An Overview of Electric 3Ws in India's Last-mile Delivery Space

by

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1. Introduction

The uptake of electric vehicles (EVs) in Indian personal mobility space remains low due to barriers of high acquisition cost, range anxiety and lack of public charging infrastructure to name a few.

Experts agree that EV adoption makes better financial sense for B2B services and commercial applications where some of these barriers can be circumvented through intelligent route planning, installation of captive charging facilities or using battery swapping services. The parity in Total Cost of Ownership (TCO) with ICE vehicles can be achieved rather swiftly on account of lower operating expenses entailed by EVs and higher asset utilization in case of commercial applications. Given the nature of deliveries around a designated warehouse, last-mile deliveries make an excellent use case for electric mobility, overcoming the range anxiety.

The popularity and prevalence of electric three-wheelers for last-mile logistics is on a constant rise. This report discovers the drivers for the rise of EVs in intra-city cargo space, talks about the key players manufacturing the vehicles and providing cargo fleet services using EVs, operational challenges and current trends in this domain.

2. Drivers for the rise of EVs in last-mile logistics

2.1 Parity in the total cost of ownership

Electric 3Ws entail a running cost of 50 to 60 paise per km vis-a-vis more than Rs 3.0 per km by their diesel counterparts. Over the life of the asset, this adds up to sizeable operational savings. The time taken to achieve the parity with ICE counterparts depends largely on asset utilization measured in terms of distance covered by the vehicle.

Dr Deb Mukherji - MD at Omega Seiki says, *"Despite the higher cost of acquisition, durable electric vehicles deliver economic benefit. Our calculations show if you are doing more than a 100 km a day, the parity with ICE vehicle can be achieved within a year".*

"While the monthly EMI on both the vehicle types is almost the same (approximately ₹10,000 -12,000 per month), the actual savings can be observed in monthly maintenance and fuel. The daily distance covered for deliveries in the city is typically between 80 to 100 km. It would cost the diesel vehicle driver ₹400-450/day on fuel and EV driver ~₹50-60/day on electricity, " shares Sri Harsha Bavirisetty, COO at Gayam Motor Works.

Another operational cost benefit of EVs is that they require less tinkering and maintenance than ICE vehicles.

2.2 Corporate commitments to sustainability

E-commerce companies and third-party logistics players across the board are committing to including electric vehicles in their fleet as a part of their sustainability initiatives.

Case in Point

Image Source: PACE EV LinkedIn page

Back in January 2020, Amazon India made an announcement to include 10,000 EVs (both 3Ws and 4Ws) in its fleet of delivery vehicles by 2025. According to reports, the overall outlay for this commitment is valued at Rs 250-300 crore.

IKEA intends to be 100% electric globally in terms of mobility by 2030. Their Hyderabad store was first of its kind to introduce electric vehicles for delivery of small cargo to customer homes in India.

Flipkart has committed to replacing 40% of its delivery fleet with EVs. Companies like Amazon, BigBasket, Grofers and Swiggy have been using Electric vehicles for home deliveries for over a year.

2.3 Emergence of EV logistics players

There have emerged specialty players that are using electric vehicles for providing logistics services to their clients - examples being **Euler Motors, DOT, Avaan India, eFleetLogix.** These companies are being met with an ample amount of traction and market demand from both e-commerce players and conventional third party logistics (3PL) companies. Keeping up with the trend, incumbent logistics players such as Gati-KWE, Delhivery, Ecom Express and Shadowfax etc. have all included EVs in their fleets for last-mile and hyperlocal deliveries.

Case in Point

DOT - Gurugam headquartered logistics company DOT runs a fleet of 1000 electric 3Ws and 200 electric 2Ws to deliver more than 10,000 packages a day using EVs across the country. Counts the likes of Swiggy, Zomato, Grofers and AmazonFresh among its clients. Claim to be the first in the country to use the L5 electric 3Ws to make deliveries.

Euler Motors - Euler Motors recently in news for raising INR 20 crores as a part of Series A funding, a total of $4.6M raised so far. The start-up was founded in April 2018 and has covered 31,25,790 electric km by Jun 2020. The company currently provides last-mile delivery services for the likes of Amazon, Grofers, BigBasket, Udaan and Blue Dart, among others, using its fleet of electric L3 cargo vehicles. Euler Motors is also in the process of developing a cargo vehicle in L5 category that will be available for sale once the certification process is complete.

2.4 Policy support

FAME II incentives have been critical to the rise of organised electric 3Ws by taking the edge off the high sticker price of 3Ws run on Lithium-ion batteries. For example, Kinetic Green's Shakti Star in L5 category receives a FAME II incentive of INR 59,500 brining the cost of acquisition (INR 2,38,000) close to its diesel counterparts that can cost between 1.7 to 2.2 lakhs for similar payload capacity and performance. BS-VI ICE vehicles are expected to cost even more.

The price difference between a lead-acid battery e-3W and Lithium-ion e-3W with similar configuration can be between INR 45,000 to INR 60,000. However, Government incentive under FAME II is applicable on Lithium-ion battery vehicles. Lithium-ion battery packs present a better proposition given advanced battery chemistry that can charge faster (run more kms per day) and provide a battery life of more than 4 years.

Central Government's push towards EV adoption in commercial and pubic transport space, coupled with state level EV policies proposing incentives for electric 3 wheelers has been instrumental in the rise of EVs in cargo space.

Delhi EV Policy 2019 document exempts the e-carriers from its prohibition on plying and idle parking of light goods vehicles on identified roads of National Capital Territory during specified timings.

Tamil Nadu draft EV policy 2019 proposes 100% road tax exemption and no permit requirement for battery operated 3-wheeler goods, e-carriers and electric light goods carriers.

Case in Point

Punjab draft EV policy released in Nov 2019 proposed fresh permits only for electric 3Ws in identified target cities after policy implementation.

Such norms are instrumental in lending a competitive edge to electric vehicles vis-a-vis conventional ICE carriers for cargo applications.

Rajeev YSR – COO at Avaan India says, "*EVs will have lesser restrictions in terms of entry into key metro areas compared to the conventional LCVs used in intra-city operations. Additionally, urban civic bodies across the country want to promote electric mobility through waivers in entry restrictions and taxation, etc., which means flexibility and cost efficiencies in deliveries to key urban demand points.*"

3. Categorization of electric 3Ws in cargo applications

There are two categories of electric three-wheelers used in cargo applications, which are defined as follows:

L5N - A three-wheeled motor vehicle with a maximum speed exceeding 25 kmph and motor power exceeding 0.25 kW. Gross Vehicle Weight (GVW) is limited to 1500 kg (excluding the weight of traction batteries).

L3 or e-carts - Speed less than 25km/h and motor power less than 2 kW. Such vehicles are constructed or adapted for carrying goods by providing a separate load body or compartment with the maximum weight 310 kg in addition to driver.

Electric 3W for Cargo Applications | Categorization		
Qualification Criteria	L5	L3
Top Speed	> 25 km/h	25 km/h
Motor Power	> 250 W	< 2000 W

4. Trends in electric cargo space

4.1 Moving from L3 to L5 category vehicles

As it currently stands, electric 3W cargo space is dominated by L3 vehicles. There are scores of both organised and unorganised players manufacturing L3 EVs. Some of the popular models in L3 category are Pace EV, Kinetic Shakti, Goenka Samrat, Lohia Auto - Narain Cargo, Atul Auto, OK Play and Mayuri e-cart loader.

Talking to EVreporter, Sanjay Rastogi from Goenka Motors shared that out of 3,500 vehicles they sold last year, 2000 were their Samrat L3 cargo vehicles (range - 60-70 km per charge) in the ex-showroom price range of INR 1.81 lakhs to 2.02 lakhs.

However, L3 category vehicles are based on the passenger e-rickshaw and not as conducive to cargo applications given their low speed and problematic manoeuvrability on slopes. As the industry adopts electric means for last-mile deliveries, it looks for better suited vehicles custom built to move cargo. On an average, L5 vehicle cost 30-35% more than L3, but are gaining precedence among fleet operators by providing more space, better speed, gradability and overall efficiency of operations.

Details of leading L5 vehicles are given in a subsequent section of this report.

4.2 Complete shift to Lithium-ion battery chemistry

As industry progresses from L3 to L5, we also see a shift to Li-ion batteries. Most of the L3 models are available in both Lead Acid and Li-ion variants, however L5 models are available in Li-ion only. Lead acid battery chemistry is phasing out from cargo applications given performance issues, frequent replacement requirements, slow charging and lack of government incentives.

4.3 Localisation

OEMs specifically in L5 manufacturing are trying to build domestic supply chains and reducing import dependencies. The driving force behind this is a combined impact of localisation requirements for FAME II qualification as well as inclination to reduce dependencies on China that has been the main exporter for CKD (Completely Knocked Down) kits and EV powertrain components for e-rickshaw and L3 cargo segment. Dr Deb Mukherji from Omega Seiki (manufacturers of upcoming L5 vehicle Singha Max) shared that only Li-ion cells are imported from outside the country for their vehicles.

Revised Phased Manufacturing Program (PMP) for Electric Vehicles parts for eligibility under FAME II (released by Ministry Of Heavy Industries & Public Enterprises, Government of India in May 2020) only allows battery cells and associated thermal and battery management systems to be imported with effect from April 2020.

4.4 Battery Swapping

End to end battery swapping services help reduce the initial acquisition cost of the EVs by taking the battery cost out of the purchase. Most of the L5 models by leading OEMs come with swappable battery options. Battery swapping is set to gain more prominence as the re-fuelling method of choice for commercial electric vehicles.

“Fleet operators can derive significant operational advantages from battery swapping by saving on the waiting time for charging the vehicles. Swapping services also help fleet operators reduce their overheads of installing and managing a captive charging infrastructure”, says Piyush Gupta - CEO, Lithion Power - a Delhi based company providing battery swapping solutions for electric 3Ws and 2Ws.

Lithion Power is working towards a multi-fold augmentation of their battery swapping infrastructure in coming months, given the current trend of battery swapping for commercial fleet operations. Bengaluru-based Sun Mobility is another major player in the Indian Battery Swapping Solutions space.

4.5 Use of Data and Telematics

Modern EVs come equipped with capabilities to capture vehicular data through telematics and cloud computing. This data helps the OEMs monitor the vehicle and battery health remotely, and perform predictive diagnosis to identify any issues before hand. Through data tracking, the fleet operators can plan the routes better, gather data on driving patterns and accidents. The vehicles can be geo-fenced within identified geographical areas, and can even be remotely immobilised if need be.

Sri Harsha from GMW informs, “Using this data, we can backtrack when and where the vehicles are put to charge, how long the vehicles were charged at a specific location, and get deeper insights into whether the issue is in the power supply or charger or battery”.

The drivers can be notified in case of critical battery charge levels while on the route. Real-time charging status provides a view of which vehicles are actively being charged at any given time.

5. Challenges associated with electric fleet operations

5.1 High upfront cost coupled with financing challenges

Formal financing options for electric vehicles are not as evolved as those for ICE vehicles. The initial acquisition of the EVs for cargo applications becomes more challenging due to higher cost coupled with difficult financing.

“ICE vehicles likes Omni are available on zero down payment and 8% interest, whereas, for EVs one has to shell out 25-30% of the cost as down payment with interest rates as high as 15-16%”, shares Vineet Mehra from DOT.

The financing challenge for electric 3-wheelers stems from the fact that financing institutions consider this a higher risk investment. Sameer Aggarwal from RevFin says, “We are yet to see through the complete lifecycle of these vehicles. Though we are financing individuals for buying electric cargo 3Ws at nearly 14% interest rate, we have not entered aggregated institutional buying as of now”. Absence of an established second hand market also contributes to the risk as financers are unable to assess the value of the asset in case of a default.

Sri Harsha from GMW shares that their B2B contracts with established e-commerce players and 3PL companies have helped them create a decent financing eco-system for their vehicles over time. “These contracts ensure recurring revenue for the operator which reduces the risk of loan default, however things are not yet as smooth for individual buyers”.

5.1.1 Q&A with Rajeev YSR - COO, Avaan India

Financing Challenges for electric 3Ws in cargo space

As a fleet operator, what kind of financing solutions for cargo e-3Ws are you looking for?

The banking companies need to look at the business model of fleet operators in place and accordingly evaluate the finance options. The penetration of EVs in the cargo segment will only be successful, where there is a shift in drivers' inclination to buy EVs. To encourage the drivers, the interest rates should be either at par or less than what is being offered to regular ICE vehicles. The price we pay delaying the adoption of EVs is much heavier than what we pay for the effect of this on pollution levels. The Govt must take a holistic approach and align all institutions, be it, finance, regulatory, environmental and auto bodies in leading this initiative forward.

Given financing challenges, how has Avaan India managed to procure the vehicles so far and what is the strategy going forward?

All the EVs that we have right now are purchased by us. The strategy was that these vehicles demonstrate their capability to driver partners and they in turn purchase these vehicles. Unfortunately, owing to frequent service / maintenance issues, we could never instil that confidence in our driver partners.

We are also aware of the problems faced by NBFCs and Banks and their concerns in sanctioning loans for such vehicles. Thus, we are forming an SPV (Special Purpose Vehicle) entity which ties up with multiple OEMs and takes care of funding of these vehicles.The long term strategy here is that this SPV owns and maintains the vehicles and takes those numbers to a critical mass to build confidence among financial institutions regarding the business model and the products.

5.2 Overheads of charging and service infrastructure

Fleet operators need to create and manage vehicle service infrastructure and charging infrastructure on their own due to limited availability of existing set-ups in public domain.

Battery swapping services offer a practical charging solution that can reduce waiting time and parking overheads for the operators, but, at the same time, may shrink the **operating margins by 15-20%.**

"*There is also a **mindset challenge** with some clients who expect to pay less than conventional logistics services, citing lower running cost of EVs - ignoring the much higher acquisition cost altogether*", says Vineet Mehra.

5.3 Absence of equivalent performance electric vehicles

Many operators as well as OEMs feel that none of the electric vehicles available currently offer equivalent performance to ICE vehicles for last-mile deliveries.

5.4 Training the driver partners

Electric vehicles are a new territory for drivers as well. Buy-in of driver partners is mandatory for the success of EVs in the space. OEMs feel that sometimes the lack of proper training with respect to driving an electric vehicle leads to undue service/maintenance issues that in turn discourages operators and drivers from using the EVs. Drivers should receive necessary orientation and hand-holding to use the electric vehicles properly.

6. Popular electric 3W cargo models in L5 Category

6.1 GMW Taskman SmartAuto

Taskman from Hyderabad Based Gayam Motor Works is the most popular model in L5 category of electric 3Ws for cargo applications, with total sales of about 5000 vehicles out of which more than a 1000 vehicles have been sold in domestic market. It is also India's first electric 3W to be powered by Li-Ion battery with swapping system.

GMW Taskman SmartAuto L5	Specifications
Motor	4.5 kW
Battery	Li-ion, 7 kWh
Charging Time	3 hours
Top Speed	55 km/h
Range	110 km
Max Payload	500 kg
Starting Price	INR 2,90,000

The vehicle comes with a 1 year warranty and offers a gradability of 20%, that can come handy while negotiating ramps and flyovers. The company counts the likes of Amazon, Flipkart, BigBasket, Grofers, NinjaCart, Delhivery and a few logistics players as its clients and has an order book for 4000+ vehicles from its existing customers.

GMW is currently reported to be working on 4W cargo vehicles with higher payload capacity and volume.

6.2 Kinetic Safar Star MSV 400

Launched in Oct 2019, Kinetic Safar Star MSV 400 is the first vehicle in L5 Cargo category from Kinetic Green. The vehicles are manufactured at Ahmednagar, Maharashtra.

Kinetic Safar Star 400 MSV L5	Specifications
Motor	1.5 kW
Battery	Li-ion, 4.5 kWh
Charging Time	3 hours
Max Speed	40 km/h
Range	65 km
Payload	400 kg
Starting Price	INR 2,38,000

The starting price indicated in the table above is after FAME 2 subsidy of INR 59,500. The vehicle offers a gradability of 10 degrees, and comes with a warranty period of 3 years or 40,000 km for its motor, controller, chases and battery. DC-DC converter and battery charger are covered under warranty for one year.

Kinetic green is reported to be working on developing its electric 2Ws and LCVs.

6.3 Li-ions Elektrik

Li-ions Elektrik is based out of Gurugram and its L5 vehicles have been making last mile deliveries for last 3 years in 20 cities.

Li-ions Elektrik L5	Specifications
Motor	2 kW
Battery	Li-ion, 6.6 kWh
Charging Time	4 hours
Top Speed	40 km/h
Range	60-70 km
Max Payload	500 kg
Starting Price	Not Available

The company has collected vehicular data from its operations and uses those inputs in further product planning and development.

6.4 Vidhyut C1

Head-quartered at Surat, Vidhyut EV offers its C1 model in L5 category. Along side leading e-commerce players, the vehicle is being used by self-help groups in Jharkhand and Chattisgarh and also have been procured by Orissa government.

Kalinga Ventures / Vidyut C1 L5	Specifications
Motor	2.4 kW
Battery	Li-ion, 6.6 kWh
Charging Time	4 - 4.5 hours
Top Speed	40 km/h
Range	60-70 km
Max Payload	400 kg
Starting Price	Not Available

6.5 Omega Seiki Singha Max (to be launched in 2020)

Omega Seiki unveiled two models of its electric 3Ws for cargo application at AutoExpo 2020, called Singha and Singha Max. Deb Mukherji, the MD of the company informed EVreporter that the launch for B2B customers was planned for May but has been postponed to **August 2020** given the COVID impact. The company will launch Singha Max at that time, followed by Singha a couple of months later.

Omega Seiki Singha Max L5	Specifications
Motor	6 kW
Battery	Li-ion, 10.5 kWh
Charging Time	3 hours
Top Speed	60 km/h
Range	100 km
Max Payload	460 kg
Starting Price	INR 3,60,000

Click here to watch Dr Deb Mukherji talk about the 'Total cost of ownership' for their Singha Vehicles vis-a-vis diesel vehicles, their launch plans and target sales channels.

6.6 Altigreen electric 3W L5 Cargo (expected to launch in 2020)

Altigreen Propulsion Labs is in the process of getting their electric 3W certified by ARAI. The company recently shared a demo video of their electric loader climbing up a steep incline with a 425 kg payload. Here are the base specifications of the upcoming vehicle.

Altigreen e-3W Cargo L5	Specifications
Motor	9 kW
Charging Time	4 hours
Max Speed	53 km/h
Range	120 km
Payload	500 kg

Amitabh Saran - CEO, Altigreen shares that their vehicles will compete in both price and performance to their combustion counterparts and suitable customization will be available for specific use cases.

Companies like Euler Motors, 3EV, Keto Motors, Bajaj and other leading OEMs are reported to be working on bringing their L5 electric 3Ws to market for cargo applications.

Disclaimer: Any product specifications provided in this document have been reproduced from the manufacturer's respective official websites or published as received from company officials.

7. Concluding Thoughts

The extra up-front cost of the EVs can be compensated with tangible savings on operational and maintenance expenses over the life of the vehicle. At the same time, electric vehicles **enable fleet operators to have better control over their operations** as compared to conventional vehicles. The technological edge of EVs help the operators supervise vehicle usage and monitor real-time status of each vehicle including current charging level. Preventive maintenance of EVs help fleet operators keep their fleet in good shape. Issues such as fuel theft can be completely eliminated via EVs. At the same time, human issues such as mis-use of vehicles or rash driving patterns can be easily identified and suitable measures can be put in place. The fleet operator is in complete control of the vehicles and even remotely lock the battery and immobilize the vehicle if need be.

Electric L3 and L5 vehicles can be customized into special purpose vehicles such as garbage vans, fruit/vegetable carts or ice cream vending etc, alongside making regular package deliveries. With more and better financing options, electric vehicles can make deep in-roads into intra-city deliveries during and post COVID with multi-fold rise in e-commerce and home delivery volumes.

8. Annexures

8.1 Revised Phased Manufacturing Program for xEV parts for eligibility under FAME 2

Annexure to F. No. 7(06)/2019-NAB-II (Auto)/20307 dated 13.05.2020

S. No.	Category Item Description	e-2W L1 & L2	e-3W E-Rickshaw & E-Cart	e-3W L5	e-4W M1	e-4W N1	e-Buses M2/M3
1	HVAC	NA	NA	NA	B	B	D
2	Electric compressor	NA	NA	NA	D	D	E
3	Power and control Wiring harness along with connectors	A	A	A	B	B	D
4	MCB / circuit breakers / electric safety device	A	A	A	D	D	D
5	AC Charging inlet Type 2	NA	NA	NA	C	C	D
6	DC Charging inlet CCS2 / CHAdeMO	NA	NA	NA	D	D	D
7	DC charging inlet BEVC DC 001	NA	NA	NA	D	D	NA
8	Traction battery pack	A*	A*	A*	A*	A*	D
9	Wheel rim integrated with Hub motor	D	B	B	E	E	E
10	DC – DC converter	C	C	B	C	C	D
11	Electronic Throttle	C	C	C	C	C	D
12	Vehicle control unit	C	B	C	C	C	D
13	On Board Charger	D	B	C	C	C	D
14	Traction Motor	D	C	C	E	E	E
15	Traction Motor controller / inverter	D	C	C	E	E	E
16	Instrument Panel	C	C	C	C	C	D
17	Lighting : Headlamp, Tail lamp, Indicators, Interior Lamp, Flasher etc.	D	A	A	C	A	A
18	Body panel	D	A	A	C	A	A

Note: Traction battery pack to be assembled domestically, for which battery cells and associated thermal and battery management system may be imported.

- All other Parts, Components, Assemblies or sub-assemblies, other than mentioned above should be domestically manufactured and assembled. CMVR notified safety components should be tested by the testing agencies notified under rule 126 of CMVR, 1989.

Definitions : NA – Not Applicable

Code	Effective date of indigenisation of xEV parts
A	w.e.f 1st April 2019
A*	w.e.f 1st July 2019
B	w.e.f 1st October 2019
C	w.e.f 1st April 2020
D	w.e.f 1st October 2020
E	w.e.f 1st April 2021

Imported source includes direct as well as indirect import.
Indigenous source implies domestically manufactured / assembled and tested.

8.2 Performance criteria under FAME 2 for electric 3Ws

Performance & Efficiency Eligibility Criteria for Electric 2W, 3W and 4W categories Vehicle Models under FAME India Phase II*
(AS PER CLAUSE 28 of S.O. 1300(E) dated 8th March 2019)

Sr. No.	Vehicle Segment	Vehicle Category*1	Vehicle Model Eligibility Criteria (to be measured as per the standards/procedures specified in Annexure)			
			Minimum Range *2 (km)	Maximum Electric Energy Consumption *2 (kWh/100 km)	Minimum Max Speed*3 (km / hr)	Minimum Acceleration*3 (m/s^2)
1	e-2W	L1 & L2	80	Not Exceeding 7	40	0.65
2	e-3W	E-Rickshaw *4, 5 & E-Cart *4, 5	80	Not Exceeding 8	NA	NA
3	e-3W	L5	80	Not Exceeding 10	40	0.65
4 (a)	e-4W (Passenger Carrier)	M1 (Length less than 4 m)	140	Not Exceeding 15	70	1.04
4 (b)		M1 (Length ≥ 4 m)	140	Not Exceeding 20	70	1.04
5	e-4W (LCV/ State Carriage / Maxi Cabs etc)	N1	100	Not Exceeding 30	50	1.04

Note:
* **Eligibility criteria for e-Buses will be notified separately.**
*1 As defined in the Central Motor Vehicles Rules (CMVR), 1989.
*2 As per applicable test standard / Procedure mentioned in CMVR, 1989.
*3 Measurement shall be carried out at Gross Vehicle weight (GVW)
*4 Shall need to comply with the type approval requirements as per L5 category under CMVR, 1989.
*5 Except for E-Rickshaw/E-Cart, all electric vehicles shall necessarily be equipped with '**Electric Regenerative Braking System**'.

Source: Ministry of Heavy Industries and Public Enterprises (DHI) notification dated 28 March, 2019 **S.O. 1472(E)**.—Scheme for Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME India Phase II) has been notified in the Gazette of India vide S.O. No. 1300 (E) dated 8th March 2019.

8.3 Segment-wise incentives under FAME 2 for electric 3Ws

Annexure 2

Vehicle segment-wise Incentives, Maximum Number of vehicles to be supported and other details.

Sr. No.	Vehicle Segment	##Maximum Number of vehicles to be supported	Approximate Size of battery in KWH	##Total Approximate Incentive @ 10000/KWh for all vehicles and 20000/KWh for Buses and Trucks	Maximum Ex-factory price to avail incentive.	Total Fund support from DHI.
1	Registered e-2 Wheelers	1000000	2 KWH	Rs. 20000/-	Rs. 1.5 Lakhs	Rs. 2000 Cr
2	Registered e-3 Wheelers (including eRikshaws)	500000	5 KWH	Rs. 50000/-	Rs. 5 Lakhs	Rs.2500 Cr
3	e- 4 Wheelers	35000	15 KWH	Rs. 150000/-	Rs. 15 Lakhs	Rs. 525 Cr
4	4W Strong Hybrid Vehicle	20000	1.3 KWH	Rs. 13000	Rs. 15 Lakhs	Rs. 26 Cr
5	e-Bus	7090	250 KWH	Rs. 50 Lakhs/-	Rs. 2 Crores	Rs. 3545 Cr
Total Demand Incentive						Rs. 8596 Crores

The proposed amount of incentives per KWH are, however, subject to review as per the reduction in battery costs & thereby reduction in vehicle cost and would be notified accordingly from time to time. It is to be noted that the number of vehicles and fund support among the sub components as above is fungible with the approval of PISC.

Source: Ministry of Heavy Industries and Public Enterprises (DHI) notification dated 08 March, 2019 **S.O. 1300(E)**.—Scheme for Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME India Phase II).

Get in touch with us at info@evreporter.com for any suggestions or feedback on this report and to explore collaboration opportunities.