



EVCONNECT

Issue - 30 | November 2021 | *For private circulation only*

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FROM THE CEO'S DESK

Dear Friends,

The 30th issue of EV Connect, our monthly electric mobility focused newsletter, brings to you a conversation with Mr. Rajiv Tuli (General Secretary, Electric Vehicles Manufacturers Society) where he delves into the challenges faced by small manufacturers. Mr. Tuli also highlights various growth drivers, and measures the government can adopt, to accelerate the e-rickshaw segment in India.

This issue also has a special feature on the role of shared mobility in catalysing electric vehicle adoption in India, 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 and compiled 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 Rajiv Tuli
General Secretary (Electric Vehicles Manufacturers Society)



Company maps minerals from the sky for electric vehicle batteries
NBC News



POWERTALK

IN CONVERSATION WITH RAJIV TULI

General Secretary (Electric Vehicles Manufacturers Society)

Interview by Garima Agrawal, WRI India

At present, there are only 2-3 manufacturers in the domestic market. So, a lot of work and policy intervention is required from the government side to switch towards lithium-ion battery fitted e-rickshaws.

We took steps to help e-rickshaw drivers understand the financial process which led to reduced defaults. Better financing plays a crucial role in the growth of the e-rickshaw segment.

Interviewer: Can you tell us more about the roles and responsibilities of Electric Vehicles Manufacturers Society?

Mr Tuli: We are an association of 140 Micro, Small & Medium Enterprises (MSME) EV manufacturers. We interact with e-rickshaw manufacturers, the administration and policymakers to discuss problems, suggest policy interventions and help streamline small manufacturers' businesses.

Interviewer: What have been major challenges and growth drivers that you have seen over the last 7-8 years?

Mr Tuli: We faced various challenges. For instance, there was a sudden ban on the import of e-rickshaw parts from China and the government issued a policy to use only indigenous products. At that time, there was no manufacturing company in India and so, we told manufacturers about the parts and their manufacturing which led to the start of domestic manufacturing.

Another big challenge was the acceptability of the product in the market and its financing. No Non-Banking Financial Companies (NBFCs) or banks were ready to finance e-rickshaws. So, when the Mudra loan was launched, we got these vehicle segments included in the list of products. Subsequently, a few NBFCs and private finance companies came forward and started financing e-rickshaws.

Another problem was the financial literacy of e-3W owners. Drivers do not have much information about the banking and credit systems, hence a lot of loan default cases started cropping up. We took steps to help these drivers understand the process and slowly and gradually this led to reduced defaults. Better financing plays a crucial role in the growth of the e-rickshaw segment. We also need to focus on reforming policies regarding the batteries and the product.

Infrastructure is another big challenge. People who buy e-3Ws don't have the space to park and charge their vehicles. In recent years, the central and state governments have taken many steps and we hope that in the near future the problems related to charging and parking will be resolved.

***Interviewer:* Approximately 80% of e-rickshaws operate on lead-acid battery and the government wants them to be transitioned to the lithium-ion battery. In your opinion, what are the possible steps?**

Mr Tuli: We have just started pushing for lithium-ion batteries in the last 2-3 years. Setting up a plant for the manufacturing of lithium-ion batteries requires huge investments and logistics. Also, a manufacturer needs to import lithium-ion cells, where China has major control. At present, there are only 2-3 manufacturers in the domestic market. So, a lot of work and policy intervention is required from the government side to switch towards lithium-ion battery fitted e-rickshaws. Many state governments have now started giving subsidies to push the use of these batteries. Once the supply improves, the usage of these batteries will automatically improve.

***Interviewer:* How can an organisation like WRI India help in the growth of the EV industry in India?**

Mr Tuli: WRI India is putting a lot of effort into streamlining the functioning of the Indian EV industry. You could focus on some more ground research and help manufacturers' voices reach the governments so that they can formulate and implement suitable policies.



UPDATES FROM THE WORLD

Electric semi-trailers are next step in greening China's roads | *Market Development*

As the Chinese government works toward carbon neutrality, making trucks and buses greener is an important step. Recently, China's biggest carmaker SAIC, the third-largest automaker FAW Group and the nation's biggest private carmaker Zhejiang Geely unveiled plans in the alternative-energy truck segment. [Read more](#)

Takeaways for India: In India, Internal combustion engine (ICE) vehicles (especially trucks), mostly powered by diesel, dominate road-based freight. Furthermore, trucks in India also have a poor fuel economy. As the government works towards transport decarbonisation, electrification of trucks and heavy-duty transport will be critical to reduce emissions and improve air quality.

Japan's Subaru unveils first all-electric car, developed with Toyota | *Market Development*

Japan's Subaru Corp recently unveiled its first all-electric vehicle — the Solterra — which is the result of a two-year joint development project with its biggest shareholder, Toyota Motor Corp. The Solterra would be built by Toyota in Japan and Subaru may move production to its main market, the United States, when it reaches sufficient sales volumes. [Read more](#)

Takeaways for India: The EV market in India is still in its nascent stage. As the government is working towards scaling up EV adoption, a coordinated effort between small and top-tier automakers can create bigger opportunities in terms of both quality as well as quantity.

Amplify Power unveils shipping containers for cheaper, portable EV charging | *Market Development*

Electric vehicle charging services provider — Amplify Power — unveiled a semi-permanent, portable charging solution called Inrush that uses repurposed shipping containers to hold multiple EV charging stations. Disney's Toy Story parking lot in Anaheim, California, is the first Inrush customer. The project will consist of two shipping containers, each housing five charging stations, allowing 10 electric buses to charge at once. [Read more](#)

Takeaways for India: In India, the lack of robust charging infrastructure, including the high cost of setting up charging stations, is one of the biggest barriers to EV adoption. Such innovative models are not only less expensive than conventional EV charging solutions but are also easier to set up. Hence, these solutions are ideal for operators who are unable to install permanent infrastructure on a site either due to land lease issues or other reasons.



Rock salt, potash battery to power electric vehicles | *Strategy and Initiative*

With an aim to pave the way for electric vehicle battery production, the Ministry of Industry (Thailand) and Khon Kaen University have jointly developed a lithium-ion battery made partly of potash and rock salt. Thailand has a significant amount of potash and rock salt and thus the government is promoting the use of these materials to develop domestic EV batteries. [Read more](#)

Takeaways for India: Batteries account for 40% of the cost of an EV and hence become one of the major reasons for its high upfront cost. India has a great opportunity for the production of EV batteries domestically because it has access to a lot of raw materials. By bringing in a policy on battery materials policy, the government can push for local production of batteries that can in turn bring down upfront costs.

UK firm launches 'Zipcharge Go' portable EV charger for urban drivers | *Market Development*

A UK tech company has launched a portable electric car charger for motorists without access to a driveway or private charging points. The portable charger — ZipCharge Go — was revealed during the COP26 climate summit. It offers up 20 miles of range after being plugged into the car for 30 minutes. [Read more](#)

Takeaways for India: One of the key barriers to wider uptake of an EV is enroute charging anxiety and the inability to charge near or at home. Such innovative technologies can further India's EV market and help the country to reach a low carbon future.



UPDATES FROM INDIA

Now, electric vehicle users can install home charging station at Rs 2.5k in Delhi | *Policy Measures*

Good news for Delhi EV users! The Delhi Government recently announced a payment of just Rs 2,500 to install private chargers for light electric vehicles, including two and three-wheelers at malls, apartments, hospitals and other places in the city. Earlier the cost of installing a charger was set at Rs 8,500, but with a subsidy of Rs 6,000 (70% discount) in place, applicants will now only have to pay Rs 2,500. [Read more](#)

India launches E-Amrit web portal for all EV related information | *Strategy and Initiative*

India launched 'E-Amrit' during the COP26 Summit in Glasgow. E-Amrit is a one-stop destination for all information on electric vehicles—busting myths around the adoption of EVs, their purchase, investment opportunities, policies, subsidies, etc. The portal has been developed and hosted by NITI Aayog under a collaborative knowledge exchange programme with the UK government and as part of the UK–India Joint Roadmap 2030, signed by the two countries.

[Read more](#)

Delhi: Single-window facility launched to install EV chargers | *Strategy and Initiative*

The Delhi Government recently launched a single-window facility to make the process of installing private EV charging points at commercial, institutional and residential locations a hassle-free experience. The Delhi Government said that the power discoms had empanelled 12 vendors to facilitate the installation of slow and moderate chargers and the installation and operationalisation will be completed within seven working days of submitting a request.

[Read more](#)

Cost of electric vehicles will drop, will be at par with petrol in 2 years | *Strategy and Initiative*

Minister for Road Transport & Highways, Mr. Nitin Gadkari, in a recently organised webinar by The Sustainability Foundation, Denmark said that the cost of EVs in India will drop to the level of petrol vehicles in the next two years. He further said that a potential pilot project is also being planned to install an electric highway system in the Delhi-Mumbai Expressway which can be electrified using solar power. [Read more](#)



Kerala State Union Minister pushes startups to develop electric vehicles | *Strategy and Initiative*

With an aim to push EV development in Kerala, Union Minister of State, Rajeev Chandrasekhar, recently said that more startups in the state should focus on developing electric vehicles as part of the Kerala Startup Mission (KSUM). He further emphasised that electric mobility is at a nascent stage in India and startups should use this opportunity to develop vehicles to drive the transition from fossil fuel-powered vehicles to cleaner mobility. [Read more](#)

CESL, Marriott sign MoU for EV charging stations across 100 locations in one year | *Policy Measures*

Convergence Energy Services Limited (CESL), a wholly-owned subsidiary of Energy Efficiency Services Limited (EESL), signed a Memorandum of Understanding (MoU) with Marriott International to construct and operate EV charging infrastructure in the hotels managed, licensed and franchised by Marriott International and its affiliates in India. Under this partnership, CESL will be installing EV charging units across 37 Marriott International hotels over the next two months that will gradually expand to cover 100 hotels within one year. [Read more](#)

WEBINAR



India as an EV Global Gamechanger

India is among a handful of countries that have signed up to the global EV30@30 campaign, to reach a 30% sales share for electric vehicles by 2030. The webinar brings together policymakers, industry representatives, technical and financing organizations to deliberate on opportunities, roadblocks, and strategies to enable smoother transition in the EV sector. Watch the recording [here](#)

BLOGS AND INSIGHTS



More than half of all e-buses in India found on Maharashtra roads

By Aparna Vijaykumar, Yash Singh and Sanjay Bhatia

Of the 6,265 electric buses already sanctioned under FAME II, more than 900 are on the road, saving at least 20.4 million litres of fossil fuel from being burnt. Our calculations show that this prevented 0.3 million tonnes of carbon dioxide (CO₂) from being released into the atmosphere. In this blog, our experts deep-dive on investments from both central and state governments and the role of e-buses in mitigating the impacts of climate change. Read [here](#)

IN THE NEWS



DDC Delhi and WRI India jointly release the 'Workplace EV Charging Guidebook for Corporates in Delhi'

The Dialogue and Development Commission of Delhi (DDC) and WRI India jointly released the 'Workplace Electric Vehicle Charging Guidebook for Corporates in Delhi' recently. With this launch, Delhi Government has now become the first state government in the country to come up with a step-by-step guide to promote workplace charging of EVs. The step-by-step guidebook details the processes involved for effective decision-making to install workplace charging and is aimed at making corporates an integral part of the EV movement. Read [here](#)



EV FEATURE

How shared mobility can catalyse 100 % EV adoption in India

by By Anand Ayyadurai | November 2021 | This article first appeared in yourstory.com

India is one of the fastest-growing economies in the world. Currently, there are about 300 million petrol and diesel vehicles on our roads, with an estimated annual addition of 30 million each year. If this growth rate persists or escalates (which it would), then our nation will witness the exacerbation of two major challenges it is already grappling with—congestion and the inflating carbon footprint. We are home to the four most congested cities in the world and we rank third in the list of countries with the largest carbon footprint.

Having foreseen these grave environmental perils, the Indian government is on a mission to grow responsibly. In 2015, we signed the Paris Agreement alongside 195 other countries to tackle climate change. As the soon-to-be most populous country in the world, this is a critical opportunity for us to redefine our mobility system and explore sustainable and convenient mediums of public and private transportation that deliver last-mile connectivity. A sure-fire way to achieve this feat is by halting the manufacture of internal combustion engine (ICE) vehicles and electrifying our new fleets.

With the central and state governments fervently endorsing this shift, electric vehicles (EVs) have garnered popularity over the last five years. In April 2019, the three-year FAME II scheme was introduced to give EV original equipment manufacturers (OEMs) the right push in terms of buyer subsidies, to be at par with their ICE counterparts. At present, 13 states in India have either notified or approved dedicated EV policies. Though promising, India's nascent EV movement requires a steadfast enabler to unleash its true potential. The 100 percent transition that India is aiming for in another few decades will be possible only if EVs are made accessible to the 1.36 billion people in the country at affordable rates. The Indian shared mobility market is predicted to grow at a CAGR of 56.8 percent by 2025 and this growth can serve as the catalyst for electrifying our fleets.

Reliable range

The latest electric cars in the Indian market offer a range between 306-484 km and e-scooters promise about 80-236 km range per charge, which is more than sufficient for an average daily commuter.

Cost-effectiveness

In fact, once a user gets accustomed to an EV, they will realise that the cost per kilometre is 3-10 and 4-5 times lower for two-wheelers and four-wheelers respectively, compared to fuel-driven vehicles, given that the petrol cost is ₹100 and electricity rate is ₹10 per unit.

Cutting-edge charging infrastructure

Emerging technologies like battery swapping can not only enhance the user experience but also extend a larger playground for shared e-mobility players to penetrate the market. Battery swapping stations may soon be as prominent as petrol stations; until then, shared mobility players will have the upper hand to experiment with this technology and augment their services.

Smart utilisation

Shared e-mobility will not only ensure higher utilisation of assets at lower costs but also smarter utilisation. It could serve as the answer to our roads being overrun by delivery personnel. Ever since the pandemic, our cities have experienced an ecommerce boom. A major chunk of the traffic comprises delivery boys because around 50 percent of our current user base is made up of gig workers. Shifting to e-scooters will help reduce their carbon footprint (they travel close to 70-100 km a day) and ensure that fuel prices don't eat up half of their income. Through shared mobility, commuters can unlock a user-friendly platform to experiment with EVs and experience their advantages first-hand.

As more ride-hailing and vehicle rental players embrace e-mobility, consumers will have the power to choose from multiple shared and sustainable commute options, thus drastically reducing the dependency on personal vehicles.

The diminishing concept of ownership

As per the ICE 360° survey conducted in 2016, majority of households still own a bicycle, half households own a two-wheeler, and only 11 percent own a car. In 2018, car ownership was limited to 30 vehicles for every thousand Indians, a proportion too small compared to our population. In 2019, two-wheelers made up for about 75 percent of the total fleet operational in India. But the customer psyche and preferences are forever evolving.

As of September 2021, many major two-wheeler and four-wheeler brands in India have witnessed a dip in their sales. This decline could be attributed to multiple variables, including the pandemic, inflation, rocketing fuel prices, and climate change. Over the last five years, we have witnessed a steady shift from two-wheeler ownership to usership. The modern commuter is not hung up on the idea of owning a personal vehicle. Instead of getting tangled with EMIs and maintenance charges, they prefer to hail or rent vehicles on a need basis.

That's also why Bangalore is not just one of the most congested cities in the world but also the world leader in scooter-sharing, closely followed by Hyderabad. As many vehicle-rental players are moving towards the subscription model, commuters now have the option to rent vehicles for longer periods without having to share them with anyone. Imagine the impact these shared scooter fleets alone can make if they go electric!

Educational and corporate giants can also adopt the shared micromobility hub model to navigate within their vast campuses. If executed efficiently, these local shared mobility fleets (be it two-wheelers or three-wheelers) can connect people to metro and bus stations, magnifying the potential to dissolve vehicle ownership for good.

Enhanced experience via connectivity

Shared e-mobility can truly disrupt only with the help of digitisation, which is where connectivity and automation come in. Today, the world ticks to the rhythm of the Internet of Things (IoT). With the right technology, every vehicle on the road can become part of real-time information networks that can help commuters and city planners to enhance rider

experience and prevent accidents. IoT integration can put forward endless possibilities to make mobility safe and seamless through real-time GPS location tracking, vehicle vitals detection, and risk profile analysis. With shared mobility players functioning as early adopters, daily commuters will get a chance to familiarise themselves with such new technologies. Though more consumers are considering buying an EV, they are still on the fence when it comes to actually betting their money on it. This is exactly where shared e-mobility, especially vehicle rentals, can help bridge the gap.

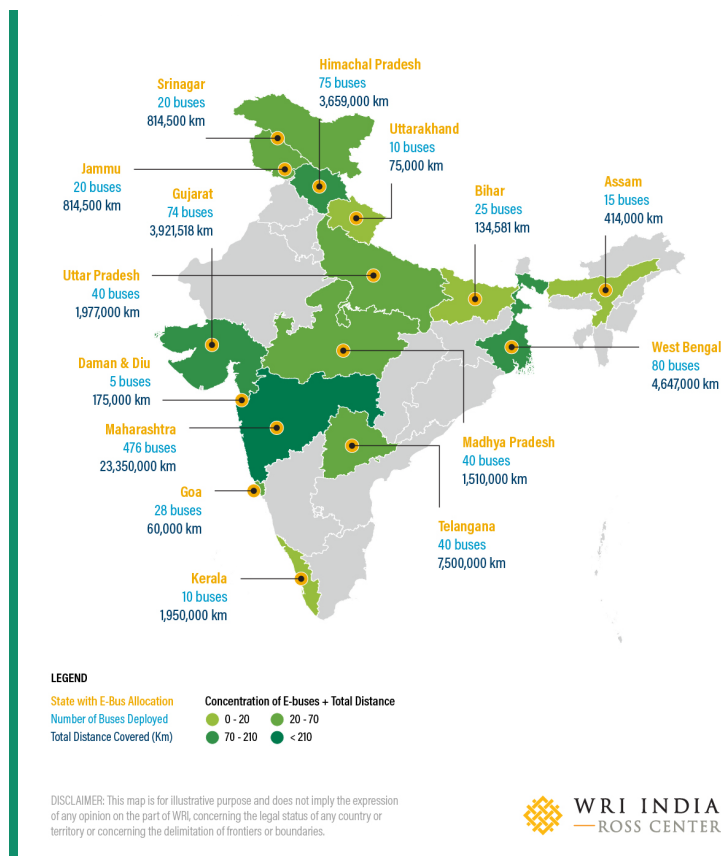
It may seem distant, but e-mobility is definitely the future we are heading towards. How we get there and how fast we get there primarily depend on the government, OEMs, and shared mobility players slotting in and taking the lead to plan, promote, and execute the way forward. India's 2030 vision as identified by NITI Aayog aims for 80 percent two-wheelers, 30 percent private cars and 70 percent commercial vehicles purchased to be electric. But according to the Global EV Outlook 2021 predictions, EV sales across all modes in India will just be 30 percent within the next decade. As vital it is for us to aim high, it is equally important that we keep our targets time-bound and attainable.

With the right moves, there is no doubt that we can surpass this prediction. We are already on the right track—EV sales crossed the 2 percent mark for the very first time in August 2021, marking a new milestone in the history of India's automobile sales. Changes are already taking root in Karnataka, with the state government extending a 15 percent capital subsidy on fixed assets to manufacturers and zero road tax and registration fee to the consumers. Other states have also put forward numerous incentives to urge investors, manufacturers, and consumers to take the leap. The need of the hour is for us to maintain this momentum and steadily ramp us with:

1. The government and OEMs extending continued incentives and programmes to help spread awareness and accelerate EV adoption
2. Shared mobility providers propelling EVs to the masses by making them accessible and affordable.

Our nation is at the threshold of a momentous change that could alter the course of our future—let's share the responsibility of driving it to the finishing line.

Region-wise deployment of E-buses in India under FAME-II



Source: wricitiesindia.org



EV Podcast

Exploring the R&D roadmap of EVs in India

India is at the cusp of a new revolution in the mobility sector. The Government of India is promoting electric mobility through the implementation of various policy measures. However, to realise the electric dream, we need to focus on technological solutions through research and development (R&D) efforts with industry and laboratories. This podcast explores creating a road map for R&D in all sectors of electric mobility including, battery & charging infrastructure, vehicle system integration, electric components, materials, and manufacturing.

Listen to the podcast [here](#)

COURTESY FOR THE ARTICLES

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VIDEO CREDIT

Company maps minerals from the sky for electric vehicle batteries: <https://www.youtube.com/watch?v=NEsAsyencfU>

EDITORIAL

Dr. OP Agarwal, CEO, WRI India
Amit Bhatt, Director of Integrated Transport, WRI India
Nikita Gupta, Senior Associate Communications, Sustainable Cities and Transport
Rama Thoopal, Communications Lead, Sustainable Cities and Transport

LAYOUT AND DESIGN

Ronak Naik, Design Consultant
Garima Jain, Manager, Communications, WRI India

ABOUT WRI INDIA

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www.wri-india.org

