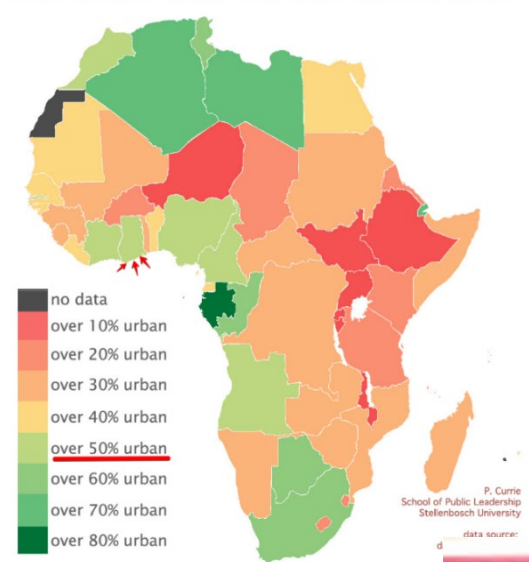


# Developing a national policy for deploying and scaling up e-mobility in Ghana

Subash Dhar  
UNEP DTU Partnership

26 October, 2021  
Ensuring a climate resilient recovery after COVID-19  
G-STIC Dubai

Level of Urbanisation of African Nations 2010

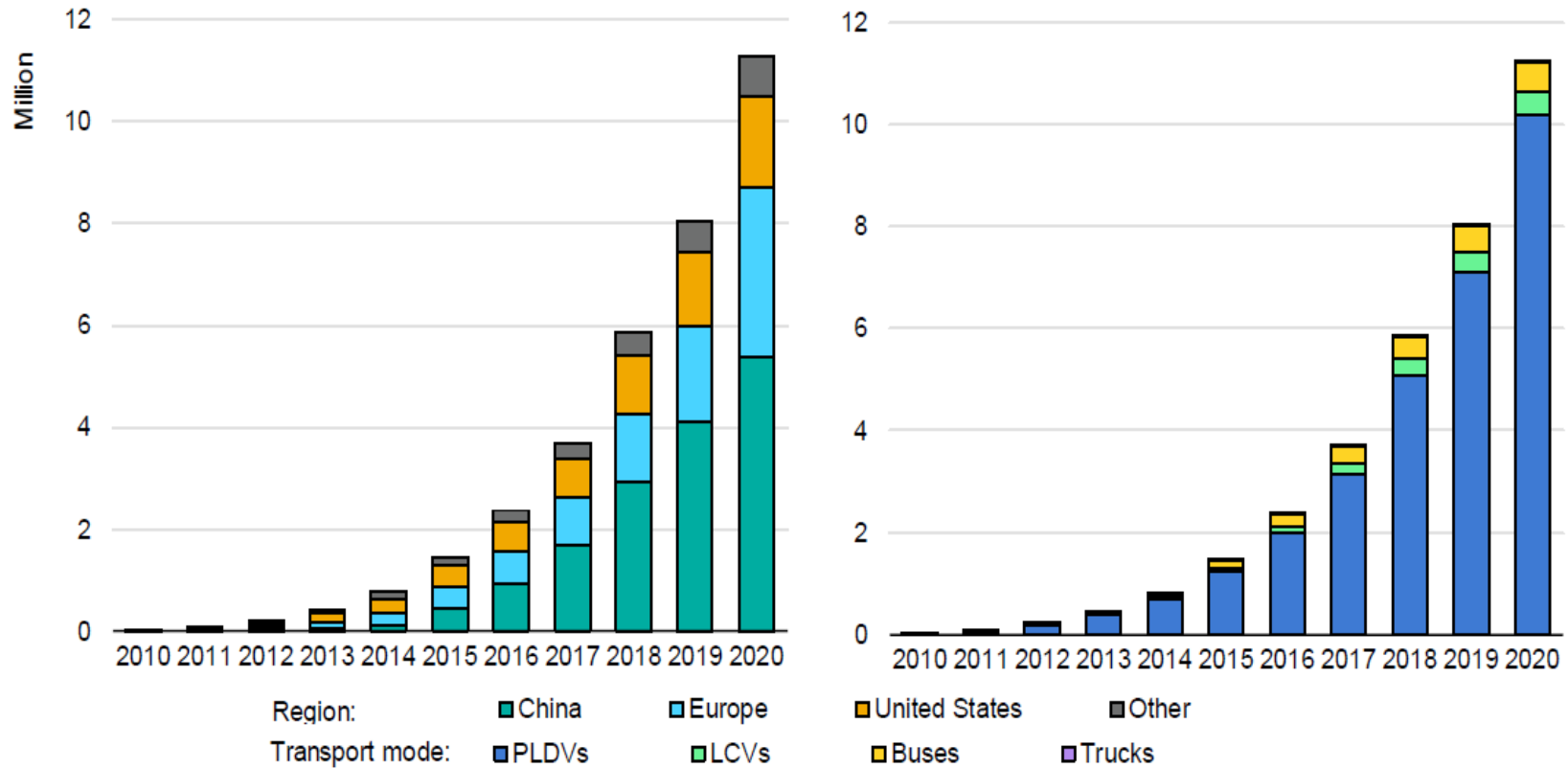


**Ghana is fast urbanising with attendant mobility challenges e.g. congestion, air pollution, fossil-fuel dependency**



# Growth of EVs

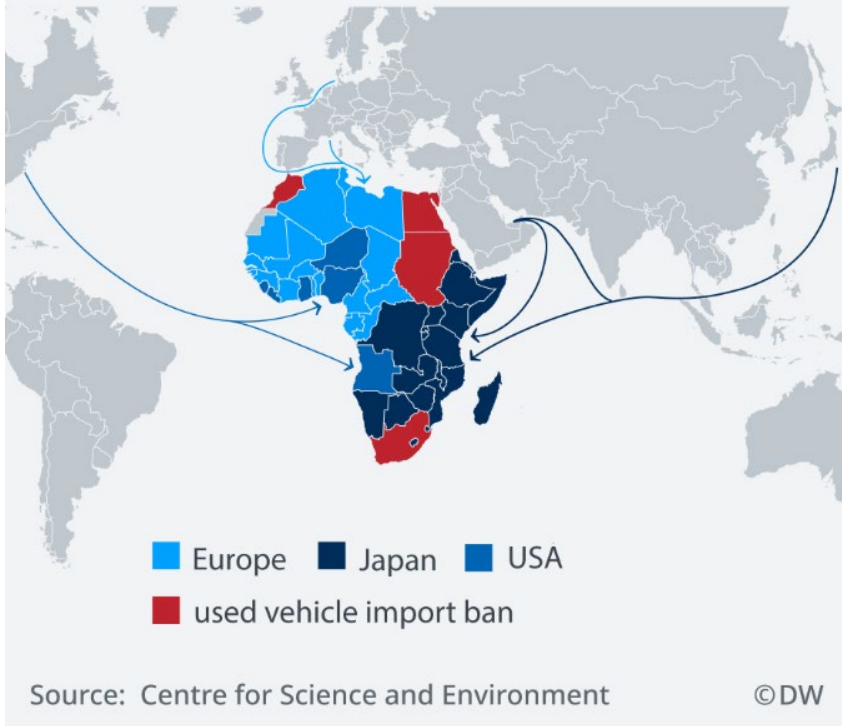
Global electric vehicle stock by region (left) and transport mode (right), 2010-2020



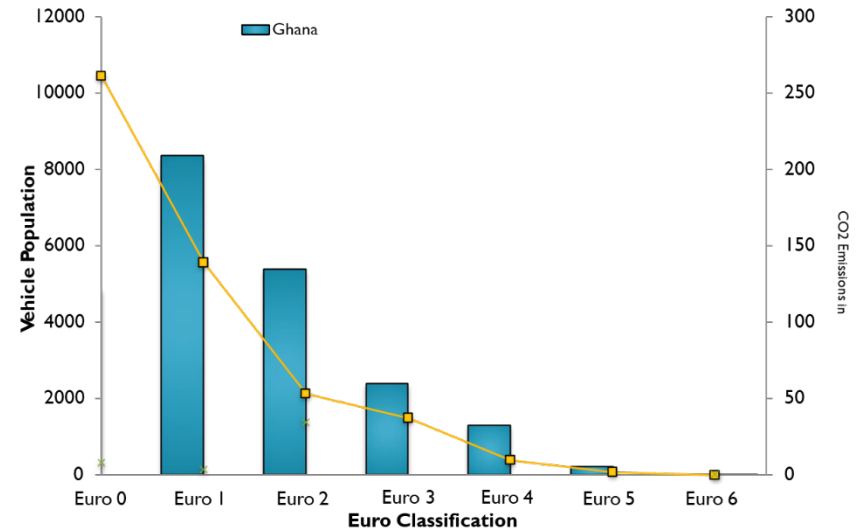
Source: IEA, 2021, Global EV Outlook

# Will History Repeat

## Trade in used vehicles to Africa

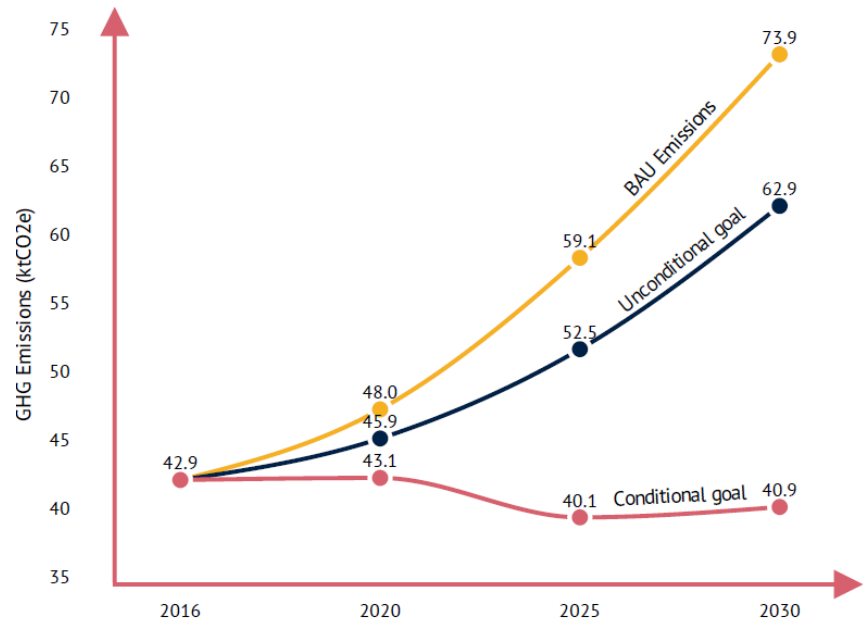


## Euro Classification of registered vehicles



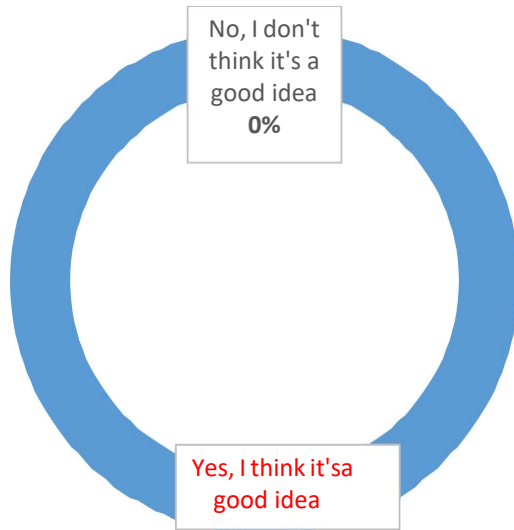
Source : Ministry of Transport, 2016

- Transport related actions
  - increase the share of road-based mass transportation systems,
  - reducing the amount of fossil fuel consumed
  - banning the import of light duty vehicles more than 10 years
  - promoting efficient alternative vehicle technologies, including Electric Vehicles (EVs).



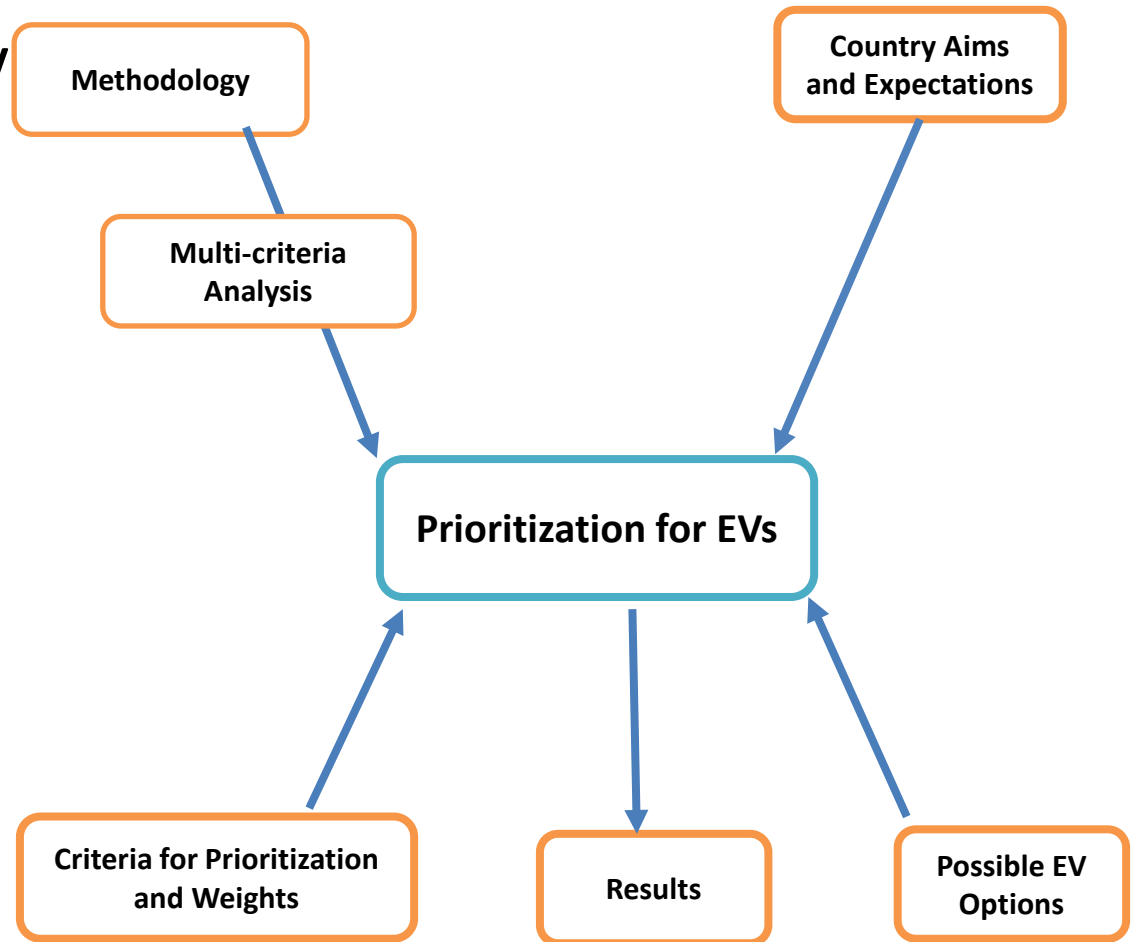


# Attitude to EVs



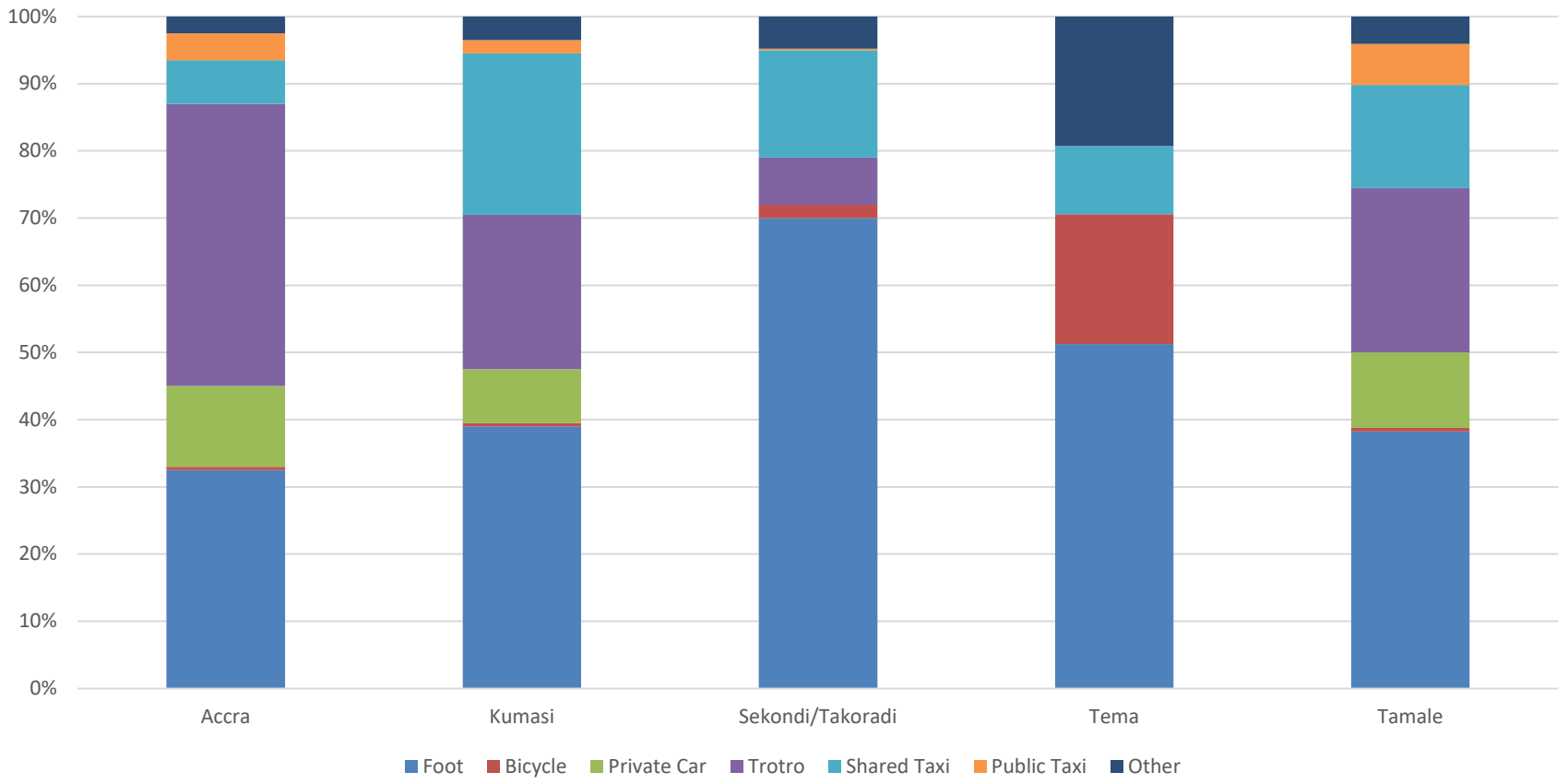
# Electric Vehicle Policy Framework

1. Prioritisation of EV priorities
2. Barrier Analysis
3. Identification of Measures
4. Roadmap



# Transport Modes in Ghana

Mode share-Work Trips





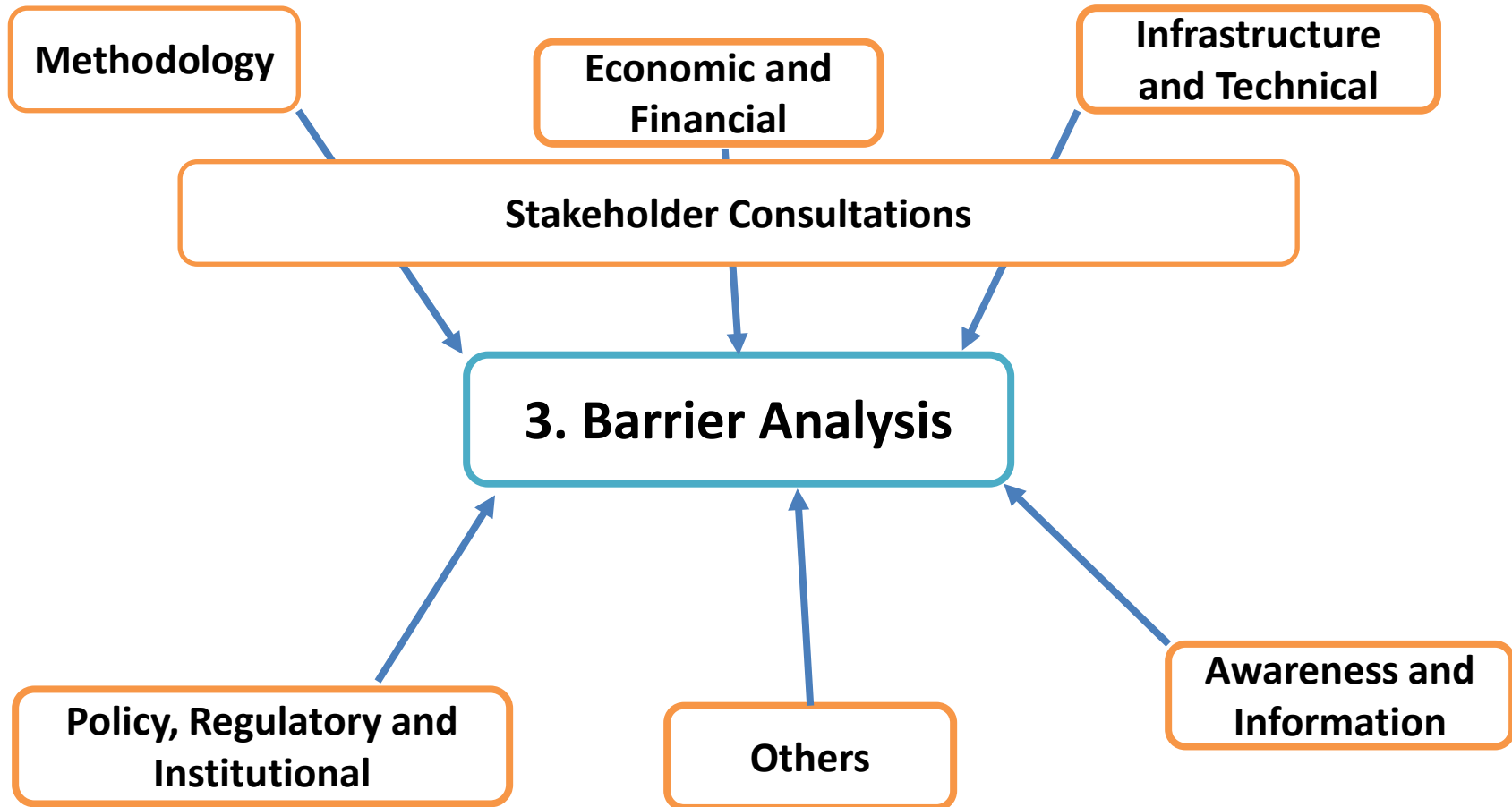
# Priorities for EVs

Criteria Categories	L1 Weightage	Sub-categories (L2)	L2 Weightage	Parameters (L3)	L3 Weightage
Cost & Financing	49%	Capital expenditures	55%	EVs investment requirement	56%
				Charging infrastructure investment requirement	44%
		Operating expenditures	45%	Electricity consumption	100%
Benefits	30%	Economic	28%	Total Cost of Ownership (TCO)	53%
				Fuel savings	47%
		Environmental	24%	Air pollutants (PM, NOx) reduction	100%
				Climate	28%
		Social	20%	Accessibility	17%
				Affordability	24%
				Comfort	13%
				Safety	16%
Local Context	21%	Usage characteristics	31%	On road Vehicle stock	29%
				Vehicle trip length	33%
				Fuel efficiency per passenger km	38%
		Supporting Ecosystem	37%	Local availability of EV models	14%
				Easiness of EV Charging	16%
				Local post sales services	21%
Local assembly & supply of EV model	14%				
Local stakeholders' acceptance	32%	32%	Local retrofitting of ICEVs to Evs	12%	
			EVs R&D and Technical skills	11%	
			Quality of road and accessibility	12%	
			Government's preference	36%	
			Businesses/ Private investors	31%	
		Local consumers	33%		

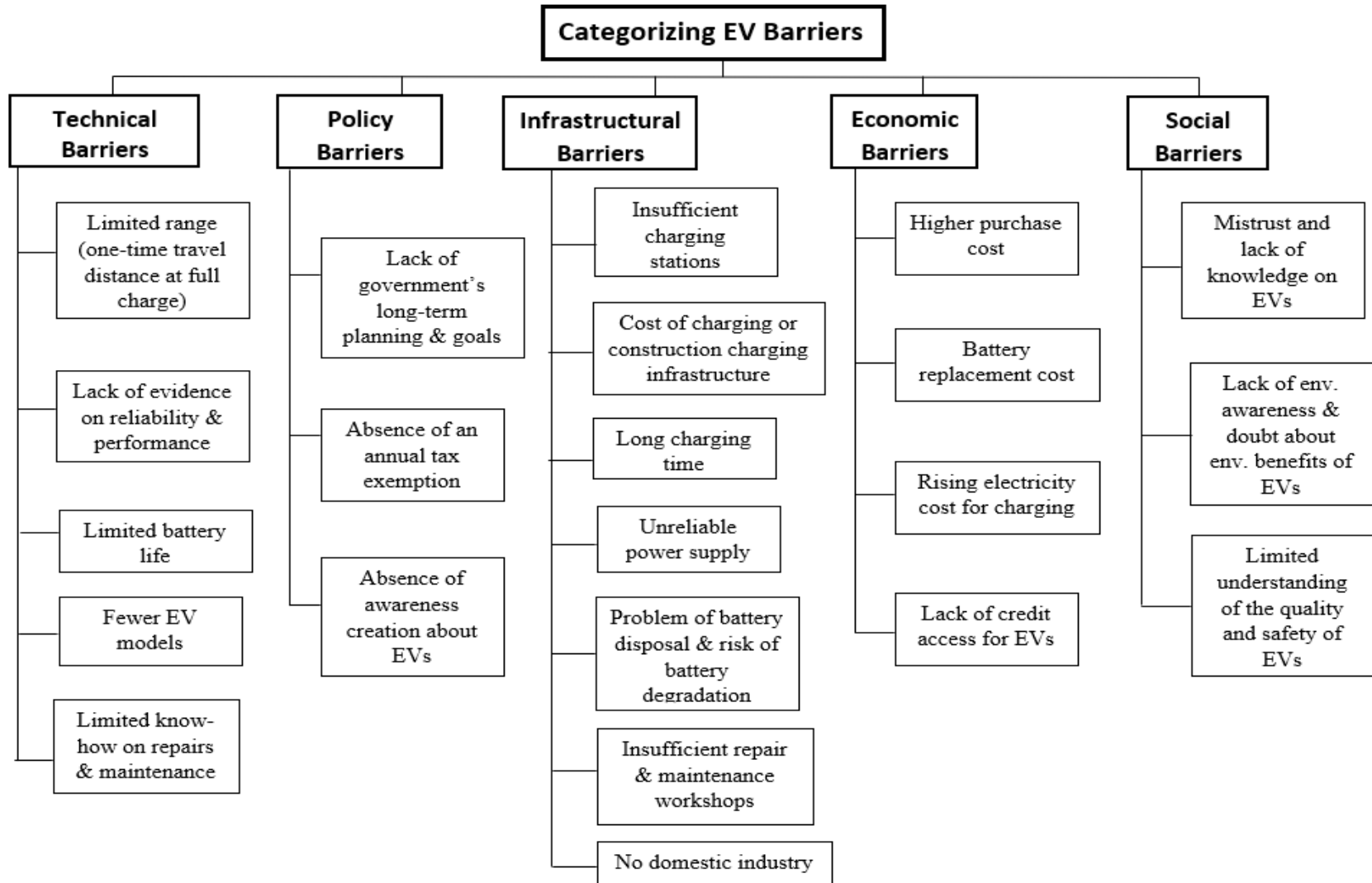
## Priorities for EVs

Usage Type	Modes	Overall Score
<b>Public</b>	Bus	<b>70.11</b>
	4W-Taxi	<b>69.71</b>
	Trotro	<b>65.08</b>
<b>Personal</b>	Car	<b>55.64</b>
	2W-Personal	<b>49.55</b>
	<b>3W-Personal</b>	<b>47.24</b>

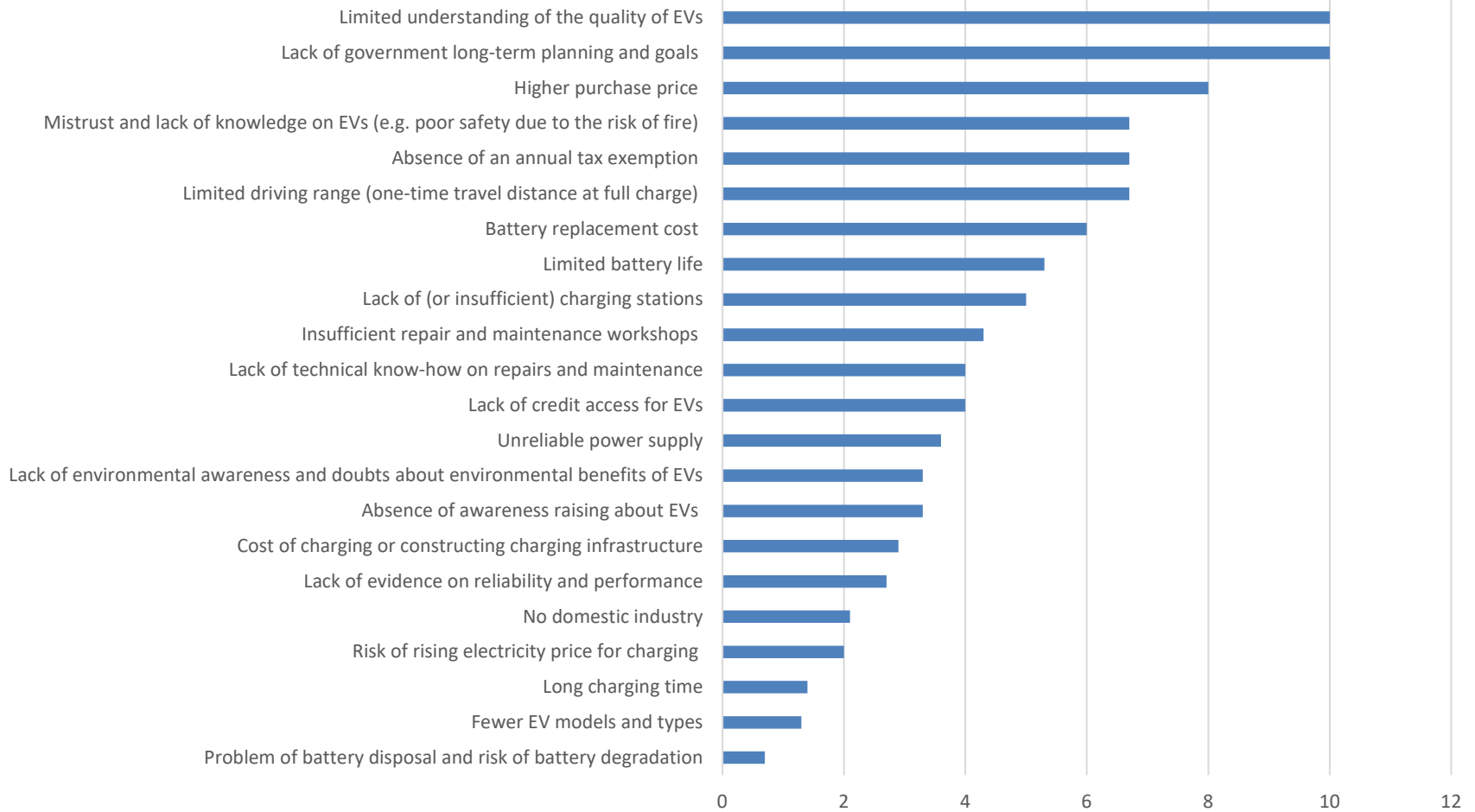
# Electric Vehicle Policy Framework (Passenger Transport)



# Barriers for EVs in Ghana



# Overall Barriers (Ranked)



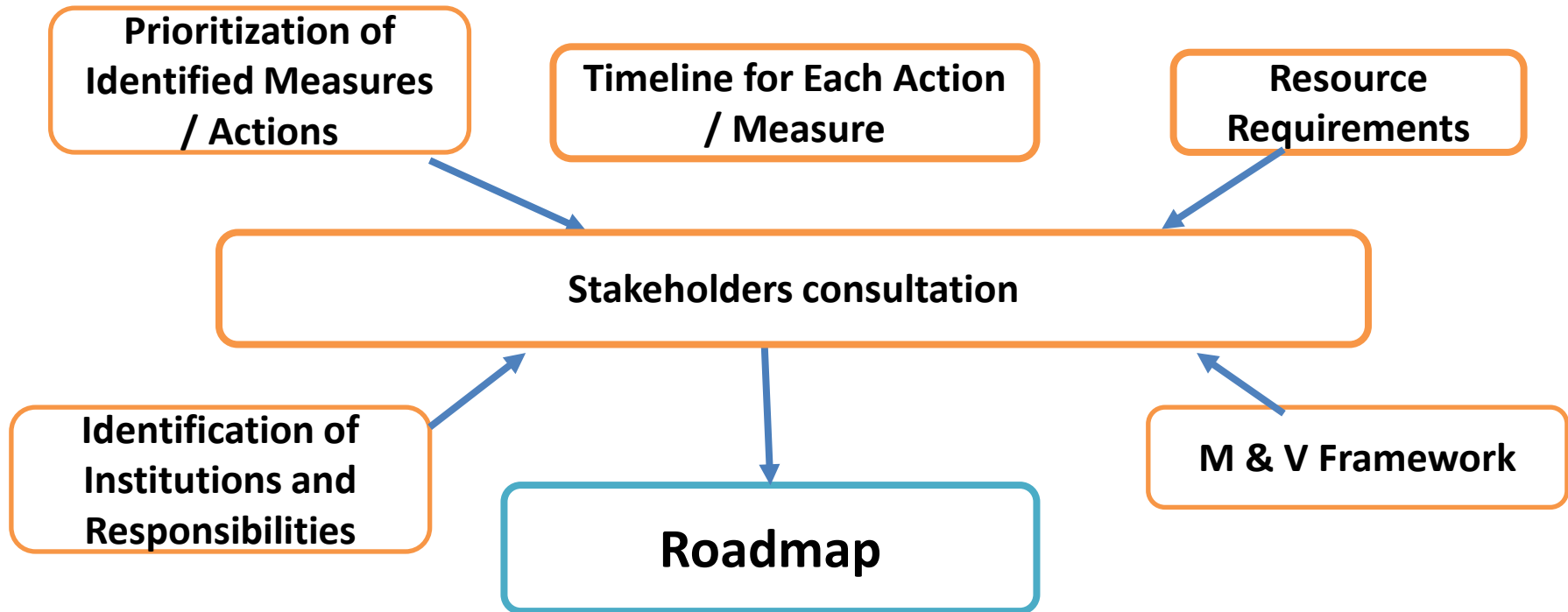
- Economic and financial
  - Tax waivers and tax holidays for full electric vehicles
  - Special electricity (energy) tariff for EV vehicles
- Social
  - Procuring, piloting and testing EVs
  - Adding EVs to government vehicle fleet
  - Roadmap on EV awareness creation and campaigns

## Measures to address barriers

- Infrastructures
  - Installation of multiple public charging point
  - Installation of inter-city charging points
  - Dedicated bus lanes
  - Backup power systems
  - Battery swapping, recycling and end-of-life disposal systems
- Policy and regulatory
  - Review of the Harmonised System (HS) Customs code
  - Standardisation, licensing and certification
  - Research and capacity development
  - Renewable EV charging and battery storage energy system for energy security
  - Attract funding for promoting EV uptake
  - Overaged vehicles importation



# Electric Vehicle Policy Roadmap



## Key Points

- High interest in EVs
- Many Barriers as well
- Multiple measures needed
  - Tax incentives
  - Public purchase
  - Stable policy
  - Charging infrastructures
  - .....

The presentation is based on

**"National Electric Mobility Policy and Market Readiness Framework - Ghana" (Draft)**

being prepared under the guidance of Ministry of Transport and support from CTCN

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