SOUTH AFRICA

Electric Vehicles

MARKET INTELLIGENCE REPORT

2025

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Market Intelligence Report 2025

ELECTRIC VEHICLES

GreenCape

GreenCape is a non-profit organisation that works at the interface of business, government, and academia to identify and remove barriers to economically viable green economy infrastructure solutions. Working in developing countries, GreenCape catalyses the replication and large-scale uptake of these solutions to enable each country and its citizens to prosper.

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List of abbreviations and acronyms

AA	Automobile Association of South Africa
B2B	Business to Business
BRT	Bus Rapid Transit
CBAM	Carbon Border Adjustment Mechanism
DBSA	Development Bank of Southern Africa
DC	Direct Current
dtic	Department of Trade, Industry and Competition
eNATIS	National Traffic Information System
ESG	Environmental, Social and Governance
ETS	Emissions Trading System
EU	European Union
EV	Electric Vehicle
EVaaS	Electric-Vehicle-as-a-Service
FMCG	Fast Moving Consumer Goods
GABS	Golden Arrow Bus Services
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GVM	Gross Vehicle Mass
ICE	Internal Combustion Engine
IEA	International Energy Agency
IRA	Inflation Reduction Act
Kg	Kilogram
MIR	Market Intelligence Report
MW	Megawatt
NAAMSA	National Association of Automobile Manufacturers of South Africa
NDC	Nationally Determined Contributions
OEM	Original Equipment Manufacturer
SABOA	Southern African Bus Operators Association
SANEDI	South African National Energy Development Institute
TLAA	Taxation Law Amendment Act
USA	United States of America
ZAR	South African Rand

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EXECUTIVE SUMMARY

This market intelligence report (MIR) is written for investors, original equipment manufacturers (OEMs), and suppliers of components and manufacturing equipment. It highlights the investment opportunities in the electric vehicle value chain in South Africa.

There are several emerging opportunities in the South African electric vehicle market for local and international investors. The four key investment sectors in the EV market are: Electric passenger vehicles, electric buses, electrification of freight and logistics, and electrification of last-mile delivery.

Key developments influencing the market in 2024/2025

- The Department of Trade, Industry and Competition (dtic) announced incentives for the manufacturing of EVs in South Africa.
- Annual domestic sales of electric passenger vehicles breached the 1 000 threshold for the first time.
- Large-scale procurement of electric buses was completed by Golden Arrow Bus Services and the City of Cape Town.

South Africa's EV market continues to grow, albeit from a low base. The growth is largely driven by improving technology capabilities, reduced cost of batteries and increased demand for carbon emission reduction. The growth in the market creates an improved investment environment with the key sectors highlighted in this MIR being electric passenger vehicles, electric buses, electrification of freight and logistics and electrification of last-mile delivery as detailed in Table 1. These sectors are expected to have the highest investment value in the next 5 years, by 2030.

Table 1: Investment opportunities in the EV value chain in South Africa

OPPORTUNITY	MARKET GROWTH BY 2030	KEY DRIVERS	BARRIERS	STAKE-HOLDERS	TERM	MACRO CONTEXT
Electric passenger vehicles	21 900 vehicles R13.9 billion	• Innovative financing models • Cost competitive-ness due to rising fuel costs • Entrance of lower price range EV models • Reduced range anxiety • Decarbonisation targets	• Policy and regulatory uncertainty • Availability of affordable and fit for purpose EVs • Electricity supply constraints	• OEMs • Component and equipment manufacturers • Fleet operators • Financiers • Municipalities and government departments • Charge point operators • Energy traders	Medium (3-10 years)	Global sales and production phase outs of internal combustion engine (ICE) vehicles Nationally determined contribution (NDC) targets for the reduction of transportation related greenhouse gas (GHG) emissions
Electric buses	420 vehicles R2.9 billion				Short (current)	
Electrification of freight & logistics	828 vehicles R1.18 billion				Medium (3-10 years)	
Electrification of last-mile delivery	17 900 vehicles R1.2 billion				Short (current)	

Figure 1 shows an indicative comparison of these identified market opportunities according to the growth potential and ability to overcome market entry barriers. The size of the bubble indicates the additional growth in market size in billions (ZAR) by 2030.

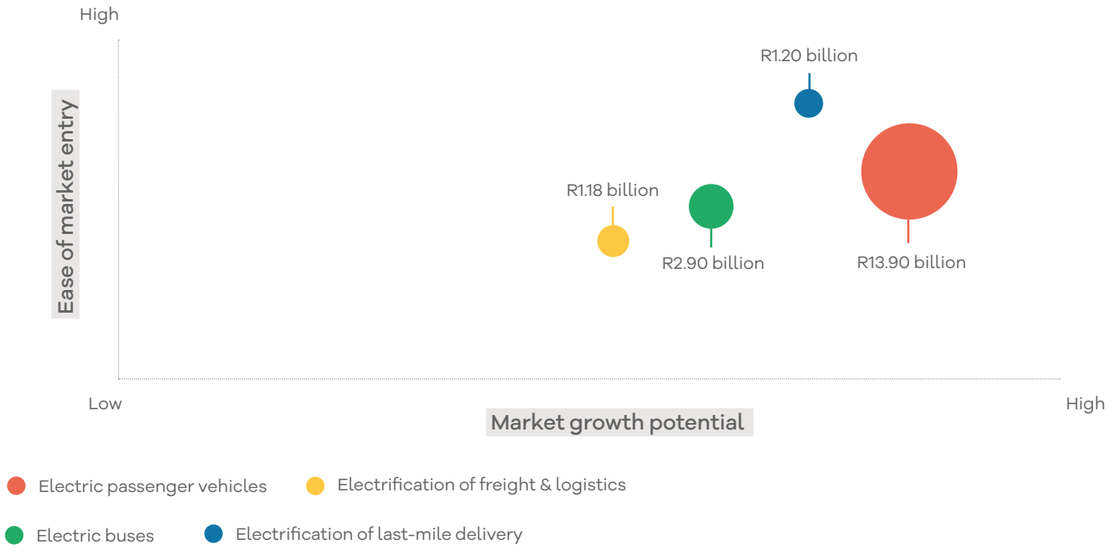
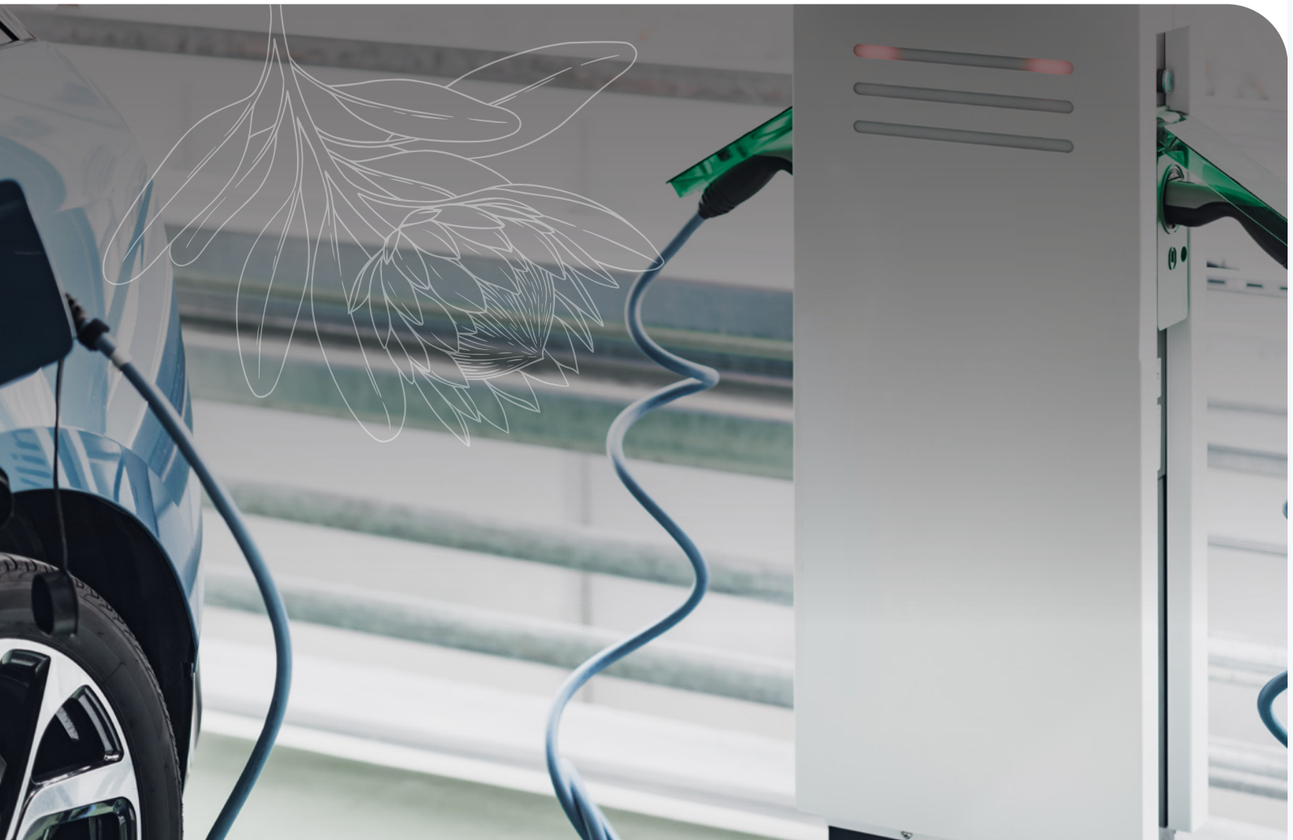


Figure 1: Ease of market entry vs. market growth potential of identified EV investment opportunities



WHAT'S NEW?

Since the 2024 Electric Vehicles MIR, there have been several important developments in the sector.

2024

FEBRUARY

National government announced, during the Budget Speech, that incentives and financial support will be directed towards the automotive manufacturing industry to support local electric vehicle (EV) production over the medium term in South Africa (dtic 2024). These manufacturing incentives are expected to come online in 2026 via the dtic.

JULY

Golden Arrow Bus Services (GABS) completed the first large scale 120 electric commuter bus procurement in South Africa in 2024. The busses will be delivered throughout 2025. As part of the rollout, GABS also signed a memorandum of cooperation with Eskom for the introduction of EVs in the South African market and will look into signing agreements with independent power producers to source electricity from renewable energy power plants (GABS 2024).

OCTOBER

Flx EV showcased the first electric minibus taxi in South Africa at the Smarter Mobility Africa summit in Johannesburg, with the intention to rollout vehicles in 2025.

President Cyril Ramaphosa announced at SA Autoweek that the national government will be implementing a form of consumer incentive to promote electric vehicle uptake in South Africa which will be communicated in 2025 (NAAMSA, 2024)

DECEMBER

The Taxation Law Amendment Bill was promulgated as the Taxation Law Amendment Act (TLAA), 2024. The TLAA incorporates a manufacturing incentive that allows vehicle manufacturers that invest in new assets, including buildings, plants and machinery, or in improvements to assets to produce battery electric and hydrogen-powered vehicles in South Africa to deduct 150% of the cost of that investment from their taxable income. The incentive will come into effect in March 2026 (National Treasury 2024).

JUNE

President Cyril Ramaphosa signed two transport linked bills into law, namely the National Land Transport Amendment Bill and the Economic Regulation of Transport Bill, as well as the Municipal Fiscal Powers and Functions Amendment Bill. The National Land Transport Amendment Bill, amongst others, seeks to amend the National Land Transport Act, 2009 to insert certain definitions and amend others and provide for non-motorised and accessible transport.

The amendments bring the principal act up to date with new developments and provide for certain powers of provinces and municipalities to conclude contracts for public transport services. It further expands the powers of the Minister to make regulations and introduce safety measures. The second transport bill, namely the Economic Regulation of Transport Bill, seeks to promote economic growth and welfare of South Africans by promoting an effective and productive transport sector. That includes establishing a Transport Economic Regulator responsible for regulating prices in the transport sector, investigate complaints, and monitor and enforce compliance in the transport sector.

AUGUST

Eskom launched a pilot project to roll out 10 EV charging stations at five Eskom sites across South Africa, as well as the procurement of 20 electric light delivery vehicles and light trucks (Eskom, 2024).

NOVEMBER

The City of Cape Town awarded Volvo Group Southern Africa the tender to supply 30 low floor electric bus rapid transit (BRT) buses for the MyCiTi fleet (City of Cape Town 2024).

Zero Carbon Charge opened the first off-grid solar powered charging stations to the public. The charging stations are located in Wolmaransstad in the North West province and showcase the application of this technology in grid stressed rural areas (Charge 2024).

1

INTRODUCTION AND PURPOSE

This MIR has been prepared for investors, OEMs, and suppliers of components and manufacturing equipment. It highlights key investment opportunities in South Africa's EV market.

South Africa's EV market is at an early but promising stage, offering substantial opportunities for growth and investment. EV prices have been decreasing over time due to falling lithium-ion cell prices globally and scaling of EV production. Many OEMs are introducing more affordable passenger EVs into the South African market. The passenger EV models that attracted sales in the South African market in 2023 are shown in Figure 2:

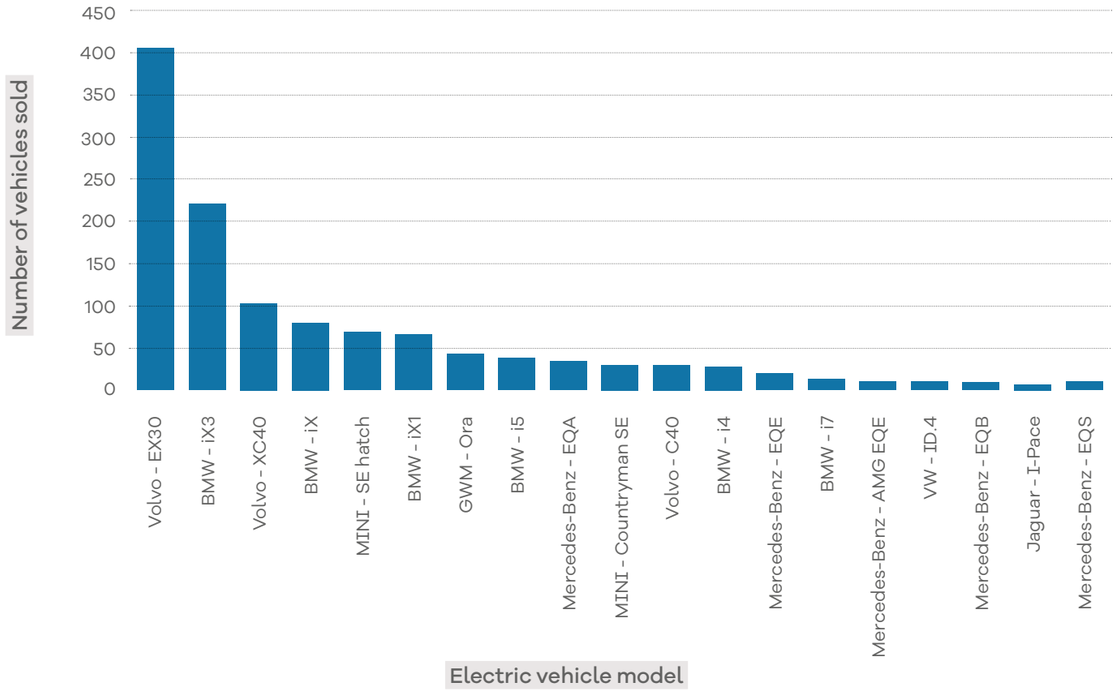


Figure 2: Passenger EV sales in South Africa in 2024 by model (Source: TimesLive, 2025)

With transport identified as one of the fastest-growing sources of greenhouse gas (GHG) emissions, the shift to EVs presents a critical pathway for decarbonising the sector and enhancing energy security. Despite challenges such as the dominance of coal-based electricity generation, South Africa's abundant renewable energy potential, coupled with a need to reduce reliance on imported liquid fuels, positions the EV market as a key opportunity for economic and environmental transformation.

This MIR provides insight on four sectors with strong potential for electrification in the South African market: passenger vehicles, buses, freight and logistics, and last-mile delivery. By navigating the opportunities, drivers and barriers outlined in this report, investors are expected to be able to unlock investment opportunities across the value chain.

This document sets out the market investment opportunities in the EV industry in South Africa. A sector overview, historical trends, market sizing, policy and other datasets traditionally included in this document are now available through the associated online portal.

ONLINE PORTAL

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2 MARKET OPPORTUNITIES

The South African EV market offers a variety of emerging opportunities for both local and international investors. Four key sectors have been identified as particularly attractive for investment: Electric passenger vehicles, electric buses, the electrification of freight and logistics, and the electrification of last-mile delivery.

The South African EV market offers a variety of emerging opportunities for both local and international investors. Four key sectors have been identified as particularly attractive for investment: **Electric passenger vehicles**, **electric buses**, the **electrification of freight and logistics**, and the **electrification of last-mile delivery**. Each section is structured as follows:

THE INVESTMENT OPPORTUNITY

Describes the investment opportunity and the size of the market by cumulative number of EVs sold and the value in ZAR of the cumulative EV sales.

MARKET DRIVERS

Covers those factors that enhance the development and increase growth of investment opportunities into each investment opportunity. The market drivers are shared by the EV sectors.

MARKET BARRIERS

Covers those factors that reduce the attractiveness and increase the risk of the investment opportunities. The market barriers are shared by the EV sectors.

2.1 Electric passenger vehicles

South Africa has a total of 7.95 million passenger vehicles, making it the largest market for electrification in the country[1]. The adoption of electric passenger vehicles in this segment is primarily driven by three factors: Price, battery range, and performance characteristics.

Currently, electric passenger vehicles are viewed as luxury purchases in South Africa, with many models priced at R800 000 or higher. However, the market is gradually expanding, with an increasing number of EV models available in the premium price range of R600 000 to R800 000. More recently, lower-cost EV options have started to emerge. In 2024, Enviro Automotive indicated its intention to launch the first passenger EV priced below R400 000 in South Africa (Enviro Auto, 2024), and there is speculation that BYD will introduce a similarly affordable model in 2025 (TechCentral 2024).

Figure 3 and Figure 4 illustrate South African passenger vehicle sales and EV sales data for 2022 and 2023, highlighting the potential market size of consumers who can afford currently available EVs. As shown in Figure 3, most vehicles purchased during this period were in a price range significantly below the current average EV price. In South Africa, most passenger ICE vehicles are sold within the price range of R200 000 to R400 000, whereas the most affordable EVs currently range from R600 000 to R800 000. To significantly increase EV adoption, it will be essential to address affordability and ensure the availability of vehicles at more competitive price points.

1 Source: National Traffic Information System (NaTIS): https://www.natis.gov.za/index.php/statistics/live-vehicle-population/live-vehicle-population-2024

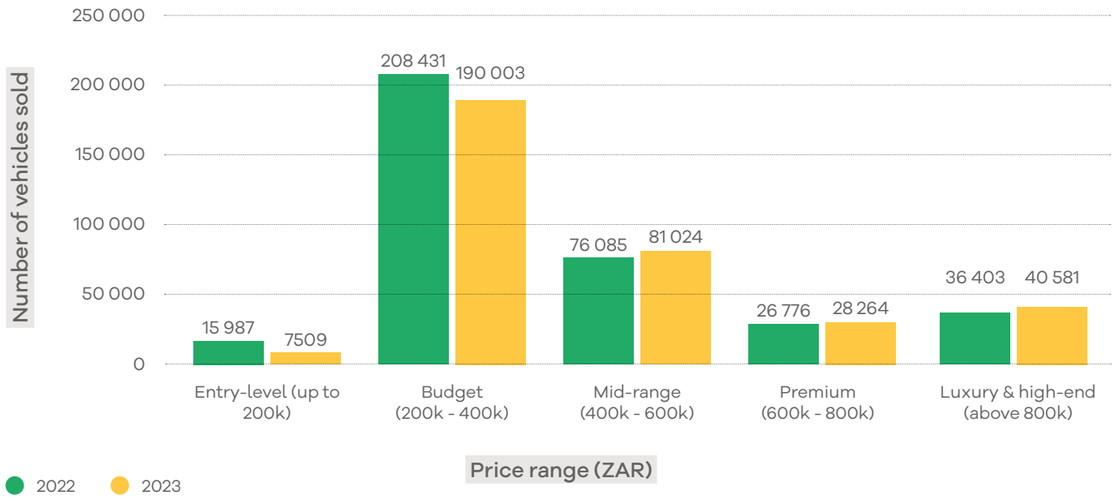

Figure 3: New passenger vehicle sales in South Africa by price range (ICE), 2022-23 (Source: Lightstone Auto 2024)

Figure 4: New passenger EV sales by price range in South Africa, 2022-23 (Source: Lightstone Auto 2024)

With the majority of passenger EVs sold falling into the luxury high-end category, vehicle performance characteristics play a crucial role in influencing consumer decisions. Analysis of passenger EV sales by top speed reveals that the highest sales were recorded for vehicles with a top speed range of 180 km/h to 200 km/h. Additionally, range anxiety remains a key concern for potential buyers in South Africa, even among those who can afford an EV. Sales data by battery range show that the most popular models were those with a battery range of 400 km to 500 km (Lightstone Auto 2024).

By the end of 2024, the cumulative passenger EV market in South Africa reached 3 543 vehicles, with a total market value of R2.8 billion. Annual EV sales are expected to grow steadily, and the introduction of mid-range EV models is anticipated to drive further adoption between 2026 and 2030. Based on the current EV adoption rate of 1.9% in the luxury and high-end vehicle segment, it is projected that extending this rate to the mid-range segment could result in total EV sales of approximately 21 913 vehicles by 2030, with an estimated market value of R13.9 billion. The projected passenger EV fleet by the beginning of 2030 is 25 456 vehicles, shown in Figure 5, representing 0.3% of the expected passenger vehicle population in South Africa.

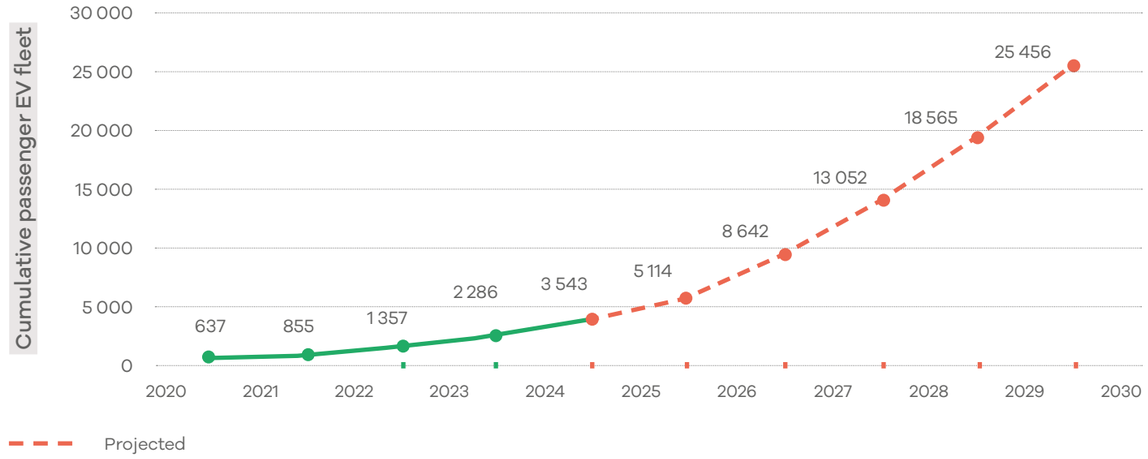

Figure 5: Cumulative number of passenger EVs from 2020 to 2024 and projected up to 2030

2.2 Electric buses for public transport

The electric bus industry is the second largest market for EVs by value. There were approximately 66 000 registered buses, bus trains and midibuses in South Africa at the end of 2024 (NaTIS 2024).

New bus sales in South Africa declined between 2018 and 2021 due to a combination of economic factors and the COVID-19 pandemic, with a modest growth between 2021 and 2023 as shown in Figure 6. While South Africa has made progress in recovering vehicle sales, the local industry has not yet reached sales levels observed pre-COVID 19.

The South African bus market is dominated by an incumbent group of well-established operators, primarily represented by members of the Southern African Bus Operators Association (SABOA), which accounts for over 20 000 operating buses. This strong presence of experienced operators creates a structured and consolidated market, making it easier to implement large-scale electrification initiatives, but also potentially posing challenges for new entrants due to the entrenched position of existing players.

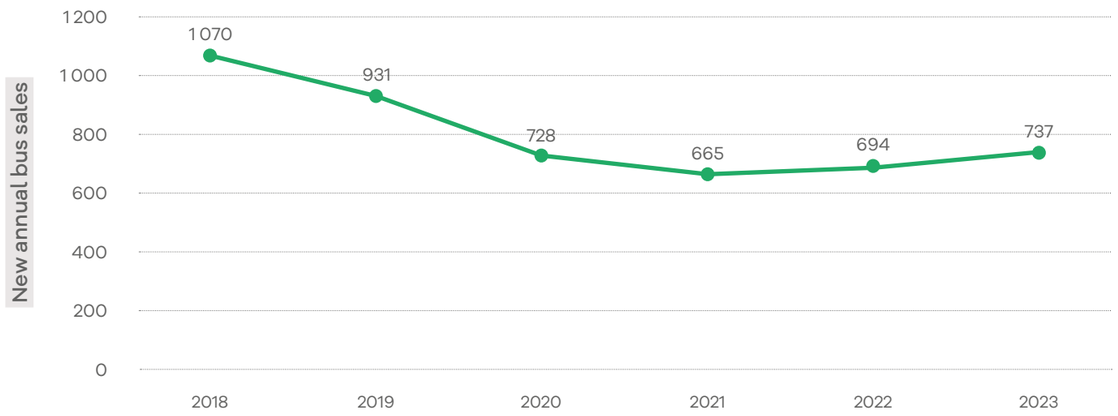

Figure 6: Annual new bus sales in South Africa 2018 to 2023 (Source: NAAMSA, 2024)

High mileage associated with public transport operations, available subsidies and idle times make public busses more suitable for electrification than private vehicles. Public transport bus fleets can have an average annual mileage of around 60 000 km per bus (GABS 2024).

There has been an observable uptake of electric buses for public transport in the South African market in 2024. The City of Cape Town has completed a tender for 30 low floor electric buses for the MyCiTi bus rapid transit (BRT) fleet which will be deployed in 2025 (City of Cape Town, 2024). GABS, also based in Cape Town, has completed the procurement of 120 electric 65-seater commuter buses from BYD which started arriving in late 2024, with plans to procure 60 electric buses a year (GABS 2024). The Tshwane Municipality and the eThekwini Municipality have also announced electric bus pilot projects in partnership with the Development Bank of Southern Africa (DBSA) and the South African National Energy Development Institute (SANEDI) (Creamer Media 2024). University of Johannesburg purchased two electric busses for their campus, with plans to purchase another 13 EV busses in the future (UJ, 2024).

The projected annual electric bus demand between 2025 and 2030 is shown Figure 7.

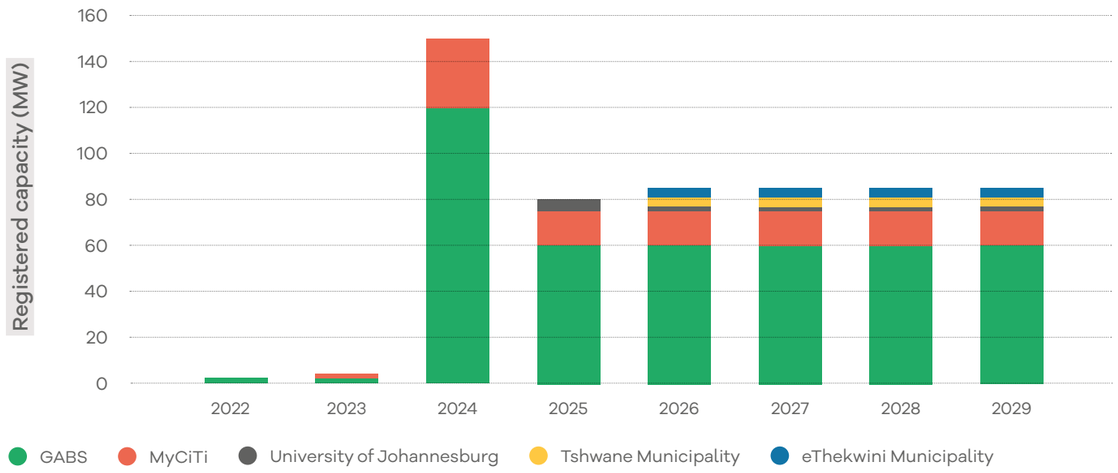

Figure 7: Annual electric bus market size projected up to 2030

By the end of 2024, the cumulative electric bus market in South Africa stood at 156 vehicles, with a market value of R1.1 billion. Based on bus fleet operators who have made public announcements regarding electric bus roll out plans, electric bus sales are expected to grow by 420 buses between 2025 and 2030, or R2.9 billion2. The cumulative market size for the electric bus sector by 2030 is projected at 576 vehicles as shown in Figure 8.

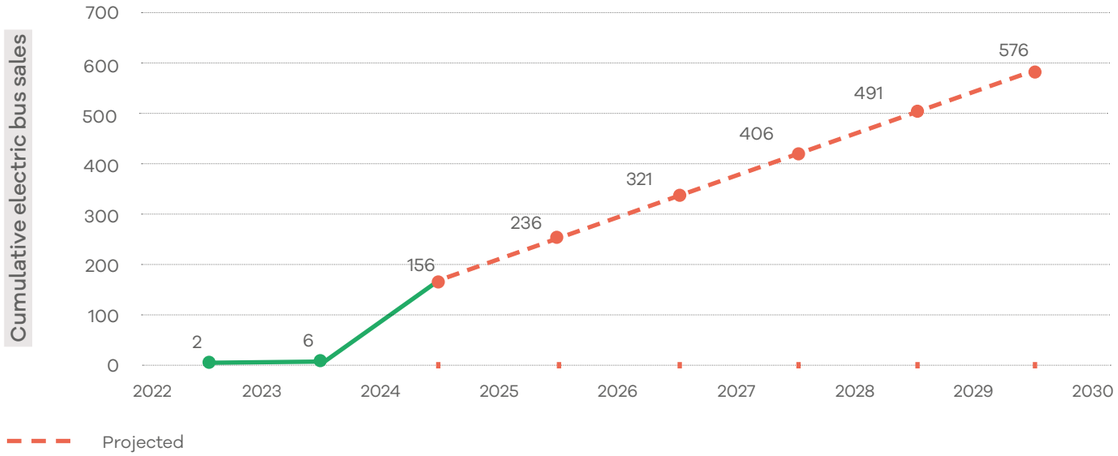

Figure 8: Cumulative electric bus market size for 2022 to 2024 and projected up to 2030

2.3 Electrification of freight and logistics

This investment opportunity centres on the electrification of road-based freight and logistics within South Africa. Specifically, the focus is on electrifying the first and middle-mile logistics sectors, identified as key investment opportunities for 2025.

These sectors primarily operate in urban areas and involve business-to-business (B2B) logistics, handling the transport of goods between suppliers, manufacturers, and distributors without direct delivery to end consumers. These two segments—first- and middle-mile logistics—present significant potential for electrification due to their structured routes, shorter distances, and high operational demand in urban areas. Reducing costs in these segments could influence between 37% and 55% of the overall logistics costs.

First-mile delivery, which involves transporting manufactured goods from the factory to a storage warehouse or distribution centre, accounts for approximately 12% to 20% of the total delivery cost (Car Track, 2024).

Middle-mile delivery, which moves goods from the warehouse to the retail outlet, represents around 25% to 35% of the total delivery cost (Car Track, 2024). Electrifying these stages of logistics could lead to substantial cost savings and operational efficiency across the entire supply chain. **To give an indication of the types of vehicles in operation for first- and middle-mile logistics**, a South African commercial vehicle taxonomy is shown in Table 2. This taxonomy defines the different vehicle types by gross vehicle mass (GVM) classification and the number of permissible axles.

2 A unit cost of R7 million per electric bus was assumed to calculate this market size which is based on current market pricing dynamics.

Table 2: South African commercial vehicle taxonomy
(Source: AA 2020)

COMMERCIAL VEHICLE CLASSIFICATIONS	VEHICLE CLASS	GVM CLASSIFICATION	NUMBER OF AXLES[3]	PURPOSE	EXAMPLES
Light commercial	Class 1	< 3 500 kg	Not applicable	Typically used for local deliveries, trades, and small business logistics.	Pickup trucks, small panel vans, and light delivery trucks.
Medium commercial	Class 2	> 3 500 kg and < 8 500 kg	1, 2	Used for medium-distance deliveries and transport of goods within cities or regions.	Medium-sized delivery trucks, larger panel vans, and chassis cabs.
Heavy commercial	Class 3	> 8 500 kg and < 16 500 kg	3, 4	Typically used for transporting heavier loads over longer distances.	Rigid trucks, buses, and small freight haulers.
Extra heavy commercial	Class 4	> 16 500 kg	5 or more	Used for long-haul freight transport, heavy construction equipment, and bulk goods transport.	Large articulated trucks, interlink trailers, and large freight carriers.

Since 2022, South Africa has seen increasing investments in EVs, including light commercial vehicles for urban logistics, as well as medium, heavy, and extra-heavy EVs for freight transport. The light commercial vehicle market in South Africa currently consists of 2.7 million vehicles[4] (RTMS 2024). In 2024, at least 25 electric medium commercial vehicles were sold, mainly used in the middle-mile logistics sector. This increase in sales is driven by the introduction of more affordable medium commercial vehicles, priced around R1 million, along with rising fuel costs, which are putting inflationary pressure on logistics providers.

The increasing sales of electric commercial vehicles in South Africa are largely driven by escalating fuel costs in the freight and logistics industry, coupled with pressure from fast-moving consumer goods (FMCG) companies to decarbonise their logistics operations in order to meet their corporate environmental, social, and governance (ESG) targets. The case for electrifying commercial freight and logistics fleets in South Africa is strong, given the high mileage and fuel consumption typical of these fleets, which makes electrification a cost-effective and environmentally beneficial solution.

3 "Axle" means a device or set of devices, whether continuous across the width of the vehicle or not, around which the wheels of the vehicle rotate and which is so placed that, when the vehicle is traveling straight ahead, the vertical centre-lines of such wheels are in one vertical plane at right angles to the longitudinal centre- line of such vehicle. Axle shall also include an axle that is lifted and of which the wheels are not in contact with the road surface (AA, 2020).

4 Live Vehicle Population, National Traffic Information System (eNATIS) 2024

By the end of 2024, South Africa's electric commercial vehicle market is projected to reach 172 vehicles, valued at R250 million. The market is expected to grow to 1 000 vehicles by 2030, with a value of R1.43 billion. Between 2025 and 2030, an additional 828 EVs are expected, valued at R1.18 billion as shown in Figure 9. This growth is driven by factors such as increasing affordability, rising fuel costs, pressure for decarbonisation, government incentives, and improved infrastructure, all of which make EVs a more attractive and feasible option for the freight and logistics sectors.

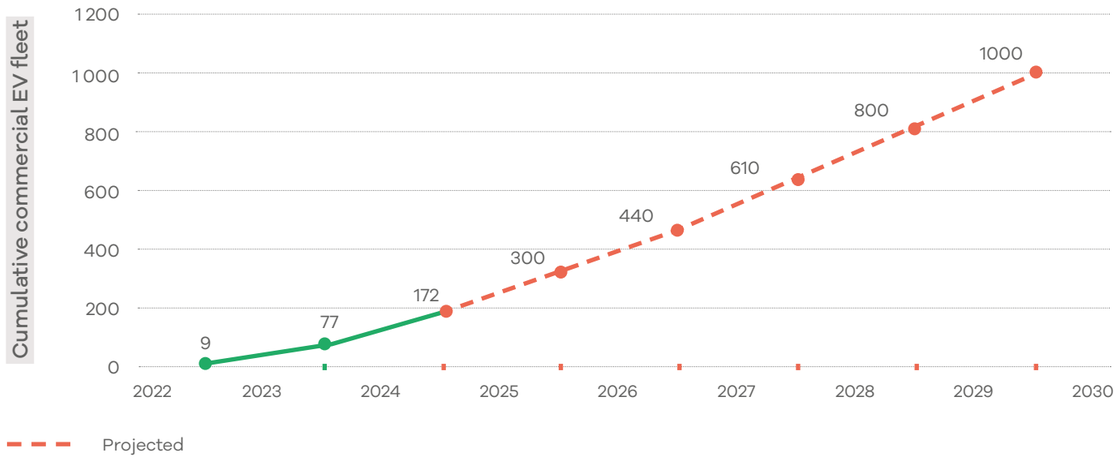

Figure 9: Cumulative electric commercial vehicle market size for 2022 to 2024 and projected up to 2030

2.4 Electrification of last-mile delivery

Last-mile delivery refers to the transportation of products from a warehouse, distribution centre, restaurant, or retail outlet to the consumer's location, typically a residence.

With the rise of e-commerce, on-demand last-mile delivery services have become a key strategy for retailers to increase sales, improve customer retention, and stay competitive. This has created a new demand for mobility services, as consumers no longer need to travel to stores to make purchases, but instead rely on home deliveries.

The growing consumer preference for on-demand and same-day delivery services has led to more frequent, shorter, and higher-mileage delivery trips with greater fuel consumption. These trips often involve delivering smaller parcels, making larger vehicles, like light delivery vans, unnecessary (except for items like furniture or large appliances).

This shift has created a niche market for electric two- and three-wheelers in last-mile delivery services, particularly in sectors like online food, grocery, and clothing delivery.

Electric two- and three-wheelers, with a range of around 120 km, are well-suited for frequent urban trips, offering operational fuel cost savings for delivery drivers.

They are also cheaper than larger electric commercial vehicles, with a lower running cost per kilometre. Additionally, several start-ups have emerged offering fleet services, leasing electric two- and three-wheelers to delivery drivers, often with added charging services.

As the industry shifts from ICE motorcycles (~R17,000) to electric mopeds and motorcycles, electric two- and three-wheelers are gaining popularity among last-mile delivery drivers. Leasing models, such as Electric-Vehicle-as-a-Service (EVaaS), are lowering barriers to entry for electrifying last-mile delivery. Even though electric two- and three-wheelers may be more expensive upfront than their ICE counterparts, leasing options that include charging services allow delivery drivers and independent contractors to access these vehicles affordably.

By the end of 2024, the electric micro-mobility market for last-mile delivery in South Africa is estimated to be 3 800 vehicles, valued at R244 million. The growth rate in the online retail sector exceeded 29% in 2023 and is expected to continue to increase 20.4% annually by 2026 (Mastercard 2024). Based on the online retail growth sector, an annual growth rate of 20% for electric micro-mobility is assumed until 2030. By 2030, this market is projected to grow by 17 900 vehicles , as shown in Figure 10, with a market value of R1.2 billion[5].

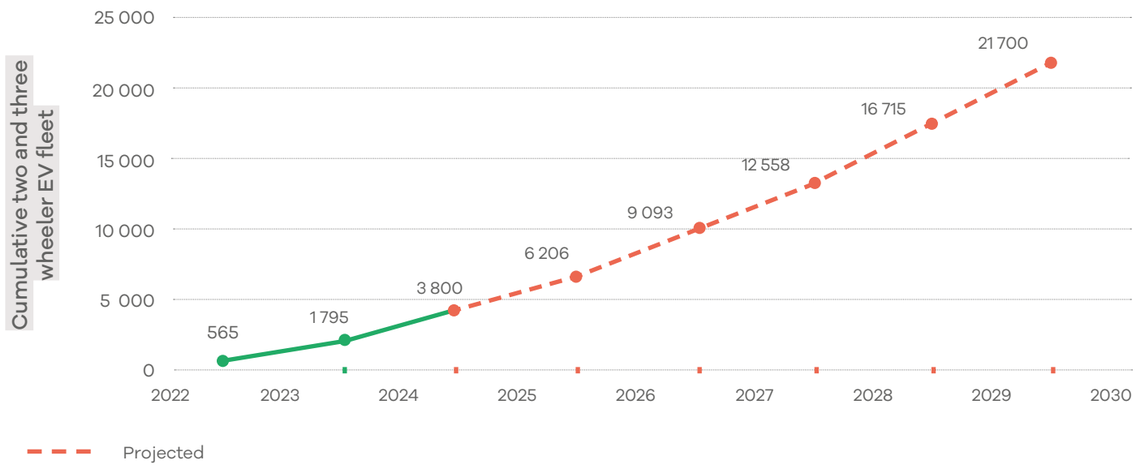

Figure 10: Cumulative market size in electric micro-mobility for last-mile delivery 2022 to 2024 and projected up to 2030

5 A unit cost of R40 000 per electric cargo bicycle, R75 000 per electric motorcycle and R150 000 per electric three-wheeler was assumed to calculate this market size which is based on current market pricing dynamics.

2.5 DRIVERS

There are a number of key market drivers which are accelerating the uptake of EVs in South Africa. These market drivers have been consolidated for all four of the highlighted investment opportunities in due to these investment opportunities having similar economic trends which are accelerating adoption in the South African market.

2.5.1 Innovative financing models

The high upfront cost of EVs has led to innovation in financing models, particularly in the deployment of EVs within commercial vehicle fleets. This approach, known as EVaaS, aims to overcome the financial barrier posed by the higher purchase price of EVs. EVaaS has become especially popular in South Africa's last-mile delivery industry, where electric two- and three-wheelers are commonly leased. This financing model has since expanded to include electric light commercial vehicles, such as panel vans. The model is also being applied to heavy and extra-heavy commercial vehicles under a concept known as Equipment-as-a-Service, with Volvo Trucks South Africa launching electric truck leasing in 2024. This model allows freight and logistics operators to benefit from the fuel cost savings of an electric truck fleet without the burden of high initial purchase costs.

Under EVaaS, EVs are leased at a fleet level, often with the inclusion of charging infrastructure at depots, removing the need for fleet operators to make upfront capital investments. Lease terms typically include a monthly subscription, which may cover charging or a mileage threshold, with additional charges for excess usage. This model is also being applied to last-mile food and grocery delivery, where independent contractors lease EVs. The EVaaS model shifts vehicle ownership from fleet operators to third-party service providers, potentially encouraging municipalities and those responsible for government-owned fleets to adopt lease structures for EVs. This reduces the financial risk of being an early adopter and bypasses the high purchase costs associated with EVs.

In the electric bus industry, the cost of EV buses are two to three times higher than diesel buses, presenting a significant cost barrier to electrification. However, countries like Rwanda and Kenya have adopted EVaaS models to accelerate the transition to electric buses, in combination with the import of cheaper Chinese electric buses. Currently, South Africa does not have electric buses available under leasing models, primarily due to the highly regulated and subsidised nature of the bus industry, which limits financial innovation in the sector.

2.5.2 Cost competitiveness due to rising fuel costs

Electricity is a more cost-effective energy source for mobility compared to liquid fossil fuels, largely due to the greater energy efficiency of EVs compared to internal combustion engine (ICE) vehicles. This is especially true when comparing the cost of electricity from renewable sources to the price of diesel and petrol. For example, in Cape Town, the current residential electricity tariff for overnight EV charging is approximately R2.56 per kWh. Due to the higher energy efficiency of electric powertrains, the operational cost per kilometre for EVs is significantly lower than that of ICE vehicles.

Furthermore, using renewable energy to charge BEVs is more affordable than alternatives such as biofuels, hydrogen, or synthetic e-fuels as decarbonisation solutions. The production costs of biofuels, green hydrogen, and synthetic e-fuels are higher than those of fossil fuels, meaning these alternatives would require subsidies to compete with fossil fuels. Even with subsidies, these options remain more expensive than using electricity to power a battery electric vehicle. The rising cost of liquid fossil fuels in South Africa is shown in Figure 11.

There are also energy security issues to consider from a national geo-political perspective. South Africa is a net importer of liquid fuels with declining local crude oil refining capacity. From an energy security perspective relying heavily on fuel imports results in the South African economy being vulnerable to global geo-political supply chain shocks. The transition to EVs localises energy production and is an opportunity to unlock jobs and investment in the renewable energy and wheeling sectors for fleet level charging.

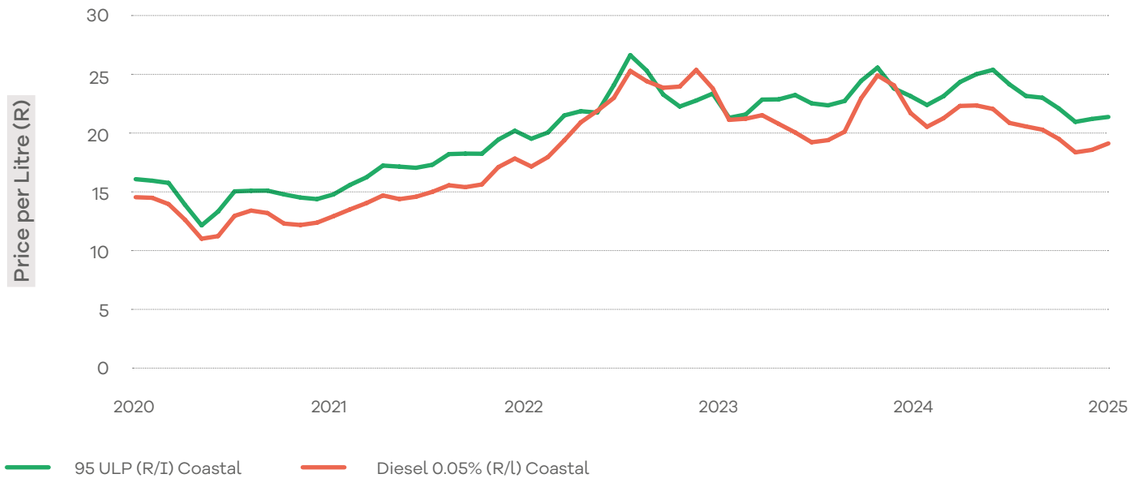

Figure 11: Fuel price fluctuations for coastal unleaded and diesel fuel prices over time[6]
(Source: Fuel Industry Association of Southern Africa (2024): https://fuelsindustry.org .za/old-fuel-prices/)

2.5.3
Reduced range anxiety

Public EV charging infrastructure in South Africa is expanding, primarily driven by private sector investment on privately owned land. A growing number of private charge point operators are investing in the development of public EV charging stations, anticipating increased demand for EVs in the country. Investment in fast direct current (DC) chargers and slower AC chargers is concentrated at key consumer locations, such as malls, office parks, and fuel stations, particularly along high-traffic intercity routes.

In addition to public charging, many EV owners install home-based chargers, which allow for overnight charging and are generally sufficient for most urban trips, given the current range of EV batteries on a full charge.

It is estimated that there are over 500 public EV charging stations in South Africa and approximately 3 465 electric passenger vehicles sold in the country since 2013. The current ratio of EVs to public charging stations stands at 1:7, which is better than the global best practice ratio of 1:10, as recommended by the International Energy Agency (IEA 2024). A map of current public EV chargers in South Africa is shown in Figure 12.

In addition, the average battery range of new EVs has slowly been growing and is now around 400km on a full charge for newer EV models. This advancement in technology is playing an important role in changing negative consumer perspectives around EVs and reducing perceived range anxiety.

6 The retail fuel price in South Africa is regulated by government.

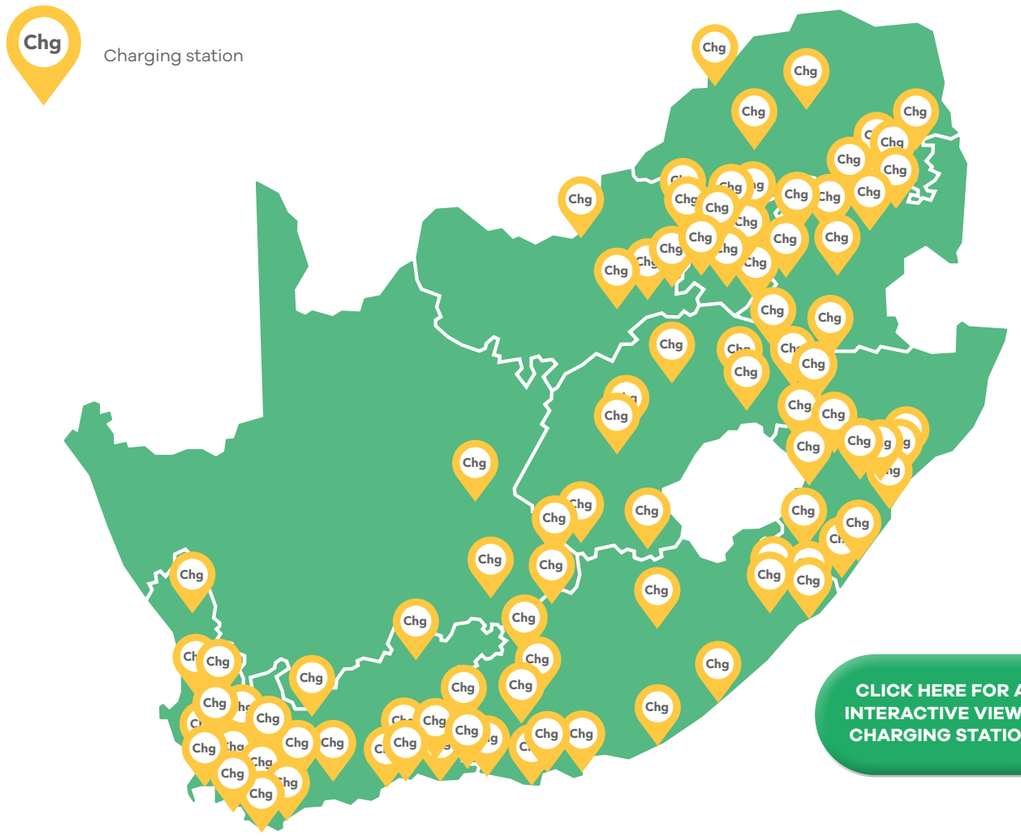

Figure 12: Map of public EV charging stations in South Africa[7]. Charging stations are linked to major highways in the country including the N1, N2 and N3.
(Source: Gridcars, 2025)

2.5.4
Decarbonisation targets

Decarbonisation targets for consumers is an emerging driver for the uptake of EVs in South Africa, particularly in the freight and logistics sectors. Retailers and fast-moving consumer goods (FMCG) companies have set ambitious ESG goals, including targets for reducing carbon emissions. These targets are influencing their supply chains and pushing for the transition to electric fleets, especially in the freight and urban logistics sectors.

Additionally, global supply chain expectations and tightening international carbon regulations are adding pressure on businesses to decarbonise.

As around 30% of South Africa's GDP relies on exports, including minerals, machinery, and agricultural products, the country's major export markets (such as the European Union (EU), USA, China, and Japan) are key to this transition. The EU's Carbon Border Adjustment Mechanism (CBAM), the Emissions Trading System (ETS), and the U.S. Inflation Reduction Act (IRA) are reshaping the global business environment. These international policies are pushing companies to adopt sustainable practices and reduce their carbon footprints to remain competitive and compliant with regulations in these critical export markets. As a result, South African companies are increasingly turning to EVs to meet both local decarbonisation goals and global market demands in these key markets.

7 Source: GridCars: https://www.chargestations.co.za/ChargeMap.aspx?UserGroupID=facf9751-58ca-490f-8ca5-d2b433e6b2e5

The South African Green Transport Strategy was published in 2018 and set a target for the 5% reduction of transportation related GHG emissions in South Africa by 2050. This strategy is being updated with a new net-zero target for 2050. This is an example of a regulatory side decarbonisation target that has been set by National Government to reduce the carbon footprint of the transport sector in line with NDCs.

2.6 BARRIERS

There are a number of key market barriers which need to be overcome to unlock the uptake of EVs in South Africa. The key barriers are policy and regulatory uncertainty, a lack of availability of affordable and fit for purpose EVs and electricity supply constraints.

2.6.1 Policy and regulatory uncertainty

Policy and regulatory uncertainty remains a significant barrier to the adoption of EVs in South Africa. The absence of a clear, cohesive national policy framework for EVs creates uncertainty for manufacturers, investors, and consumers. Key issues include the lack of incentives for EV buyers, unclear strategies for local EV production, and an outdated automotive import tax structure that makes EVs prohibitively expensive. Furthermore, the slow pace of policy reform hinders the establishment of charging infrastructure standards and broader grid-readiness initiatives, both of which are critical for scaling EV uptake. This regulatory gap contrasts sharply with global trends where supportive policies drive growth in EV markets.

There are also regulatory hurdles that affect specific opportunities within the mobility sector. These are:

- According to the new National Land Transport Amendment Bill that was passed at the end of 2024, an electric bicycle, which is growing in popularity as a cargo bike for last-mile delivery, is considered as a vehicle if it is not speed governed to below 25km/h. The implications of this new law is that electric cargo bikes that are not speed governed to below 25km/h will no longer be considered as a bicycle and will not be allowed to be used on bicycle lanes and will require a driving licence as is the case with electric motorcycles. It remains to be seen if there will be continued growth in micro-logistics using e-cargo bicycles outside of highly localised delivery ecosystems. It is noted that e-cargo bicycles are also becoming popular in Soweto for first-mile delivery, which is serving the micro-logistics demand for township shops and retailers.
- Electric three-wheelers are only allowed to be used on urban roads and not allowed on freeways which limits the range of last-mile delivery particularly in South Africa which has a typical urban sprawl urban development model in which residential suburbs are located far away from the central business district. This means that e-commerce platforms will have to develop localised distribution centres closer to residential customers to leverage the use of electric three wheelers for last-mile delivery.
- There are some regulatory barriers around the length and weight of electric extra heavy commercial vehicles in particular, which exceed the regulatory limits for public roads. The National Association of Automobile Manufacturers of South Africa (NAAMSA) is engaging with government around the updating of weight and length regulations for electric extra heavy commercial vehicles.

2.6.2 Lack of availability of affordable and fit for purpose EVs

The high cost of EVs in South Africa is primarily due to import duties (25%) and luxury goods tax (18%-30%) applied to all imported vehicles priced over R600 000. Electric buses are especially expensive, with costs two to three times higher than diesel buses. This high cost, alongside limited local EV production, hampers the rollout of EVs in South Africa.

To support local manufacturing and reduce costs, South Africa will introduce a new tax incentive in March 2026. This will offer a 150% deduction on investments in electric and hydrogen vehicle production. The initiative aims to help reduce emissions, enhance global competitiveness, and align with international carbon regulations. It also supports South Africa's climate goals, complements the Just Energy Transition Implementation Plan, and fosters economic growth in the green vehicle sector by promoting local manufacturing.

Additionally, the need for fit-for-purpose EVs for municipal and government fleets remains a challenge. The National Department of Transport has been working on the Green Procurement Guidelines to assist municipalities and government departments with electric vehicle procurement. Many of the latest EV models that are available in South Africa are listed on the RT57 pricing database. EV OEMs that would like to be considered for public procurement at government and municipal fleets need to ensure that their EVs are registered with the National Treasury and listed on the RT57 pricing and specification database.

JUST ENERGY TRANSITION IMPLEMENTATION PLAN

2.6.3 Electricity supply constraints

As more EVs are sold in South Africa, there will be increased energy demand on the electricity distribution grid. This will require significant grid upgrades especially for large-scale fleet level charging as in the case of freight and logistics, last-mile delivery and public transport fleets. The charging of these EV fleets will be concentrated at depots and distribution centres which would necessitate grid upgrades at these sites. Municipal utilities may implement load curtailment or advise staggered or scheduled charging to minimise the scale of grid upgrades required. Commercial fleets may investigate the feasibility of smaller distributed depots and distribution centres located closer to demand zones for public transport, last-mile delivery and freight and logistics to minimise the demand on the grid.

GABS has projected that it will require 80MW to 100MW of renewable energy to charge its bus fleet if the company transitions all 1 100 diesel buses to electric. This is a fleet level example of the large energy demand requirement to electrify commercial fleets. More investment in large-scale renewable energy projects and upgrading of the electricity grid will be required for the EV transition in South Africa. It is likely not possible to generate the scale of renewable energy that is required onsite for the charging of large electric bus and truck fleets. It is also not likely that South Africa will transition towards a fully low carbon grid over the medium to long term.

Private passenger EV sales will stimulate a demand for residential small-scale embedded generation and battery storage at the household level. EV manufacturers such as Tesla, are recommending that EV owners incorporate rooftop solar PV and battery storage to facilitate residential charging using renewable energy and also to allow for direct battery to EV charging which limits potential damage to the household electricity circuit.

3

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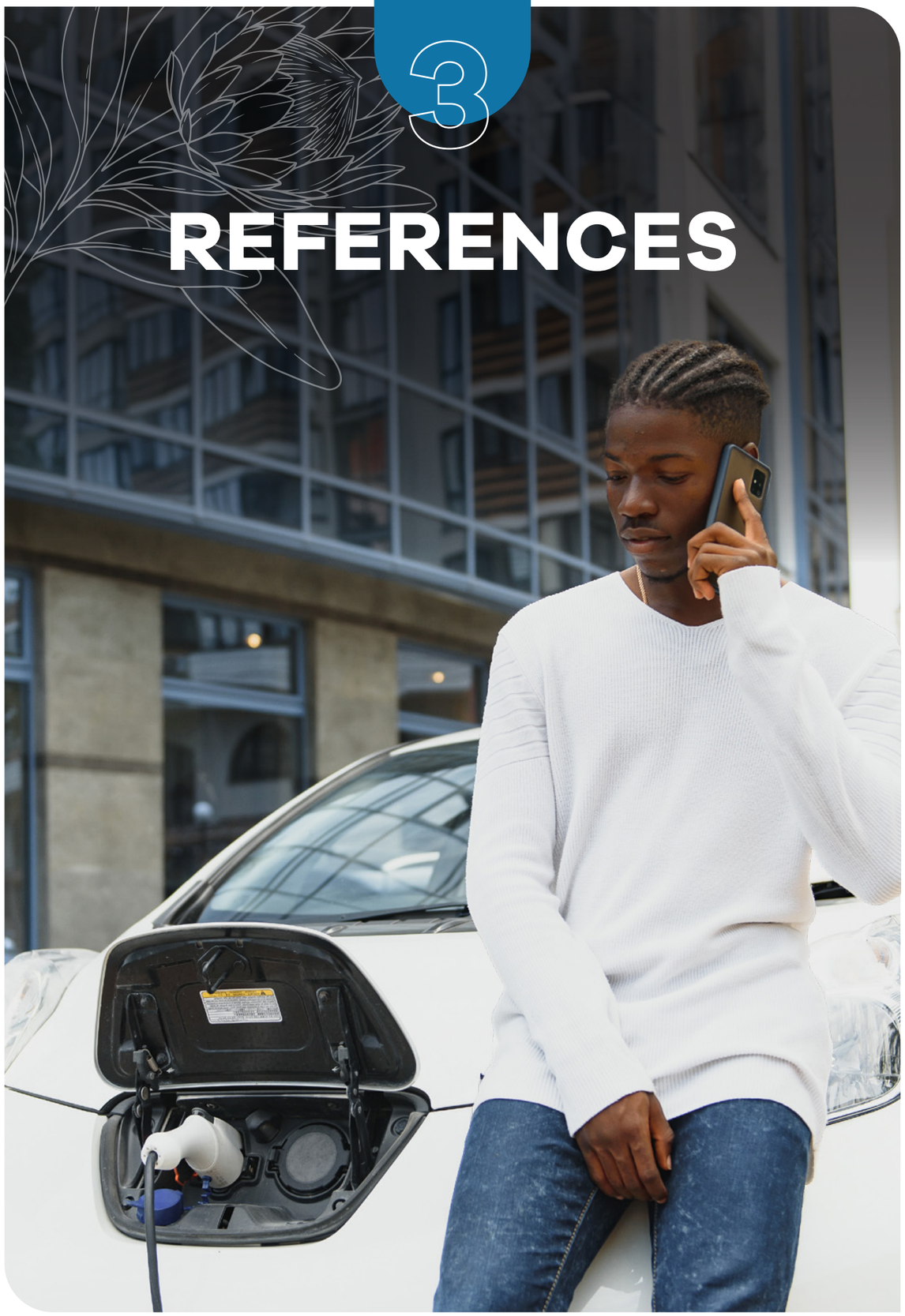

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