

Are the Electric Vehicles an Answer to a Sustainable Future?

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Immense energy demand, energy security, climatic changes, global warming, and environmental degradation are vital issues to undertake new avenues for utilization of renewable energy along with sustainable development. The Electric Vehicle technology emphasizes on replacing traditional fossil fuel vehicles for ensuring a rapid transition towards electric mobility and building a sustainable future worldwide. The COVID-19 pandemic has indeed taught some worthy lessons to mankind and as India successfully emerged from the lock down, we had time to introspect and contemplate about our lifestyle choices. Considering shopping from a local vendor to segregating the household waste into biodegradable and non-biodegradable categories or ensuring energy efficient means for household energy consumption are some of the positive changes which we all have inculcated and are practising in our daily routines.

The uncanny visuals of empty airports and roadways during lockdown however has offered a vital takeaway- a dramatic reduction in pollution level in the urban areas and recording a prominent improvement in air quality levels. With Government of India's recent budget proposal of allotting INR1500 crores for renewable sector, businesses and people across the nation are gearing up to build on this foundation of sustainability at the heart of India's recuperation from the pandemic and undoubtedly transport remains a promising area in this discussion. The government's green initiatives of switching to Electric Vehicles (EVs) would propel reduction in carbon emissions by 37% by 2030. Vehicular pollution contributes to the largest share of urban air pollution leading to soaring carbon footprints and these environmental concerns are to be tackled by new regulations, policies, framework, and unflinching

goal of achieving a sustainable future. The government initiatives such as The National Electric Mobility Mission Plan and Government's FAME Scheme (Faster Adoption and Manufacturing of Hybrid & Electric Vehicles) are indeed laudable in addressing these issues related to electric mobility.

But are EVs the actual solution for being effective in combating pollution? How affordable it is going to be and what is in store for the end user? Will the EVs be charged with coal fired power and would that account for sustainability? Are there proper guidelines in place to ensure a smooth transition?

These are some pivotal questions which would pave the way for smooth implementation and roll out of electric vehicles with a promising solution to sustainability. There are numerous compelling reasons to justify the shift to EVs such as reduced carbon footprints, EVs as the silent vehicle compared to its diesel and petrol counterpart which would have an impact on noise pollution level, being more stable and promising less maintenance cost. In fact, the price of electricity to charge and run an electric car is 25% less than the cost of driving a petrol car for the same distance. So, electric vehicles and plug-in hybrids would have zero tailpipe emissions, making them greener, cleaner, and better for the environment to deliver a significant air quality benefit across towns and cities.

However, on the contrary "Electric vehicles would prove to be only as green as the energy sources used to charge them". So, unless renewable energy is used as a source to power the EVs the entire attempt to reduce pollution would turn futile as we will just be relocating the atmospheric pollution from the place of use of vehicles

to the place of power generation. So, it can aptly be stated that the future of EVs in India is correlated to achieving the ambitious solar power target set by the country. India has committed to enhance the power generated from clean energy by 40% by 2030 under the Paris Agreement and this would enable the nation to address oil import bills, secure energy needs and cut down environmental pollution. Further, it is possible to set of EV charging station powered by solar without disturbing the existing grid structure. This will reduce the pressure on power grid and so India needs to be more ambitious for investing in renewable energy sector with focus on solar and wind power. The International Solar Alliance established by India, is an alliance of 120 countries between the Tropics and it aims to achieve a massive growth in solar power.

In a nutshell, growth of clean energy coupled with EVs unfolds tremendous opportunity for innovation, research, and job creation. However, taking into account the pace of change, setting up proper regulations, resolving issues related to battery management, availability of lithium-ion batteries, and setting up green charging infrastructure, India seems to swiftly drift towards an electric future. To envisage on a path of a more sustainable future, making a switch to electric mobility is a judicious step we all can take today.

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