



## Actionable Messages

**Message 1:** Technology for electrification of heavy-duty vehicles should be developed such that it can deal with variations in geographical and climatological conditions across Indian cities as well as withstand the abuse of overloading.

**Message 2:** Pilot projects developed by start-ups must be endorsed in order to create demand in the market. With an increase in demand, finances will also go up for these OEMs to function properly and new OEMs can also be introduced in the market.

**Message 3:** Government should look for ways in which it could act as a consumer for the electric truck segment in order to achieve rapid electrification of heavy-duty vehicles.

**Message 4:** The freight vehicle owners and manufacturers must work in collaboration where requirement of the one can be met by supplying models developed by the other. Trials for the same could be run leading to a significant decrease in the burden of investments of the stakeholders and identification of challenges faced.

**Message 5:** Next phase of FAME will include CO<sub>2</sub> emission regulations for freight vehicles to achieve noticeable adoption of electrification and visible emission reduction in India.

## Narrative

The thematic track session titled, “Towards Net-Zero Emission Target – Electric Vehicles in Freight” was conducted as part of World Sustainable Development Summit (WSDS) – the annual flagship initiative of The Energy and Resources Institute (TERI). The focus of the session was primarily on the future of electric vehicle (EV) transition in road freight transport (light, medium and heavy-duty commercial vehicles). The moderator for the session was **Dr. AR Sihag, Distinguished Fellow, TERI**. Discussions on various topics unfolded, which included: low penetration of EVs in road freight transport, supply and demand constraints (OEMs and freight operators), range and battery anxieties and solutions (through overhead charging, new battery technologies, swapping), and fuel-cell EVs complementing battery EVs.

The session started with the keynote address by **Dr. Vibha Dhawan, Director General, TERI**, who highlighted the crucial role played by the transport sector in India’s effort to net-zero targets. The EV technology is by far the most practical vehicle technology towards achieving climate goals. She also mentioned various works done by TERI towards net-zero emissions and EVs, such as creating awareness, development of Sustainable Urban Freight Coalition website for the promotion of commercial EVs, E-Amrit Portal developed along with NITI Aayog.

Following the keynote address, the discussion steered towards understanding the challenges and opportunities from demand and supply sides as well as the infrastructure requirements for EVs in freight vehicles. **Mr. Sameer Pandita, Director, Bureau of Energy Efficiency, GoI**, listed out some of the challenges in introduction of the EVs in freight. The first challenge is the lack of certified technology, skilled labour, and charging infrastructure. Another challenge pointed out by Mr. Pandita was the absence of enough OEMs in the market and therefore, lack of certified models. He specified the need for pilot projects to be run as its outcomes can be used as input for policy development of the same.

**Mr. N. Mohan, CEO, Delhi EV Cell, Govt. of NCT of Delhi**, listed out some more challenges which included the absence of charging infrastructure along major roads and highways. Another challenge is the lack of demands for OEMs in the market. The need for pilot projects was specified to bring confidence to the financing companies. Even if the pilot projects are run, the endorsement of the OEMs is a major hurdle in the way toward EVs in freight. Framing of policy and finances for the same are also important factors. He specified that a particular way must be found in which the government can act as a consumer for freight EVs as it is the case in city buses.

The next speaker on the panel was **Ms. Trupti Deshpande, Senior Programme Manager, Shakti Sustainable Energy Foundation**. Ms. Deshpande talked about the freight market being fragmented in India. She also mentioned that no infrastructure can come up without demand as it can lead to financial risk for stakeholders. She emphasized that the collaboration between manufactures and users is important to bring together the understanding regarding requirements and possible models for trucking segment. Trials for the same can be run to bring down the burden of investments and identify the challenges. She identified 3As that are important for EVs in freight: *ambition* of stakeholders, *action* by policymakers, and *accountability* for those ambitions and actions.

**Mr. Amit Bhatt, Managing Director (India), ICCT** talked about the market moving towards EVs in freight. Europe, USA and UK are coming up with CO<sub>2</sub> emission regulation for freight vehicle, most probably by next year and thus, can act as a torchbearer for rest of the world. India, already walking on the pathway of European transport, will soon be coming up with something similar.

The last speaker of the panel was **Mr. Umesh Revankar, CEO and Managing Director, Shriram Transport Finance Company Ltd.** Mr. Revankar spoke about the financial aspect of introducing EVs in freight. He specified that EVs for individuals are not cost effective even if we provided them with 100% interest rate subsidy. He mentioned that most of the EV cost goes into battery, that is, 60–70%. Also, these batteries are needed to be replaced frequently, which means paying 60–70% of the cost of the EV every 3-4 years. Thus, the cost of EVs needs to come down for a wider adoption. If we need to move forward with EVs in freight, we must avail green funds, he concluded.

## Making Words Count @WSDS 2023

“	<p>Not many OEMs are making diesel hybrid vehicles or EV trucks. Electrification of LMV is not an issue but to control GHG emissions, the technology and skilled force are still inadequate. Unless we have technology tailored-made for Indian cities – dealing with climatological and geographical constraints including withstanding the overloading abuse – we cannot move ahead.</p> <p style="text-align: right;"><b>Mr. Sameer Pandita</b> <b>Director, Bureau of Energy Efficiency, GoI</b></p>
“	<p>There is a gap on the financing side in the trucking segment. Pilot projects can act as a solution to give the confidence to financing companies. Some of the start-ups are doing pilots but the challenge is, endorsement of OEMs. Financing will remain a major issue in absence of endorsement by OEMs. Government could act as a consumer, as seen in the electric bus segment. We should look for options in the trucking segment as well, as it will give a push to creating demands for OEMs.</p> <p style="text-align: right;"><b>Mr. N. Mohan</b> <b>CEO, Delhi EV Cell, GNCTD</b></p>
“	<p>There is a need for collaboration between fleet owners and manufactures, where one can put forth the requirements and another can come up with possible models. Also, trials for the trucking segment can be run. It will lower the burden of investment among stakeholders. The 3As that the EV freight industry needs to focus on are – <i>ambition</i> among stakeholders, <i>action</i> from the government policymakers and the fleet owners, finally, <i>accountability</i> for our <i>ambitions</i> and <i>actions</i>.</p> <p style="text-align: right;"><b>Ms. Trupti Deshpande</b> <b>Senior Program Manager, Shakti Sustainable Energy Foundation</b></p>
“	<p>European Union's new CO<sub>2</sub> standard for HDV mentions 90% of trucks to be zero-emission by 2040. This shows where the future industry is headed. The next round of FAME with inclusion of freight vehicles would be interesting to see. India has been historically following the European automotive industry in most of its regulations. Europe, UK and USA are coming up with CO<sub>2</sub> emission regulations for freight vehicles by next year. This will push the regulatory aspects in India as well.</p> <p style="text-align: right;"><b>Mr. Amit Bhatt</b> <b>Managing Director (India), ICCT</b></p>
“	<p>EVs are costlier than their ICE counterparts even after 100% interest rate subsidy; the payback time would be longer than the battery life (3-4 years). About 60-70% of the EV cost is of the battery, which must be replaced frequently, thereby making the purchase of EVs financially unviable. Therefore, the cost needs to come down to ensure an expansive adoption of EVs. Most of the financing are done towards 2Ws and 3Ws, since they are financially viable and can make savings in operational cost. If we move forward with more EV financing, we will be able to avail green funds.</p> <p style="text-align: right;"><b>Mr. Umesh Revankar</b> <b>CEO &amp; Managing Director, Shriram Transport Finance Company Ltd.</b></p>