

TELANGANA ELECTRIC VEHICLE AND ENERGY STORAGE POLICY

2020 - 2030



KT RAMA RAO

Hon'ble Minister for IT, MA&UD,
Industries, Mines and NRI Affairs
Government of Telangana

MESSAGE

With the advent of clean technology and high-density energy storage solutions, a shift to a cleaner transportation is inevitable and Electric Vehicles are no doubt the future of mobility. The State of Telangana, being a pioneer in adopting Sustainability, aims to spearhead the Electric Vehicle revolution in the country.

Since the formation of the State in 2014, Telangana has transformed into a power surplus state from being a power deficit state in less than 5 years and is among the top states in the country in the renewable energy production. The State now ensures uninterrupted power to Industries and provides round the clock free power for agricultural purposes. The state has set aggressive targets in clean energy production, which compliments the Electric Vehicle charging infrastructure. The state strives to ensure a clean and healthy environment for its citizens by bringing down carbon emissions.

As the state drives the faster adoption of Electric Vehicles, it aspires to be not just self-sufficient, but also a global hub for Electric Vehicles' and Energy Storage Systems' Manufacturing. It is our vision to become the most electrified state in the country. The Telangana Electric Vehicle and Energy Storage Policy 2020-2030 is the first step in this direction. The policy also intends to achieve substantial reduction in total cost of transportation for personal and commercial purposes. The policy builds upon the FAME II scheme being implemented by Govt. of India to promote Adoption and Manufacturing of Electric Vehicles in the country.

The State is home to several players in the EV sector and intends to leverage its strengths in Automotive, Electronics, Aerospace, Defence and Information Technology Sectors, creating synergies and thereby becoming a centre for research and innovation in Electric Vehicles, Battery Technologies and other Emerging Technologies such as Autonomous & Connected Vehicles. Through this policy, we hope to promote Local manufacturing and make Electric Vehicles affordable to the common man.

TABLE OF CONTENTS

Preamble	5
1. Vision	6
2. Mission	6
3. Policy Objectives	7
4. Implementation Strategy	8
5. Policy Period	9
6. Policy Measures	9
7. Demand side Incentives	10
8. Charging Infrastructure	11
9. EV in Shared Mobility & Public Transport	12
10. Supply Side Incentives	12
11. Support for Manufacturing	13
12. Other Initiatives	14
13. Stakeholders	15
14. Steering Committee	15
15. Conclusion	16
Constitution of Steering Committee	16
Department Views/Suggestions received for Electric Vehicle & Energy Storage Policy	17

PREAMBLE



The advent of new breakthroughs and improvements in energy storage is transforming vehicular technology and energy solutions. Electric Vehicles (EVs) are a promising alternative to ICE (Internal Combustion Engine) vehicles. Innovations in battery technology, reduction in moving parts, and zero tailpipe emissions make EVs an economically viable and sustainable mobility solution that is finding global support from Policymakers and Industry leaders alike.

Energy Storage Solutions (ESS) provide alternative to energy backup for home, enterprises & businesses, and are ideal for integrating renewable energy into the electricity grid.

In March 2019, The Government of India (GoI) has launched the National Mission on “Transformative Mobility and Energy Storage” committed to develop a complete ecosystem domestically around EVs, including manufacturing of batteries and all other components to make Electric Vehicle and Energy Storage Solutions sector competitive in the near term. Further, India is committed to reducing emissions up to 33-35% by 2030 from the 2005 level and has set the target of 40% non-fossil-based electricity generation in the energy mix. This requires radical measures to scale up the share of renewable energy, besides the ongoing program of 175 GW RE by 2022.

According to data compiled by IESA, the electric vehicle industry consumed over 5 GWh of batteries in 2018 in India. This number is likely to be over 36 GWh by 2025. During 2020-2027 period, the EV sector is estimated to consume about 250 GWh of batteries.

The ‘Telangana Electric Vehicle & Energy Storage Policy 2020-2030’ builds upon FAME II scheme being implemented since April 2019 by Department of Heavy Industries, Govt. of India, where it also suggested States to offer fiscal and non-fiscal incentives to further improve the use case for adoption of EVs.

PREAMBLE



1. VISION

To make Telangana a hub for Electric Vehicles & Energy Storage Systems

2. MISSION

- a) To make the State an attractive investment destination for this sector
- b) To promote R&D and manufacturing in Electric Vehicle & Energy Storage Systems' sector
- c) To ensure faster adoption of Electric Vehicles & Energy Storage Systems in the State
- d) To achieve substantial reduction in total cost of transportation for personal and commercial purposes, supported by a world-class infrastructure



3. POLICY OBJECTIVES

a) To reduce the total cost of mobility by increasing the adoption of Electric Vehicles in public transportation, 2 & 3 Wheelers, 4 wheelers, Light Commercial Vehicles & Shared Transportation.

b) Promoting a shift from dependence on fossil fuels which are mostly imported and expensive with unreliable supply during times of crisis, to reliable domestically produced renewable energy which is less expensive.

c) Make Telangana state the preferred destination for Electric Vehicle, ESS and component manufacturing.

d) To make Telangana a major base for EV & ESS sectors and to attract investments worth \$ 4.0 Billion and create employment for 120,000 persons by year 2030 through EVs in shared mobility, charging infrastructure development and EV & ESS manufacturing activities.

e) Generate demand for battery storage solutions by driving EV adoption incentives and supply side incentives for battery manufacturing.

f) To proactively support creation of EV charging Infrastructure in the initial phase and eventually create market for commercially viable EV Charging business.

g) Promote Recycle and Cascading of Batteries

h) Develop Telangana as a global center for cutting-edge research and innovation in Electric vehicles, battery technologies and other emerging technologies such as Autonomous/Connected vehicles.



4. IMPLEMENTATION STRATEGY

- a) Incentives shall be made available for Manufacturing of Electric Vehicles, Energy Storage Systems & related components in Telangana. Incentives shall include Capital Subsidies, SGST reimbursements, power tariff subsidies, etc.
- b) Incentives shall be made available for 2 & 3 Wheelers, 4 wheelers, Light Commercial Vehicles, Shared Transport & Public Transport. The incentives shall include waiver on Road Tax & Registration Charges
- c) Incentives shall be provided for charging infrastructure
- d) Ride hailing services shall be encouraged to operate electric 2, 3 & 4 wheelers through incentivization.
- e) Battery operated feeder shuttle services at all Hyderabad Metro Stations for last mile connectivity shall be made available.



- f) Existing state self-employment schemes shall be extended to provide financial assistance for purchase of Electric Vehicles for commercial purposes.
- g) Adoption of EVs at Institutional Level shall be promoted starting with Government entities.
- h) Preferential parking slots with required charging infrastructure shall be made available for Electric Vehicles.
- i) Preferential Procurement to Make in Telangana Electric Vehicles and Energy Storage Systems for Government Orders shall be provided.
- j) State Govt shall facilitate in dovetailing with Govt. of India (GoI) schemes and encourage state stakeholders to avail benefits available under GoI schemes.

5. POLICY PERIOD

This policy is applicable for a period of 10 years from the date of notification of this policy. The policy shall be reviewed by the Steering Committee as notified in this policy.

6. POLICY MEASURES

The policy aims to build on the policy objectives & strategies to encourage growth of EV & ESS sector in the state and to attract private sector investments in this sector. The framework consists of promoting EV adoption for end users, setting up of Charging Infrastructure and Promoting Manufacturing of EV & ESS Components in the State.



7. DEMAND SIDE INCENTIVES

Following are the demand side incentives proposed under the Telangana State Electric Vehicle and Energy Storage Policy 2020 – 2030 to incentivize usage of Electric Vehicles in the state of Telangana.

A. Incentives for Electric Two Wheelers

- i) 100% exemption of road tax & registration fee for the first 2,00,000 Electric 2 Wheelers purchased & registered within Telangana.

B. Incentives for Three-Seater Auto-Rickshaws

- i) 100% exemption of road tax & registration fee for first 20,000 Electric 3 Wheelers purchased & registered within Telangana
- ii) Retro-fitment incentive at 15% of the retro-fitment cost capped at Rs. 15,000 per vehicle for first 5,000 retrofit 3 seater auto rickshaws in Telangana
- iii) Financing Institutions shall be encouraged to provide a hire-purchase scheme at discounted interest rates.

C. Incentives for Electric 4-Wheeler commercial passenger Vehicles such as Taxi, Tourist Cabs, etc.

- i) 100% exemption of road tax & registration fee for the first 5,000 Electric 4-Wheeler commercial passenger Vehicles such as Taxi, Tourist Cabs, etc. purchased & registered within Telangana

D. Incentives for Light Goods Carriers - including Three Wheelers (goods)

- i) 100% exemption of road tax & registration fee for first 10,000 Electric three-wheeler (goods), e-carriers as well as electric Light Goods carriers purchased & registered within Telangana

E. Incentives for Private Cars

- i) 100% exemption of road tax & registration fee for the first 5,000 Electric 4-Wheeler private vehicles purchased & registered within Telangana

F. Incentives for Buses

- i) 100% exemption of road tax & registration fee for the first 500 Electric buses purchased & registered within Telangana.
- ii) State Transport Units shall also be encouraged to purchase Electric buses.

G. Incentives for Tractors

- i) 100% exemption of road tax & registration fee shall be applicable for electric tractors purchased and registered in the state of Telangana as per the existing rules/guidelines applicable for tractors by Transport Department, Govt. of Telangana.



8. CHARGING INFRASTRUCTURE

Availability and accessibility of EV charging infrastructure is a pre-requisite for the penetration of Electric Vehicles.

A. Support for Charging Infrastructure

- i) Government shall facilitate setting of up initial batch of fast charging stations in Hyderabad and other towns in a phased manner, by state entities and private players.
- ii) Telangana State Electricity Regulatory Commission shall provide special Power Tariff category for Electric Vehicle Charging Stations.
- iii) TSREDCO (State Nodal Agency) shall evaluate to establish public charging stations directly or under licensee/franchise/PPP model. Various public places such as airports, railway/ metro stations, parking lots, bus depots, markets, petrol stations, malls & electric poles shall be examined for the same.
- iv) A viable business model shall be developed for private players to set up ARAI compliant EV charging/swapping infrastructure. Specifications for charging infrastructure shall be defined by the Transport Department/ TSREDCO/ITE&C Dept.
- v) TSREDCO (State Nodal Agency) in coordination with State DISCOMS shall ensure Supply of Renewable energy for EV charging stations & setting up of solar rooftop plants as per net metering policy and captive power plants shall be encouraged as per the TSREC Guidelines.
- vi) Existing Residential Townships with 1000+ families shall be encouraged to develop charging stations lots.
- vii) Charging/ swapping station for every 50 km within state boundaries on highway to cities like Bengaluru, Mumbai, and Chennai, followed by other national/state highways shall be encouraged.
- viii) HMR stations and TSRTC Bus depots (across the state) shall provide reserved parking and charging points for two-wheelers in their parking zones to encourage EVs for last mile commute.
- ix) Government shall develop Night time community parking with charging facility in PPP mode for e- Autos, Shared mobility taxis and public transport vehicles within Industrial zones.
- x) A battery disposal infrastructure model shall be created to facilitate deployment of used EV batteries.



9. EV IN SHARED MOBILITY & PUBLIC TRANSPORT

- i) Government shall encourage EV adoption in Shared Mobility, Public Transport, Institutional Transport, Logistics & Delivery Services.
- ii) Govt shall facilitate aggregators involved in public transportation with regulatory support to enable them to convert their fleet to EVs.

10. SUPPLY SIDE INCENTIVEST



Telangana aspires to be the forerunner in Electric Mobility and Energy Storage space in the country. Local manufacturing and R&D are key to reaching price/performance parity between Electric and ICE Vehicles. Hence, support shall be extended to EV & ESS, ancillary & charging infrastructure & swapping infrastructure manufacturers through policy interventions and Incentives.

11. SUPPORT FOR MANUFACTURING

- i) EV & ESS sectors shall be incentivized as per the subsidies and incentives available under the Electronics Policy 2016.
- ii) Government shall extend tailor-made benefits to Mega and Strategic Projects on case to case basis. Investment of more than Rs.200 crores in plant and machinery or providing employment to more than 1000 persons shall be categorized as mega project.
- iii) The highlights of the Electronics policy are as below:
 - a. Capital Investment Subsidy: 20% of investment capped at 30 Cr. for Mega Enterprises.
 - b. SGST Reimbursement: 100% net SGST reimbursement capped at 5 Cr. per year with a cumulative cap of 25 Cr. over a period of 7 years for Mega Enterprises.
 - c. Power Tariff Discount: 25% for 5 years capped at 5 Cr. for Mega Enterprises.
 - d. Electricity Duty Exemption: 100% for 5 years capped at 0.5 Cr.
 - e. Interest Subvention: 5.25% for 5 years capped at INR 5 Cr.
 - f. Transportation Subsidy: 60% with 10% reduction YoY - for 5 years; capped at INR 5 Cr.
 - g. Stamp Duty/ Transfer Duty/ Registration Fees Reimbursements: 100% on first, 50% on second transaction
 - h. Lease Rental Assistance, Assistance in Patent Filing, Reimbursement of Quality Certification costs, Cleaner Production cost reimbursement, Exhibition Cost Reimbursements, Skill Development Assistance.
- iv) Electronics Manufacturing Clusters (EMC) and Industrial Parks are identified for promotion of EV & Energy Storage manufacturing companies. Currently EMCs exist at Raviryal and Maheshwaram, a designated industrial park at Divitapally for Energy Storage manufacturing, with additional parks being designated.
- v) Batteries and related components make up a substantial part of EV. Manufacture and assembly of EV related batteries and cells shall be encouraged in the State through Electronics Manufacturing Policy and Incentives.
- vi) The Government shall promote reuse of EV batteries in stationary energy storage applications. The government shall enable collaborating between cell/ battery manufacturers, EV manufacturers, energy storage operators & recyclers to ensure efficient reuse & recycling of batteries.
- vii) Urban Mining of rare materials and cell/ battery recycling shall be incentivized on par with EV & ancillary manufacturing.



12. OTHER INITIATIVES

A. EV & ESS Cluster

A mega EV & ESS cluster with global standard infrastructure shall be developed. The cluster shall cater to EV & ESS and related component manufacturing. The EV cluster shall have common facilities as given below.

- i) Support infrastructure like roads, power, and water shall be provided at doorstep of the industry;
- ii) Built-Up Space with ready factory sheds shall be developed to be used mainly by MSME units;
- iii) A common facility for Design, prototyping, and testing available to all units in the cluster;
- iv) Common infrastructure such as Drainage/ Common Effluent Treatment Plant (CETP)/Sewage Treatment Plant (STP) and utilities such as Power, Gas and Water;
- v) A State-of-art Business environment with facilities such as Convention and exhibition centers;
- vi) Shared facilities to meet staffing and training requirements;
- vii) A Logistics Hub shall provide with multimodal transport for safe and efficient handling of cargo;

B. Preferential Market Access

The policy of GoI on preferential market access in Government procurement for domestically manufactured electronics products shall be implemented in all Government of Telangana departments. Special preference shall be given to Telangana-based manufacturers.

C. Research & Development

- i) EV Research Hub: A dedicated facility shall be developed to house EV R&D centers by domestic and global EV Majors. Hyderabad's strength in Technology domain shall be leveraged to provide quality manpower for such centers. This hub is also expected to attract global R&D activities on other emerging mobility trends such as connected and autonomous vehicles.
- ii) Centers of Excellence: State Government shall partner with premier Technical Institutes and research establishments across the state to establishing Centers of Excellence for conducting market-focused research on Battery Technologies, battery management, motors, and controllers. State Government shall seek Industry participation and leverage GOI EV policy to provide grant to these centers. NFTDC (Non-Ferrous technologies Development center) at Hyderabad is running one such COE on electric vehicle technologies, under GOI FAME scheme.
- iii) T- Fund: The Government shall offer financial support to Start-ups for research and innovation in EV & Battery technologies. Yearly awards shall be instituted to recognize breakthrough work in Battery Technologies in separate categories for OEM's, ancillaries and start-ups
- iv) T-Works Automotive Prototyping Center: Recognized as India's largest Prototyping Centre, T- WORKS shall have a dedicated wing for prototyping of Electric Vehicle components/ assembly & battery. Industry partnership in the same shall be invited from EV OEMs and large component manufacturers. The facility shall serve start-ups and MSME units in the EV space at subsidized rates.

13. STAKEHOLDERS

S. No	Department	Responsibility
1.	Electronics Wing, ITE&C Dept., Govt. of Telangana	EV Policy & Operational Guidelines, EV Policy Administration
2.	Transport Dept., Govt. of Telangana	EV categorization, Administration of End User Rebates & Subsidies
3.	TSREDCO, Govt. of Telangana	Setting up of Public Charging facilities – airports, metro stations, parking lots, etc., Fixing of Ceiling Cost of Service for EV Charging, Guidelines for charging stations – Public & Private Provision of Renewable Energy for Charging Stations as per Grid related provisions with support of TSDISCOMS
4.	TSSPDCL/ TSNPDCL, Govt. of Telangana	Electricity Tariff Administration for Public & Private Charging as per TSERC guidelines.
5.	MAUD Dept., Govt. of Telangana	Adoption of EV in Urban Areas. Identification of sites for EV parking & Public Charging Stations. Infrastructure for EV mobility – Preferential Parking, Charging infra in malls, apartment complexes, etc, with the support of TSREDCO (State Nodal Agency).
6.	TSRTC	Electrification of TSRTC Fleet, Setting up of Charging Infrastructure for TSRTC fleet with the support of TSREDCO (State Nodal Agency).

14. STEERING COMMITTEE

A Steering Committee comprising of senior officials from relevant departments shall be constituted. The steering committee shall work towards time- bound EV demand creation and charging network development in Hyderabad City followed by other towns in the State. The Steering committee shall also be responsible for periodic review of EV policy.



15. CONCLUSION

The rapid growth in urbanization and the surge in the number of vehicles on roads has led to an immediate need for a sustainable model for personal and public mobility in urban centers to address the rising pollution & mobility costs. Electric Vehicles have emerged as one such mobility solution that holds best promise in terms of sustainability and mass adoption with its pace of technology advancement and cost rationalization. Electric Vehicle technology integrations with the community transport and shared mobility make the promise even stronger. Telangana State Electric Vehicle and Energy Storage Policy 2020-2030 strives to create a policy framework for the accelerated development of an Electric Vehicle and Energy Storage Systems' ecosystem, comprehensively addressing both the demand and supply side gaps and laying emphasis on charging infrastructure creation. This policy is designed to make Telangana State the Electric Vehicle capital and Energy Storage Systems Manufacturing hub of India.

CONSTITUTION OF STEERING COMMITTEE

A Steering Committee comprising of senior officials from relevant departments has been constituted to work towards time - bound EV demand creation, charging network development in Hyderabad City followed by other towns in the State and for periodic review of EV policy.

The Steering committee comprises of the following members:

S. No	Department	Responsibility
1.	Principal Secretary, ITE&C Dept., Govt. of Telangana	Chairman
2.	Director - Electronics Wing, ITE&C Dept., Govt. of Telangana	Nodal Officer
3.	Project Director – EV, TSREDCO	Member Convener
4.	Transport Commissioner, Govt. of Telangana	Member
5.	Managing Director, HUMTA – HMDA	Member
6.	Executive Director – Engineering, TSRTC	Member
7.	Director – IPC & RAC, TSSPDCL	Member
8.	Director – IPC & RAC, TSNPDCL	Member
9.	Chief City Planner, GHMC	Member
10.	Joint Commissioner of Police Department	Special Invitee
11.	Managing Director – Hyderabad Metro Rail Ltd.	Special Invitee
12.	Representative - HMWSSB	Special Invitee

DEPARTMENT VIEWS / SUGGESTIONS RECEIVED FOR ELECTRIC VEHICLE & ENERGY STORAGE POLICY

1

Public EV Charging Stations: In addition to Public Charging Stations at Airports, Metro Stations, Parking lots mentioned in the EV policy; the EV Charging Infrastructure should be installed at Major Railway terminals, MMTS stations, Major terminals of South Central Railways (Hyderabad, Secunderabad, Kachiguda, etc.), TSRTC Depots, Inter State Bus Terminals (ISBT), Intra City Bus Terminals (ICBT), Truck terminals, Multi-modal hubs, etc.

2

Planning interventions for promotion of E- mobility and faster adoption of E Vehicles: through amendments and updating building Bye-Laws/ Regulations/Policies/ Guidelines.

3

Approval of building layouts and plans within its jurisdiction by performing technical scrutiny to ensure the fulfilment of the building permit provisions for Electric Vehicle Charging Infrastructure.

4

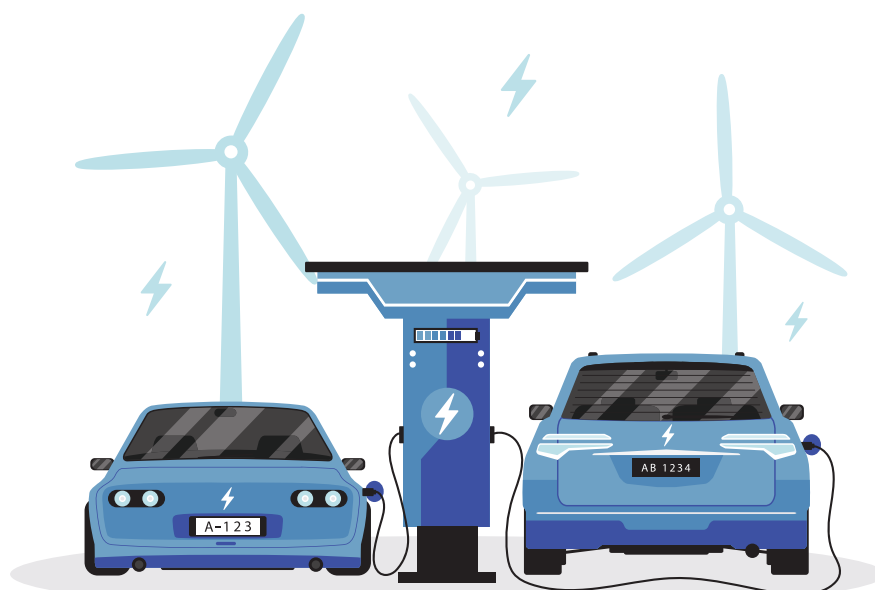
Preferential parking for EV vehicles can be proposed at commercial buildings and multi-modal hubs.

5

Development of App: with features covering – locations of EV charging stations, descriptions of its technical infra, status of availability of charging port, swapping facility, etc.

6

Extensive promotion in adoption of EV through various print media/ electronic media/ related Govt. platforms, workshops, awareness program, information on the App under development, etc.





Mr. Jayesh Ranjan, IAS

Principal Secretary to Govt Industries & Commerce, IT E&C
Government of Telangana.
secy_itc@telangana.gov.in

Sujai Karampuri

Director Electric Vehicle & Energy Storage solutions,
Director - Electronics & Semiconductor,
IT E&C Department, Government of Telangana
dir_es@telangana.gov.in
dir-es-itc@telangana.gov.in