



Conference on

E-MOBILITY AND CHARGING INFRASTRUCTURE

Issues & Opportunities for Automotive, Power and Storage Industries

December 11-12, 2017, Le Meridien, New Delhi

Organisers:

POWERLINE

Indian
Infrastructure

RenewableWatch

Co-sponsors so far:



E-MOBILITY AND CHARGING INFRASTRUCTURE

Mission

- After announcing massive renewable energy targets to meet its climate goals, the government has set yet another ambitious target – to move to all electric cars by 2030. As per the government plans, the National Mission on Electric Mobility aims to achieve the sale of 6-7 million hybrid and electric vehicles (EVs) year on year from 2020 onwards.
- On the back of such ambitious targets, the auto industry is gearing up to draw up plans for electrification. Players are strengthening their existing portfolios with more launches, investing in R&D and diversifying through tie-ups with component manufacturers.
- For the power sector too, the government's EV push provides a number of opportunities. For discoms, EVs are expected to open up additional areas of revenue generation. Power demand from industrial consumers has recorded marginal increases in recent years and EVs would allow discoms to tap into new consumer segments. For gencos, which are struggling with low power offtake, EVs would drive up power demand and allow them to improve capacity utilisation.
- It is also expected that the EV programme will complement India's renewable energy growth plans as EVs can be leveraged to balance the grid. With a growth in volumes and technology advances in EV batteries, storage costs are expected to come down further. Also, vehicle-to-grid technologies would help EV owners to feed energy back into the grid and help energy providers meet demand during peak periods.
- However, to make the EV plan viable, one of the crucial components of the EV ecosystem would be charging infrastructure. Utilities would need to significantly invest in the development of publicly available, fast-charging stations to support the massive EV growth.
- At the same time, the EV ecosystem would need smart charging solutions that provide network management, dynamic billing, energy savings, etc. All this would translate into a huge opportunity for equipment and technology providers.
- However, as the EV market expands and more players enter the segment, greater clarity would be needed on certain technical and regulatory aspects, such as interoperability of charging stations, tariffs for EVs and stations, standards for charging station communications, payment settlement options, business models for charging (battery leasing or swapping) and pass-through of investment costs.
- Globally, China, the US and Japan have been early-adopter markets for EVs, supported by government initiatives, funding, technology, etc. As India takes the plunge, it can draw valuable lessons from these markets.
- The mission of this conference is to examine the opportunities, issues and challenges for EV industry stakeholders. The conference will focus on the electricity needs and requirements of EVs in the context of the projected segment growth, discuss the plans and requirements of EV manufacturers, power producers, utilities and other key stakeholders, examine the charging and other infrastructure requirements, and highlight the EV mobility solutions that are best suited for the Indian market, among other things. The conference will showcase global case studies as well as noteworthy solutions and technologies. It will also provide a platform for the industry to share experiences and exchange views and opinions.

Target Audience

- The conference is targeted at top and middle-level managers from:

- Power producers	Oil and gas companies	Testing, R&D and educational institutions
- Transmission and distribution companies	Automotive component manufacturers	Equipment manufacturers
- Government and regulatory agencies	Battery manufacturers	Technology providers
- Renewable energy developers	Contractors	Fleet managers
- EV manufacturers	Engineering consultants	Financial institutions
- Automobile manufacturers	Transport planning consultants	Investment firms, etc.

AGENDA/STRUCTURE

EV TRENDS AND OUTLOOK

- ❖ What is the projected EV market size in India and globally?
- ❖ What will be the share of different transport solutions (public transit, four-wheelers, three-wheelers, etc.) in the projected EV mix?
- ❖ What are the major barriers in EV deployment and scaling-up?

GOVERNMENT VISION

- ❖ What is the government's vision for electric mobility?
- ❖ What are the plans and proposals under the National Mission on Electric Mobility and the FAME (Faster Adoption and Manufacturing of [Hybrid &] Electric Vehicles in India) scheme?
- ❖ What are the investments and plans proposed for charging infrastructure?
- ❖ What are the plans with regard to tariffs for EVs and charging stations?

ELECTRICITY REQUIREMENTS AND IMPACT ON THE POWER SECTOR

- ❖ What would be the impact of the growth in EVs on the power sector?
- ❖ What will be the projected power demand of EVs?
- ❖ What are the synergies between EVs and renewable energy?
- ❖ What will be the impact of EV growth on the grid and load profile? What are the issues and challenges?

POWER INDUSTRY PERSPECTIVE

- ❖ What are the implications of India's e-mobility plans for the power sector?
- ❖ What are the opportunities and future plans for the industry in the EV market?
- ❖ What are the key issues and concerns?

FOCUS ON CHARGING INFRASTRUCTURE

- ❖ What would be the charging infrastructure required to align with the country's EV scaling-up plan?
- ❖ What are the interventions needed to support requirements such as fast-charging stations and shared-charging infrastructure?
- ❖ What are the business models for EV charging stations (battery rentals, battery swapping points, etc.) that are most suited for Indian needs?
- ❖ What are the standards required for charging infrastructure?

FOCUS ON BATTERY TECHNOLOGIES AND ENERGY STORAGE

- ❖ What are the various battery technology options for EVs? What are their costs and performance?
- ❖ What are the technologies most suited for India's EV plans? What are some of the recent innovations?
- ❖ What are the key issues and concerns? What are the challenges related to battery recycling and disposal?

EV MANUFACTURERS' PERSPECTIVE

- ❖ What is the perspective of EV manufacturers on the EV market?
- ❖ What are their expectations regarding charging infrastructure?
- ❖ What is the range of EVs available in India? What are the plans for expansion?
- ❖ What are the key issues and concerns?

IMPLICATIONS FOR DISCOMS

- ❖ What would be the impact of EVs on the distribution business from the demand side and in terms of revenues?
- ❖ What would be the impact on voltage profiles?
- ❖ What are the initiatives and plans of discoms for setting up EV charging infrastructure?
- ❖ What are the key issues and concerns?

REGULATORY REQUIREMENTS

- ❖ What have been the key regulatory steps taken to facilitate the deployment of EVs and charging stations?
- ❖ What are the considerations in designing the tariff framework for EVs/charging stations?
- ❖ What are the regulatory standards and protocol requirements for charging infrastructure?

IMPLICATIONS FOR GRID OPERATOR AND TRANSCO

- ❖ What are the implications of EV penetration on grid reliability and stability?
- ❖ What would be the role of EVs in providing ancillary grid services?
- ❖ What are the plans of utilities with regard to upgrading and enhancing the grid?
- ❖ What are the key issues and concerns?

ROLE IN RENEWABLE ENERGY INTEGRATION

- ❖ What would be the role of EVs in supporting the government's renewable energy targets?
- ❖ What are the advantages of EVs from the point of view of absorbing surplus grid energy and variable renewable energy?
- ❖ What would be the impact of EVs on the storage requirements for renewables?

OPPORTUNITIES FOR EQUIPMENT AND TECHNOLOGY PROVIDERS

- ❖ What are the opportunities for power sector equipment manufacturers and technology providers in the EV supply chain?
- ❖ What are the proposed plans and offerings of the equipment industry?
- ❖ What are the technical and non-technical barriers?

GLOBAL EXPERIENCE

- ❖ What is the size of the global EV market? What are the projections?
- ❖ What has been the experience in key markets globally with regard to charging infrastructure development?
- ❖ What have been the fiscal incentives and policy support extended in major markets? What are the takeaways for India?

Participants in related conferences

Some of the companies that have participated in our power and transport-related events include ABB, ACME, Adani Power, AES, Amara Raja, Applied Solar, Ashok Leyland, BHEL, BPCL, BSES Rajdhani Power, Bureau of Energy Efficiency, Central Electricity Authority, CESC, CG Power, Chloride Power Systems, CLP, Coslight, Customized Energy Solutions, Energy Efficiency Services Limited, ESSAR POWER, Exide, GIZ, Hero Future Energies, HPCL, Hyundai, IDFC, IL&FS Renewable Energy, India Power, IOCL, JSW Energy, Larsen & Toubro, Mahindra & Mahindra, Ministry of Power, Niti Aayog, NTPC, Okaya Batteries, ONGC, PFC, Power Grid, PTC Financial, PwC, Reliance Energy, Reliance Infrastructure, Sterlite, Su-Kam, Suzlon, Tata Motors, Tata Power, Tata Projects, etc.

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Two delegates	37,950	6,831	44,781	689
Three delegates	53,400	9,612	63,012	969
Four delegates	68,850	12,393	81,243	1,250

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Organisers

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