



EVCONNECT

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NEWSLETTER

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FROM THE CEO'S DESK

Dear Friends,

The 31st issue of EV Connect, our monthly electric mobility focused newsletter, sees us in conversation with Mr. Kranti Sambhav (Editor and Creative Lead, Times Drive). In this candid interview, he shares his views on the electric vehicle market in India and talks about different aspects to consider while making a transition to electric vehicles.

This issue also has a special feature on how policymakers can make EV batteries more sustainable, and as always, we present the latest global and Indian news from the sector.

Various developments are taking place in electric mobility and it is often difficult to keep up with them. We hope this curated newsletter will be beneficial to those who are seeking the latest information on electric mobility.

Please share your thoughts so that we can improve further.



Sincerely,

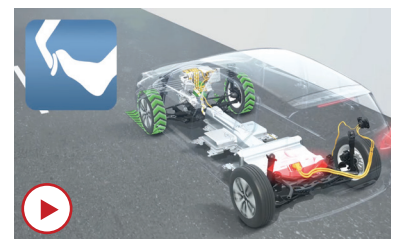
Dr. OP Agarwal
CEO, WRI India

WATCH

Presenting Power Talk – EV Connect's exclusive monthly interview with experts, policymakers and stakeholders discussing key insights. We also present one hand-picked video that showcases a global EV innovation.



Power Talk with Kranti Sambhav
Editor and Creative Lead, Times Drive



How to service your electric car
Best Electric Vehicle



POWERTALK

IN CONVERSATION WITH KRANTI SAMBHAV

Editor and Creative Lead, Times Drive

Interview by Amit Bhatt, WRI India

State governments need to be more serious about electrification. They should also come up with a cohesive EV framework and policies and must start developing charging networks in their respective states.

Range and charging are the two things customers are most concerned about. The EV ecosystem will change as more people will look at going electric — especially with two-wheelers.

Q. What are some of the big disruptions you have seen in the auto sector over the last couple of decades?

A. In the last 18 to 20 years, the mindset of customers has changed. While the value-centric approach is still there, the awareness level and receptivity have increased. Consumer's responsiveness towards technology coupled with an interest in innovative features has also augmented. One major change that has been noticed, in the last two years, is a focus on safety. The way Indian customers have started talking about safety features and crash test rating is commendable.

Q. What are the conversations around EVs?

A. The conversation is happening at three levels right now. First is, obviously the awareness due to the presence of social media. They know all about major developments and technological innovations in this sector globally. Second is, they are looking at what makes better sense budget-wise versus more than what is good for the environment. And third is the crucial role influencers and change-makers play in driving EV conversations. All these conversations are currently happening in parallel that will become a combined outcome in the next 2-3 years.

Q. How is the value-centric approach driving this transition?

A. After the first and second lockdown, consumers started calculating how much they travel and what kind of range they need. For instance, in recent months, there has been a growth in the sales of electric two-wheelers. Fluctuating fuel prices are also playing a crucial role in driving this transition.

Q. What can governments do to encourage more people to move to electric vehicles?

A. The government needs to focus on developing a holistic electric vehicle policy so that every customer can get the same benefits and subsidies across the country. Second, state governments need to be more serious about electrification. They should also come up with a cohesive EV framework and policies and must start developing charging networks in their respective states

Q. How can leading two-wheeler manufacturing companies play an important role in accelerating e-2W adoption?

A. Fly-by-night electric 2-wheelers destroyed the market a few years ago and transitioning is proving expensive. Traditional manufacturers, however, know the potential of switching to EVs, especially e-2W manufacturers, but they also know that they need to be cautious.

Q. Why has there not been a massive uptake of battery swapping facilities?

A. We are still at a very nascent stage when it comes to battery swapping. Swapping sees mixed reactions and not everyone wants to use another battery. The moment it becomes mainstream, with a uniform policy in place, swapping will see uptake.

Q. What are the common questions you hear from potential buyers of electric vehicles?

A. The range and charging are the two things customers are most concerned about. So, if the government is looking to accelerate EV adoption, they have to address the question of range and charging infrastructure as well. For example, state governments can create charging infrastructure along common routes or highways that will allay range anxiety and increase confidence among consumers.

Q. What is your outlook for electric vehicles in the next five years?

A. The EV ecosystem will change as more people will look at going electric — when it comes to e-2Ws. Firstly, market leaders (both two- and four-wheelers) need to be more aggressive and focus on manufacturing more affordable electric vehicles. Secondly, robust charging networks backed with cohesive policies are essential to facilitating the EV transition.



UPDATES FROM THE **WORLD**

ABB introduces 'Plug N Charge,' the fast and user-friendly way to recharge EVs | *Market Development*

ABB recently introduced its 'Plug N Charge technology' to simplify and streamline EV charging and payment. This enables drivers to simply pull up to the charging point, take out the connector and plug it into their EV. Payment will be automatically authorised when the vehicle is fully charged. [Read more](#)

Takeaways for India: The Government of India is continuously announcing policy measures and schemes to strengthen the e-mobility ecosystem in India. It is also working on solutions to streamline the charging experience through digital payments. Such innovative technologies will help in enhancing the e-mobility user charging experience by making it more secure and standardised.

Nissan unveils \$18 billion electric vehicle strategy | *Market Development*

Nissan Motor Co., as per its comprehensive electrification plan, will launch 23 electrified vehicles by 2030, including 15 electric vehicles. It also plans to introduce solid-state batteries in 2029. [Read more](#)

Takeaways for India: In India, big players must take the lead. Developing such unified electrification strategies will help build the vision and direction towards making India an EV hub with robust domestic production and manufacturing.

Nio taps Shell to build battery swapping stations in Europe, China | *Strategy and Initiative*

Oil giant Royal Dutch Shell and Chinese EV firm Nio have joined hands to expand charging and battery swapping stations in Europe and China. The agreement includes a network of co-branded battery swapping stations, starting with two pilot sites in China and leading to 100 charging sites in China by 2025. [Read more](#)

Takeaways for India: Battery accounts for 40-45% of the EV cost. Presently, many startups in the country are active in the battery swapping space. Adopting a partnership model where leading auto giants and battery manufacturers can join hands will help increase domestic battery production.



VinFast begins construction on EV battery manufacturing factory in Vietnam | *Market Development*

VinFast – a private automotive startup manufacturer – has started the construction of a battery manufacturing factory in the Vung Ang Economic Zone in Vietnam. The facility is backed by nearly \$173.7 million in investments. The factory will provide lithium batteries for VinFast's electric cars and buses. [Read more](#)

Takeaways for India: Electric vehicles currently make up a fraction of total sales in India. As growth picks up, the government has started offering incentives to battery manufacturers to set up domestic battery manufacturing plants that will help lower the cost of the vehicles by reducing dependency on imports.

Toyota to invest \$35 billion into battery powered EVs | *Market Development*

Toyota – the world's largest automaker – plans to invest \$35 billion to develop 30 battery-powered electric vehicles by 2030. It also aims to increase global sales of battery electric vehicles by 3.5 million units a year by 2030. The company wants to go all-electric in Europe, North America and China by 2030, and phase out internal combustion engine (ICE) vehicles by 2035. [Read more](#)

Takeaways for India: In India, the electric car market accounts for less than 1% of total passenger vehicle sales and is dominated by Tata Motors, Hyundai, MG Motor and Mahindra & Mahindra. To scale up EV adoption, more aggressive actions are needed from leading car makers so that consumers enjoy more choices while buying an e-car.



UPDATES FROM INDIA

Electric vehicle sale in Delhi six times higher than the national average | *Policy Measures*

The Transport Department, Government of NCT, Delhi recently announced that electric vehicles accounted for 9% of the total vehicle sales in Delhi during September-November, six times higher than the national average. Delhi registered sales of 9,540 electric vehicles between September and November 2021, marking a 9.2% share in total vehicle sales. [Read more](#)

British EV start-up One Moto to launch 3 scooters in India | *Market Development*

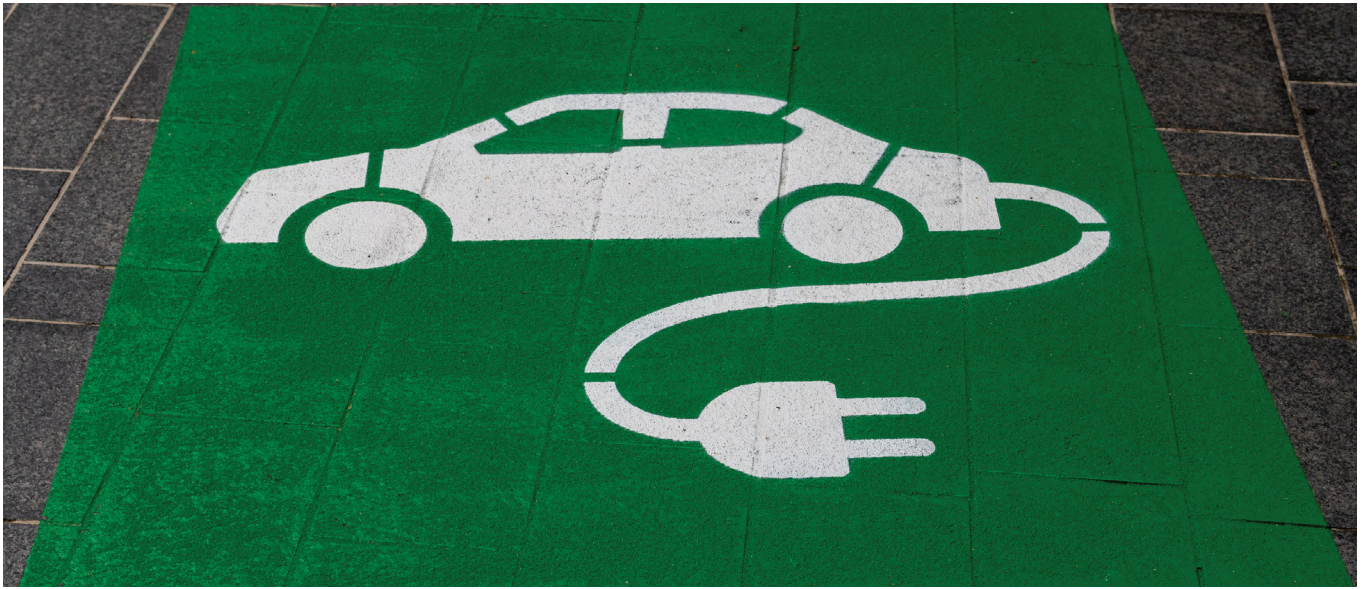
UK-based One Moto is set to launch three e-scooters in India in conjunction with Hyderabad-based startup Elysium Automotive. The e-scooter will come with its own app to monitor personal riding history and battery performance. The app will also help consumers book their servicing search for battery banks, receive predictive maintenance alerts and more. [Read more](#)

Vehicle scrappage: Tata Motors joins hands with Maharashtra | *Strategy and Initiative*

Tata Motors inked a memorandum of understanding (MoU) with the Maharashtra government to help set up a registered vehicle scrapping facility (RVSF) in the state. The scrappage centre will have a recycling capacity of up to 35,000 vehicles a year for end-of-life passengers and commercial vehicles. The state industries, energy and labour departments will support Tata Motors in facilitating the necessary approvals for setting up the facility. [Read more](#)

EV market to see investment of Rs 94,000 crore in next 5 years | *Market Development*

A recent joint report by Colliers India and Indospace states the EV market is likely to attract investments of Rs 94,000 crore over the next five years and is expected to generate business opportunities in the real estate sector. The report also estimated that India will need about 26,800 public charging spots by 2025, which require space of about 13.5 million square feet, and real estate developers will accordingly have a crucial role to play. [Read more](#)



Hyundai invests \$530m to bring electric vehicles to India | *Market Development*

Hyundai, India's second-largest carmaker, recently announced that it will be launching electric sport utility vehicles (SUVs) and sedans in India in 2022. The company plans to invest Rs 40 billion (\$530m) to launch six EVs in India by 2028 and is in talks with local suppliers to source and manufacture components in a bid to make their cars more affordable. [Read more](#)

BLOGS AND INSIGHTS

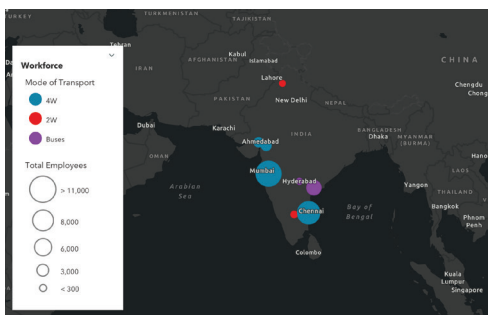


Complete Decarbonisation of 2-Wheeler Segment in India by 2030

by Dr. Parveen Kumar and Anshika Singh

Electric 2-Wheelers (e-2Ws) dominate the Indian EV market with their compelling economics in commercial usage. Presently, e-2Ws account for approximately 61% of the total EV sales. In this blog, our experts highlight how proper planning, the establishment of a robust public charging network and the provision of a better financial mechanism can further scale up the adoption of e-2Ws in India. [Read here](#)

INTERACTIVE STORYMAP



Electric vehicles are redrawing auto cluster boundaries

by Rohan Rao, Sandeep Das, Pawan Mulukutla, Madhav Pai

The influx of EV startups, and the scale of funding is disrupting traditional geographical clusters and automobile manufacturing structures alike. This could lead to a creation of other value-added services around the electric mobility sector that holds the potential to produce a string of new opportunities and societal benefits in terms of job creation, grid resilience, reduced healthcare costs and improved air quality. [Read here](#)



EV FEATURE

3 ways policymakers can make EV batteries more sustainable

by Benedikt Sobotka, Mathy Stanislaus | November 2021 | This article first appeared in weforum.org

With COP26 still fresh, world leaders are struggling to take environmental action and prevent global temperatures from rising more than 1.5 degrees. At the climate talks, the UK's Prime Minister Boris Johnson launched an international plan to deliver clean and affordable technology around the world by 2030. Over 40 world leaders have backed and signed up to the new Breakthrough Agenda, including the US, the EU, India and China, in order to coordinate green innovation. Clean technology clearly holds the key to lowering greenhouse gas (GHG) emissions and successfully delivering the renewable energy transition. Yet according to the latest research from the IEA, only two out of 46 energy technologies and sectors are “on track” with the IEA's Net Zero Emissions by 2050 Scenario. If we are to reduce our dependence on fossil fuels, we must dramatically scale and speed up the development and deployment of clean technologies.

Why are EV batteries so important?

The International Energy Agency World Energy Outlook 2021 notes that “batteries play a central part in the new energy economy” and requires 60% of the \$27 trillion in clean energy technology investment in 2050. The Global Battery Alliance (GBA), a multistakeholder initiative for establishing a sustainable battery value chain, predicts global battery demand will increase 19-fold between 2018 and 2030. This is largely driven by the electrification of transport. Electric vehicle (EV) sales rose by 40% last year to a record three million, despite overall car sales falling by 16% due to the pandemic. By 2030, experts expect the number of EVs on the road to reach a staggering 120 million. Moreover, a study conducted by the Global Battery Alliance (GBA) indicates that for every unit of solar energy capacity created there would be a need for three times the battery storage capacity.

While manufacturing the required volume of EV batteries will be a challenge in and of itself, we must also pay greater attention to ensuring they are sustainably produced. In many instances, the battery value chain is still

relatively opaque, leading to environmental and ethical concerns around potential human rights violations, child and forced labour and the end-of-life treatment of batteries. Action is already being taken by the public sector to ensure the battery value chain is scaled up sustainably. However, this work needs to be supported by policymakers across the globe in order to realise batteries' full potential in supporting the Paris Agreement. COP26 provides a perfect opportunity to address this. Here are three main areas that need to be discussed:

1. Establish a global data governance framework

A governance framework will be critical, along with responsible sourcing and circularity through verified data and digital traceability systems. To realise ambitious climate goals, policymakers – in alignment with the private sector – need to agree on harmonised principles for digital traceability, access and transparency. Authenticated data can be used to verify the GHG emissions of countries, companies and products alike, and would ensure that nations are held accountable for their GHG contributions. COP26 provides an opportunity to trigger greater progress in this area. Decision-makers need to collaborate on establishing a global framework for data access and authentication of batteries, along with safeguards for data security. This would enable us to validate and track progress towards sustainable, responsible and resource-efficient batteries. For instance, at the GBA, public and private organizations are working to create a “Battery Passport”, which will amalgamate important data about batteries and act as a quality seal for the industry, increasing transparency across the supply chain.

2. Establish global policy alignment to drive circularity

Recycling is critical to ensuring the battery market can keep up with the ever-growing demand from the EV sector, and to guarantee a sustainable battery supply. High-performance recycling of EV batteries has the potential to supply around 10% of battery materials. This has significant implications not only environmentally, but also economically, accounting for approximately \$10 billion based on current values. The used EV battery market (second life in stationary application) could surpass 200 GWh/y by 2030 and provide up to 60% of stationary power storage capacity demand globally in 2030.

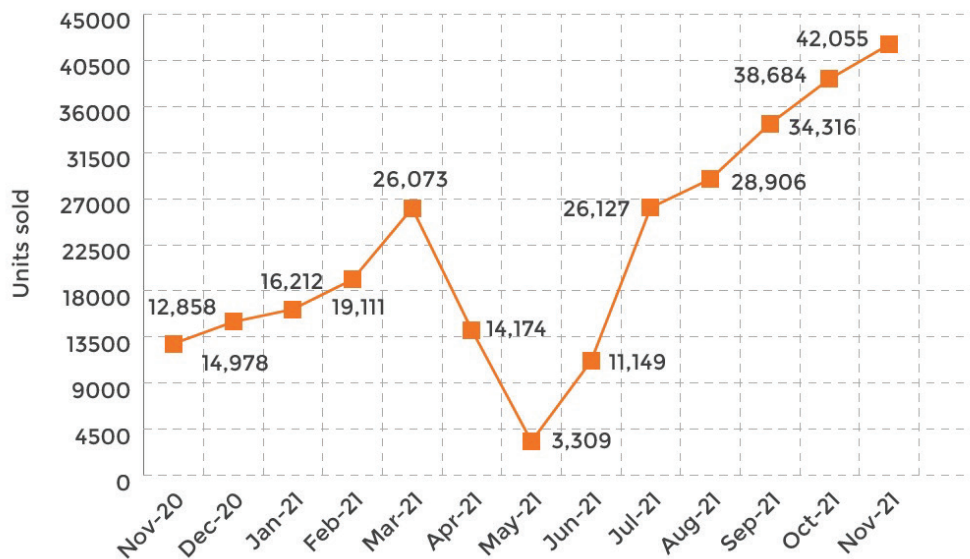
Policymakers need to use COP26 to refocus circularity on higher value retention processes. For example, battery regulations and end-of-life vehicle directives could include standardising recycling processes and establishing best practices for efficiently disassembling batteries. Introducing producer responsibility and alternative ownership models can also ensure batteries are recovered and recycled using the best technologies and expertise. This is particularly key for the lithium-ion battery industry, in which only around 5% of batteries get recycled. Separately, a trusted data governance framework can foster the scale up of second use of EV batteries. There also needs to be leadership in addressing current friction points that impede the transboundary movement of EV batteries for repurposing and recycling. Convening policymakers and the private sector can help advance key recommendations and pilots.

3. Encourage ethical and sustainable sourcing of minerals for EV batteries

The rising demand for EV batteries will be accompanied by an equally high increase in demand for the raw materials that go into producing them, including lithium, cobalt, nickel and manganese. For example, analysts at Roskill forecast demand for cobalt will rise to 270,000 tonnes by 2030, whilst lithium carbonate demand could reach two million tonnes. Managing the production of these minerals, and making sure they are sourced ethically and sustainably, is crucial for a successful green transition.

Policymakers' role in this is to acknowledge, encourage and reward compliance with best global production standards. Given the historic environmental and social impact of mining practices, there must be a real focus on rigorous environmental performance requirements and monitoring adherence to those requirements. This could involve designating battery minerals as “critical”, recognising compliance with “best-in-class” voluntary standards in supply chains and setting requirements for sustainable mining practices, re-mining and land restoration. Initiatives such as the GBA's “Battery Passport” can also act as a mechanism to hold upstream players to account and encourage sustainable and responsible sourcing across the supply chain.

Registered EV sales trend in India (Nov 2020–Nov 2021)



Source: [jmkresearch.com](https://www.jmkresearch.com)



EV Podcast

How Exponent Energy's solutions can address India's electric vehicle charging challenge

The higher upfront costs of vehicles and the lack of robust charging infrastructure are the biggest deterrents when it comes to EV uptake. This podcast highlights the need for affordable rapid charging solutions and how it can charge up India's EV landscape.

Listen to the podcast [here](#)

Sources:

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EDITORIAL

LAYOUT AND DESIGN

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