[DIRECTOR NAME]**, in his capacity as Director, is hereby authorised to sign any documents which may be deemed necessary to give effect to this resolution.

SIGNATURES:

1. _____ Director — Stephanus Joubert Roux Name (printed)

2. _____ Director — _____ Name (printed)

3. _____ Director — _____ Name (printed)

ADDENDUM "C"

SPECIAL POWER OF ATTORNEY

....

ID/REG No./Nr.: ....

Representative: ....

Owner of the following property/properties:-

Description	Title deed	Size
[illegible]	[illegible]	[illegible]

hereby grants power of attorney to **ZERO CARBON CHARGE (PTY) LTD (Reg No: 2022/232376/07)**, or his representative, with right of assumption, cession and delegation, to prepare and submit an application(s) in terms of the Subdivision of Agricultural Land Act, Act 70 of 1970, municipal bylaws in respect of municipal land use planning laws, any provincial land use planning law, to subdivide or rezone the abovementioned property, and/or to submit an application for concession, and/or an application for deviation, and/or to execute such urban planning procedure in order to utilize the property, or a portion of the property, for the following purposes:-

Renewable energy, charging of vehicles and/or equipment, retail, network installations, vehicle thoroughfares and/or vehicle parking and/or all uses related to the aforementioned.

and, in general, in order to execute the aforementioned purposes, to do - or permit to do - everything that is required, just as perfectly and effectively as if I was present myself and was dealing with this transaction and affirm hereby everything that the named power of attorney, or his agent, is able to do or have done, based on these rights.

Signed by me on [illegible] 2024 at [illegible]

______________________ [illegible]

SIGNATURE **PRINT: FULL NAME**

______________________ ______________________

SIGNATURE **PRINT: FULL NAME**

Planning and Development
E-mail: town.planning.application@george.gov.za
Tel: +27 (0)44 801 9477

LAND USE PLANNING PRE-APPLICATION CONSULTATION FORM

PLEASE NOTE:

Pre-application consultation is an advisory session and is required prior to submission of an application for rezoning, consent use, temporary departure and subdivision. It does not in any way pre-empt the outcome of any future application which may be submitted to the Municipality.

PART A: PARTICULARS

Reference number: ____Collab no. 3796253_____

Purpose of consultation: ___Determine completeness_____

Brief proposal: Renewable Energy Structures for an off-grid electric vehicle charging station__

Property(ies) description: ____Portion 7 of farm Palmiet Drift No. 80, George Registration Division_____

Date: _____4 August 2025_____

Attendees:

	Name & Surname	Organisation	Contact Number	E-mail
Official	**Ilane Huyser**	**George Municipality**	**044 801 9477**	**ihuyser@george.gov.za**
Official	**Robert Janse van Rensburg**	**George Municipality**	**044 801 9555**	**rhjansevanrensburg@george.gov.za**
Pre-applicant	**Roeben Pienaar**	**CK Rumboll & Partners**	**022 482 1845**	**Planning9@rumboll.co.za**

Documentation provided for discussion:

(Include document reference, document/plan dates and plan numbers where possible and attach to this form)

A. Title Deed & Conveyance Certificate
B. Site Development Plan
C. Charge Brochure
D. External Comments

Has pre-application been undertaken for a Land Development application with the Department of Environmental Affairs & Development Planning (DEA&DP)?
(If so, please provide a copy of the minutes)

YES	NO

Comprehensive overview of proposal:

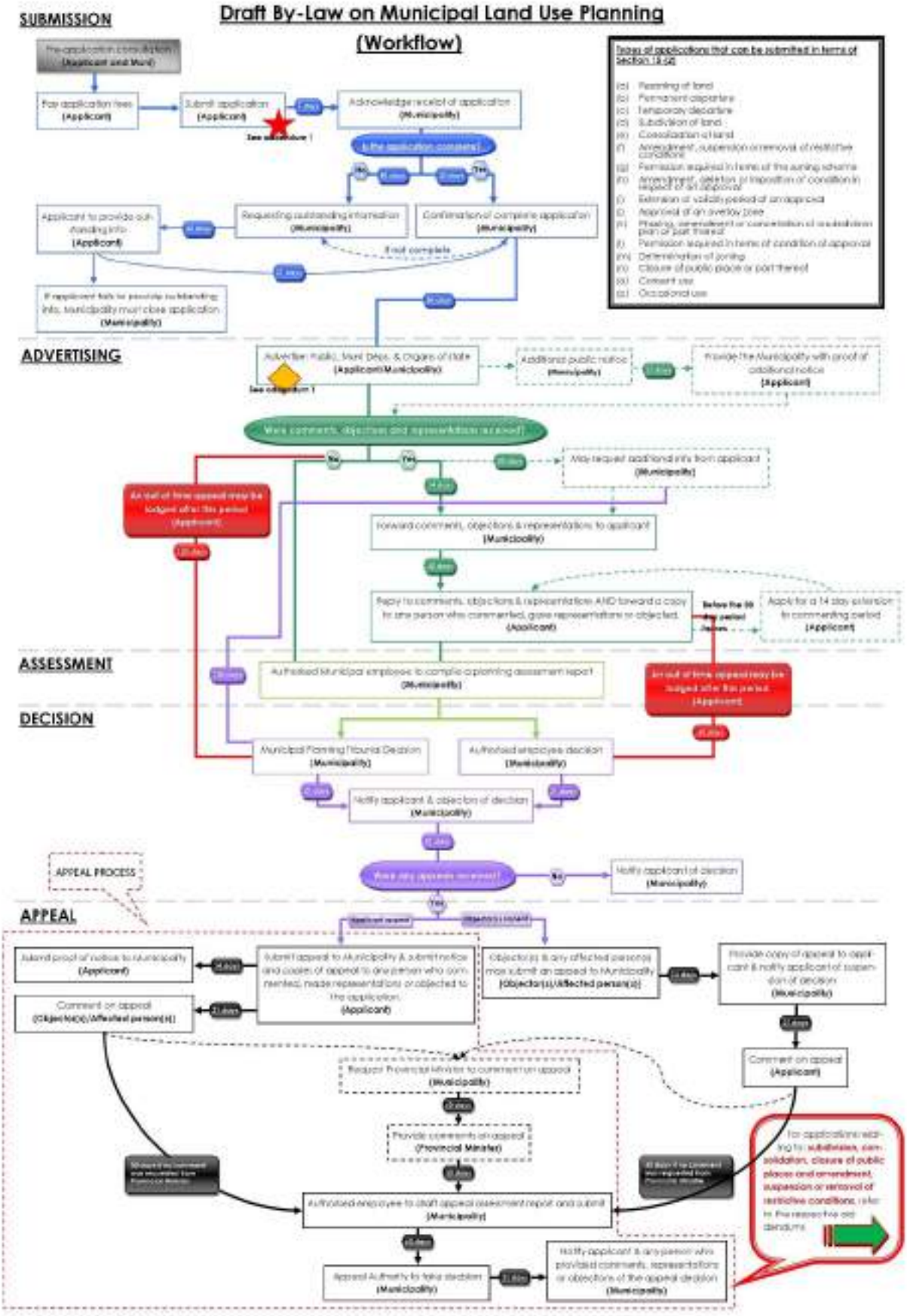
CK Rumboll & Partners has been approached by Joubert Roux, duly authorised representative of Charge, to handle all town planning actions required to secure the necessary land use rights in order to establish renewable energy structures accompanied with an electric vehicle charging station as ancillary to the proposed structures.

The George integrated Zoning Scheme By-Law, 2023 makes provision for renewable structures as a consent use on a property zoned as Agricultural Zone 1. The proposed development entails applying for a Consent Use in order to develop Renewable Energy Structures on The Property accompanied by the establishment of an electric charging station for electric vehicles which will be completely independent from ESKOM, thus providing clean energy to electric vehicle (EV) users to charge their vehicles.

The proposed site is situated at an existing farm stall which ideally serves as a waiting area for EV Users while charging their vehicles, limiting any potential future development on an agricultural property. Surplus electricity generated by the facility will not be fed into the existing ESKOM grid, but will rather be utilised by the landowner and existing structures located on the Property in order to improve agricultural activities.

PART B: APPLICATION PROCESS

(WILL FULLY APPLY ONLY ONCE LUPA REGULATIONS ARE IN FORCE)



PART C: QUESTIONNAIRES

SECTION A:
DETERMINATION OF APPLICATION TYPES, PRESCRIBED NOTICE AND ADVERTISEMENT PROCEDURES

Tick if relevant		What land use planning applications are required?	Application fees payable
	2(a)	a rezoning of land;	R
X	2(b)	a permanent departure from the development parameters of the zoning scheme;	R
	2(c)	a departure granted on a temporary basis to utilise land for a purpose not permitted in terms of the primary rights of the zoning applicable to the land;	R
	2(d)	a subdivision of land that is not exempted in terms of section 24, including the registration of a servitude or lease agreement;	R
	2(e)	a consolidation of land that is not exempted in terms of section 24;	R
	2(f)	a removal, suspension or amendment of restrictive conditions in respect of a land unit;	R
	2(g)	a permission required in terms of the zoning scheme;	R
	2(h)	an amendment, deletion or imposition of conditions in respect of an existing approval;	R
	2(i)	an extension of the validity period of an approval;	R
	2(j)	an approval of an overlay zone as contemplated in the zoning scheme;	R
	2(k)	an amendment or cancellation of an approved subdivision plan or part thereof, including a general plan or diagram;	R
	2(l)	a permission required in terms of a condition of approval;	R
	2(m)	A determination of a zoning;	R
	2(n)	A closure of a public place or part thereof;	R
TBD	**2(o)**	**a consent use contemplated in the zoning scheme;**	**R**
	2(p)	an occasional use of land;	R
	2(q)	to disestablish a home owner's association;	R
	2(r)	to rectify a failure by a home owner's association to meet its obligations in respect of the control over or maintenance of services;	R
	2(s)	a permission required for the reconstruction of an existing building that constitutes a non-conforming use that is destroyed or damaged to the extent that it is necessary to demolish a substantial part of the building	R
Tick if relevant		**What prescribed notice and advertisement procedures will be required?**	**Advertising fees payable**
Y	N	Serving of notices (i.e. registered letters etc.)	R
Y	N	Publication of notices (i.e. Provincial Gazette, Local Newspaper(s) etc.)	R

Y	N	Additional publication of notices (i.e. Site notice, public meeting, local radio, website, letters of consent etc.)	R
Y	N	Placing of final notice (i.e. Provincial Gazette etc.)	R
		TOTAL APPLICATION FEE* (VAT excluded):	To be determined

PLEASE NOTE: * *Application fees are estimated on the information discussed and are subject to change with submission of the formal application and/or yearly application fee increase.*

SECTION B:

PROVISIONS IN TERMS OF THE RELEVANT PLANNING LEGISLATION / POLICIES / GUIDELINES

QUESTIONS REGARDING PLANNING POLICY CONTEXT	YES	NO	TO BE DETERMINED	COMMENT
Is any Municipal Integrated Development Plan (IDP)/Spatial Development Framework (SDF) and/or any other Municipal policies/guidelines applicable? If yes, is the proposal in line with the aforementioned documentation/plans?			**X**	
Any applicable restrictive condition(s) prohibiting the proposal? If yes, is/are the condition(s) in favour of a third party(ies)? [List condition numbers and third party(ies)]			**X**	**Conveyancer certificate to confirm**
Any other Municipal by-law that may be relevant to application? (If yes, specify)			**X**	
Zoning Scheme Regulation considerations: Which zoning scheme regulations apply to this site? George Integrated Zoning Scheme By-Law, 2023, What is the current zoning of the property? Agricultural Zone 1 What is the proposed zoning of the property? Agricultural Zone 1 with consent use for Renewable Energy Structures Does the proposal fall within the provisions/parameters of the zoning scheme? YES Are additional applications required to deviate from the zoning scheme? (if yes, specify) To be Determined				

QUESTIONS REGARDING OTHER PLANNING CONSIDERATIONS	YES	NO	TO BE DETERMINED	COMMENT
Is the proposal in line with the Provincial Spatial Development Framework (PSDF) and/or any other Provincial bylaws/policies/guidelines/documents?			**X**	
Are any regional/district spatial plans relevant? If yes, is the proposal in line with the document/plans?			**X**	

SECTION C:

CONSENT / COMMENT REQUIRED FROM OTHER ORGANS OF STATE

OUESTIONS REGARDING CONSENT / COMMENT REQUIRED	YES	NO	TO BE DETERMINED	OBTAIN APPROVAL / CONSENT / COMMENT FROM:
Is/was the property(ies) utilised for agricultural purposes?	**X**			Western Cape Provincial Department of Agriculture
Will the proposal require approval in terms of Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970)?		**X**		National Department of Agriculture
Will the proposal trigger a listed activity in terms of National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA)?			**X**	Western Cape Provincial Department of Environmental Affairs & Development Planning (DEA&DP)
Will the proposal require authorisation in terms of Specific Environmental Management Act(s) (SEMA)? ~~{~~National Environmental Management: Protected Areas Act, 2003 (Act 57 of 2003) (NEM:PAA) / National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) (NEM:BA) / National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) (NEM:AQA) / National Environmental Management: Integrated Coastal Management Act, 2008 (Act 24 of 2008) (NEM:ICM) / National Environmental Management: Waste Act, 2008 (Act 59 of 2008) (NEM:WA) (strikethrough irrelevant)			**X**	National Department of Environmental Affairs (DEA) & DEA&DP
Will the proposal require authorisation in terms of the National Water Act, 1998 (Act 36 of 1998)?		**X**		National Department of Water & Sanitation (DWS)

OUESTIONS REGARDING CONSENT / COMMENT REQUIRED	YES	NO	TO BE DETERMINED	OBTAIN APPROVAL / CONSENT / COMMENT FROM:
Will the proposal trigger a listed activity in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?			X	South African Heritage Resources Agency (SAHRA) & Heritage Western Cape (HWC)
Will the proposal have an impact on any National or Provincial roads?	X			National Department of Transport / South Africa National Roads Agency Ltd. (SANRAL) & Western Cape Provincial Department of Transport and Public Works (DTPW)
Will the proposal trigger a listed activity in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993): Major Hazard Installations Regulations		X		National Department of Labour (DL)
Will the proposal affect any Eskom owned land and/or servitudes?	X			Eskom
Will the proposal affect any Telkom owned land and/or servitudes?		X		Telkom
Will the proposal affect any Transnet owned land and/or servitudes?	X			Transnet
Is the property subject to a land / restitution claims?		X		National Department of Rural Development & Land Reform
Will the proposal require comments from SANParks and/or CapeNature?		X		SANParks / CapeNature
Will the proposal require comments from DEFF?		X		Department of Environment, Forestry and Fishery
Is the property subject to any existing mineral rights?		X		National Department of Mineral Resources
Does the proposal lead to densification to such an extent that the number of schools, healthcare facilities, libraries, safety services, etc. In the area may be impacted on? (strikethrough irrelevant)		X		Western Cape Provincial Departments of Cultural Affairs & Sport (DCAS), Education, Social Development, Health and Community Safety

SECTION D:

SERVICE REQUIREMENTS

DOES THE PROPOSAL REQUIRE THE FOLLOWING ADDITIONAL INFRASTRUCTURE / SERVICES?	YES	NO	TO BE DETERMINED	OBTAIN COMMENT FROM: (list internal department)
Electricity supply:			**X**	Directorate: Electro-technical Services
Water supply:			**X**	Directorate: Civil Engineering Services
Sewerage and waste water:			**X**	Directorate: Civil Engineering Services
Stormwater:			**X**	Directorate: Civil Engineering Services
Road network:			**X**	Directorate: Civil Engineering Services
Telecommunication services:			**X**	
Other services required? Please specify.			**X**	
Development charges:			**X**	

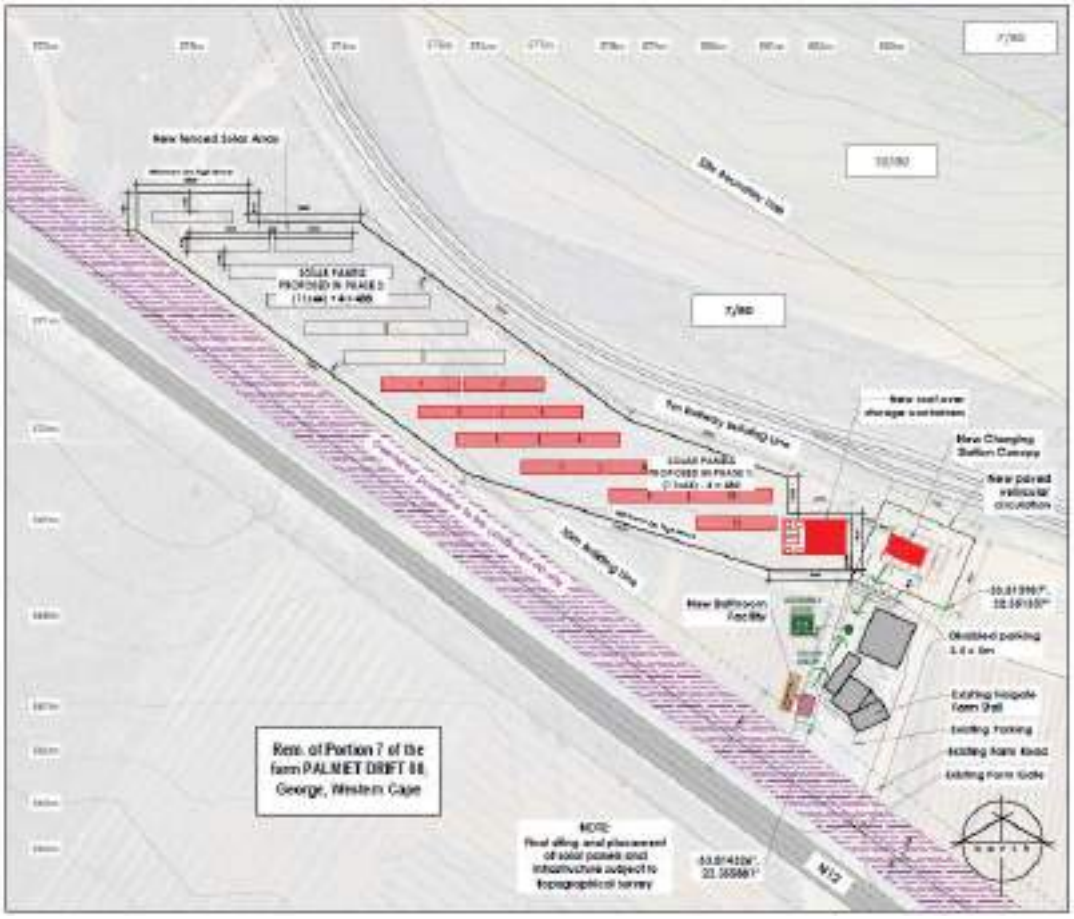
PART D: COPIES OF PLANS / DOCUMENTS TO BE SUBMITTED AS PART OF THE APPLICATION

COMPULSORY INFORMATION REQUIRED:						
Y	N	Power of Attorney / Owner's consent if applicant is not owner (if applicable)		**Y**	N	S.G. noting sheet extract / Erf diagram / General Plan
Y	N	Motivation report / letter		**Y**	N	Full copy of the Title Deed
Y	N	Locality Plan		**Y**	N	Site Layout Plan
Y	N	Proof of payment of fees		**Y**	N	Bondholder's consent (Conveyancer certificate to confirm)
MINIMUM AND ADDITIONAL REQUIREMENTS:						
Y	**N**	Site Development Plan		**Y**	N	Conveyancer's Certificate
Y	**N**	Land Use Plan		Y	**N**	Proposed Zoning plan
Y	**N**	Phasing Plan		Y	**N**	Consolidation Plan
Y	**N**	Abutting owner's consent		Y	**N**	Landscaping / Tree Plan
Y	**N**	Proposed Subdivision Plan (including street names and numbers)		Y	**N**	Copy of original approval letter
Y	N	Services Report or indication of all municipal services / registered servitudes		Y	**N**	Home Owners' Association consent
Y	**N**	Copy of Environmental Impact Assessment (EIA) / Heritage Impact Assessment (HIA) / Traffic Impact Assessment (TIA) / Traffic Impact Statement (TIS) / Major Hazard Impact Assessment (MHIA) / Environmental Authorisation (EA) / Record of Decision (ROD)		Y	**N**	1 : 50 / 1:100 Flood line determination (plan / report)

		(strikethrough irrelevant)				
Y	**N**	Other (specify)		Y	**N**	Required number of documentation copies

PART E: DISCUSSION

The pre application meeting dated 22 May 2024 and 6 August 2025 refers. The proposed plan represented at the meeting is illustrated below:



Town Planning

- The comments in the previous Pre-Application remains relevant.
- To clarify the scale of the proposed renewable energy facility in relation to the uses on the property. Confirm the energy required for the operation of the proposed EV facility and farm use in relation to the energy that will be generated by the solar farm.
- To clarify the need and desirability for such a large power generation establishment.
- According to the plan presented multiple phases are proposed. Please specify rationale.
- To confirm the legality of the existing Farm Stall (Confirm approval on building plan), It may be required that an application for a tourist facility be applied for.
- To clarify the need and desirability for an EV at this location.
- Need to address compliance with MSDF, LSDF, SPLUMA, Zoning Scheme etc.

- To consider statutory building lines applicable to railway lines and the N12 (to show setbacks/building lines)

Comments from external bodies.

- Some comments were received and other required addition information to provide comments.
- Outstanding comments can be obtained through the Public participation process.
- Comments from the District Roads engineer will be compulsory.

CES

Access

- Access be restricted to Provincial comment and or approval.
- Access is permitted in accordance with the George Integrated Zoning Scheme (GIZS) 2023 regulations.

Parking

- All parking must be provided on-site, in compliance with the GIZS 2023 parking requirements
- No parking is allowed within the road reserve, and the owner may be held liable for any costs incurred to prevent unauthorized parking in this area.
- All vehicle mobility should be done on site.

Development Charges (DCs)

- If applicable, Normal Development Charges (DCs), if applicable, will be levied in accordance with the DC policy and the applicable By-law and or policy.

Water & Sewer

- No Municipal water or sewer are available, and the owner will be required to provided the required services. Should the services be extended to this area, the developer will be required connect and make the development charges payment, applicable on the time of connection.

Stormwater

- The developer must ensure full compliance with the relevant Stormwater By-law.

PART F: SUMMARY / WAY FORWARD

OFFICIAL: **Robert Janse van Rensburg** PRE-APPLICANT: _ROEBEN PIENAAR____(A/3045/2021)____

Town Planner (FULL NAME)

SIGNED: _____ SIGNED:

DATE: _____**13/08/2025**_____ DATE: ___04 August 2025_____

OFFICIAL: **Ilané Huyser**

(Senior Town Planner)

SIGNED: __ _____

DATE: ___13.08.2025_____

**Please note that the above comments are subject to the documents and information available to us at the time of the pre-application meeting and we reserve our rights to elaborate on this matter further and/or request more information/documents should it deemed necessary.*

CONVEYANCER'S CERTIFICATE

I, the undersigned

RENATE VAN DER MERWE
LPCM NUMBER 89145

a Conveyancer of the firm Gustav De Vries Attorneys Inc. in VREDENDAL

do hereby certify that I performed a thorough Deed search on the information contained in Deed of Transfer Number T19036/2016 in respect of the REMAINING EXTENT OF PORTION 7 OF THE FARM PALMIET DRIFT, NUMBER 80, IN THE MUNICIPALITY AND DIVISION GEORGE, PROVINCE WESTERN CAPE, IN EXTENT 291,6249 (TWO NINE ONE COMMA SIX TWO FOUR NINE) Hectares and that the information/conditions that appear in the aforesaid title, is the following:

(a) THAT the above-mentioned property is registered in the name of FRIKKIE JONCK, IDENTITY NUMBER: 730613 5134 082, MARRIED OUT OF COMMUNITY OF PROPERTY.

(b) The following conditions are registered against the said property, namely:

(i) Condition A which states the following:

SUBJECT to the conditions referred to in Deeds of Transfer T8866/1910 with plan relating thereto and held by Certificate of Registered Title Number T92300/1993; *(Note: I have not examined said Deeds or plan).*

(ii) Condition B which states the following:

SUBJECT FURTHER to the conditions to the conditions referred to in the endorsement dated 28 March 1914 on Deed of Transfer Number T8873/1910 relating to water and which condition reads as follows:

"By Deed of 12th of March 1914 an agreement with regard to the use of certain water out of the Klein Lang Kloof has been entered the owner of the property hereby conveyed and the Government of the Union of South Africa as will more fully appear on reference to the copy annexed hereto."

(iii) Condition C which states the following:

SUBJECT FURTHER to the conditions of the Endorsement dated 28 October 2005 on Certificate of Registered Title Number T92300/1993, which reads as follows:

"Die binnegemelde eiendom is onderhewig aan 'n kraglynserwituut en telekommunikasie ten gunste van ESKOM met bykomende regte kragtens "K1081/2005S."

Upon examination of the said Notarial Deed K1081/2005S the following restrictions are imposed on the property owner:

3.1 geen gebou of struktuur mag bo of onder die oppervlakte van die grond binne 15,5 (vyftien komma vyf) meter vanaf die hartlyn van enige kraglyn opgerig of aangebring word nie of binne 6 (ses) meter van enige struktuur ondersteuningsmeganisme nie;

3.2 geen boom mag binne of in die omgewing van die serwituutgebied geplant of toegelaat word om te groei tot `n hoogte wat groter is as die horisontale afstand van daardie boom na die naaste geleier van enige kraglyn nie en geen boom mag toegelaat word om op so 'n manier te groei dat dit die lyn in gevaar sal stel indien dit afgekap word of omval nie;

3.3 geen materiaal wat na die mening van Eskom die veiligheid van enige kraglyn bedreig, mag binne 15,5 (vyftien komma vyf) meter vanaf die hartlyn van die kraglyn geplaas word nie;

3.4 geen myn- of skietbedrywighede (springstof) mag sonder die vooraf verkreë skriftelike toestemming van Eskom binne 500 meter vanaf die hartlyn van enige kraglyn uitgevoer word nie.

(iv) Condition D which states that the property is subject to a Testamentary condition as contained in the Will of FREDERIK JONK dated 21 August 2014 and which reads as follows:

Ek bepaal dat alle bemakings en voordele wat begunstigdes kragtens hierdie Testament of enige latere kodisil toeval asook enige inkomste daaruit verdien:
- van alle gemeenskplike Boedels kragtens huwelike in gemeenskap van goed, uitgesluit sal wees; en
- in alle omstandighede teen die skuldeisers van gades beskerm sal wees."

(c) There are no bond/s registered against the said property.

(d) That in as far as my search is concerned, I found no condition or endorsement that prohibits the activities related to the erection of a renewable energy structure or the recharging of electrical motors if the said development is erected more then 15,5 metres from the Eskom powerline.

AND FURTHER SUBJECT TO SUCH CONDITIONS AS INDICATED IN THE AFOREMENTIONED OR REFERRED TO.

SIGNED AT VREDENDAL on this the 7th day of January 2025.

.....

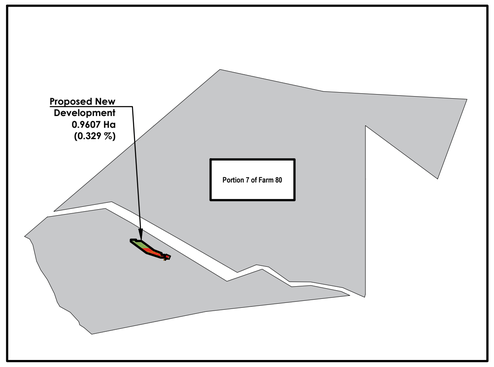
CONVEYANCER
RENATE VAN DER MERWE
LPCM NUMBER 89145

SCHEDULE OF RIGHTS

Farm	**Rem. of Portion 7 of the farm PALMIET DRIFT 80, George, Western Cape**	
Erf Area	**291.6249 Ha**	
Zoning	**Agricultural Zone 1**	
Building Lines	Street: 30 m | Sides & Back: 3 m	
Proposed Development Footprint	1. Solar Array area, incl:	**8 630.05 m²**
	Container Roof (Battery Storage)	130.50 m²
	2. Canopy area, incl:	**977.03 m²**
	New Farm Stall	NA
	Charging Station Canopy	78.00 m²
	Additional Bathroom Facility	31.00 m²
	3. Connecting Entrance Road	**NA**
	Total Development Footprint	**= 9 607.08 m²** = 0.9607 Ha = 0.329 %
Coverage	Existing Development	448.12 m² **= 0.015 %**
	Proposed Additional Development	239.50 m² **= 0.008 %**
	Total	308.30 m²
Height	**1 storey**	

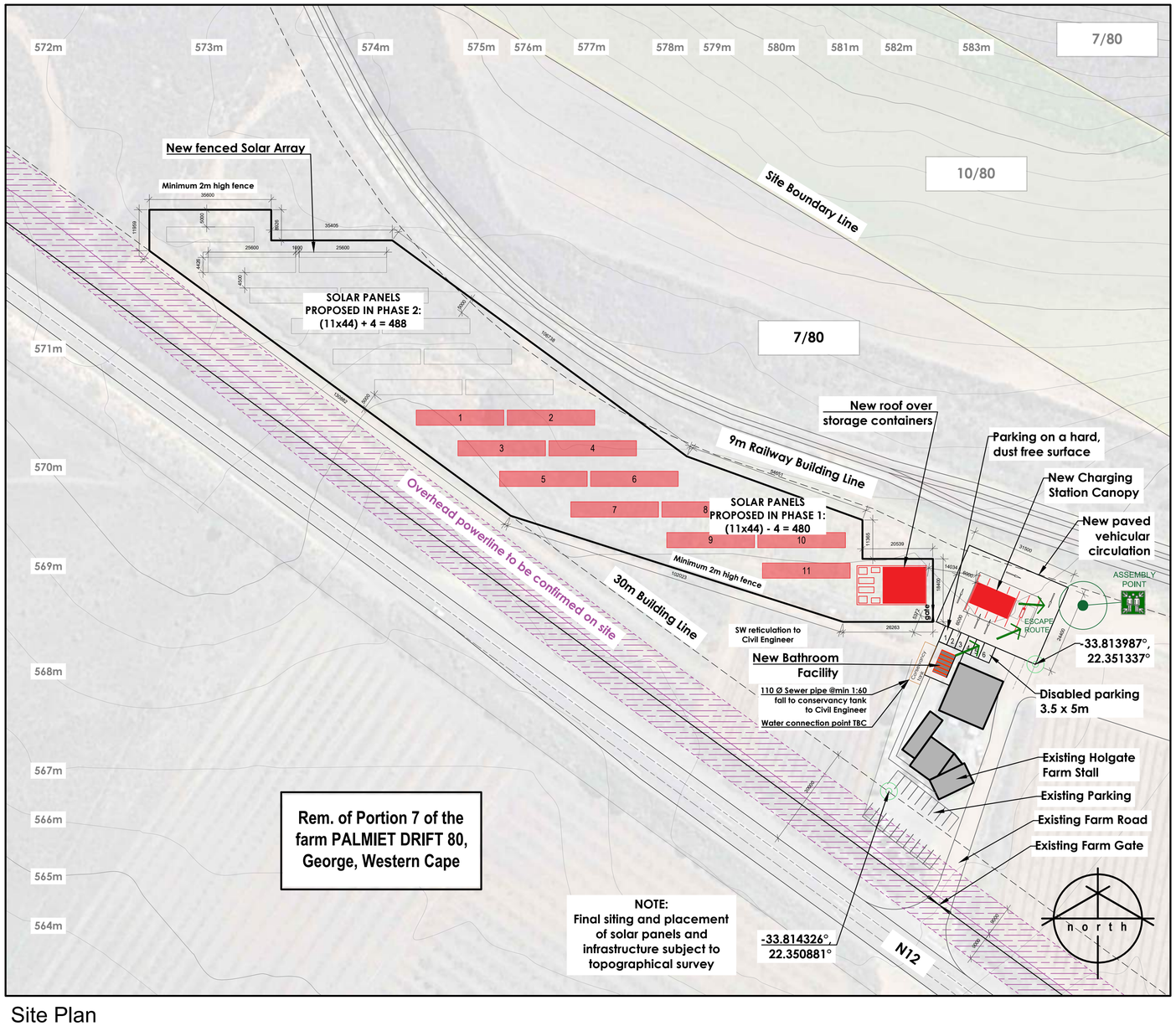
Development Footprint

NTS



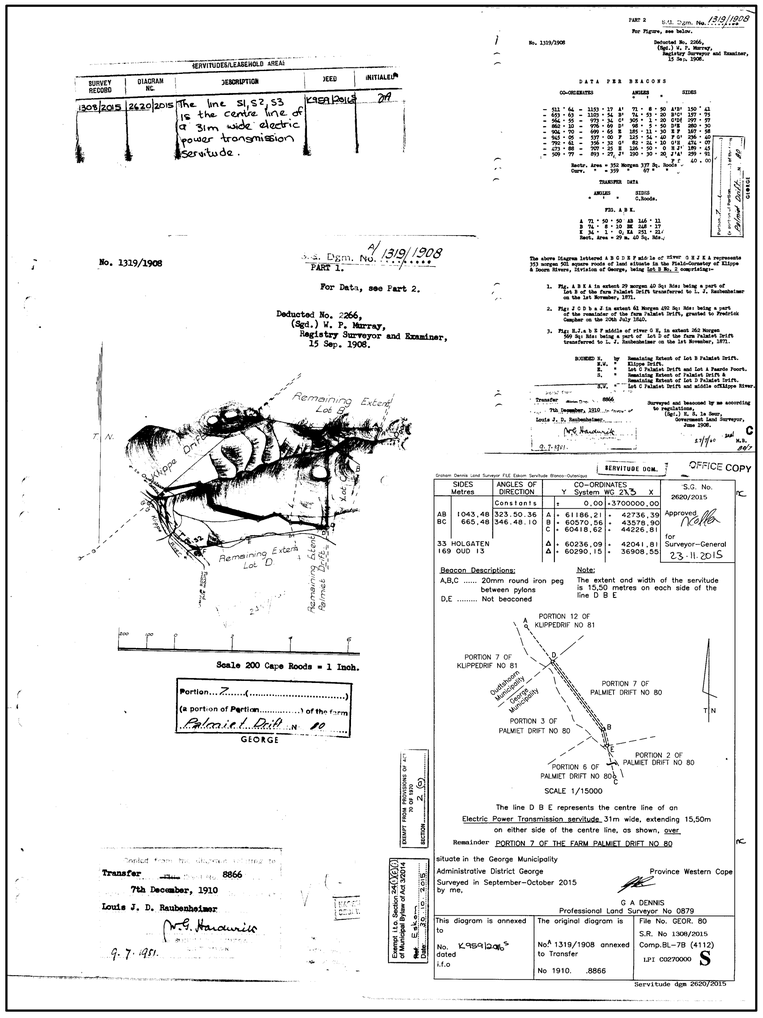
Development Area

NTS



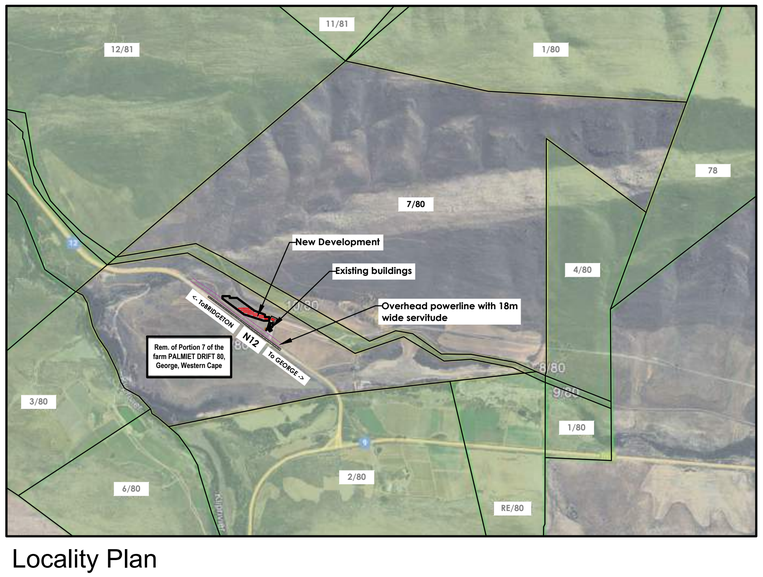
Site Plan

1 : 750



SG Diagrams

NTS



Locality Plan

1 : 15 000

NOTES

1. COPYRIGHT ON THIS DRAWING IS RESERVED.
2. DRAWING IS AN INDICATION OF DESIGN INTENT ONLY. CONTRACTOR TO ENSURE THAT THE FINAL PRODUCT ADHERES TO LOCAL STANDARDS & REGULATIONS.
3. ALL DIMENSIONS & LEVELS TO BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF WORK, & DISCREPANCIES TO BE REPORTED TO ARCHITECT.
4. DIMENSIONS ARE INDICATED IN MILLIMETERS.

Revision Schedule

Number	Date	Description	Drawn by
0	2024.04.18	Approved for use	TRD
1	2025.09.15	Parking and bathroom location change	TRD

DRAWING STATUS

FOR INFORMATION

PROJECT:

CHARGE

C-N012-08 HOLGATE
SITE DEVELOPMENT PLAN for
ZERO CARBON CHARGE

Owner:
Frikkie Jonck

Erf number:
Rem. Extent of Portion 7 of Farm PALMIET DRIFT 80, George RD Division, Western Cape

	SIGNATURES	DATE
Client:		
Checked by: G. Heyns-Lotter		
Fire Engineer:		
Engineer:		

SKEP INTERIEUR & ARGITEKTUUR

DESCRIPTION
SITE DEVELOPMENT PLAN

SCALE	PAGE SIZE
AS SHOWN	A1

DRAWING NO.	REVISION
C-N012-08-712-210-001	**1**

ESKOM Comments

Eskom
Distribution

CK Rumboll & Partners

planning9@rumboll.co.za

Date: 2024/07/09

Enquiries:
WayleavesWesternOU@eskom.co.za

WAYLEAVE APPLICATION: Consent use for Electric Vehicle charging station and accompanied PV Array for generation purposes
· Portion 7 of Farm Palmiet Drift No 80, George RD · George

YOUR REF: GE/13712/RP

ESKOM REF: 15126-24

THIS IS NOT AN APPROVAL TO START CONSTRUCTION

I hereby inform you that Eskom has no objection to the proposed work indicated on your drawing in principle. This approval is valid for **12 months** only, after which reapplication must be made if the work has not been completed.

1. **Eskom services are affected by your proposed works and the following must be noted:.**

   a) Eskom has no objection to the proposed work and include a drawing indicating Eskom Overhead and underground services in close proximity.
   b) Please note that underground services indicated are only approximate and the onus is on the applicant to verify its location.
   c) There may be LV overhead services / connections not indicated on this drawing.
   d) The successful contractor must apply for the necessary agreement forms and additional cable information not indicated on included drawing, in order to start construction.

   Application for Working Permit must be made to:

   Customer Network Centre: George

   Pretty Betela
   011 864 5376 / 079 523 6269
   BetelaNB@eskom.co.za

Include Eskom Wayleave as-built drawings and all documentation, when applying for Working Permit.

Should it be necessary to move, relocate or support any existing services for possible future needs, it will be at the developer's cost. Application for relocating services must be made to Customer Services on 08600 37566 or customerservices@eskom.co.za

2. **Underground Services**

The following conditions to be adhered to at all times:

a) Works will be carried out as indicated on plans.
b) No mechanical plant to be used within 3.0m of Eskom underground cables.
c) All services to be verified on site.
d) Cross trenches to be dug by hand to locate all underground services before construction work commences.
e) If Eskom underground services cannot be located or is grossly misplaced from where the wayleave plan indicates, then all work is to be stopped and Nancy Piliso from the Land Development Office to be contacted at PilisoN@eskom.co.za, to arrange the capturing of such services.
f) In cases where proposed services run parallel with existing underground power cablesthe greatest separation as possible should be maintained with a minimum of 1000mm.
g) Where proposed services cross underground power cables the separation should be a minimum of **300mm** with protection between services and power cables. (Preferably a concrete slab)
h) No manholes; catch- pits or any structure to be built on top of existing underground services.
i) Only walk-behind (2 ton Bomac type) compactors to be used when compacting on top of and 1 metre either side of underground cables.
j) If underground services cannot be located then the Customer Network Centre (CNC) should be consulted before commencement of any work.
k) **No work can take place within the servitude of a 66kV Cable or 132kV Cable if indicated.** Should you need to undertake any work within the proximity of our 66kV or 132kV Cables please contact Nancy Piliso at PilisoN@eskom.co.za to arrange a site visit.

3. **O.H. Line Services:**

a) The following building and tree restriction on **either side of centre line** of overhead power line must be observed:

Voltage	Building restriction either side of centre line
11 / 22kV	9.0 m
66kV	11.0 m
132kV	15.5 m

b) No construction work may be executed closer than **6 (SIX) metres** from any Eskom structure or structure-supporting mechanism.

c) No work or no machinery nearer than the following **distances from the conductors**:

Voltage	Not closer than:
11 / 22kV	3.0 m
66kV	3.2 m
132kV	3.8 m

d) Natural ground level must be maintained within Eskom reserve areas and servitudes.

e) That a **minimum ground clearance** of the overhead power line must be maintained to the following clearances:

Voltage	Safety clearance above road:
11 / 22kV	6.3 m
66kV	6.9 m
132kV	7.5 m

f) That existing Eskom power lines and infrastructure are acknowledged as established infrastructure on the properties and any rerouting or relocation would be for the cost of the applicant/developer.

g) That Eskom rights or servitudes, including agreements with any of the landowners, obtained for the operation and maintenance of these existing power lines and infrastructure be acknowledged and honoured throughout its lifecycle which include, but are not limited to:

i. Having 24 hour access to its infrastructure according to the rights mentioned in (a) above,

ii. To perform maintenance (structural as well as servitude – vegetation management) on its infrastructure according to its maintenance programmes and schedules,

iii. To upgrade or refurbish its existing power lines and infrastructure as determined by Eskom,

iv. To perform any other activity not listed above to ensure the safe operation and maintenance of the Eskom power lines or infrastructure.

h) Eskom must have at least a 10m obstruction free zone around all pylons (not just a 10m radius from the centre).

i) Eskom shall not be liable for the death or injury of any person, or for loss of or damage to any property, whether as a result of the encroachment or use of the area where Eskom has its services, by the applicant, his/her agent, contractors, employees, successors in title and assignee.

j) The applicant indemnifies Eskom against loss, claims or damages, including claims pertaining to interference with Eskom services, apparatus or otherwise.

k) Eskom shall at all times have unobstructed access to and egress from its services.

l) Any development which necessitates the relocation of Eskom's services will be to the account of the developer.

m) Lungile Motsisi MotsisL@eskom.co.za, Eskom: Transmission must be contacted on 011 800 5734 to comment on behalf of the **400 kV OVERHEAD POWERLINES, NO WORK WITHIN THIS SERVITUDE OR UNDERNEATH POWERLINES IS ALLOWED** until comment from Eskom Transmission has been obtained.

4. **NOTE**

Wayleaves, Indemnity form (working permit) and all as-built drawings issued by Eskom to be kept on site at all times during construction period.

Yours faithfully

LAND DEVELOPMENT (BRACKENFELL)

Western Cape Department of Agriculture

Western Cape Government

Cor Van Der Walt
LandUse Management
Email: Cor.VanderWalt@westerncape.gov.za
tel: +27 21 808 5099 fax: +27 21 808 5092

OUR REFERENCE : **20/9/2/4/3/732**
YOUR REFERENCE :
ENQUIRIES : **Cor van der Walt**

CK Rumboll & Partners
PO Box 211
MALMESBURY
7299

Att: Roeben Pienaar

PROPOSED CONSENT USE: DIVISION GEORGE

PORTION 7 OF THE FARM PALMIET DRIFT NO 80

Your application of 28 May 2024 has reference.

The Western Cape Department of Agriculture has no objection, provided that the facility is not extended beyond the proposed footprint.

It is recommended that the municipality impose a condition requiring the owner to make a financial provision (or alternative reasonable arrangement) to cover the cost of decommissioning and rehabilitation.

Please be advised, that this office is a commenting authority and further discussions on your application must be taken up with the decision makers. Further consultation will only be considered when requested by the decision maker.

Please note:

- Kindly quote the above-mentioned reference number in any future correspondence in respect of the application.

- The Department reserves the right to revise initial comments and request further information based on the information received.

Yours sincerely

Mr. CJ van der Walt
LANDUSE MANAGER: LANDUSE MANAGEMENT
2024-09-04

Copies:
Department of Agriculture, Land Reform and Rural Development
National Department of Agriculture
Private Bag X 120
PRETORIA
0001

George Municipality
PO Box 19
GEORGE
6530

Western Cape Department of Environmental Affairs & Development Planning (DEADP)

Western Cape Government

Department of Environmental Affairs and Development Planning
Dorien Werth
Directorate: Development Management, Region 3
Dorien.Werth@westerncape.gov.za | Tel: 044 814 2005

REFERENCE: 16/3/3/6/1/D2/19/0167/24
DATE OF ISSUE: **25 July 2024**

The Director
Zero Carbon Charge
Groenhoek Farm
VREDENDAL
8160

Attention: Mr. Joubert Roux E-mail: joubert@zerocc.co.za

Dear Sir

COMMENT: PROPOSED CONSENT USE ON REMAINDER PORTION 7 OF FARM PALMIET DRIFT NO. 80, GEORGE DIVISION

1. The abovementioned document submitted to the Directorate: Development Management (Region 3), hereinafter referred to as "this Directorate" on 28 May 2024, refers.

2. This Directorate has reviewed the document and provides the following comment:
   The proposal
   It is understood that the proposal entails the establishment of a PV energy generation plant, charging infrastructure for electric vehicles (EV), energy storage batteries and associated structures on the Remainder of Portion 7 the Farm Palmiet Drift 80, George Municipality.

3. This Directorate is of the opinion that the information provided is insufficient to make an informed determination on the applicability of the EIA Regulations, 2014. This Directorate will provide further comment on the proposal upon receipt of the following information:

   Phased activities and description of the need and desirability of the proposed development:

   According to the information provided, the proposed recharge facility will cover an area of 0.9609 ha with a generating capacity of less than 10MW. Furthermore, it is understood that the recharge facility will be able to accommodate six cars at a time, however, this Directorate needs confirmation in writing that the proposed development will indeed be able to operate as a stand-alone development and that the proposed facility will not form part of a phased development or will not require any further expansion/phases to ensure that it can operate as a feasible facility.

4. This Directorate will make a determination on the applicability of the Environmental Impact Assessment Regulations, 2014 (as amended) upon receipt of the required information.

5. Note that the onus is on the proponent to confirm that the proposed development does not involve any other listed activities requiring environmental authorisation. It is advised that this should be done before physically commencing with any activity on the property.

6. Please note that a listed activity may not commence prior to an environmental authorisation being granted by the Department. It is an offence in terms of Section 49A of the National Environmental Management Act, 1998 (Act no. 107 of 1998) ("NEMA") for a person to commence with a listed activity unless the competent authority has granted an environmental authorisation for the undertaking of the activity. A person convicted of an offence in terms of the above is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine and imprisonment.

7. Kindly quote the above-mentioned reference number in any future correspondence in respect of this matter.

8. This Department reserves the right to revise or withdraw initial comments or request further information from you based on any information received.

Yours faithfully

*pp*_____
HEAD OF COMPONENT
ENVIRONMENTAL IMPACT MANAGEMENT SERVICES: REGION 3
DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

Copied to:
Proponent: Zero Carbon Charge E-mail: info@zerocc.co.za
Roeben Pienaar E-mail: planning9@rumboll.co.za

Department of Environmental Affairs and Development Planning
Gavin Benjamin
Development Management (Region 3)
gavin.benjamin@westerncape.gov.za | Tel: 044 814 2010

REFERENCE NUMBER: 15/3/2/12/BG1/RemPtn7PalmietDrift80/01
ENQUIRIES: R. Thomson
DATE OF ISSUE: 29 July 2024

George Municipality
P.O Box 19
George
6530

Attention: Ms. Primrose Nako **Email**: pnako@george.gov.za

GEORGE MUNICIPALITY: PROPOSED CONSENT USE ON REMAINDER OF PORTION 7 OF FARM PALMIET DRIFT NO. 80 , GEORGE

1. The request for comment, dated 28 May 2024, in terms of section 45 of the Western Cape Land Use Planning Act, 2014 (LUPA) Act 3 of 2014, on the above application, refers.

2. The application is for the following:

2.1 A **Consent Use** in accordance with Section 15(2)(o) of the George Municipality Land Use Planning By-Law (21 April 2023) in order to permit renewable energy structures on a portion (9609.35m²) of Portion 7 of Farm Palmiet Drift No. 80, George.

3. The Remainder of Portion 7 of the Farm Palmiet Drift No. 80 is situated north-west of George, and approximately 700m from the N9-N12 intersection, and gains direct access from the N12 national road connecting Oudtshoorn, to the north, with the N9 towards George, in the south. It measures 29.6249 hectares in extent.

4. The property is currently zoned Agriculture Zone 1 and is being used primarily for agriculture purposes comprising of cultivated areas and natural vegetation zones. There is an existing farm stall on the property with associated farm sheds and warehouses. A consent use application is required to permit renewable energy structures on agricultural zoned land and has therefore been applied for. The applicant has also stated that cultivated land is not the dominant use of the property and that it is largely used for grazing due to its significant natural vegetations.

5. The application notes that from an environmental perspective, an environmental checklist was submitted to assess whether the proposed development would trigger any provisions of the National Environmental Management Act (NEMA). The response from the Department of Environmental Affairs and Development Planning (DEADP) will be provided to George Municipality on receipt thereof. The response relating to the checklist is considered crucial for the application to proceed.

6. The development proposal entails constructing a charging facility for electric cars which is powered by renewable energy. The "charging station" will consist of a set of charging bays with associated infrastructure to provide electrical power to electric vehicles. Each charging bay will be equipped with charging equipment. It is further noted that development proposal involves the creation of a renewable energy facility in two phases, situated on the Remainder of Portion 7 of Farm Palmiet Drift No. 80, George. The initial phase comprises of 480 solar panels and associated battery storage containers. The renewable energy will be used solely on-site, and no generated electricity will be sold off. Also included in the first phase is an associate parking area equipped with six parking bays and charging stations.

   The second phase of the development encompasses an expansion of the renewable energy facility on the same property and within the proposed fenced area, featuring 444 solar panels. Notably, the execution of the second phase is subject to consumer demand. It is also noted that the solar panels will be constructed at a height ranging between 3 and 5 meters, therefore facilitating agricultural activities such as grazing underneath them.

7. Although there are currently no separate land use description and/or associated zoning within the George Integrated Zoning Scheme By-Law for EV Charging Stations, it appears that the application proposes that EV Charging Stations should be considered as part of the definition of renewable energy infrastructure. Although the proposed EV Charging facility does not include traditional fuel storage tanks, this Department considers EV Charging stations similar in land use impact to a traditional filling station (Service Station) due to the function it fulfils, as well as the potential traffic impact and internal circulation requirements.

8. It should be noted if a long term lease is intended over a portion of the subject property, the application should clearly identify and map the area(s) which will form part of the intended long term lease and/or amend the application accordingly to include an application for Subdivision (for Lease Purposes). Should a long term lease be intended on the entire farm and in accordance with its current registered boundaries, an application for subdivision (for lease purposes) is not required.

9. It should further be noted that approval for the consent use (if approved) will not be a permanent right but will be given for the duration/life span of the facility. Any renewable energy structure and associated infrastructure that has reached the end of its productive life or has been abandoned, including buildings, cables, and surfaced areas, must be removed by the owner. A renewable energy structure is considered abandoned when the structure fails to continuously operate for more than two years.

10. It is noted that the following aspects are not fully addressed within the Motivational Memorandum:
    a) Confirmation whether the current access point along the N12 is authorised and developed within any applicable standards;
    b) Confirmation that the existing Farm Stall is an authorised land use;
    c) Motivation of the need for the proposed charging facility within the specific location. This should include (as a minimum) reference to a) traffic volumes along the N12 route, b) Electrical Vehicle uptake an usage, c) a survey of the nearest available EV charging stations within the standard range of an EV, to the proposed project locality, d) why not other existing filling station (or associated area within George / Oudtshoorn could accommodate the proposed EV Charging stations and e) why the proposed location, at approximately equidistant distance between George & Oudtshoorn, may be considered a distance which would exceed EV driving ranges and thus the need for an intermediate charging station between these two towns.

d) Detailed engineering calculations to justify the extent of land and placement of the solar panels to enable the municipality to make a more informed decision on the appropriateness of the land development area, currently proposed.

e) Consideration of the standard and requirements stipulated within the Western Cape Land Use Planning Guidelines for Rural Areas, March 2019, and /or provide sufficient justification why the guideline does not apply, under the site specific circumstance applicable in this case.

11. From a planning perspective and given the information put before us, this Department has no further comment on this matter, but we reserve the right to provide additional comment should the application materially change prior to its finalisation.

_____

MR. GAVIN BENJAMIN

DIRECTOR: DEVELOPMENT MANAGEMENT (REGION3)

WCG: DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

Copy to:

1. CK Rumboll and Partners
   Roeben Pienaar
   planning9@rumboll.co.za

Western Cape Government

Department of Environmental Affairs and Development Planning
Dorien Werth
Directorate: Development Management, Region 3
Dorien.Werth@westerncape.gov.za | Tel: 044 814 2005
DEADPEIAadmin.George@westerncape.gov.za | Tel: 044 814 2006

REFERENCE: 16/3/3/6/1/D2/19/0109/24
DATE OF ISSUE: **13 November 2024**

The Director
Zero Carbon Charge
Groenhoek Farm
VREDENDAL
8160

Attention: Mr. Joubert Roux E-mail: joubert@zerocc.co.za

Dear Sir,

RE: ADDITIONAL INFORMATION IN RESPECT OF THE PROPOSED ESTABLISHMENT OF A RENEWABLE ENERGY GENERATION PLANT, ELECTRIC VEHICLE RECHARGE FACILITY, ENERGY STORAGE BATTERY UNITS AND ASSOCIATED STRUCTURES WHICH WILL BE LOCATED ON THE REMAINDER OF PORTION 7 OF THE FARM PALMIET DRIFT 80, GEORGE

1. The following documentation and correspondence in respect of the abovementioned matter refer:
   1.1. the undated checklist submitted to the Department on 18 April 2024 ;
   1.2. comments issued by this Directorate on the 18 May 2024 with the following reference number (16/3/3/6/1/D2/19/0109/24) and;
   1.3. the additional information submitted to this Directorate on 11 October 2024.

2. This Directorate has reviewed the additional information and provides the following comment:

   2.1. *Feasibility of the proposed facility*

   According to the information provided to this Directorate, it is understood that the proposed facility, as designed, will operate as a viable and feasible stand-alone entity for the foreseeable future. According to the proponent there is no need to expand the proposed facility to make it viable and / or feasible.

   However, it is understood that should an increase in capacity is deemed necessary in the area in future, the proponent will follow the appropriate application processes to ensure that the future capacity demands are met.

   2.2. *Receiving Environment*

   Vegetation:
   The vegetation on the site where the development is proposed has been mapped as North Outeniqua Sandstone Fynbos, which has a gazetted conservation status of Least Concern. Relevant aerial imagery indicates that the proposed site contains areas of indigenous vegetation as well as a portion of land which is regularly ploughed. The portion of the proposed site which

has been lawfully ploughed, even though it may contain vegetation, does not constitute "indigenous vegetation".

The portion of the proposed site which has not been lawfully cleared in the preceding 10-year period contains indigenous vegetation; however, this portion of land is less than 1-hectare in extent.

Land used for agricultural purposes:
A large portion of the proposed site has been cultivated and is currently being used for agricultural purposes; however, this portion of land is less than 1-hectare in extent.

Aquatic features:
According to the information in the checklist and corroborated by relevant aerial imagery and GIS data there are no aquatic features within 32m of the edge of a watercourse.

Interim urban edge / urban area
The complete zoning information of the property has not been provided in the documentation. However, with due consideration of the location and extent of the property it is reasonable to assume that the property is zoned *Agriculture Zone I*. In accordance with this Department's NEMA EIA Circular 1 of 2012, and the information contained within the documentation, the property is regarded to fall outside the "interim urban edge" as adopted on 5 March 2012. For the purpose of the Environmental Impact Assessment Regulations, 2014 (as amended), the property is regarded to fall outside the urban area.

3. *Applicability of the Environmental Impact Assessment Regulations, 2014 (as amended)*

Based on the additional information provided to this Department, you are hereby informed that on the date of this response, the proposed establishment of a photovoltaic ("PV") electricity generation plant, charging infrastructure for electric vehicles ("EV"), energy storage batteries and associated structures on the Remainder of Portion 7 of the Farm Palmiet Drift 80, George in accordance with the Site Development Plan (Drawing No: C-N012-08-712-210-001) does not appear to constitute an activity listed in terms of GN No. R.983, R.984 or. R.985 of 4 December 2014 (as amended), which has been promulgated under Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA").

Written authorisation is therefore NOT required from the relevant competent authority (as defined in GN No R.982 of 4 December 2014, as amended), prior to the undertaking of the said activity.

4. This determination is based on the following information provided to this Directorate:
   - the proposed renewable energy generation plant and associated structures will generate less the 10MW electricity and will cover an area of less than 1ha;
   - the proposed transmission lines will be less that 2km and will have a capacity of less than 33kV;
   - the proposed facility will be located more than 32m away from the edge of a watercourse;
   - the proposed facility will cover an area of less than 1ha in extent;
   - a portion of the proposed site does contain indigenous vegetation, but this is less than 1-hectare in extent will be cleared of indigenous vegetation;
   - a portion of the proposed site is currently used for an agricultural use; however, and area of less than 1-hectare will be transformed / developed for a commercial us; and
   - access to the proposed facility will be obtained from the existing access road to the property.

5. *Phased activities:*

Notwithstanding the above, please be advised that the relevant listed activities are listed as a phased activities which means that they can be regarded as an activity that is developed in phases over time on the same or adjacent properties to create a single or linked entity. This implies that any one phase of the activity may be below a threshold, but where a combination of the phases exceeds the threshold, environmental authorisation must be obtained from the competent authority.

This includes activities which commenced on or after 8 December 2014 or similarly listed in any of the previous NEMA notices, which commenced on or after the effective date of such previous NEMA Notices but excludes any activity for which an environmental authorisation has been obtained in terms of the National Environmental Management Act, 1998 ("NEMA").
Considering the above and the details of the proposal, although the proposed facility will not trigger any listed activities, it will be regarded as the first phase of the facility. Once the first phase development is concluded and operational, and you identify the need at that stage to expand the facility, and such expansion will trigger a listed activity, you must first obtain the required environmental authorisation for the relevant listed activity prior to undertaking the next phase (expansion) of the facility.

You are advised to consult with the competent authority and obtain the necessary advice, prior to initiating any physical expansions of the proposed facility.

NOTE: The consideration of any application for the future expansion of the facility will be based on the merits of such an application submitted at that time. Therefore, the development and subsequent operation of the proposed first phase of the facility and its associated structures on the Remainder of Portion 7 of the Farm Palmiet Drift 80, George, must be considered in future applications; however, any future application for environmental authorisation for the expansion of the proposed facility (i.e., further phases) may be authorised or refused.

6. In light of the above, you may proceed with the proposed development of the facility on a renewable energy generation plant, electric vehicle recharge infrastructure, energy storage battery units and associated structures of less than 1-hectare, on a portion of the Remainder of Portion 7 of the Farm Palmiet Drift 80, George as it is understood that it will be able to operate as a stand-alone facility that does not require any further expansion/phases to ensure that it is viable or feasible.

7. *Solar Photovoltaic Exclusion and Battery Storage Facilities Norms:*

Please be advised that on 27 March 2024 the Minister of Forestry, Fisheries and the Environment adopted the Norm for the Exclusion of the Development and Expansion of Solar Photovoltaic Facilities in Areas of Low or Medium Environmental Sensitivity (Government Notice No. 4558 of 27 March 2024); and the Norm for the Exclusion of Identified Activities Associated with the development and Expansion of Battery Storage Facilities in Areas of Low or Medium Environmental Sensitivity (Government Notice No. 4557 of 27 March 2024).

In terms of the above, a proposed facility may not require environmental authorisation subject to compliance with the requirements of the abovementioned norms and standards. Therefore, you are advised to consider the development of facilities which may be considered in terms of the abovementioned norms and standards.

8. Furthermore, you are reminded of your general duty of care toward the environment, as required in terms of section 28 of NEMA, namely:

"Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment".

9. Please note that a listed activity may not commence prior to an environmental authorisation being granted by the Department. It is an offence in terms of Section 49A of the National Environmental Management Act, 1998 (Act no. 107 of 1998) ("NEMA") for a person to commence with a listed activity unless the competent authority has granted an environmental authorisation for the undertaking of the activity. A person convicted of an offence in terms of the above is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine and imprisonment.

   As the proposed facility may be developed and expanded in phases, you advised to keep accurate records of the site and its physical attributes so that you can demonstrate how the development relates to the threshold of each of the applicable listed activities, and to ensure that such thresholds are not exceeded without environmental authorisation.

10. Notwithstanding the content of this letter, the proponent must comply with any other statutory requirements that may be applicable to the undertaking of the proposed activity.

11. This Department reserves the right to revise or withdraw initial comments or request further information from you based on any information received.

Yours faithfully

_____

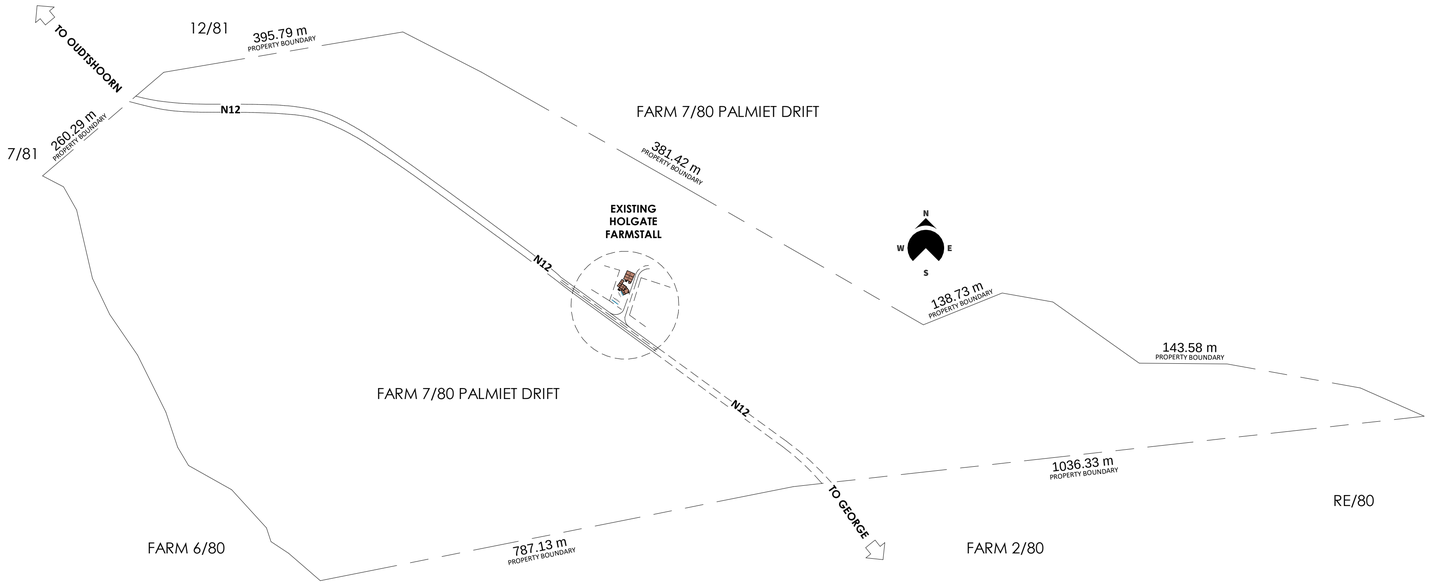
DIRECTOR: DEVELOPMENT MANAGEMENT (REGION 3)
DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

Copied to:
Proponent:
Zero Carbon Charge — E-mail: info@zerocc.co.za

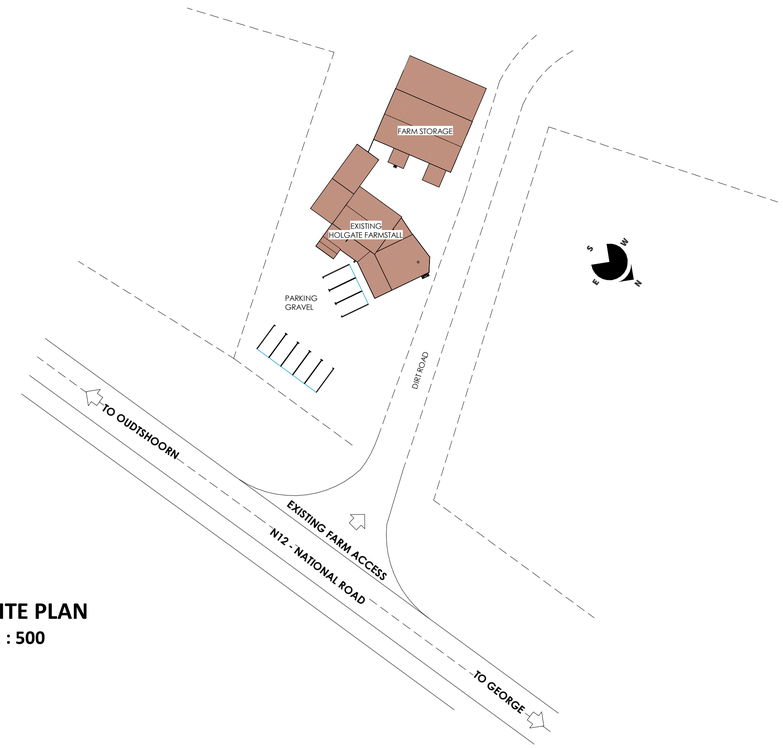
EnviroAfrica
Mr. Jan-Taljaard Marx — E-mail: jan@enviroafrica.co.za
Mr. Clinton Geyser — E-mail: clinton@enviroafrica.co.za
Ms. Zandria Jordaan — E-mail: zandria@enviroafrica.co.za

DRAWING STATUS

Project Status



SITE PLAN
1 : 5000



SITE PLAN
1 : 500

PROPERTY SCHEDULE	
FARM 7/80 PALMIET DRIFT	948801 m²

AREAS - GROSS BUILDING

Number	Name	Area
1	EXISTING FARMSTALL	228 m²
2	FARM STORAGE	123 m²
3	LEAN-TO CARPORT	80 m²
4	CANTILEVERED SHADEPORT	9 m²
5	ABLUTION	7 m²
TOTAL COVERAGE		447 m²

LOCALITY MAPS

NOTES

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4. DIMENSIONS ARE INDICATED IN MILLIMETERS.

GENERAL NOTES

SKEP INTERIEUR & ARGITEKTUUR

ERF/FARM: FARM 7/80 PALMIET DRIFT

OWNER: FRIKKIE JONCK

CHARGE

EXISTING HOLGATE FARMSTALL
for
ZERO CARBON CHARGE

SIGNATURES	DATE
Client's Signature:	2025.05.12
Checked by: G. Heyns-Lotter | SACAP 7850	2025.05.12

Revision Schedule

Number	Date	Description	Drawn by

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SITE PLAN

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DRAWING NO.	**REVISION**
C-N012-08-A000	

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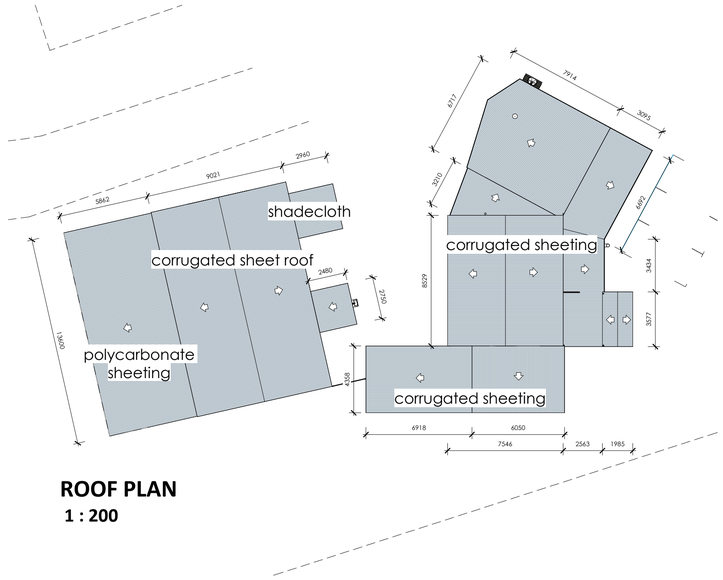

ROOF PLAN
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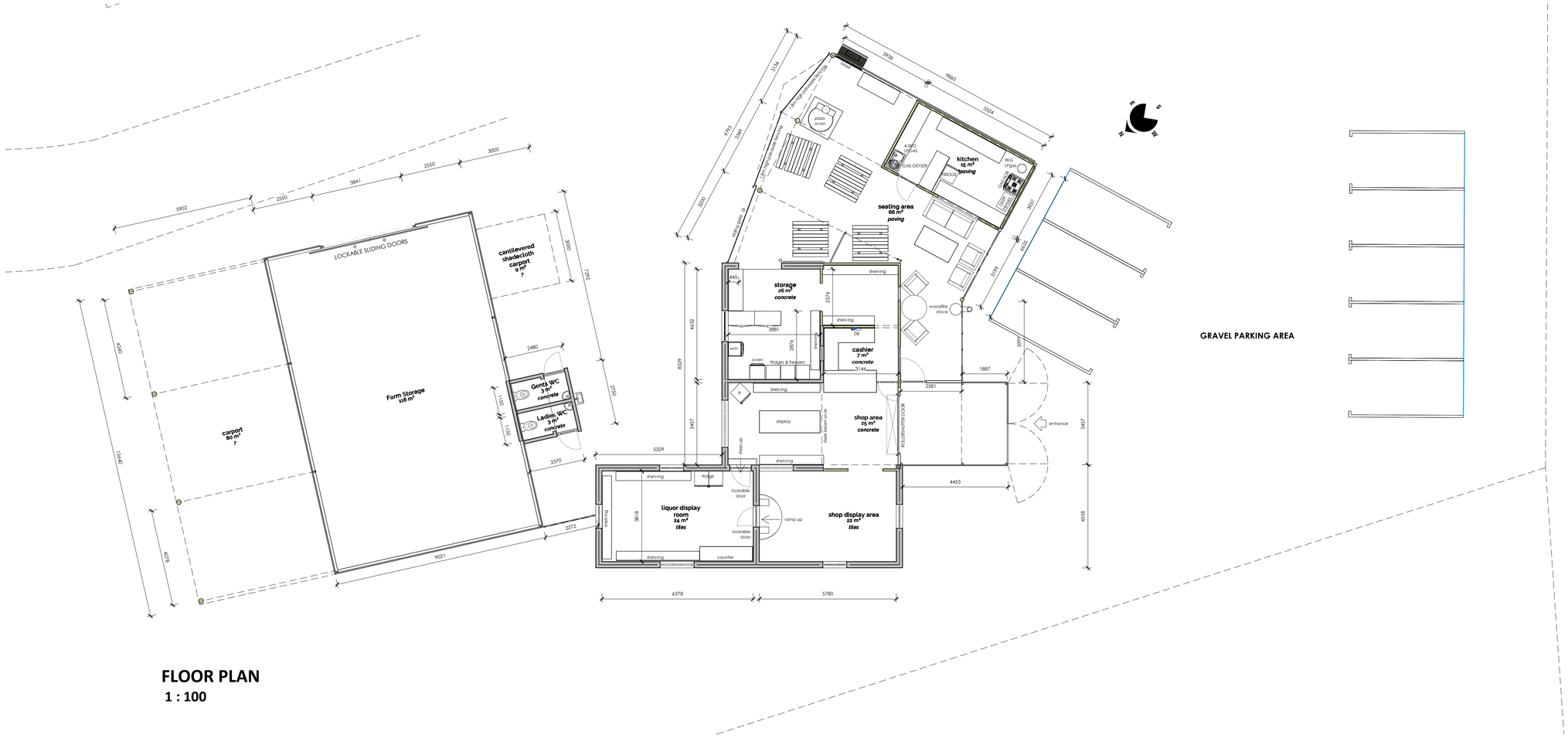

FLOOR PLAN
1 : 100

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Revision Schedule

Number	Date	Description	Drawn by

DESCRIPTION

FLOOR & ROOF PLAN

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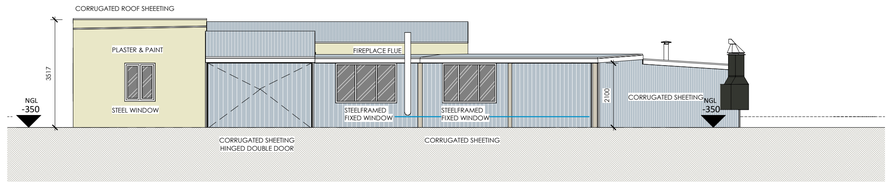
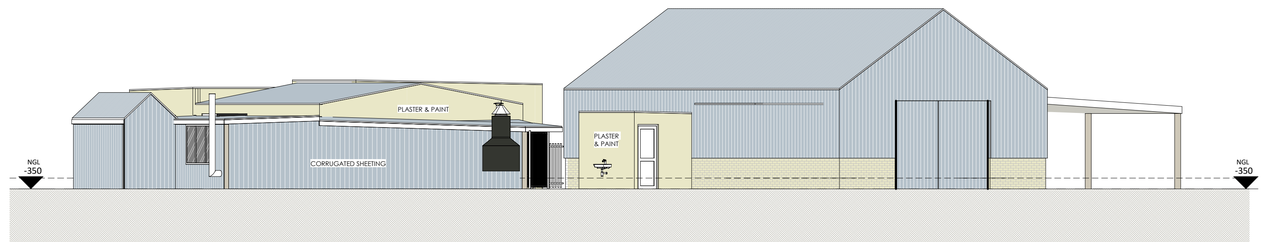
DRAWING NO.	**REVISION**
C-N012-08-A100	

DRAWING STATUS

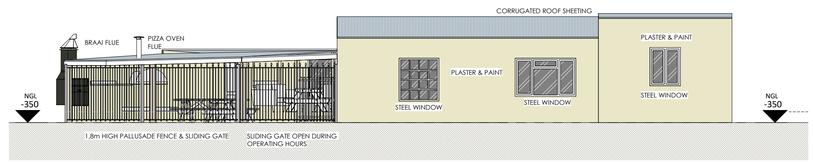
Project Status



FARMSTALL - SOUTH WEST ELEVATION
1 : 100



FARMSTALL - SOUTH EAST ELEVATION
1 : 100



FARMSTALL - NORTH EAST ELEVATION
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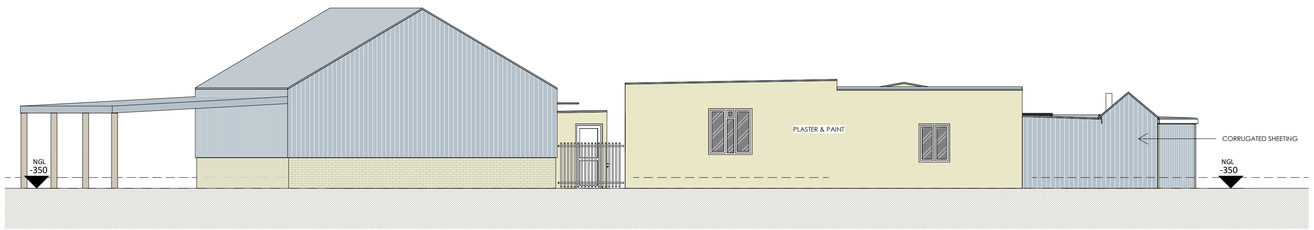

FARMSTALL - NORTH WEST ELEVATION
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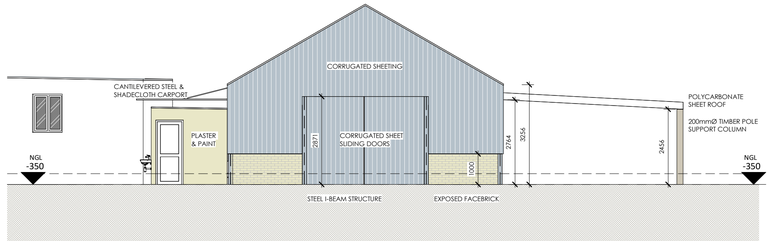

FARM STORE - SOUTH EAST ELEVATION
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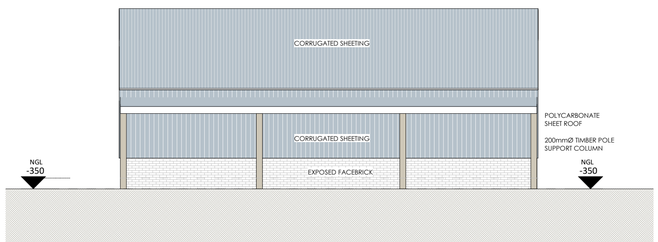

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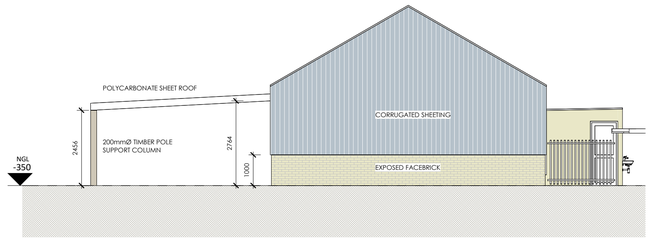
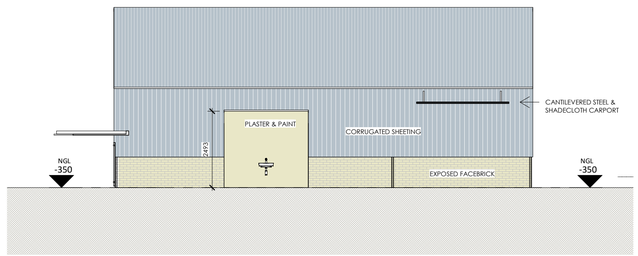


FARM STORE - NORTH WEST ELEVATION
1 : 100



FARM STORE & WC - SOUTH WEST ELEVATION
1 : 100

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Revision Schedule

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DESCRIPTION

ELEVATIONS

SCALE	PAGE SIZE
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DRAWING NO.	**REVISION**
C-N012-08-A200	

ANNEXURE A:

The CHARGE Project – Development Concept

ZERO CARBON CHARGE (PTY)LTD

CHARGE

Development Concept

CHARGING STATION

REFRESHMENT FACILITY

SOLAR PHOTOVOLTAIC SYSTEM

Producing & storing clean energy at point of sale

www.charge.co.za

Introduction to Zero Carbon Charge

Zero Carbon Charge (CHARGE) is at the forefront of revolutionizing sustainable transportation infrastructure in South Africa. Our mission is to establish a nationwide network of ultra-fast chargers exclusively powered by renewable energy sources, particularly solar power. **Our goal is to decrease carbon emissions and prepare South Africa for the inevitable transition to electric vehicles (EVs).**

Our solution involves producing and storing renewable energy at the point of sale, thereby eliminating pressure on the grid and ensuring a reliable, sustainable energy source for EVs.

Each site will have a Solar Photovoltaic System, generating clean electricity for powering the charging stations and other facilities. The charging stations will be equipped with the latest technology for convenient and fast charging. Each site will also have a rest area and refreshment facility, restrooms and parking area.

The CHARGE Project Importance

The CHARGE project represents a paradigm shift in South Africa's approach to transportation infrastructure and energy consumption by spearheading the transition to a zero-carbon mobility economy. Through strategic investments in renewable energy and innovative charging solutions, we are paving the way for a more sustainable future, characterized by cleaner air, reduced emissions, and enhanced energy security. **The CHARGE project is not just about building charging stations; it's about catalysing a fundamental shift towards greener, more resilient transportation systems that benefit both present and future generations.**

Safeguarding the Environment

Our approach to minimizing environmental impact encompasses various innovative strategies.

- By generating power locally through Solar Photovoltaic Systems (PV), we not only reduce reliance on traditional power infrastructure but also **minimize visual pollution by eliminating the need for extensive power pylons**.
- Refreshment facility are designed to comply with the appropriate energy-efficiency requirements.
- Our **commitment to responsible water usage** is evident through the implementation of grey water treatment systems for on-site vegetation irrigation. We will make use of water harvesting methods where possible and water will be purified on-site for all refreshment facilities built by CHARGE.
- We also have traffic engineering consultants on the team advising us on safe access, relevant regulations, and **minimising the impact on traffic flow**.

Local Economic Impact

Zero Carbon Charge is committed to driving local economic development and empowerment. Through our long-term lease agreements with landowners, we establish a symbiotic relationship that benefits both the community and the environment by involving the community in the long-term energy value chain. Revenue generated on the property directly **contributes to the local economy and creates permanent jobs.**

Moreover, our farm stalls (refreshment facilities) serve as platforms for promoting local produce and products, injecting capital into the community and fostering a sense of pride and ownership. We will also engage local contract service providers for security, electrical, and plumbing services.

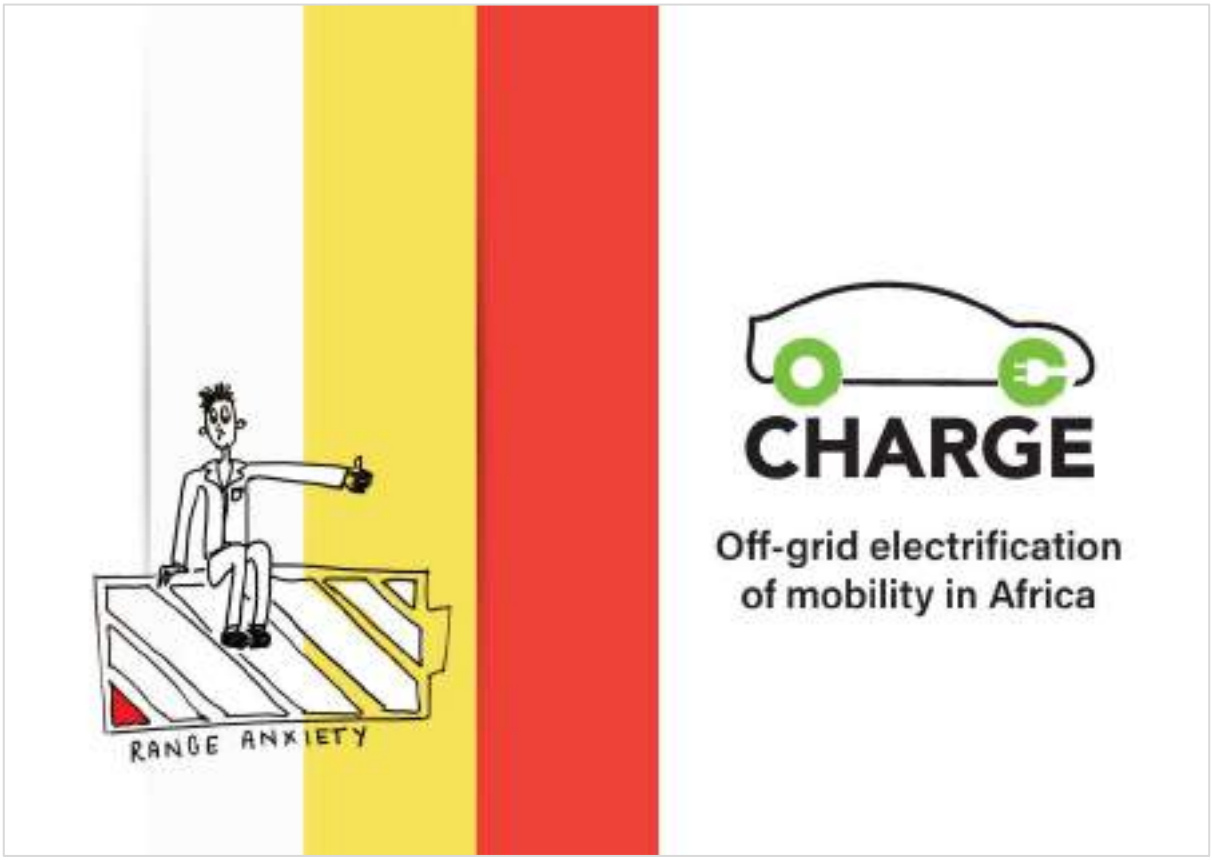
- Our off-grid EV Charging Stations will develop the EV ecosystem, not only fostering existing jobs and careers, but also creating new opportunities for future career development.
- We allocate 1% of on-site turnover from electricity generation and sale to local social investment, promoting skills development and empowering the local community.
- Supporting black landowners through traditional leadership: we will be working closely with traditional and royal leadership to support our site procurement, making a concerted effort to include black landowners as beneficiaries of the EV charging revolution in South Africa. This will also support previously disadvantaged communities and landowners to be included, rather than only focusing on landowners that are traditionally privileged.

National Impact

The impact of Zero Carbon Charge extends far beyond individual communities, contributing to a larger national agenda of energy independence and sustainability. Establishing a national network of ultra-fast charging stations acts as a catalyst for the uptake of electric vehicles, promoting sustainable mobility in congruence with the Spatial Planning and Land Use Management Act (SPLUMA).

- By utilizing locally generated electricity, we alleviate pressure on the national grid and reduce reliance on foreign energy sources.
- Our network of ultra-fast charging stations not only accelerates the adoption of EVs but also supports South Africa's commitment to reducing greenhouse gas emissions and mitigating climate change.
- By promoting sustainable mobility and energy localization, we play a pivotal role in shaping the future of transportation infrastructure and fostering a greener, more resilient economy for all South Africans.

The CHARGE brochure



Introducing South Africa's first off-grid national charging network for electric vehicles – powered by 100% renewable energy

CHARGE

UNIQUE SOLUTION

TARGETTING RURAL AREAS, HIGHWAYS AND MAJOR ROUTES

OFF-GRID
100% Grid independent – with no loadshedding or future growth restrictions.

NATIONAL
A charging station every 150km on all national and major routes.

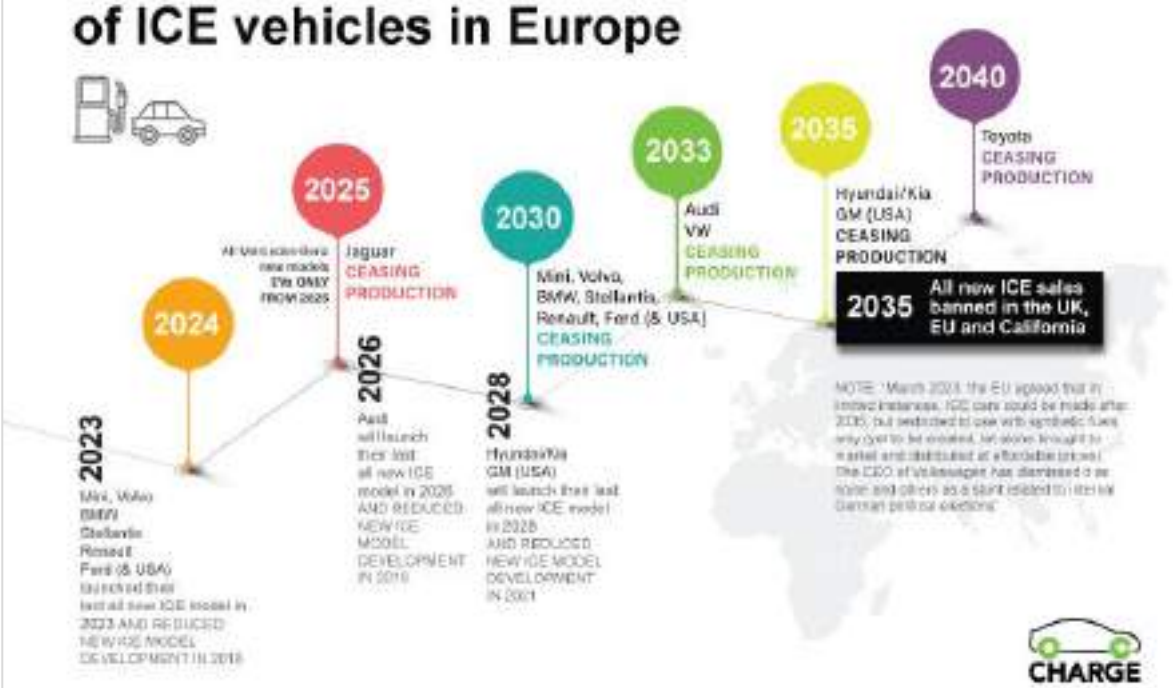
ULTRA-FAST
Charging an EV to 80% in about 20 minutes with high power chargers.

100% RENEWABLE ENERGY
On-site power generation at each charging location.

CUSTOMER CENTRIC
User friendly app, easy payment options, fast WiFi, restrooms, shop.

CHARGE

Manufacturers ceasing production of ICE vehicles in Europe



CHARGE

SHIFT TO ELECTRIC VEHICLES IS INEVITABLE

The transition to electric vehicles in South Africa is not merely a possibility but an inevitability, marking a pivotal moment in the history of transportation. The SA motor industry is part of a giant integrated global supply chain. As the global chain pivots to EVs, South Africa's market will increasingly shift to EVs along with the markets of its major suppliers.

1-in-4 new cars sold globally were electric in 2023.

Having only a 0.5% share in the international car market, SA is inevitably bound to embrace the shift towards electric vehicles.

CHARGE

Global EV uptake

2023

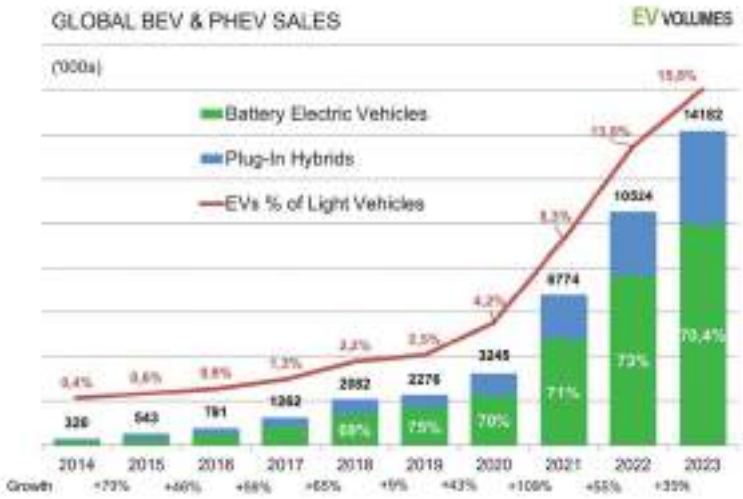
A total of 14,2 million new Battery Electric Vehicles (BEV) and Plug-in Hybrids (PHEV) sold

GLOBAL CAR MARKET

2020: EV = 5% market share
2023: EV = 19% market share

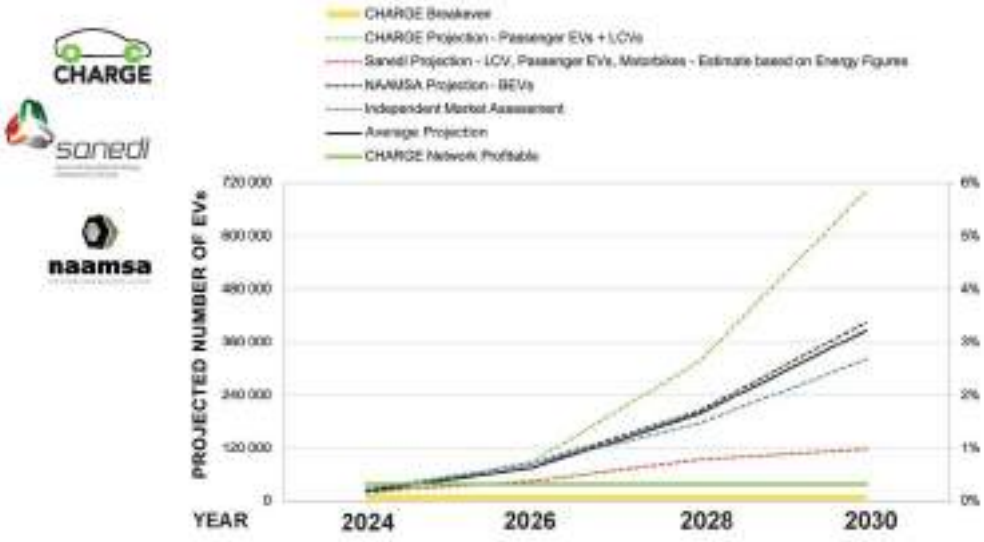
5 months of 2023 witnessed new all-time highs for EV sales. Market share increases were consistent throughout the year.

Investors have also maintained confidence in EVs, with the stocks of EV-related companies consistently outperforming traditional carmakers since 2019



SOURCE: EVvolumes.com

EV uptake projections for South Africa



'NAAMSA' National Association of Automobile Manufacturers of South Africa
'SANEDI' South African National Energy Development Institute
'PHEV' Plug-in hybrid electric vehicle
'LCV' Light commercial vehicle

CHARGE

'ENERGY CRISIS'

In South Africa grid powered EV charging presents fundamental problems

1. CARBON FOOTPRINT

EVs are only as green as the power supply.

2. UNRELIABLE SUPPLY

Eskom cannot for the foreseeable future be trusted to supply reliable stable power.

3. SHORTAGE OF SUPPLY

When the EV uptake escalate Eskom will not be able to supply sufficient power.

Over average distance driven per year: 25 000 km (16 000 miles)

ENVIRONMENTAL IMPACT

Zero Carbon Charge is projected to produce

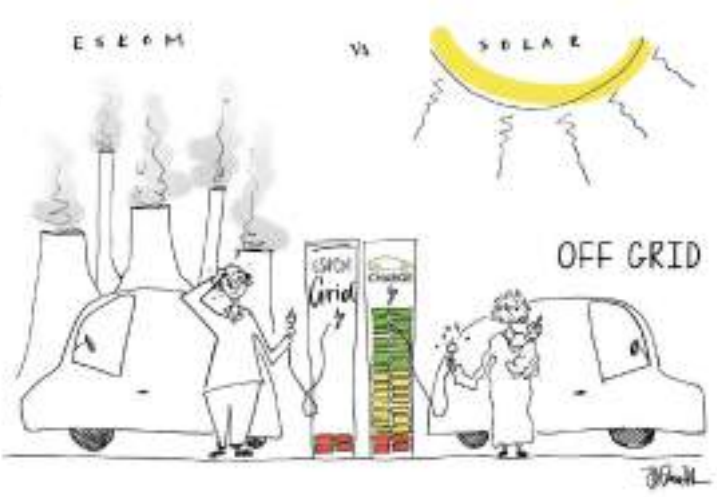
17 million + carbon credits

over the next twenty years.

Each EV recharged with Zero Carbon Charge green chargers will save on average 5.8 tons of CO2e per year.

We project that by 2032 there will be 1,4 million EVs on SA roads.

That would directly save 9,1 million tons of CO2e per year.



CHARGE

The CHARGE Network

120 OFF-GRID CHARGING STATIONS FOR
PASSENGER & COMMERCIAL VEHICLES UP TO 8 TONNES

CHARGE

AT EACH CHARGING LOCATION

1 EV Charging Station

2 On-site power generation system – 100% renewable energy

3 Farm Stall
Parking Area
Restroom facilities
Botanical garden

MAP: 120+ SITES IN DEVELOPMENT

OFF-GRID CHARGING STATIONS FOR PASSENGER
& COMMERCIAL VEHICLES UP TO 8 TONNES

CHARGE

IMPACT ON SOUTH AFRICA

ENERGY LOCALISATION

Reduced reliance on foreign energy sources.

SOCIO-ECONOMIC IMPACT

Preservation of foreign exchange through decreased crude oil imports.

Creation of permanent jobs.

Boost to the local economy.

Significant contribution to convenience spending during vehicle charging.

Improved energy efficiency and reliability.

ENVIRONMENTAL IMPACT

Minimizing carbon footprint.

Contribution to climate mitigation efforts.

Improvement in air quality and respiratory health for all South Africans.

HUMAN RESOURCE DEVELOPMENT

Investment in community development and opportunities for underprivileged students.

C40 CITIES

NBI

ALLIANCES FOR
CLIMATE
ACTION
SOUTH AFRICA

ZERO CARBON CHARGE

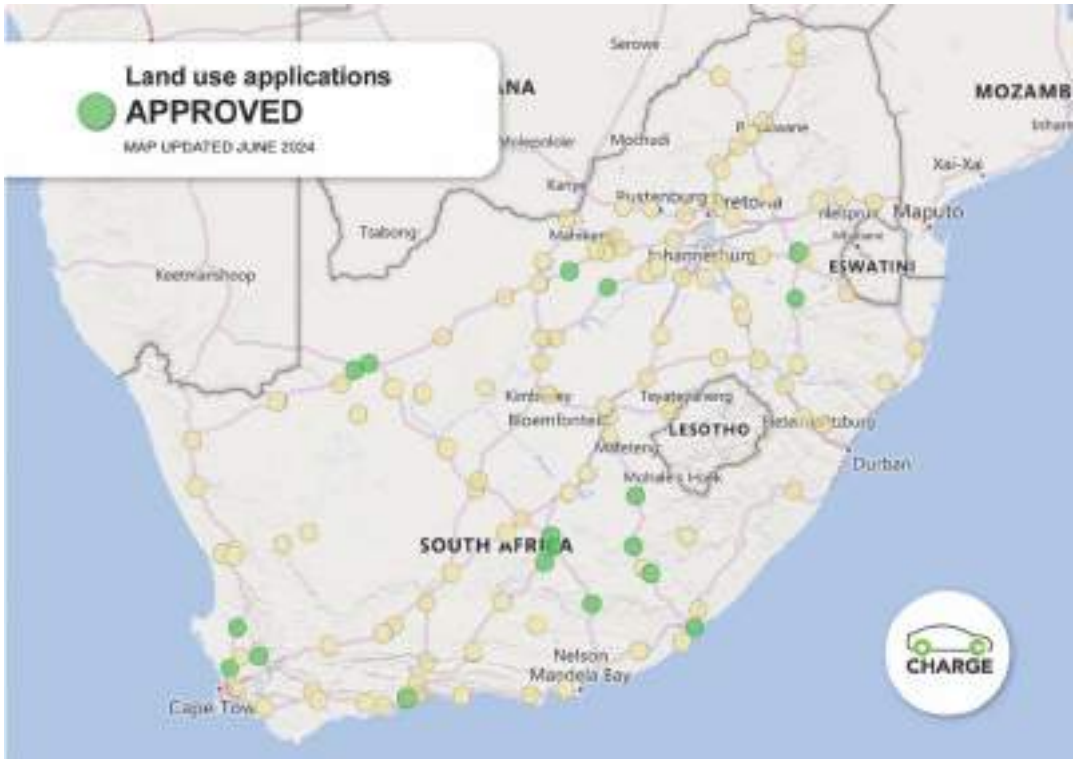
has joined the Alliance for Climate Action South Africa.
We are committed to playing our part
in achieving a zero-carbon future by 2050.

CHARGE


GET INVOLVED
PARTNER WITH US
INVEST
LEARN MORE
NEWSLETTER SIGN UP
CHARGE
ZERO CARBON CHARGE (PTY) LTD
Reg Nr: 2022/232376/07
Enterprise Type: Private Company
Location: South Africa
Date founded: Nov 2021
CONTACT
info@charge.co.za
MOBILE: +27 71 607 6122
www.charge.co.za

MAP: Progress in various municipalities and provinces

MAP: Zero Carbon Charge Land use Applications already approved in **5 provinces**



ANNEXURE B:

Municipal Application Form

GEORGE MUNICIPALITY

APPLICATION FORM FOR APPLICATION SUBMITTED IN TERMS OF THE LAND-USE PLANNING BY-LAW FOR GEORGE MUNICIPALITY

NOTE: *Please complete this form using BLOCK capitals and ticking the appropriate boxes.*					
PART A: APPLICANT DETAILS					
First name(s)	**Roeban**				
Surname	**Pienaar**				
SACPLAN Reg No. (if applicable)	A/3045/2021				
Company name (if applicable)	*CK Rumboll & Partners*				
Postal Address	P. O. Box 211				
	Malmesbury		*Postal Code*	**7300**	
Email	Planning9@rumboll.co.za				
Tel	*022 482 1845*	*Fax*		*Cell*	*071 889 6051*
PART B: REGISTERED OWNER(S) DETAILS (if different from applicant)					
Registered owner	**Frikkie Jonck**				
Address	*P. O. Box 1466*				
	Oudtshoorn		*Postal code*	**6620**	
E-mail	paolajonck@gmail.com				
Tel	*0442720241*	*Fax*		*Cell*	**0822245497**
PART C: PROPERTY DETAILS (in accordance with Title Deed)					
Property Description [Erf / Erven / Portion(s) and	*Remainder of Portion 7 of the farm Palmiet Drift No. 80 George Reg. Div.*				

Farm number(s), allotment area.]							
Physical Address	*49 CHURCH STREET*						
GPS Coordinates	**33° 48' 40.3" S** **22° 21' 27.5" E**			*Town/City*	**Oudtshoorn**		
Current Zoning	*Agricultural Zone 1*		*Extent*	**291.6249 Ha**	*Are there existing buildings?*	**Y**	*N*
Current Land Use	*Farmstall and Warehouse*						
Title Deed number & date	**T**		*19036/2016*				
Any restrictive conditions prohibiting application?	*Y*	**N**	*If Yes, list condition number(s).*				
Are the restrictive conditions in favour of a third party(ies)?	*Y*	**N**	*If Yes, list the party(ies).*				
Is the property encumbered by a bond?	Y	**N**	*If Yes, list Bondholder(s)?*				
Has the Municipality already decided on the application(s)?	*Y*	**N**	*If yes, list reference number(s)?*				

Any existing unauthorized buildings and/or land use on the subject property(ies)?	*Y*	**N**	*If yes, is this application to legalize the building / land use?*	*Y*	**N**
Are there any pending court case / order relating to the subject property(ies)?	*Y*	**N**	*Are there any land claim(s) registered on the subject property(ies)?*	*Y*	**N**

PART D: PRE-APPLICATION CONSULTATION

Has there been any pre-application consultation?	Y	**N**	*If Yes, please complete the information below and attach the minutes.*		
Official's name		*Reference number*		*Date of consultation*	

PART E: LAND USE APPLICATIONS IN TERMS OF SECTION 15 OF THE LAND USE PLANNING BY-LAW FOR GEORGE MUNICIPALITY & APPLICATION FEES PAYABLE

***Application fees that are paid to the Municipality are non-refundable and proof of payment of the application fees must accompany the application.**

BANKING DETAILS	
Name:	***George Municipality***
Bank:	***ABSA***
Branch no.:	***632005***
Account no.:	***01022220981***
Type:	***Cheque***
Swift Code:	***ABSAZAJJCPE-SORTCODE 632005***
VAT Registration Nr:	***4630193664***
E-MAIL:	***ronel@george.org.za***
****Payment reference**:*	**Erven , George**

PART F: DETAILS OF PROPOSAL

Brief description of proposed development / intent of application:

The application for …. entails the following:

A Consent use in accordance with Section 15(2)(o) of the George Municipality Land Use Planning By-Law, in order to permit renewable energy structures on a portion of Remainder of Portion 7 of farm Palmiet Drift No.80, George RD

PART G: ATTACHMENTS & SUPPORTING INFORMATION FOR LAND USE PLANNING APPLICATIONS

Please complete the following checklist and attach all the information relevant to the proposal. Failure to submit all information required will result in the application being deemed incomplete.

Is the following compulsory information attached?

Y	N	*Completed application form*	Y	**N**	*Pre-application Checklist (where applicable)*	
Y	N	*Power of Attorney / Owner's consent if applicant is not owner*	Y	**N**	*Bondholder's consent*	
Y	N	*Motivation report / letter*	Y	**N**	*Proof of payment of fees*	
Y	N	*Full copy of the Title Deed*	**Y**	N	*S.G. noting sheet extract / Erf diagram / General Plan*	
Y	N	*Locality Plan*	**Y**	N	*Site layout plan*	

Minimum and additional requirements:

Y	**N**	N/A	*Conveyancer's Certificate*	Y	N	**N/A**	*Land Use Plan / Zoning plan*
Y	N	**N/A**	*Proposed Subdivision Plan (including street names and numbers)*	Y	N	**N/A**	*Phasing Plan*
Y	N	**N/A**	*Consolidation Plan*	Y	N	**N/A**	*Copy of original approval letter (if applicable)*
Y	N	N/A	*Site Development Plan*	Y	N	**N/A**	*Landscaping / Tree Plan*
Y	**N**	N/A	*Abutting owner's consent*	Y	N	**N/A**	*Home Owners' Association consent*
Y	N	N/A	*Copy of Environmental Impact Assessment (EIA) / Heritage Impact Assessment (HIA) /*	Y	**N**	N/A	*1 : 50 / 1:100 Flood line determination (plan / report)*

			Traffic Impact Assessment (TIA) / Traffic Impact Statement (TIS) / Major Hazard Impact Assessment (MHIA) / Environmental Authorisation (EA) / Record of Decision (ROD) (strikethrough irrelevant)					
Y	**N**	N/A	*Services Report or indication of all municipal services / registered servitudes*		Y	N	N/A	*Required number of documentation copies* **2 copies**
Y	**N**	N/A	*Any additional documents or information required as listed in the pre-application consultation form / minutes*		Y	N	**N/A**	*Other (specify)*
PART H: AUTHORISATION(S) IN TERMS OF OTHER LEGISLATION								
Y	N/A	*National Heritage Resources Act, 1999 (Act 25 of 1999)*			Y	N/A	*Specific Environmental Management Act(s) (SEMA) (e.g. Environmental Conservation Act, 1989 (Act 73 of 1989), National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004), National Environmental Integrated Coastal Management Act, 2008 (Act 24 of 2008), National Environmental Management: Waste Act, 2008 (Act 59 of 2008), National Water Act, 1998 (Act 36 of 1998) (strikethrough irrelevant)*	
Y	N/A	*National Environmental Management Act, 1998 (Act 107 of 1998)*						
Y	N/A	*Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970)*						
Y	N/A	*Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013)(SPLUMA)*						
Y	N/A	*Occupational Health and Safety Act, 1993 (Act 85 of 1993): Major Hazard Installations Regulations*						
Y	N/A	*Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)*			Y	N/A	*Other (specify)*	
Y	N	*If required, has application for EIA / HIA / TIA / TIS / MHIA approval been made? If yes, attach documents / plans / proof of submission etc.*						
Y	N	*If required, do you want to follow an integrated application procedure in terms of section 44(1)of the Land-Use Planning By-law for George Municipality?*						

SECTION I: DECLARATION

I hereby wish to confirm the following:

1. *That the information contained in this application form and accompanying documentation is complete and correct.*
2. *The Municipality has not already decided on the application.*
3. *I'm aware that it is an offense in terms of section 86(1)(d) to supply particulars, information or answers in an application, knowing it to be false, incorrect or misleading or not believing them to be correct.*
4. *I am properly authorized to make this application on behalf of the owner and (where applicable) copies of such full relevant Powers of Attorney/Consent are attached hereto.*
5. *I have been appointed to submit this application on behalf of the owner and it is accepted that correspondence from and notifications by the Municipality in terms of the by-law will be sent only to me as the authorised agent and the owner will regularly consult with the agent in this regard (where applicable).*
6. *That this submission includes all necessary land use planning applications required to enable the development proposed herein.*
7. *I confirm that the relevant title deed(s) have been read and that there are no restrictive title deed restrictions, which impact on this application, or alternatively an application for removal/amendment/suspension forms part of this submission.*
8. *I am aware of the status of the existing bulk services and infrastructure in the subject area and that I am liable for any possible development charges which may be payable as a result of the proposed development.*

Applicant's signature:		*Date:*	**2025-06-30**
Full name:	*Roeben Pienaar*		
Professional capacity:	*Professional Town Planner*		
SACPLAN Reg. Nr:	***A/3045/2021***		

FOR OFFICE USE ONLY

Date received:		*Received by:*	
Receipt number:			
Date application complete			

ANNEXURES

Please <u>do not submit</u> these Annexure exemplars with the application form.

<u>Annexure A</u>: Exemplar of locality plan (consult guidelines for precise requirements)

<u>Annexure B</u>: Application submission checklist

<u>Annexure C</u>: Exemplar of typical layout plan (consult guidelines for precise requirements

<u>Annexure D</u>: Examples of required documents

ANNEXURE C:

Property Details

A VIR AKTEBESORGER SE GEBRUIK / FOR CONVEYANCER'S USE

(a) Gelyktydiges met ander registrasiekantore/deeltitels: Simuls with other registries /sectional titles

	Kode	Firma/Firm	Eiendom/Property	Kantoor/Office
1				
2				
3				
4				

(b) Kliënt afskrif van aktes permanent in Aktekantoor geliasseer: Client copies of deed filed permanently in Deeds Office:

Aard en nommer van akte Nature and number of deed	Cover No. Omslag Nr.	Parawe van ondersoekers Initials of Examiners

(c) Notas/Notes:

B VIR AKTEKANTOOR GEBRUIK / FOR DEEDS OFFICE USE

DATA / CAPTURE
2016 -04- 06
PUMELELA ...

Interdikte nagesien deur Interdicts checked by

Datum Date

Interdikte nagesien deur Interdicts checked by

Datum Date

	Opmerkings Remarks	Paraaf Initials
(1) Dorp goedgekeur (geproklameer) Township approved (proclaimed)		
(2) Begiftigingserwe Endowment erven		
(3) Begiftiging Endowment		
(4) Voorwaardes Conditions		
(5) Mikro Micro		
(6) Algemene Plan General Plan		
(7) Titelakte Title Deed		
(8) Verbande teen dorpstitle Bonds against township title		
(9) Datum nagesien Date checked		

Kantoor instruksies / Office instructions

Seksie / Section:

Kort beskrywing van eiendom (slegs para 1 in Akte) / Brief description of property (merely para 1 in Deed) Restant Gedeelte 21 van Plaas Uniondale ... 81

1267 COENIE VERMEULEN ATT
TEL 082 308 6464

UITVOERING / EXECUTION

Ref No. / Verw Nr. N 8 a

Datum van indiening/Date of lodgement

LODGED 2016 -03- 29 INGEDIEN

A VIR AKTEKANTOOR GEBRUIK / FOR DEEDS OFFICE USE

06 APR 2016

	Ondersoekers / Examiners	Kamers Rooms		Skakeling / Linking		Verwerp Reject	Passeer/Pass
1	C. FORD	13105		3	3		[signature]
2	B.T STANLEY	1121					
3							

B VIR AKTEBESORGER SE GEBRUIK/FOR CONVEYANCER'S USE

Aard van Akte / Nature of Deed TRANSPORT

Boedel F Jonck

Igniito

Jonck

Verw. No./Ref. No D821

T000019036 / 2016

Skakeling / Linking		Titelaktes, ens. binne/Title deeds, etc. within
3	3	T92300/1993

GELYKTYDIGES / SIMULS

No in stelbatch	Kode/ Code	Name van Partye / Names of Parties	Naam van Firma / Name of Firm	Firma/ Firm No.
1	BC	Boedel Jonck	Coenie Vermeulen	1267
2	T	" / Jonck		1267
3	T	" / "		1267
4				
5				
6				
7				
8				
9				
10				

HANDED IN FOR EXECUTION 2016 -04- 06 CAPE TOWN HANDED IN FOR EXECUTION

REGISTRASIE VERSOEK DEUR
REGISTRATION REQUESTED BY
DATUM
DATE

080006209122

1240 [illegible]

Opgestel deur my,

TRANSPORTBESORGER
DIRK CORNELIUS DU TOIT

Dovenage Kayser & Jonck Ing
Baron van Reedestraat 84
Oudtshoorn
6625
DOCEX 1 OUDTSHOORN

[illegible]			
	[illegible]		Office fee
[illegible]	2294 300,00		1209,00
[illegible]	R [illegible]		R
[illegible]	[illegible]	Exemption [illegible]	

DATA / VERIFY
2 8 [illegible]
OLIVIER [illegible]

0 5 APR 2016

T 000019036 / 2016

TRANSPORTAKTE

HIERBY WORD BEKEND GEMAAK DAT

LYNNE BOTHA

voor my verskyn het, REGISTRATEUR VAN AKTES te **KAAPSTAD** die genoemde komparant synde behoorlik daartoe gemagtig deur 'n Volmag aan hom verleen deur

EKSEKUTEUR in BOEDEL WYLE
FREDERIK JONCK
Nommer 31600/2014

Geteken te OUDTSHOORN op 24 Februarie 2016;

EN genoemde komparant het verklaar dat:-

AANGESIEN FREDERIK JONCK beslaat oorlede is op 14 November 2014 en die geregistreerde eienaar van die ondergemelde eiendom;

EN AANGESIEN die gesegde FREDERIK JONCK hierin die ondergemelde eiendom nalaat aan **FRIKKIE JONCK** in terme van Testament gedateer 21 Augustus 2014 onderhewig aan klousule E van gemelde Testament soos hierinlater volledig uiteengesit.

EN DAT hy/sy die vermelde komparant, in hy/sy voorgenoemde hoedanigheid hierby sedeer en transporteer aan en ten gunste van

FRIKKIE JONCK
Identiteitsnommer: 730610 5134 08 2
Getroud buite gemeenskap van goed

sy erfgename, eksekuteurs, administrateurs of regverkrygendes in volkome en vrye eiendom,

1. **RESTANT VAN GEDEELTE 12 (gedeelte van gedeelte 10) van die plaas KLIPPEDRIF No. 64, in die Munisipaliteit van OUDTSHOORN, Afdeling van GEORGE, die Provinsie WES-KAAP;**

   GROOT: 301,1666 (DRIE HONDERD EN EEN KOMMA EEN SES SES SES) Hektaar;

AANVANKLIK ingevolge kragtens Transportakte Nr T8872/1910 met 'n Kaart wat daarop betrekking het en gehou kragtens Sertifikaat van Geregistreerde Titel Nr T9230[illegible]/1993;

A ONDERHEWIG aan die voorwaardes waarna verwys word in Transportakte Nr. T8872/1910;

B ONDERHEWIG VERDER aan die voorwaarde vervat in Transportakte Nr. T8872/1910, wat van toepassing is op die hele Gedeelte 12 en wat as volg lui:

> "That such property shall be entitled to fifteen hours water out of every turn of the water to which the Appearer's Constituent is entitled to by value of the award of the farm 'Klippedrift', and the right in the proportion of fifteen (15) to eighteen (18) or 15/33 of any other water which the Appearers Constituent may be entitled to use in the furrow on the eastern side of the river."

C . ...

D KRAGTENS Notariële Akte Nr. K48/1986 is die RESTANT van GEDEELTE 12 (gedeelte van gedeelte 10) van die plaas KLIPPEDRIF No. 81, GROOT: 301,1666 Hektaar soos gehou deur Transportaktes Nr. T17472/1966, Nr. T17473/1966, Nr T27821/1980 en Nr T27822/1980 onderhewig aan 'n serwituut van elektriese kragleiding ten gunste van ESKOM

Welke serwituut se roete bepaal is kragtens Serwituutakte Nr K855/2008S en nou as volg lees:

"'n ewigdurende serwituut vir elektriese kragleiding oor die eiendom, 23.50 meter wyd aan albei kante van die lyn **a B b, c C d** aangedui op die serwituutkaart L.G. **Nr. 9525/1991** synde die hartlyn van die serwituut."

E ONDERHEWIG VERDER aan die bepalings van die Endossement gedateer 28 Oktober 2005 op Sertifikaat van Geregistreerde Titel Nr. T92300/1993, wat soos volg lees

"Die binnegemelde eiendom is onderhewig aan 'n kraglynserwituut en telekommunikasie ten gunste van ESKOM met bykomende regte kragtens K1061/2005S."

F ONDERHEWIG VERDER aan die terme van die Serwituutakte Nr. K855/2008S gedateer 2 Julie 2008 geëndosseer op Sertifikaat van Geregistreerde Titel Nr T92300/1993 op 29 Julie 2008, welke Endossement soos volg lees:

"Kragtens Serwituutakte K855/08 ged. 02.07.08 is die binnegemelde eiendom onderhewig aan 'n ewigdurende serwituut vir elektriese kragleiding 31 meter wyd wat strek 15,50 meter wyd aan albei kante van die lyn e F G f, g H h aangedui op aangehegte serwituutkaart L.G. Nr. 9525/1991 synde die hartlyn van die serwituut ten gunste van Eskom Beherend Beperk met bykomende regte.

Soos meer volledig sal blyk uit gesegde notariële akte.

Aktekantoor
Kaapstad 29/7/08"

G. ONDERHEWIG VERDER aan die volgende voorwaarde soos vervat in die Testament van FREDERIK JONCK gedateer 21 Augustus 2014 naamlik :

"E.

Ek bepaal dat alle bemakings en voordele wat hoegenaamdes kragtens hierdie Testament of enige latere kodisil toeval asook enige inkomste daaruit verdien :

- van alle gemeenskaplike boedels kragtens huwelike in gemeenskap van goed, uitgesluit sal wees; en

- in alle omstandighede teen die skuldeisers van gades beskerm sal wees."

2. **RESTANT van GEDEELTE 7 van die Plaas PALMIET DRIFT NR. 80, in die Munisipaliteit en Afdeling van GEORGE, die Provinsie WES-KAAP;**

GROOT: 291,6249 (TWEE HONDERD EEN EN NEGENTIG KOMMA SES TWEE VIER NEGE) Hektaar;

AANVANKLIK oorgedra kragtens Transportakte Nr T8866/1910 met 'n Kaart wat daarop betrekking het en gehou kragtens Sertifikaat van Geregistreerde Titel Nr T92300/1993;

A. ONDERHEWIG aan die voorwaardes waarna verwys word in Transportakte Nr. T8873/1910;

B. ONDERHEWIG VERDER aan die voorwaardes waarna verwys word in die endossement gedateer 28 Maart 1914 op Transportakte Nr T8873/1910, wat betrekking het tot water en wat soos volg lui

> "By Deed of 12th March 1914 an agreement with regard to the use of certain water out of the Klein Lang Kloof has been entered into between the owner of the property hereby conveyed and the Government of the Union of South Africa as will more fully appear on reference to the copy annexed hereto."

C. ONDERHEWIG VERDER aan die bepalings van die Endossement gedateer 28 Oktober 2005 op Sertifikaat van Geregistreerde Titel Nr T92300/1993, wat soos volg lees

> "Die binnegemelde eiendom is onderhewig aan 'n kraglynserwituut en telekommunikasie ten gunste van ESKOM met bykomende regte kragtens K1081/2005S."

D ONDERHEWIG VERDER aan die volgende voorwaarde soos vervat in die Testament van FREDERIK JONCK gedateer 21 Augustus 2014 naamlik:-

"E

Ek bepaal dat alle bemakings en voordele wat hiermee kragtens hierdie Testament of enige latere kodisil toeval asook enige inkomste daaruit verdien

- van alle gemeenskaplike boedels kragtens huwelike in gemeenskap van goed uitgesluit sal wees en
- in alle omstandighede teen die skuldeisers van gades beskerm sal wees "

WESHALWE die komparant afstand doen van al die regte, titel en belang wat

Boedel Wyle FREDERIK JONCK

Voorheen op genoemde eiendom gehad het, en gevolglik ook erken het dat Boedel wyle Frederik Jonck geheel en al van die besit daarvan ontheft en nie meer daartoe gereglig is nie en dat, kragtens hierdie Akte, die genoemde

FRIKKIE JONCK, Getroud buite gemeenskap van goed

sy erfgename, eksekuteurs, administrateurs of regverkrygendes tans en voortaan daartoe geregtig is, ooreenkomstig plaaslike gebruik, behoudens die regte van die Staat en ten slotte erken hy dat die waardering die bedrag van **R2, 294 300,00 (TWEE MILJOEN TWEE HONDERD VIER EN NEGENTIG DUISEND DRIE HONDERD RAND)** beloop

TEN BEWYSE WAARVAN, ek genoemde Regstraleur, tesame met die Komparant hierdie Akte onderteken en die met die ampseel bekragtig het.

ALDUS GEDOEN EN VERLY op die Kantoor van die REGISTRATEUR VAN AKTES te KAAPSTAD op 7 April 2016.

qq

In my teenwoordigheid

REGISTRATEUR VAN AKTES

1267

Opgestel deur my,

Duvenage Keyser & Jonck Ing
Baron van Reedestraat 64
Oudtshoorn
6625
DOCEX 1 OUDTSHOORN

TRANSPORTBESORGER
CIRK CORNELIUS DU TOIT

PROKURASIE OM TRANSPORT TE GEE

Ek, die ondergetekende

JOHANNES NICOLAAS DUVENAGE in my hoedanigheid as **Eksekuteur in BOEDEL WYLE FREDERIK JONCK** handelend kragtens Eksekuteursbrief Nommer **31600/2014** uitgereik deur die **REGISTER VAN DIE HOOGGEREGSHOF VAN SUID-AFRIKA (WES-KAAPSE AFDELING, KAAPSTAD)** te Kaapstad op **2 Desember 2014**

Benoem hiermee

SUSANNA PETRONELLA VERMEULEN / LYNNE BOTHA / ARNO WATSON

met mag van substitusie as my wettige gemagtigde en agent om in my naam en namens my te verskyn voor die Registrateur van Aktes te KAAPSTAD en dan en aldaar namens my te verklaar dat:

AANGESIEN FREDERIK JONCK Identiteitsnommer 440812 5007 08 9 wat testaat oorlede is op 14 November 2014 die geregistreerde eienaar van die ondergemelde eiendom is;

EN AANGESIEN die gesegde FREDERIK JONCK hierin die ondergemelde eiendom nalaat aan FRIKKIE JONCK in terme van Testament gedateer 21 Augustus 2014.

SO IS DIT dat ek my gemelde Prokureur en Agent hiermee magtig om te sedeer en te transporteer aan en ten gunste van

FRIKKIE JONCK
Identiteitsnommer: 730613 5134 08 2
Getroud buite gemeenskap van goed

Die volgende eiendom naamlik -

1. **RESTANT VAN GEDEELTE 12 (gedeelte van gedeelte 10) van die plaas KLIPPEDRIF NR. 81**, in die Munisipaliteit van **OUDTSHOORN**, Afdeling van **GEORGE**, die **Provinsie WES-KAAP**;

   GROOT: 301,1666 **(DRIE HONDERD EN EEN KOMMA EEN SES SES SES) Hektaar;**

2. RESTANT van GEDEELTE 7 van die Plaas PALMIET DRIFT NR. 80, in die Munisipaliteit en Afdeling van GEORGE, die Provinsie WES-KAAP;

GROOT: 291,6249 (TWEE HONDERD EEN EN NEGENTIG KOMMA SES TWEE VIER NEGE) Hektaar;

GEHOU kragtens Sertifikaat van Geregistreerde Titel Nr. T92300/1993;

ONDERHEWIG aan die volgende voorwaardes soos vervat in die Testament van FREDERIK JONCK gedateer 21 Augustus 2014 naamlik:-.

"E

Ek bepaal dat alle bemakings en voordele wat begunstigdes kragtens hierdie Testament of enige latere kodisil toeval, asook enige inkomste daaruit verdien:

- van alle gemeenskaplike boedels kragtens huwelike in gemeenskap van goed, uitgesluit sal wees; en

- in alle omstandighede teen die skuldeisers van gades beskerm sal wees."

waarvan die waarde van die eiendom **R2, 294 300.00 (TWEE MILJOEN TWEE HONDERD VIER EN NEGENTIG DUISEND DRIE** HONDERD **RAND**) is.

En afstand te doen van al die reg en aanspraak wat die boedel van die Wyle FREDERIK JONCK voorheen in en op die genoemde eiendom gehad het, die nodige aktes, stukke en ander dokumente op te stel en te onderteken, en die algemeen, ten einde bogemelde doeleindes uit te voer te doen of te laat doen al wat nodig is net so volmaak en doeltreffend asof ek self teenwoordig was en hierin gehandel het en bekragtig hiermee alles wat my genoemde gemagtigde wettiglik uit krag hiervan doen of laat doen.

ALDUS GEDOEN EN GETEKEN te OUDTSHOORN op 24 Februarie 2016 in die teenwoordigheid van die ondergetekende getuies

As Getuies

1. ______________________

JOHANNES NICOLAAS DUVENAGE
(vir BOEDEL WYLE FREDERIK JONCK)

2. ______________________

SARS

Transfer Duty Declaration

TDREP

Reference Details

Transfer Duty Reference Number: [illegible]015EDF1

Details

Details of Seller / Transferor / Time Share Company

Surname / Registered Name	[illegible]	Full Name	[illegible]
ID Number	[illegible]	Date of Birth (CCYYMMDD)	[illegible]
Company / CC / Trust Reg No	[illegible]	Marital Status	NOT MARRIED

Details of Purchaser / Transferee

Full Name	[illegible]	Surname / Registered Name	[illegible]
Date of Birth (CCYYMMDD)	[illegible]	ID Number	[illegible]
Company / CC / Trust Reg No		Nature of Right / Capacity	[illegible]
Marital Status	[illegible] OF PROPERTY	Spouse Details	

Details of the Property

Date of Transaction/Registration (CCYYMMDD)	[illegible]		
Total Fair Value	R [illegible]	Total Consideration	R [illegible]

Calculation of Duty and Penalty / Interest

Transfer Duty Payable at Nominal Amount	R	0.00

Property Description

1	[illegible] OUDTSHOORN [illegible] GEORGE [illegible]
2	[illegible] GEORGE [illegible]

Exemption Certificate

Exemption Certificate Details

Transfer Duty Reference No	TDO[illegible]	Exempt in terms of Section 9 of the Transfer Duty Act	[illegible]
Exemption allowed by (name, no)			

Declaration by Conveyancer / Attorney

I certify that this is a true copy of the transfer duty declaration / receipt / exemption certificate drawn from the SARS eFiling site, which will be retained by me for 5 years from the date of registration of transfer.

Date (CCYYMMDD): 2016-03-29

For enquiries go to www.sars.gov.za or call 0800 00 SARS (7277)

Ek sertifiseer dat die laaste 2 syfers van wyle F Jonck se identiteitsnommer op die Hereregtekwitansie foutiewelik aangedui word as 06 en dat sy korrekte identiteitsnommer 4408125007089 is. Die verskil in die laaste 2 syfers van die identiteitsnommer is nie 'n wesenlike fout nie Passeer asb.

TRANSPORTBESORGER
SUSANNA PETRONELLA VERMEULEN

1207

(3)

GEORGE

GEORGE LOCAL MUNICIPALITY

CERTIFICATE IN TERMS OF SECTION 118 OF THE LOCAL GOVERNMENT: MUNICIPAL SYSTEMS ACT, 2000 (ACT No. 32 OF 2000)
(AS PRESCRIBED IN TERMS OF SECTION 118 OF ACT [illegible] OF [illegible])

ISSUED BY GEORGE LOCAL MUNICIPALITY

In terms of section 118 of the Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000), it is hereby certified that all amounts that became due to George Local Municipality in connection with the undermentioned property situated within that municipality for municipal service fees, surcharges on fees, property rates and other municipal taxes, levies and duties during the two years preceding the date of application for this certificate, have been fully paid.

DESCRIPTION OF PROPERTY (see definition of property in section [illegible] of Act 32 of 2000)

21 Digit Code for Municipal Reference Number: [illegible]

Erven: [illegible] 80

Portion: REMAINDER [illegible]

Extension: [illegible]

Zoning:

Registration division / Administrative District:

Suburb:

Town:

Sectional Title unit number:

Exclusive use area and number as referred to on the registered plan:

Real right:

Scheme registration number:

Sectional Title Scheme Name:

Registered owner: [illegible]

Name and Identity/ Registration Number of all purchaser/s: [illegible]

This Certificate is valid until: [illegible]/2016

Given under my hand at: GEORGE on [illegible]/02/2016

Certificate by Conveyancer:
I Dirk Cornelius Du Toit (full name and surname) hereby certify that this is a print-out of a data message in respect of the original clearance certificate electronically issued by the George Local Municipality.

Conveyancer

29 - 03 - 2016
Date

Digitally signed by George Municipality
Signer: La-Motte De Kock
Sign date: [illegible]/2016 [illegible]
Expiration date: 25/05/2017 09 32 30

MUNICIPAL MANAGER
George Local Municipality

Date issued: [illegible]/2016

Authorised Officer: Motty de Kock

1267

BELASTINGUITKLARING

TRANSPORTGEWER BOEDEL WYLE FREDERIK JONCK
Nommer 31600/2014

TRANSPORTNEMER FRIKKIE JONCK
Identiteitsnommer: 730613 5134 08 2
Getroud buite gemeenskap van goed

EIENDOM

RESTANT VAN GEDEELTE 12 (gedeelte van gedeelte 10) van die plaas KLIPPEDRIF NR. 81, in die Munisipaliteit van OUDTSHOORN, Afdeling van GEORGE die Provinsie WES-KAAP.

GROOT: 301,1666 (DRIE HONDERD EN EEN KOMMA EEN SES SES SES) Hektaar.

CLEARANCE CERTIFICATE
MUNICIPALITY FOR THE AREA OF OUDTSHOORN
Authority is hereby issued in terms of Section 118 of Act 32/2000 for the registration of transfer of the property herein described
Valid until 30/06/2016
DATE

Oudtshoorn Munisipaliteit
2016-03-03
Municipality of Oudtshoorn

1207

(8)

SERTIFIKAAT IN TERME VAN ARTIKEL 42(1) VAN DIE BOEDELWET 66 VAN 1965, SOOS GEWYSIG

Ek, die ondergetekende, **DIRK CORNELIUS DU TOIT**, 'n behoorlik toegelate Aktebesorger, verklaar hiermee dat bogenoemde transport ten opsigte van die volgende eiendom naamlik

1 RESTANT VAN GEDEELTE 12 (gedeelte van gedeelte [illegible]) van die plaas KLIPPEDRIF NR. 81, in die Munisipaliteit van OUDTSHOORN Afdeling van GEORGE, die Provinsie WES-KAAP;

GROOT: 301,1666 (DRIE HONDERD EN EEN KOMMA EEN SES SES SES) Hektaar.

2 RESTANT van GEDEELTE 7 van die Plaas PALMIET DRIFT NR. 80, in die Munisipaliteit en Afdeling van GEORGE die Provinsie WES-KAAP.

GROOT: 291,6249 (TWEE HONDERD EEN EN NEGENTIG KOMMA SES TWEE VIER NEGE) Hektaar;

GEHOU kragtens Sertifikaat van Geregistreerde Titel Nr. T92300/1993

van

BOEDEL WYLE FREDERIK JONCK
Nommer 31600/2014

aan

FRIKKIE JONCK
Identiteitsnommer: 7[illegible]0613 5134 08 2
Getroud buite gemeenskap van goed

Ooreenkomstig die Finale Likwidasie en Distribusie-rekening is en het gelê vir inspeksie en dat daar geen beswaar teen die registrasie van bogenoemde transport is nie

GETEKEN te OUDTSHOORN op hierdie 29 ste dag van Februarie 2016.

DIRK CORNELIUS DU TOIT
AKTEBESORGER

(267)

SERTIFIKAAT

BOEDEL WYLE FREDERIK [illegible]NCK

NOMMER 31600/2014

Ek sertifiseer dat die volgende eiendomme die bates in 'n gesamentlike boedel is nie:

1. RESTANT VAN GEDEELTE 12 (gedeelte van gedeelte 10) van die plaas KLIPPEDRIF NR. 81 in die Munisipaliteit van OUDTSHOORN Afdeling van GEORGE, die Provinsie WES-KAAP;

   GROOT: 301,1666 (DRIE HONDERD EN EEN KOMMA EEN SES SES SES) Hektaar;

2. RESTANT van GEDEELTE 7 van die Plaas PALMIET DRIFT NR. 80, in die Munisipaliteit en Afdeling van GEORGE, die Provinsie WES-KAAP;

   GROOT: 291,[illegible]249 (TWEE HONDERD EEN EN NEGENTIG KOMMA SES TWEE VIER NEGE) Hektaar;

TRANSPORTBESORGER
DIRK CORNELIUS DU TOIT

PROD DEEDS REGISTRATION SYSTEM - CAPE TOWN DATE : 20160401 TIME [illegible]8.3 PAGE : 1
PREPARED BY : OPS00234 - LEBLM DIPONTSHENG

TRACK NUMBER : 000062091127

PROPERTY DETAILS PRINT FOR PORTION 12 (R/E)
FARM NO 81
REG DIV GEORGE RD

PROVINCE	WESTERN CAPE
PREV DESCRIPTION	PTN OF 18
DIAGRAM DEED NO	T8872/1918
EXTENT	381 1666 H
CLEARANCE	OUTENIQUA DC
FARM NAME	KLIPPEDRIF

NO INTERDICTS

DOCUMENTS	HOLDER & SHARE	AMOUNT	O/P/A	SCAN/MICRO/REF	MHOD
K1001/2005S			P	2005 0013 0364	1026
K48/1986S				20080627091553	
K855/2008S				20080627091612	0779
FARM GE 81/12				1985 0031 2253	

OWNER DETAILS

FULL NAME & SHARE	PURCH DATE	AMOUNT/REASON	O/P/A	IDENTITY	TITLE DEED	MHOD	MICROFILM REF
JOACH. FREDERIK				4408125007086	T52388/1990	LEAN	2008062608160T

* O/P/A - O - MULTIPLE OWNER P - MULTIPLE PROPERTY A - MULTIPLE OWNER AND PROPERTY

** PLEASE NOTE : THE INFORMATION APPEARING ON THIS PRINTOUT IS FURNISHED FOR PURPOSES OF INFORMATION ONLY.
FOR MORE DETAILED INFORMATION, PLEASE REFER TO THE REGISTERED SOURCE DOCUMENTS.

* * * END OF REPORT * * *

MOD DEEDS REGISTRATION SYSTEM - CAPE TOWN DATE : 2016[illegible] TIME : [illegible] PAGE : 1

PREPARED BY . [illegible] - [illegible]

TRACK NUMBER : [illegible]

PROPERTY DETAILS PRINT FOR PORTION 7 (N/E)

FARM NO 80

REG DIV GEORGE RD

PROVINCE	WESTERN CAPE
PREV DESCRIPTION	
DIAGRAM DEED NO	T3866/1958
EXTENT	291.6248 H/
CLEARANCE	OUTENIQUA DC
FARM NAME	PALMIET GRIFT

(NO) INTERDICTS

DOCUMENTS	HOLDER & SHARE	AMOUNT	O/P/A	SCAN/MICRO REF	MOD
[illegible]/2005S FARM GE 80/7 FROM GE RD 80,80/[illegible]			P	[illegible] 8334 [illegible] 2210	1828

OWNER DETAILS

FULL NAME & SHARE	PURCH DATE	AMT/REASON	O/P/A	IDENTITY	TITLE DEED	MOD	MICROFILM REF
JONCK FREDERIK		CRT		[illegible]	T92380/1993	1129	[illegible]

* O/P/A - O - MULTIPLE OWNER P - MULTIPLE PROPERTY A - MULTIPLE OWNER AND PROPERTY

** PLEASE NOTE : THE INFORMATION APPEARING ON THIS PRINTOUT IS FURNISHED FOR PURPOSES OF INFORMATION ONLY.
FOR MORE DETAILED INFORMATION PLEASE REFER TO THE REGISTERED SOURCE DOCUMENTS

* * * END OF REPORT * * *

ANNEXURE D:

Supporting Studies, Reports and Letters of Support

MOUs & Letters of Support

3198 Conyngham Road
Ascot Park
Building 6
Parsons Hill
Gqeberha

PO Box 63835
Greenacres
6057
Gqeberha

Tel: +27 (41) 393 2100
Fax: +27 (41) 363 0762
E-mail: info@aidcec.co.za

Reg. Nr. 2003/016741/30

AIDC Eastern Cape SOC Ltd

Att: Mr. Joubert Roux
Co-Founder and Director

Zero Carbon Charge (PTY) Ltd
Vredendal
Western Cape
8160

Subject: **Letter of Support for the Development of Off-grid, Green Electric Vehicle Charging Stations in the Eastern Cape**

Dear Mr. Roux,

This letter bears reference to your correspondence dated and received on the 11 April 2024.

The Automotive Industry Development Centre (Eastern Cape), an entity of the Provincial Government of the Eastern Cape, supports the transition towards the electric vehicle eco-system in alignment to the Just Energy Transition Investment Plan 2023–2027 and the White Paper: Electric Vehicle.

A key component of the delivery of the EV Ecosystem programme includes the roll-out of charging infrastructure within the Eastern Cape province. The development and investment of charging infrastructure includes both government investment and support, and private sector investment.

Zero Carbon Charge (Pty) Ltd. is contributing to development of the Eastern Cape EV Ecosystem by developing and installing off-grid electric vehicle charging stations powered by PV solar panels in the Eastern Cape. The AIDC-EC supports Zero Carbon Charge (Pty) Ltd. establishing a network of EV charging stations in the Eastern Cape. The project plays a crucial role in encouraging the adoption of electric vehicles and accelerating the transition to a cleaner and more sustainable transportation system.

The AIDC Eastern Cape supports the Zero Carbon Charge (Pty) Ltd. in securing an investment of R2.3 billion that will also benefit the Eastern Cape province. The AIDC Eastern Cape will collaborate with Zero Carbon Charge (Pty) Ltd. in promoting the Eastern Cape as a destination for investment into the future of the automotive industry. We believe that these investments, coupled with promoting green mobility and renewable energy, will facilitate and attract additional investment into the province, to further develop and grow the automotive EV sector in the Eastern Cape, in partnership with Zero Carbon Charge (Pty) Ltd.

The province welcomes the potential investment by Zero Carbon Charge and the opportunities they will create for the advancement of electric vehicles and the contribution to the growth of the economy of the Eastern Cape in South Africa.

Yours sincerely,

11/04/2024

.....

Mr Thabo Shenxane
Chief Executive Officer
AIDC Eastern Cape

Mr. Joubert Roux
Co-founder & Director: Zero Carbon Charge
Groenhoek Farm Vredendal
Western Cape
8160

Dear Mr. Roux

Subject: Support of the Electric Vehicle (EV) Infrastructure Development in the Free State through the Zero-Carbon Charge initiative.

I am writing to you today on behalf of the Free State Department of Small Business Development, Tourism and Environmental Affairs (DESTEA)) to express our support to the Zero Carbon Charge on the development of a significant electric vehicle (EV) charging infrastructure network in the Free State Province.

The global transition towards sustainable energy and transportation solutions presents exciting opportunities for regions rich in natural resources such as ours. The Free State is particularly fortunate, boasting an abundance of grid availability potential, making it an ideal location for an extensive EV charging network. We at DESTEA recognize the immense potential of EVs to contribute to a cleaner and more sustainable future for South Africa. By supporting industry players like Zero Carbon Charge, the aim is to develop a robust EV charging infrastructure that will significantly enhance the potential EV experience in the Free State.

This initiative aligns perfectly with the vision outlined in the Free State plan to develop the Durban-Free State –Gauteng, R30, North-South (N1), N8 corridors development intended to promote not only better transport of goods between the end points, but will also boost economic development in the towns and rural areas along the way. A comprehensive EV network will further assist and accelerate the province's transition into providing carbon-neutral mobility solutions, not only contributing to decarbonization efforts but also creating a robust ecosystems.

DESTEA is fully supports this initiative as it will assist the hard-to-abate sectors to transform their operations and develop new low-carbon technologies and we welcome this type of investment into the Free State Province.

Thank you for your time and consideration.

Sincerely

Mbulelo Nokwequ
HoD: DESTEA
Date: 25/4/2024

HEAD OFFICE
PO Box 760
Lebowakgomo
0737
Tel: +27 15 633 4700
www.leda.co.za

ROOTED IN THE FUTURE

Mr. Joubert Roux
Co-founder & Director: Zero Carbon Charge
Groenhoek Farm
Vredendal
Western Cape
8160

Dear Mr. Roux,

Subject: Expression of Support

I am writing to you on behalf of the Limpopo Economic Development Agency (LEDA) to express our full support for the Zero Carbon Charge initiative's efforts to establish a robust electric vehicle (EV) charging infrastructure network across the Limpopo Province.

Advancing Sustainability Initiatives

The global transition towards sustainable energy and transportation solutions opens up numerous opportunities for regions abundant in renewable energy resources. Limpopo, with its significant solar potential, is ideally positioned for the development of an extensive EV charging network. LEDA recognizes the transformative impact EVs can have in guiding South Africa towards a cleaner, more sustainable future. By endorsing industry leaders like Zero Carbon Charge, our goal is to facilitate the creation of a resilient EV charging infrastructure, thereby greatly enhancing the EV landscape in Limpopo.

Aligning with Environmental Objectives

This initiative perfectly aligns with the vision outlined in Limpopo's Green Energy Strategy and Masterplan. A comprehensive EV network will reinforce the province's commitment to sustainability by offering carbon-neutral mobility solutions, thereby not only advancing decarbonization efforts but also nurturing a vibrant ecosystem for green energy utilization.
LEDA's Commitment

Support for Zero Carbon Charge

LEDA is firmly committed to supporting the development of this initiative. We strongly believe that this project aligns with the commercialization pathways outlined in the Green Energy Strategy, with a specific focus on decarbonizing energy sectors through the adoption of clean transportation solutions.

Thank you for your valuable time and consideration. We eagerly look forward to the opportunity to collaborate with you in driving Limpopo Province towards a sustainable future.

Warm regards,

Mr. Thakhani Makhuvha
Group Chief Executive Officer
Date: 19/4/2024

Memorandum of Understanding (MOU)

Between

CHARGE

Zero Carbon Charge (PTY) Ltd

A South African private enterprise registered company (Reg Nr: 2022/232376/07) focused on developing the world's first off-grid, PV solar powered, and ultra-fast electric vehicle (EV) charging station network across South Africa

Herein represented by **Mr Joubert Roux and Mr Andries Malherbe** in their capacity as Co-founders and Directors and duly authorised thereto

(Herein referred to as **"CHARGE"**)

And

LEDA

ROOTED IN THE FUTURE

LIMPOPO ECONOMIC DEVELOPMENT AGENCY

Established in terms of Section 2 of the Limpopo Economic Development Agency Act 5 of 2016, herein represented by **Thakhani R Makhuvha** in his capacity as **Chief Executive Officer** being duly authorised hereto

(Hereinafter referred to as "**LEDA**")

(Collectively referred to as "the Parties")

1. **PREAMBLE**

WHEREAS the CHARGE has a mandate to improve the migration towards green mobility and renewable energy by establishing off-grid EV charging stations powered by PV solar panels. Electric mobility will reduce carbon emissions to support net-zero transport in South Africa, while PV solar panels will create opportunities for the localization of energy within rural communities through the PV solar used to power the EV charging infrastructure.

WHEREAS By developing EV charging stations across South Africa, and specifically the Limpopo Province, the opportunity to migrate transport to green mobility and creating local renewable energy points for communities, CHARGE will support the economies within rural areas of South Africa.

WHEREAS the LEDA will act as a facilitator and custodian over the project rollout for off-grid EV charging stations developed and privately funded by CHARGE throughout the Limpopo Province.

WHEREAS LEDA will facilitate engagements and education with local governments across the Limpopo Province as well as provincial commenting authorities.

AND WHEREAS *CHARGE* and ***LEDA*** have identified each other as entities that can co-operate and/or collaborate for the purpose of **developing EV charging infrastructure, renewable energy structures, green mobility, as well as the overall economic development to enhance economic growth for the people of the Limpopo Province**; and

NOW THEREFORE *CHARGE* and ***LEDA*** undertake to co-operate on mutually beneficial terms as set out hereunder.

2. DEFINITIONS

2.1 **"CHARGE"** means the Zero Carbon Charge, A South African private enterprise registered company (Reg Nr: 2022/232376/07) focused on developing the world's first off-grid, PV solar powered, and ultra-fast electric vehicle (EV) charging station network across South Africa.

2.2 **"LEDA"** means the Limpopo Economic Development Agency.

2.3 **"DATE OF SIGNATURE"** means the date of the last Party signing this MOU;

2.4 **"MOU"** means this Memorandum of Understanding and includes all Annexure thereto, if applicable ;

2.5 **"PARTIES"** means the Parties to this MOU and a reference to a "Party" is a reference to either one of them as determined by the context;

2.6 **"EV"** means electric vehicles

3. PARTIES TO THE AGREEMENT

3.1 Zero Carbon Charge is a South African private enterprise registered company (Reg Nr: 2022/232376/07) focused on developing the world's first off-grid, PV solar powered, and ultra-fast electric vehicle (EV) charging station network across South Africa.

3.2 The LEDA is a public entity established in terms of section 3 of the Limpopo Economic Development Agency Act, No. 5 of 2016 and listed under schedule 3D of the Public Finance Management Act, No 1 of 1999. LEDA's mission is to accelerate economic growth, development and create employment.

4. COMMENCEMENT AND DURATION

4.1 This MOU shall come into force upon signature hereof by the last Party signing and shall continue to remain in force for a period of five (5) years, after which it shall be renewed automatically unless terminated by either Party in terms of clause6.

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4.2 This MOU shall be reviewed annually by the Parties on the anniversary of the MOU.

5 PURPOSE OF THE MEMORANDUM OF AGREEMENT

5.1 The purpose of this Memorandum of Understanding (MoU) is to set out how CHARGE and LEDA agree to cooperate and collaborate on issues related to EV charging infrastructure development, renewable energy infrastructure development and support from provincial and local governments in the Limpopo Province to be in line with the goals of achieving net-zero transport and energy resilience in the Limpopo Province.

5.2 This is a memorandum of general agreement and specific agreements will be concluded on a project-by-project basis. The MoU clarifies the benefits for the partner organisations and the roles they will play under this agreement.

5.3 The document serves to formalise the relationship between CHARGE & LEDA Memorandum of Understanding and will expire after five (5) years.

6. TERMINATION

6.1 This MOU may be terminated by either Party by giving thirty (30) days written notice to the other Party;

6.2 The termination of this MOU shall not affect any on-going projects or activities undertaken prior to the termination of this MOU, unless otherwise agreed upon in writing by the Parties.

7. AMENDMENTS AND VARIATION

7.1 The Party wishing to amend or vary this MOU must request such amendment or variation in writing. Such amendment must be considered by the other Party and the other Party shall not unreasonably withhold consent to the amendment or variation.

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7.2 Once the amendment or variation is accepted by the Parties it must be reduced to writing and attached to this MOU as an Annexure.

8. IDENTIFIED AREARS OF COLLABORATION

8.1 Reducing red tape and barriers to entry by provincial and local governments that hinder the development of CHARGE off-grid EV charging infrastructure in Limpopo

8.2 To assist in identifying and advising on additional sites on which further EV charging infrastructure can be developed in the province – extending to electric truck stops too.

8.3 Acting as a custodian of the CHARGE project in Limpopo as a "one stop shop" for all engagements, grievances, and communications.

8.4 To foster a positive, investment friendly environment in the province for the successful and speedy rollout of our car sites, with the future intention of expanding to truck charging sites that are also off-grid.

9. GOVERNANCE ARRANGEMENTS

9.1 In order to facilitate cooperation and collaboration, a standing committee consisting of CHARGE and LEDA should assign officials to ensure implementation for the duration of the MoU.

9.2 A project level steering committee may be established for each activity and the terms of reference for such committees will have to be agreed by both parties. The steering committees may include people not in the standing committee, as a governance arrangement.

9.3 The host party shall be responsible for arranging logistics and secretariat services for these meetings.

10. ROLES IN THE STANDING COMMITTEE

10.1 **CHAIR:** Meetings to be chaired on a rotation basis by the CHARGE and LEDA delegates (co-chairs may be designated on an annual basis).

10.2 **SECRETARIAT:** The CHARGE and LEDA will alternate on the provision of secretariat services to the standing committee.

10.3 **MEETINGS** Meetings will take place twice in a year, for the first financial year to ensure implementation of the objectives, thereafter meetings will be held once a year.

11. CONFIDENTIALITY

11.1 The Parties undertake and warrant that they will not directly or indirectly divulge, communicate, or use for their own purpose confidential information (unless as provided for in the terms of reference), or otherwise permit to be divulged or communicated by them or by any consultant, officer, employee or agent of either party, any confidential information supplied to it by the other in respect of the terms of reference to any unauthorised person.

11.2 The restriction in clause 13.1 shall not apply to information to the extent that the party to this Agreement in possession of it ("hereinafter referred to as the Possessing Party") can show that:

11.2.1 the information is in the public domain otherwise than by virtue of a breach of this Agreement; or

11.2.2 the information was expressly permitted to be disclosed by the other; or

11.2.3 the information was independently developed or created by the possessing party otherwise than for the purposes of or relating to this Agreement; or

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11.2.4 required to be disclosed in response to a valid order of court or other governmental

11.2.5 agency, or if disclosure thereof by the disclosing Party is otherwise required by law;or

11.2.6 such information related only to this Agreement and is required by any regulatory body;

11.2.7 the disclosure of same by the possessing Party to its legal advisers, auditors or other professional advisors for any purpose connected with this Agreement provided that they in turn keep the same confidential in accordance with this clause 6.

11.3 The undertakings contained in this clause 13 shall terminate by written consent from both parties within 30 (thirty) days' notice.

11.4 If a Party is obliged to divulge Confidential Information in terms of it shall, before the divulgence of the Confidential Information, inform the other Party of its obligation to so divulge the Confidential Information.

11.5 Each Party undertakes to the other to make all its relevant Personnel aware of the confidentiality of the Confidential Information and the provisions of this clause 8 and to take all such steps as shall from time to time be necessary to ensure compliance by its Personnel with the provisions of this clause 8.

12. VIS MAJOR

A Party shall not be liable for any failure to fulfil any of their obligations under this Agreement insofar as such failure is due to force majeure, for which purpose force majeure shall include but not be limited to all events beyond the reasonable control of the Party claiming force majeure which cannot be foreseen, or if foreseeable cannot reasonably be avoided, which occur after the Effective Date and that prevents or hinders the carrying out of the obligations of the Party claiming force majeure, and without limitation

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shall include acts of God or acts of nature (the elements), war (whether declared or not), blockage, embargo, boycott, revolution, invasion, insurrection, riot, civil commotion, mob violence, sabotage, epidemics, quarantine or other similar reasons. If the suspension of performance due to an event of force majeure continues for more than 15 (fifteen) days, then either Party may summarily terminate this Agreement by written notice to the other Party, prior to the cessation of the force majeure, but the non-affected Party shall not be entitled to claim damages against the Affected Party as a result of the delay or failure in the performance of any obligations arising from this Agreement due to or resulting from the force majeure

13. NON-EXCLUSIVITY

It is recorded, for the avoidance of doubt that this Agreement does not purport to create an exclusive relationship between the Parties. In the circumstances all Parties shall be free to embark on potential terms of reference with other Parties. The Parties hereby agree that this is not an exclusive agreement and other Parties can be brought in to participate in terms of this Agreement by amending by becoming signatories as well.

14. NON - BINDING

It is recorded that this MOU does not constitute a legally actionable document and any misunderstandings and breaches will be mutually resolved amongst the parties with no recourse to a court of law.

15. TRANSPARENCY AND GOOD FAITH

Each Party hereby undertakes during the existence of this Agreement

15.1 to show to each other, at all times, the utmost good faith in its dealings with each other;

15.2 to do all such reasonable things, perform all such reasonable actions and

15.3 take all such reasonable steps as may be open to it and necessary for and incidental to the implementation of the terms and conditions of this Agreement.

16. NON-WAIVER

16.1 Neither Party shall be regarded as having viewed, or be precluded in any way from exercising, any right under or arising from this Agreement by reason of such Party having at any time granted any extension of time for, or having shown any indulgence to, the other Party with reference to any payment or performance hereunder, or having failed to enforce, or delayed in the enforcement of, any right of action against the other Party

16.2 The failure of either Party to comply with any non-material provision of this Agreement shall not excuse the other Party from performing the latter's obligation hereunder fully and timeously.

17. MEDIA RELEASES

17.1 Each of the Parties undertakes in favour of the other that it will not make any releases or public announcement to the press or other media on any issue pertaining to this Agreement without first having obtained the prior written consent of the other Party.

17.2 Any Party that embarks on media releases or public announcements without obtaining permission from the other Party shall be deemed to have committed a breach in which case it shall be dealt with in terms of clause 23.

18. COSTS

18.1. The costs incurred by this project will be incurred by CHARGE as a privately funded company.

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18.2 Each party shall incur its own costs during the collaboration and facilitation of this agreement.

19. INDEMNITY

The Parties agree to indemnify each other, its directors, employees, affiliates and agents from and against any direct or indirect special, punitive, or consequential event (including loss of profits, or injury to business reputation, or liability, or damages, or penalties), which may be imposed on or incurred in terms of this Memorandum of Understanding, or based upon or arising out of either Party's performance of or failure to perform the activities described herein.

20. TRANSFER OF FUNDS

The parties acknowledge and agree that this memorandum of agreement does not create any financial or funding obligations on either party and that such obligation shall arise only upon joint execution of a subsequent agreement or work plan (which shall include a budget) that specifically delineates the terms and nature of such obligations that references this Memorandum of Understanding comply with all legal obligations and statues governing each party.

21. DISPUTE RESOLUTION

The Parties shall make all reasonable efforts to settle any dispute through consultation and mediation held by and between representatives of the Parties and resolve the matter.

22. AMENDMENTS

No amendments or consensual termination of this Agreement will be binding unless reduced to writing and signed by the Parties.

TR ALV

23. COUNTERPARTS

This Agreement may be executed in any number of counterparts and by different Parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which when taken together shall constitute one and the same Agreement.

24. DATE OF IMPLEMENTATION

Notwithstanding the date of signature, this Memorandum of Understanding takes effect upon being singed by both parties.

25. DOMICILIUM CITANDI ET EXECUTANDI

Any notice or other document to be served under this agreement to a party may be served at its address as set out below:

Zero Carbon Charge (PTY) Ltd
Groenhoek Farm
Vredendal
Western Cape
8160

Contact Person
Ms Larissa Venter
Head of Government Relations
082 591 7532/larissa@charge.co.za

Limpopo Economic Development Agency

Address: Enterprise Development House
Main Road
Lebowakgomo

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17. SIGNATORIES

This agreement is signed by **Mr Joubert Roux** on behalf of the **Zero Carbon Charge (PTY) LTD** and Mr Reuben Thakhani Makhuvha on behalf of **the Limpopo Development Agency** who warrant that they have the necessary authority to enter into this agreement.

DONE AND SIGNED in Centurion on this 7th

day of May **2024**.

Signature

For **CHARGE** who hereby affirms that he is duly authorised to sign this agreement on its behalf.

Full names: Joubert Roux

Designation: CEO

TR ALV

As Witnesses:

1. Name: Juanita van de Merwe Signature _____

2. Name: _____ Signature _____

THUS, DONE AND SIGNED in CENTURION on this 7TH

day of MAY **2024.**

_____

Signature

For **LEDA** who hereby affirms that he is duly authorised to sign this agreement on its behalf

Full names: THAKHANI REUBEN MAKHUBA

Designation: GROUP CHIEF EXECUTIVE OFFICER

As Witnesses:

1. Name: OWAIS KHAN Signature _____

2. Name: Larissa Venter Signature _____

TR

AKV

nceda
Northern Cape Economic Development
Trade and Investment Promotion Agency

A. Corner Quinn and Villiers str
Kimberley
8300
T. +27 53 1100 289
W. www.nceda.co.za

Enquiries: Mr. H Louw I Telephone: 053 110 0289 I email: officeoftheceo@nceda.co.za I Ref: Support letter to Zero Charge initiative

Mr. Joubert Roux
Co-founder & Director: Zero Carbon Charge
Address:
Groenhoek Farm
Vredendal
Western Cape
8160

Subject: Support of the Electric Vehicle (EV) Infrastructure Development in the Northern Cape through the Zero-Carbon Charge initiative.

Dear Mr. Roux,

I am writing to you today on behalf of the Northern Cape Economic Development Trade, Investment Promotion Agency Investment Promotion Agency, (NCEDA) to express our support to the Zero Carbon Charge on the development of a significant electric vehicle (EV) charging infrastructure network in the Northern Cape Province.

Aligning with Sustainable Growth

The global transition towards sustainable energy and transportation solutions presents exciting opportunities for regions rich in renewable energy resources. The Northern Cape is particularly fortunate, boasting an abundance of solar and wind potential, making it an ideal location for an extensive EV charging network. We at NCEDA recognize the immense potential of EVs to contribute to a cleaner and more sustainable future for South Africa. By supporting industry players like Zero Carbon Charge, the aim is to develop a robust EV charging infrastructure that will significantly enhance the potential EV experience in the Northern Cape.

Strengthening the Green Hydrogen Proposition

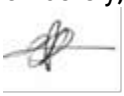
This initiative aligns perfectly with the vision outlined in the Northern Cape Green Hydrogen Strategy and Masterplan. A comprehensive EV network will further solidify the province's value proposition by providing carbon-neutral mobility solutions, not only contributing to decarbonization efforts but also creating a robust ecosystem for green hydrogen utilization.

NCEDA's Commitment to Support

NCEDA is fully committed to supporting the development of this initiative. We believe this project aligns with the commercialization lanes identified within the Green Hydrogen Strategy, specifically targeting the decarbonization of hard-to- abate sectors through the adoption of clean transportation solutions.

Thank you for your time and consideration. We look forward to partnering with you in advancing a sustainable future for the Northern Cape.

Sincerely,



Hendrik Louw
Acting Chief Executive Officer
Northern Cape Economic Development Agency (NCEDA)
10 April 2024

Traffic Impact Statement

Traffic Engineering & Transport Planning
STURGEON CONSULTING

Enquiries: Annebet Krige
Cell: 084 610 0233
Email: annebet@sturgeonsa.co.za

Our Ref: STUR0371
Your Ref:

29 March 2023

Zero Carbon Charge (Pty) Ltd
PO Box 671
VREDENDAL
8160

ATTENTION: Mr Joubert Roux

Dear Sir,

PROPOSED ELECTRICAL VEHICLE CHARGING STATIONS ACROSS SOUTH AFRICA: BASIC TRAFFIC IMPACT ASSESSMENT

Sturgeon Consulting was appointed to prepare a Basic Traffic Assessment for proposed Electrical Vehicle Charging Stations at various locations across South Africa. This letter should assess and determine the possible traffic impact that an individual proposed Electrical Vehicle Charging Station development will have on the existing road infrastructure.

1. BACKGROUND

Currently South Africa has less than 1 000 electric vehicles (EVs), but it is expected that this number will grow to approximately 130 000 EVs by 2027, less than 1.5% of registered vehicles, and that by 2032, 24% of new vehicle sales will be EVs. To allow for the successful transition from fossil fuel dependent vehicles to EVs it is critical that reliable infrastructure be available across South Africa.

Zero Carbon Charge is the first 100% renewable energy charging network for EVs in Africa. Their mission is to build a network of 130 green energy-powered ultra-fast charging stations across South Africa. A reliable and green network will enable the migration from internal combustion to zero carbon in the South African transport sector. By providing charging stations nationwide it will encourage motorists to purchase EVs and travel freely across the country without range limitations. Currently EVs have a range between 350km and 400km. The proposed ultra-fast charging stations will be located approximately 150km apart along the major national and provincial roads. To

ensure that no additional strain is placed on the Eskom grid, all charging stations will be driven by solar farms, less than 1ha in size. The energy generated by these solar farms will be stored in batteries.

2. LOCATION

Along the national highways and the regional highways of South Africa, 200 possible site locations have been identified for the development of EV Charging Stations. Potential sites have to be located close to major routes, be large enough to have 4 or 5 EVs charging simultaneously and have the potential to accommodate the renewable energy generation facilities required. Sites also have to provide EV users with convenient and safe charging locations.

The potential sites all belong to local entrepreneurs or local farmers and by collaborating on the project, employment opportunities are created while economic activity in rural areas are being stimulated.

3. PROPOSED DEVELOPMENTS

As previously mentioned, each of the proposed developments will consist of charging stations, a farmstall (newly built or existing) and solar panels. The renewable energy portions of the proposed developments will be located at the optimal location for the generation of electricity on the subject properties. The charging stations and the farmstalls will be located in close proximity to each other. The existing agricultural activities will continue on the properties alongside the proposed developments.

The renewable energy portion of each of the proposed developments will have a size of approximately 8350m² and will generate electricity that will be used for the charging of EVs. Electricity will be generated by solar panels (footprint of approximately 8350m²).

Each of the charging stations (approximately 52m²) will provide parking bays in accordance with the applicable requirement and will be fitted with a charging point for EVs and will be covered by a steel canopy. Additional parking bays for the farmstalls will be provided and visitors to the charging station will be encouraged to visit the facilities while their EVs are charging.

It should be noted that EVs are predominantly charged at home (approximately 70% of the charging required for EVs) which is in contrast to internal combustion engine (ICE) vehicles which can only be refueled at filling stations. Furthermore, it is anticipated most EVs will be used in built up areas with less than 50% of EVs in the rural areas. The number of EVs along rural roads will however increase during holiday periods when holiday goers visit / traverse these areas.

4. TRAFFIC INFORMATION

4.1. Provincial Road Network Information System (RNIS) and similar

Traffic count information is available from the Provincial Road Network Information System (RNIS) for counting stations located along provincial roads in the Western Cape. The information available includes the Average Annual Daily Traffic (AADT), historic growth rates and the number of vehicles (two-way) during the AM and PM peak hours along provincial roads. The traffic count information relates to a typical day and does not account for seasonal traffic variations. Similar information can also be obtained for the various other provinces, although not all provinces provide this level of detailed information.

4.2. SANRAL

The South African National Roads Agency Limited (SANRAL) has permanent and temporary counting station located at various locations across South Africa. The traffic count information can be requested from SANRAL and the traffic count data includes a summary of the Average Daily Traffic (ADT), Percentage Trucks and the Highest volume on the road for the years recorded. The traffic count information relates to the average daily traffic and does not account for seasonal traffic variations.

5. TRIP GENERATION

The *TMH17 South African Trip Data Manual (Committee Draft 2.2, August 2020)* published by the Committee of Transport Officials (COTO), does not provide specific guidelines on the trip generation rates for EV charging stations, farmstalls or solar facilities.

The following trip generation rates were however considered:

5.1. FILLING STATION

According to the *Department of Transport South African Trip Generation Rates (DOT SATGR), June 1995*, the following trip generation rates for Filling Stations are applicable:

- For Urban Areas: 4% during AM and PM Peak Hour and during 12- and 24-hour periods.
- For National and Provincial Freeways: 30% Light Vehicles and 40% Heavy Vehicles during 12- and 24-hour periods.
- 16% of trips attracted to filling stations are new trips, i.e., additional traffic on the road network.

Furthermore, the Revision of the Guidelines for Access to Filling Stations in the Greater Pretoria Area, JL Coetzee, F van Rensburg, H Schreurs, 2001, provides a graph based on 35 studies at filling

stations of varying location and with different volumes of pass by traffic to estimate the interception rate. Refer to **Figure 1**.

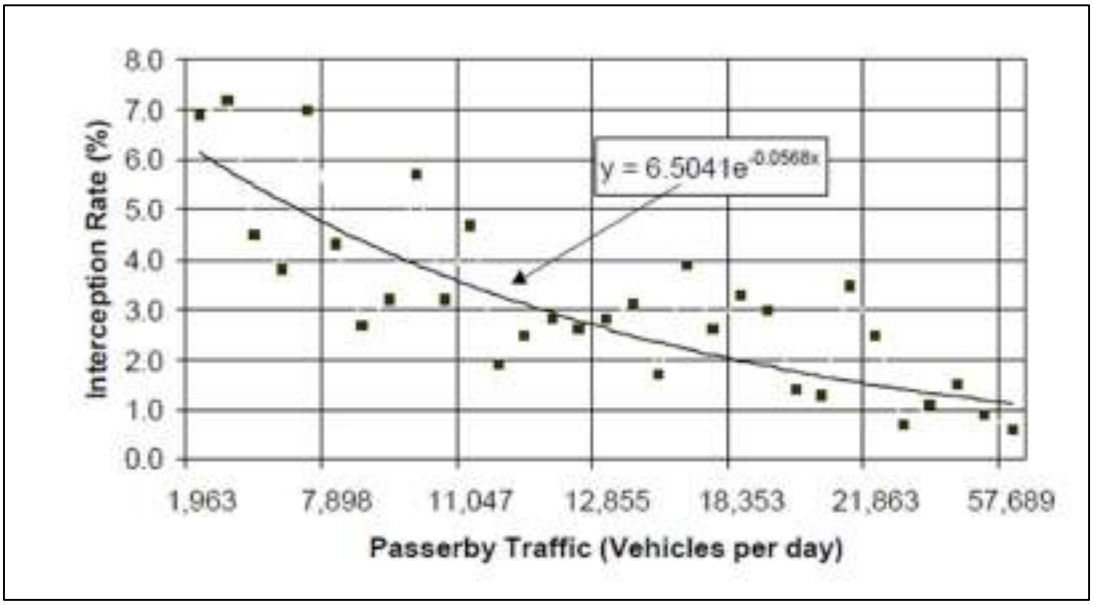


Figure 1 Interception Rates, JL Coetzee, F van Rensburg, H Schreurs, 2001

No information (locally or internationally) could however be sourced on the trip generation rates for EV charging stations.

It is however important to note that filling stations are generally constructed for the maximum capacity which is generally calculated in accordance with the DOT SATGR guidelines or alternatively the interception rates provided in **Figure 1**. Limited infrastructure development and constraints to energy supply will only accommodate 18-20 EVs to be serviced daily at each charging facility, whereafter the navigational software will indicate that the charging facility has reached its daily capacity. The number of vehicles that can be serviced daily is directly derived from the generating capacity associated with the solar infrastructure (1000kW daily) that will be provided at each charging station (18 cars x 55kW/car = 990kW daily). This number will however increase in the future and the charging stations will need to be expanded accordingly. This expansion will be addressed at a future stage with a new round of approvals.

Information obtained from Zero Carbon Charge indicated that there are currently 10 million registered vehicles on South African roads, **with less than 1000 being Electrical Vehicles. This accounts for approximately 0.01%.** The National Association for Automobile Manufactures in South Africa (NAAMSA) provided the following rollout of EVs over the next 5 years in relation to the number of new vehicles sold annually. The number of new vehicles sold per year, inclusive of Internal Combustion Engine vehicles (ICE), Battery-powered Electrical vehicles (BEV), Plug-in Hybrid Electric Vehicles (PHEV) and Hybrid vehicles, is indicated as the Total. It must be noted that this paper only references BEVs as PHEV and Hybrid vehicles will not use the charging facilities.

The batteries of PHEVs are too small to be of use for long distance travelling, when they will use their combustion engines and stop at petrol stations, and Hybrids, by definition, are never plugged in to a charger as they generate their own electricity from a combustion engine:

Table 1: NAAMSA PROJECTED ROLLOUT OF EVs

	2022	2023	2024	2025	2026	2027
ICE	407 066	403 573	399 338	380 060	378 611	371 506
BEV	4 285	8 870	13 770	23 754	34 419	50 891
PHEV	4 285	8 870	13 770	23 754	29 502	35 624
Hybrid	12 855	22 174	32 131	45 507	40 170	50 891
Total	428 491	443 487	459 009	473 075	482 702	508 912

Taking the above into consideration, the percentage of EVs on South African roads in relation to the total number of vehicles sold per year, the number of ICE vehicles on our roads and the limited generating capacity of each charging station, the charging stations will not incur a traffic impact at the proposed charging station in the foreseeable future. It is therefore anticipated that the trips generated by the farmstalls will be a sufficient measure to determine the trip generation of the proposed developments. Furthermore, the charging stations will not generate additional (new/primary) trips. It can therefore be assumed that most of the trips that will visit the charging station are already on the network and can be considered pass-by trips.

5.2. SOLAR FACILITY

Solar facilities generally generate trips during the Construction, Operational and Decommissioning phases. Experience with calculating the trips associated with each of these facilities for various large Solar-Facilities throughout South Africa, indicates that facilities of this magnitude (related to the charging stations) will generate minimal trips and will have an insignificant traffic impact.

5.3. FARMSTALLS

The vehicle trips that will be generated by the farmstalls can be based on the peak hour trip generation rates provided in the *Trip Generation Manual 9th Edition, 2012* published by the Institute of Transport Engineers (ITE) for Speciality Retail (ITE826). For the AM peak hour, a trip generation rate of 0.68 trips / 100m^2 GLA and a directional split of 48%:52% (in:out) and a trip generation rate of 2.71 trips / 100m^2 GLA and a directional split of 44%:58% (in:out) for the PM peak hour is proposed. For the Saturday peak hour, a trip generation rate of 4.97 trips / 100m^2 GLA and a directional split of 48%:52% (in:out) is proposed.

The recommended peak hour trip generation rates and directional split per 100m^2 GLA is shown in **Table 2.**

Table 2: Trip Generation Rates and Estimated Peak Hour Trips

Peak Hour	Extent	Trip Generation Rate	Directional Split		Trip Generation	
			In [%]	Out [%]	In	Out
Farmstall						
AM	100m² GLA	0.68	48	52	0	0
PM		2.71	44	58	1	2
SAT		4.97	50	50	3	3

6. TRAFFIC IMPACT

From Section 5, the following assumptions can be made in terms of traffic impact:

- EV Charging Station: 2 trips per peak hour[1] – INSIGNIFICANT (<50 peak hour trips)
- Farmstall: 0-6 trips per peak hour – INSIGNIFICANT (<50 peak hour trips)

7. EXISTING - AND PROPOSED ACCESSES

Accesses must follow the requirements set out in the *TMH26 South African Road Classification and Access Management Manual, October 2019* published by the Committee of Transport Officials (COTO), the *SANRAL Geometric Design Guidelines (G2 Manual)* and the regulations of the applicable provincial and local government in the vicinity of the sites.

The required Shoulder Sight Distance (SSD) for a Passenger Vehicle (P), a Single Unit Truck (SU) and a Single Unit Truck plus Trailer (SU + T) must be investigated at each of the proposed accesses. It is proposed that the sight triangle in both directions at any of the proposed accesses be kept clear of any high growing crops/grains to ensure acceptable sight distances. It is however assumed that the SSD requirements are met at the existing farm stall accesses, as these developments would have undergone the necessary approvals.

7.1. RIGHT – AND LEFT TURN WARRANTS

Key intersections and proposed access intersections of the proposed developments should be investigated to determine if right – or left turn lanes are warranted. SANRAL generally requires a separate right turn lane if the volume of right turning vehicles along their routes exceed 30 vehicles per day. The warrants for right – and left turn lanes are provided in, inter alia, the *Access Management Guidelines, 2020* published by the Western Cape Government's Transport and Public Works Department. The addition of a dedicated right – or left turn lanes will also be dependent on the growth of EV ownership and usage in South Africa as well as future possible expansions of the proposed developments where access is directly from a national road.

[1] This is derived by assuming that 10% of the daily trips will access the charging station during the peak hour. This is a general assumption used by Traffic Engineers based on research data.

8. PARKING REQUIREMENTS

Parking provision for the proposed developments should satisfy the requirements as suggested in the local authority's most recent zoning scheme. As previously mentioned, the charging stations will act as additional parking for the farmstalls since it is expected that visitors will make use of the farmstall while waiting for their EV to charge. Sufficient parking will be provided at each of the proposed developments 6 parking bays per 100m² GLA. The proposed developments will have an initial size of 100m2.

9. NON-MOTORISED AND PUBLIC TRANSPORT

It is not anticipated that many additional public transport – or non-motorised transport trips will be generated by any of the proposed developments. However, additional public transport – or non-motorised transport facilities will be investigated for each of the subject properties.

10. CONCLUSIONS AND RECOMMENDATIONS

From the above, the following conclusions are made:

- South Africa has less than 1 000 electric vehicles (EVs), but it is expected that this number will grow to approximately 130 000 EVs by 2027.
- Zero Carbon Charge aims to build a network of 130 green energy-powered ultra-fast charging stations across South Africa.
- The location of the charging stations will be along national highways and the regional highways of South Africa.
- The proposed developments will consist of charging stations, a farmstall and solar panels.
- Each charging station will be limited by the generating capacity of the solar panels at the charging station and will only be able to service 18-20 EVs daily. This translates to approximately 2 peak hour trips which will visit the charging station.
- The charging stations will not generate additional (new/primary) trips. It can therefore be assumed that most of the trips that will visit the charging station are already on the network and can be considered pass-by trips.
- The construction, operational and decommissioning phases of the solar facilities will generate minimal trips and the traffic impact will be insignificant.
- Farmstalls has the potential to generate 0-6 trips per peak hour per 100m^2 GLA. These trips can also be assumed to be pass-by trips (traffic already on the road network), especially in rural areas.
- **In terms of traffic impact, it is concluded that the proposed developments will have an insignificant traffic impact.**
- Shoulder Sight Distance requirements should be met at accesses. It is however assumed that the SSD requirements are met at the existing farm stall accesses, as these developments would have undergone the necessary approvals.

- SANRAL generally requires a separate right turn lane if the volume of right turning vehicles along their routes exceed 30 vehicles per day.
- Parking for the farmstalls should be provided at 6 parking bays per 100m² GLA.
- It is not anticipated that many additional public transport – or non-motorised transport trips will be generated by any of the proposed developments.

From a traffic engineering perspective, the approval of the application for this development is supported.

Please do not hesitate to contact us should you have any queries.

Yours faithfully,

Annebet Krige Pr Eng
For: STURGEON Consulting

Heritage Impact Report

HERITAGE REPORT

COMPILED BY

Cedar Tower Services (Pty) Ltd t/a CTS Heritage

CTS HERITAGE

CTS HERITAGE

Proposed Network of Electric Vehicle Charging Stations with Associated Renewable Energy Facilities

Heritage Considerations

Background

Zero Carbon Charge (Pty) Ltd (ZeroCC) plans to roll out a network of car charging stations, powered by renewable energy facilities, along all the main routes across South Africa. Approximately 120 car charging stations with mainly solar facilities, at about 150km intervals, are envisaged at this stage.

A similar number of truck charging stations with larger renewable energy sites are envisaged. In some cases, the car and truck charging stations would be combined at the same site. The intention is to locate the car charging stations in tandem with existing farm stalls or guest houses along major national and provincial routes.

Project Description

The car charging sites would range from an initial 1ha to about 20ha to allow expansion of the solar facilities over time on a phased basis. Some of the sites have existing farm stalls or guest houses, while new farm stalls are envisaged in other cases. The various components of a car charging station and associated solar facility are listed below.

- Solar arrays (up to 3,5m height);
- Charging station control room in a standard 6m container (3m height).
- Natural gas on-site generator;
- Car charging point with canopy;
- New farm stall in some cases, approx. 100m^2;
- 5 000 to 10 000 litre water storage tanks, typically behind the farmstall;
- Underground/overhead 33 kV powerlines (9m height);
- Security fencing (2m height)

EV Charging Stations

While the adoption of EVs in South Africa is still limited at present, this is set to change in the short to medium term, with a number of vehicle manufacturers ceasing production of internal combustion engines (ICE) completely by 2040. In order to facilitate the efficacy and uptake of EVs in South Africa, an EV charging network is required to be established which is similar in scale and nature to the ubiquitous petrol stations that are familiar features in the South African

landscape. Excluding the proposed PV facilities which will support the EV charging stations, the charging stations themselves are similar in size and scale to petrol stations, and are proposed to be located in similar positions along existing National and Regional routes.

The EV charging stations, like petrol stations at present, are likely to become expected and familiar features along the major road networks of South Africa. As with the construction of new petrol stations, the development, design and construction of each EV charging station will be guided by an impact assessment process to mitigate impacts to significant environmental, heritage and scenic resources.

Socio-Economic Benefits

In terms of the impacts to the landscape, due to the similarity in scale and nature to petrol stations, the primary difference from an impact perspective is the proposed PV facilities which are intended to provide the energy supply to the EV charging stations.

According to information provided by ZeroCC;

- South Africa is spending well in excess of R300 billion a year importing oil and fuel products for petrol and diesel vehicles of all kinds. As the use of internal combustion vehicles are phased out, there will be a significant decrease in Forex expenditure, resulting in the retention of that money within South Africa and enabling it to be reinvested in the economy.
- An electric car powered by the current South African grid would emit more CO2e than a petrol car driven over the same distance whereas an EV charged with green-powered chargers emits zero CO2e.
- High powered (ultra-fast) charging is the minimum viable standard in order to provide an experience roughly comparable with petrol/diesel. In SA, with a weak grid and loadshedding, on-site generation of power to supply the charging stations is required.

In utilising the energy provided by the on-site PV facilities to supply the EV charging stations, each site becomes a net energy producer in its own right. Furthermore, the socio-economic benefits associated with this net energy production remain on site and localised, with direct local benefits.

Site specific impacts to Heritage Resources

Each proposed development site is being assessed for impacts to archaeological, palaeontological, built environment and cultural landscape heritage resources through either a desktop heritage screening assessment or, if necessary, fieldwork and a comprehensive Heritage

Impact Assessment. These reports identify and map significant heritage resources relative to the proposed development areas and provide recommendations regarding impact mitigation strategies.

Cumulative Impacts in terms of heritage resources

The cumulative impact of a development is the impact that development will have when its impact is added to the incremental impacts of other past, present or reasonably foreseeable future activities that will affect the same environment. It is important to note that the cumulative impact assessment for a particular project, like what is being done here, is not the same as an assessment of the impact of all surrounding projects. The cumulative assessment for this project is an assessment only of the impacts associated with this project, but seen in the context of all surrounding impacts. It is concerned with this project's contribution to the overall impact, within the context of the overall impact. But it is not simply the overall impact itself.

The most important concept related to a cumulative impact is that of an acceptable level of change to an environment. A cumulative impact only becomes relevant when the impact of the proposed development will lead directly to the sum of impacts of all developments causing an acceptable level of change to be exceeded in the surrounding area. If the impact of the development being assessed does not cause that level to be exceeded, then the cumulative impact associated with that development is not significant.

In terms of cumulative impacts to heritage resources, impacts to archaeological and palaeontological resources are sufficiently dealt with on a case by case basis, and are assessed at a site specific level per development site. The primary concern from a cumulative impact perspective would be to the cultural landscape. The cultural landscape is defined as the interaction between people and the places that they have occupied and impacted. In some places in South Africa, the cultural landscape can be more than 1 million years old where we find evidence of Early Stone Age archaeology (up to 2 million years old), Middle Stone Age archaeology (up to 200 000 years old), Later Stone Age archaeology (up to 20 000 years old), evidence of indigenous herder populations (up to 2000 years old) as well as evidence of colonial frontier settlement (up to 300 years old) and more recent agricultural layers.

Modern interventions into such landscapes, such as renewable energy development and associated infrastructure, constitute an additional layer onto the cultural landscape which must be acceptable or anticipated in certain contexts such as in REDZ areas, or within areas of low environmental sensitivity. The primary risk in terms of negative impact to the cultural landscape resulting from renewable energy development lies in the eradication of older layers that make up the cultural landscape. There are various ways that such impact can be mitigated. In most instances, these mitigation strategies align with visual impact mitigation strategies.

In terms of impacts to heritage resources, it is usually preferred that this kind of infrastructure development is concentrated in one location and is not sprawled across an otherwise agricultural, rural or wilderness landscape. The resulting challenge, in terms of renewable energy, is that this requires an extensive and substantial grid network to be developed through otherwise scenic contexts in order to transport the generated energy from its origin to where it is used.

This project addresses this issue through the establishment of the supporting PV arrays in the immediate proximity of the proposed EV charging stations. The present scale of the proposed PV arrays is small at 1ha, but is intended for expansion to 20ha through a phased approach. Even at 20ha, the proposed PV arrays are substantially smaller in scale than most of the approved solar facilities proposed throughout South Africa at present.

In implementing appropriate buffers along scenic routes, as well as other mitigation strategies such as planting and design on a case-by-case basis, the cumulative impact of the proposed EV charging stations and their supporting PV arrays can be kept at a minimum, and at an impact level largely equivalent to the cumulative impact of the development of additional petrol stations, with the benefits of on-site power generation and the use of green energy.

Visual Impacts

A cumulative visual impact statement was drafted for this project by Lawson and Oberholzer (2024). They conclude that there would be no cumulative visual impacts for the project, seen as a whole, as the charging stations and related solar facilities would be in the region of 150km apart. The only cumulative visual impacts would be where existing similar solar facilities or other energy infrastructure occur near the individual sites.

Some cumulative visual clutter could be experienced where infrastructure, such as service stations, existing powerlines and cell phone masts, are present in the surroundings. On the other hand, these facilities, together with the increase in the use of solar energy panels, are becoming more common as part of the landscape, and attract less visual attention over time.

A major benefit of the cellular design of the proposed solar facilities is that they not only provide localised energy in rural areas, but avoid the need for a plethora of linking powerlines to the main Eskom grid.

The Visual Statement concludes that In terms of the project as a whole, no fatal flaws were identified, and the project is considered acceptable from a visual perspective provided visual mitigations are implemented. General recommendations include the following to assist with the mitigation of the project:

- The footprint of the solar facilities should be kept as compact as possible to minimise the sprawl of buildings and related infrastructure.

- Degraded or disturbed sites should be used as far as possible, to minimise intrusion into scenic or pristine areas.
- Tree-planting, mounding, hedges or fencing with creepers should be used to reduce visibility of solar energy infrastructure.
- Lighting at night should generally be kept to a minimum, particularly in wilderness and rural areas, and light sources shielded from view with reflectors.
- Outdoor signage should be kept to a minimum, and where signage is required this should be discrete and located against a background to avoid silhouette effects. Billboard-type signs should not be permitted on major routes.

These recommendations are supported from a heritage perspective.

Conclusions

The proposed cumulative impact of the development of the proposed EV charging stations and their supporting PV arrays is therefore unlikely to result in unacceptable risk or loss, nor will the development result in a complete change to the sense of place of the area or result in an unacceptable increase in impact due to their position as one of many refuelling stations located along main transport routes through South Africa.

Cumulative impacts to heritage resources in general, and the cultural landscape in particular can be managed through the implementation of appropriate buffers along scenic routes, as well as other mitigation strategies such as planting and design on a case-by-case basis. In this way, the cumulative impact of the proposed EV charging stations and their supporting PV arrays can be kept at a minimum, and at an impact level largely equivalent to the cumulative impact of the development of additional petrol stations, with the benefits of on-site power generation and the use of green energy.

Jenna Lavin
CTS Heritage
February 2024

Agricultural Meta Land Use
&
Socio-Economic Impact Study

AGRI META LAND-USE AND SOCIO-ECONOMIC IMPACT REPORT

COMPILED BY

The Bureau for Food and Agricultural Policy (BFAP)

www.charge.co.za

BFAP
DATA DRIVEN INSIGHT

Agri meta land-use and socio-economic impact overview

Zero Carbon Charge (Pty) Ltd.

March 2024

Introduction

Zero Carbon Charge (hereinafter referred to as *Charge*) commissioned this agricultural impact study. The company aims to build a national network of green energy powered ultra fast chargers, approximately 150km apart, covering all strategic highways and major routes in South Africa. The points below outline their estimated macro-economic impact metrics, according to Charge:

1. "The international car manufacturing business has irreversibly pivoted away from internal combustion engines, which they have to largely stop manufacturing by 2035 in most of the major auto markets in the world".
2. Charge and NAAMSA project that a cumulative 353 836 electric vehicles (EV) and plug-in hybrids will be sold from 2023-2028, with more than 20% of total new sales being EV & PHEV vehicles by 2028. That is a significant increase in market share from less than 0.6% (of total new sales) in 2023. Charge is of the opinion that the set up of charging companies in SA will greatly accelerate the advent of electric cars.
3. There are in the order of 12 million registered vehicles in SA. Annual sales of passenger and light commercial vehicles exceed 400 000 per year. Passenger & light commercial as well as the road freight sector consume 15 billion litres of fuel a year, which is mostly imported (in crude or refined form). Charge projects that they will contribute to R187 billion savings in forex spent on crude oil and refined oil imports over 20 years.
4. Charge is targeting a specific sub-segment of the transport/travel market: focussed on all travel outside of urban areas. This follows the international model of 'electric highways' similar to Tesla, Fastned and similar companies. Charge aims to provide high powered (ultra-fast charging) EV charging that is 100% green in the "operational phase", and completely grid independent.
    - Charge offers Zero CO_2 emissions with renewable energy powered chargers; opposed to 5.8 MT CO_2e per annum emissions when charged with Eskom grid power (**comparison on the operation of cars only, on a 25 000km per annum use assumption. Charge assumes 50% home charge (carbon emissions dependent on electricity source) and 50% zero carbon charge).

	Passenger & light commercial vehicles	Road freight
Total litres fuel consumed in 2022 (million litres)	8 082	6 956
Share of SA fuel sales	32%	27%

Source: Department of Energy, 2022

Methodology overview

Socio-economic impact

Underlying assumptions in the socio-economic impact estimation:

Number and area of sites:

- Car sites: 120* sites, starting at 0.6ha with a maximum of 19.7ha
- Truck sites: 100, starting at 12ha with a maximum of 186ha

**some 50 of the 120 sites could be initially developed to only cater for cars, and then expanded as the demand for EV charging in the road freight space expands. The expansion of car sites to cater for both cars and trucks are outside of the study scope and all calculations will be based on car-only developments.*

The impact is measured by quantifying:

- Employment impact of the construction and operational phase for 1 car and 1 truck site, which is then multiplied by the number of car and truck sites.
- Economic impact in terms of energy sales, convenience stores, rent returns to landowners and community upliftment program contributions is determined per site (per size, see range indicated above), which is then upscaled to the total number of sites, operational lifetime of phase 1, productivity and inflation % assumptions.

Agricultural impact

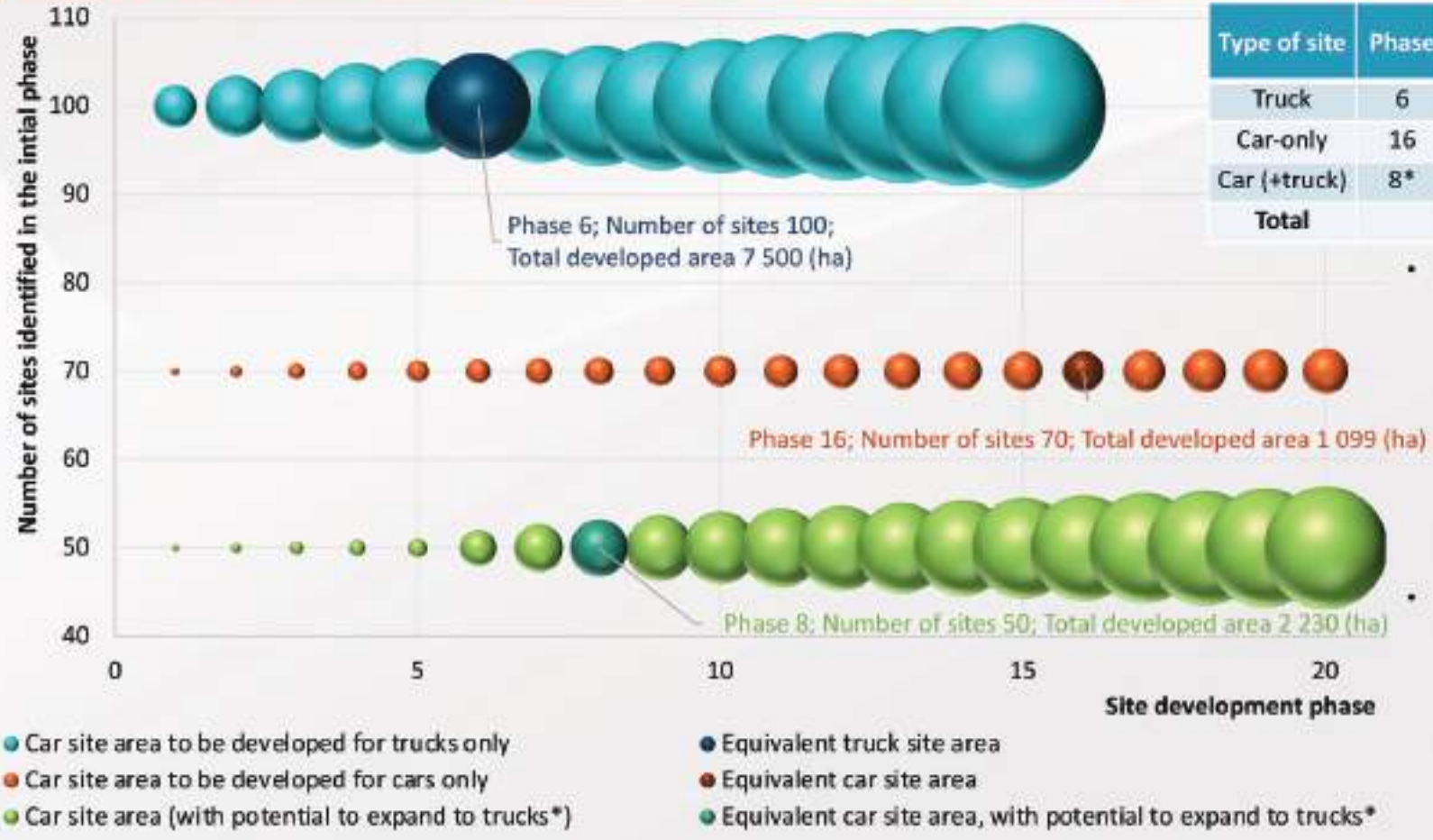
Underlying assumptions in the agricultural impact estimation:

- Spatial outlines of the planned sites, as of October 2023, were used to determine the spatial footprint and agricultural impact of the site development.
- These locations and boundaries change continually as the company negotiates with individual land-owners. This is therefore a point-in-time analysis.
- The average site sizes assumed for the agricultural impact analysis are:
  - 70 car sites: 15.7ha
  - 50 car & truck sites: 44.6ha
  - 100 truck sites: 75ha

  **note that actual planned site polygons were used and that they vary significantly in size;*
- The land-use analysis is further based on a range of spatial datasets (i.e. South African National Land Cover, Grazing Capacity, Land Capability, Protected areas, Crop Types etc.) from which the extent of the Charge site area will be characterized.
- Finally, the prevalent field crop, horticulture and / or livestock production and income that could potentially be generated on each charge site was summarised per local municipality to show the impact of this investment on total agricultural production in South Africa.

Methodology overview

Comparison of the land size per phase of development applicable to the **socio-economic study** with the actual area identified in the **agricultural study**



Type of site	Phase	Number of sites	Total area (ha)	Avg. site size (ha)
Truck	6	100	7 500	75.0
Car-only	16	70	1 099	15.7
Car (+truck)	8*	50	2 230	44.6
Total		**220**	**10 829**	

- Given the number of sites and total area identified from the actual data provided by Charge, an approximation was done on the socio-economic component to identify the equivalent phase of development that correlates with the total area identified thus far.
- The area identified equates to development of, on average, all 100 truck sites to a phase 6 equivalent, all 70 car-only sites to phase 16, and car sites that can accommodate an adjacent truck development to phase 8.

** for illustration purposes, BFAP assumes the addition of a phase 1 truck construction adjacent to an expansion to phase 6 on the car site construction*

Executive Summary: Meta study on the socio-economic impact

BFAP DATA DRIVEN INSIGHT

Employment impact

- **Construction phase:**
  - Project based job creation (4-8 months) with a total of
    - 5 800 job opportunities created for semi-skilled/unskilled workers
    - 6 400 job opportunities created for skilled workers
- **Operational phase:**
  - Permanent, local job creation:
    - 880 job opportunities for unskilled workers
    - 1 540 job opportunities for semi-skilled workers
    - 330 job opportunities for skilled workers
  - Temporary, local job creation:
    - 1 100 job opportunities for unskilled workers on a continuous basis

Total socio-economic impact of construction during *initial phase*:

- **Area developed**: 1 272 hectares (12.72 million m^2) – based on minimum starting area per car and truck site.
- **Capital outlay**: R39.45bn, with 10-20% thereof on labour (downstream impact on South African economy)
- Significant downstream and indirect contributions to local economy

Contribution to socio-economic activity (per site)

	Truck	Car
Energy sales	R3.5m – R4m/ha/annum	R6m – R7m/ha/annum
Convenience revenue	R100 000 – R125 000/ha/annum	R250 000 – R330 000/ha/annum
Rent	R160 000 – R200 000/ha/annum	R250 000 – R350 000/ha/annum
Community upliftment	R30 000 – R40 000/ha/annum	R50 000 – R70 000/ha/annum

Executive Summary: Meta study on the socio-economic impact

BFAP DATA DRIVEN INSIGHT

Energy sales: Annual estimate, with an impact on shareholder return, convenience revenue, rent, and community upliftment

Convenience revenue: Limited to annual estimate, given that it is a function that will be outsourced

Rent: Annual estimate scaled over the initial project lifetime on a constant and inflation adjusted basis

Community upliftment: Annual estimate scaled over the initial project lifetime on a constant and inflation adjusted basis

Contribution to economic activity (per site)

	Truck	Car
Energy sales	R3.5m – R4m/ha/annum	R6m – R7m/ha/annum
Convenience revenue	R100 000 – R125 000/ha/annum	R250 000 – R330 000/ha/annum
Rent	R160 000 – R200 000/ha/annum	R250 000 – R350 000/ha/annum
Community upliftment	R30 000 – R40 000/ha/annum	R50 000 – R70 000/ha/annum

Scaled to total sites

Upscaling the economic impact (total impact in Year 1, on 100 truck sites @ 75% productivity)

	12ha (min)	186ha (max)
Rent	R184.78 million	R2 771.72 million
Community upliftment	R36.96 million	R554.34 million

Upscaling the economic impact (total impact in Year 1, on 120 car sites @ 75% productivity)

	0.6ha (min)	19.7ha (max)
Rent	R13.01 million	R633.81 million
Community upliftment	R2.60 million	R126.76 million

Scaled to lifetime with inflation

The annual productivity of the 120 car and 100 truck sites can be scaled over the lifetime of the initial phase (25 years) at an annual inflation of 5%. If the area is expanded to the maximum potential return to all landowners in the initial phase in nominal terms (5% annual inflation assumed) @ 100% productivity equates to:

- R176.38bn on 100 truck sites over 25 years.
- R40.33bn on 120 car sites over 25 years.

The maximum potential contribution to Sumbandila in the initial phase in nominal terms (5% annual inflation assumed) @ 100% productivity equates to:

- R35.28bn on 100 truck sites over 25 years.
- R8.07bn on 120 car sites over 25 years.

Executive Summary: Meta study on the impact on Agriculture

The planned 220 Charge sites **(Truck and Car sites)** have a total surface area of 10 823ha, which is 0.01% of total agricultural land in South Africa.

The 10 823ha used by Charge, consists of the following:

4 845ha (34.8%) consists of Grassland & Shrubland which can be used as grazing for animal production.

3 406 (31.5%) of this area can be classified as cultivated fields: fields, that are currently or have been previously cultivated for agricultural field crop production.

- Majority of these fields are currently under rainfed annual cultivation (87%).
- Followed by horticulture (0.04%), Subsistence farming (0.03%) and Pineapples (0.02%).

The remaining 2 572ha consists of natural forests, barren land, wetlands & water and built-up area.

Agricultural land use is by far the biggest contribution in the total land use categorisation.

- The total charge site area falling under agricultural land use categories, represents less than 1% of the respective national totals. These categories include: field crops, irrigation, grazing (number of cattle), plantation forests, orchards and sugarcane.

- BFAP estimated that 1% or less of the national production of respective field and horticultural crops would be impacted by the charge site land use change away from agriculture. Selected potential production statistics are highlighted below:
  - Maize: 11 100 tonnes (0.07% of total production. 5-year average annual variation in production was 7% from 2018 - 2022)
  - Wheat: 1 740 tonnes (0.09% of total production. 6% 5-year average annual variation)
  - Cabbage: 360 tonnes (0.22% of total production)
  - Avocados: 730 tonnes (0.54% of total production)
  - Beef: 49 tonnes (0.007% of total production)

Executive Summary: Meta study on the impact on Agriculture

Crops on currently cultivated fields include: planted pastures and natural grazing, maize and soybeans in the summer production region and wheat, canola, lucerne and barley in the Western Cape (winter production region).

2 731ha (25%) of the total Charge site area (10 823ha) currently falls under *Protected Agricultural Areas (PAAs)* as defined by the DALRRD.

The total potential income that can be generated through agricultural activities on agricultural land within the Charge sites is summarised as follows:

- Field crops: average R12 520/ha per annum; total income of R40 534 110 per annum at current prices.
- Livestock: R477/ha per annum; total income of R1 543 892 per annum at current prices.
- Horticulture: R87 641/ha per annum; total income of R16 480 536 per annum at current prices.

➢ This equates to roughly 0.015% of total agricultural gross production value (DALRRD, 2022).

Executive summary:

Socio-economic impact

Upper bound for rent income (5% of energy sales)

	Truck	Car
Rent	R160 000 – R200 000/ha/annum	R250 000 – R350 000/ha/annum

*variation based on number of vehicles charged per day

Total job opportunity impact:

- Providing a total of 13 300 temporary, and 2 750 permanent job opportunities.
- Each household head, earning an income, has on average 3 dependents (varying slightly by province), that is, 39 900 dependents for all temporary jobs and 8 250 dependents for all permanent jobs (construction and operational phases).

Agricultural impact

Average potential income from agricultural activities

	Fieldcrops	Livestock	Horticulture
Average gross margins	R12 520/ha/annum	R477/ha/annum	R87 641 /ha/annum

*Gross Margin: income (price x volumes) less direct costs per "natural resource potential", per site.

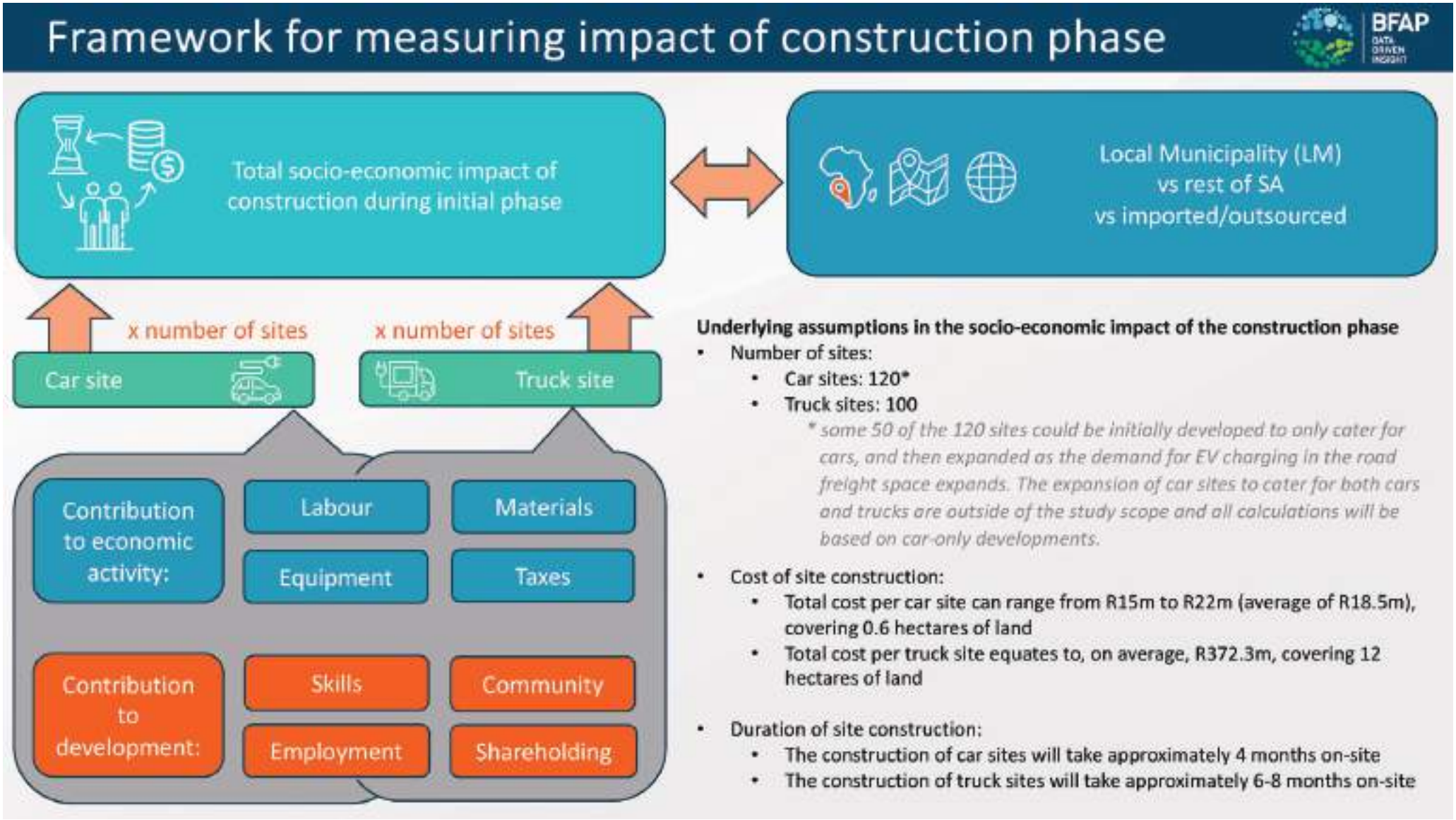
Total food crop production estimates, on Charge site area:

	Production estimate ('000 tonnes)	National Total ('000 tonnes)	%
Soybeans	19.34	1 676	1.154%
Avocados	0.73	135	0.539%
Pecans	0.06	23	0.249%
Cabbage	0.36	165	0.221%
Carrots	0.34	222	0.153%
Sunflower	1.10	841	0.131%
Wheat	1.74	1 979	0.088%
Sugarcane	15.11	18 484	0.082%
Maize	11.10	16 017	0.069%
Wine grapes	0.82	1 292	0.063%
Macadamias	0.02	59	0.040%
Table Grapes	0.05	353	0.014%
Beef	0.049	700	0.007%
Pineapples	4.52	117	0.04%
Potatoes	0.08	2 659	0.003%

Meta study on socio-economic impact

- The construction and operation of the Charge sites across South Africa on major routes has the potential to make significant socio-economic contributions. At local municipality level, the rest of the country and internationally, the socio-economic contributions can typically be quantified and qualified in terms of the economic activity and socio-economic development.
- Contributions to economic activity measures the impact in terms of labour use, materials, equipment, rent, operations, and taxes. As the extent of these contributions can vary significantly in terms of its impact at local municipal level, domestically and internationally, it's best to demarcate by region when quantifying and qualifying the impact.
- In a similar fashion, the contributions of the construction and operations to the development of skills, enterprises and communities are important indicators for social upliftment, especially in rural and financially challenged municipalities. In addition, economic development that aligns with social targets in terms of employment, and shareholding opportunities elevates the impact of endeavors such as the one Charge is undertaking.
- The approach to quantify and qualify the socio-economic impact of Charge's construction and operation of zero carbon EV charging sites considers the impact for the construction phase and one year of the operational phase per type of site. To measure the total impact on landowners and community development, the impact of the total number of sites and over the typical lifetime of the initial construction is necessary.
- The methodology and impact, together with how it relates to the different provinces, are described in this section.

Framework for measuring impact of construction phase

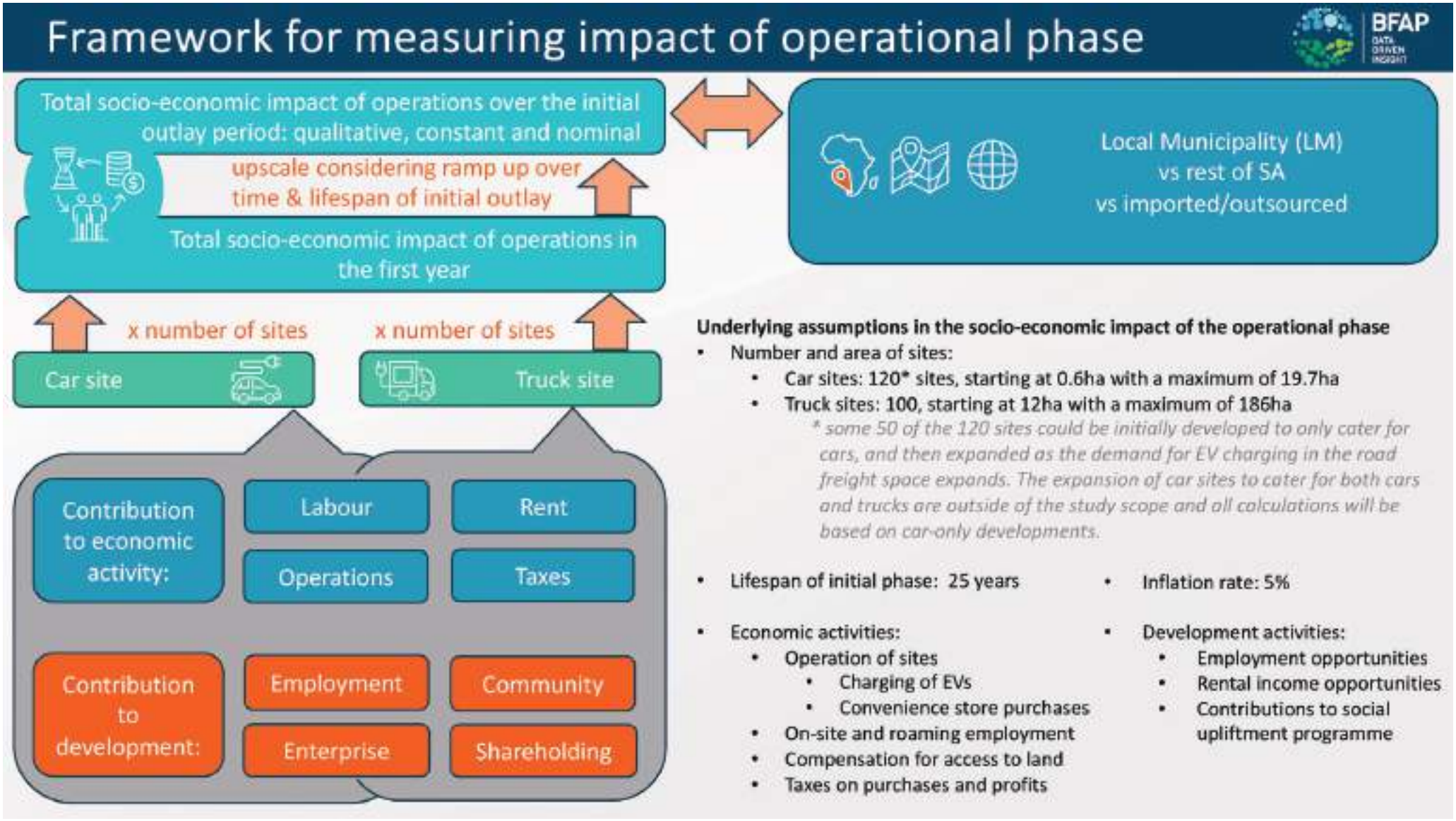


Underlying assumptions in the socio-economic impact of the construction phase

- Number of sites:
  - Car sites: 120*
  - Truck sites: 100

  ** some 50 of the 120 sites could be initially developed to only cater for cars, and then expanded as the demand for EV charging in the road freight space expands. The expansion of car sites to cater for both cars and trucks are outside of the study scope and all calculations will be based on car-only developments.*
- Cost of site construction:
  - Total cost per car site can range from R15m to R22m (average of R18.5m), covering 0.6 hectares of land
  - Total cost per truck site equates to, on average, R372.3m, covering 12 hectares of land
- Duration of site construction:
  - The construction of car sites will take approximately 4 months on-site
  - The construction of truck sites will take approximately 6-8 months on-site

Framework for measuring impact of operational phase



Underlying assumptions in the socio-economic impact of the operational phase

- Number and area of sites:
  - Car sites: 120* sites, starting at 0.6ha with a maximum of 19.7ha
  - Truck sites: 100, starting at 12ha with a maximum of 186ha

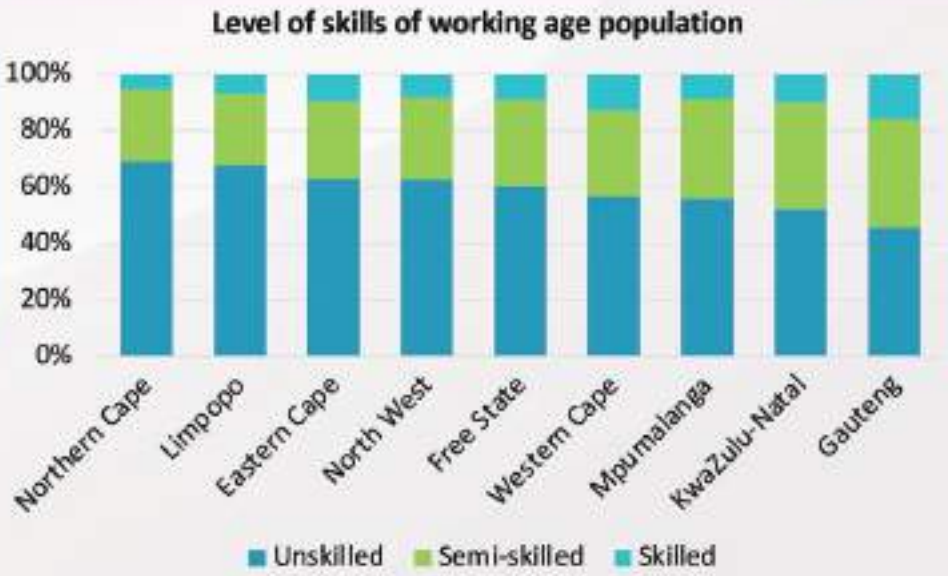
  ** some 50 of the 120 sites could be initially developed to only cater for cars, and then expanded as the demand for EV charging in the road freight space expands. The expansion of car sites to cater for both cars and trucks are outside of the study scope and all calculations will be based on car-only developments.*

- Lifespan of initial phase: 25 years
- Inflation rate: 5%
- Economic activities:
  - Operation of sites
    - Charging of EVs
    - Convenience store purchases
  - On-site and roaming employment
  - Compensation for access to land
  - Taxes on purchases and profits
- Development activities:
  - Employment opportunities
  - Rental income opportunities
  - Contributions to social upliftment programme

Contextualising impact of construction phase

Total socio-economic impact of construction during initial phase:

- Area developed: 1 272 hectares (12.72 million m²)
- Capital outlay: R39.45bn, with 10-20% thereof on labour (downstream impact on South African economy)
- **Employment: Project based job creation (4-8 months) with a total of 12 200 job opportunities created, of which 48% is earmarked for semi-skilled/unskilled workers in local municipalities**
- Significant downstream and indirect contributions to local economy

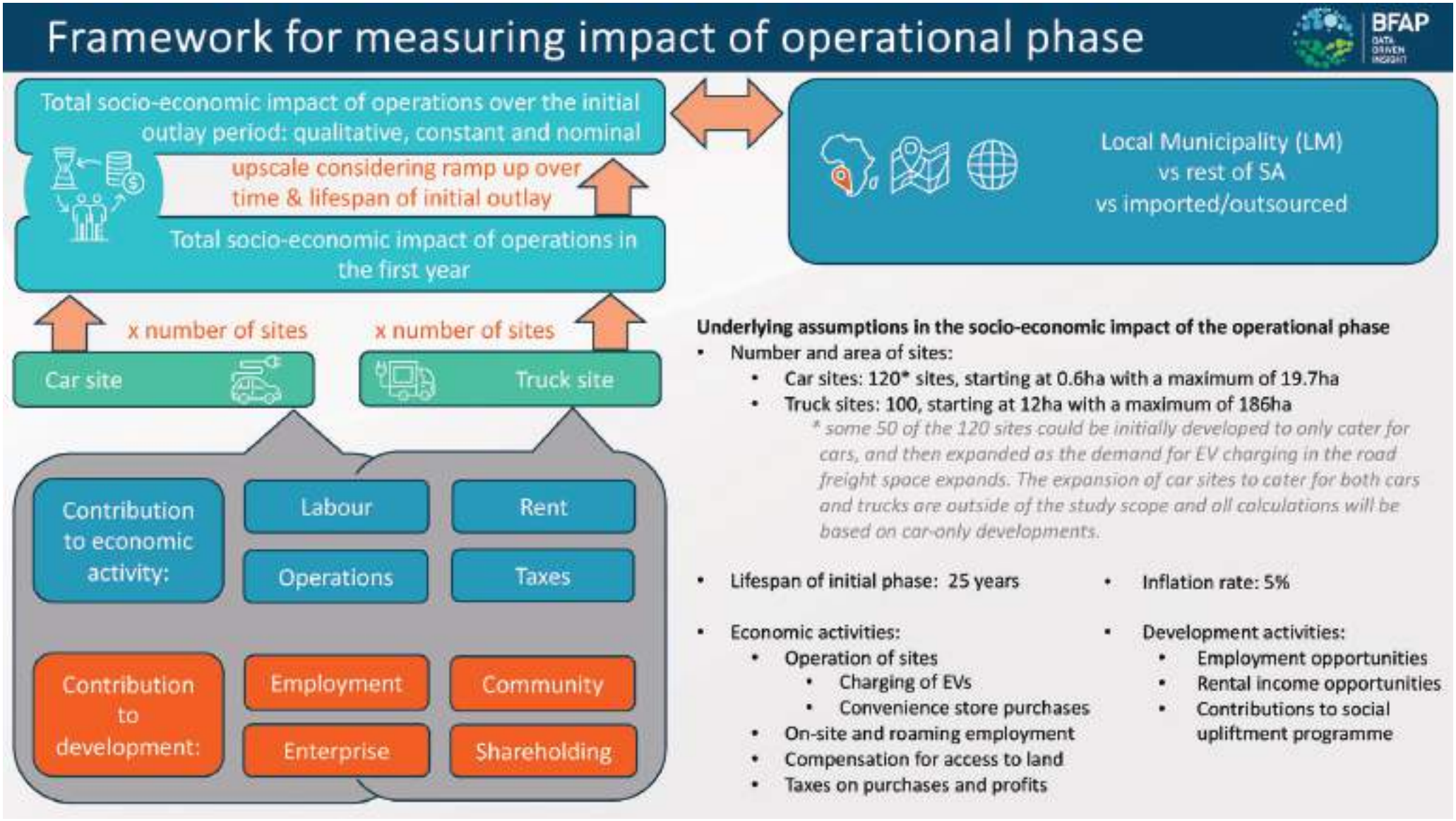


During the construction phase, a total of 6 400 skilled and 5 800 unskilled / semi-skilled jobs will be created (for a period of 4-8 months).

When these jobs are "allocated" to the sites by local municipality:

- 104% of total skilled labour in the Northern Cape could be employed by this project.
- Average 6% of skilled working age population in all other provinces could be employed through this project.
- An average 1% of unskilled / semi-skilled working age population could be employed temporarily by the construction of the charge sites.

Framework for measuring impact of operational phase



Underlying assumptions in the socio-economic impact of the operational phase

- Number and area of sites:
  - Car sites: 120* sites, starting at 0.6ha with a maximum of 19.7ha
  - Truck sites: 100, starting at 12ha with a maximum of 186ha

  ** some 50 of the 120 sites could be initially developed to only cater for cars, and then expanded as the demand for EV charging in the road freight space expands. The expansion of car sites to cater for both cars and trucks are outside of the study scope and all calculations will be based on car-only developments.*

- Lifespan of initial phase: 25 years
- Inflation rate: 5%
- Economic activities:
  - Operation of sites
    - Charging of EVs
    - Convenience store purchases
  - On-site and roaming employment
  - Compensation for access to land
  - Taxes on purchases and profits
- Development activities:
  - Employment opportunities
  - Rental income opportunities
  - Contributions to social upliftment programme

Measuring the economic impact of operational phase

Contribution to economic activity per site:

Labour — Unskilled & semi-skilled: 16 — Skilled: 1.5

Category	Employment
Maintenance team (skilled, permanent)	5 people per 10 sites
Convenience team (skilled, semi-skilled, permanent)	1 manager and 7 general workers
Site cleaning team (unskilled, permanent)	1 general worker
Solar cleaning team (unskilled, temporary)	5 general workers, once a month
Security team (unskilled, permanent)	3 security personnel (3 x 8-hour shifts)

Per site matrix	Skilled	Semi-skilled	Unskilled
Permanent	1.5	7	4
Temporary	0	0	5

Contribution to economic activity:

Taxes — Profit from energy sales; Profit from sales at convenience store; Profit from leasing out land; Personal income; Levies and licenses

Significant and multi-faceted contribution to treasury, including, but not limited to:

- VAT
- Income and company tax
- Levies

Provincial taxes, e.g., licenses

Local taxes, e.g., municipal levies

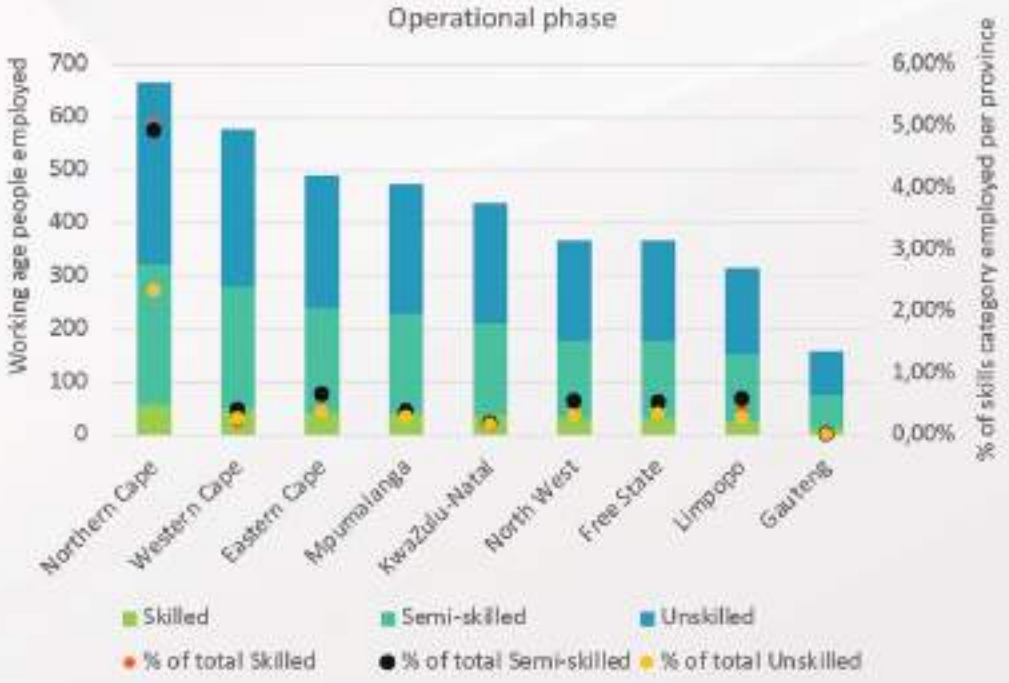
National taxes, e.g., VAT, income tax, company tax, energy levies

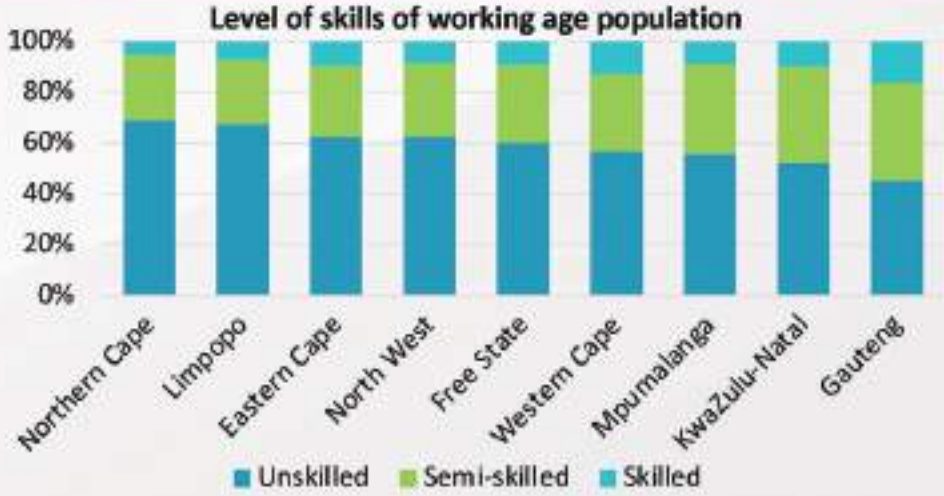
Additional tax measures that could come into play over time:

- Tax on energy sold (e.g., on petrol and diesel fuel currently)
- Incentives (tax rebates) to convert from conventional vehicles to EVs

Contextualising impact of operational phase

Total employment	Skilled	Semi-skilled	Unskilled
Permanent	330	1 540	880
Temporary	0	0	1 100





During the operational phase, the sites can contribute 330 skilled, 1 540 semi-skilled and 880 unskilled permanent jobs and 1 100 unskilled temporary jobs.

These jobs are "allocated" to the sites by local municipality and compared per province:

- Due to the Northern Cape's relatively small working age population, the sites contribute up to 2.4% of jobs per skills categories.
- On the other hand, due to Gauteng's large working age population, and small number of sites, the project contributes 0.1% of jobs per skills category.
- In the other provinces, an average of 0.19% of skilled, 0.27% of semi-skilled and 0.17% of unskilled working age population could have permanent (or temporary in the case of the unskilled) jobs during the operational phase of this project.

Measuring the economic impact of operational phase

Contribution to economic activity:

Operations

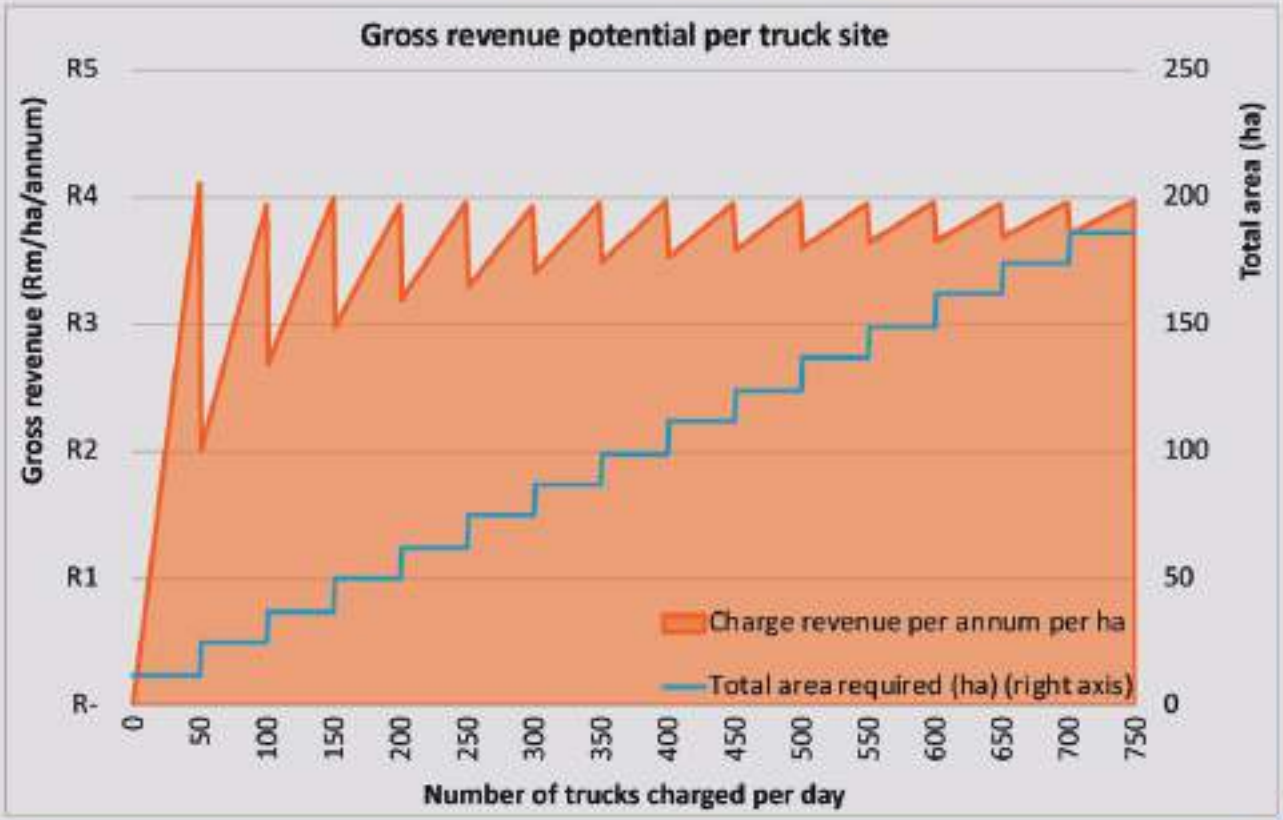
Gross revenue generated from energy sales

Assumptions	
kWh charge per truck	450
R/kWh charged	R6.00
Share or revenue	100%

Under these assumptions, the total upper bound for economic activity from energy sales is estimated at R3.5m-R4m per developed hectare per annum

Maximum potential per phase:

Phase	Total trucks to charge per day	PV (MWp)	Total (ha)	kWh sold per day
1	50	7	12	22 500
2	100	14	25	45 000
3	150	21	37	67 500
4	200	28	50	90 000
5	250	35	62	112 500
6	300	42	75	135 000
7	350	49	87	157 500
8	400	56	99	180 000
9	450	63	112	202 500
10	500	70	124	225 000
11	550	77	137	247 500
12	600	84	149	270 000
13	650	91	162	292 500
14	700	98	174	315 000
15	750	105	186	337 500



Measuring the economic impact of operational phase

Contribution to economic activity:

Operations

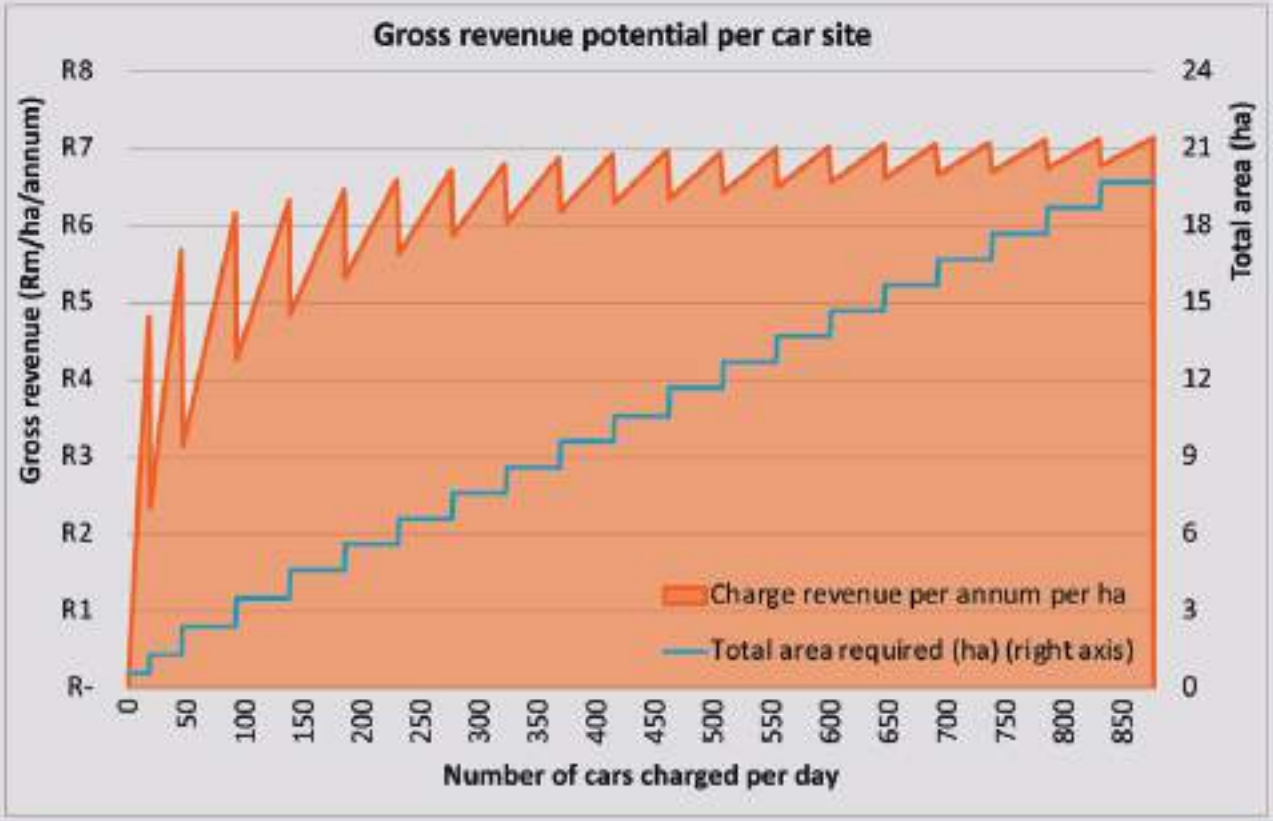
Gross revenue generated from energy sales

Assumptions	
kWh charge per car	55
R/kWh charged	R8.00
Share or revenue	100%

Under these assumptions, the total upper bound for economic activity from energy sales is estimated at R6m-R7m per developed hectare per annum

Maximum potential per phase:

Phase	Total cars to charge per day	PV (kWp)	Total (ha)	kWh sold per day
1	18	260	0.6	990
2	46	667	1.3	2 530
3	92	1 333	2.4	5 060
4	138	2 000	3.5	7 590
5	185	2 667	4.6	10 175
6	231	3 333	5.6	12 705
7	277	4 000	6.6	15 235
8	323	4 667	7.6	17 765
9	369	5 333	8.6	20 295
10	415	6 000	9.6	22 825
11	462	6 667	10.6	25 410
12	508	7 333	11.7	27 940
13	554	8 000	12.7	30 470
14	600	8 667	13.7	33 000
15	646	9 333	14.7	35 530
16	692	10 000	15.7	38 060
17	738	10 667	16.7	40 590
18	785	11 333	17.7	43 175
19	831	12 000	18.7	45 705
20	877	12 667	19.7	48 235



Measuring the economic impact of operational phase

Contribution to economic activity:

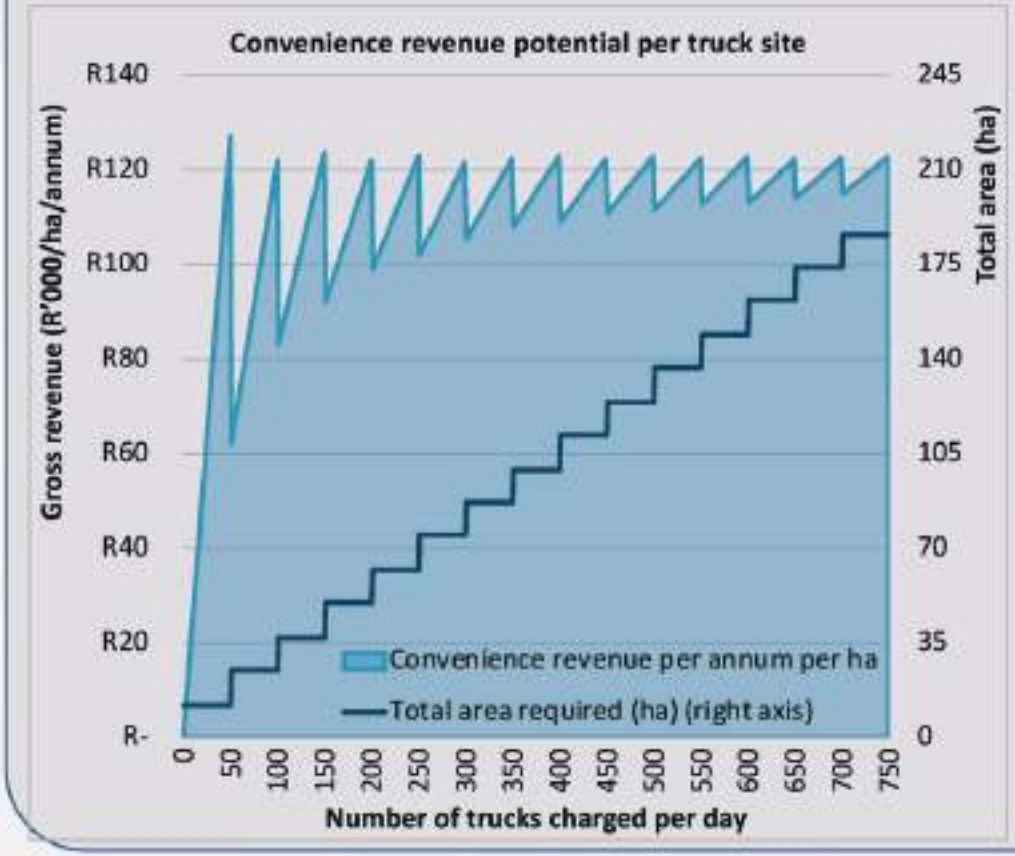
Operations

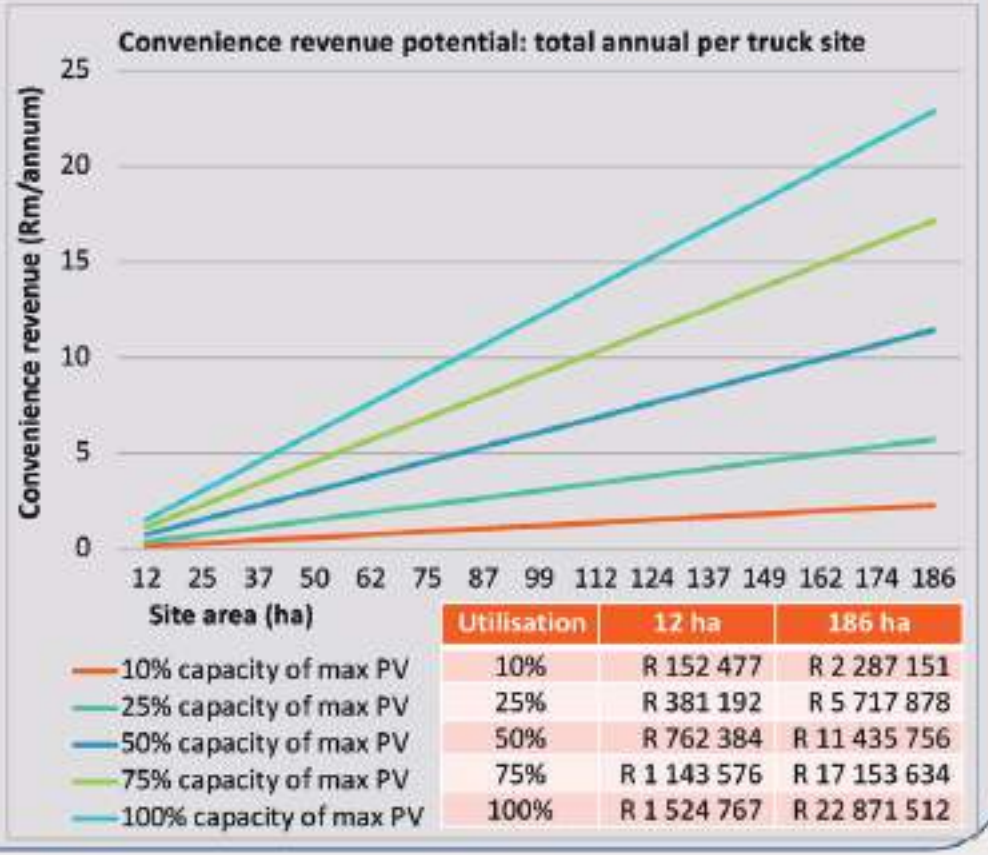
Gross convenience revenue linked to energy sales scale

Assumption: 50% of R0.37 convenience purchases/kWh

Based on convenience retail data from Nielsen (2017), inflation data from Stats SA (2024), retail fuel sales from DoE (2024), fuel station data from SAPIA (2024), EV fuel equivalents from Cardino (2024), and 50% vehicle occupancy compared to cars

Under these assumptions, the total upper bound for convenience retail is estimated at R100 000-R125 000 per developed hectare per annum





Utilisation	12 ha	186 ha
10%	R 152 477	R 2 287 151
25%	R 381 192	R 5 717 878
50%	R 762 384	R 11 435 756
75%	R 1 143 576	R 17 153 634
100%	R 1 524 767	R 22 871 512

Measuring the economic impact of operational phase

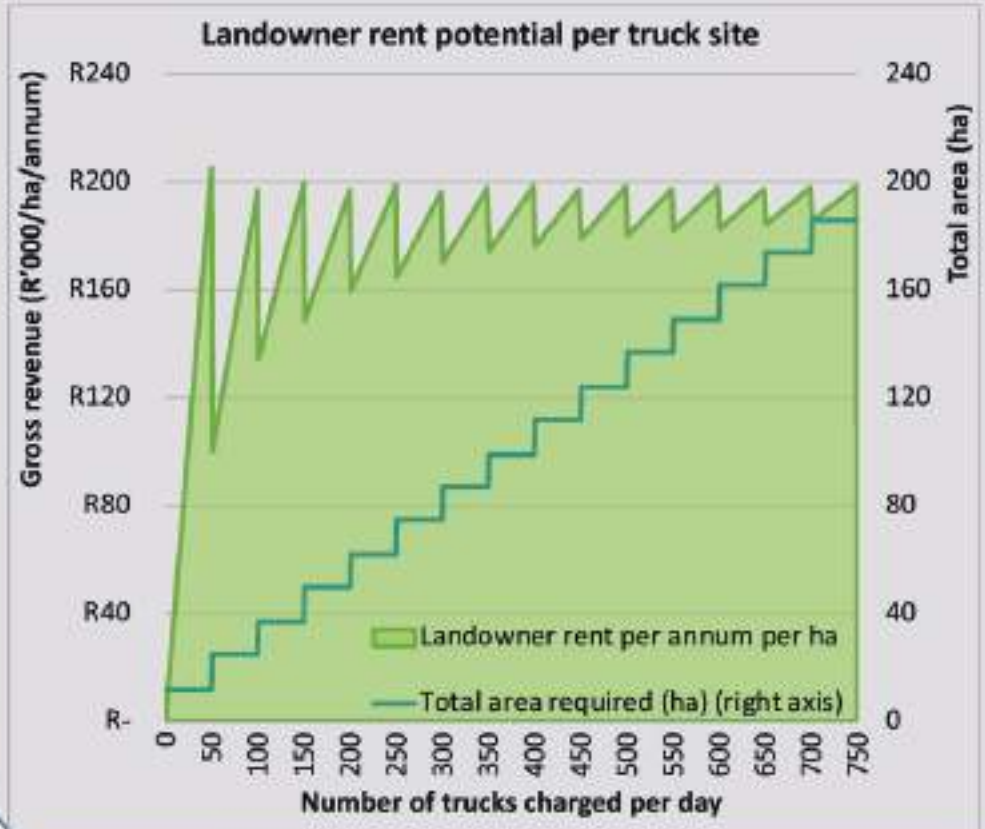
Contribution to economic activity:

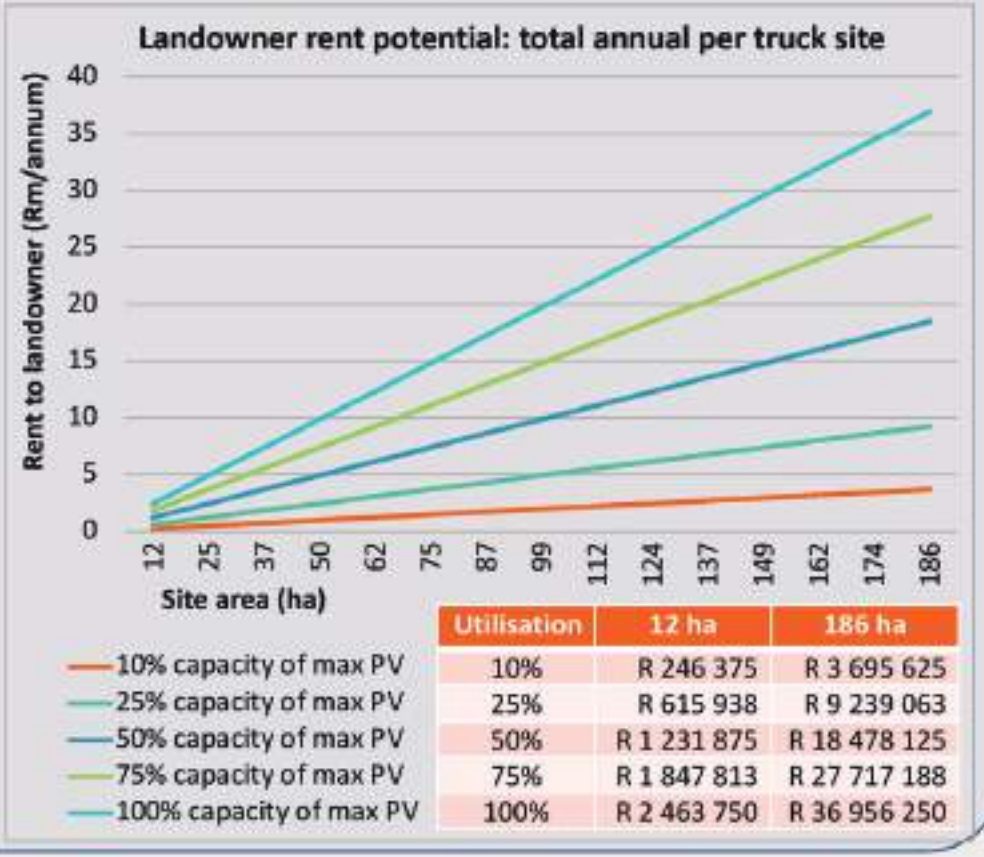
Rent

Gross rent payment to landowner from energy sales linked to scale

Assumptions	
kWh charge per truck	450
R/kWh charged	R6.00
Share or revenue	5%

Under these assumptions, the total upper bound for rent payment (5% of energy sales) is estimated at R160 000-R200 000 per developed hectare per annum





Utilisation	12 ha	186 ha
10%	R 246 375	R 3 695 625
25%	R 615 938	R 9 239 063
50%	R 1 231 875	R 18 478 125
75%	R 1 847 813	R 27 717 188
100%	R 2 463 750	R 36 956 250

Measuring the economic impact of operational phase

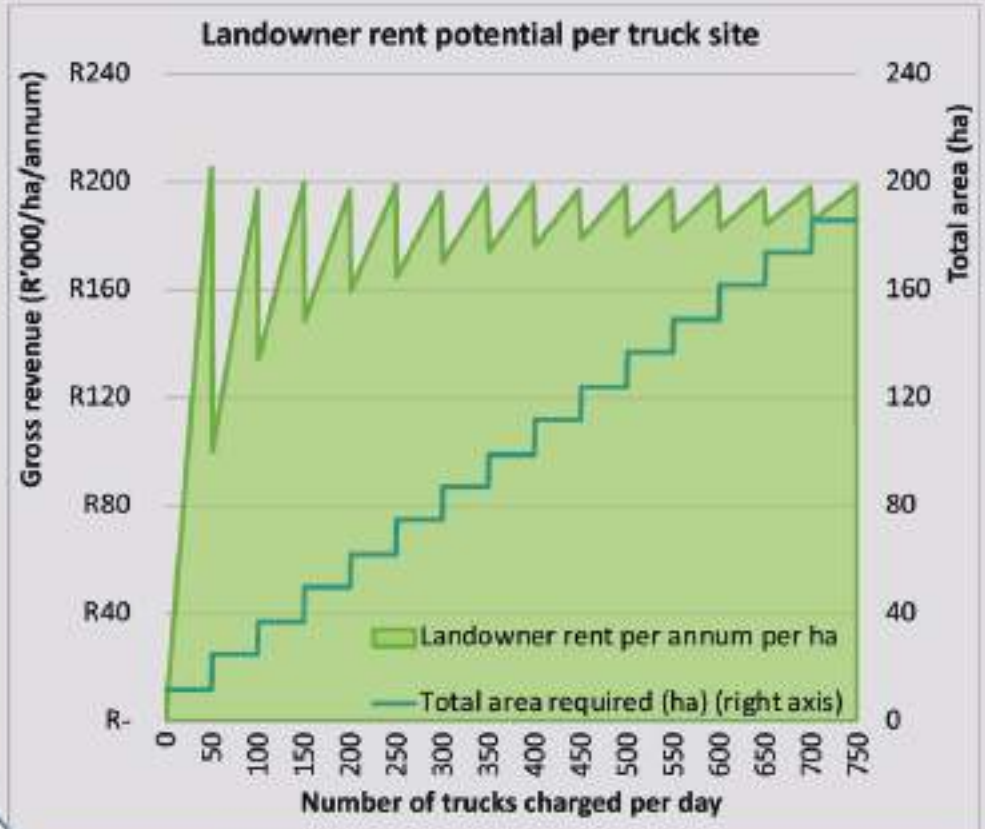
Contribution to economic activity:

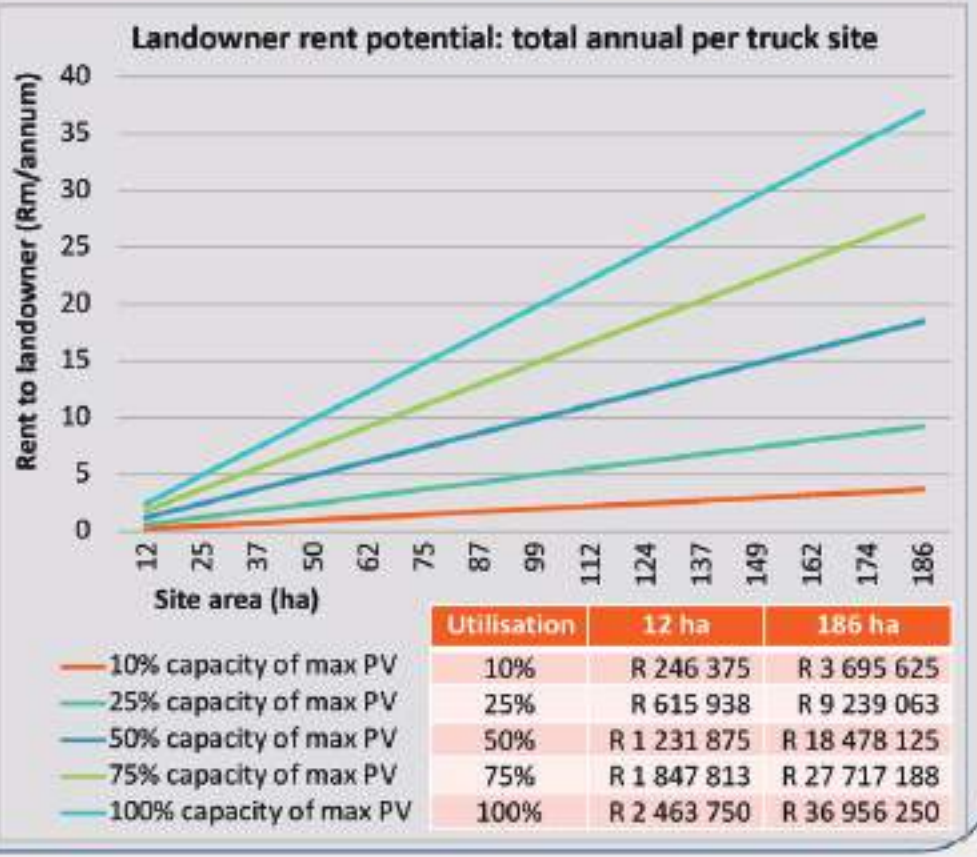
Rent

Gross rent payment to landowner from energy sales linked to scale

Assumptions	
kWh charge per truck	450
R/kWh charged	R6.00
Share or revenue	5%

Under these assumptions, the total upper bound for rent payment (5% of energy sales) is estimated at R160 000-R200 000 per developed hectare per annum





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75%	R 1 847 813	R 27 717 188
100%	R 2 463 750	R 36 956 250

Measuring the economic impact of operational phase

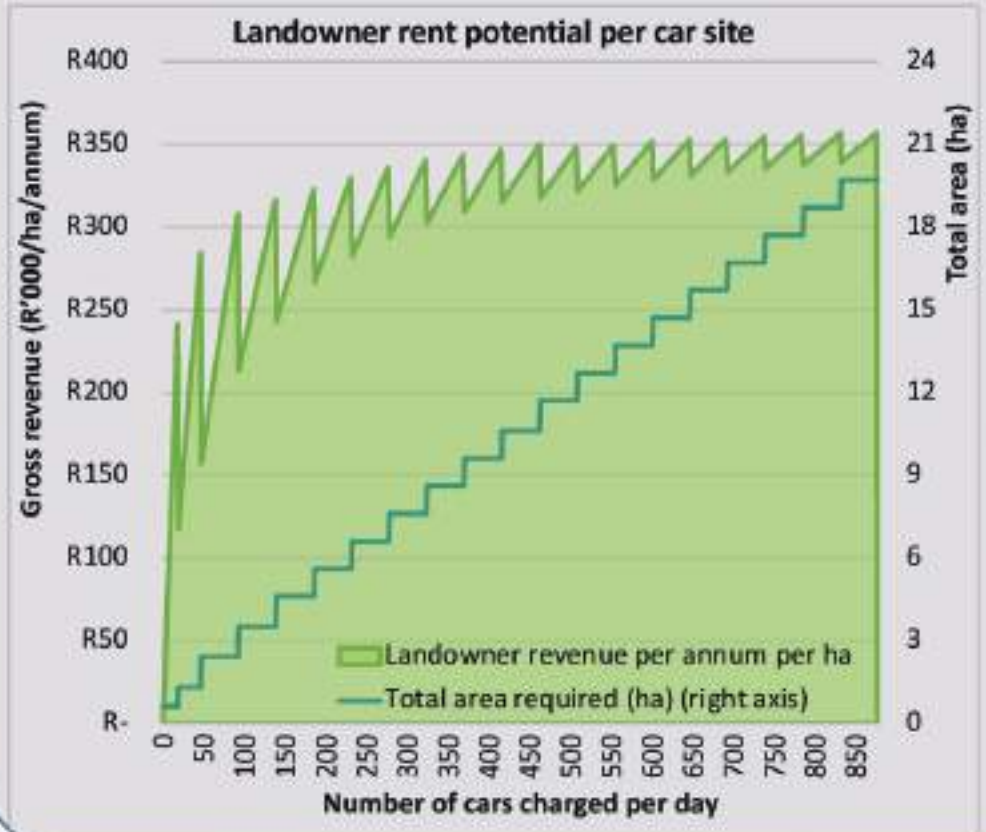
Contribution to economic activity:

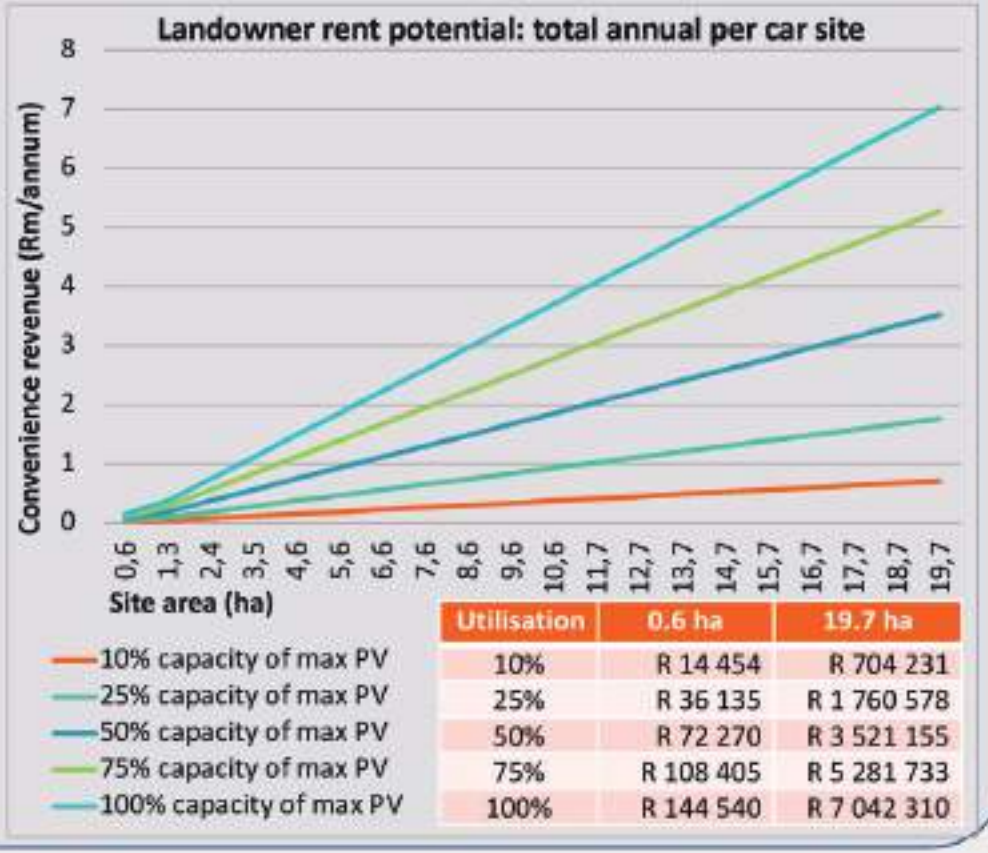
Rent

Gross rent payment to landowner from energy sales linked to scale

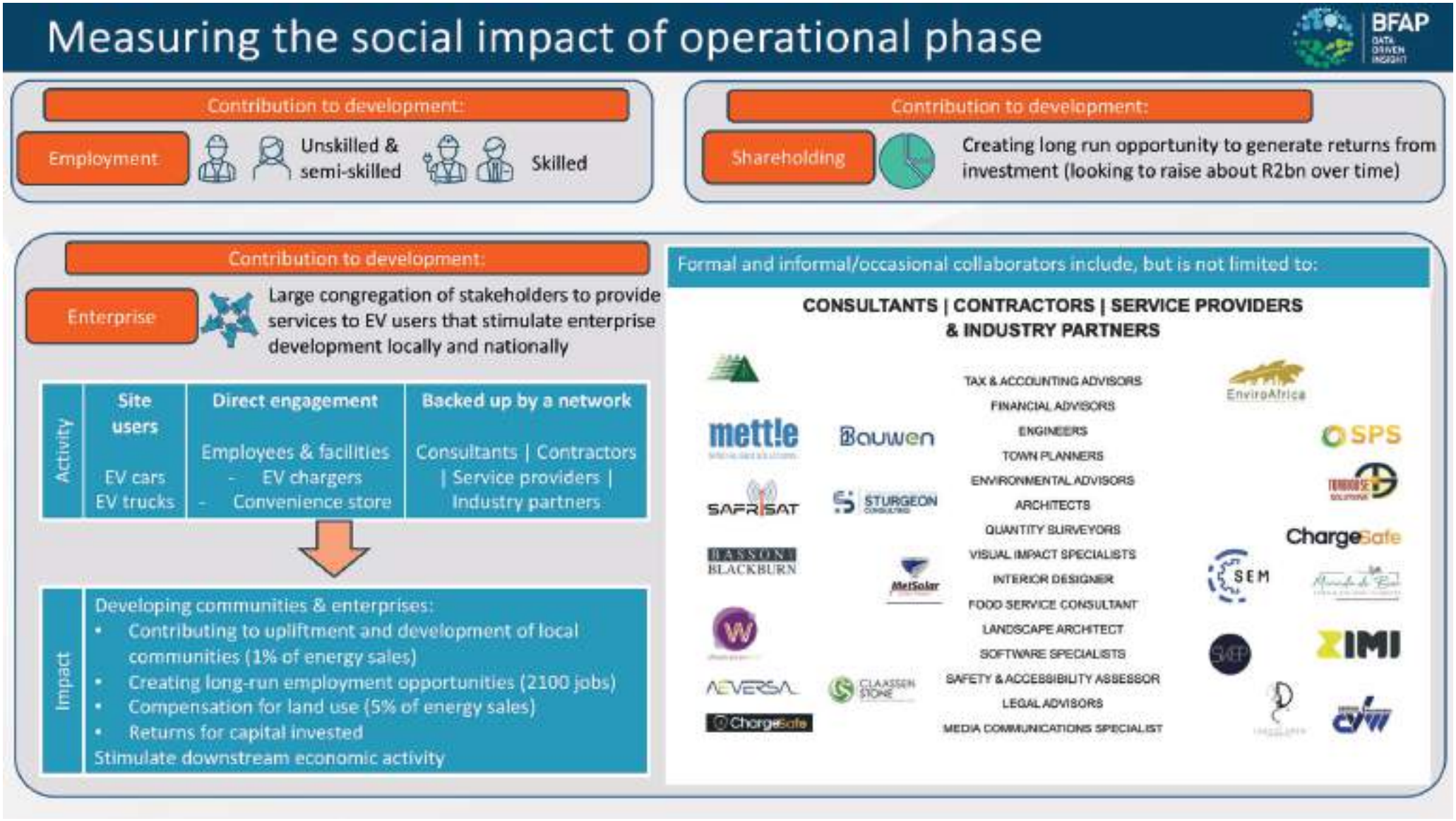
Assumptions	
kWh charge per car	55
R/kWh charged	R8.00
Share or revenue	5%

Under these assumptions, the total upper bound for rent payment (5% of energy sales) is estimated at R250 000-R350 000 per developed hectare per annum





Utilisation	0.6 ha	19.7 ha
10%	R 14 454	R 704 231
25%	R 36 135	R 1 760 578
50%	R 72 270	R 3 521 155
75%	R 108 405	R 5 281 733
100%	R 144 540	R 7 042 310


Measuring the social impact of operational phase
BFAP
DATA DRIVEN INSIGHT
Contribution to development:
Employment
Unskilled & semi-skilled
Skilled
Contribution to development:
Shareholding
Creating long run opportunity to generate returns from investment (looking to raise about R2bn over time)
Contribution to development:
Enterprise
Large congregation of stakeholders to provide services to EV users that stimulate enterprise development locally and nationally
Activity
Site users
EV cars
EV trucks
Direct engagement
Employees & facilities
- EV chargers
- Convenience store
Backed up by a network
Consultants | Contractors | Service providers | Industry partners
Impact
Developing communities & enterprises:
• Contributing to upliftment and development of local communities (1% of energy sales)
• Creating long-run employment opportunities (2100 jobs)
• Compensation for land use (5% of energy sales)
• Returns for capital invested
Stimulate downstream economic activity
Formal and informal/occasional collaborators include, but is not limited to:
CONSULTANTS | CONTRACTORS | SERVICE PROVIDERS & INDUSTRY PARTNERS
TAX & ACCOUNTING ADVISORS
FINANCIAL ADVISORS
ENGINEERS
TOWN PLANNERS
ENVIRONMENTAL ADVISORS
ARCHITECTS
QUANTITY SURVEYORS
VISUAL IMPACT SPECIALISTS
INTERIOR DESIGNER
FOOD SERVICE CONSULTANT
LANDSCAPE ARCHITECT
SOFTWARE SPECIALISTS
SAFETY & ACCESSIBILITY ASSESSOR
LEGAL ADVISORS
MEDIA COMMUNICATIONS SPECIALIST
mettle
Bauwen
SAFRISAT
STURGEON
BASSON BLACKBURN
MetSolar
AEVERSA
CLAASSEN STONE
ChargeSafe
EnviroAfrica
SPS
ChargeSafe
SEM
ZIMI

Measuring the social impact of operational phase

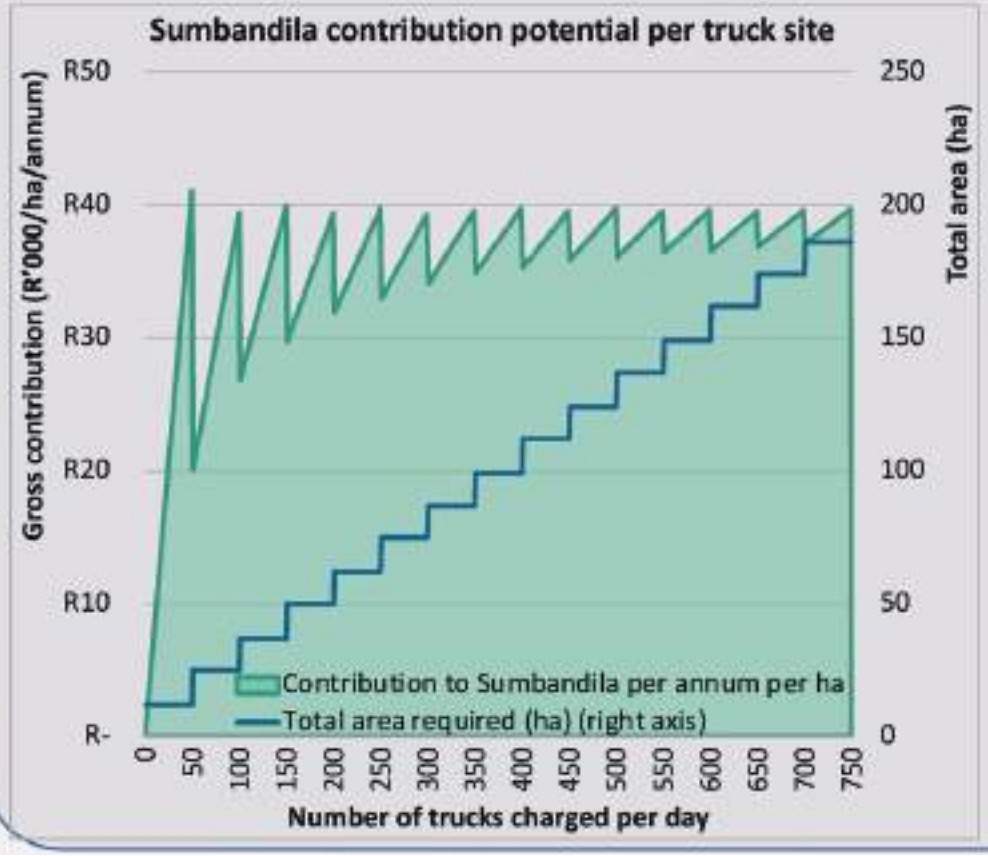
Contribution to development :

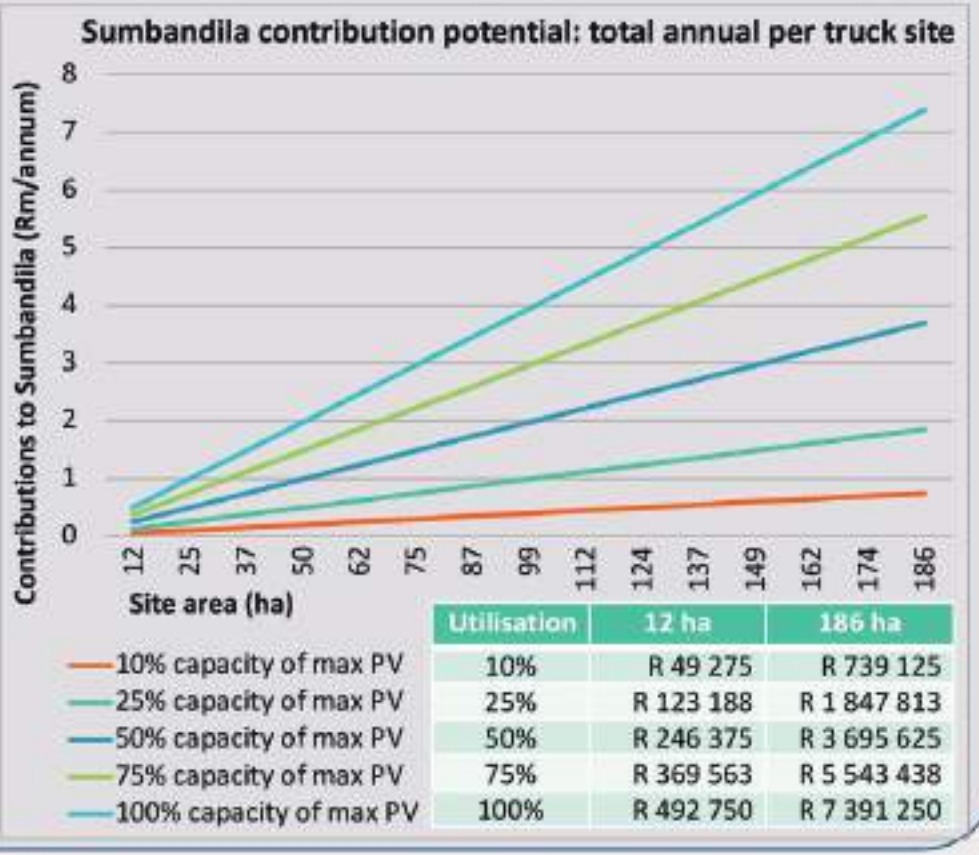
Community

Gross contributions to Sumbandila Scholarship Trust from energy sales linked to scale

Assumptions	
kWh charge per truck	450
R/kWh charged	R6.00
Share or revenue	1%

Under these assumptions, the total upper bound for contributions (1% of energy sales) is estimated at R30 000-R40 000 per developed hectare per annum





Utilisation	12 ha	186 ha
10%	R 49 275	R 739 125
25%	R 123 188	R 1 847 813
50%	R 246 375	R 3 695 625
75%	R 369 563	R 5 543 438
100%	R 492 750	R 7 391 250

Measuring the social impact of operational phase

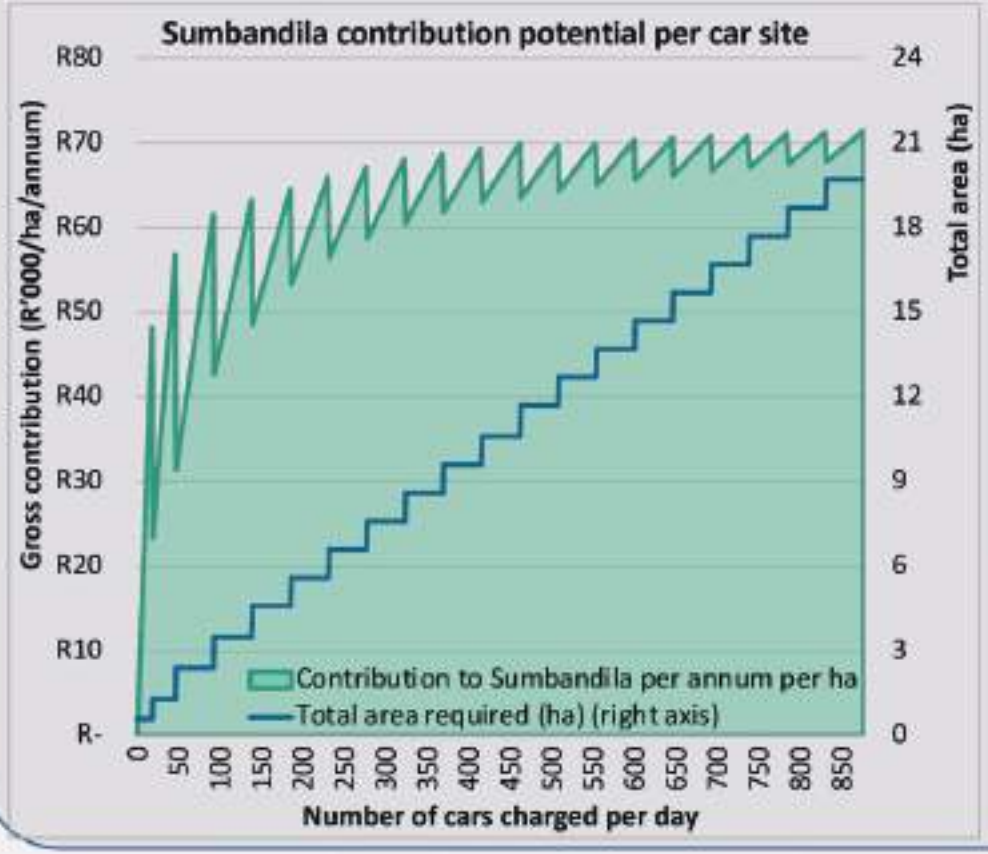
Contribution to development:

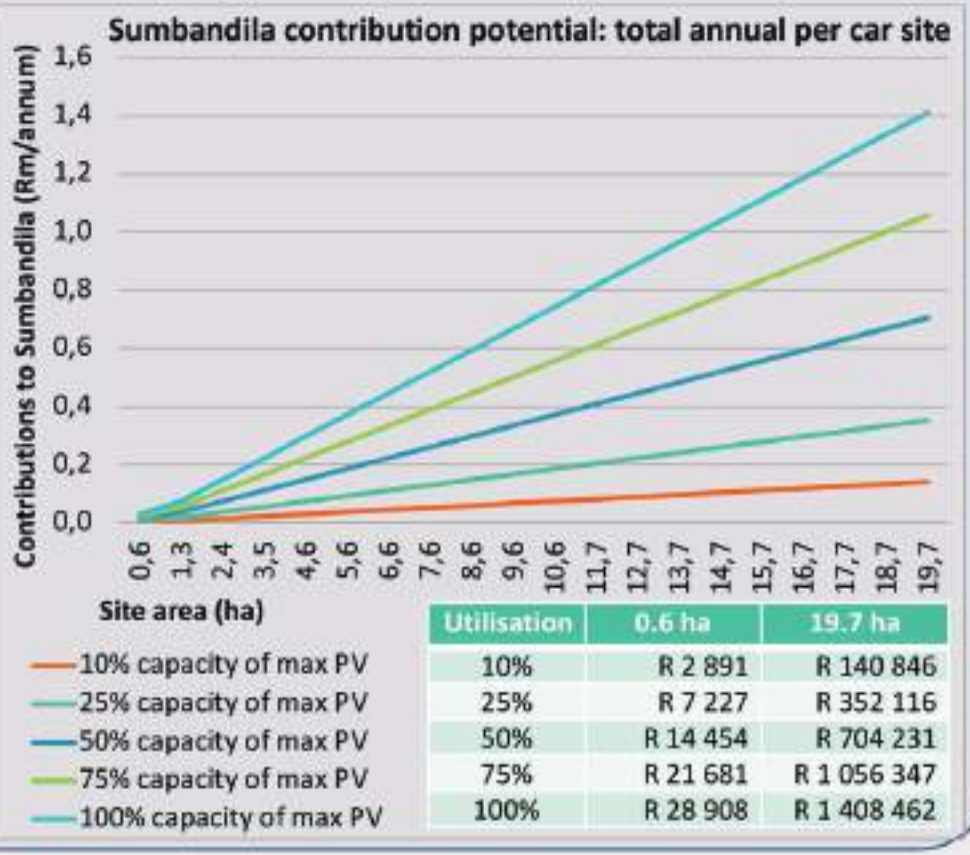
Community

Gross contributions to Sumbandila Scholarship Trust from energy sales linked to scale

Assumptions	
kWh charge per car	55
R/kWh charged	R8.00
Share or revenue	1%

Under these assumptions, the total upper bound contribution (1% of energy sales) is estimated at R50 000-R70 000 per developed hectare per annum



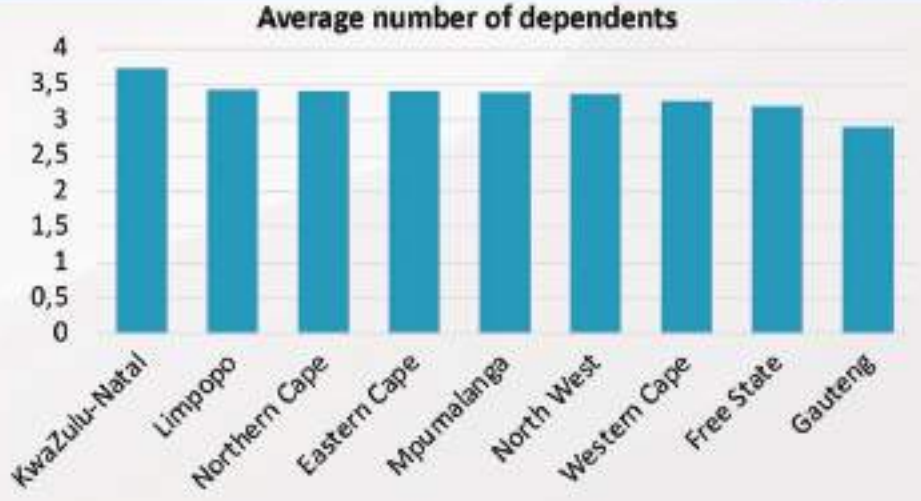


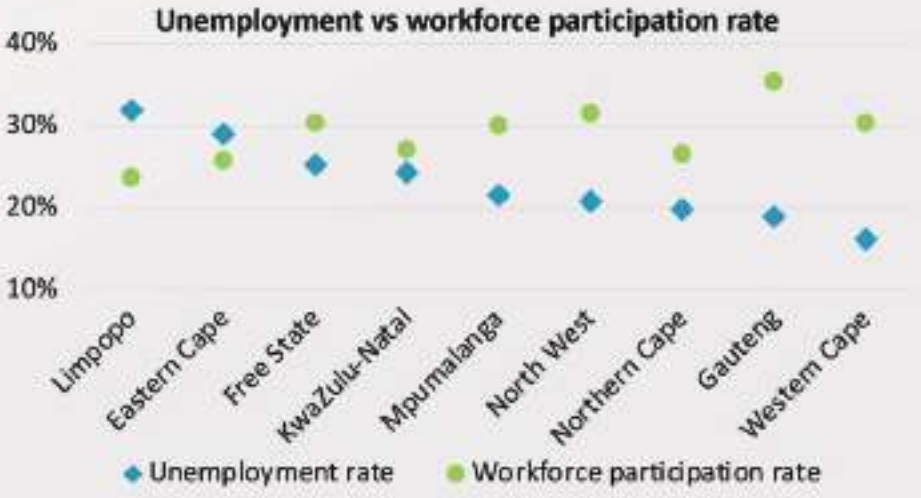
Utilisation	0.6 ha	19.7 ha
10%	R 2 891	R 140 846
25%	R 7 227	R 352 116
50%	R 14 454	R 704 231
75%	R 21 681	R 1 056 347
100%	R 28 908	R 1 408 462

Total job creation impact

- Construction phase:
  - Project based job creation (4-8 months) with a total of
    - 5 800 job opportunities created for semi-skilled/unskilled workers
    - 6 400 job opportunities created for skilled workers
- Operational phase:
  - Permanent, local job creation:
    - 880 job opportunities for unskilled workers
    - 1 540 job opportunities for semi-skilled workers
    - 330 job opportunities for skilled workers
  - Temporary, local job creation:
    - 1 100 job opportunities for unskilled workers

- Each job created, will have significant downstream and indirect contributions to the local economy.
- Each household head, earning an income, has on average 3 dependents (varying slightly by province), that is, 39 900 dependents for all temporary jobs and 8 250 dependents for all permanent jobs (construction and operational phases).
- The unemployment rates presented per province (Source: Census 2011, which means that given the national unemployment trajectory, is likely significantly worse now), illustrates the need for additional job creation.





Summary of demographics on sites

The demography, according to StatsSA published census and community survey data, in each Local Municipality (LM) where the Charge sites are planned to be placed are summarised per province.

This serves as a high-level description of the populations / demographics where these investments are planned. In summary:

- Gauteng is the most populous province where Charge stations are planned (>18 million people, 2011 Census).
- The Western Cape and Gauteng have 93% and 89% urban households respectively while the majority of households in the Northern Cape (61%), Mpumalanga (65%) and Limpopo (81%) provinces are in non-urban settings.
- The largest share of the working-age population resides in Gauteng (52%), KwaZulu-Natal (12%), Western Cape (9%) and Mpumalanga (7%).
- The unemployment rate is the highest in Limpopo (32%) and the Eastern Cape (29%), coinciding with the lowest workforce participation rates.
- Interestingly, the Northern Cape has one of the lowest unemployment rates (20%), but the highest proportion of unskilled working-age population: 69%.
- Gauteng (16%) and the Western Cape (13%) have the highest proportion of skilled working-age populations.
- The Western Cape (10%) and Gauteng (11%) provinces also have the highest proportion of top 10% earners in terms of provincial income distributions.
- Gauteng and KwaZulu-Natal house the highest number of "no income" and "bottom 50%" earners.

Upscaling the economic impact of operational phase

Contribution to economic activity: | Rent

Gross rent payment to landowner from energy sales linked to scale

Annual (single site)

Maximum daily productivity on initial outlay of 12ha equates to 50 truck charges per day. The assumption is that one EV truck charge would equate to 450 kWh, sold at R6.00/kWh, of which the landowner receives 5%. This would result in a maximum return of R2 463 750 to the landowner per annum. If the site is expanded to the maximum (186ha), 750 EV trucks can be charged, and the maximum potential return to the landowner increases to R36.96m.

Productivity:

Ha	25%	50%	75%	100%
12	615 938	1 231 875	1 847 813	2 463 750
186	9 239 063	18 478 125	27 717 188	36 956 250

x100 sites

Scaled to total sites

Scaling the annual productivity at different sizes of constructed sites shows the total rent to be earned on 100 sites. If area is expanded to the maximum, the maximum potential return to all landowners in the initial phase equates to R3.70bn per annum on 100 sites.

Ha	25%	50%	75%	100%
12	61 593 750	123 187 500	184 781 250	246 375 000
186	923 906 250	1 847 812 500	2 771 718 750	3 695 625 000

x25 years

Scaled to lifetime

The annual productivity of the 100 sites can be scaled over the lifetime of the initial phase (25 years). If area is expanded to the maximum, the maximum potential return to all landowners in the initial phase equates to R92.39bn on 100 sites over 25 years.

Ha	25%	50%	75%	100%
12	1 539 843 750	3 079 687 500	4 619 531 250	6 159 375 000
186	23 097 656 250	46 195 312 500	69 292 968 750	92 390 625 000

x25 years @ 5% inflation

Scaled to lifetime with inflation

The annual productivity of the 100 sites can be scaled over the lifetime of the initial phase (25 years) at an annual inflation of 5%. If area is expanded to the maximum, the maximum potential return to all landowners in the initial phase in nominal terms (5% annual inflation assumed) equates to R176.38bn on 100 sites over 25 years.

Ha	25%	50%	75%	100%
12	2 939 690 993	5 879 381 986	8 819 072 978	11 758 763 971
186	44 095 364 892	88 190 729 785	132 286 094 677	176 381 459 569

Upscaling the economic impact of operational phase

Contribution to economic activity: | Rent

Gross rent payment to landowner from energy sales linked to scale

Annual (single site)

Maximum daily productivity on initial outlay of 0.6ha equates to 18 car charges per day. The assumption is that one EV car charge would equate to 55 kWh, sold at R8.00/kWh, of which the landowner receives 5%. This would result in a maximum return of R144 540 to the landowner per annum. If the site is expanded to the maximum (19.7ha), 877 EV cars can be charged, and the maximum potential return to the landowner increases to R7.04m.

Productivity:

Ha	25%	50%	75%	100%
0.6	36 135	72 270	108 405	144 540
19.7	1 760 578	3 521 155	5 281 733	7 042 310

x120 sites

Scaled to total sites

Scaling the annual productivity at different sizes of constructed sites shows the total rent to be earned on 120 sites. If area is expanded to the maximum, the maximum potential return to all landowners in the initial phase equates to R845.08m per annum on 120 sites.

Ha	25%	50%	75%	100%
0.6	4 336 200	8 672 400	13 008 600	17 344 800
19.7	211 269 300	422 538 600	633 807 900	845 077 200

x25 years

Scaled to lifetime

The annual productivity of the 120 sites can be scaled over the lifetime of the initial phase (25 years). If area is expanded to the maximum, the maximum potential return to all landowners in the initial phase equates to R21.13bn on 120 sites over 25 years.

Ha	25%	50%	75%	100%
0.6	108 405 000	216 810 000	325 215 000	433 620 000
19.7	5 281 732 500	10 563 465 000	15 845 197 500	21 126 930 000

x25 years @ 5% inflation

Scaled to lifetime with inflation

The annual productivity of the 120 sites can be scaled over the lifetime of the initial phase (25 years) at an annual inflation of 5%. If area is expanded to the maximum, the maximum potential return to all landowners in the initial phase in nominal terms (5% annual inflation assumed) equates to R40.33bn on 120 sites over 25 years.

Ha	25%	50%	75%	100%
0.6	206 954 246	413 908 492	620 862 738	827 816 984
19.7	10 083 270 758	20 166 541 517	30 249 812 275	40 333 083 033

Upscaling the economic impact of operational phase

Contribution to development | Community

Gross contributions to Sumbandila Scholarship Trust from energy sales linked to scale

Annual (single site)

Maximum daily productivity on initial outlay of 12ha equates to 50 truck charges per day. The assumption is that one EV truck charge would equate to 450 kWh, sold at R6.00/kWh, of which Sumbandila receives 1%. This would result in a maximum contribution of R492 750 to Sumbandila per annum. If the site is expanded to the maximum (186ha), 750 EV trucks can be charged, and the maximum potential contribution to Sumbandila increases to R7.39m.

Productivity:

Ha	25%	50%	75%	100%
12	123 188	246 375	369 563	492 750
186	1 847 813	3 695 625	5 543 438	7 391 250

x100 sites

Scaled to total sites

Scaling the annual productivity at different sizes of constructed sites shows the total contribution to be made on 100 sites. If area is expanded to the maximum, the maximum potential contribution to Sumbandila in the initial phase equates to R739.13m per annum on 100 sites.

Ha	25%	50%	75%	100%
12	12 318 750	24 637 500	36 956 250	49 275 000
186	184 781 250	369 562 500	554 343 750	739 125 000

x25 years

Scaled to lifetime

The annual productivity of the 100 sites can be scaled over the lifetime of the initial phase (25 years). If area is expanded to the maximum, the maximum potential contribution to Sumbandila in the initial phase equates to R18.48bn on 100 sites over 25 years.

Ha	25%	50%	75%	100%
12	307 968 750	615 937 500	923 906 250	1 231 875 000
186	4 619 531 250	9 239 062 500	13 858 593 750	18 478 125 000

x25 years @ 5% inflation

Scaled to lifetime with inflation

The annual productivity of the 100 sites can be scaled over the lifetime of the initial phase (25 years) at an annual inflation of 5%. If area is expanded to the maximum, the maximum potential contribution to Sumbandila in the initial phase in nominal terms (5% annual inflation assumed) equates to R35.28bn on 100 sites over 25 years.

Ha	25%	50%	75%	100%
12	587 938 199	1 175 876 397	1 763 814 596	2 351 752 794
186	8 819 072 978	17 638 145 957	26 457 218 935	35 276 291 914

Upscaling the economic impact of operational phase

Contribution to development | Community

Gross contributions to Sumbandila Scholarship Trust from energy sales linked to scale

Annual (single site)

Maximum daily productivity on initial outlay of 0.6ha equates to 18 car charges per day. The assumption is that one EV car charge would equate to 55 kWh, sold at R8.00/kWh, of which Sumbandila receives 1%. This would result in a maximum contribution of R28 908 to Sumbandila per annum. If the site is expanded to the maximum (19.7ha), 877 EV cars can be charged, and the maximum potential contribution to Sumbandila increases to R1.41m.

Productivity:

Ha	25%	50%	75%	100%
0.6	7 227	14 454	21 681	28 908
19.7	352 116	704 231	1 056 347	1 408 462

x120 sites

Scaled to total sites

Scaling the annual productivity at different sizes of constructed sites shows the total contribution to be made on 120 sites. If area is expanded to the maximum, the maximum potential contribution to Sumbandila in the initial phase equates to R169.02m per annum on 120 sites.

Ha	25%	50%	75%	100%
0.6	867 240	1 734 480	2 601 720	3 468 960
19.7	42 253 860	84 507 720	126 761 580	169 015 440

x25 years

Scaled to lifetime

The annual productivity of the 120 sites can be scaled over the lifetime of the initial phase (25 years). If area is expanded to the maximum, the maximum potential contribution to Sumbandila in the initial phase equates to R4.23bn on 120 sites over 25 years.

Ha	25%	50%	75%	100%
0.6	21 681 000	43 362 000	65 043 000	86 724 000
19.7	1 056 346 500	2 112 693 000	3 169 039 500	4 225 386 000

x25 years @ 5% inflation

Scaled to lifetime with inflation

The annual productivity of the 120 sites can be scaled over the lifetime of the initial phase (25 years) at an annual inflation of 5%. If area is expanded to the maximum, the maximum potential contribution to Sumbandila in the initial phase in nominal terms (5% annual inflation assumed) equates to R8.07bn on 120 sites over 25 years.

Ha	25%	50%	75%	100%
0.6	41 390 849	82 781 698	124 172 548	165 563 397
19.7	2 016 654 152	4 033 308 303	6 049 962 455	8 066 616 607

Meta study on the impact on Agriculture

Charge (the client) aim to establish a network of car and truck electric vehicle charging stations along South Africa's highways and main roads. The aim of this report is to provide the client with an independent analysis of how much agricultural land will be affected in each category of agricultural land-use, and what is the potential loss (or gain) in agricultural income and jobs in each of the Local Municipalities where sites will potentially be located.

The analysis is based on a range of spatial datasets (i.e. South African National Land Cover, Grazing Capacity, Land Capability, Protected areas, Crop Types etc.) from which the extent of the Charge site area will be characterized. Finally, the prevalent crop, horticulture and / or livestock income that could potentially be generated on each charge site was summarised per local municipality and a high-level demographic overview of the local municipalities is provided.

Spatial contextualisation

The actual locations identified by Charge, have a total surface area of 10 823ha. These locations and boundaries change continually as the company negotiates with individual land owners[1].

2 863ha (26%) of this area can be classified as field crop boundaries: fields, that are currently or have been previously cultivated for agricultural production. For 1 866ha (65%) of the field crop area (in Limpopo, Free State, Mpumalanga, North West and Western Cape only) the detail of crops produced on these fields is available.

Table 1: Current land use of the Charging sites

	Area (ha)	% contribution
Grassland & Shrubland	4 845	34.8%
Agricultural Land use	3 406	31.5%
Natural Forrest	1 822	16.8%
Barren land	593	5.5%
Wetlands	53	0.5%
Water	28	0.3%
Village	24	0.3%
Roads	23	0.2%
Mines	14	0.1%
Residential	8	0.1%
Offices & Industrial	6	0.0%
Eroded land	1	0.0%
Urban parks	0	0.0%
Total	**10 823**	

Source: South African National Landcover (2020)

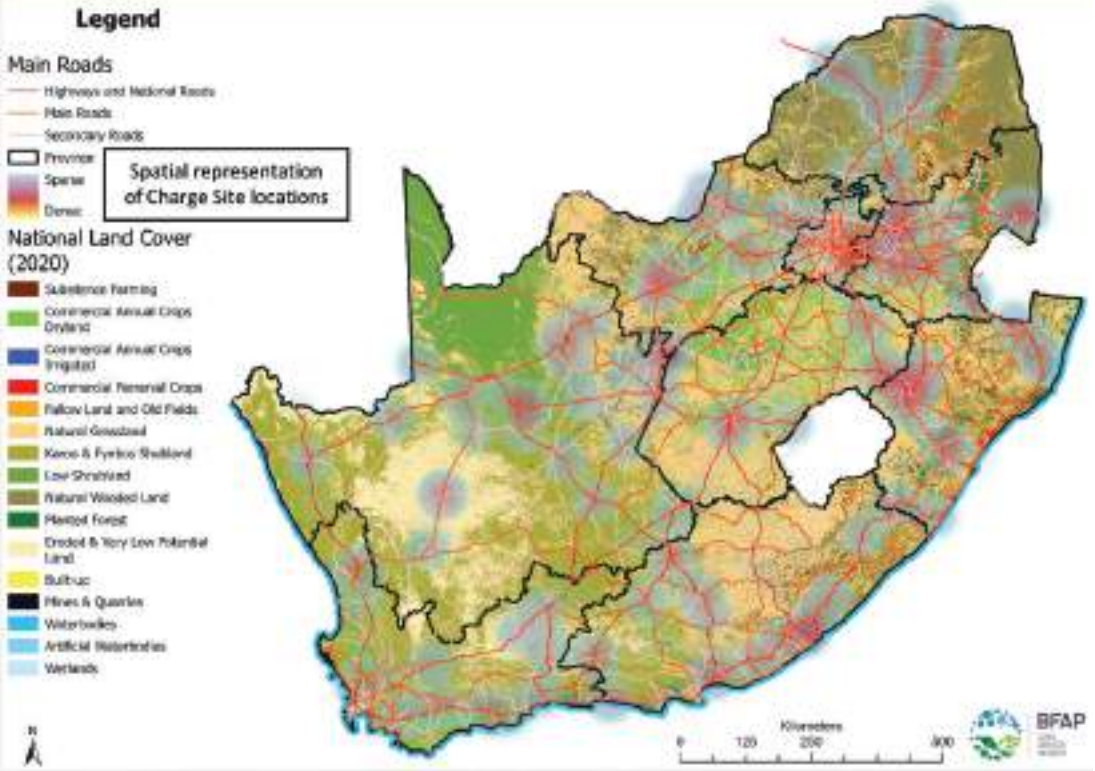


Figure 1: South African national land cover with Charge site density map and road infrastructure. (DEA, 2020 & BFAP, 2023)

[1]The spatial analysis is based on the planned site boundaries, shared by Charge in October 2023. Where there were multiple boundaries per location, the 1ha / 20ha equivalent boundary was selected as the "initial site" for each location – for which this land use impact study was done.

Cultivated fields

Field crop boundaries (cultivated fields) make up only 2 861 hectares (23%) of the total site area. The majority of these field crop boundaries are classified as rainfed, annual cultivation fields, consisting of both cash crops and planted pastures (2 497ha, 87%) whereas horticulture, subsistence farming and pineapple fields contribute an additional 128ha, 96ha and 73ha each (10% in total).

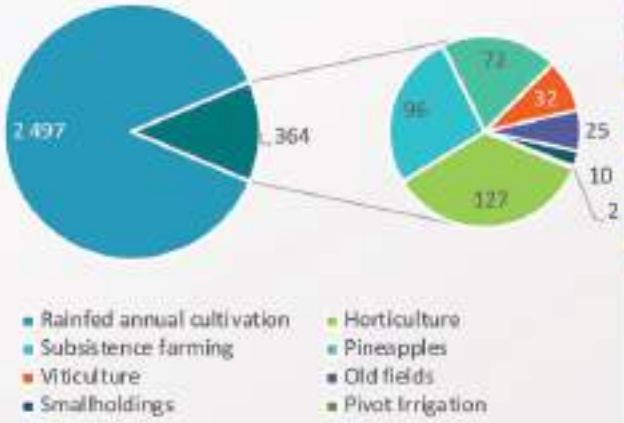


Figure 2: Field crop boundaries on Charge sites

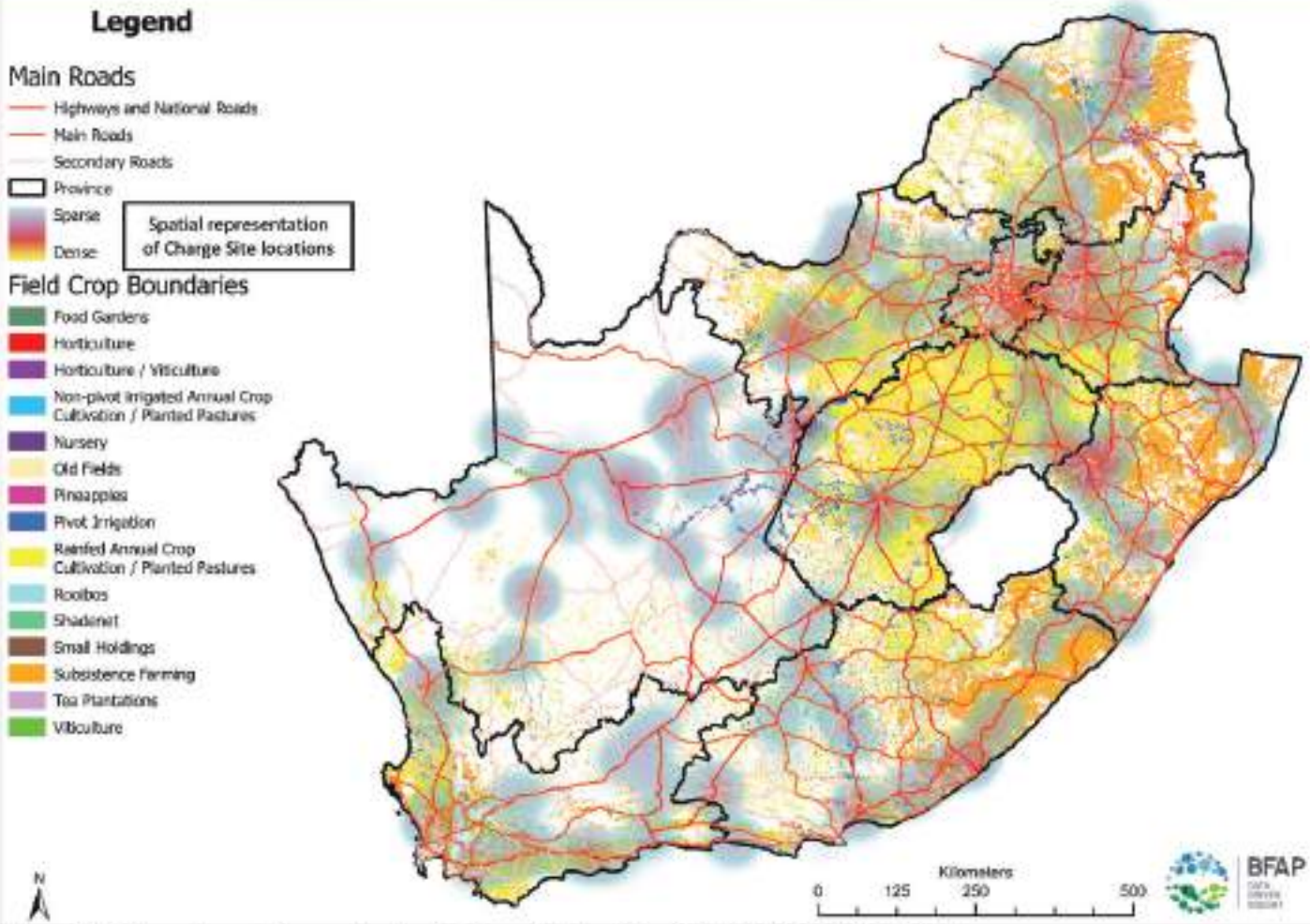


Figure 3: Field crop boundaries overlayed with Charge site densities (DALRRD, 2021 & BFAP, 2023)

Crop type information

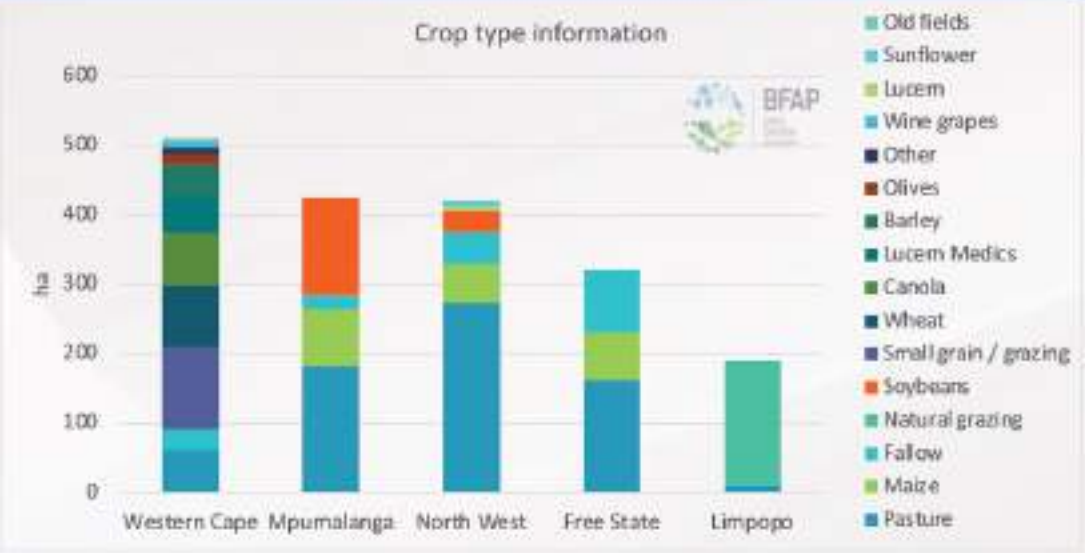


Figure 3: Crop type information on site areas (DALRRD, 2021 &; WCDoA, 2017; BFAP, 2023)

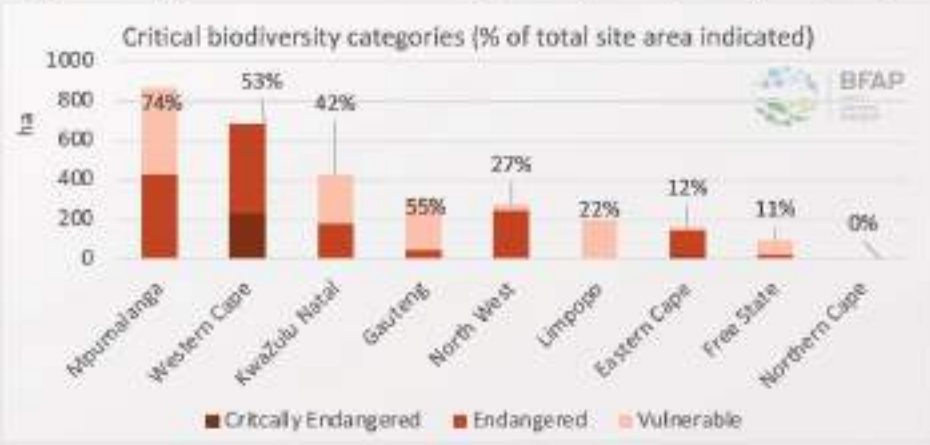


Figure 5: Critical biodiversity on site areas (SANBI 2022 & BFAP, 2023)

The 2021 crop type information (DALRRD) is available for the main summer crop producing provinces: North West, Free State and Mpumalanga. The Western Cape has conducted two flyover censuses, the latest published set from 2017 will be used. Finally, Limpopo has also conducted a flyover census in 2011, this is very outdated but some indication of the composition of the field crop boundaries in the province is an improvement on no data at all.

The available crop type information accounts for 1 866ha (65% of all cultivated fields on charge sites). The majority of cultivated fields in the 5 provinces where data is available are under a combination of pasture crops: natural grass and planted pastures (869ha, 47%) followed by maize production (204ha, 11%) and fallow fields (189ha, 10%). Together, these account for 68% of all cultivated fields in these provinces.
In the Western Cape, 327ha (64%) of cultivated fields are field crops (typically wheat, barley, canola), 25% of the cultivated fields are pastures and other fodder crops (130ha) and fallow fields & horticultural crops make up the rest of the cultivated fields.

The Critical Biodiversity Areas (CBA's) vegetation categorization by SANBI aims to support sustainable development through sustainable land use management. **These vegetation categorisations cover the total country's extent and therefore include areas where natural vegetation would have been classified as endangered, but where land use has already changed in the past**. Critical and Endangered biodiversity vegetation categories of land make up a significant portion of the Western Cape Charge site areas (53%), with less representation in other provinces. These classifications on natural vegetation will likely pose some limitations on land use change applications, mainly in the Western Cape.

Land capability, representing land use potential

The land capability dataset (see Figure 7) classifies South Africa's surface area into most to least suitable profiles for "natural or unimproved rain-fed (dryland)" production, based on soil (30% consideration), climate (40%) and terrain (30%) capabilities. A land capability class is an interpretive grouping of land units with similar potentials and continuing limitations or hazards. It is a more general term than land suitability and is more conservation oriented. The land capability classification does not take current crop cultivation, crop suitability nor unique agricultural land into consideration. It involves consideration of (i) the risks of land damage from erosion and other causes and (ii) the difficulties in land use owing to physical land characteristics, including climate.

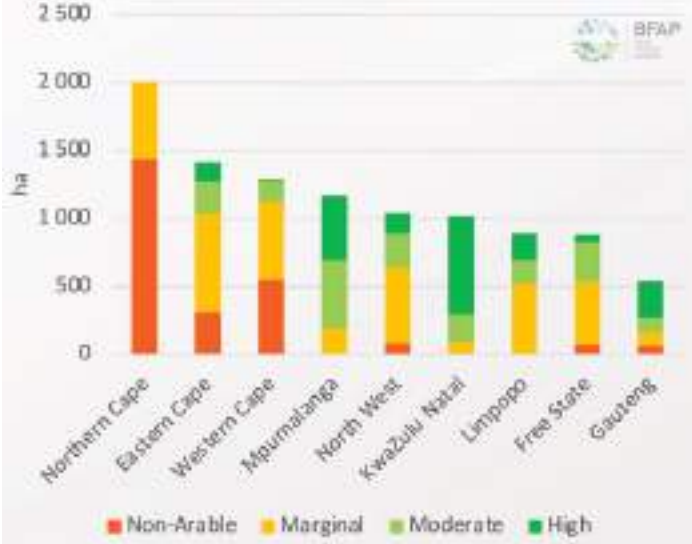


Figure 6: Land capability class per province for total site areas

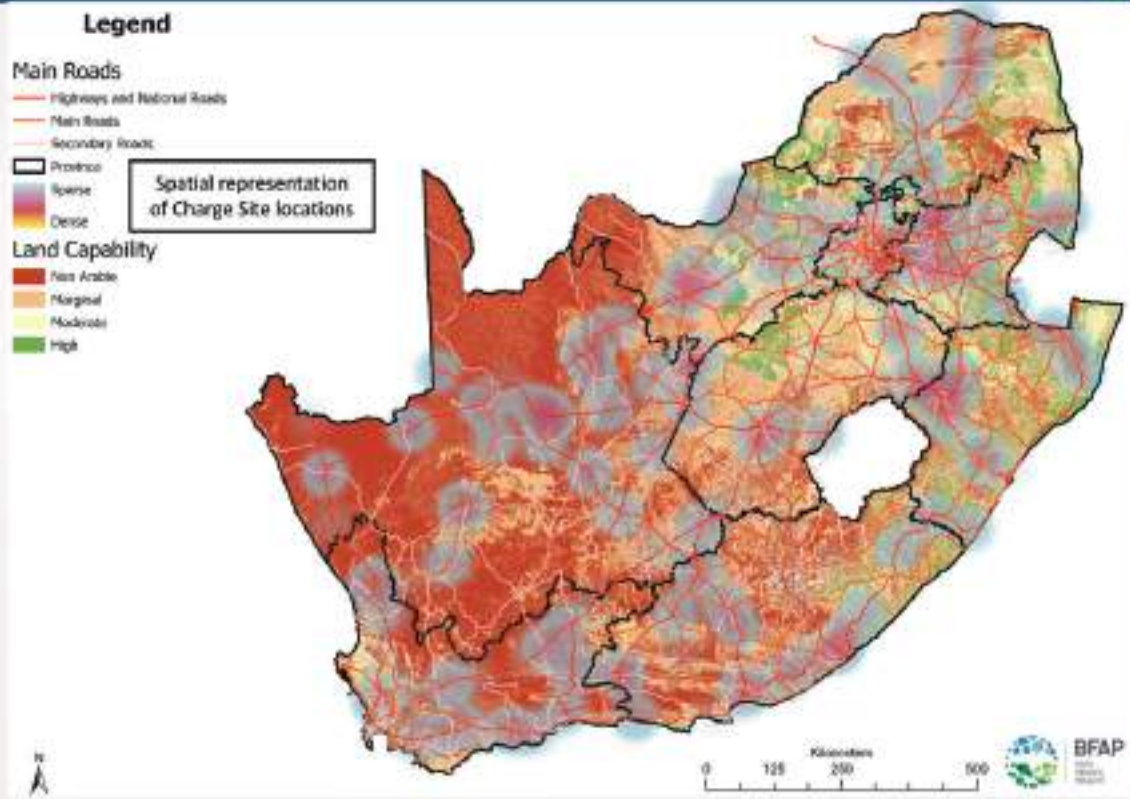


Figure 7: Land capability overlayed with Charge site location density map (DAFF, 2019 & BFAP, 2023)

Figure 6 shows that the Northern Cape Charge sites represent the largest area, but has only non-arable to marginal land capability class. Whereas Mpumalanga and KwaZulu Natal site areas comprise of mostly moderate to high land capability classes.

In summary, 25% of all the Charge site area falls in non-arable land capability, 37% is classified as marginal, 19% as moderate and 20% as high land capability class.

Protected Agricultural Areas, as developed by DALRRD

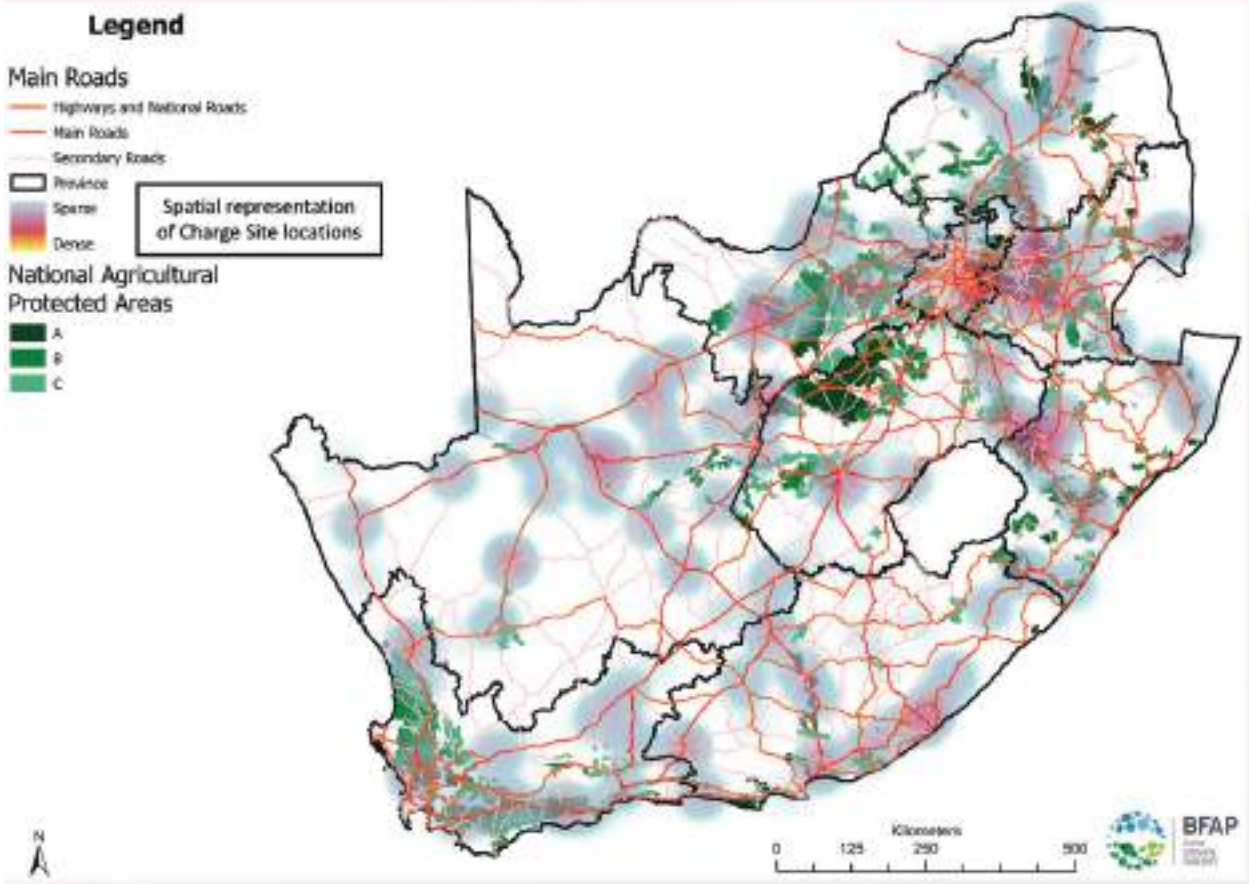


Figure 8: Protection of high-potential agricultural land (DALRRD, 2023 & BFAP, 2023)

A "Protected Agricultural Area (PAA)" is defined as a:
"cartographic delineated area of agricultural land, preserved for purposes of ensuring high value agricultural land is protected against non-agricultural land uses in order to promote the long-term agricultural production and food security".
PAAs are therefore regarded as large, relatively homogeneous portions of high value agricultural land that have the potential to sustainably, in the long-term, contribute significantly to the production of food.
The aim of these areas is to:

- Be included and gazetted as PAAs as defined under PDALB, when it is enacted (process is underway);
- Be incorporated within current spatial planning mechanisms.

A total of 2 731ha (25%) of Charge site area currently falls under PAA categories A – C, which will be designated as national protected areas. Figure 9 below lists the contribution per province.

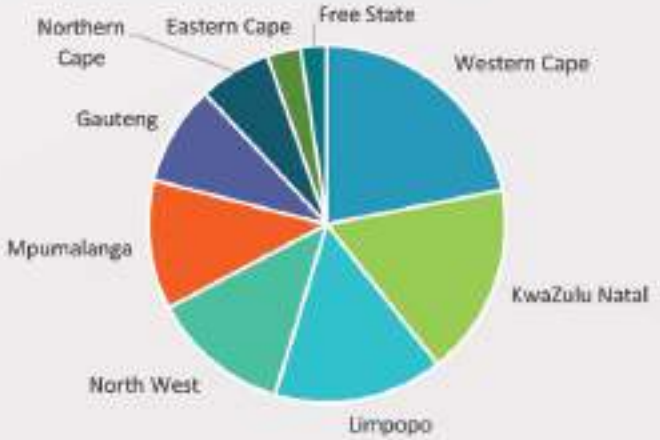


Figure 9: Total national Protected Agricultural Areas per Province (DALRRD, 2023 & BFAP, 2023)

Protected Agricultural Areas, as developed by DALRRD

Table 2 below details the top 3 landcover classes currently occurring on the National Protected Agricultural Areas (Landcover, 2020).
Most of these areas are currently under cropland production (1 216ha, 45% of all National Protected Agricultural Areas), followed by orchards (397ha, 15%), grassland (356ha, 13%) natural forests (309ha, 11%) and shrubland (295ha, 11%). The remaining area is made up of fallow land, plantations and some other landcover classes. These National Protected Agricultural Areas contribute 44% to the total charge site area in the Western Cape, up to 48% of the charge site area in Limpopo and 34% of the charge site area in both KwaZulu Natal and the North West provinces.

Table 2: Summaries on the current land use of national protected agricultural areas (DALRRD, 2023 & BFAP, 2023)

	Western Cape	KwaZulu Natal	Limpopo	North West	Mpumalanga	Gauteng	Northern Cape	Eastern Cape	Free State
Top 3 Landcover classes on National Ag. Protected areas.	Commercial cropland	Orchard	Natural Forrest	Commercial cropland	Commercial cropland	Commercial cropland	Shrubland	Grassland	Commercial cropland
	Shrubland	Grassland	Commercial cropland	Grassland	Orchard	Grassland	Grassland	Shrubland	Grassland
	Orchard	Fallow land	Fallow land	Fallow land	Grassland	Wetlands	Orchard		Fallow land
Sum of top 3 land cover classes	565	426	416	332	310	246	175	83	63
Total National Ag Protected Area	599	474	419	343	320	247	178	83	64
Total Charge Site Area	1 287	1 267	872	990	3 224	615	2 007	1 326	1 019
% of Charge site area, that is a national protected area	44%	34%	48%	34%	10%	40%	9%	6%	6%

Grazing capacity and livestock production

Figure 10 below shows South Africa's grazing capacity (in ha/Large Stock Unit (LSU)) overlayed with the Charge site density map while Figure 11 presents the contribution of various grazing capacity classes to the total charge site areas. The shrubland / Karoo vegetation in the Northern and Western Cape have the highest ha/LSU requirements.

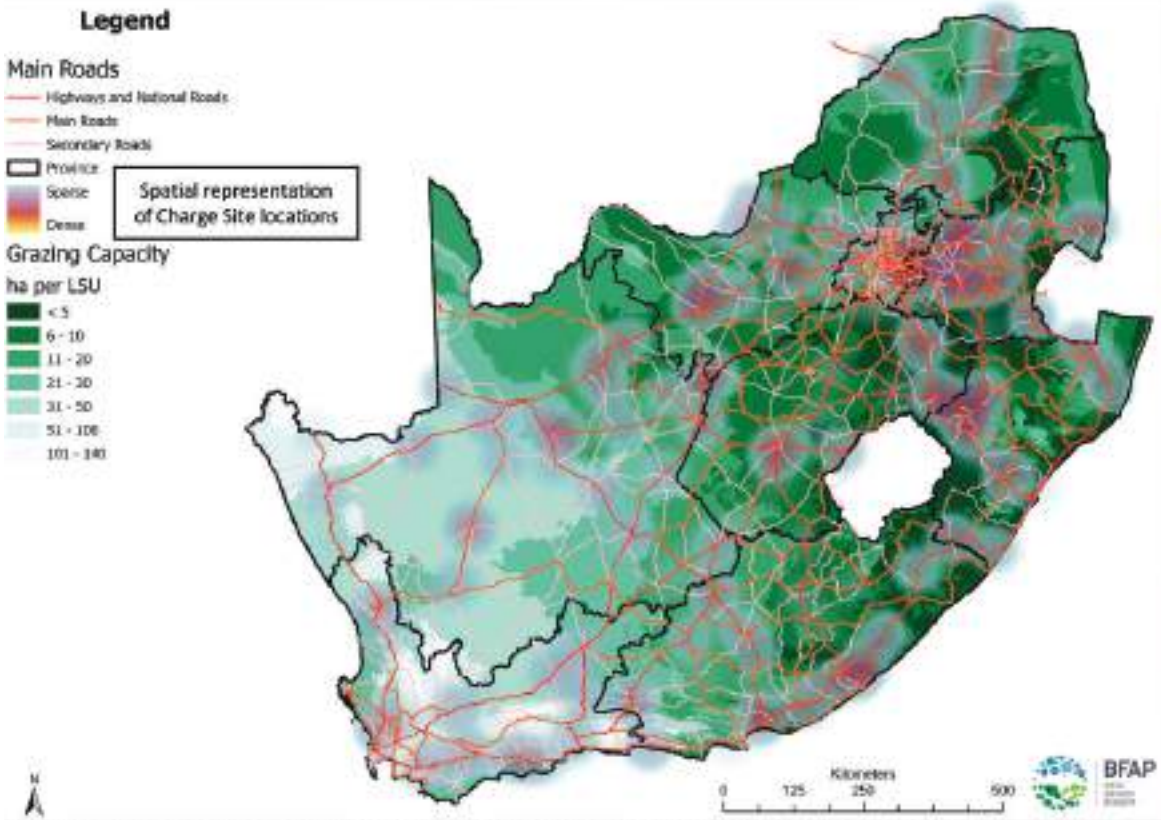


Figure 10: Grazing capacity overlayed with charge site density map (DAFF, 2019 & BFAP, 2023)

	Western Cape	Northern Cape	KwaZulu Natal	Mpumalanga	North West	Eastern Cape	Free State	Limpopo	Gauteng
>30	986	785	234	83	78	0	0	0	0
15-30	139	730	0	0	102	474	75	174	0
7.5-15	0	410	343	1 389	260	115	157	499	229
5-7.5	162	83	541	1 715	550	578	621	198	289
3-5	0	0	348	238	0	362	164	0	96

Figure 11: Grazing capacity on Charge sites, per province (DAFF, 2019 & BFAP, 2023)

A total of 1 209ha (mainly in KwaZulu Natal, Eastern Cape, Free State and Mpumalanga represents land requiring only 3-5ha/LSU. This dataset is further used to develop potential income per hectare estimations.

Similarly to the protection of high-potential agricultural land methodology, the Department of Agriculture has defined high potential agricultural areas, specific to grazing, and has published the Western Cape set to date. The Charge site areas currently contain only category C and D grazing potential area (70ha and 390ha respectively); which are not currently classified as national protected areas.

Representativity within total Agriculture i.t.o. Area

41% (5 190ha) of the total Charge site area is classified as various agricultural activities by the land cover (see Table 2). In Table 2, the South African total field crop, irrigation, plantation forest, orchards, sugarcane and pineapple area is presented from various sources. Finally, the percentage presents the proportion of the total agricultural activity (in ha) that could potentially be affected by developing these Charge sites.

The total intended Charge site area is considered potential grazing land and the number of LSU's that can theoretically be supported on these sites is calculated at 1 219.

This number is then compared to the 12.8 million heads of cattle that are reported as the South African cattle herd by the Department of agriculture.

Similarly crop areas for other agricultural activities are compared: ***The impact is estimated to be less than 0.1% for all categories of agricultural activity with the exception of plantation forests and orchards.*** None of these macro-impact metrics are larger than 1%, and therefore unlikely to significantly affect agricultural production/activities and/or result in significant agricultural job losses.

Table 2: Total charging site area compared to South African totals

	Charge Site Area (ha)[6]	South Africa Total (ha) (2020-2022 avg)	
Field crops	3 238	5 272 000[1]	**0.06%**
Irrigation	19	1 390 000[2]	**0.001%**
Grazing	1 103 cattle[3]	12 871 853 cattle[4]	**0.009%**
Plantation Forest	200	117 917[5]	**0.17%**
Orchard	1 497	408 881[6]	**0.37%**
Sugarcane	237	252 700[1]	**0.09%**
Total	**5 190**		

[1] *BFAP Sector Model, 2020 – 2022 average*
[2] *WRC & DAFF 2018, BFAP 2021*
[3] *Total large stock units (cattle) that can theoretically be supported by total Charge site area, based on Grazing Capacity (DAFF 2018)*
[4] *South African cattle herd (DAFF 2018)*
[5] *SACOL Annual Report (2022/2023)*
[6] *South African National Land Cover 2020 (SANBI 2020)*

Representativity within total Agriculture i.t.o. Production volumes

Table 3: Total charging site production estimates compared to South African totals

	Production estimate ('000 tonnes)	National Total ('000 tonnes)	%
Soybeans [1]	19.34	1 676[4]	1.154%
Avocados [2]	0.73	135[4]	0.539%
Pecans [2]	0.06	23[5]	0.249%
Cabbage [2]	0.36	165[4]	0.221%
Carrots [2]	0.34	222[4]	0.153%
Sunflower [1]	1.10	841[4]	0.131%
Wheat [1]	1.74	1 979[4]	0.088%
Sugarcane [2]	15.11	18 484[4]	0.082%
Maize [1]	11.10	16 017[4]	0.069%
Wine grapes [2]	0.82	1 292[5]	0.063%
Macadamias [2]	0.02	59[5]	0.040%
Table Grapes [2]	0.05	353[5]	0.014%
Beef [3]	0.049	700[4]	0.007%
Pineapples [2]	4.52	117[4]	0.04%
Potatoes [2]	0.08	2 659[4]	0.003%

[1] It is assumed that all cultivated fields are planted to that particular crop and the yield according to crop suitability is achieved.
[2] Only the area currently under orchards in Local Municipalities where these crops are predominantly cultivated (CoCA, 2017).
[3] Based on grazing capacity and BFAP Farm & Production Modelling assumptions.

For the potential production estimation of major field crops (soybeans, sunflower, wheat, maize) it is assumed that all cultivated fields are planted toward that particular crop (therefore representing an **upper limit of potential production impact**). Given this assumption and the consequent comparison with national statistics from the 2022 season, the largest potential share of production is 1.154% of the national soybean crop. Followed by 0.131% of the sunflower crop, 0.088% of the wheat crop and 0.069% of the national maize crop. **These potential crop production contributions are minute, if compared to the typical seasonal (climate-driven) variability in production (5-year average year-on-year production changes indicated): 12% for soybeans, 7% for maize, 6% for wheat and 0.4% for sunflower.**

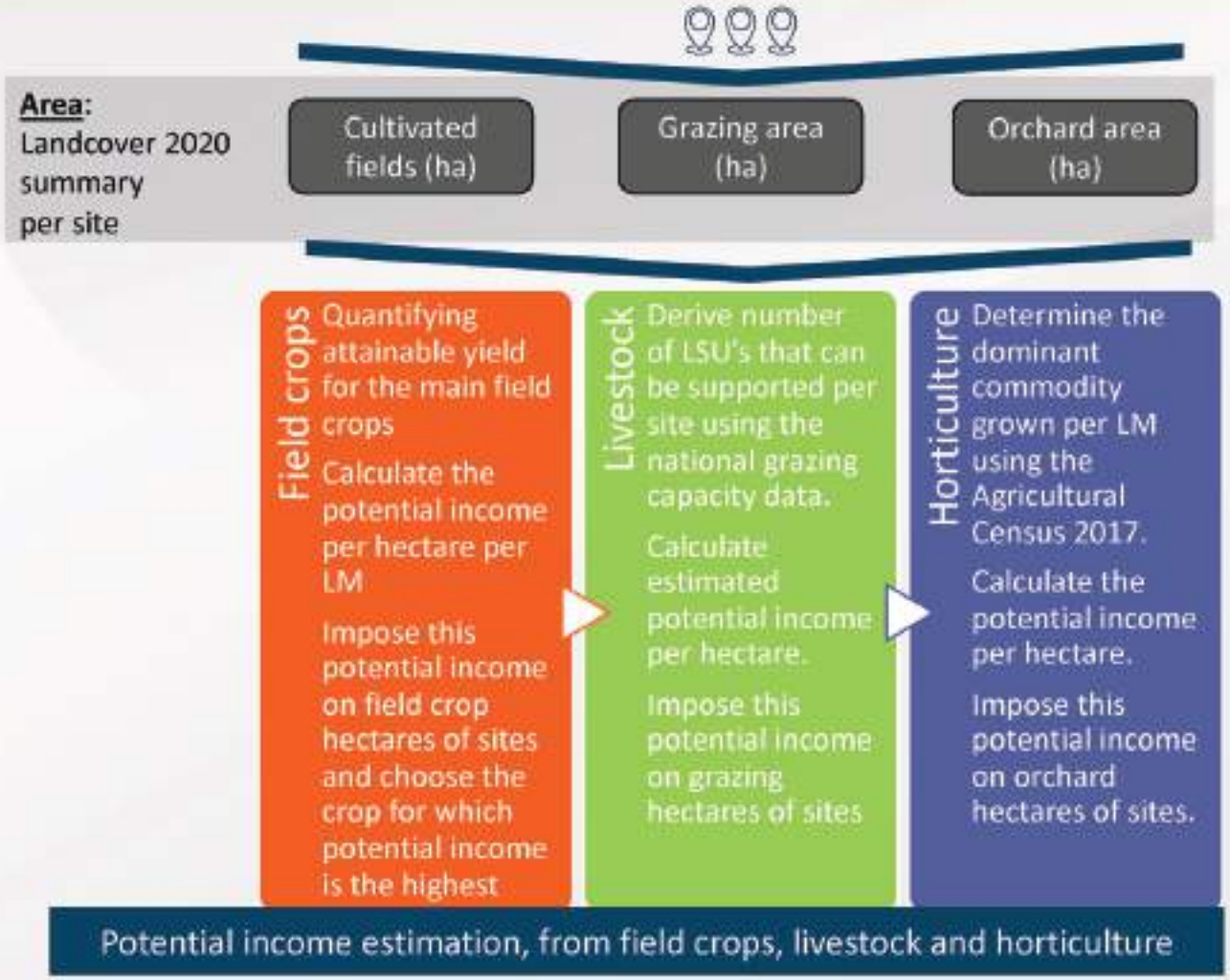
All estimated potential orchard production impacts, with the exception of avocados and pineapples, were 0.25% or less of national production totals. For those two commodities, the impact remains less than or close to half a percentage.

For the grazing area impact, the grazing capacity in terms of large stock units (i.e. cattle) was used to estimate that **426 cattle (0.003% of the national cattle herd) could be potentially be sustained on the grazing area** falling in the charge sites and from these cattle, **an estimated 49 tonnes of meat could be produced annually (0.007% of the total beef production in South Africa)**.

[4] DALRRD, Abstract of Agricultural Statistics 2022.
[5] BFAP and South African industry organisations' statistics, 2022.

Income estimation from agricultural activities on proposed Charge sites: Potential income substitution calculation

Illustration of potential gross margin (income) estimations



1) The cultivated fields, grazing and orchard hectares were determined form the National South African Landcover 2020.

2) The BFAP farm level division compiled a set of representative farm level budgets for a selection of field crops and orchard crops as well as hectare/LSU based gross margin (income) estimates for livestock farming.

3) For fieldcrops, the GAEZ yield potential model (see next page) was used to extrapolate relevant gross margin (incomes) per crop to site locations.

4) The average potential income from each subsector (field crops, livestock, horticulture) and summarized per province and local municipality.

The **Gross Margin** is defined as income (price x volumes) less direct costs (e.g. seed, fertiliser, water for irrigating orchards etc.). But excluding overhead/ indirect costs (e.g. loan repayment, permanent labour etc.).

Maize & Soybean yield potential

FAO and IIASA (2023) in their Global Agro Ecological Zones (GAEZ) version 4, have published yield potential values based on various agronomic variables with the assumption that high-input regimes (commercial farming equivalent in South Africa) are used. The yield potential for maize, soybeans, sunflower and wheat was linked to each site area and the relevant gross margin (income) from farming activities was calculated.

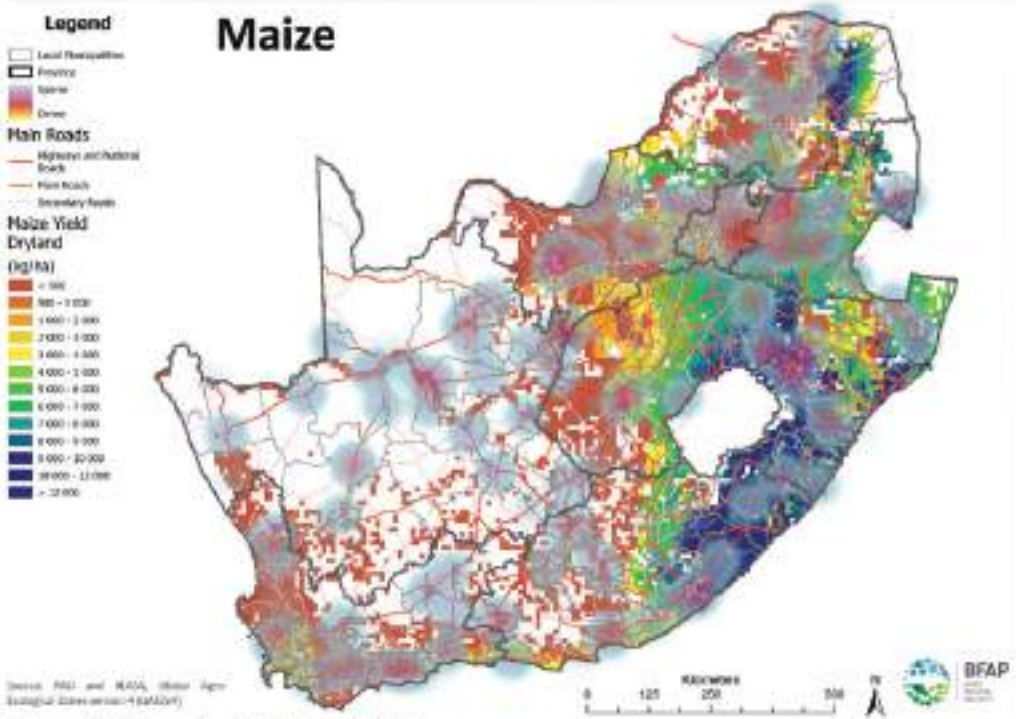


Figure : Maize potential dryland yield
Source: FAO & IIASA (2023)

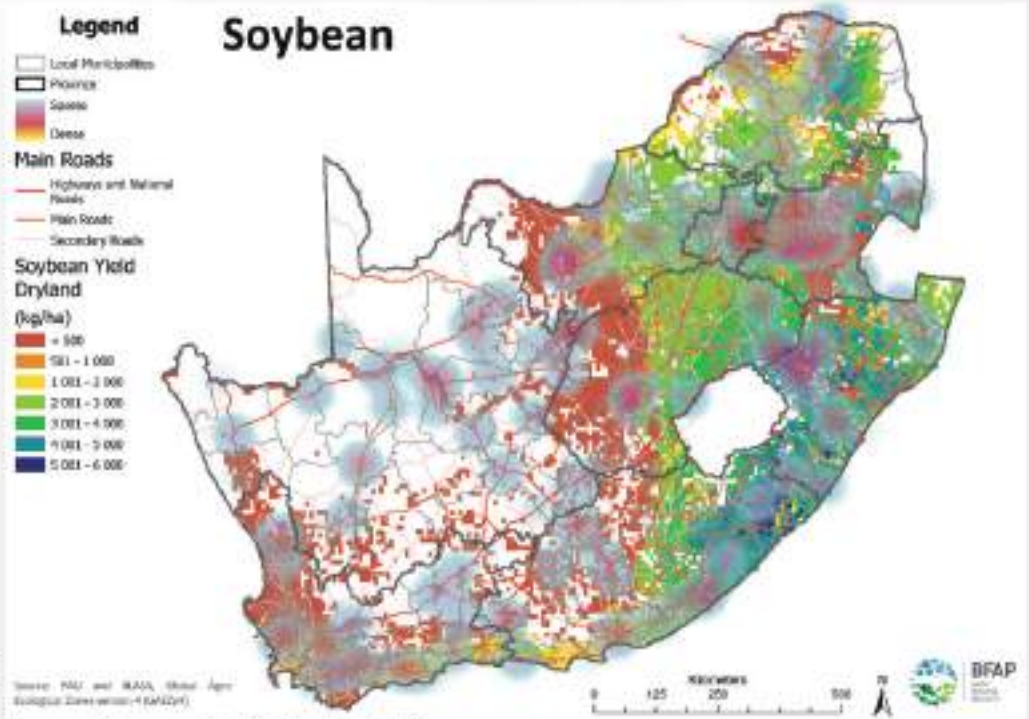


Figure : Soybean potential dryland yield
Source: FAO & IIASA (2023)

Potential income calculations - Summary

The cultivated fields, grazing and orchard hectares per site were determined form the National South African Landcover 2020 and are summarized in Table 3. This is the agricultural area, that could potentially generate an income from the agricultural sector perspective. This income per hectare is estimated in the next step

The BFAP farm level division compiled a set of representative farm level budgets (per natural resource productivity) for a selection of field crops and orchard crops as well as hectare/LSU based gross margin (income) estimates for livestock farming. These were in turn assigned to the site areas, based on natural resource potential proxies. The average income (gross margin) per hectare per subsector is summarised in Table 4.

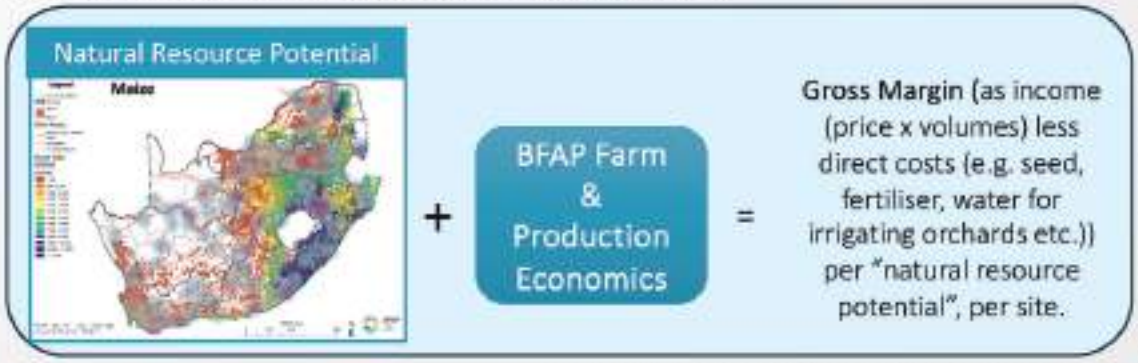


Table 3: Agricultural area per province

Province	Total site area (ha)	Landcover 2020 area estimate (ha) Cultivated Fields	Grazing	Orchards
Northern Cape	2 008	218	1 288	2
Limpopo	872	241	92	0
North West	990	384	372	36
Mpumalanga	3 225	506	314	93
Eastern Cape	1 111	419	746	1
Western Cape	1 286	334	725	30
KwaZulu-Natal	1 114	575	411	6
Free State	1 018	302	680	0
Gauteng	614	259	217	0
	10 083	**3 238**	**4 845**	**168**

Table 4: Average potential gross margin per subsector

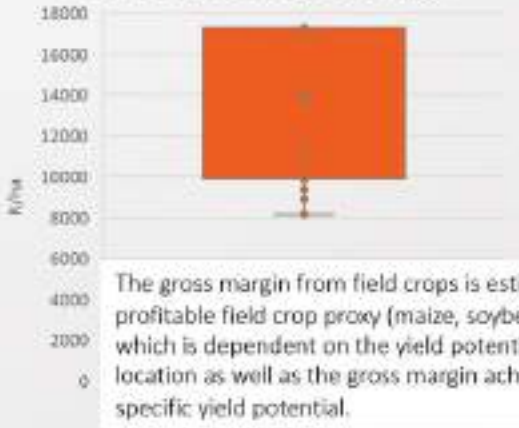
Province	Average potential gross margin per ha (R/ha) Fieldcrops	Livestock	Horticulture
Northern Cape	R0	R162	R111 607
Limpopo	R13 175	R381	
North West	R9 767	R346	R101 344
Mpumalanga	R14 238	R478	R112 896
Eastern Cape	R11 222	R418	R62 997
Western Cape	R8 792	R86	R50 190
KwaZulu-Natal	R17 294	R444	R86 809
Free State	R14 396	R515	
Gauteng	R17 294	R532	
Province	**R12 520**	**R477**	**R87 641**

Potential income substitution calculations - Summary

Table 5: Potential income from agriculture summary

	Landcover 2020 area estimate (ha)				Average potential gross margin per ha (R/ha)			Total potential income per subsector (Rands)		
Province	Total site area (ha)	Cultivated Fields	Grazing	Orchards	Fieldcrops	Livestock	Horticulture	Fieldcrops	Livestock	Horticulture
Northern Cape	2 008	218	1 288	2	R0	R162	R111 607	R0	R207 994	R272 320
Limpopo	872	241	92	0	R13 175	R381		R3 174 194	R35 096	R0
North West	990	384	372	36	R9 767	R346	R101 344	R3 745 849	R128 588	R3 692 993
Mpumalanga	3 225	506	314	93	R14 238	R478	R112 896	R7 200 809	R149 718	R10 449 694
Eastern Cape	1 111	419	746	1	R11 222	R418	R62 997	R4 701 041	R312 013	R93 235
Western Cape	1 286	334	725	30	R8 792	R86	R50 190	R2 932 555	R62 137	R1 489 636
KwaZulu-Natal	1 114	575	411	6	R17 294	R444	R86 809	R9 951 113	R182 659	R482 658
Free State	1 018	302	680	0	R14 396	R515		R4 352 798	R350 173	R0
Gauteng	614	259	217	0	R17 294	R532		R4 475 752	R115 514	R0
	12 239	**3 238**	**4 845**	**168**	**R12 520**	**R477**	**R87 641**	**R40 534 110**	**R1 543 892**	**R16 480 536**

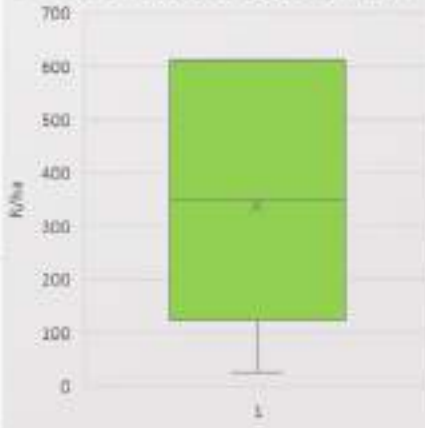
Fieldcrops potential gross margin



The gross margin from field crops is estimated based on the most profitable field crop proxy (maize, soybeans, sunflower and wheat) which is dependent on the yield potential of that crop at that location as well as the gross margin achieved on average for a specific yield potential.

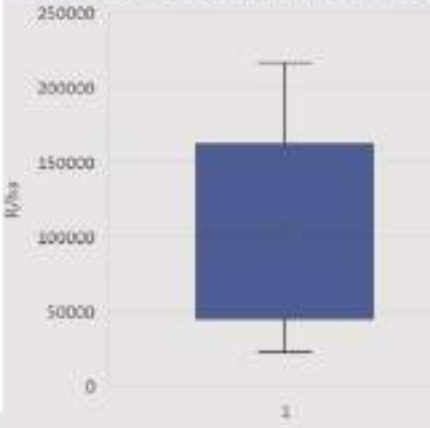
The gross margin from livestock is derived from the gross margin achievable, given levels of grazing capacity. These are then assigned to each site, given the locations' grazing capacity.

Livestock potential gross margin



The relevant horticultural crop is selected based on "orchard and sugarcane" activities located by the landcover data. Then representative gross margins are estimated for the relevant crop and assigned to the Charge sites. In this case, the variation comes primarily from the various horticultural crops that are selected per site.

Horticulture potential gross margin



Examples and spatial analysis of higher value crop areas

In some cases, the initial charge site boundaries include significant areas / fields of higher value crops. Two examples are highlighted / demonstrated below. The impact on potential agricultural income would be significantly different if the site area was shifted a bit or when the detail of exactly which parts of the site boundary would undergo some form of land use change.

Table Grapes in the Northern Cape

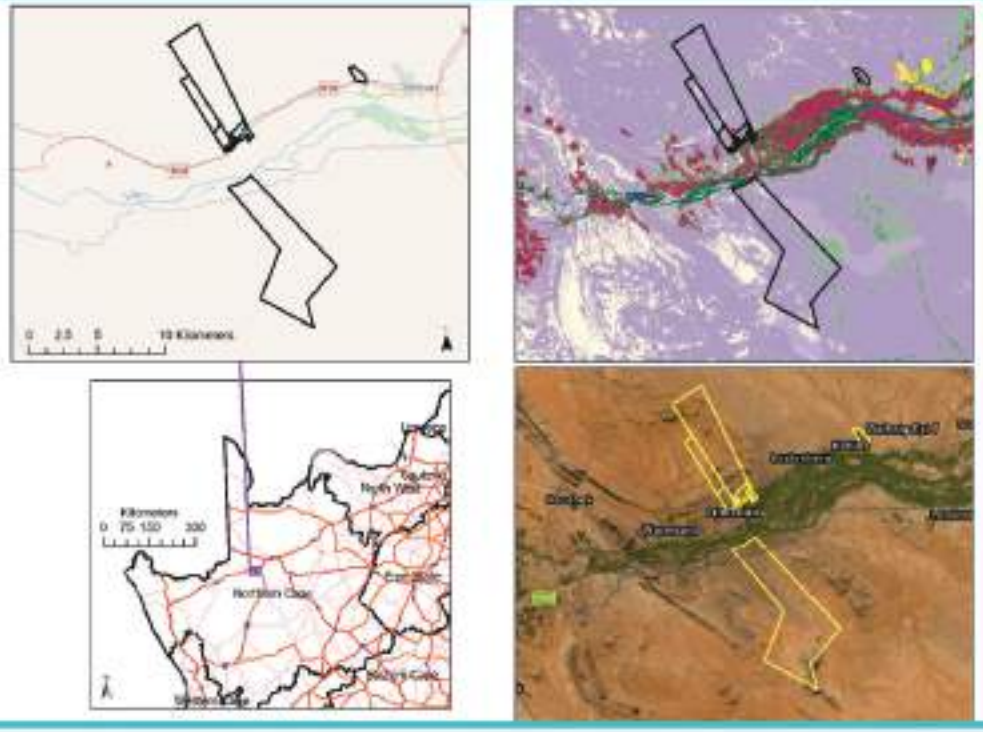


Figure 12: Table grape example in the Northern Cape
Source: Charge & BFAP (2023)

Sugarcane in KwaZulu-Natal

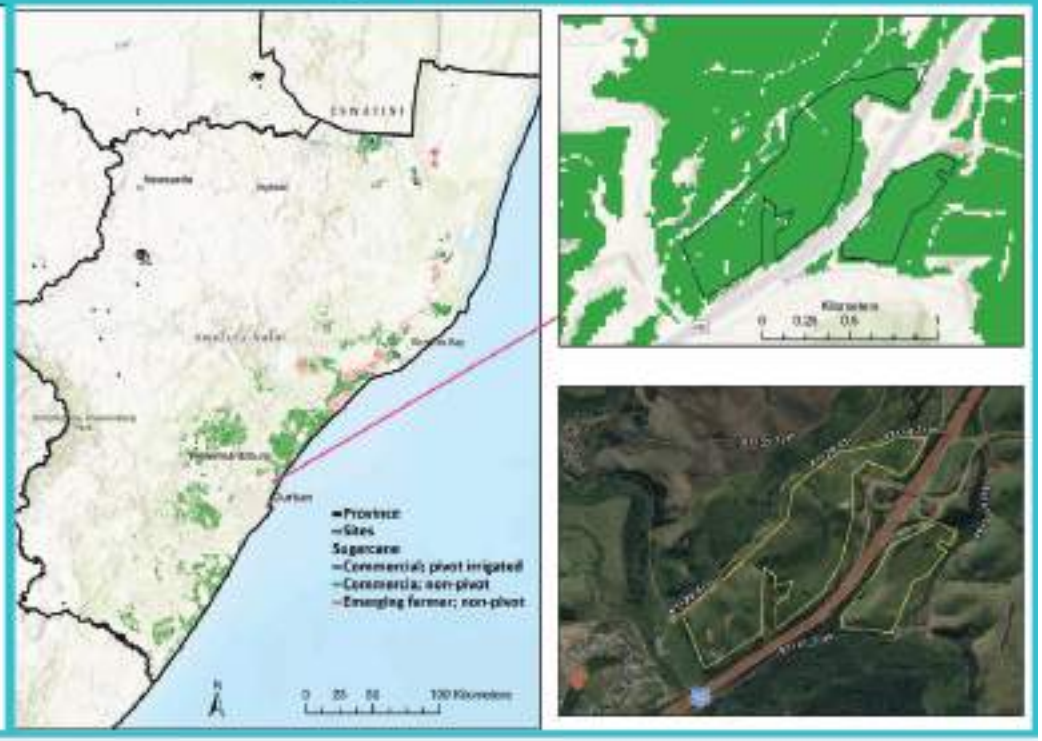


Figure 13: Sugarcane example in the KwaZulu-Natal
Source: Charge & BFAP (2023)

Thank You

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Visual Impact Report

VISUAL IMPACT REPORT

COMPILED BY

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Proposed Network of Electric Vehicle Charging Stations with Associated Renewable Energy Facilities

Strategic Visual Assessment

Executive Summary

Prepared for
Zero Carbon Charge (Pty) Ltd

Prepared by
Quinton Lawson and Bernard Oberholzer
Visual Specialists

November 2023
Updated January 2024

1. Background

Zero Carbon Charge (Pty) Ltd (ZeroCC) plan to roll out a network of car charging stations, powered by renewable energy facilities, along all the main routes across South Africa. Approximately 120 car charging stations with mainly solar facilities, at about 150km intervals, are envisaged at this stage.

A similar number of truck charging stations with larger renewable energy sites are envisaged. In some cases, the car and truck charging stations would be combined at the same site. The intention is to locate the car charging stations in tandem with existing farm stalls or guest houses along major national and provincial routes.

The Visual Specialist Study forms part of a Strategic Environmental Assessment (SEA), the intention of which is to provide early input into the potential visual sensitivity and mitigation of possible sites identified by ZeroCC. The high-level desktop screening study is intended to assess the cumulative project as a whole, and is not a visual impact assessment (VIA) of individual sites.

The term 'visual' includes a range of aesthetic, scenic and amenity values, which contribute to an area's overall 'sense of place' for both natural and cultural landscapes. Scenic resources in particular, often viewed from the main arterial routes, play an important role in the tourism economy of each region.

2. Project Description

The car charging sites would range from an initial 1ha to about 20ha to allow expansion of the solar facilities over time on a phased basis. In other words the solar farms would be modular in that the entire solar facility for each site would not necessarily be built at the same time. Some of the sites have existing farmstalls or guest houses, while new farmstalls are envisaged in other cases.

The purpose of the solar facilities, which make use of a cellular approach, is to provide energy at a local scale for the car charging stations and nearby users. The intention is not to feed into the national grid, which currently lacks capacity, and therefore no additional connecting powerlines would be required.

The mitigating effect of doing cellular generation of energy for green mobility at the local scale is aimed at negating the need to build new electrical grid infrastructure in the form of powerlines and substations to supply the additional demand.

The Developers estimate that this localised cellular network of solar facilities would avoid the need for some 18 000 km of new electrical grid infrastructure often entailing large pylons, and that this would significantly outweigh the potential visual influence of the relatively small solar facilities envisaged. They indicate the comparison of these two approaches in the images below.

The localised cellular approach using solar panels

The electrical grid approach at the national scale

The various components of a car charging station and associated solar facility are listed below, together with a typical footprint in Figure 1.

Solar arrays (up to 3,5m height);
Charging station control room in a standard 6m container (3m height).
Natural gas on-site generator;
Car charging point with canopy;
New farmstall in some cases, approx. 100m^2;
5 000 to 10 000 litre water storage tanks, typically behind the farmstall;
Underground/overhead 33 kV powerlines (9m height);
Security fencing (2m height).

Figure 1: 3-D view of a typical 1 hectare car charging station and solar facility, which includes a farmstall.

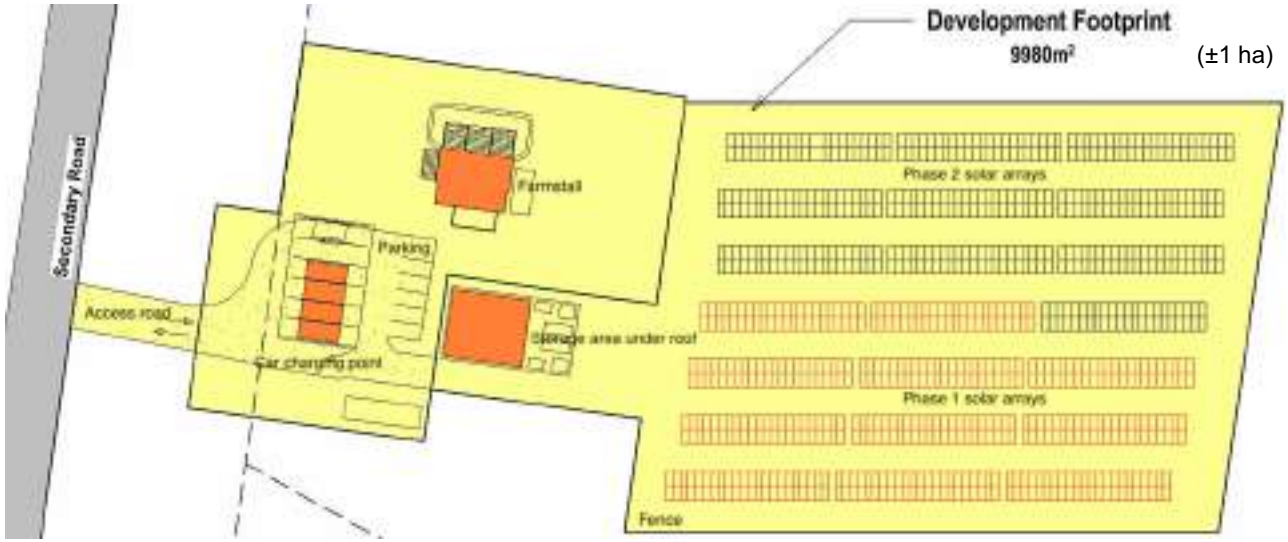

Figure 2: Typical site development plan for a 1 hectare car charging station and solar facility.

Figure 3: View of a typical solar facility adjacent to an arterial route near De Aar.

3. Study Methodology

The strategic visual assessment included the following:

Site Description and Possible Mitigation:

A description and possible visual mitigation measures to avoid or minimise potential visual impacts are provided for each site in a series of tables, accompanied by Google Earth ground views. A preliminary visual sensitivity rating before mitigation is provided. (See **Addendum A**).

Visual Sensitivity Mapping:

Mapping of scenic topographic features, protected areas and potentially sensitive receptors (see Table 1) for each site. General information sources for the mapping are given in Table 2. The maps indicate potential visual sensitivity on a gradient from very high to high, medium and low visual sensitivity based on criteria in Table 3. (See **Addendum B**).

Table 1: Scenic Features and Sensitive Receptors

Topographic features	Landforms such as mountains, koppies, cliffs and rock outcrops contribute to the scenic value of the area, providing visual interest or contrast.
Water features	Water features, including rivers, lakes and large dams provide scenic and amenity value, particularly in arid landscapes.
Cultural landscapes	Cultural landscapes, such as rural landscapes, historical buildings or settlements, battle sites, cemeteries etc. have cultural value, increasing visual sensitivity.
Protected Areas	Protected areas, such as national parks, nature reserves and other conservation areas tend to increase visual sensitivity.
Human settlements	Human settlements, such as farmsteads, villages or towns, and particularly residential areas, tend to be sensitive to visual intrusions such as power lines and other infrastructure.
Scenic and arterial routes	National roads, provincial roads, scenic routes and mountain passes or poorts tend to be visually sensitive, especially for the tourism economy.

Table 2: Information Sources

Data / Information	Source	Date	Type	Description
Project Data	Zero Carbon Charge (PTY) LTD	2023	Vector Digital Spatial Data	Project Layouts by proponent
South African Protected Areas Database	Department of Forestry, Fisheries and the Environment (DFFE) https://egis.environment.gov.za/gis_data_downloads	2023 Q2	Vector Digital Spatial Data	Spatial delineation of Protected Areas in South Africa, updated quarterly
1:50 000 Topographic Series GIS Data	Chief Directorate National Geo-spatial Information (CDNGI) http://www.cdngiportal.co.za/cdngiportal/	2023	Vector Digital Spatial Data	Spatial Data 1:50 000 Topographic Series including elevational data (20m contours)
1:50 000 Topographic Series Maps	Chief Directorate National Geo-spatial Information (CDNGI) http://apollo.cdngiportal.co.za/erdas-iws/ogc/wms/CDNGI_PORTAL_BACKDROP	2023	Georeferenced Raster Mosaic	CDNGI_50K_Current_Mosaic
1:250 000 Topo-cadastral Series Maps	Chief Directorate National Geo-spatial Information (CDNGI) http://apollo.cdngiportal.co.za/erdas-iws/ogc/wms/CDNGI_PORTAL_BACKDROP	2023	Georeferenced Raster Mosaic	CDNGI_250K_Current_Mosaic
Spatial Cadastral Data	Cape Farm Mapper 3 https://gis.elsenburg.com/apps/cfm/	2023	Vector Digital Spatial Data	Spatial Cadastral Data of Farm Boundaries
South African Heritage Resources Agency	National Heritage Sites Inventory Database	2017	Vector (Point) Digital Spatial Data	National Heritage Sites, Graded
Open Street Map (OSM) Spatial Data	www.openstreetmap.org www.geofabrik.de	2023	Vector Digital Spatial Data	South Africa Road and Waterway Data
SA Road and Terrain Data	Google Maps (maps.google.com)	2023	Online Data	South Africa Road and Terrain Data
SA Satellite Imagery	Google Earth Pro	2023	Online Data	South Africa Satellite Imagery

The buffers recommended in Tables 3a and 3b below are based on the National Wind and Solar SEA prepared with the CSIR for the DFFE (2014), as well as on a number of other visual impact studies for solar energy facilities by the authors. The buffers have, however, been adapted to the smaller solar facilities proposed by ZeroCC.

The visual buffers indicated in the mapping are intended for the solar arrays, substations and battery storage systems (if required), and not for the car charging stations or farmstalls, which tend to be visually insignificant, and would therefore not normally require visual buffers. The buffers are nominal at this stage and need to be adapted to actual site conditions.

The separate tables for each route attached as **Addendum A** need to be read in conjunction with the maps in **Addendum B**. The tables provide a brief description of each site, together with Google Earth street views, as well as possible visual mitigation measures to reduce visual sensitivity, and therefore potential visual impact significance for each site.

The visual buffers indicated on the maps are intended to be nominal and would not apply, or would be reduced, where a proposed site is in a view shadow (i.e. not visible to receptors), or is screened by existing buildings, road embankments or vegetation.

Visual impact significance can be reduced by means of avoidance, visual mitigation or offsets. Avoidance can include relocating or changing the boundaries of the proposed site, or by reducing the footprint of the proposed solar facilities. Mitigation usually involves screen planting or mounding to reduce visual exposure of the solar facilities. Offsets could include landscape reclamation of disturbed or derelict sites.

The context of each site, such as surrounding land uses or disturbed areas, need to be taken into consideration on an individual site basis in order to determine their actual visual impact significance.

Table 3a: Visual Sensitivity Mapping Criteria (Sites smaller than 10ha)

Scenic Resources	**Very high sensitivity**	**High visual sensitivity**	**Medium visual sensitivity**	**Low visual sensitivity**
Scenic topographic features (koppies, outcrops etc).	Feature	Within 150m	-	-
Perennial drainage courses, wetlands, water bodies	Within 30m[1]	Within 60m[1]	-	-
Steep slopes	Slopes > 1:4	Slopes > 1:10	-	-
Sites of heritage or cultural value (historical buildings, battle sites, cemeteries etc)	within 100m[2]	within 200m[2]	-	-
Protected Landscapes / Sensitive Receptors				
Nature reserves, game farms, tourist accommodation	within 250m	within 500m	within 1 km	-
Farmsteads outside the site	within 100m	within 200m	within 300m	-
Settlements (towns, villages)	within 100m	within 200m	within 300m	-
Scenic routes	within 250m	within 500m	within 1 km	-
National Roads (non-scenic)	within 100m	within 200m	within 400m	-
Provincial / arterial routes (non-scenic)	within 60m	within 120m	within 200m	-
Main district roads (non-scenic)	within 30m	within 60m	within 100m	-
Passenger rail lines	within 100m	within 250m	within 400m	-

Notes:
[1] To be determined by Freshwater Specialist
[2] To be determined by Heritage Specialist

Table 3b: Visual Sensitivity Mapping Criteria (Sites larger than 10ha)

Scenic Resources	**Very high sensitivity**	**High visual sensitivity**	**Medium visual sensitivity**	**Low visual sensitivity**
Scenic topographic features (koppies, outcrops etc).	Feature	Within 150m	-	-
Perennial drainage courses, wetlands, water bodies	Within 30m[1]	Within 60m[1]	-	-
Steep slopes	Slopes > 1:4	Slopes > 1:10	-	-
Sites of heritage or cultural value (historical buildings, battle sites, cemeteries etc)	within 100m[2]	within 200m[2]	-	-
Protected Landscapes / Sensitive Receptors				
Nature reserves, game farms, tourist accommodation	within 250m	within 500m	within 1 km	-
Farmsteads outside the site	within 200m	within 400m	within 600m	-
Settlements (towns, villages)	within 200m	within 400m	within 600m	-
Scenic routes	within 250m	within 500m	within 1 km	-
National Roads (non-scenic)	within 100m	within 200m	within 400m	-
Provincial / arterial routes (non-scenic)	within 60m	within 120m	within 200m	-
Main district roads (non-scenic)	within 30m	within 60m	within 100m	-
Passenger rail lines	within 100m	within 250m	within 400m	-

Notes:
[1] To be determined by Freshwater Specialist
[2] To be determined by Heritage Specialist

The visual sensitivity categories indicated in Table 4 below have been colour-coded to reflect the colours used in the visual sensitivity mapping. The categories indicate levels of visual sensitivity before mitigation, which could reduce after mitigation measures have been applied, as shown in Table 5 for each of the charging sites.

Table 4: Visual Sensitivity Categories

Very high	Areas of high visual sensitivity, or sensitive visual receptors, which require avoidance measures or stringent mitigation.
High	Areas of high visual sensitivity, or sensitive visual receptors, which could be mitigated with visual buffers and/or screening.
Medium	Areas of moderate visual sensitivity, or sensitive visual receptors, which could be mitigated with visual buffers and/or screening.
Low	Areas of low visual sensitivity with few visual constraints, requiring only minimal mitigation.

Table 5: Summary of Strategic Visual Assessment

N1 Route

Site No.	Route	Visual characteristics	Visual sensitivity before mitigation	Visual Sensitivity after mitigation
C-N001-01 Karoo Padstal	**N1** Western Cape	Existing Karoo padstal and accommodation. Visually exposed site.	**Medium-low**	**Low**
C-N001-02 The Barn	**N1** Free State	Existing guesthouse. Heritage site. Partly screened by trees.	**Medium-low**	**Low**
C-N001-03 Leeuberg	**N1** Free State	Existing guesthouse. Visually exposed site	**Medium**	**Medium-low**
C-N001-04 De Rust	**N1** Gauteng	Small site (2ha). Close to farmsteads. Visually screened by trees.	**Low**	**Low**
C-N001-05 Whistling Bridge	**N1** Western Cape	Existing farmstall. Historic blockhouse heritage site. Partly degraded site.	**High**	**Medium**
C-N001-06 Winburg	**N1** Free State	N1 intersection. Site partly screened by gum trees.	**Medium-low**	**Low**
C-N001-07 Prince Albert Rd	**N1** Western Cape	Existing truck stop. Close to existing settlement. Visually exposed ridge.	**Medium**	**Medium-low**
C-N001-08 Berry Farm	**N1** Free State	N1 intersection. Adjacent to truck stop. Visually exposed site.	**Medium**	**Low**
C-N001-09 Musina	**N1** Limpopo	Adjacent to airstrip. Cabins nearby on N1. Dense bushveld vegetation.	**Low**	**Low**
C-N001-10 Kuilfontein	**N1** Free State	Existing farmstall and guest house. Visually exposed site.	**Medium**	**Medium-low**
C-N001-11 Grass Valley	**N1** Limpopo	N1 intersection/toll plaza. Dense bushveld vegetation.	**Medium**	**Low**
C-N001-12 Bela Bela	**N1** Limpopo	N1 intersection. Existing farmsteads. Dense bushveld vegetation.	**Medium-low**	**Low**
C-N001-13 Worcester	**N1** Western Cape	Truck yard nearby. Visually exposed site.	**Medium**	**Low**
C-N001-14	**N1**	N1-R354 intersection. Matjiesfontein heritage site neaerby. Visually exposed site	**Medium-high**	**Medium**

Site No.	Route	Visual characteristics	Visual sensitivity before mitigation	Visual Sensitivity after mitigation
Matjiesfontein	Western Cape			
C-N001-15 Orange R. Lodge	**N1** Northern Cape	Existing lodge nearby. Visually exposed site.	**Medium**	**Medium-low**
C-N001-16 Murray Hill Road	**N1** Gauteng	Surrounded by smallholdings/farmsteads. Visually exposed site	**High**	**Medium**

N2 Route

C-N002-01 Dassiesfontein	**N2** Western Cape	Existing farmstall and restaurant. Partly screened by existing trees.	**Medium-low**	**Low**
C-N002-02 Stilbaai Junction	**N2** Western Cape	Adjacent Schoongelegen farmstead. Visually exposed site.	**Medium-high**	**Medium-low**
C-N002-03 Hokaai Padstal	**N2** Western Cape	Existing farmstall. Partly screened by existing trees.	**Low**	**Low**
C-N002-04 Shabby Fufu	**N2** Western Cape	Existing farmstall. Partly screened by existing trees. Surrounding smallholdings.	**High**	**Medium**
C-N002-05 Klein-Brakrivier	**N2** Western Cape	N2-R102 intersection. Small site (6ha). Close to residential settlement.	**Medium-high**	**Medium**
C-N002-06 Wolf Sanctuary	**N2** Eastern Cape	Small site (1ha) between N2 and R102. Farmsteads and guest houses nearby.	**Medium-high**	**Medium**
C-N002-07 St Albans	**N2** Eastern Cape	N2 intersection. Adjacent smallholdings. partly screened by alien vegetation.	**Medium-low**	**Low**
C-N002-09 Piet Retief	**N2** Mpumalanga	Adjacent to a truck stop. Settlements and lodges nearby. Partly screened by trees.	**Medium-high**	**Medium-low**
C-N002-11 Hluhluwe	**N2** Kwazulu-Natal	Nearby farmsteads and lodges. Visual screening by forest trees.	**Low**	**Low**
C-N002-12 Harding	**N2** Kwazulu-Natal	N2 intersection. Adjacent guesthouse. Visually screened by exotic trees.	**Low**	**Low**
C-N002-13 Kokstad NC	**N2** Kwazulu-Natal	Lodge nearby. Visually exposed and sloping site.	**Medium**	**Medium-low**

C-N002-14 Kokstad SB	**N2** Kwazulu-Natal	Adjacent farmstead. Visually exposed site. Partly screened by gum trees.	**Medium**	**Low**
C-N002-15 Swellendam	**N2** Western Cape	Kluitjieskraal farmstead / health spa nearby. Visually exposed site.	**Medium-high**	**Medium-low**
C-N002-16 George Elvis Brew	**N2** Western Cape	N2-R404 intersection. Adjacent to airport. Visually exposed, partly screened by trees.	**Medium**	**Low**
C-N002-17 Coombs	**N2** Eastern Cape	Heritage sites nearby. Existing low trees provide visual screening.	**Low**	**Low**

N3 Route

C-N003-01 Kopleegte	**N3** KwaZulu-Natal	N3 intersection. Small site (1ha). Visually exposed grassland site.	**Low**	**Low**
C-N003-02 Sasol Kohler	**N3** Free State	N3 intersection. Small site (1ha). Visually exposed grassland site.	**Low**	**Low**
C-N003-03 R34 Erfhoek	**N3** Free State	Area disturbed by diggings. Visually exposed grassland site.	**Medium-low**	**Low**
C-N003-05 Harrismith	**N3** Free State	Platberg Private Nature Reserve. Guest house / farmsteads nearby. Visually exposed cropland site.	**Medium**	**Low**

N4 Route

C-N004-01 Orchid Farmstall	**N4** Mpumalanga	Existing farmstall and orchards. Partly screened by road embankment and trees.	**Medium-low**	**Low**
C-N004-02 Marikana	**N4** North West	Bapong Royal Palace and Magaliesberg PNE to the south. Site partly screened by trees.	**Medium**	**Low**
C-N004-03 Vaalbank	**N4** Gauteng	Surrounded by farmsteads. Visually exposed site.	**Medium-high**	**Medium-low**
C-N004-04 Stonechat	**N4** Mpumalanga	Existing farmstall. Country Lodge to the south. Site partly screened road embankment and existing trees.	**Medium-low**	**Low**
C-N004-05 Strathmore Malel	**N4** Mpumalanga	Kruger National Park to the north. Farmsteads nearby. Site partly screened by trees.	**Medium-high**	**Medium-low**

N5 Route

C-N005-01 Liddell Bethlehem	**N5** Free State	Farmsteads nearby. Visually exposed cropland site.	**Medium-high**	**Medium**

N6 Route

C-N006-01 Komani Q'town	**N6** Eastern Cape	Farmsteads to north-west of the site. Partly screened by existing vegetation.	**Medium**	**Low**
C-N006-02 Wagon Wheel	**N6** Eastern Cape	Existing farmstall. Farmsteads to east of the site. Visual screening by existing forest trees.	**Medium**	**Low**
C-N006-03 Aliwal North	**N6** Eastern Cape	Irrigated cropland from Orange River. Visually exposed site.	**Medium**	**Low**
C-N006-04 Reddersburg	**N6** Free State	Residential area and farmstead nearby. Visually exposed site.	**High**	**Medium**
C-N006-05 Sterkstroom	**N2** Eastern Cape	N6-R344 intersection. Visually exposed site on rising ground.	**Medium**	**Medium-low**

N7 Route

C-N007-04 A. Vanrynsdorp	**N7** Western Cape	Featureless, visually exposed site. Roadside picnic site.	**Medium**	**Low**
C-N007-05 Z. Vanrynsdorp	**N7** Western Cape	Semi-arid expansive Knersvlakte. Featureless, visually exposed site.	**Medium**	**Low**
C-N007-06 R362 Groenhoek	**N7** Western Cape	Irrigated land along Olifants River. Numerous surrounding farmsteads. Visually exposed site.	**High**	**Medium**
C-N007-07 Piketberg	**N7** Western Cape	Piketberg intersection. Existing Eskom powerline. Cement factory to the south. Residential area 300m to the north.	**Medium-high**	**Medium**
C-N007-08 Atlantis Junction	**N7** Western Cape	Kalbaskraal Nature Reserve 250m to northeast. Smallholdings to the southwest. Visually exposed site	**Medium**	**Low**
C-N007-09 S. Kamiesberg	**N5** Northern Cape	Intersection with road to Hondeklipbaai. Semi-arid visually exposed site.	**Medium**	**Low**
C-N007-12 Tierkloof Afdraai	**N7** Western Cape	Olifants River to the east of N7. Semi-arid visually exposed sloping site.	**Medium**	**Low**
C-N007-13 Vioolsdrif	**N7** Northern Cape	Farmsteads / irrigated land on northern boundary. Arid, visually exposed ridge. Some screening with existing trees.	**High**	**Medium**

C-N007-14 Springbok	**N7** Northern Cape	Existing tourist accommodation. Semi-arid visually exposed site.	**Medium**	**Low**

N8 and N9 Routes

C-N008-01 Knapgedaan	**N8** Free State	Small site (6ha). Smallholdings to the east. Guest accommodation in the area. Visually exposed grassland site.	**Medium**	**Low**
C-N008-02 Three Fountains	**N8** Free State	Site slopes to the south. Visually exposed grassland site.	**Medium**	**Low**
C-N008-03 Campbell	**N8** Northern Cape	Adjacent to Campbell settlement and mission station heritage site. Visually exposed site, screened by isolated trees.	**High**	**Medium-high**
C-N008-04 Felidae Centre	**N8** Free State	Large pan to the south. Visually exposed grassland site.	**Medium**	**Low**
C-N009-01 Jagpoort Padstal	**N9** Eastern Cape	Existing farmstall. Mountain Zebra-Camdeboo PNE. Visually exposed grassland with prominent slopes.	**Medium**	**Medium-low**
C-N009-09 Aberdeen	**N9** Eastern Cape	Existing farmstall. Small sites (2ha and 10ha). Adjacent to residential area. Visually exposed grassland site.	**High**	**Medium**

N10 Route

C-N010-01 Britstown	**N10** Northern Cape	Intersection of N10 and N12. Visually exposed grassland site.	**Medium**	**Low**
C-N010-02 Hanover	**N10** Northern Cape	Visually exposed grassland site. Screened from the town (Hanover) by low koppies.	**Medium**	**Low**
C-N010-03 Kalbas Padstal	**N10** Northern Cape	Existing farmstall. Small site (1ha). Irrigated land along Orange River to the east. Visually exposed grassland site.	**Low**	**Low**
C-N010-05 Redlands Prieska	**N10** Northern Cape	Redlands railway siding to the northwest. Visually exposed scrubland site.	**Medium-low**	**Low**
C-N010-06 Sherborne	**N10** Eastern Cape	Existing guest house and settlement. Old rail line to the east. Visually exposed grassland site.	**Medium**	**Low**
C-N0010-07 Daggaboer	**N10** Eastern Cape	Existing farmstall. Site mainly screened by existing trees and farmstall.	**Low**	**Low**

N11 Route

C-N011-01 Fort Mistake	**N11** KwaZulu-Natal	Nearby farmsteads along the Nkunzi River. Scenic mountain area. Visually exposed sloping grassland site.	**Medium-high**	**Medium**

C-N011-02 Ermelo Aucamp	**N11** Mpumalanga	Existing N11 truck stop at intersection. Open cast mines nearby. Visually exposed site partly transformed.	**Low**	**Low**
C-N011-03 Biekie Padstal	**N11** Limpopo	Existing farmstall. Site screened by existing bushveld trees.	**Low**	**Low**
C-N011-04 Loskop Padstal	**N11** Limpopo	On the boundary of Loskop Dam Nature Reserve. Visually exposed site, partly transformed.	**Medium-high**	**Medium-low**
C-N011-05 Volksrust	**N11** Mpumalanga	Open grassland sloping site. Partly screened by road embankment and gum trees.	**Medium**	**Low**
C-N0011-06 Elandslaagte	**N11** KwaZulu-Natal	Low rocky ridge with aloes. Partly screened by low ridge and existing trees. Visually exposed grassland on eastern part.	**Medium**	**Low**

N12 Route

C-N012-01 Wolmaransstad	**N12** Northern Cape	Adjacent to two farmsteads to the south. Visually exposed grassland, partly screened by trees.	**Medium**	**Low**
C-N012-02 R374 Windsorten	**N12** North-West	South of Christiana. Nearby farmstead. Visually exposed grassland, mainly screened by trees.	**Medium-low**	**Low**
C-N012-03 Potchefstroom	**N12** North-West	Combination of smallholdings and semi-industrial. Site partly screened by buildings and trees.	**Medium-low**	**Low**
C-N012-04 Potchefstrm GW	**N12** North-West	Site straddles district road. Nearby farmsteads. Visually exposed grassland with scattered trees.	**Medium**	**Low**
C-N0012-05 Christiana	**N12** North-West	Remote location. Visually exposed grassland with scattered trees.	**Medium**	**Low**

N14 Route

C-N014-01 Biekiesvlei	**N14** North-West	Existing Biekiesvlei Guesthouse. Small settlement of Biesiesvlei smallholdings. Site mainly screened by houses and trees.	**Medium-low**	**Low**
C-N014-02 Ventersdorp	**N14** North-West	Large site (31ha) east of Coligny. Existing farmstead to the west. Visually exposed cultivated site.	**Medium**	**Medium-low**
C-N014-04 Buitehof	**N14** North-West	Existing Buitehof guesthouse east of Lichtenburg on R52. Farmsteads nearby. Visually exposed cultivated site.	**Medium**	**Medium-low**
C-N014-05 Olifantshoek	**N14** Northern Cape	'The Ranch' chalets existing. Farmsteads nearby. Site partly screened by low vegetation.	**Medium-low**	**Low**

C-N0014-06 Pauwkop	**N14** North-West	South of Delareyville. Visually exposed cultivated maize field. Partly screened by low vegetation. Powerline in foreground.	**Medium**	**Low**
C-N014-07 R505 Ga Maloka	**N14** North-West	West of Coligny on N14 and R505. Rural settlement. Next to church. Visually exposed site partly screened by trees.	**Medium**	**Medium-low**
C-N014-08 Akkerboom	**N14** Northern Cape	Existing Akkerboom farmstall east of Kakamas on the Orange River. Visually exposed grassland, partly screened by low thorn trees.	**Medium**	**Low**
C-N0014-09 Upington	**N14** Northern Cape	Track adjacent to the site. Visually exposed grassland and scrub.	**Medium**	**Low**
C-N014-10 Pofadder	**N14** Northern Cape	Smaller site (8ha). Visually exposed sparse grassland and scrub.	**Medium**	**Low**
C-N0014-11 Vryburg	**N14** North-West	Existing guesthouse. Numerous homesteads nearby. Visually exposed grassland, partly screened by trees.	**Medium-high**	**Medium-low**

N17 and N18 Routes

C-N017-01 Ermelo Beukes	**N17** Mpumalanga	Site straddles N17. Existing rail line on boundary. Private nature reserve nearby. Visually exposed grassland partly screened by gum trees.	**Medium-high**	**Medium-low**
C-N018-01 Mahikeng	**N18** North-West	Disanang rural settlement west of Mahikeng. Visually exposed grassland partly screened by thorn trees.	**Low**	**Low**
C-N018-02 Stella	**N18** North-West	Soutpan salt works nearby. Visually exposed cultivated site, partly screened by trees.	**Medium**	**Low**

Provincial 'R' Routes

C-R027-01 Brandvlei	**R27** Northern Cape	Remote and semi-arid, low scrub vegetation, partly disturbed.	**Medium-low**	**Low**
C-R027-02 Calvinia	**R27** Northern Cape	Semi-arid with low scrub vegetation. Remote, visually exposed wilderness landscape.	**Medium**	**Medium-low**
C-R033-02 Albert Falls	**R33** KwaZulu-Natal	North of Pietermaritzburg near Albert Falls Dam. Partly visually exposed field, and partly screened by woodland thicket.	**Medium**	**Medium-low**
C-R046-01 Fynbos Padstal	**R46** Western Cape	Scenic mountain area. North of Wolseley. Existing farmstall and guesthouse. Visually exposed Renosterveld. Partly screened by farmstall and pine trees.	**Medium**	**medium-low**
C-R046-02 Nuweplaas	**R46** Western Cape	West of Riebeek-Kasteel. Existing farmstall on district road. Visually exposed cropland.	**Medium**	**Medium-low**

C-R056-01 Elliot (Khowa)	**R56** Eastern Cape	Steep slope on western portion. Cultivated, contoured cropland on eastern portion. Visually exposed site.	**Medium**	**Medium-low**
C-R060-01 La Berg Stud	**R60** Western Cape	West of Swellendam. Lower portion visually exposed cropland. Upper portion partly screened by gums.	**Medium**	**Medium-low**
C-R075-01 Jansenville	**R75** Eastern Cape	Farm covered with aloes, scrub and trees. Visually exposed site, partly screened by low trees.	**Medium**	**Medium-low**
C-R716-01 Denysville	**R716** Free State	Existing equestrian centre. Powerlines along route. Farmsteads in the area. Visually exposed, treeless grassland.	**Medium**	**Medium-low**

4. Cumulative Visual Impacts

There would be no cumulative visual impacts for the project, seen as a whole, as the charging stations and related solar facilities would be in the region of 150km apart. The only cumulative visual impacts would be where existing similar solar facilities or other energy infrastructure occur near the individual sites.

Some cumulative visual clutter could be experienced where infrastructure, such as service stations, existing powerlines and cell phone masts, are present in the surroundings. On the other hand, these facilities, together with the increase in the use of solar energy panels, are becoming more common as part of the landscape, and attract less visual attention over time.

A major benefit of the cellular design of the proposed solar facilities is that they not only provide localised energy in rural areas, but avoid the need for a plethora of linking powerlines to the main Eskom grid.

5. Regulatory Process

The current SEA is for the project as a whole, and if authorisation is forthcoming, then the approval of individual sites should generally be streamlined by individual municipalities.

The Guideline for Involving Visual and Aesthetic Specialists in EIA Processes (Oberholzer, 2005), could be used by municipalities in the assessment of individual sites. Section 8.6 of the Guideline indicates the level of visual assessment required depending on the expected visual impact. For example, where little or no visual impact is expected, only a Level 1 brief comment by a suitably experienced specialist would be required. The levels of visual sensitivity indicated in Table 5 above could be used as a guide.

6. Summary of Findings and Recommendations

The Summary Table 5, provided above, indicates the potential visual sensitivity for each site both before and after mitigation. Preliminary findings indicate that a few of the sites on the various routes have 'low' visual sensitivity, requiring little or no mitigation, most have 'medium' visual sensitivity and can be fairly easily mitigated, while a few have 'high' visual sensitivity, mainly because they are adjacent to residential or heritage areas, and would need more stringent mitigation measures. (See also more detailed descriptions and Google Earth street views of the proposed sites in **Addendum A**.

In terms of the project as a whole, no fatal flaws were identified, and the project is considered acceptable from a visual perspective provided visual mitigations are implemented.

General recommendations include the following to assist with the mitigation of the project:

- The footprint of the solar facilities should be kept as compact as possible to minimise the sprawl of buildings and related infrastructure.
- Degraded or disturbed sites should be used as far as possible, to minimise intrusion into scenic or pristine areas.
- Tree-planting, mounding, hedges or fencing with creepers should be used to reduce visibility of solar energy infrastructure.
- Lighting at night should generally be kept to a minimum, particularly in wilderness and rural areas, and light sources shielded from view with reflectors.
- Outdoor signage should be kept to a minimum, and where signage is required this should be discrete and located against a background to avoid silhouette effects. Billboard-type signs should not be permitted on major routes.

7. References

Oberholzer, B. 2005. Guideline for Involving Visual and Aesthetic Specialists in EIA processes: Edition 1. CSIR Report no. ENV-S-C 2005 053 F. Provincial Government of the Western Cape, Department of Environmental Affairs and Development Planning, Cape Town.

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Expertise

Quinton Lawson has a Bachelor of Architecture Degree (Natal) and has more than 20 years of experience in visual assessments, specializing in 3D modelling and visual simulations. He has previously lectured on visual simulation techniques in the Master of Landscape Architecture Programme at UCT.

Bernard Oberholzer has a Bachelor of Architecture (UCT) and Master of Landscape Architecture (U. of Pennsylvania), and has more than 25 years of experience in visual assessments. He has presented papers on Visual and Aesthetic Assessment Techniques, and is the author of Guideline for Involving Visual and Aesthetic Specialists in EIA Processes, prepared for the Dept. of Environmental Affairs and Development Planning, Provincial Government of the Western Cape.

The authors have both been involved in visual assessments for a wide range of residential, industrial and renewable energy projects. They prepared the 'Landscape/Visual Assessment' chapter in the report for the *National Wind and Solar PV Strategic Environmental Assessment (SEA)*, as well as the *National Electricity Grid Infrastructure SEA* in association with the CSIR, for the Department of Environmental Affairs in 2014-2015.

Declaration

The authors declare that they are independent practitioners with expertise and wide experience in visual impact assessments, that the assessment has been carried out in an objective manner and complies with the relevant EIA regulations, and that all material information in their possession, which may influence a decision by the competent authority and the objectivity of the assessment, has been disclosed.

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Separate Documents:

Addendum A: Description of Individual Sites, Mitigation Measures and Visual Sensitivity.

Addendum B: Visual Features and Visual Sensitivity Mapping for Individual Sites.