



GEF Global E-Mobility Programme

Working Group 1: Electric Light-Duty Vehicles

Total Cost of Ownership (TCO) Tool

gef.emobility.wg1@iea.org

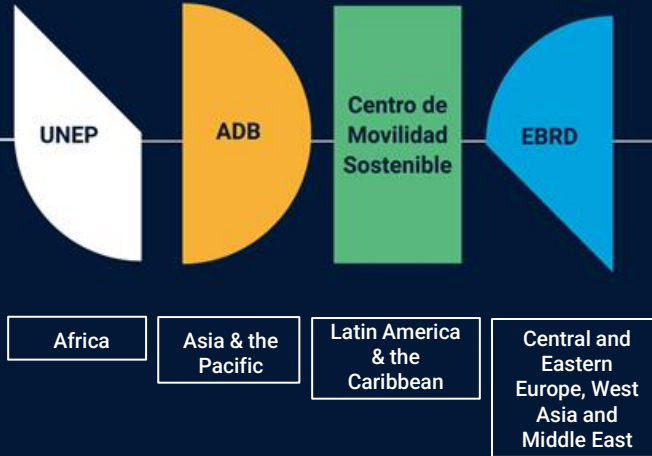
Welcome and Opening

Jacob Teter

Lead Transport Analyst, Energy Technology Policy Division, IEA

Supporting 50 Country Projects

4 Regional Support Platforms



Global Thematic Working Groups



WG 1: Electric LDVs



WG 2: Electric 2&3W



WG 3: Electric HDVs



WG 4: Charging infrastructure, batteries & grid integration

- Supports more than 50 low and middle-income countries with more than USD 70 million in grants and over USD 250 million in loans at the national, regional and global level
- Funded by the GEF, the German Climate Initiative, the EU, the IEA Clean Energy Transitions Programme & EVI members, foundations and bilateral development aid
- Jointly implemented with partners such as ADB, EBRD, IEA, Centro Mario Molina Chile, UNDP, UNIDO and the SOLUTIONSplus project

The GEF-7 E-Mobility Programme

GEF-7 E-mobility participating countries								
Caribbean	Latin America		Africa			Asia		Eurasia
St. Lucia	Honduras	Uruguay	Cote d'Ivoire	Burundi	Kenya	Thailand	Maldives	Uzbekistan
Jamaica	Nicaragua	Paraguay	Togo	Uganda	Mozambique	Viet Nam	Nepal	Albania
Grenada	El Salvador	Peru	Ghana	Tunisia	Mauritius	Philippines	Bangladesh	Jordan
Dominican Republic	Belize	Chile	Sierra Leone	Rwanda	Seychelles	Indonesia	Sri Lanka	Armenia
Antigua & Barbuda	Costa Rica	Colombia	Senegal	Zambia	Madagascar		India	Belarus
	Panama	Argentina	South Africa	Tanzania	Ethiopia			Ukraine
	Guatemala	Ecuador						

Working group 1: Deliverables and timelines

1.2.1 - Status update on light-duty vehicle deployment across regions and countries
(including technical, operational and financial aspects where relevant)

1.2.2 - Market characterization and model availability for different regions

1.2.3 - Best-practice policy briefs for electric light-duty vehicles deployment

1.2.4 - Interactive tool to estimate and compare total cost of ownership

1.2.5 - Interactive tool to estimate well to wheel emissions and/or life-cycle assessment of different electric cars

Additional tools developed upon request by the Country Child Projects and agreed by the Coordinator

- **Year 1 (2021-22)**

- Status update, market characterisation and model availability on light-duty vehicles deployment across regions and countries (GEVO2022, April/May 2022)

- **Interactive tool comparing total cost of ownership (TCO) for light-duty vehicles (2023-24).**

- **Years 2-3 (2022-24)**

- Interactive tool to estimate life-cycle emissions (2023)

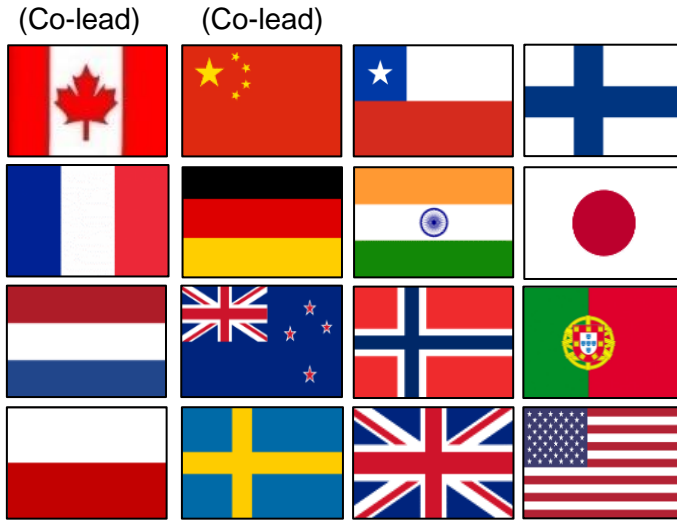
- Best-practice policy briefs for electric light-duty vehicles deployment (2022 and 2023)

- Potential additional tools:

- Interactive tool to compare total cost of ownership (TCO) for two-wheelers (2023-24).

- Interactive tool to compare total cost of ownership (TCO) for buses (2023-24).

Members (2021-22)

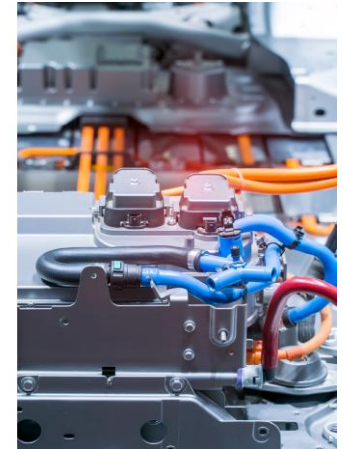


Activities:

- Analysis
- Commitments
- Collaborative projects

Coordinator

Global EV Outlook 2022
Securing supplies for an electric future



- Each year, we solicit information from EVI member countries focusing on data and EV-relevant policies:
 - Data: EV sales (incl. 2&3-wheelers, cars, buses, and trucks) and installed chargers
 - Policies: including fuel economy standards; EV incentives (both for manufacturers and consumers); promoting battery supply chains and production (including mining and processing of raw materials); charging infrastructure; battery end-of-life and recycling
- We are making every effort to collect these data also for GEF-7 countries.
- We will be holding two webinars for tracking and data collection in the GEF-7 countries on 24 and 25 January.
- If you or one of your contacts can provide these data or information on such policies, please feel free to contact: Shane.MCDONAGH@iea.org

Introduction to the TCO tool

Shane McDonagh

Transport Analyst and Co-Ordinator of the GEF E-Mobility Programme's WG1

The GEF-7 E-Mobility Programme

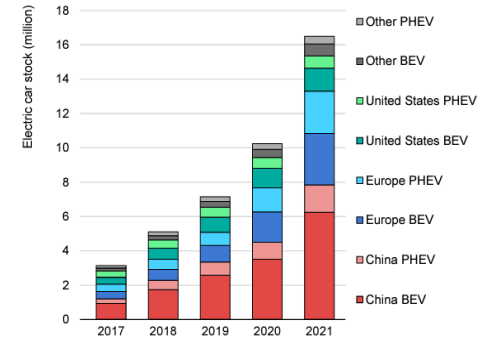
- 52 highly diverse participating countries
- Promoting electro-mobility across multiple use cases
- Wide variety of projects from policymaking to public buses
- Our current focus is Light-Duty Vehicles (WG1)
- Colleagues focus is grid integration (WG4)



Contribution of the tool

Electro-mobility in emerging economies:

- Applicable to a wide range of users
- Learning opportunities relevant to all regions
- Understand the effect policies might have on costs
- Awareness the technology is improving



Sales outside China, Europe, and the US are much slower (Source: GEVO 2022)



Cost and availability improvements increase the opportunity (Source: Tata Power)

Demonstration

Total Cost of Ownership

TCO tool

Learning opportunity for users

- **Understand key concepts** – Various powertrains, cumulative costs...
- **Trade-offs** – Upfront vs. operating costs, annual distance & marginal cost...
- **Policy relevant lessons** - Financing conditions, potential effect of subsidies...

What changes can increase EV competitiveness?

Insights from Development

Stakeholder Engagement

Internal and external webinars and/or sessions for early and sustained feedback

- Citizens and policy makers can benefit from the same tools
- Beware of assumed knowledge and unfamiliar phrases

Building the tool

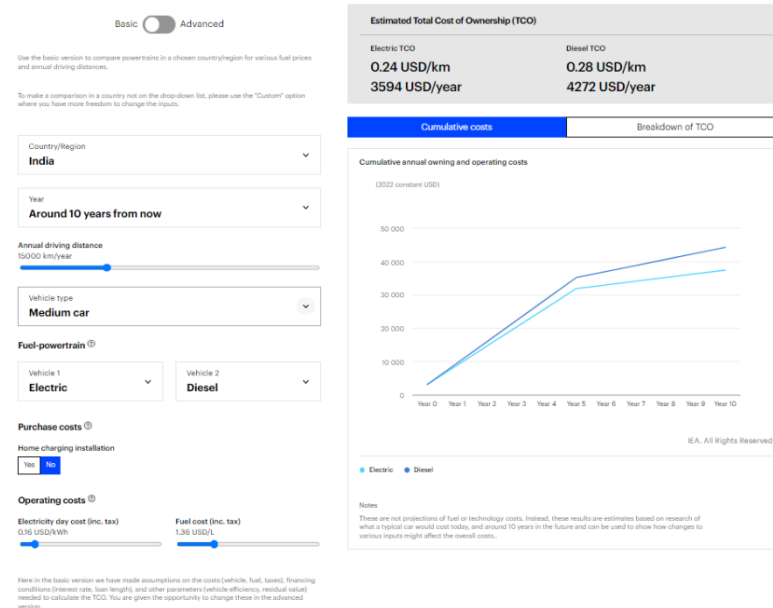
Aim for an iterative process, simplify wherever possible, empathise with users.

- Sensitivity analysis to reduce complexity and variable
- Avoid false precision, and err on the side of simplicity where possible

Features of the tool

Summary

- Policy and cost relevant lessons throughout
- Only variables most important to lessons and costs included
- Caters for both high-level and more detailed comparisons
- Real-time results so users can perform sensitivity analysis



Tool is hosted for free and available to anyone from the IEA website



Please contact us if you have any questions

gef.emobility.wg1@iea.org

Thank you!