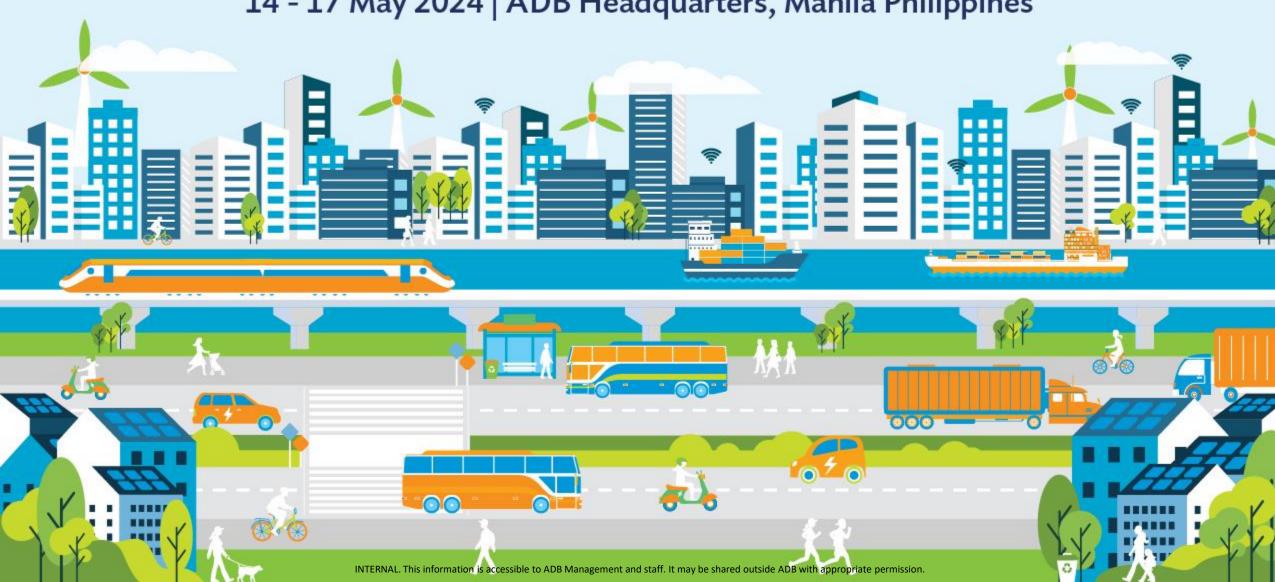
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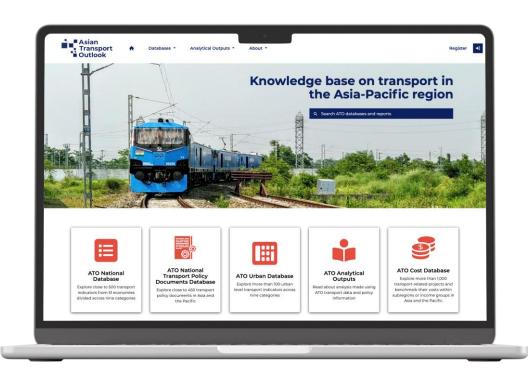


Snapshots and Insights:
E-mobility in Asia & the Pacific –
Trends and Actions

Alvin Mejia
Program Manager
Asian Transport Outlook



ASIA AND THE PACIFIC TRANSPORT FORUM 2024 WWW.QASIGNATICANSPORT FORUM 2024 WWW.QASIGNATICANSPORT FORUM 2024



Tracking Global Agreements on Sustainable Development and Climate Change, Regional Aichi 2030 Declaration

Support **Transport** Policy Making in Asia

Support the planning and delivery of **Transport related** assistance by the ADB & AllB

Brainstorming

2019 - 2020

Phase 1

November 2020 - May 2021

Interim Phase

June 2021 -October 2021 Phase 2

November 2021 - November 2022

Phase 3

November 2024

Phase 4 +

March 2023 -





ATO National and Urban Database Indicators



- 51 Economies (ADB Members + Russia and Iran)
- 460 Urban Centers (412 Asia-Pacific,48 International)
- 46 Urban Centers with a detailed review

















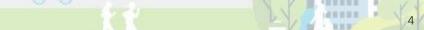


410 national indicators,

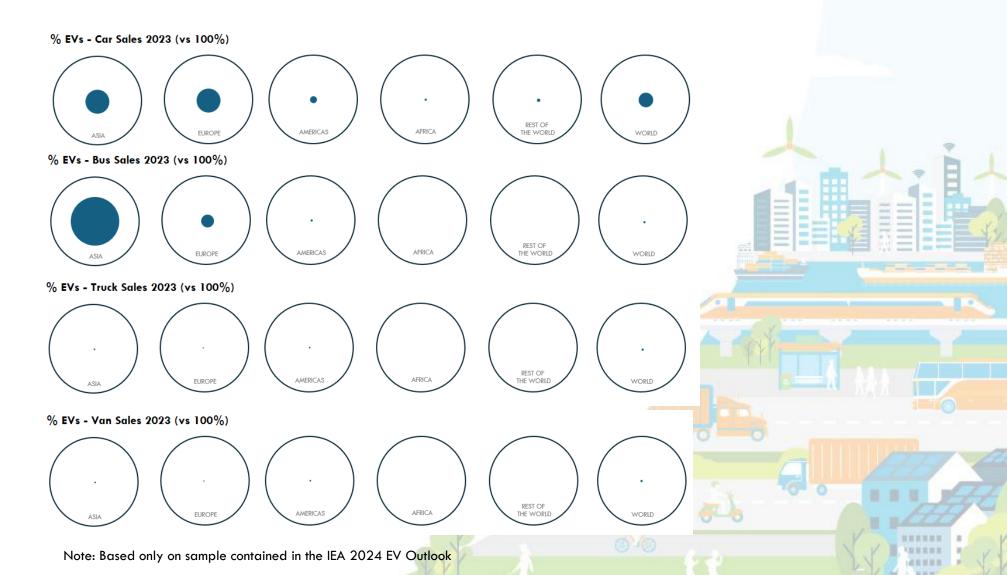
53% have multi-year data, 45% have 2022 data, 10% have more than 2 sources, 30% have more than 1 source,

281 urban indicators,

~80% have multi-year data, ~70% have more than 1 source



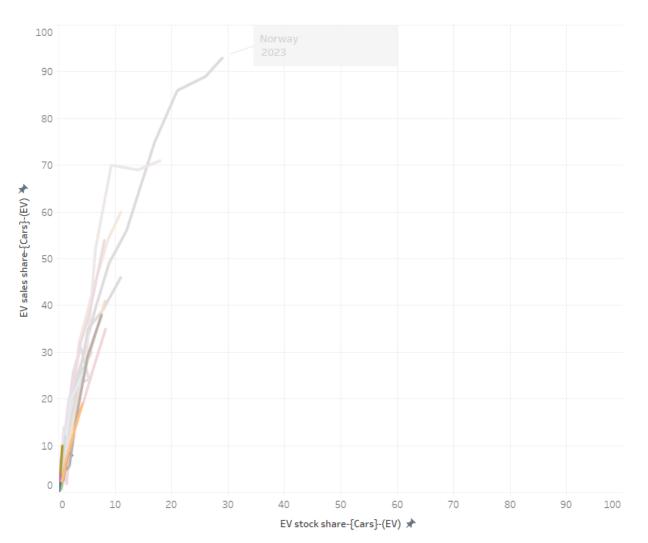
EV Sales % as Strong or Stronger in Asia Compared to Other Regions

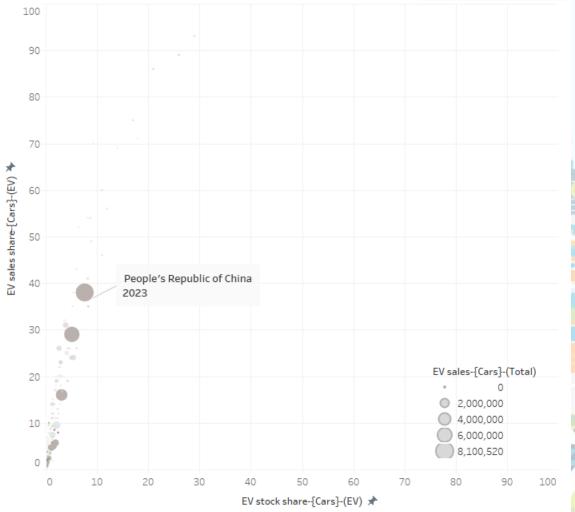


Still a Long Way Towards Transition Across the Globe



EV Stock and Sales

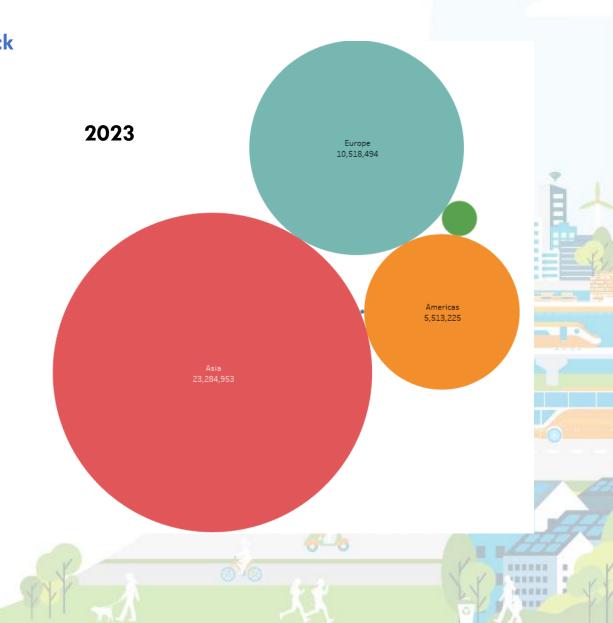




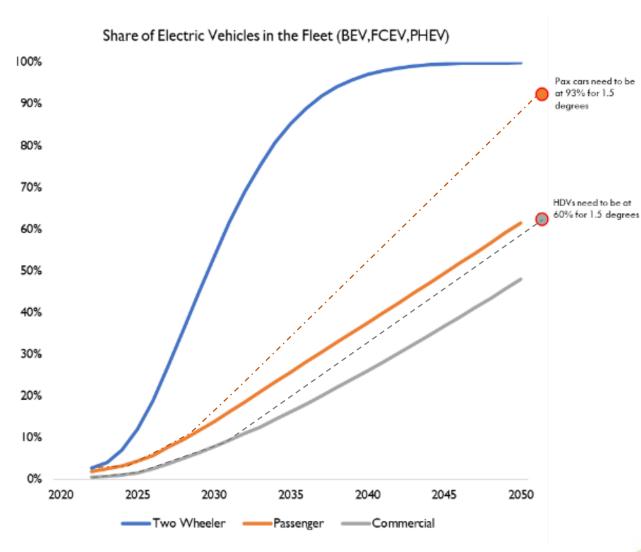
Asia is Driving the Volume of Transition

- 60% of the additional electric cars from 2015- 2023 have been added in Asia
- >90% of the additional e-buses between 2015-2023 have been added in Asia

Electric Cars Stock 2015

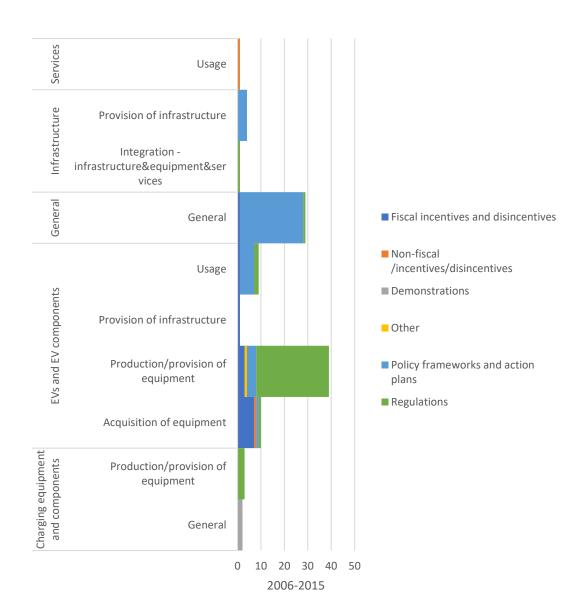


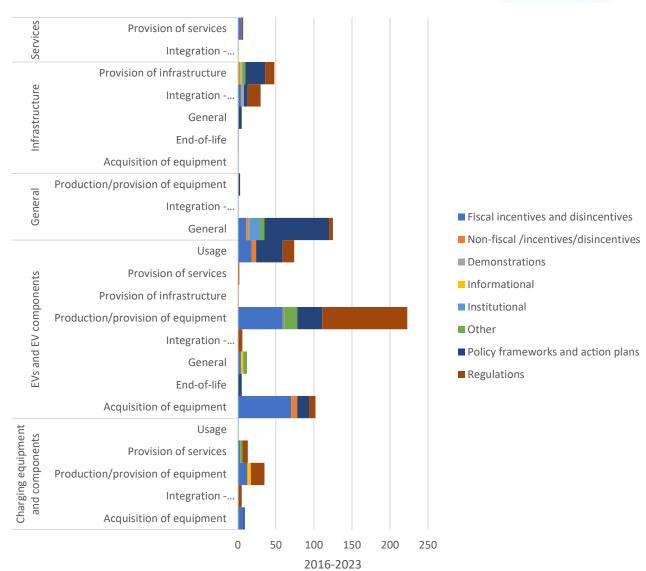
Asia's Importance in Achieving 1.5 Degrees



Source: Based on DNV (2023) Energy Transition Outlook and IRENA (2023)

E-mobility Measures: Expanding and Diversifying





E-mobility Measures: Keywords Evolution

2006-2015

Research and development - EV and components
Purchase incentives for EVs and components
Import duties reduction for EVs and components
Finance for research, development and promotion of RE
Mandated EV % target in fleet EV performance standards
Direct sourcing of power from RE power suppliers
General EV industry plan Charging systems standards(general)
General pronouncement - efficiency transport vehicles
Standards - general EV-specific cash-for-clunker scheme
Pronounced investments on Evs Demonstrations - charging technologies
Charging connector and cable standards
General pronouncement of support for charging infrastructure
Test specifications - Batteries EV Modal targets

Warranty support for manufacturers

Test specifications - Evs Renewable energy targets

Public fleet electrification target EV safety standards EV controller standards General pronouncement of support for EV usage

Guidelines - classification and registration of EVs Custom tariff waiver/ reduction for EV and components

EV specifications, standards and Type approval
Fiscal incentives - general
EV procurement - rail

General pronouncement of support - RE
EV operating characteristics Rail infrastructure - target

Exploitation of new resources - RE
Fuel/energy economy labelling for vehicles
Limit/ban production/import/assembly of ICE vehicles

Registration tax waiver or reduction for EV and components
Standards for Charging Stations

2015-2023

Road use tax waiver or reduction for Evs EV performance standards V2G interface standards
Distinct registration plates for Evs Import-based EV target Charging connector and cable standards
Subsidized charging rates
General EV industry plan

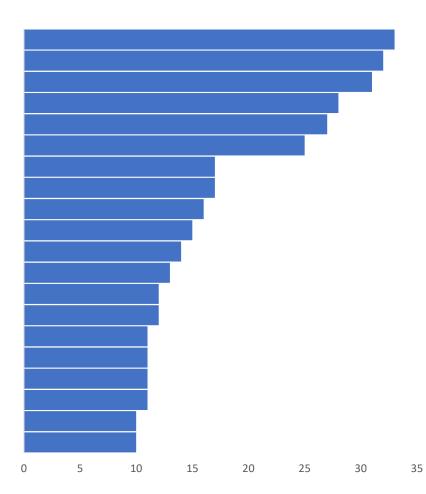
Standards for Charging Stations EV specifications, standards and Type approval EV procurement targets Grid integration standards
Charging protocol standards Green transport infrastructure
Battery swapping standards Greet electrification target Lighter vehicles Net zero EV production targets est specifications -EV safety standards Renewable energy targets Green routes for Evs EV Modal targets RE for EV charging Fiscal incentives - general Battery standards - safety Sales targets Battery standards General pronouncement of support - RE EV standards - multidimension EV procurement - rail Export financing incentives Total EV fleet target Battery standards (general) Purchase incentives for EVs and components Defined institutional setup Charging safety standards Charging systems standards(general)

Access rules favoring Evs

Preferential tax rates for Evs

Dedicated National EV Policy/Roadmap/Strategy

Overall – Most Frequent



General pronouncement of support for emobility

Renewable energy targets

Test specifications - Evs

EV safety standards

General pronouncement of support for EV usage

EV standards - multidimension

Corporate income tax reduction/holiday - manufacturers of Evs/ components

Custom tariff waiver/ reduction for EV and components

EV Modal targets

General pronouncement of support - RE

Public fleet electrification target

Import duties reduction for EVs and components

EV specifications, standards and Type approval

EV production targets

General pronouncement of support for Evs production / assembly / import

Green transport infrastructure

Import tax exemption/ reduction - raw materials, supplies, components

EV Demonstration Projects

General pronouncement of support for charging infrastructure

Purchase incentives for EVs and components



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Distribution of Measures by "Pillar"

EVs and EV components General Infrastructure

Test specifications - Evs Regulations	EV safety sta Regulations	mi	EV standards - multidimension Regulations			Custom tariff waiver/ reduction for EV and components Fiscal incentives and disincentives			Corporate income tax reduction/holiday - manufacturers of Evs/ components Fiscal incentives		Import duties reduction for EVs and components Fiscal incenti and disincentives		Purchase incentives for EVs and		General pronouncement of support for emobility Policy frameworks and action plans			Renewable energy targets Policy frameworks and action plans				General pronouncement of support for charging infrastructure Policy frameworks and action plans		
								and disincentives																
							waiver or reduction for EV and components Fiscal incentives and		ex V red	port tax emption/ duction -			EV		xcise 1x aiver or EV								Rail	
									s mo	naterials, upplies, omponents				and		General pronouncement of support - RE Policy frameworks and		General	Gene	General		Renovating and	9	
EV specifications, standards and Type approval Regulations	V2G interface standards Regulations				Test		Excise tax waiver for EV and components - supply side Fiscal incentives -		ver		Equity subsidy for	Tax			Road use tax	action plans					Green tra infrastruct Regulation	ure	Standards for Charging Stations Regulations	
									·s -							Net zero Policy frameworks and action plans EV indu in NDC Policy			C renewable					
Battery standards - safety Regulations	Domestic or local content			EV			general Fiscal incentives and disincentives		es l	EV procuremen	nt					Dedicated National EV Ger		General E	eneral EV dustry plan			Grid integration standards		EV
EV performance standards Regulations	Guidelines -					Τ	Pronoun investme Fiscal in and disi	ents on centive	is I	EV production									Carbon market Other			Regulation		RE for
Mandated EV % target in	Registration system						for EV o	ales tax waiver or EV and omponents scal incentives		Purchase to reduction f					+_							for EV charging Charging stations		EV charging Strategic
fleet	revision to					Ш										Defined institutional setup trainir								
General pronouncement of usage Policy frameworks and action		Public fleet electrific Policy frameworks a plans								EV De Other	emonstration Projects r		an de	Research and development								targets - total		
		EV production targets Policy frameworks and action plans			argets		EV			Total	otal EV fleet target		Sa	- EV and Sales targets Other		Charging Batter; connector and swapp cable standards standards			for	centives or firms				
							Other						Regulations			Imp			Import					
EV Modal targets Policy frameworks and action plans		General pronouncement of support for Evs production / assembly / import Policy frameworks and action						tailpi	Fuel economy and Disti			· <u> </u>		Charging systems			tax			duty				
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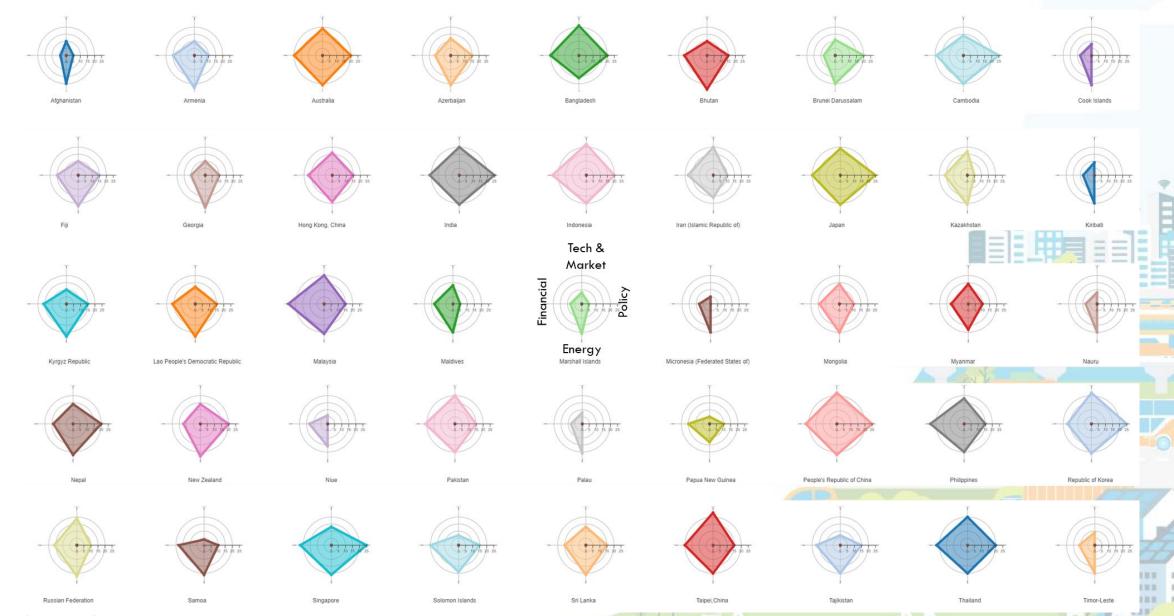


Charging Equipment & components



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Various Needs in Various Countries



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E-2&3wheelers – Nuanced Approaches Emerging



- Different approaches in governing light electric vehicles (i.e. electric 2&3 wheelers)
- Dire need to integrate in policies, infra planning, regulations
- Important to take note of potential consequences (e.g. in terms of registration requirements; operational requirements, etc...; how they are integrated in the existing systems)
- Integrate in data collection

Incentives – Review and iteration



- Wide variety of fiscal measures (so far, >70 unique fiscal measures in our list; almost 40% are focusing on the acquisition of equipment.
- Review and adjustments for fiscal incentives also critical (e.g. EV3.5 in Thailand)
- Non-fiscal incentives need to be iterated and reviewed

Emergent use cases need to be acknowledged



- Various use cases business models are emerging due to the infusion of electric vehicles to mobility services, along with the provision of relevant services
- Policies have been scant, but evidence of early uptake is seen

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Charging Infrastructure and Supporting Services



- Countries now issuing various guidelines related to charging and related services and infrastructure
- Integration with new developments seen in policies of some countries
- Simplification of procedures; combination with other incentives may prove to be effective

Evolving Institutional Setups, Supporting Capacity Development



- Setting up of dedicated committees composed of multi-sectoral/multithematic representation
- Recognition of importance of building capacities of local institutions and ecosystem stakeholders (users, drivers, maintenance, etc...)

End-of-Life Measures still at Infancy

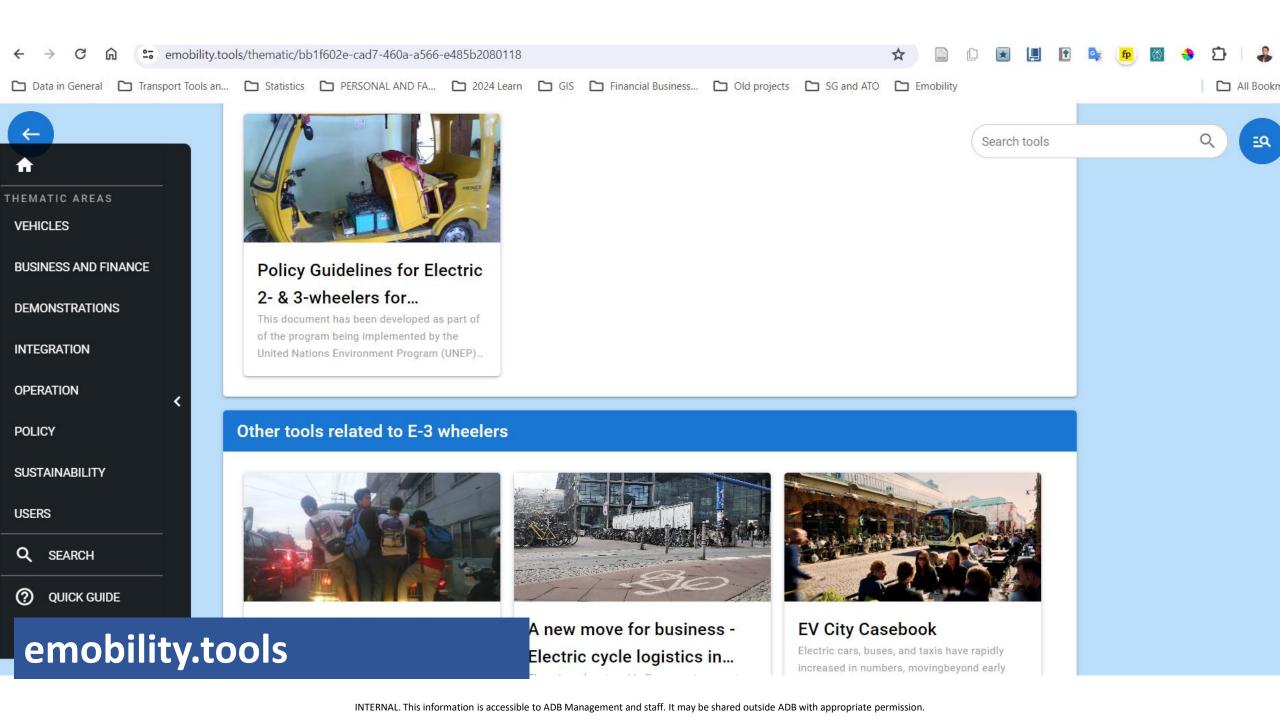


- Bangladesh –Incentives for setting up battery recycling industry
- Kazakhstan has adopted an ambitious framework for extended producer responsibility (EPR)
- Tajikistan Integration of battery recycling technologies development in their Electric Transport Development Program (2023-2028)



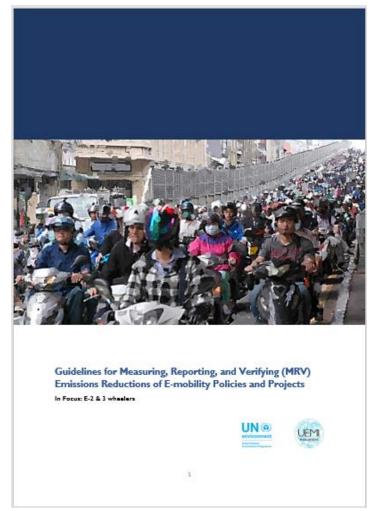


https://asiantransportoutlook.com/



GUIDELINES FOR MRVing Emission Reduction of Emobility Policies and Projects

- Based on the guidelines produced through the No and Low Emission Transport project being implemented by the United Nations Environment Programme (UNEP). The project aims to promote a global transition to no and low emissions mobility for improved air quality and climate change mitigation.
- The purpose of this document is to provide bespoke guidance towards the measurement, reporting, and verification (MRV) of the emissions impacts of projects, programmes, and interventions focusing on the electrification of 2&3 wheelers.
- In particular, the guidance is directed at proponents of such initiatives in developing countries wherein data, resources and capacities may not be at optimal levels.
- This report has been produced for UNEP by the Urban Electric Mobility Initiative (UEMI).



- Asia is key to determining the future of e-mobility globally.
- Policy measures are diversifying, expanding, though we are seeing evidence of lop-sided prioritization of measures focusing on bolstering EV production and EV demand – are we merely electrifying congestion?
- It is worthwhile to emphasize that e-mobility needs to be
 embedded in a wider sustainability framework
- Adaptive evolution and adjustment of the policy measures are key towards successful scaling up
- Electrification of the sector entails a recognition of the
 interlinkages of the different sectors, and the need to utilize a
 socio-technical paradigm in moving forth with scaling up
 effortsE-mobility should not just about the vehicles.

"ATO translates data into insights, policies, and investments"

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