Accelerating Electric Vehicle Adoption in Asia through Policy and Financing

An overview of the situation in Asia and its emerging markets in the ASEAN region
41% increase
Highest increase in global share of transport carbon dioxide emissions from 2010 to 2019.

117% increase in Asia

17.96 bn metric tons
Asia-Pacific region produced more carbon emissions than all other regions combined in 2022.

32% worldwide
The transport sector accounts for about 32% of Development Asia’s climate adjusted investment up to 2030

23% share in global BC
2019 estimates that the transport sector accounts for 23% share in global black carbon emissions (460 – 1500 times global warming potential)

• Black Carbon. https://www.energyfoundation.org/international/black-carbon
AVOID-SHIFT-IMPROVE

The Avoid-Shift-Improve (ASI) Framework is an approach that aims to reduce energy consumption, transport emissions, and road congestion to achieve a more sustainable transport system and eventually, healthier cities.

It follows a hierarchy that prioritizes avoid measures, followed by shift, then improve.

Nationally determined contributions (NDCs) under the Paris Agreement are focused on improve measures (52%), while shift (38%), and avoid (10%)
IMPROVE

Improve measures focus on technological improvements on vehicles that reduce the GHG emissions per vehicle km traveled:

• better fuel efficiency
• hybrid engine vehicles
• electric vehicles
• renewable energy sources

Aside from the reduction in CO₂ emissions, EVs have no tailpipe emissions (NOₓ).
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Emerging Markets in ASEAN: EV roadmaps

30/30 Policy (30% vehicle production will be EVs by 2030)

Low Carbon Mobility Blueprint Strategic Framework for the Development and Planning of Electric Vehicle (EV) Infrastructure

Enhancing Readiness for the Transition to Electric Vehicles in Indonesia (under development)

Decision No. 876/QĐ-TTg (Action Program for Green Energy Transition and Reducing Carbon and Methane Emissions in the Transport Sector)

Comprehensive Roadmap for the Electric Vehicle Industry

Land Transport Master Plan

• Thailand National Electric Vehicle Policy Committee 30/30 Policy
• Malaysia Ministry of Environment and Water (2021), Low Carbon Mobility Blueprint
• Indonesia ENTREV: https://www.thegef.org/projects-operations/projects/10641
• Philippine Department of Energy (2023), Comprehensive Roadmap for the Electric Vehicle Industry
• Vietnam Decision No. 876/QĐ-TTg
• Map from https://upload.wikimedia.org/wikipedia/commons/e/ec/World_map_blank_without_borders.svg
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ASEAN EV financing by Multilateral Banks and Climate Funds

- Green Loan for Renewable Energy and Charging Station Network (ADB)
- E Smart Bangkok Mass Rapid Transit
- Electric Ferries Project (ADB)
- Enhancing Readiness for the Transition to Electric Vehicles in Indonesia (GEF – UNDP)
- Vinfast Electric Mobility Green Loan Project (ADB)
- Low Carbon Transport (GEF – UNDP)
- E-mobility ASAP (GEF – UNIDO)
- Davao Public Transport Modernization Project (GCF – ADB)
- Cebu BRT (World Bank)

Compiled from GEF, ADB, and World Bank active projects
Electric Mobility: Asia
Light-Duty Vehicle Sales

Electric car sales have continued to increase year-on-year in Asia, despite slowing car sales. PRC sold 10.7 million Battery Electric Vehicles and 3.1 million Plug-in Hybrid Electric Vehicles in 2022. Q1 2023 sees a continued growth year-on-year.

Republic of Korea and Japan sold around 230,000 electric cars in 2022.

Collectively, India, Thailand, and Indonesia sold close to 80,000 electric cars in 2022, with India contributing to nearly 50,000.
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Battery Situation

Commodity prices have increased in the past two years, particularly lithium carbonate due to the increase in EV demand. A slight increase in the battery prices were observed, but the trend is expected to decrease as lithium prices drop and manufacturers shift to lithium iron phosphate (LFP) battery chemistry.

Current battery production outlook shows that battery production will be dominated by PRC, as it will have more than 4.5 TWh annual battery production capacity by 2030.
THANK YOU