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PEOPLE

Urban infrastructure to boost electric vehicles

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Urban planning is an ever-evolving discipline. Urban planners are constantly bringing innovations in city planning to make them smarter and more sustainable. Sustainability is the ultimate criterion of any successful endeavor in the modern world. Environmental conservation and greenhouse gas (GHG) emission reduction are the key characteristics of any smart city. While there are many causes of pollution and GHG emissions in cities, vehicles running on fossil fuels are perhaps the most critical reason. Reducing the dependency on fossil fuels can be the single most important step towards environmental conservation.

In the past few years, electric vehicles (EVs) have emerged as a viable alternative to fossil fuel-powered vehicles. Due to their significantly low environmental footprint, EVs are the key to building a cleaner future. Although the adoption of EVs is gradually increasing, the lack of supporting infrastructure is a big hurdle in front of the mass adoption of these vehicles. The replacement of all diesel and petrol vehicles with EVs is inevitable, therefore it is important for urban planners to plan the cities to suit the needs of electric vehicles.

Charging stations and charging points: Charging is the basic necessity of any EV. As of now, the dearth of charging stations is the single most important reason for people not being comfortable switching to EVs. Provision for EV charging should be an important component of city planning. Charging stations must be established in public places, residential & commercial hubs, and highways. Parking areas and residential complexes should be equipped with charging points. Innovations like roads on which an EV gets charged while driving are also being tested around the world. Urban planners should be open to experimenting and testing innovations in the cities.

Efficient electricity transmission and distribution: Ample charging stations are the prerequisite for the success of EVs in the urban landscape, however, a sufficient and reliable power supply is necessity of the charging stations. City administrations must ensure that sufficient power supply is provided to the charging stations. The power grids must be enabled/re-designed to bear the load of both regular electricity usage and the additional burden of thousands of EVs charging together. Charging stations can also produce some amount of power through renewable energy such as solar and wind energy.

Priority lanes and parking for EVs: Planning urban areas with priority lanes and parking spaces for EVs could provide a huge boost to EV adoption by the masses. Enhanced ease of commutation and parking could provide a significant push to the EV revolution.

Geofencing: Smart cities make use of the Internet of Things (IoT) and Geospatial technologies to provide various services to the residents and optimize resources. These technologies can also be used for geofencing city roads. Geofencing will help the authorities to keep track of the movement of the vehicles and help provide immediate assistance in case of any emergency. Geofencing is not only important for EVs but also for other vehicles.

Electricity generation through renewables: The most important purpose of EVs is to reduce the dependency on fossil fuels and create a sustainable future. However, if the electricity to run these vehicles is generated from fossil fuels or other unsustainable means, the purpose gets defeated. Therefore, it is imperative for cities to have provisions for generating electricity through renewable sources. Infrastructure for the generation of energy through renewable sources should be an integral part of modern urban planning.

Today almost all the stakeholders of the economy and society understand and acknowledge the significance of EVs for creating a sustainable future. Almost every stakeholder is doing their bit in creating an EV-friendly ecosystem. The government is formulating policies, academia is contributing through research and studies, corporates are making investments in EV facilities, the media is spreading awareness and society is shedding its inhibitions. As of now, all the stakeholders are working on individual levels. For a smooth and successful transition of the automobile sector from fossil fuels to electricity, all stakeholders need to come together and work in harmony. This will hasten the process by sharing experiences, removal of redundancies, and avoidance of repetition of efforts.

ELECTRIC VEHICLES (EVs)

FOSSIL FUEL-POWERED VEHICLES

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