



# Green Economy Enterprise Development and Investment

A Cape Town-based company is demonstrating the viability of battery-powered electric vehicles in the neighbourhood watch and armed response industry.



## Purpose

This case study describes the resilience-based rationale and outcomes of District Watch Group's new battery-powered electric vehicle fleet. The Cape Town-based company is one of the leading neighbourhood watch and armed response services in South Africa.

The green economy holds significant potential financial value for small and medium-sized enterprises (SMEs) and the uptake of green technologies has the potential to make them more resilient in the face of [acute shocks and chronic stresses of society](#).

District Watch Group has implemented water saving interventions (using of greywater and groundwater), increased electricity efficiency and has now transitioned to electric vehicles (EVs) across all of the company's locations.

In the developing world, SMEs are considered engines for national job creation and economic growth, and their agile nature allows them to pivot quickly, particularly during times of acute shock. It is becoming clear that green economy innovations will be at the heart of the continued growth and resilience of South African SMEs.

## KEY INSIGHTS

- ✓ The global electric vehicle market was valued at ~R1.6 trillion (USD 118.9 billion) in 2018/19, with 783 000 units sold, and the global stock of electric passenger cars passing 5 million (Global Electric Vehicle Outlook 2019/20).
- ✓ The SA market is slowly growing, with >500 EVs sold.
- ✓ This growth is based on a strong business case in specific local industries.

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## The case study discusses:

- The emerging business case for battery-powered electric vehicles (BEVs) in South Africa.
- How continued investment into green innovation strengthens the resilience of the local companies, thereby helping them to survive, adapt and thrive in the face of acute shocks.
- The role that SMEs play in the resilience of local and regional economies.
- How partnerships can be mobilised to stimulate green and sustainable development through supporting innovation.

## It is written for:

- Companies in similar industries that are exploring cost-saving, resilience and sustainability measures.
- Businesses and entrepreneurs that are looking to capitalise on climate-induced business opportunities.
- Cities and regions that are seeking to harness innovation and decentralised smart-city responses to climate change challenges.
- Cities and regions focused on building economic resilience.
- Funders and other organisations seeking to replicate similar programmes

## What is resilience?

In human terms, resilience refers to “the ability of an individual to recover from setbacks, adapt well to change and to keep going even when facing difficult circumstances”. A resilient Cape Town is a compassionate, connected, and capable city, where Capetonians collaborate across households, communities and institutions, to build collective responses to the current and future social, environmental and economic challenges.



## Background

The District Watch Group (District Watch), a Cape Town-based company, was established in 1994, offering a service that combines the key elements of neighbourhood watch and armed response. Initially, District Watch was limited to the Monte Vista and Platteklouf Glen areas. Today, District Watch has expanded to include suburbs all around Cape Town.

District Watch's drive for an improved customer and community service has meant the company is constantly seeking means of reducing costs, improving efficiencies, and protecting the environment. In this case, protection also includes a company-wide aim to increase efficiency whilst reducing water use and the company's carbon footprint.

*Electric vehicles are the future of transportation in South Africa. Based on our experience over the last year with our EVs, we can't wait to convert our entire fleet to EVs; and we encourage our industry to do the same"*  
- Pierre Gouws, District Watch Group

## Towards a solution

District Watch is the first and only security company in South Africa to have incorporated EV's into its fleet. The average useful life of a vehicle in their internal combustion engine (ICE) fleet is between 3-4 years (which includes significant repairs and maintenance).

The EVs are used on a rotational basis with three out on patrols whilst one is charging (to be used for the night shift). The EVs are, therefore, only charged once a day/shift.

District Watch doesn't believe in overextending the vehicles' designated patrolling area as this can compromise response times. This means that the operational range is 200 km (max) per shift - The company only requires a maximum of 200 Km operational range to minimise wear and tear in their vehicles and to ensure swift response times. Range anxiety is, therefore, not an issue with the BMW i3s expected range of between 290 - 320 km. On average, their vehicles are travelling an average of 100 000 km a year, per vehicle, and the driver's driving behaviour is monitored, e.g. harsh braking, and speeding.

The company intends to ultimately convert the entire fleet to EVs; except for the 4x4s, which are needed in off-road situations, such as farm protection.

The company also wishes to eventually incorporate solar charging (solar PV carports) at all its properties, but the main barrier is the cost of installation.

### District Watch Electric vehicle pilot:

<b>EV model</b>	BMW i3
<b>EV fleet size</b>	8 electric vehicles in a total fleet size of 60 vehicles
<b>EV type</b>	Full Battery EV
<b>Cost per EV</b>	R 565 000 (was purchased outright from BMW)
<b>Vehicle life</b>	5-6 years vs 3-4 years for the current ICE fleet – which is the industry standard.
<b>Battery guarantee</b>	10 years
<b>Chargers</b>	Wall-mounted AC chargers
<b>Charging cost</b>	R30 – R40 per charge (comparative petrol costs of R150–R200 per shift)
<b>Tariff</b>	Small Business





## Impact

District Watch has seen an overall cost reduction of ~80% over the life of the vehicle. This is mainly due to very low maintenance costs associated with EVs. In most cases, the company's ICE vehicles need gearbox replacements in the second year. This has not been an issue for the EVs. There is also a significant "fuel cost-saving" of between R120 and R160 per shift.

The only increase in cost that has been experienced has been tyre replacement - because regenerative braking<sup>1</sup> on the BEVs can result in increased tyre wear and tear.

All the company's drivers have reported that they have enjoyed using the EVs. There has also been positive feedback from customers, highlighting their quietness, especially in commercial centres, residential estates, and office environments.



## Challenges and barriers

The vehicle chassis structure hampers the installation of radio communication equipment that requires a flat surface.

**Mitigation:** The company had to innovate to create the needed surface on the roof of the vehicle to allow for effective communication technology.

Installing security lights on the roof with no mounting grooves. **Mitigation:** The company had to use chemical anchors, i.e. some glue that is easily cleaned off.

Drivers had to be re-trained since the electric vehicles necessitate a different driving style.

**Mitigation:** Operators driving behaviour is monitored, e.g. harsh braking, speeding, etc.

The current lack of safe and accessible public charging infrastructure is also a barrier that needs to be overcome.

The upfront cost of purchasing the electric vehicles remains high compared with other equivalent vehicles in South Africa.

### Cost comparison vs ICE fleet:

Capital cost = Higher

Tyres costs = higher

Insurance = Higher

Maintenance = Much lower

Repair = Much lower

(EVs have fewer moving parts to be repaired and/or replaced)

Fuel = Much Lower

## Opportunities for development

The following represent areas for development and growth when exploring the impact of EVs in the City of Cape Town:

1. The development of an EV electricity tariff or model that includes the installation of rooftop solar PV
2. Roll out of a public charging station network in safe and accessible locations – this can be a paid-for service.
3. Safety of the public charging locations (rather have them in enclosed areas like malls and convenient places, e.g. McDonald's, so the EV charges while one is having lunch).
4. Spot charging - Installations such as churches allowing for spot charging in exchange for free security.

<sup>1</sup> Regenerative braking is an energy recovery mechanism that slows down a moving vehicle or object by converting its kinetic energy into a form that can charge the battery as the car slows.

# IN THE CONTEXT OF CAPE TOWN'S RESILIENCE STRATEGY, THIS ENTERPRISE & INVESTMENT CASE STUDY ADDRESSES

## Stresses / Shocks



Economic crisis



Rapid urbanisation



Unemployment



Infrastructure failure




Crime

## Qualities of a resilient city



Job-creating city



Adaptable city



Robust city



Flexible city



Resourceful city

## RESILIENT CAPE TOWN PILLARS

**PILLAR 1:**  
People  
Compassionate,  
holistically healthy city

**PILLAR 2:**  
Place & Space  
Connected, climate  
adaptive city

**PILLAR 3:**  
Economy  
Capable, job  
creating city

**PILLAR 4:**  
Disaster readiness  
Collectively,  
shock-ready city

**PILLAR 5:**  
Governance  
Collaborative,  
forward-looking city

## PILLAR 3

Cape Town is a capable, job-creating City

### VISION

Capetonians turn the challenges of resource constraints and rapid technological change into new opportunities.

**GOAL 3.1**  
Foster green  
economic growth

**GOAL 3.2**  
Enable enterprise  
development in the  
informal economy

**GOAL 3.3**  
Connect the  
workforce with a  
changing economy

**GOAL 3.4**  
Collaborate with  
businesses to achieve a  
resilient local economy

### WHAT IS THE GREEN ECONOMY?

The working definition for the green economy as it relates to Cape Town is: "expanded economic opportunities created through the provision of goods and services and the use of production processes that are more resource-efficient, enhance environmental resilience, optimise the use of natural assets and promote social inclusivity."

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