

Rationalizing EV Charging Infrastructure Availability for Urban/ Rural India

Overview:

We lack EV charging everywhere currently. Going forward, we anticipate that urban areas may possess EV charging stations / swapping stations (aided by the higher vehicular/ population density). However, rural expansion cannot be expected to expand on same lines. Multiple challenges exist towards this. How do we optimize the EV charging facilities for non-urban areas, without incurring a huge maintenance cost?

Current challenges:

EV adoption not going forward due to lack of charging facilities.

Lack of clarity on Govt. regulations (towards EV charging infra), and lack of effective monetization plans inhibit players to expand their footprint.

Fixed charging stations require constant maintenance (swapping stations would need people manning these stations and ensure inventory is available for next demand). Given the huge geographical size of our nation, how do we promote EV penetration (and enhance wider coverage) in a cost effective manner?

Business Requirement:

1. Current EV buyer is interested to buy. Inhibition brought by lack of expansive charging network.
2. without sound clarity on regulation, any EV charging provider would not want to expand their network.
3. Interoperability- constrains (lack of standardization) further restrains charging network. (e.g. mahindra network is available for M&M EVs only; other EV providers may follow similar stance)