



# Zero Emission Vehicle Emerging Markets Initiative

→ Public-private collaboration models & best practices

## Executive summary

*International public-private collaboration in emerging markets and developing economies (EMDEs) can accelerate global transport decarbonization by creating shared policies and roadmaps that help to de-risk investments along the zero-emission vehicle (ZEV) value chain.*

**The Zero Emission Vehicle Emerging Markets Initiative (ZEV-EMI)**, aligned with **Road Transport Breakthrough agenda priorities**, introduces models of public-private collaboration to accelerate ZEV deployment. As part of the ZEVTC International Assistance Taskforce, the ZEVEMI Initiative provides enhanced, tailored support for EMDEs that want to move further and faster in transport decarbonization.

Introduced in India and Mexico since the initiative launch at COP27, these public-private collaboration models encompass e-freight demand aggregation for market uptake, optimizing infrastructure investments through digital collaboration, and demand-driven capacity-building.

Below are the main insights and recommendations from these models:

1. High-level public-private dialogues, underpinned by international collaboration, help identify shared priorities.
2. Demand aggregation is a valuable strategy to send clear signals of market creation.
3. Digital collaboration supports charging infrastructure planning and helps to optimize investments.
4. EV capacity building is essential for driving adoption and can be targeted through a gap analysis based on data and industry needs.

The subsequent sections of this document provide details on models and examples of companies making early investments in EMDEs. These insights offer a blueprint for replicating impactful public-private actions across other markets.

# Introduction

Having the highest reliance on fossil fuels of any sector today, **transport accounts for close to a quarter of global energy-related direct CO2 emissions** and produces a significant share of air pollution and related threats to public health. To align with the Paris Agreement, **60% of global light-duty vehicle sales, 30-35% of zero-emission truck sales, and 60% of zero-emission busses** must be electric by 2030.

While adoption of ZEVs is progressing, variations in technology maturity, regulatory differences across regions and the need to address diverse market and demand segments are challenging the speed of the global shift. These factors create investment risks and a growing gap between global targets and ZEV deployment.

Coordinated international action between governments, development banks, and the private sector is essential to create shared transition roadmaps and expedite investments in shared priorities for a timely global transition.



Since the ZEV-EMI launch in 2022, more than 30 businesses are contributing to the action across EMDEs, including WBCSD members like Aditya Birla Group, Amazon, Arcadis, BloombergNEF, Enel X, Fujitsu, Gentari, Hitachi, Honda, IKEA, JSW, KPMG, PepsiCo, TotalEnergies, UltraTech Cement, and Veolia, and non-WBCSD members - AstraZeneca, DHL Group, EVage Motors, Eşarj Enerjisa, Fifthwall, Grab, General Motors, LinkedIn, Maersk, Scania, and Uber. Based on survey findings conducted among these businesses, fleet conversion/creation and charging infrastructure remain the top investment priorities, along with digital services and electrification-related R&D.



# ZEV-EMI private-public collaboration models

At COP27 in 2022, the World Business Council for Sustainable Development (WBCSD) and **ZEVTC** governments, led by the Governments of the United States and United Kingdom, introduced the ZEV-EMI to strengthen public-private collaboration for an accelerated transition to ZEVs in EMDEs.

The ZEV-EMI convenes regional dialogues between governments and over 30 leading international companies to align ZEV transition roadmaps and form collaborative agreements. It is implemented through the ZEVTC International Assistance Task Force, supporting the implementation of Breakthrough Agenda action and providing tailored support for EMDE countries that want to move further and faster in transport decarbonization.

The following paragraphs introduce ongoing initiatives in India and Mexico, serving as replicable models for public-private collaboration in various markets.

## India

As part of the **ZEV Country Partnership with India**, a series of high-level dialogues shaped two collaborative models to accelerate investments along common priorities:

### Model 1: E-freight demand aggregation for market uptake

In India, the fragmented road transport sectors hinder the visibility of future demand for electric medium and heavy-duty vehicles. Furthermore, uncertainties about the cost-CO2 abatement curves of available technologies, higher upfront costs of EVs, and difficulties in securing funds for expanding into the electric vehicle (EV) market prevent adopting electric medium and heavy-duty vehicles faster.

#### Strategy:

Under **NITI Aayog's** leadership and together with **E-FAST** partners, India is leading a demand-driven national strategy to foster the growth of the e-freight market. This strategy encompasses actions along the following themes:

- **Demand Aggregation and Scalable Pilots:** Collecting demand and identifying priority use cases for deployment and related requirements as well as facilitating implementation of scalable pilots for technical and operational alignment.
- **Financing:** Total cost of ownership calculation and business modeling as well as characterizing risks and shaping blended finance mechanisms.
- **Policy:** Advising on policy needs.

#### Action:

- At G20 and the Clean Energy Ministerial in Goa, 15 prominent companies, including WBCSD members like Aditya Birla Group, Amazon, Gentari, JSW, Nestle, PepsiCo, among others, have come forward under the E-FAST platform with a **collective demand signal** of 7,700 electric trucks by 2030 and announced to work together under the national strategy.
- E-FAST partners launching aggregation and financing facility to support large-scale e-freight pilot deployment.

#### Impact:

- Accelerated investments in fleet electrification, vehicle manufacturing, and infrastructure.
- Aligned priority use cases, corporate roadmaps, and policy needs.



## Model 2: Optimizing infrastructure investments through digital collaboration

Accelerating the deployment of ZEVs requires timely deployment of EV charging infrastructure (EVCI). Data-sharing along the EVCI value chain can help model and optimize investments in charging infrastructure and fleet operations by clarifying EV charging demand and optimizing grid integration.

### Strategy:

Establish a National Platform for data-sharing to support charging infrastructure planning and optimize infrastructure investments through:

- **Modeling pilot:** Demonstrating the value of a national platform for data-sharing.
- **Data consolidation:** Integrating data from various sources to support the EVCI planning.
- **Finance:** Characterizing risks and identifying mechanisms to de-risk investments for selected use cases.
- **Advocacy:** Providing policy and pilot recommendations.

### Action:

- Ongoing pilot modeling activity in New Delhi and Mumbai, led by Fujitsu, leveraging EV fleet usage data.
- Formation of the Charging Infrastructure Task Force comprised of businesses and international partners to establish a national data-sharing platform.

### Impact:

- Optimized operational costs and charging experience, reduced carbon emissions and energy costs, and new revenue streams.
- Optimized charging infrastructure planning and deployment.
- Accelerated infrastructure investments through identification of bankable projects.

## Mexico

The ZEV-EMI action in Mexico builds on successful collaboration between the United States and Mexico and seeks to encourage public-private collaboration along the common priorities: infrastructure, ZEV pilot deployment, and capacity building.

**The Mexico Charging Infrastructure and Pilot Task Force** will explore opportunities for deeper collaboration to catalyze investments in charging infrastructure and ZEV deployment, seeking to replicate the demand-driven mapping of charging infrastructure and demand aggregation for scaling-up ZEV deployment in selected Mexico states.

## Model 3: Targeted capacity building

Capacity building around relevant EV manufacturing and freight decarbonization is a prerequisite for technology deployment, forming the basis for the following collaboration model that the ZEV-EMI coalition in Mexico seeks to implement:

### Strategy:

- Capacity map: Targeted mapping of knowledge requirements and capacity gaps based on data analysis and industry requirements.
- Capacity task force: Establishing a task force of private and institutional partners to channel resources in capacity gaps.

### Action:

- Launch of the Mexico track coalition to implement the collaboration model on capacity-building.

### Impact:

- Identified capacity gaps.
- Channeled resources to improve workforce competence.

# Accelerating Industry investments across EMDEs

This section provides illustrative examples from companies with early investments in EMDEs, focused on advancing the shift toward sustainable and clean mobility in these regions, while highlighting their positive impact.

## Industry investments across EMDEs



-  Electric truck
-  Electric bus
-  Taxi and rental
-  Charging infrastructure
-  Battery lifecycle management
-  Finance

### Charging infrastructure

**Enel X Way Chile Spa** builds public stations in Chile, Colombia, and Brazil with more than 20 DC fast charging connectors each, simplifying EV deployment for business fleets. As of 2023, this initiative supports over 400 electric vehicles in Chile and is on track to double its capacity. Overall, these projects electrify 20 million km annually, reducing CO<sub>2</sub> by 4,000 tons yearly.

**Eşarj** currently owns 700 AC fast and DC slow charging stations in Türkiye and plans to deploy more than 2,500 charging stations to meet the increasing demand for EVs in the country, which will help avoid 598 million kg of CO<sub>2</sub> emissions. The company uses 100% renewable energy in its network and plans to invest EUR 20 million into charging infrastructure by 2030.

**Fujitsu Ltd.** is supporting the enhancement of charging infrastructure planning in India

with a pilot modeling project in New Delhi and Mumbai, leveraging their digital twin technology. The outcomes of this modeling and analytical effort will serve as a proof of concept, testing the viability of establishing a nationwide data-sharing platform in India.

**Gentari** operates over **170 charge points in India and 150 charge points across 35 locations in Malaysia**. Gentari plans to expand EV charging infrastructure and solutions across Southeast Asia, including Thailand and Indonesia, and install **9,000 public charging points by 2026**.

**TotalEnergies** is deploying charging infrastructure with over 42,000 and a target of 150,000 charge points in Europe, Asia (China and Singapore), and Africa (Angola, Cameroon, Ghana, Morocco, and Tunisia). With several partners, TotalEnergies has also introduced the battery-swapping service for motorized two-wheelers in its service stations in Kenya and Rwanda.

## Finance

**Shell Foundation** is a UK charity that boosts ZEV affordability in India and Africa through financing solutions and non-banking financial companies (NBFC). With annual investments of USD \$6-8 million, over 50,000 ZEVs will be supported in the next three years. By supporting the deployment of ZEVs as income-generating assets, long-term economic empowerment can be provided for millions of low-income drivers.

## Fleet decarbonization

**Amazon** operates a delivery fleet of 6,000 EVs in 400 Indian cities with plans to expand to 10,000 by 2025. In 2023, **The Climate Pledge**, co-founded by Amazon and C40, announced **Laneshift** - a multi-year USD \$10M urban freight decarbonization project to accelerate the development of EV infrastructure and deployment of EV trucks in India, Colombia, Ecuador, and Mexico.

**DHL** aims to electrify 60% of its global last-mile fleet by 2030, with 30,000 EVs already in use, including 170 in Mexico. This aligns with DHL's EUR €500 million investment in Latin America, targeting fleet decarbonization, real estate growth, and advanced technology and automation.

**IKEA India** aims to reach 100% zero emissions for home deliveries by 2025 in line with global commitments. Today more than 50% of customer home deliveries are happening using electric 3/4-wheeler trucks. IKEA India is helping build an EV eco-system by closely working with EV manufacturers, fleet operators, and charging infrastructure providers.

**Maersk** introduced electric 3/4-wheelers in Mumbai in 2022, with subsequent deployment in New Delhi. The company has also formed a partnership with an e-commerce platform in India to facilitate its distribution needs using a specialized fleet of electric vehicles, which have a cargo capacity ranging from 550 to 700 kg and a travel range exceeding 120 km.

**PepsiCo** is transitioning to a cleaner, advanced, more efficient fleet increasingly powered by renewable sources as part of **PepsiCo Positive (pep+)**, the company's strategic end-to-end transformation. In Latin America, PepsiCo has electrified its fleets and invested in electric charging infrastructure across 11 countries, helping to reduce energy use and lower carbon footprint.

## Taxi and Rental

**Uber** aims to reach 100% zero emissions by 2040. The company will add **50,000 EVs** to the platform in India over the next three years, and agreements with Jio-bp and GMR Free Energy are helping to secure access to fast charging. In LATAM, zero-emission rides are available in 12 countries via Uber, and the Costa Rica Electric Mobility Fund, supported with USD \$1 million from Uber, is expediting the transition.

**Grab** currently owns a rental fleet of 8,500 units of battery-electric vehicles (BEV) and provides more than 800 battery-swapping stations across Indonesia through collaboration with several industry players. It has led to more than 7,900-ton CO<sub>2</sub> emission reduction within 4 months in 2022.

## Battery lifecycle management

**Veolia** operates an electric car battery recycling facility in China and has projects in Asia. With its current recycling capacity representing the equivalent of 100,000 electric vehicle batteries, Veolia is bringing recycled metals back into the market to produce new green batteries. It is estimated that more than 1.5 ton of CO<sub>2</sub> emissions are avoided per one ton of battery recycled.

## Vehicle manufacturing

**JSW Group** has initiated an electric truck trial program with two-way cargo movement (slag and clinker), covering 275 km. In the trial phase, 5 e-trucks have been deployed into the logistics routes in India, aiming to increase to 100 trucks by 2024. Concurrently, they are investing **USD \$780 million in manufacturing their own EV**.

**Scania Mexico** has signed the **ZEBRA Agreement** and is committed to bringing one EV model per year. The company already has a last-mile delivery truck and electric passenger bus in the market and plans to bring the first electric trailer by mid-2024. Scania aims for EVs to represent 50% of its vehicle sales by 2030 and 100% by 2040.

## *DISCLAIMER*

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## *About WBCSD*

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We accelerate value chain transformation across key sectors and reshape the financial system to reward sustainable leadership and action through a lower cost of capital. Through the exchange of best practices, improving performance, accessing education, forming partnerships and shaping the policy agenda, we drive progress in businesses and sharpen the accountability of their performance.

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