*Registered No. WB/SC-247* **No. WB(Part-I)/2021/SAR-234**

# The Kolkata Gazette

सत्यमेव जयते

*Extraordinary*

Published by Authority

JASTHA 13] THURSDAY, JUNE 03, 2021 [SAKA 1943

PART I—Orders and Notifications by the Governor of West Bengal, the High Court, Government Treasury, etc.

**POWER DEPARTMENT**
**GOVERNMENT OF WEST BENGAL**

**No.: 189-POW-2021** **Date: 03rd June, 2021**

## Electric Vehicle Policy 2021

### 1. Preamble

The transport sector accounts for 18% of total energy consumption in India. This translates to an estimated 94 million tonnes of oil equivalent (MTOE) energy. If India were to follow the current trends of energy consumption, it would require an estimated 200 MTOE of energy supply annually, by the year 2030 to meet the demand of this sector. At the moment, this demand is being met mostly through imported crude oil, which therefore makes this sector vulnerable to the volatile International crude oil prices. Moreover, the sector also contributes estimated 142 Million Tonnes of $CO_2$ emissions annually, out of which 123 million tonnes is contributed by the road transport segment alone.

Keeping in view the climate change commitments made by Government of India during the COP21 Summit held at Paris to reduce emission intensity by 33-35% by 2030 from 2005 levels, it is pertinent to introduce alternative means in the transport sector which can be coupled with India's rapid economic growth, rising urbanization, travel demand and country's energy security. Electric mobility presents a viable alternative in addressing these challenges, when packaged with innovative pricing solutions, appropriate technology and support infrastructure and thus, has been on the radar of Government of India.

Most importantly, electric mobility will enhance electricity demand which is seriously affecting our Discoms and also contribute to balancing energy demand, energy storage and environmental sustainability. Electric vehicles could help diversify the energy needed to move people and goods thanks to their reliance on the wide mix of primary energy sources used in power generation, greatly improving energy security. They could help support the uptake of clean electricity, enabling greater use of variable renewable in electricity production. If coupled with the decarburization of the power sector, electric vehicles would also provide major contributions to keep the world on track to meet its shared climate goals.

The Electric Vehicle industry in India is far behind, with less than 1% of the total vehicle sales. Currently, Indian

roads are dominated by conventional vehicles and have approximately 0.4 million electric two-wheelers and a few thousand electric cars only. The Indian EV industry has been on the back seat due to various challenges.

The Government of India had undertaken multiple initiatives to promote manufacturing and adoption of electric vehicles in India. With support of the government, electric vehicles have started penetrating the Indian market. However, availability of adequate Charging Infrastructure is one of the key requirements for accelerated adoption of electric vehicles in India. Availability of adequate Charging Infrastructure is one of the key requirements for accelerating the adoption of electric vehicles in India. In this regard, Ministry of Power has issued "Charging Infrastructure for Electric Vehicles - Guidelines and Standards[1&2]" mentioning the roles and responsibilities of various stakeholders at Central & State level, for expediting the development of public EV charging infrastructure across the country. The Ministry of Power has designated Bureau of Energy Efficiency (BEE) as the Central Nodal Agency (CNA) for the National-level rollout of charging infrastructure in the country and State Nodal Agencies (SNA) have been designated already. For our State, WBSEDCL is the SNA[3]. It has also clarified that charging the batteries of electric vehicles does not require a licence under the Electricity Act, 2003[4]. The Urban Development Ministry of GoI has also framed model building byelaws for integrating electric vehicle charging infrastructure into the town planning as well as for housing colonies[5]. Recently, the Government of India unveiled the second phase of FAME (Faster Adoption and Manufacture of (Hybrid and) Electric Vehicles) scheme to promote adoption of Electric Vehicles (EVs) in the country. Under FAME-II scheme, INR 10,000 crores has been allocated to promote EV adoption in the country.

West Bengal is India's sixth-largest state in terms of economic size, with a gross state domestic product (GSDP) of INR 10trillion in 2017-18, estimating an average annual GSDP growth rate from 2011-12 to 2018-19 of about 12.06%. West Bengal accounted for 6.3% of India's cumulative GSDP. The state boosts a per capita GSDP of INR 117,704 (US$ 1,681.49) compared to India's per capita GDP of INR 138,253 (US$ 1,975.05).[6]

Geographically, West Bengal is the 13th largest state with an area of 88,752 square km and accounts for almost 7.5% of the India's population. With an average density of 1,029 people per square km, West Bengal is the 4th largest state in terms of population.[7] The state of West Bengal shares international borders with Bangladesh, Bhutan and Nepal with the Bay of Bengal in the south of the state. West Bengal is situated in eastern India and shares its borders with five Indian states Jharkhand, Bihar, Odisha, Sikkim and Assam. Location advantage makes the state a traditional market for eastern India, the Northeast, Nepal and Bhutan. It is also a strategic entry point for markets in South-East Asia.

West Bengal has a history to be associated with electrification of transportation systems. Kolkata, the capital of West Bengal was the first city in the entire Asia, that introduced public transportation system running on electricity in 1902 and has also been the first to introduce electric buses for public transport in the city. Currently it has a low electric vehicle population of only 5,895 petrol hybrid, 4,254 diesel hybrid, 35,999 e-Rickshaws, 1,240 two-wheelers, 93 four-wheelers, 93 buses and 24 trucks out of 93.36 lakh non-transport and 10.07 lakh transport vehicle population in the State[8]. The introduction of electric mobility represents a unique opportunity to leverage the electricity infrastructure for accelerated and cost-effective mobility deployment.

As an economic powerhouse of India, the state of West Bengal whileunderstanding the technical, commercial and social impact of the electric mobility sector, has felt the need to provide a strategic direction to the emerging electric

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1 **"Charging infrastructure for Electric Vehicles (EVs)-Revised Guidelines and Standards" issued on 01.10.2019** (web-link)

2 Amendment in the revised Guidelines and Standards for Charging Infrastructure for Electric Vehicles June 2020 - https://powermin.gov.in/sites/default/files/uploads/Amendment_in_Revised_Guidelines.pdf(link is external)

3 State Nodal Agencies under the provision of "Charging Infrastructure for Electric Vehicles Guidelines and Standards" issued by Ministry of Power on 14.12.2018

4 Regulation regarding delicensing the sale of electricity at charging stations April 2018 - https://powermin.gov.in/sites/default/files/uploads/Clarification_EV.pdf(link is external)

5 Guidelines issued by Ministry of Housing and Urban Affairs (MoHUA), 2016 - http://mohua.gov.in/upload/whatsnew/5c6e472b20d0aGuidelines%20(EVCI).pdf(link is external)

6 IBEF - https://www.ibef.org/states/west-bengal.aspx

7 Census of India 2011

8 Transport Department, WB figures for January 2021

mobility sector. The Government of West Bengal envisions to build upon a century old history of electric transportation and envisions to build West Bengal as the 'model state' in the electric mobility in India.

## 2. Electric Vehicles in India and FAME India Guidelines

In India, the transport sector accounts for over 40% of the total oil consumption with around 90% of the demand arising from the road transport. By 2020, 330 mt (million tons) of carbon emissions are expected to arise from the transportation sector, 90% of which may be from road transport alone[9].

The phase II of the scheme titled as FAME II will be implemented over a period of 3 years w.e.f. 1st April 2019, with an overall outlay of ₹ 10,000 Crores. The scheme aims to provide an impetusto the adoption of electric and hybrid vehicles by offering an upfront incentive on the purchase of electric vehicles and establishing necessary charging infrastructure.

Department of Heavy Industry (DHI) will be the nodal agency responsible for planning, implementation and review of the scheme, addressing issues related to the guidelines and for removal of difficulties in the implementation of the scheme. DHI will also issue guidelines as and when necessary to meet the objectives of the scheme.

The proposed verticals of the scheme and breakup of fund allocation are listed below:

**Table 1: FAME II scheme components (All amounts are in ₹ Crore)**

| S.No | Component | 2019-20 | 2020-21 | 2021-22 | Total fund requirement |
|---|---|---|---|---|---|
| 1. | Demand incentives | 822 | 4,587 | 3,187 | 8,596 |
| 2. | Charging infrastructure | 300 | 400 | 300 | 1,000 |
| 3. | Administrative expenditure including publicity, ICE (Information, Communication and Education) activities | 12 | 13 | 13 | 38 |
| | Total allocation for FAME-II | 1,134 | 5,000 | 3,500 | 9,634 |
| 4. | Committed expenditure of Phase-I | 366 | 0 | 0 | 366 |
| **Total** | | **1,500** | **5,000** | **3,500** | **10,000** |

Following categories of vehicles are eligible for demand incentives under the FAME II scheme -

- Buses (only Electric Vehicle technology)
- Four Wheelers (Electric (EV), Plug-in Hybrid (PHEV) and Strong Hybrid (SHEV))
- Three-wheeler (Electric) including Registered E-Rickshaws
- Two Wheelers (Electric)

Keeping in view the fact that cost of batteries is one of the significant factors of difference in acquisition price of EVs and ICE vehicles, the demand incentives will be based on battery capacity (i.e. energy content measured in kWh).

With greater emphasis on providing affordable and environmentally friendly public transportation options for the masses, the scheme will apply mainly to vehicles used for public transport or those registered for commercial purposes in 3W, 4W and Bus segments. However, privately owned registered 2Ws will be covered under the scheme considering them as a mass segment.

9 International Energy Agency (IEA) - World Energy Outlook 2018

Vehicle segment wise approximate amount of incentives, an initial target number of vehicles and other details are listed below:

**Table 2: Incentive allocation and guidelines in the scheme**

| S. No. | Vehicle Segment | Maximum number of vehicles to be supported | Approx. size of battery in kWh | Total approx. incentive @ 10,000/ kWh for all vehicles and 20,000/ kWh for buses and trucks | Maximum ex-factory price to avail incentive | Total fund supported by DHI |
|---|---|---|---|---|---|---|
| 1. | e-2wheelers | 10,00,000 | 2 kWh | ₹ 20,000 | ₹ 1.5 Lakhs | ₹ 2,000 Crore |
| 2. | e-3wheelers (including e- rickshaws) | 5,00,000 | 5 kWh | ₹ 50,000 | ₹ 5 Lakhs | ₹ 2,500 Crore |
| 3. | e-4wheelers | 35,000 | 15 kWh | ₹ 1,50,000 | ₹ 15 Lakhs | ₹ 525 Crore |
| 4. | 4W strong hybrid vehicle | 20,000 | 1.3 kWh | ₹ 13,000 | ₹ 15 Lakhs | ₹ 26 Crore |
| 5. | e-bus | 7,090 | 250 kWh | ₹ 50 Lakhs | ₹ 2 Crore | ₹ 3,545 Crore |
| **Total Demand Incentive** | | | | | | **₹ 8,596 Cr** |

**3. Vision of the Policy**

Leverage on the history of electric mobility transportation ecosystem implementation in West Bengal to lead India's future of electric mobility.

**4. Mission**

The Power Department, Government of West Bengal has identified Electric Mobility as the need of the hour and an eminent transformation of the transportation ecosystem. The Power Department aims to place West Bengal as a frontrunner in building a sustainable transportation infrastructure by promoting the Electric Mobility Ecosystem in state thereby promoting, sustainability, and energy efficiency.

**5. Objective**

- Promote innovation actively through grants and venture funds to research organizations, incubators, and start-ups working on next generation battery technology, fuel cell technologies, EV power trains and EV electronics.
- Enable investment into charging/battery swapping infrastructure and hydrogen generation and fuelling station development.
- Promote usage of EVs to enable transition to environmentally friendly cities.

**6. Targets**

- Government of West Bengal has set for itself an ambitious target to be one amongst the top three best states in India in terms of the electric mobility penetration by the end of FAME II implementation year 2022 And further, the state will target to be the best State in electric mobility penetration by 2030.
- Target is to have 10 lakh EVs, combined across all segment of vehicles, during the policy implementation.
- Target to have 1,00,000 public, semi-public charging stations during the policy implementation.

- Achieve an Electric vehicle/public charge point ratio of 8 by the implementation of the policy. Create robust infrastructure for electric vehicles including adequate power supply and network of charging points with favourable power tariff.

- Recycle and reuse used batteries and dispose the rejected batteries in an environment friendly manner to avoid pollution.

**7. Strategy**

- Charging Infrastructure
- Demand creation for EVs
- Research & Development

**8. Policy Measures**

The Power Department, Government of West Bengal will focus on policy interventions intended to encourage EV adoption in the State. Further, it is envisaged that network and diffusion effects shall spur early market creation through demand side incentives and creation of charging infrastructure will promote the culture of EV usage in the State. Through the announcement of such progressive policy initiatives, West Bengal could eventually lead the race to zero emission vehicles (ZEVs) in the run-up-to COP26 and beyond.The State's approach to each class of vehicles will be as follows:

**8.1. Establishment of an 'EV Accelerator Cell**

- An EV Accelerator Cell will be established as a nodal-entity for implementing the electric mobility programme within the state. The Cell shall work with following objectives and suggested functions, which can expand over time:

- Facilitating inter-departmental coordination on framing regulatory mechanism and progressive policies to enhance uptake.

- Enabling faster decision-making, enhanced investments, and accelerated implementation of the West Bengal Electric Vehicle Policy so as to support cities' and the state's ambition towards electric mobility.

- The proposed EV Accelerator Cell could be housed within the Department of Transport/ Department of Power, Government of West Bengal, comprising of staff possessing relevant technical expertise to exclusively deal with all matters related to electric mobility in the state.

- EV Accelerator Cell shall facilitate ICE vehicles phasing-out plan across all vehicle segments including 2Ws, 3Ws, 4Ws passenger cars and vans, and buses (including inter-city fleets) for which the 'State EV Fund' could be utilised (refer to clause no. 8.2 below). It will further enable sustainability of the proposed EV Accelerator Cell.

- Setting up of EV Charging Infrastructure Working Group under the Cell to facilitate faster creation of charging points.

- Setting up 'EV Forum' possibly comprising of representatives from State Government Departments, businesses, industry associations, research organisations, think tanks, and international players, will be created within the EV Accelerator Cell for facilitating the EV transition.

**8.2. State-level EV Awareness**

- State-level EV awareness campaigns and intensive public outreach programmes could be formulated. The following areas could be focused upon with an aim that:

- These programs could focus on driving knowledge regarding the benefits of adopting EVs and key elements of the State EV policy.

- A dedicated EV awareness web-portal and mobile app with State-level Charge-points Registry and journey planner maybe developed.

**8.3. Innovative Pilot Projects for showcasing Sustainable Mobility**

- Exploring Pilot projects such as Clean Street Test-Bed, Zero-Emission Vehicle Zones, Wireless EV charging, Smart & Intelligent Clean Energy Management System, Pop-up chargers for cities to integrate renewable energy, electric vehicles, and storage through IoT, big data analytics for integrating electric mobility within transport planning, innovative e- mobility solutions in times of COVID.
- Twinning of cities from West Bengal with the cities from the EV-leading countries, for knowledge exchange, sharing of best practices and research collaboration in the field of electric mobility.
- Setting up 'Innovation Challenge Fund' and organizing Hackathons to boost EV innovation and enhance scalability of affordable & innovative solutions.

**8.4. Charging Infrastructure**

- Facilities will be provided to setup swapping stations in the form of a kiosk to service 2 and 3 wheelers.
- Existing private buildings such as malls and other commercial buildings will be incentivized to setup charging/battery swapping stations.
- DISCOM shall release supply to charging/battery swapping stations within 48 hours of application.

**8.5. Facilitating Charging Points Installation and Enabling a Digital Operational Framework**

- Charge-point Operators (CPOs) will be invited to set-up EV charging facilities and battery swapping stations across the State in multiple phases through 'Concessional Locations' for charging stations. The following points relate to their implementation and proposed digital operation:
- The 'Concessional Locations' for charging stations at bare minimum lease rentals willbe carved-out from existing public parking zones and other locations
- A list of Concessional Locations for the first phase of rollout will be identified by the EV Charging Infrastructure Working Group under the EV Accelerator Cell.
- An open, publicly owned data-base/ State charge-point registrypowered by Big Data (AI & ML-driven) will be developed which can provide real-time information on public charging infrastructure.
- The state-level charge-points registry can be accessed freely by in-vehicle navigations systems and various charge-point apps/ maps. A unified access and payment interface (UPI) for ease of utilisation for EV charging services from different service providers will be developed. This can be further improvised through the introduction of a state-level Smart Mobility Card.

**8.6. Facilitating Public Charging Infrastructure for EVs through DISCOMs**

- Electricity Distribution Utilities (DISCOMs) could be encouraged to establish public EV charging stations in their respective license areas within the state (as well as in the designated highways/ expressways corridors) and expenditure for the same can be allowed to pass through in the ARR until there is a significant impact on retail tariff
- Provisions as laid-down under the Section-51 of the Electricity Act maybe followed as revenue earned by those public charging stations and the benefits could be passed on to the consumers (with a justification of tariff reduction)
- Tariff for EV charging (or, input electricity tariff for the public charging station) could be in- around INR 6/ kWh (per Unit) single part tariff so as to keep the end-user service charge from those public charging stations attractive for EV owners (it will reduce operating/ running cost of an EV).

**8.7. A Comprehensive and Smart Technology-based EV Charging Framework**

- A framework for setting-up of EV charging stations including home charging, workplace charging and EV-ready parking (including those for taxis) schemes will be developed.
- Smart Energy Management (future ready grid) with smart charging features (including Vehicle-to-Grid),use of renewable energy with storage and power banking will also be explored.
- Both locally produced RE (such as solar rooftop) as well as RE power procured through Power Purchase Agreement (PPAs) and open-access will be encouraged.

**8.8. City & Building codes**

Implementation of the Ministry of Housing and Urban Affairs Government of India amendments to the Model Building Byelaws 2016 & Urban Regional Development Plans Formulation and Implementation Guidelines 2014 for Establishing EV Charging Infrastructure as well as the Energy Conservation Rules would be taken up with the concerned Government Departments.

**8.9. Energy sale**

- Public charging high tension (HT) and low tension (LT) station points shall be governed by a promotional single part tariff not exceeding 6/ kVAh for the next two years.
- Third party EV charging infrastructure providers will be allowed to procure power from DISCOM at regulator determined tariff and will be allowed to provide the charging service to EVs.
- Cloud charging features will be encouraged in order to have all metering and transactions done digitally with payment apps, NFC enabled devices, RFID tags etc. while keeping it flexible and customer friendly.

**8.10. Hydrogen Generation and Refuelling Infrastructure**

- The first few Hydrogen generation and refuelling stations will be developed by government
- Private developers will be allowed to setup hydrogen stations
- In coordination with GOI, GoWB will also list out all the safety standards that need to be adhered to by developers of hydrogen generation and refuelling stations.
- Developers of Private Hydrogen Generation and Re-fuelling Infrastructure will be eligible for - 100% net SGST, accrued to the state, as reimbursement for purchase of machinery for Hydrogen generation and refuelling stations.

**8.11. Model E-visionary Electric Mobility (EM) cities**

- The cities of Kolkata, Asansol, Darjeeling and Howrah will be declared as model EM cities with phase-wise goals to adopt EVs, charging & hydrogen refuelling infrastructure and new EV enabling building codes.
- New Town Kolkata will be the pilot city for all new initiatives
- Smart city proposals to the central government will include support for charging infrastructure and hydrogen fuelling stations. Identified areas will be designated as "Green zones" with entry only to non-fossil fuel-based vehicles.
- These cities will develop specific goals of charging and Hydrogen refuelling infrastructure density within a defined timeline linked to target for deployment of EVs. These cities will create mobility blueprints and make provision in infrastructure needs to support the charging stations and EV only zones.
- Multiple government offices and public areas will be chosen for installing public charging equipment that can be used by all.
- GoWB will support CSR initiatives in the Electric mobility ecosystem, as per the guidelines of GOI
- Inter-city electrification green routes will be declared with a target to promote inter-city electric mobility penetration for the Kolkata-Asansol and Kolkata-Digha routes. Rapid chargers will be deployed at an average distance of 25 kms, catering to electric buses and heavy-duty vehicles.

## 9. Research & Innovation Oriented Industrial Development

### 9.1. R&D Grants

- A research grant will be announced to fund the most innovative solutions in the mobility space. Public or private research labs, incubators, start-ups that work on products and solutions in electric mobility space will also be provided land and office space to quickly setup their facility.
- Research scholars who move to the state to work for research in electric mobility and its components will be offered one-time grant and incentivized via accommodation and transportation benefits.

### 9.2. Innovation & Collaboration Landscape

- A Centre of Excellence or, an 'EV Innovation Centre'will be established. This Centre will have the following focus-areas and objectives:
- Industry-orientedresearch on battery technology development, re-cycling & re-use of batteries, battery management system, charging infrastructure, efficient controllers and powertrains.
- Setting up of 'Battery Industrialisation Hub' within EV Innovation Centre to fast track development of cost-effective, high-performance, durable, safe and recyclable batteries.
- Design of affordable EVSEs suitable to Indian conditions and needs.

### 9.3. Testing and Quality control labs

- In coordination with National automotive testing and R&D Infrastructure (NATRiP), GoWB shall strive to set-up quality testing center for EVs.
- These facilities would be accessible to all manufacturers in the sector.

### 9.4. Skill-Development & Workforce Training

- Setting up of an Intelligent Mobility Skill Centre (IMSC) to impart training for creating new green jobs in the EV sector
- Vocational/ ITI courses will be designed to train EV drivers, mechanics, charging station staff, and EV entrepreneurs
- Creating a cohort of women drivers/ owners of three wheelers for last mile connectivity
- International Exchange Programme on 'EV skilling' will also be considered

## 10. Scope and Validity of the Policy

The policy shall be effective from the date of its notification in the official Gazette. This policy shall remain applicable for a period of 5 years unless repealed or substituted with a new policy, whichever is earlier. The monitoring committee shall periodically review the progress under the policy and recommend any change required to meet all its objectives.

By order of the Governor,

GOMA LHAMU TSHERING
*Joint Secretary*
*Power Department*
*to the Government of West Bengal.*

Published by the Power Department, Govt. of West Bengal and printed at Saraswaty Press Ltd.
(Government of West Bengal Enterprise), Kolkata 700 056.