



United Nations
 Framework Convention on
 Climate Change



Regional Collaboration Centre – Kampala
 Promoting Action Against Climate Change



UYILO

E-MOBILITY PROGRAMME

enabling electro-mobility innovation



Hosted by:

NELSON MANDELA
 UNIVERSITY

An initiative of:



Smart moves: Advancing electric mobility in Africa South Africa

Tuesday 28 September 2021

Hiten Parmar

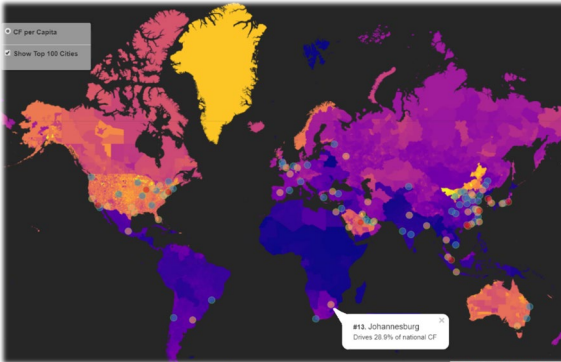
Director: uYilo eMobility Programme

info@uYilo.org.za

www.uYilo.org.za

Get connected with us on

Air Quality Crisis



Source: citycarbonfootprints.info



Source: southafrica.to

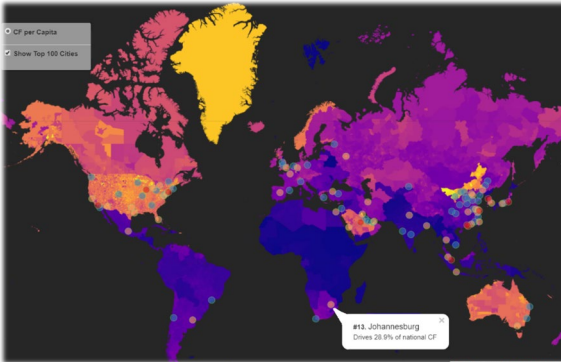


Source: CNN

South Africa contributes **1.1 %** to **global emissions**, with the energy sector contributing close to 80% and transport sector contributing 10.8% of total emissions.

National **Department of Transport**, Green Transport Strategy highlights that **road transport** accounts for **91.2%** of direct emissions across the transport sector, primarily from combustion of **petrol** and **diesel**.

Air Quality Crisis



Source: citycarbonfootprints.info



Source: southafrica.to

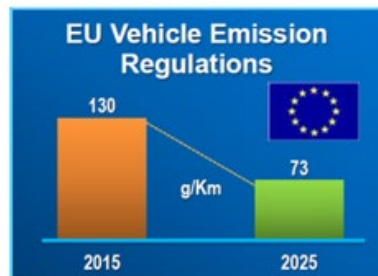


Source: CNN

South Africa contributes **1.1 %** to **global emissions**, with the energy sector contributing close to 80% and transport sector contributing 10.8% of total emissions.

National **Department of Transport**, Green Transport Strategy highlights that **road transport** accounts for **91.2%** of direct emissions across the transport sector, primarily from combustion of **petrol** and **diesel**.

Global policy changes:



Source: ESB cars

South Africa's Showcasing



Government Fleets



Mining



e-Bike Share



Eco-Tourism



Electric 3-Wheeler



Utility Vehicle



CBEV

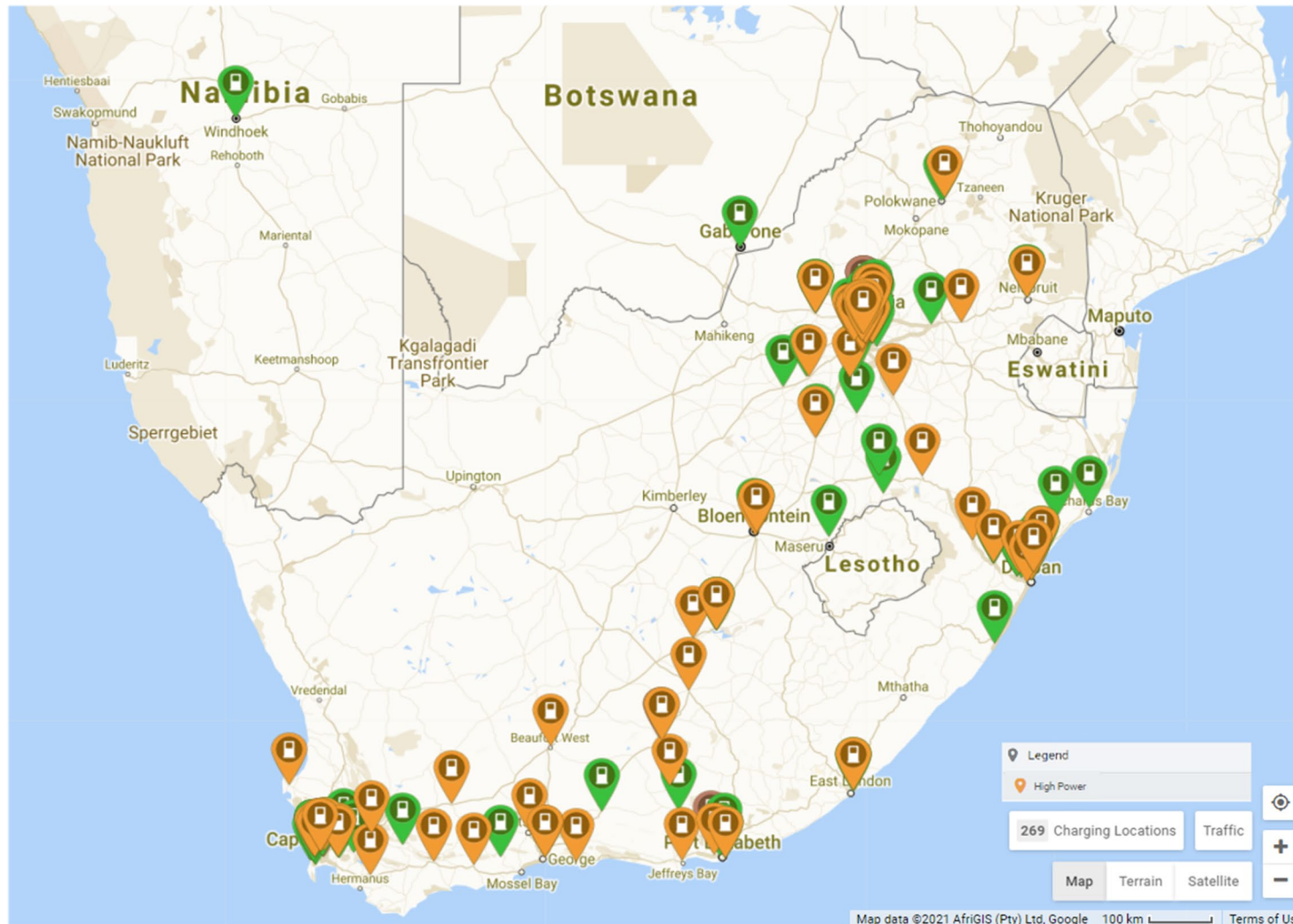


CBEV



eBUS

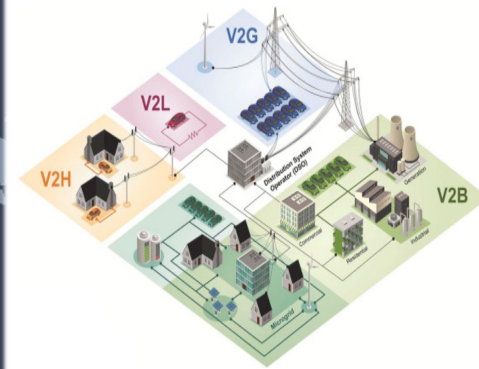
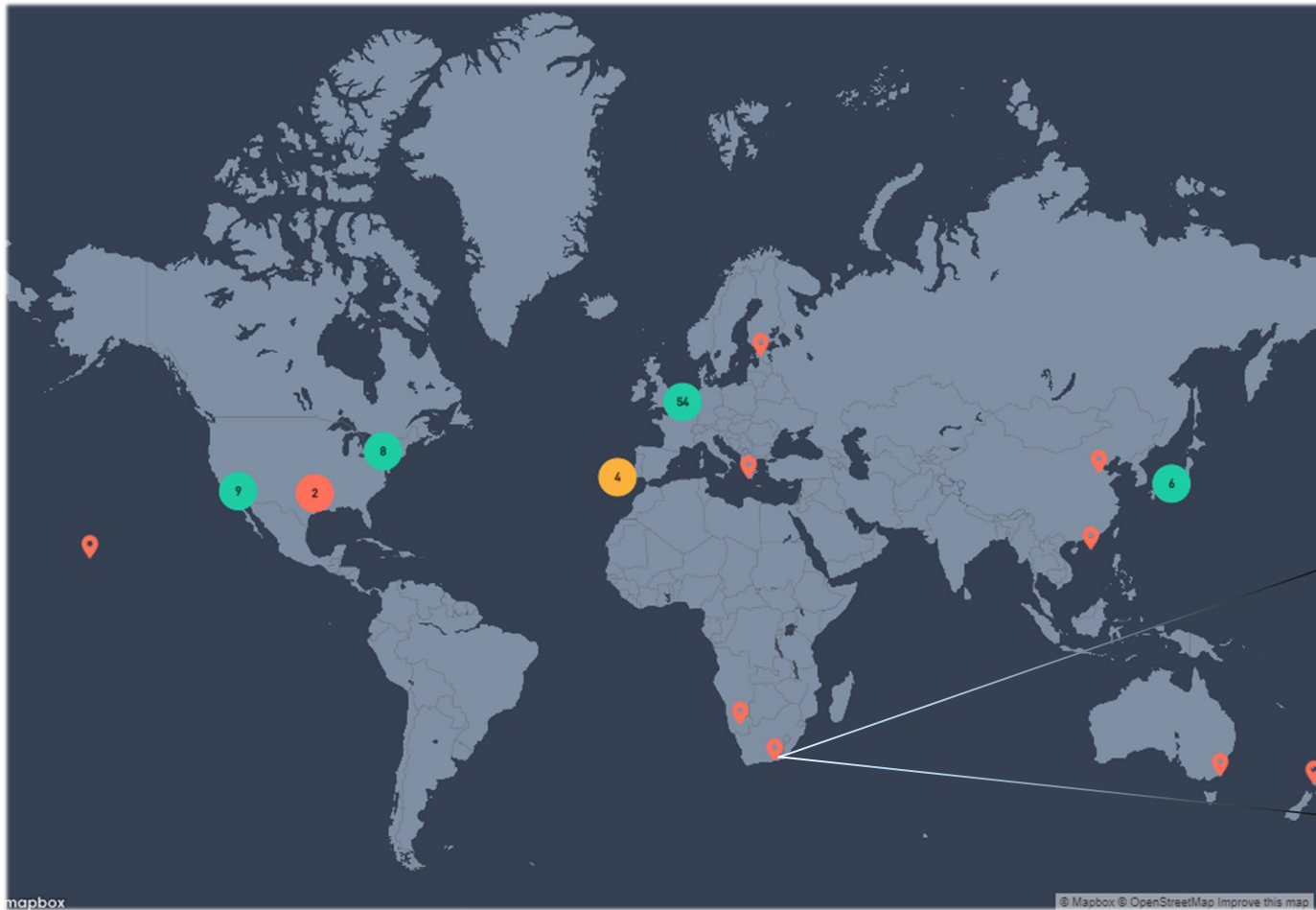
South Africa's Landscape - EV Charging Infrastructure



Map data ©2021 AfriGIS (Pty) Ltd, Google 100 km

Source: Plugshare

Vehicle-2-Everything (V2X) Projects Worldwide



UYILO E-Mobility Programme

South Africa

Source: V2Ghub

Case Study: EV-Grid Interoperability

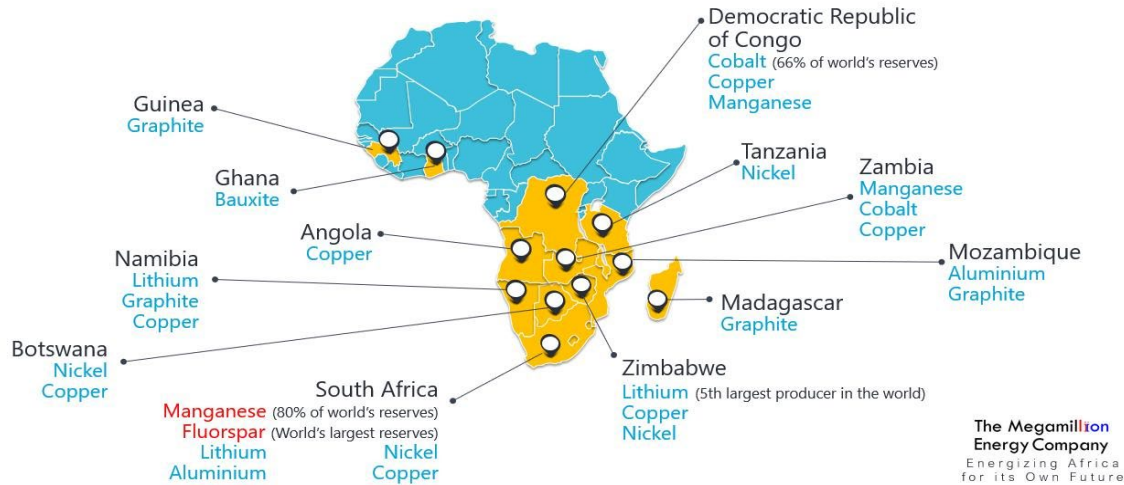


- Solar Energy **Generation**
- **Storage** through second-life EV batteries in stationary applications (Multi-manufacturer)
- **Distribution** through multiple charger network (AC charge points, DC fast chargers)
- **Vehicle-to-Grid** Ancillary Services
- Energy **Management** System
- IEC 61850 Smart Grid remote **Communications**

Opportunities within eMobility

Africa has Critical Deposits of Battery Minerals

TIME TO BENEFICIATE AFRICA'S RICH MINERAL RESOURCES FOR AFRICA'S BENEFIT – FIRST!



1.1 million jobs created in e-mobility in 2030

Sector	Jobs created
Charging equipment manufacturing	31,000
Charging installation and connection	65,500
Charging infrastructure operation	141,500
Charging infrastructure maintenance	94,000
Electricity generation	35,000
Grid reinforcement	27,500
Battery manufacturing	72,000
Battery end-of-life	6,500
Electric powertrain manufacturing	48,500
Rail expansion	552,000
Total	1,073,500

Source: Analysis from members of the Platform for Electro-mobility



Battery Recycling



Energy Generation



Smart Grids



Charging Infrastructure



Battery Second Life



Service



**Enabling, Facilitating
and Mobilising the
Electric Mobility
EcoSystem
since 2013**

Standards



Apps



EcoSystem

since 2013

Battery Technology



Connectivity



Mobility Options



Electric Vehicles



Components

