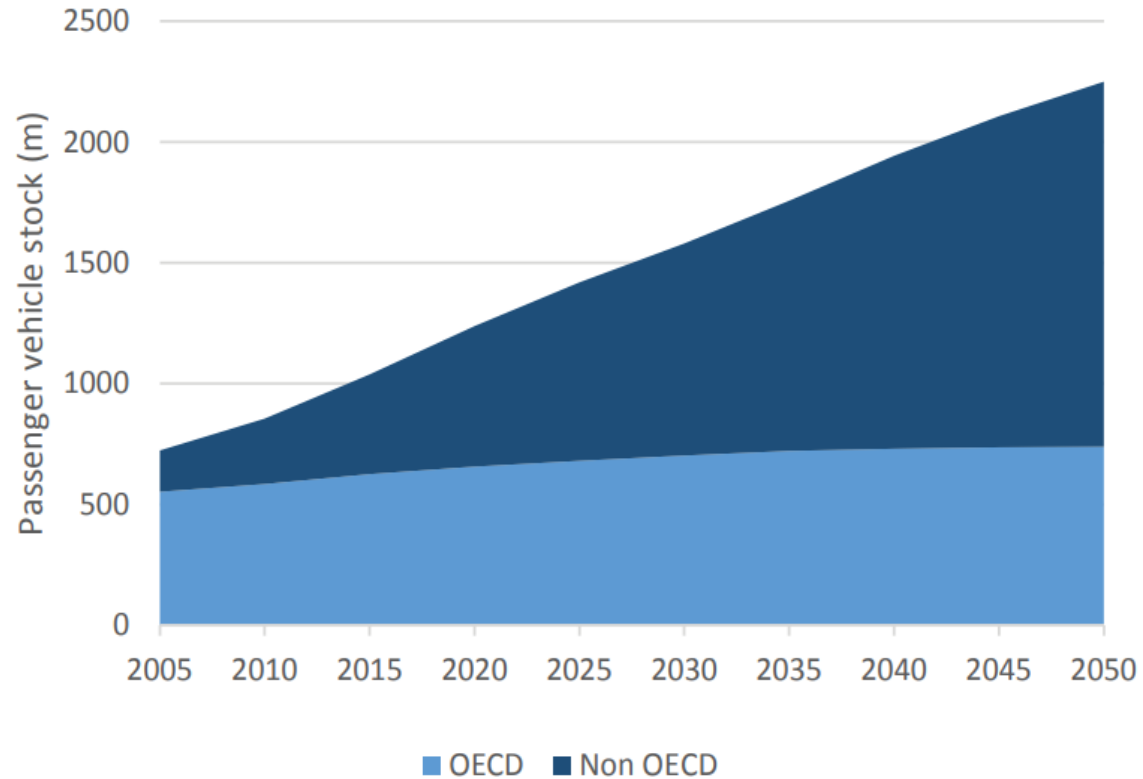


Fuel economy to e-mobility: A decade of action

June Yeonju Jeong,
Asia-Pacific lead
Sustainable Mobility Unit



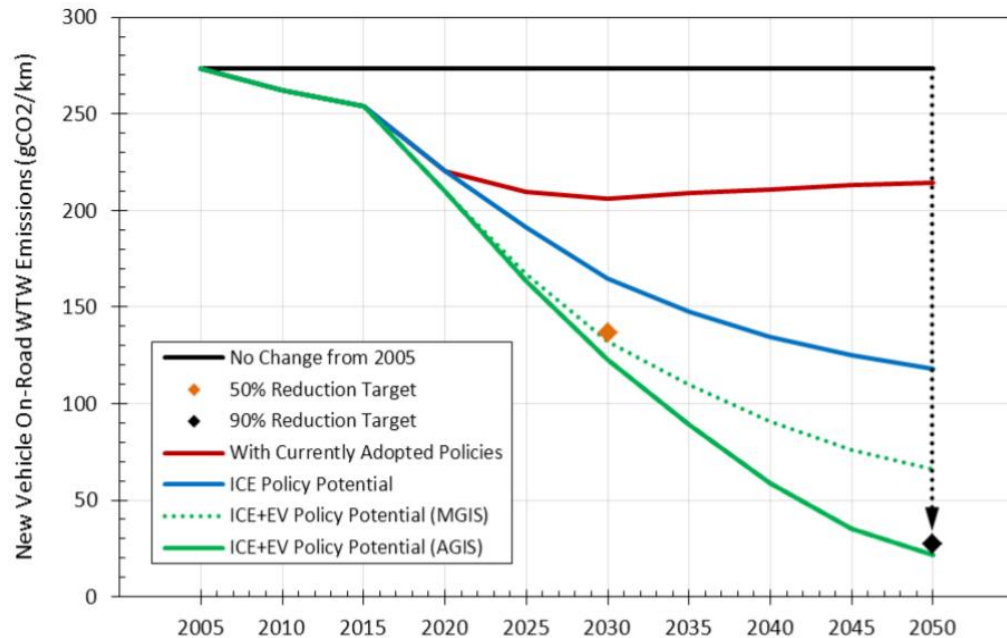
A Global Approach is needed



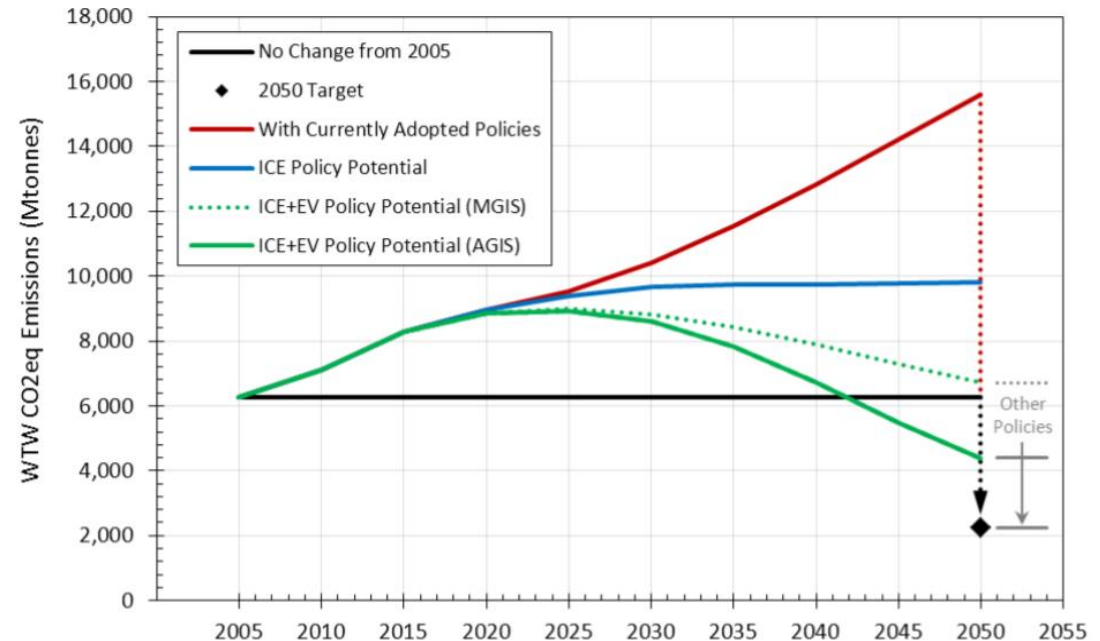
- The global vehicle fleet is set to double by 2050 between 2015-2050
- All of this growth, 1+ billion vehicles, will take place in non-OECD countries
- Many ICE vehicles are still going to be added, with avg fleet turnover of 20 years
- The transport sector is set to go from one quarter to one-third of all energy related GHG emissions

What does this mean for emissions?

On-Road WTW CO2 Emissions for new LDVs



Change in Global Fleetwide Emissions



Source: GFEI report 2019

- Compared to 2005, transport emissions are set to more than double with current policies
- To reach the 90% decarbonization target, **all options – avoid, shift, improve – and all countries need to be included**

GFEI



The Global Fuel Economy Initiative (GFEI) was founded in 2009 with the purpose of promoting and supporting government action to improve the energy efficiency of the global light-duty vehicle fleet.

It is a partnership of six of the world's leading transport and energy organisations which work together to plan and shape the Initiative's activities: UNEP, FIA Foundation, IEA, ICCT, ITF, UC Davis

Around 70 countries have developed fuel economy policies with GFEI support.

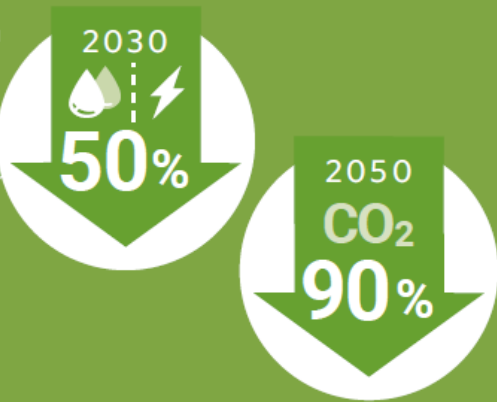
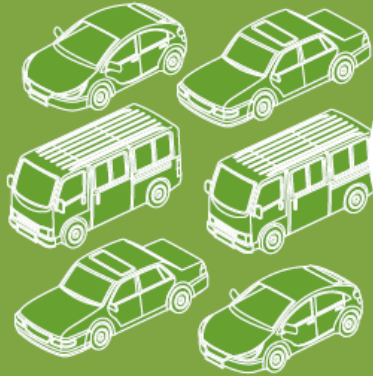
GFEI works with stakeholders to understand the status of their vehicle fleet and to establish a national fuel economy baseline and help develop policies based on results from these vehicle fleet assessments and the national context.

In terms of cumulative impact, policies in place (pre-GFEI vs Post GFEI) estimated to reduce about 482 million tonnes of CO₂ by 2030.

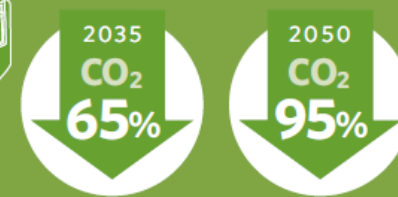
Establishing fuel economy baselines and policies became the catalyst for electric mobility in many countries



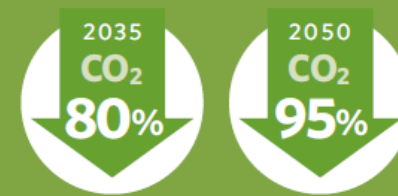
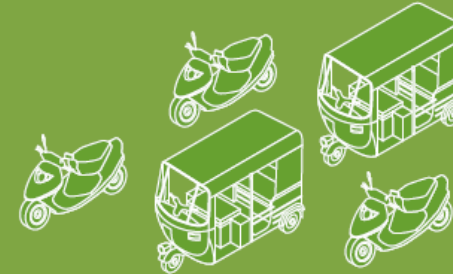
Passenger light-duty vehicle targets
 Double global fuel economy of new vehicles by 2030, reduce CO₂ emissions by 90% by 2050



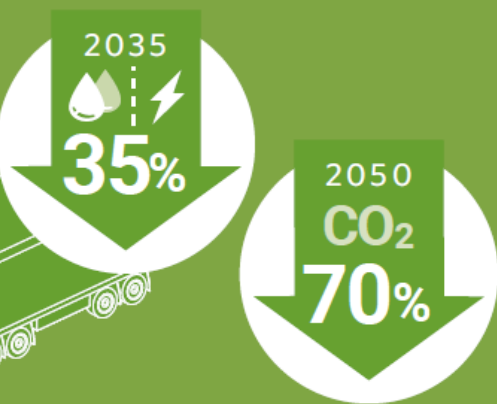
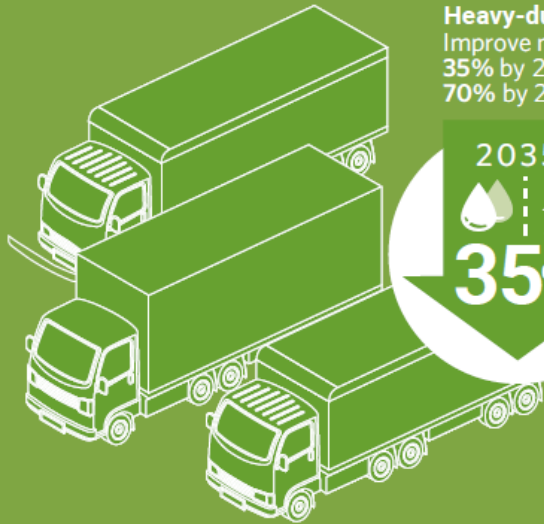
Transit bus targets
 Improve fuel economy to reduce CO₂ emissions by 65% by 2035 and 95% by 2050



Two & three wheel vehicle targets
 Improve fuel economy to reduce CO₂ emissions by 80% by 2035 and 95% by 2050



Heavy-duty vehicle targets
 Improve new vehicle fuel consumption 35% by 2035 - CO₂ reduction target of 70% by 2050



Decarbonising road transport to tackle climate change

A new fleetwide CO₂ reduction target of 65% by 2050 compared with 2005. To comply with the Paris Agreement's less than 2 degree scenario, better fuel efficiency of conventional vehicle technologies; a faster transition to electric vehicles; a faster decarbonisation of the electricity grid; and additional 'avoid' and 'shift' measures eg more non-motorised mobility, are all needed



Source: GFEI Working Paper 20 - Data based upon 2005 baseline



GFEI policy results



With support from GFEI, over a number of years, many governments that have introduced policies for improved fuel economy. As of 2019, these include:

- Fuel economy labelling schemes in Chile, Saudi Arabia, Vietnam, Thailand, Philippines and Montenegro
- New tax and fiscal incentives for improved fuel economy in Chile, Sri Lanka, Mauritius, Ukraine and proposed for Zambia
- New and updated or extended fuel economy standards in the EU, US, Canada, India, China, Saudi Arabia
- New import regulations in Uganda and Kenya, among others
- New EV mandate in China
- **Kick-starting stakeholder dialogues on EVs**



Key LDV fuel economy trends

- Negative trends



- Cost of delayed action: achieving GFEI targets can have a cumulative reduction of 826 million tonnes of CO₂ from 2010 to 2030. However, delayed action could have shrunk the potential benefits by one-third.
- While the highest fuel economy progress was in high-income countries, the improvement is stagnating.
- Increasing car size, weight, and power, as well as the import of inefficient used cars could undo the potential impact of fuel economy policies in the Global South.
- Steady growth in car use, especially Global South,,,



Key LDV fuel economy trends

- Positive trends

- The rate of fuel economy improvement in the Global South is intensifying.
- **Increasing consensus for better fuel economy in the policy documents of the Global South**, despite varying strategies to achieve it depending on the country's priorities
- Out of the 68 GFEI low-and middle-income countries, 50% of these countries prioritize “improving fuel economy”, and **71% of the countries prioritize “electric vehicles”** as part of their climate mitigation strategy.



Key findings from new report

- **Incremental improvements in gasoline and diesel cars will never yield the necessary CO2 reductions** to reach GFEI 2030 targets.
- Aggressive national policies and programs needed – particularly in the Global South - that will lead to a higher share of EVs while at the same time shifting to more efficient ICE technologies, to improve the existing fleet.
- Overall fuel use and CO2 emissions depend not just on efficiency or fuel choice but also car use – avoid, shift measures
- Essential to limit increases in the size and performance of passenger cars and **move towards smaller and lighter electric cars.**



About UNEP's Global Electric Mobility Programme

- Supports more than 50 low and middle-income countries with more than USD 80 million in grants and over USD 250 million in loans
- Funded by the GEF, the German Climate Initiative, the EU, foundations and bilateral development aid
- Jointly implemented with partners such as ADB, EBRD, IEA, Centro Mario Molina Chile, UNDP, UNIDO and the EC Solutions+ project



**Building capacity
and creating
awareness**



**Establishing
roadmaps and
strategies**



**Developing
national policy
frameworks**



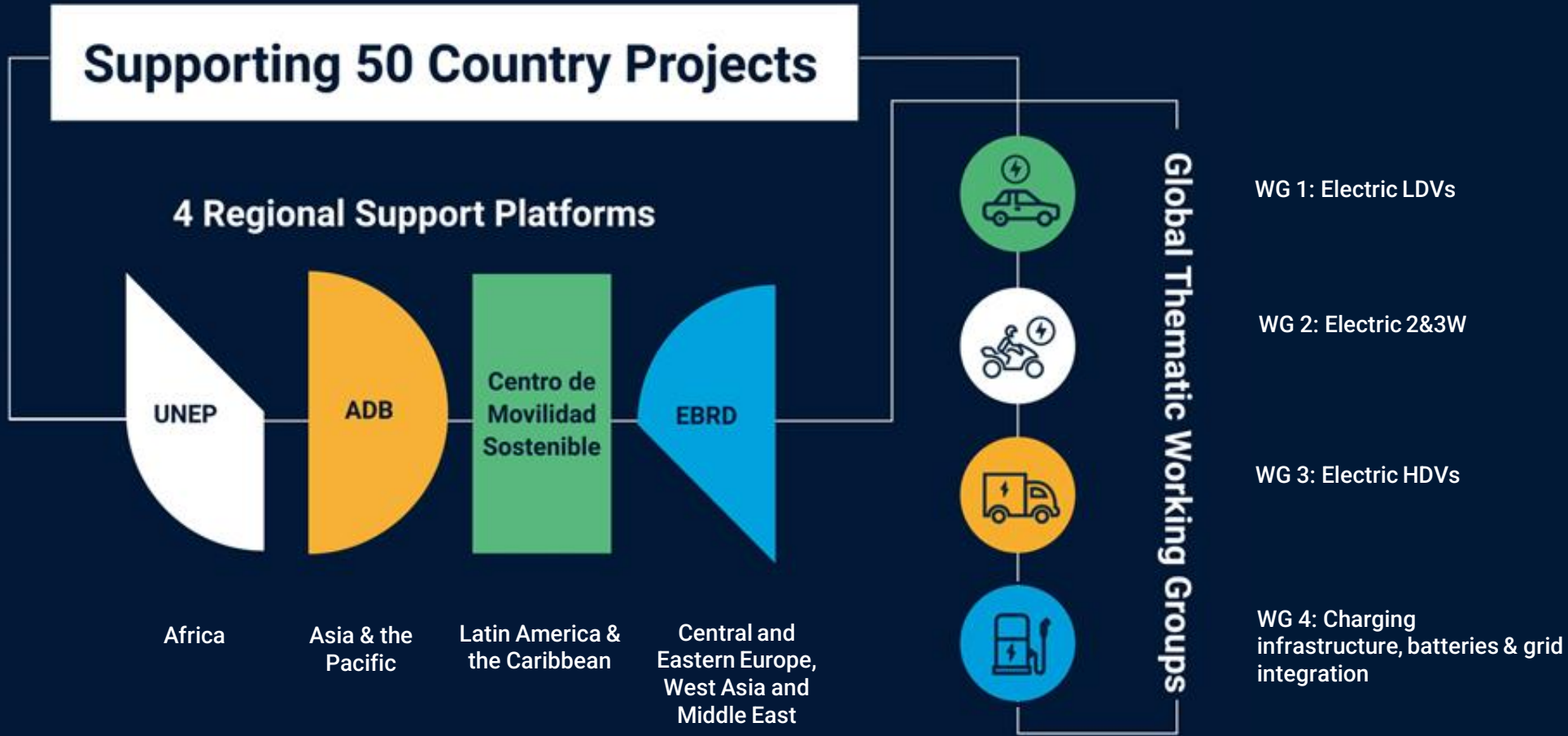
**Creating
business models and
finance schemes**



**Piloting
electric vehicles
on the ground**



Structure of the Programme



- 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



About the Regional Support and Investment Platforms



- Bringing together e-mobility projects and EV and EV supply equipment manufacturers to facilitate the implementation of the Country Project e-mobility pilots
- Support Country Projects design and develop concrete scale-up projects
- Demonstrating demand of electric vehicles and EV supply equipment by aggregating demands for low and middle-income countries around the world
- Provide a forum for manufacturers to make expressions of interest or preliminary agreements to supply Country Child Projects with electric vehicles and EV supply equipment demonstration and scale-up projects



About the Global Thematic Working Groups



• 2&3 Wheelers

• Light-Duty Vehicle






















• Heavy-Duty Vehicle








• Charging, Grid Integration, Renewable Power Supply and Batteries














- Develop and discuss global and regional targets for the shift to electric mobility;
- Provide policy advice and bring forwards the global harmonization of e-mobility standards and regulation;
- Develop analytical tools and knowledge products to support e-mobility projects world-wide
- Support e-mobility pilots with technical guidelines, methodologies for data collection and reporting;
- Develop business models and finance schemes ready for adaptation in national projects
- All knowledge products will be accessible through the emobility toolbox <https://emobility.tools/>


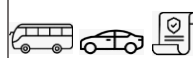





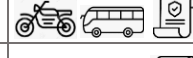














Latin America & the Caribbean		
Antigua & Barbuda		UNEP
Argentina		UNEP
Belize		UNEP
Colombia		UNEP
Costa Rica		UNEP
Chile		UNEP
Cuba		UNEP
Dominican Republic		UNEP
Ecuador		UNEP / SOL+
El Salvador		UNEP
Grenada		UNEP
Guatemala		UNEP
Honduras		UNEP
Jamaica		UNDP
Mexico		UNEP
Nicaragua		UNEP
Panama		UNEP
Paraguay		UNEP
Peru		UNDP
St. Lucia		UNEP
Uruguay		UNEP / SOL+

Central & Eastern Europe, West Asia, Middle East		
Albania		UNIDO
Armenia		UNEP
Azerbaijan		UNEP
Jordan		UNIDO
Lebanon		UNDP
Ukraine		UNEP / EBRD
Uzbekistan		UNDP

Asia & the Pacific		
Bangladesh		UNDP
Fiji		UNEP / ADB
India		UNEP / ADB
Indonesia		UNDP
Malaysia		UNIDO
Maldives		UNEP
Nepal		UNEP / SOL+
Philippines		UNEP / SOL+ UNIDO
Solomon Islands		UNEP
Sri Lanka		UNEP
Thailand		UNEP / UNIDO
Vanuatu		UNEP
Viet Nam		UNEP / SOL+

Africa		
Burundi		UNEP
Cote d'Ivoire		UNEP / UNIDO
Ethiopia		UNEP
Ghana		UNEP
Kenya		UNEP
Madagascar		UNEP
Mauritius		UNDP
Rwanda		UNEP / SOL+
Senegal		UNEP
Seychelles		UNEP
Sierra Leone		UNEP
South Africa		DBSA
Tanzania		UNEP / SOL+
Togo		UNEP
Tunisia		UNIDO
Uganda		UNEP
Zambia		UNEP
Zimbabwe		UNEP

Activities of UNEP Country Projects



Building capacity and creating awareness



Establishing roadmaps and strategies



Developing national policy frameworks



Creating business models and finance schemes



Piloting electric vehicles on the ground

- UNEP
 - UNDP
 - SOL+
 - DBSA
 - UNIDO
 - EBRD
 - ADB
- 🚗 E-LDV 🚌 E-Bus 🏠 E-2&3W 🚚 E-Freight 🔌 Charging 📄 Policy



Immediate next steps

- Continued push for high emission standards/fuel quality standards esp. Euro 6/VI
- Used vehicle trades
- Global Electric Mobility Programme Phase II: Global Programme to Support Countries to Upscale Integrated Electric Mobility Systems
 - New countries/subregion
 - Pacific Islands (Fiji, Vanuatu, Solomon Islands)
 - New/expanding scope of work
 - EV and battery end-of-life cycle and circularity
 - Stronger focus on financing
 - Enhanced integration with NMT work
 - “Just” transition - gender and e-mobility
 - Freight



In partnership and cooperation with



Thank you!

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