

Report of " All India Seminar on theme "National Electric Mobility Mission 2020"

Name of Centre / Overseas Chapter:		Delhi State Centre	
Title of Activity:		" All India Seminar on theme "National Electric Mobility Mission 2020"	
Activity under Divisional Board		Electrical Engineering Division	
Date:	January 19-20, 2018	Venue:	Engineers Bhawan, 2 Bahadur Shah Zafar Marg, New Delhi – 110 002



Photo of Inaugural Session with banner of IEI



Photo of Technical Session

Brief Report

The Seminar was organised by Delhi State Centre of The Institution of Engineers (India) in association with The Institution of Engineering and Technology (IET) - Delhi Local Network. Shri Abhay Bakre, Director General, Bureau of Energy Efficiency, Govt of India, Ministry of Power was the Chief Guest of the Inaugural function.

Delivering the welcome address, **Shri Devendra Gill**, Chairman, Delhi State Centre-IEI mentioned that National Electric Mobility Mission Plan 2020 is one of the most important and ambitious initiatives undertaken by the Government of India that has the potential to bring about a transformational paradigm shift in the automotive and transportation industry in the country. Shri Devendra Gill, Chairman, Delhi State Centre-IEI further mentioned that this is a culmination of a comprehensive collaborative planning for promotion of hybrid and electric mobility in India through a combination of policies aimed at gradually ensuring a vehicle population of about 6-7 million electric/hybrid vehicles in India by the year 2020 along with a certain level of indigenization of technology ensuring India's global leadership in some vehicle segments.

Shri V K Gupta, Co-Convenor of the Seminar briefed about the technical details of Seminar.

Shri R N Rajpoot, Chairman, The Institution of Engineers (India), Delhi Local Network stated that E mobility is one of ambitious project of GOI like electrification of Indian Railways. For successful E mobility project there is needs to create necessary infrastructure of charging points at offices and home. There is need to create principles of charging electrical vehicles. It is important that Electricity Regulatory body shall not create separate class of billing. It is expected that first 1000 cars for govt user likely to be inducted in 2018.

Shri Pradeep Chaturvedi, Council Member, IEI also graced the occasion and in his address apprised about the prospects of Mobility. He mentioned that E-Mobility is considered as a key factor in socio-economic development of the country. Heavy dependence on automotive transport system also places heavy foreign exchange burden on the country for import of crude oil for transportation purpose. Its consequent adverse impact on the climate with increasing GHG emissions is a deep concern for all countries, especially India. Improvement in economic growth and better social development standards is also resulting in higher mobility requirements.

Chief Guest of the Inaugural Function, Shri Abhay Bakre, Director General, BEE in his address elaborately spoke on the various environmental issues impacting the society and India's commitment towards reduction of GHG emission. Shri Abhay Bakre mentioned that success of E-Mobility will drastically reduce GHG emission. Chief Guest stressed that focus should be laid to use of Transport Mechanism with electric supply. Rail Transport is economical and environmental friendly option mentioned wrt to Road Transport, Shri Bakre, Chief Guest concluding his address shared strategies and vision to reduce GHG emission by adopting energy-efficient technology.

Shri Praveen Kr Singh, Honorary Secretary, Delhi State Centre proposed the vote of thanks. Nearly 100 participants, Invitees and

Guests attended the Seminar.

Session wise details of the Technical Programme are given below:-

DAY-1

Plenary Session: (Theme “Opportunity and Challenges in Electric Mobility”)

KEY-NOTE SPEAKERS

- **Shri H K Agarwal**, Project Executive
Topic: Propulsion Systems
- **Ms Tarini Baswal**, Executive Director, Environment & Health Management, Ministry of Railways
Topic: “Regulation & Standards in Energy Efficiency”

TECHNICAL SECTION –I (Theme “Latest Technologies Development in EV”)

INVITED SPEAKERS

- **Shri Monishram Venkataram**, Automotive Research Association of India, Pune
Topic: Energy consumption measurement and analysis in a battery electric vehicle
- **Shri Dalip Singh**, President, AEE Delhi Chapter, New Delhi
Topic: Optimization of Operation Cost in EV Charging
- **LT Col D K Sharma**, (Retd), Corps of EME
Topic Challenges on E-Mobility

TECHNICAL SECTION –II (Theme “Latest Technologies Development in EV”)

INVITED SPEAKERS

- **Prof Arvind Gupta, Dean & Chairman**,
Mechanical Engineering Dept.
YMCA University of Science and Technology
Topic: The Potential for brake energy regeneration in Delhi
- **Shri R K Yadav**, Additional General Manager (Commercial & Energy Efficiency)
Topic: Off Grid Solar PV Plant Based Charging of EV: Business Models and Economics

DAY-2

Technical Session: III (Theme “Control System and Storage Issues”)

INVITED SPEAKERS

- **Dr. Srikanta K Panigrahi**, Former Member, Working Group Planning Commission
Topic: Policy issues on E-Mobility
- **Shri Alekhya Datta**, Fellow, TERI
Topic: Electric Vehicles Charging Infrastructure – Policy & Regulatory Aspects & Standards for Indian Market
- **Shri Prafulla Prabhakar Pathak** Secretary General, SESI
Topic: Challenges in Electric Mobility
- **Shri Sunil Bhatnagar**, Country Head-Energy Division, Micromax Energy Limited
Topic: Optimized Battery Storage options for Electrical Vehicles
- **Prof. (Dr.) Pradeep K. Varshney**, Professor, Manav Rachna Research
Innovation & Incubation Centre, Faridabad
Topic: Electro Chemical Battery

Following Recommendations were approved:-

The following recommendations were made specifically to bring out the “cost effective short gestation implementable solutions” based upon techno economic merits to enable the use of Road based Electric Vehicles :-

1. Produce electric vehicles indigenously using more than 50% of indigenous material.
2. The on-road diesel passenger buses; to be converted by Hybrid Electric Power Propulsion system by 2030. The use of indigenously available materials including Lead acid batteries is essential. The basic technology was developed by BHEL and IIT Delhi 15 years ago. A video was shown . The conversion can be undertaken by workshops of State Transport Corporation and Dealers.
3. An operational Model is to be made by Government Engineering Institutes. Faculty members present in the seminar have shown interest to develop the operational model using an old diesel bus in use.
4. The propulsion system for peddle cycle rickshaws and battery rickshaws are currently imported from China. Technical support shall be provided to technical Institutes for development of indigenous material.
5. Battery Electric Propulsion systems for cars should be indigenously designed and produced using Li-ion Batteries.
6. Hybrid of Solar power and local network can be established at parking places of public and commercial establishment for charging car batteries.
7. Ministry of Road Transport & Highways, Govt of India shall be requested to inform all State transport authorities to ensure that all Diesel and CNG buses are converted to Battery-Electric buses by 2030.
8. Due consideration to be given to dispose of Engine and its auxiliaries.