

# **Roundtable Conference-I Accelerating Electric Vehicle Adoption in Rajasthan**



**Friday, October 01, 2021 | Time- 03:00 to 04:30 PM**

CUTS organised a Roundtable Conference entitled, ‘Accelerating Electric Vehicle Adoption in Rajasthan’ virtually on October 01, 2021. The objective of this conference was to bring together diverse stakeholders in the EV supply ecosystem in Rajasthan from the government, industry, and academia on a common platform. The discussion aimed to develop a holistic picture of the supply-side challenges for different categories of stakeholders in the EV Ecosystem of the state and explore potential policy interventions for tackling these challenges.

## **Participants**

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1. Rakesh Chopra, Managing Director, Rajasthan Electronics and Instruments Limited
2. Rukmani Riar Sihag, Executive Director, Rajasthan State Industrial Development and Investment Corporation Ltd
3. S P Gupta, Chief Engineer, Jaipur Vidyut Vitran Nigam Limited
4. Rupesh K. Chawla, Deputy General Manager, Rajasthan Electronics and Instruments Limited
5. BC Datta, Vice President- Corporate Affairs, Ola Electric
6. Arun Kumar Verma, Assistant Professor, EE Department, Malaviya National Institute of Technology, Jaipur
7. Ashish Malik, Assistant Professor, Manipal University, Jaipur
8. Himanshu Saini, Manager, Magnitude Motors
9. Puneet Jain, Founder, Natural Battery Tech
10. Pushpendra Vishal Kaushal, Business Operations Lead, Statiq
11. Shahab Ahmad, Assistant Professor, Indian Institute of Technology Jodhpur
12. Soham Kulkarni, Manufacturing and Quality Engineer, BattRE
13. Divyesh Kumar Sharma, Director, CUTS International (Moderator)
14. Trinayani Sen, Senior Research Associate, CUTS International
15. Kaviarasu Rajendiran, Senior Research Associate, CUTS International
16. Ruchi Singhal, Research Associate, CUTS International

## **Key Discussion Points**

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### **Divyesh Kumar Sharma**

- With this Roundtable, CUTS is making an effort to discuss the plan to uptake EVs in the state. The conference aims to bring together diverse stakeholders present in the EV supply ecosystem in Rajasthan and discuss strengths, weaknesses, opportunities and threats for each player.
- The project is focussed on the five non-attainment cities in Rajasthan, i.e., Jodhpur, Jaipur, Kota, Udaipur and Alwar, as notified by the Central Pollution Control Board under the National Climate Action Plan.

### **Rakesh Chopra**

- India is actively taking part in the EV30@30 campaign by setting the objective to reach a 30 percent sales share for EVs by 2030. As per Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME) data, six percent of the total EVs in India have been sold in Rajasthan state.
- The major roadblock in the penetration of EVs in the state is insufficient charging stations.
- Rajasthan Electronics & Instruments Ltd. (REIL) was given responsibility by the Department of Heavy Industries to set 200 charging stations at Delhi, Jaipur, and Chandigarh under the FAME 1 scheme. 45 AC001 chargers and 5 DC001 chargers have been installed in Jaipur city. Apart from these, 60 DC001 chargers have been installed in Rajasthan at Jaipur-Delhi and Jaipur-Agra National Highways retail outlets.
- Total 191 charging stations have been sanctioned in Rajasthan in Kota, Ajmer, Jaipur, Udaipur and Jodhpur. Out of these, locations for 60 stations have been received.
- REIL has taken innovative initiatives for charging network development by integrating rooftop solar with EV charging stations. 25 such chargers have already been installed across India. The proposal has been submitted to install charging stations at highways across India.
- The Government of Rajasthan has offered government land at 50 percent of the District Level Committee (DLC) rate for charging stations for the first 500 solar EV charging stations to promote EVs. Also, the government has provided 100 percent exemption of transmission and wheeling charges for 10 years of electricity, exemption of 100 percent electricity duty exemption for seven years, reimbursement of SGST amount for all EVs, subsidies for e-2Ws and e-3Ws based on their battery capacity.

### **Rukmani Riar Sihag**

- The EV policy of Rajasthan will be out soon, which will encourage entrepreneurs who are looking to invest in the EV sector in the state. The policy will include incentives on the purchase price of EVs and waiver of permit fees, one-time tax, and green tax. The policy will also encourage the purchase of EVs in government departments for official vehicles, urban transport vehicles, and inter-state buses. There will be a provision for reserving the parking spaces for EVs and incentives for EVs in toll taxes.

- Under this, the Department of Industries is specifically emphasising it in two parts. Firstly, by providing a conducive environment for encouraging the manufacturing of EVs in the state. Secondly, EVs are also a thrust sector in the automobile and auto-components sectors in the state. In addition to the Rajasthan Investment Promotion Scheme 2019, the policy will give thrust sector benefits for EVs and facilitate charging stations and swapping infrastructure in RIICO Industrial area.
- There are around 100 players in the automobile and auto-component in the NCR region of Rajasthan, availing benefits from the Central and state government. New companies are coming into this region, manufacturing brakes and even wiring harness for the auto sector.
- RIICO has a Japanese SEZ, under which most of the companies belong to the automobile sector. Okinawa is an EV company having its presence in Bhiwadi, and they are now planning to expand their business. The existing automobile industry ecosystem sets a strong base in Rajasthan for the EV industry. Electronics manufacturing clusters in the Bhiwadi region, Karoli, and Salarpur supplement the EV sector. There is a technology centre of the Ministry of MSME of India in Bhiwadi. In addition, there is a network of educational institutes in states that makes the workforce conducive to the sector's growth.
- The Delhi–Mumbai Industrial Corridor (DMIC) Project connects India's northern and western market, and Rajasthan is benefitting significantly as 39 percent of the corridor passes through the state. 8 out of the 44 identified economic corridor passes through the state. So, Rajasthan enjoys easy access in terms of logistics.
- Rajasthan has competitive land pricing with other NCR region states. 2800 plots under RIICO have been sold this year despite COVID. RIICO is planning to expand the industrial area across the length and breadth of Rajasthan.
- Under the EV policy of Rajasthan, EV cluster zones will be formed in the state where companies can set up their enterprises and get the advantage of sectoral growth. In terms of ease of doing business, there is a single-window clearance system. In EV manufacturing, there will be a five percent extra interest subsidy in a term loan, taken by the enterprise from the financial institutions or state institution, or by banks recognised by the Reserve Bank of India apart from subsidies already given in the Rajasthan Investment Promotion Scheme (RIPS). The subsidy will be given for investing in plant and machinery for five years of maximum of one crore per year. Capital subsidy equivalent to 25 percent of the investment made on plant and machinery, subject to a maximum of 50 lakhs of the cap, will be provided over the RIPS-2019.
- Under MSME Act 2019, all MSMEs set up in Rajasthan are exempted from any clearance from any department for three years from their setup. Also, the *Mukhiya Mantri Laghu Udyog Protsahan Yojana* provides loans at a reasonable interest rate. RIICO has a very transparent land allotment mechanism where land is allotted by e-auction or e-bidding. Everybody is assured that they will get their land at a competitive bidding price.

### **S P Gupta**

- There is no problem regarding the availability and continuity of power supply in the state.
- The state has an LT connection limited of up to 50 KVA, and beyond this limit, the HT tariff applies to EV charging stations. The department is ready to coordinate with the concerned stakeholders and make rules and guidelines accordingly to strengthen the system as per the state's need to charge infrastructure.

- Concessional packages have been issued in favour of EV charging stations to promote EVs. For LT connection, the charges are Rs. 6 per unit plus fixed charges of Rs. 40 per hp per month, and for HT connection, the charges are Rs. 6 per unit plus fixed charges of Rs. 130 per KVA per month. Beyond this, there is a ‘time of day (ToD)’ rebate of 15 percent on power charges for recharging EVs at night from 11:00 pm to 6:00 am.
- The DISCOM has maintained separate priority for charging station connections to take the electrical connections for charging stations.
- Challenges related to electricity connections and demand charges would require necessary regulatory approvals. Discom is willing to support the industry stakeholders in their applications to Rajasthan Electricity Regulatory Commission (RERC) to ease the regulatory processes.

### **Soham Kulkarni**

- As per the Rajasthan EV subsidy, only the vehicles with a battery capacity of more than 5 kWh are eligible to get the subsidy up to Rs.10, 000 in e-2W. Only a few OEMs are manufacturing EVs with high capacity, which is a dissuading factor for the rest. Higher subsidies are required in the state, like in Delhi and Gujarat to consider the whole consumer market.
- Gujarat is promoting first-time vehicle users to purchase lithium battery e-2 wheelers by giving a subsidy of Rs. 12000 for students from Class 9. EV policy of Rajasthan could also have such interventions.
- BattRE (a tech-driven EV startup) also produces affordable charging stations powered by REVOS. The company has the capability and capacity to roll out 5000 charging stations in three to four months. The capital cost of over Rs. 1.2 crore is involved, which is a significant challenge.
- For the organisation, the network of dealers in Gujarat and Maharashtra has worked well. However, the production unit is set in Jaipur because of its proximity to the auto hub in Neemrana, Gurgaon and Manesar. Most of the suppliers to the company are located at these places.

### **Puneet Jain**

- Collaboration between the EVs OEM, charging solution providers and the battery pack assemblers are needed to deal with the ambiguity in the battery specifications.
- Lithium batteries have to be made safer. There should be some emergency protocols, such as installing Lithium fire extinguishers at all OEMs, dealers, and even consumers.
- The lack of EV user awareness or negligence is also the primary reason for the safety issues in the case of EVs.
- Till now, 70 percent of battery components are being imported from China or Taiwan. There needs to be some relaxation on the import duty till infrastructure for indigenisation is not in place. Also, there is an issue of inverted duty structure for battery manufacturers that needs to be addressed.
- Financing and insurance mechanisms are required for batteries also, where one can purchase a battery individually and get asset security against any losses that may occur.

### **Shahab Ahmad**

- There are many challenges in EV adoption, from the lack of charging stations to its high upfront cost and lack of technology for EVs and their components.
- In the case of EV batteries, there is a need to develop indigenous technology by shifting from lithium to other materials available in India or our allies like Australia.
- Range anxiety is one of the major roadblocks in EV adoption; therefore, other battery chemistries should be explored to give higher capacity.

### **Pushpendra Vishal Kaushal**

- There are no tariff issues for charging station operators. The two major hurdles are getting an electricity connection and the low cap on the LT connection of 50kW.
- The DC fast chargers used for passenger vehicles start with a minimum of 30 kW and go up to 120 kW. There is no subsidy for operators in setting up charging stations and in getting an electricity connection. Now, when the LT limit is crossed, the operators have to bear the additional charges of civil work for setting transformer and other electrical infrastructure for HT connection. Therefore, this sealing on LT connection is a dissuading factor for charging solution providers and hinders the expansion of the charging station network in the state.

In Bangalore, the government has recently announced a higher cap of 150kW on LT connections. A similar amendment in Rajasthan is expected, maybe not as high as 150 kW but high enough to meet the demand of at least two charging stations at a place.

- There are regulatory issues in getting more than one charging connection at premises. Now, if low EV tariff order is there, but there is no separate connection for EVs, the operators will have to pay the rate for charging as high as the primary use of the property, and in this case, the lower tariff order for EVs is of no use.
- Another challenge in the case of charging infrastructure is that the charging points are there, but most of them are not operational. Statiq, in this case, is providing 24x7 support.

### **Rupesh K Chawla**

- REIL has been facing some issues in setting up charging infrastructure. The major hurdle is regarding the land, as it is the prime requirement of a charging station. The EV charging business is in the very initial stage and the viability of the business comes after six years. Therefore, if the government could allot land on the revenue sharing model, it would greatly support the charging station operators.
- The second barriers are regarding power connection. In addition to the issues mentioned by Statiq, there are concerns of REIL regarding the fixed charges on LT and HT connection as per the RERC tariff order. Some states have already waived these charges for EV connections. Similar interventions are expected from the EV policy of Rajasthan.
- A single-window clearance system is required for ease of getting electrical connections for EV charging.

### **Himanshu Saini**

- The dealers have been struggling to get spare parts and EVs from manufacturers on time.
- The EV technology is very different from ICE. Therefore, there should be some qualification or skill check for giving the dealership to anybody. Past incidents of users with EVs like component failure have been putting down their sales. Better models have come up in the market now. There is a need to create more awareness among people by the dealers.

### **Arun Kumar**

- There is a need to explore more indigenous options in EV component manufacturing to become ‘Atmanirbhar’.
- MINT has developed an e-cycle in their lab, and it is even used on the campus. Special focus should be on indigenisation of e-2W components as this segment dominates Indian road transport.

### **Ashish Malik**

- There are so many incubation centres in Rajasthan like Atal incubation centre, incubations of MNIT, Manipal. Students are doing innovative research and developing new concept models in EV technology. There are challenges in fabricating these models due to which innovation is not coming out of labs.

### **BC Datta**

- The manufacturers should focus on ‘Make in India and make for the world’.
- Expectations from EV policy should include more subsidies on EVs in states, such as Delhi and Gujarat, to attract consumers. In addition, there should be quick action for scrappage of petrol vehicles. The offers and subsidies for public charging stations are also needed.
- Manufacturers should also focus on training, skill development and research and development (R&D).

### **Trinayani Sen (Closing Remarks)**

- There is a need to leverage the potential of existing systems in the EV ecosystem by proper integration and interlinkage between government, industry and academia.
- Moving forward, the parallel focus should be on indigenisation and standardisation of EV components.

## **Key Takeaways**

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### **Current Initiatives of State Government for Promoting EV Adoption**

- Offering land at a concessional rate for solar-powered EV charging stations
- Subsidies for e-2Ws and e-3Ws, waiver of SGST on EVs.
- RERC order for lower tariff for EV charging and ‘time of day’ charging rebate for night charging.

## **Future Plans of State Government for Promoting EV Adoption**

- Additional benefits for EV sector under RIPS-2019
- The Electric Vehicle Policy of Rajasthan will be out soon. There are plans for cluster-based development of the e-mobility sector in the state, including provisions for auto-component manufacturing, battery manufacturing and swapping, and electronic component manufacturing and relevant skill training facilities being set up nearby.

## **Supply-side Challenges for EV Ecosystem in Rajasthan**

- Lower subsidies in Rajasthan as compared to other states like Gujarat and Delhi
- Inverted duty structure for EV components
- A low cap of 50kW on LT connection
- Regulatory hurdles in getting more than one connection at a commercial property
- Fabrication support for R&D is lacking due to which the innovative models developed by young minds are limited to the labs.

## **Learning from Other States and Expectations from the EV Policy of Rajasthan**

- Waiver of fixed charges for EV charging
- Higher subsidies for EVs, such as in Gujarat and Delhi, and subsidies for first time EV users in Gujarat
- Higher sealing on LT connection for EV charging, like in Karnataka
- Financing and insurance mechanisms should be in place for batteries, where one can purchase a battery individually and get asset security against any losses that may occur
- Allotment of land on the revenue sharing model for charging stations
- Single window clearance system for ease of getting electrical connections for EV charging

## **Prospects for R&D**

- R&D for developing more indigenous technology for EV components, which would be beneficial in the long run
- R&D to explore battery chemistries that could give higher capacity to resolve an issue of range anxiety