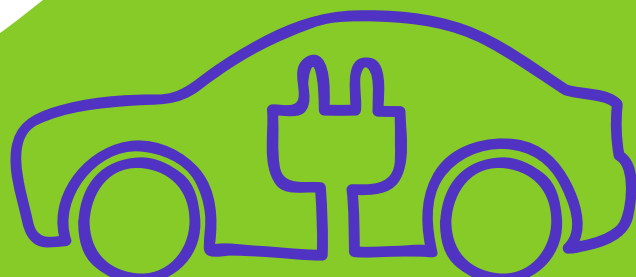


**EVENT REPORT**  
**CPPR DIALOGUE ON**

# **Role of Electric Vehicles in India's Energy Secure Future**

**MAY 18, 2023**  
**PLATFORM: ZOOM**



## About the event

Centre for Public Policy Research (CPPR) conducted a panel discussion as part of its India Energy Samvad Dialogue 4: Role of Electric Vehicles (EV) in India's Energy Secure Future. The dialogue encompassed discussion around the infrastructure change required to cater to the demands and needs to shift the transport system to EV, the market capability to supplement electric transport vehicles, especially trucks and buses, the actual sourcing of the energy required to produce electric vehicles, the capability of the current electricity grids and the requirement to modernise grids and substations, and the growing rate of personal vehicles for transportation.

## Speakers

- **Dr Anil Srivastava** is a Visiting Professor of Practice in the Department of Sustainable Energy Engineering at IIT Kanpur. He is a self-starter leader with extensive experience in Civil Aviation, Electric Vehicle, Storage Battery, Transformative Mobility, Public Service, Program Implementation, Policy Formulation, Corporate Management, Global Negotiations, Monitoring and Evaluation in Government, most recently as Principal Consultant and Mission Director of National Mission on Electric Vehicle and Battery Storage at NITI and Principal Adviser and Director General of NITI Aayog (National Institution for Transforming India). His last eight years of assignments include three years leading Transformative Mobility and Battery Storage initiatives — India's transition to electric vehicles, resulting in major policy decisions by Ministries, Departments and State governments; leadership positions in all areas of Civil Aviation in government; and three years as CMD of Pawan Hans Helicopters Ltd. He has prepared an output and outcome-based monitoring and evaluation framework for the Central Government's budget and for Prime Minister's review.



- **Mr Michael Lynch** is President of Strategic Energy and Economic Research, a Massachusetts-based consultancy, and a Distinguished Fellow with the Washington-based Energy Policy Research Foundation. He earned an SB-SM from the MIT political science department in 1979 and afterwards held a number of research positions at MIT. Subsequently, he was the Chief Energy Economist at DRI-WEFA and served as President of the US Association for Energy Economics. He is a senior contributor at forbes.com, and his publications have appeared in seven languages. Praeger published his book 'The Peak Oil Scare and the Coming Oil Flood' in July 2016.



- **Mr Talat Munshi** is a Senior Advisor at the UNEP Copenhagen Climate Centre. His work and research are in climate change and cities in developing countries, particularly analysing the role of land use, transport, and geo-information science in mitigation and adaptation. Previously, he worked as an Associate Professor at the Faculty of Planning, CEPT University, India; as a Lecturer in Transport at the Faculty of ITC, University of Twente, Netherlands; at The Energy and Resource Institute (TERI), India; and with Surat Municipal Corporation, India. He has experience in research and consulting work with countries in Africa, Asia and Europe on topics related to urban planning, transport and climate finance and has a significant number of published articles on these subjects. Talat is an engineer by training at CEPT University. He has a PhD from the University of Twente (UT) and Master's degrees in Environmental Planning from CEPT University and in Urban Infrastructure Management from the faculty of ITC, UT.



- The moderator is **Dr Madhu P Pillai**, who is a Project Management Expert with more than 38 years of broad-based Oil & Gas, Petrochemical, and Power industry experience in Operations and Project Management in India, Nigeria, the USA, Bahrain, Qatar, and Saudi Arabia. Dr Pillai is an Engineer with a post-graduation in Management and a PhD in Strategic Project Management. He is a Fellow of many leading international organisations. Dr Pillai has spoken at more than 40 international conferences and also chaired many. He has been on the global director board of many leading non-profit professional organisations.



## Summary of discussions

- The event focused on looking at global perspectives on the EV sector and understanding how to map such perspectives onto the Indian field. The three key themes within the discussion were whether EVs are sure to reduce global emissions, what the structural and infrastructural issues are in both private and commercial EVs, and the international practices that can be integrated into the Indian model. The aim was to look at the shortcomings of the EV sector and leverage global as well as national learnings to improve policies in the field.
- When asked about the contributing factors in the rise of EVs in India, Anil Srivastava noted the proactive policies on the part of the government that looked at the sector on both the demand and consumer sides and said that continuous push from the government is what helped take the EV market forward. He said that even if revenue turnover is currently on the lower side, it will only rise due to the number of proactive government policies in this sector, such as lowered power tariffs, green licence plates, vehicle standards, etc. He further opined that the industry can move forward by indigenously producing lithium and the chemical components of batteries.
- Regarding the shift from private to public modes of transport, Talat Munshi said that, while looking at EV infrastructure, making the change to E-buses is easier and is something the government is already pushing for. The various modes of transport need to be analysed, as large parts of vehicle transmission may be happening through heavy-duty vehicles on the road, but patterns of transportation may also be different in developing countries. A large part of mobility in India is still done by walking, cycling, and public transport.
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- The main focus now must be on collective modes of transit and para-transit, said Talat Munshi, as 12-15% of mobility in India is via bicycles, and the shift to e-bicycles can help. It is easier to make the shift to two-wheeler EVs than four-wheeler EVs. Instead of focusing on changing old vehicles to new EVs, the priority must be to add new EV buses to transport systems and add new routes so that more people will be attracted to public transportation systems. Adding to what Talat Munshi said, Anil Srivastava emphasised that only 4-5% of vehicles are four-wheeled personal vehicles. Subsidies must focus on shared modes of transport and not private vehicles.
- As EVs have the possibility of having higher emissions due to power infrastructure as compared to traditional vehicles, hybrid models can be looked into to bridge the gap. Michael Lynch added that lithium-ion batteries are heavy and require a lot of energy, adding to the infrastructural requirements of EVs. With regards to plug-in hybrids, the infrastructure costs will be a lot lower as charging can be done easily, and plug-in hybrids are cheaper than wholly electric vehicles.
- As India is highly dependent on China for imports of raw materials for batteries, there is a need to reduce dependence on imports and indigenously produce raw materials and other components for EVs. Anil Srivastava emphasised that there is no technology that India does not have in order to produce components for EV infrastructure indigenously. India has the capability to produce around 60-70% of EV infrastructure, and India offers a huge market for automobile manufacturing. Many of these automobiles are two and three-wheelers. Component manufacturers in India are keeping abreast of all new technologies in this field as well.
- When asked about national and global level policy insights into this field, Talat Munshi mentioned that there were a large number of people who initially wanted to switch to EVs without knowing the costs associated. In developing countries, the policy level apprehensions were similar to the starting phase of EVs in India, such as charging, large number of taxes, etc. In many small countries, a large amount of revenue comes from fossil fuels, which makes them reluctant to switch to clean energy. The infrastructural requirements for large loads of electricity are also high. Thus, many countries had asked to create road maps for EV buses, as they were confident about building infrastructure for them.

- About the average American view of EVs in light of perceived problems such as range insufficiency and infrastructural issues, Michael Lynch stated that EVs are still a niche market in America, and most households tend to purchase EV vehicles as their second vehicle that they use for short-distance travel, as opposed to their main car, which is usually gas powered, for longer trips. Average consumers do not consider EVs to be a perfect replacement. Hybrid vehicles are increasing, and the US government may lean towards hybrid models over fully electric models.
- Anil Srivastava pointed out that EVs have an important role to play in our country's commitment to COP 27 and COP 26 and what we are planning to achieve in this direction. All stakeholders need to be on board to form a comprehensive policy, and government policies must take into account organised as well as unorganised sectors in the internal combustion sector. The roles of state and central governments and industry are critical to achieving clean mobility, a clean environment, and sustainability.
- A lot of city development is dependent on good public transport, and good public transport systems work well with cities that grow, opined Talat Munshi. Urban development is oriented towards transit systems, and a lot of development in India is happening with the shift to EVs in public transport. One way to boost public transport is through micro-mobility options, such as bicycles and three-wheelers.
- Regarding the issues and infrastructural challenges of charging battery straps, Michael Lynch said that they do not pose a major concern to many countries unless they are pushing additional electric infrastructure to its limits. Private players like Tesla are just starting out, but there may also not be long-term benefits in this field.
- There are no major problems with EV buses or bus infrastructure, said Talat Munshi. Most cities have gone with Cost Per Point contracts, where the operator pays per kilometre of operation on the routes. The battery life in EV buses is also 8 years. Thus, the industry will slowly adapt, and innovations will come in this field, but there are no major regulatory hurdles.
- Michael Lynch concluded that the sector is changing a lot and that predictions about this sector have always been there but have often been proved wrong. The intersections between governmental, environmental, and urban policies are complicated, and there is no one size fits all policy. EVs can be a long way off, as coal is still a very important fuel in the world, as 8 billion tonnes are burned off in a single year, and replacing that will take a long time.



## Key takeaways

- The industry can immensely benefit from the indigenous production of battery components and other aspects of EVs. Doing so can boost the sector as well as India's prominence in the field.
- The focus in terms of shifting to EVs can benefit if done via public transport, especially modes of para-transit in cities. Since mobility is largely via public transport, focusing on proactive government policies in this field can be more beneficial than focusing on private vehicles.
- Hybrid models can be used to bridge the gap between traditional vehicles and EVs, as they are cleaner and the infrastructural and upkeep costs are significantly lower.
- Focusing on public transport infrastructure is cheaper for developing countries than looking into infrastructure for private vehicles, and many are using this as a roadmap to shift to EVs.
- As EVs have a strong role to play in India's commitments in COP 26 and COP 27, all stakeholders need to be brought on board to frame comprehensive policies.

## About CPPR

Centre for Public Policy Research (CPPR) is an independent public policy organization dedicated to in-depth research and scientific analysis with the objective of delivering actionable ideas that could transform society. Based out of Kochi, in the Indian state of Kerala, our engagement in public policy that began in 2004 has initiated open dialogue, policy changes, and institutional transformation in the areas of Urban Reform, Livelihood, Education, Health, Governance, Law, and International Relations & Security.

## About CPPR Dialogue

CPPR Dialogue is a platform for experts and other stakeholders to engage in meaningful discussions on pertinent policy issues. Our objective is to bring together diverse perspectives and promote constructive dialogue on issues of public interest. These panel discussions are intended to facilitate informed decision-making in various domains such as international relations, education, election studies, economy and public finance, urban governance, urban mobility, and governance and law, among others.