

# **BATTERY ELECTRIC VEHICLES (BEV) ANNEX 2: PRE-PROCUREMENT CHECKLIST**

Project learnings/findings review 2022-2024



## ASSESSING RELEVANCE OF BEV PLACEMENT: A PRE-PROCUREMENT CHECKLIST

	WHAT SHOULD BE CONSIDERED?	WHY?	USEFUL RESOURCES
<b>A</b>	<b>Important Assumption:</b> proper right sizing/ right profiling exercise is implemented before considering BEV	The placement of a BEV shouldn't be a decision per se, but informed by a prospective right sizing and right profiling exercise. The purpose of such exercise is to ensure that the usage to which vehicles will be allocated are	
	<b>Important Assumption:</b> the consideration for BEV is part of a broader emissions reduction strategy, including reduction of transport demand and shift to more efficient transport modes	Avoid, Shift, Improve	
<b>B</b>	<b>Mileage review</b>	Based on the assumption, that BEV require intensive utilisation to environmentally and economically break even against and ICEV, identifying and assessing transport demand segments most relevant to BEV placement is instrumental.  That requires some upstream actions: pooling of transport demand, identification of carpooling interagency schemes...	<a href="https://www.emissionsanalytics.com/news/environmental-justice">https://www.emissionsanalytics.com/news/environmental-justice</a>
	Composition of your transport demand		
	Identification of mileage intensive segments		
	Focus on the highly utilised vehicles		
	Opportunities to pool		
<b>C</b>	<b>Journey profile review</b>	The high mileage segments of your transport demand identified in section B might not be the result of high mileage journeys. Insights in the type and length of journeys is essential to assess relevance of a BEV placement and feed a 'charging' strategy.	
	Average mileage per journey		
	Average number of journeys per day/week		
	Nature of journeys: well known ? Random ?		
	Vehicles garaging: fixed ? overnight on journey ?		
	Road status and conditions		
<b>D</b>	<b>Range and charging tactics</b>	Previous sections will inform the profile and range (and therefore its battery size) required for your BEV. For both financial and environmental considerations, sourcing the smallest battery size to match your needs is highly recommendable.	
	BEV profile and battery pack		
	Location and number of charging points		
	Types of chargers		
	Works and costs involved by charger installation		
<b>E</b>	<b>Energy</b>	Assessing energy sources, co2 emissions factors, reliability and costs are essential in the weighting of future BEV performance. Such exercise can be extended to all energy sources (diesel, gasoline), expressed in 'energy cost per km' and feed your right sizing/right profiling exercise.	
	Main electricity supply sources (solar, public grid, generator, hybrid...)		
	Availability and reliability of electricity grid		
	Electricity grid emission factors (co2eq.)		- <a href="https://databank.worldbank.org/source/world-development-indicators/Series/EG.ELC.ACCS.ZS">https://databank.worldbank.org/source/world-development-indicators/Series/EG.ELC.ACCS.ZS</a>
	Electricity grid costs		- <a href="https://africaema.org/data">https://africaema.org/data</a>
<b>F</b>	<b>Local availability</b>	Establishing a market watch of new technologies is important to feed your future fleet strategies and inform your decisions to move to electric, local availability of adequate make and models, as well as warranty and after sales is instrumental.	
	Availability of OEM/ distributors in the country		
	Availability of warranty, after sales, repair and maintenance services		<a href="https://www.iea.org/data-and-statistics/data-tools/global-ev-data-explorer">https://www.iea.org/data-and-statistics/data-tools/global-ev-data-explorer</a>
	DO distributors offer end of life solutions (reverse logistics...)		
<b>G</b>	<b>National policies and incentives</b>	Local governmental policies and incentives are big game changers in electrification, establishing a watch on sales incentives but as well infrastructure development is a must do.	
	Procurement incentives: tax exemptions for BEV		
	Increased share of renewables in energy mix		- <a href="https://africaema.org/data">https://africaema.org/data</a>
	Local regulations on emissions standards for vehicles		
	Charging infrastructures investment plans		
<b>H</b>	<b>End of life</b>	Considering placing a BEV in its fleet is mainly for environmental considerations. Taking into account its end of life before procurement is important to guarantee achievements of your environmental objectives.	
	Existence/maturity of 2nd hand BEV market		
	Existence/ maturity of battery repurposing scheme and recycling options		