

# 69<sup>TH</sup> AMEU CONVENTION

**1 - 4 October 2023**

CSIR International Convention Centre

**Confronting South Africa's Electricity Crisis in the context of a 'Balanced Just Energy Transition' (BJET) and the need for a reliable and resilient national electricity grid**

## **Electric Vehicles in the Just Energy Transition**

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# Just Energy Transition Partnership: Electric Vehicles

## Core focus to enable a Just Transition

The JET IP draws on the Just Transition Framework to develop a portfolio that embeds just interventions in the three priority sectors



JET IP definition of a just energy transition:

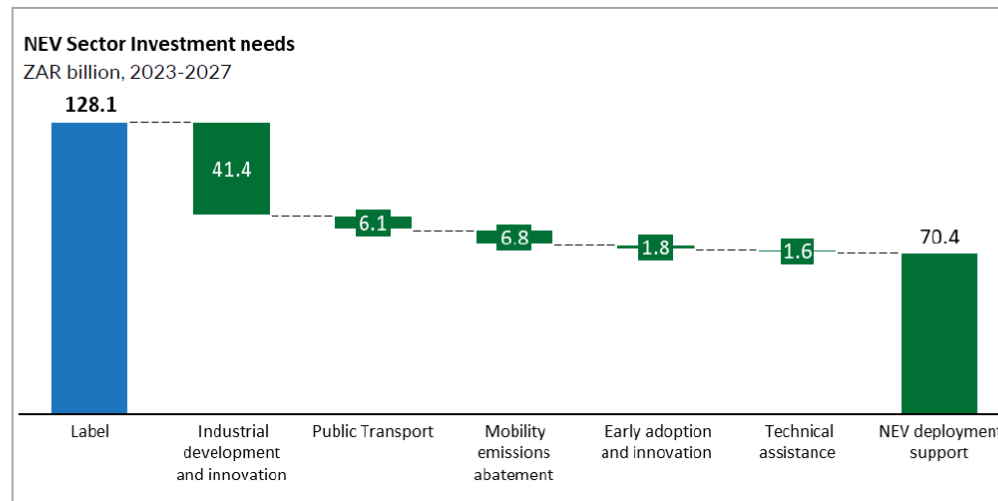
A just energy transition in South Africa builds resilient economies and people to meet the NDC targets. It does so through:

- Accelerating affordable, decentralised, diversely owned **renewable energy systems**
- **Restoring previous and future ecosystems** and natural resources impacted by coal mining and energy production
- **Reskilling present workforces and educating future ones** in green and other new and viable development pathways
- **Building new productive models** for comprehensive economic transitions
- **Supporting various impacted constituencies** to play an active role in decisions and implementation of energy transition programs (be it government or non-government actors)

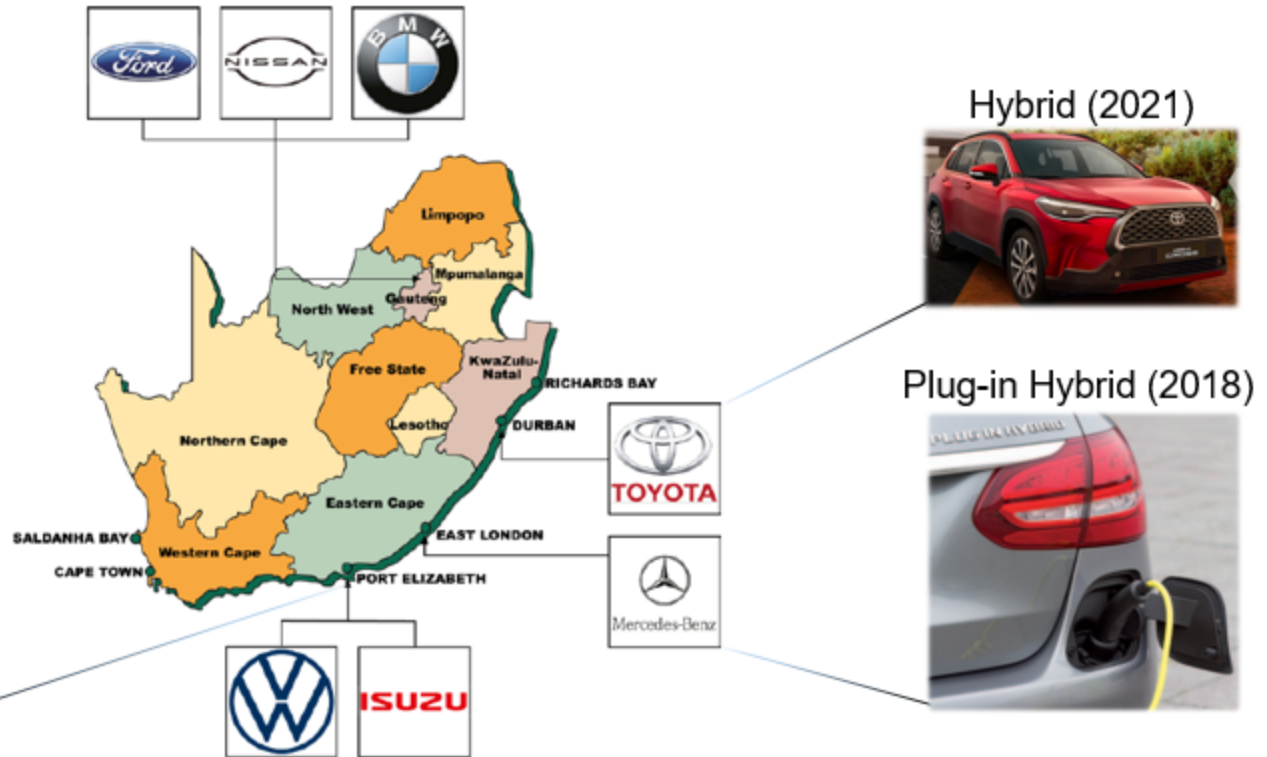


## Priority sector 2: New Energy Vehicles ~ ZAR 128.1 billion over 5 years

Aim is to transition the automotive sector value chain to protect sector employment and promote sustainable manufacturing



# Automotive sector in South Africa



The automotive industry is one of the oldest industries in South Africa and the first production plant established in February, 1924 in Port Elizabeth, the Ford Model T's were assembled in an old wood packing shed in Port Elizabeth powered by 1000 horses and not a touchback. The plant produced 10000 vehicles that year.

The automotive sector is the largest manufacturing sector in the South African economy (631,983 new vehicles produced in 2019)

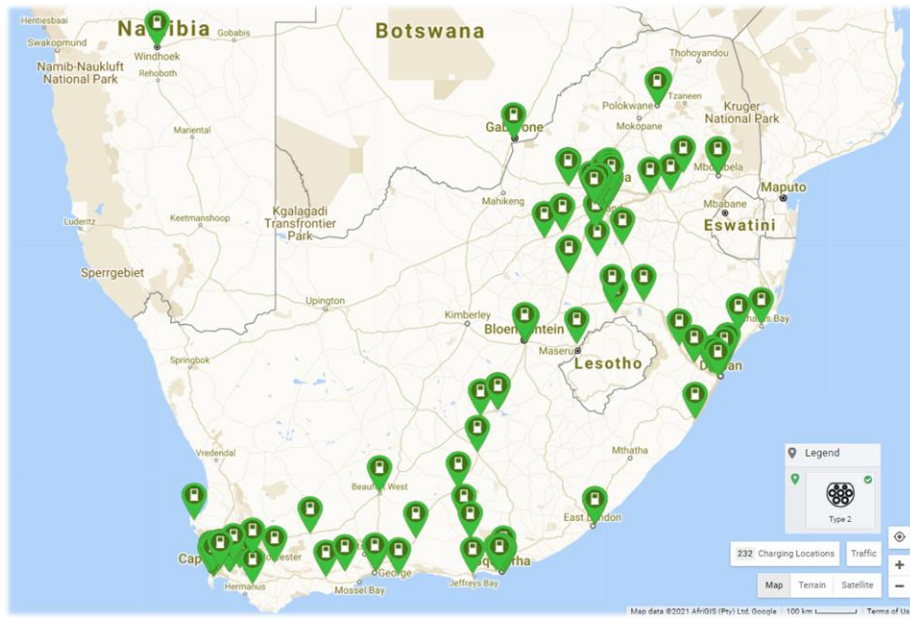
High OEM employment levels, and even greater within component manufacturing

# Developments in Electric Vehicle Deployment

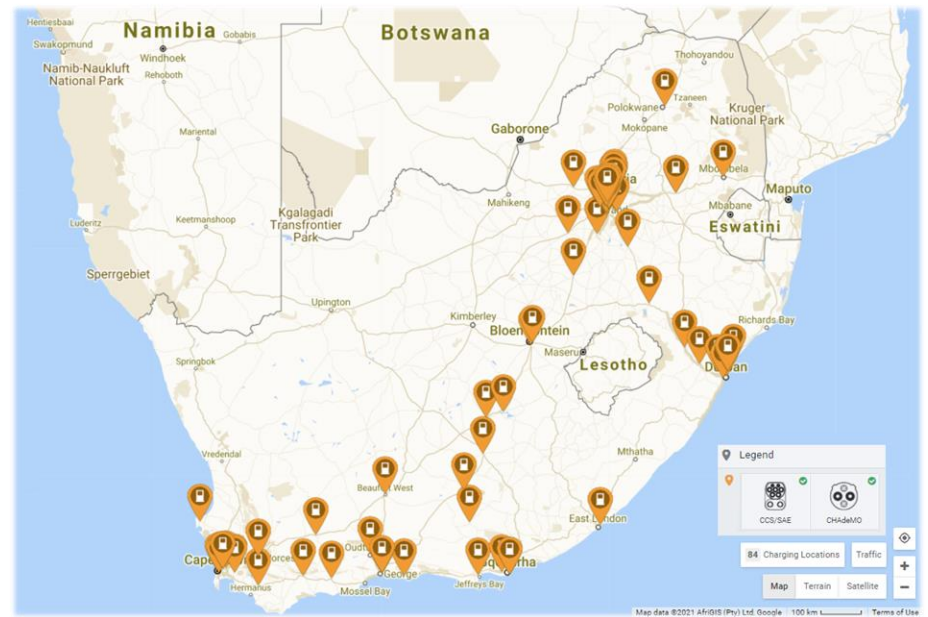


# Charging Infrastructure Landscape

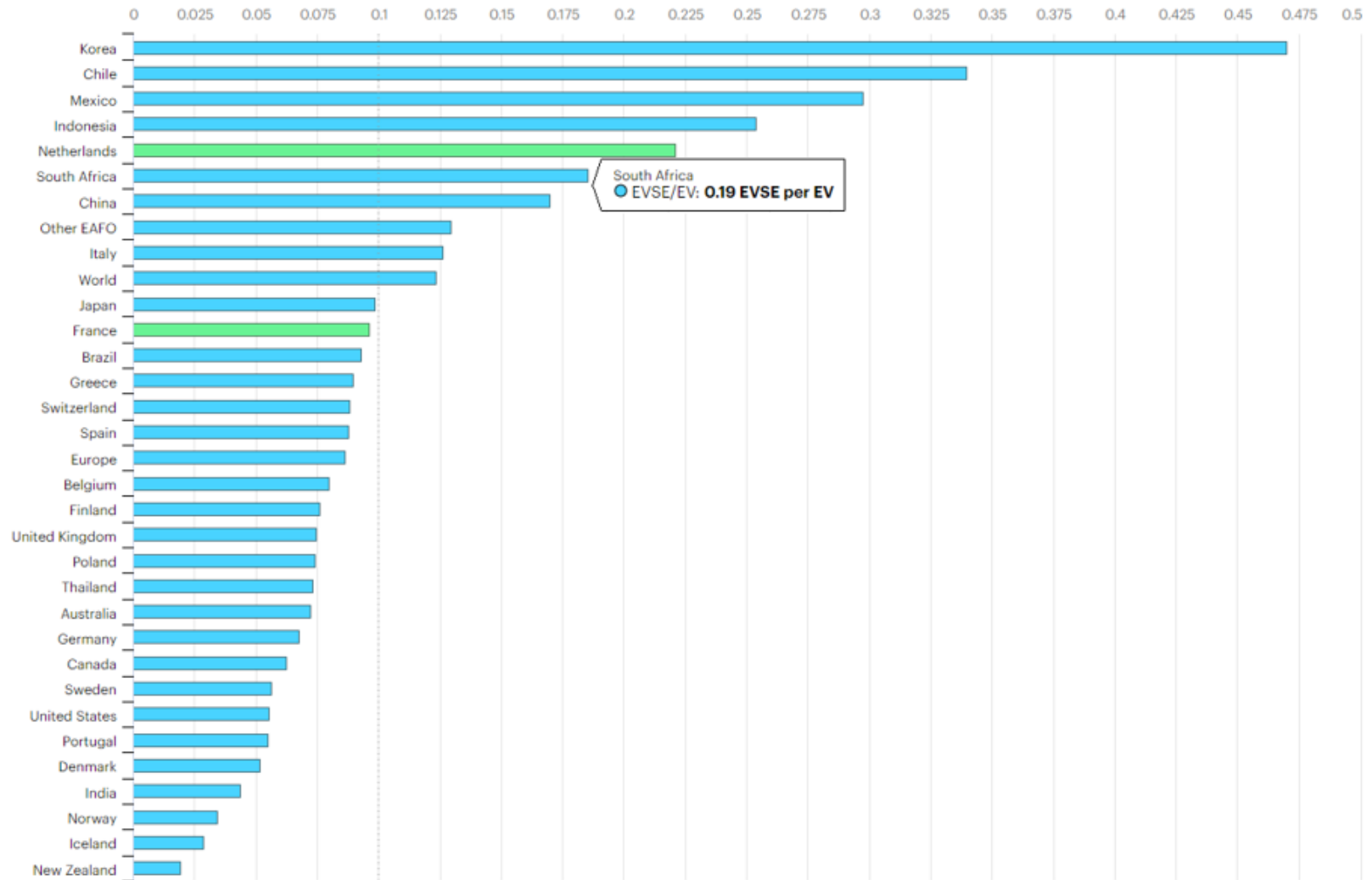
## AC (Standard charging)



## DC (Fast charging)



# Ratio of public chargers per EV stock by country (IEA)



# Solar coupled charging infrastructure

*Johannesburg*



*Cape Town*



*Port Elizabeth*



*Botswana*



*Zimbabwe*



*Rwanda*

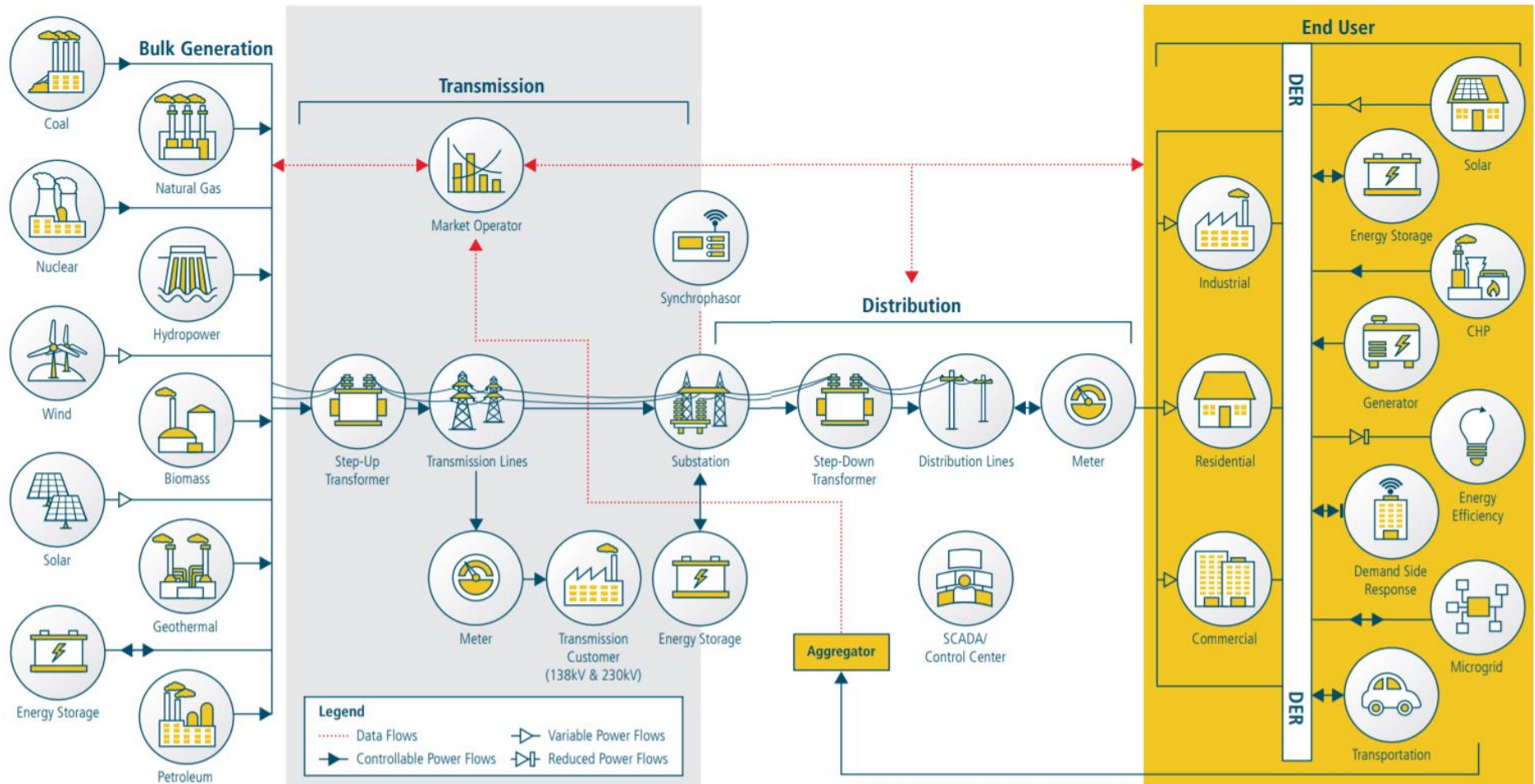


# Electricity sector related standards

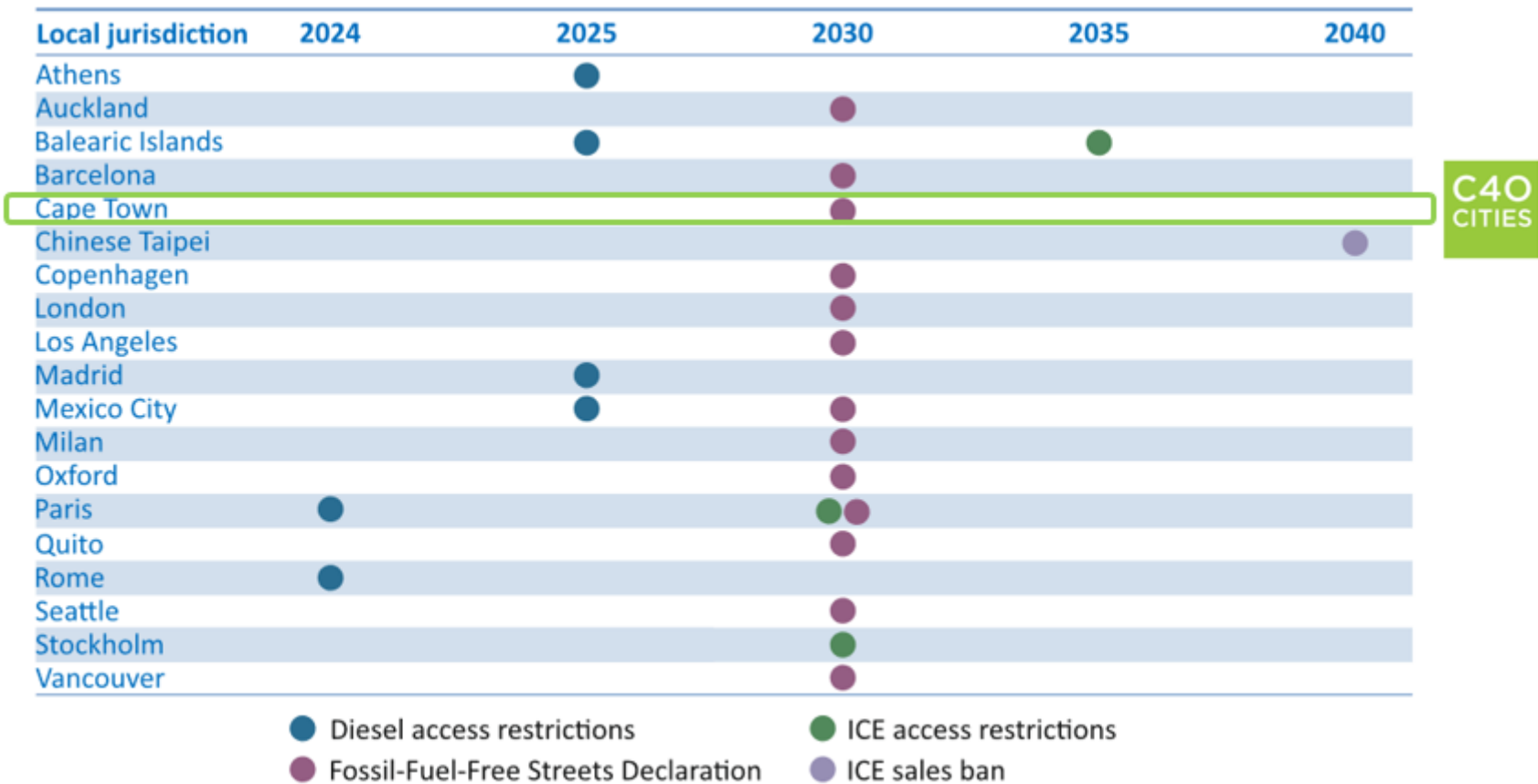
- EV Charging Infrastructure Standards:
  - **SANS 10142-1** Low Voltage Installations, section 6: *“An electric vehicle charging station is deemed to be a machine or an appliance”*
  - **SANS 62196-2** *“In South Africa, the allowed configuration for all **AC conductive charging** on domestic, industrial, commercial and public access charging stations shall be of **Type 2 socket only**”*
  - **SANS 62196-3** *“In South Africa the allowed configuration for **DC conductive charging** for domestic, industrial, commercial and public access charging station shall be configuration **type AA (CHAdeMO)** and configuration **type FF (COMBO 2)**”*



# Evolving energy landscape: Storage and Electric Vehicles



# Local government pledges



# EU's reference on job opportunities in electric mobility by 2030



## 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

# Considerations for local governments

- eMobility ecosystem inclusions within Climate Action Plans
- Capacity development
- Public awareness creation
- Municipal electric vehicle fleets
- Municipal utility electric vehicles
- Increasing Distributed Energy Resources
- Public Electric Vehicle charging infrastructure deployment

Local governments are key to implementation on the ground, by-laws, non-financial incentivisation



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**Thank you!**

