

# ELECTRIC CARS ARE CHANGING THE WORLD

*... but can South Africa reap the benefits?*

## THE PROMISE OF ELECTRIC VEHICLES

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### #evrevolution

The wholesale commitment of the major car manufacturers (OEMs) in the world to switch to electric vehicles (EVs), presents a major opportunity to advance a highly visible project in service of a low carbon future.

The reason is clear: Vehicles of various sizes are estimated to produce 29% of all greenhouse gasses worldwide. The EU will have to reach 44 million EVs (15% of registered vehicles in Europe) to make its climate change targets.

The most powerful statement is stopping all production of internal combustion cars by dates in the very near future – for example, Stellantis and Renault vehicles will all be electric by some time between 2027 and 2030.

#### #nissanambition2030

*Ambition 2030 is Nissan long-term vision to empower mobility and beyond! We are responding to critical environmental, societal and customer needs, electrifying our vehicles and accelerating the rate of our innovative human-centric technology to create a safer, cleaner and more inclusive world.*

#### Mercedes Benz

*Their aim is to achieve up to 50 percent share of plug-in hybrid and BEVs by 2025 on the way toward going all-electric by 2030 wherever market conditions allow.*

#### Audi

*Audi will launch exclusively new electric models from 2026 and stop producing cars with traditional combustion engines by 2033. This is what the company announced in a press release, which emphasizes that the group is "accelerating the transition to electric mobility and aims at the goal of zero net emissions by 2050.*

*The world is about to pass another important milestone in electric vehicle adoption: 20 million plug-in vehicles on the road globally, come June 2022, according to BNEF estimates.*

bloomberg.com

#### Kenya

*leader in green energy, with over 90% of all the electricity generated by the country coming from renewable sources such as hydro, geothermal, solar and wind, plans to bring over 1,000 electric buses with 25 and 36 seat capacities to Kenya for purchase by bus operators over the next five years. In Kenya, the electric buses could produce 95% less CO2 emissions*

#### Volvo

*also announced it would end the production of all internal combustion engine vehicles (including hybrids) by 2030*

#### General Motors

*announced on January 28 that the company would end the production of diesel- and gasoline-powered vehicles by 2035 and exclusively offer electric vehicles.*

***Global warming isn't a scientific theory, it's an observed reality.***

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After extensive discussions with major car manufacturers in SA, it is clear that a chicken and egg situation exists: it is very difficult to sell EVs in a market where there is insufficient national charging infrastructure. A national network of chargers is a critical prerequisite for selling EVs in large numbers in SA.



# THE SITUATION WITH CARBON EMISSIONS IN SOUTH AFRICA

**South Africa**  
is the  
11th largest carbon emitter  
in the world,  
and the largest in Africa

**South Africa**  
emits more carbon  
than the next two countries  
(Algeria + Egypt) combined

ESKOM SO<sub>2</sub> > USA + CHINA



*For reasons that will become obvious,  
it is essential that chargers in SA  
are powered by green energy.*

## ESKOM,

is the world's largest emitter  
of sulphur dioxide,  
larger than the entire power  
sectors of the USA and China combined.

ESKOM SO<sub>2</sub> > USA + CHINA

## If ESKOM was a country

...it would be the 3rd largest emitter  
of greenhouse gasses in Africa,  
ahead of Algeria, Nigeria,  
the DRC and Angola.

...it would be the 28th largest emitter  
of greenhouse gasses in the world.

ESKOM carbon emissions are so excessive  
that each kWh unit of power produced  
emits 881g of CO<sub>2</sub>e.

*For SA to attain the climate change  
benefit promised by EVs,  
it needs green powered chargers.*

**The implications of this for  
EVs are critical:**  
at average distances,  
an EV powered by ESKOM power  
would emit no less CO<sub>2</sub>  
than a petrol car would.

Over 25 000km,  
a petrol car would emit about  
4 million grams,  
a diesel car 8 million grams,  
**but the ESKOM power used to charge  
an EV for a similar distance  
would have created  
4 million grams of CO<sub>2</sub>e.**

Over 25 000km



**DIESEL**  
8 million grams



**PETROL**  
4 million grams



**EV**  
CHARGED WITH  
**ESKOM POWER**  
4 million grams



**EV**  
CHARGED WITH  
**GREEN POWERED**  
CHARGERS  
**0 grams**



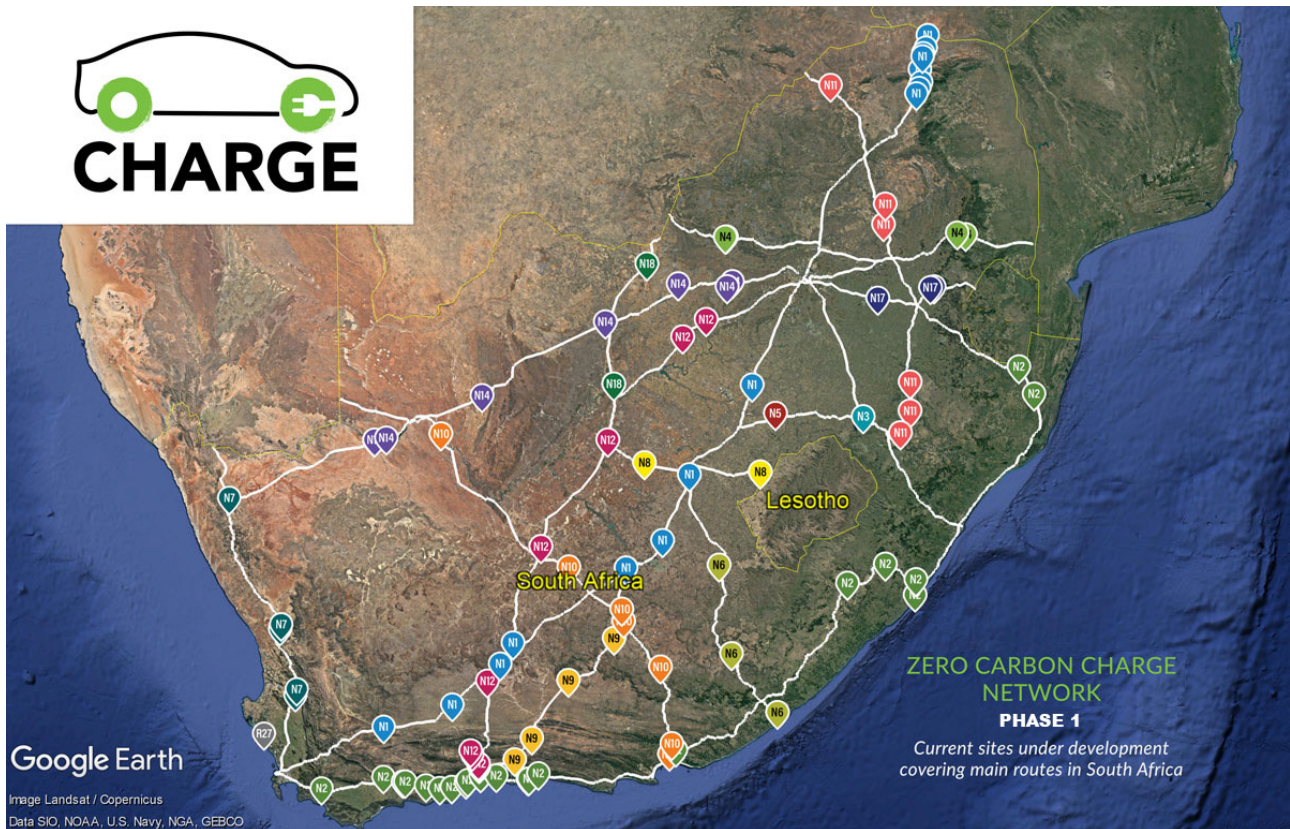
With the exception of the REIPP renewable energy programme,  
which has licensed or approved [6000] MW of solar and wind projects to date,

**the country lacks tangible progress on projects  
that visibly lead the way to a transition  
to a low carbon economy.**

# THE SOLUTION

## ZERO CARBON CHARGE NETWORK – PHASE 1

### 100% RENEWABLE ENERGY CHARGERS



## Our proposal is to assist in the shift to a low carbon economy

### BY BUILDING

- a national network of
- green powered
- fast chargers of approximately 250 kW each
- on all the major N and R routes across SA so that you are never more than 150km from a charging station

Each charging station will be a self-sufficient, stand-alone entity, independent of the ESKOM power grid

### MANUFACTURERS & BUYERS

The biggest SA car manufacturer is insisting on green energy charging, and it is the first question on the lips of potential buyers of EVs when they enter the showroom.

**Car manufacturers and Distributors in SA have told us that if we build our network within the timelines envisaged, they can accelerate the roll-out of EVs in SA.**

# WHY?

Each EV powered by our green chargers will, on average, save approximately 6 million grams of CO<sub>2</sub>e a year.

It will set the standard in SA that chargers have to be powered by green energy.

It will enable South African car companies to roll out EVs aggressively and achieve European level penetration.

Our estimates are that within 10 years there could be more than 2 million EVs, representing 20% of vehicles on the roads in South Africa.

It will provide enough power during the day in South Africa to charge EVs.

This would directly save 12 million tons of CO<sub>2</sub> per year.

## BE PART OF THE SOLUTION



### CONTACT

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