

ಕರ್ನಾಟಕ ವಿಧಾನ ಪರಿಷತ್ತು

ಚುಕ್ಕೆ ಗುರುತಿಲ್ಲದ ಪ್ರಶ್ನೆ ಸಂಖ್ಯೆ : 722 (763)
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 (ನಾಮನಿರ್ದೇಶನ ಹೊಂದಿದವರು)
 ಉತ್ತರಿಸುವವರು : ಬೃಹತ್ ಮತ್ತು ಮಧ್ಯಮ ಕೈಗಾರಿಕೆ ಹಾಗೂ
 ಮೂಲಸೌಲಭ್ಯ ಅಭಿವೃದ್ಧಿ ಸಚಿವರು
 ಉತ್ತರಿಸುವ ದಿನಾಂಕ : 23.07.2024

ಕ್ರ.ಸಂ.	ಪ್ರಶ್ನೆ	ಉತ್ತರ
ಅ	ಕೇಂದ್ರ ಸರ್ಕಾರ ಇ-ವಾಹನಗಳ ತಯಾರಿಕೆ ಮತ್ತು ಬಳಕೆಗೆ ತಯಾರಿಸಿರುವ ಯೋಜನೆಗಳು ಯಾವುವು; (ಪೂರ್ಣ ಮಾಹಿತಿ ನೀಡುವುದು)	ಕೇಂದ್ರ ಸರ್ಕಾರವು ಇ-ವಾಹನಗಳ ತಯಾರಿಕೆ ಮತ್ತು ಬಳಕೆಯನ್ನು ಉತ್ತೇಜಿಸಲು FAME ಹಂತ-1ನ್ನು 2015ರಲ್ಲಿ ಹಾಗೂ FAME-IIನ್ನು 2019ರಲ್ಲಿ ಜಾರಿಗೊಳಿಸಲಾಗಿರುತ್ತದೆ. ವಿವರಗಳನ್ನು ಅನುಬಂಧದಲ್ಲಿ ಒದಗಿಸಿದೆ.
ಆ	ಈ ಯೋಜನೆಗಳಡಿಯಲ್ಲಿ ರಾಜ್ಯ ಸರ್ಕಾರಕ್ಕೆ ದೊರೆತಿರುವ ನೆರವು ಮತ್ತು ಸವಲತ್ತುಗಳು ಯಾವುವು; (ಪೂರ್ಣ ಮಾಹಿತಿ ನೀಡುವುದು)	ಈ ಸಂಬಂಧ ಸಾರಿಗೆ ಇಲಾಖೆಯಿಂದ ಒದಗಿಸಿರುವ ಮಾಹಿತಿಯು ಈ ಕೆಳಕಂಡಂತಿದೆ: ಕರ್ನಾಟಕ ರಾಜ್ಯ ರಸ್ತೆ ಸಾರಿಗೆ ನಿಗಮ: ಕೇಂದ್ರ ಸರ್ಕಾರದ ಫೇಮ್-2 ನಿರ್ದೇಶನಗಳಂತೆ, ವಾಹನಗಳನ್ನು OPEX ಅಥವಾ GCC ಮಾದರಿಯಲ್ಲಿ ಕಾರ್ಯಾಚರಣೆಗೊಳಿಸಬೇಕಿದ್ದು, ಪ್ರತಿ 12 ಮೀ ಉದ್ದದ ವಿದ್ಯುತ್ ವಾಹನಕ್ಕೆ ಭಾರಿ ಕೈಗಾರಿಕೆ ಇಲಾಖೆಯು ಗರಿಷ್ಠ ರೂ.55 ಲಕ್ಷಗಳ ಪ್ರೋತ್ಸಾಹಧನ ನಿಗದಿ ಮಾಡಿರುತ್ತದೆ. ಕರ್ನಾಟಕ ರಾಜ್ಯ ರಸ್ತೆ ಸಾರಿಗೆ ನಿಗಮಕ್ಕೆ ಕೇಂದ್ರ ಸರ್ಕಾರವು ಇ-ವಾಹನಗಳ ಬಳಕೆಗೆ ಜಾರಿಗೆ ತಂದಿರುವ ಫೇಮ್-2 ಯೋಜನೆಯಡಿಯಲ್ಲಿ ಅಂತರನಗರಗಳಿಗಾಗಿ (Intercity) ಮಂಜೂರಾಗಿರುವ 50 ಇ-ವಾಹನಗಳನ್ನು ಕಾರ್ಯಾಚರಣೆ ಮಾಡಲಾಗುತ್ತಿದೆ. ಮುಂದುವರೆದು, PM e-bus-sewa ಯೋಜನೆ ಅಡಿಯಲ್ಲಿ 350 ಸಂಖ್ಯೆಯ ವಿದ್ಯುತ್ ಚಾಲಿತ ವಾಹನಗಳನ್ನು GCC ಆಧಾರದ ಮೇಲೆ ಆಚರಣೆ ಮಾಡಲು ಕರ್ನಾಟಕ ರಾಜ್ಯ ರಸ್ತೆ ಸಾರಿಗೆ ನಿಗಮದಿಂದ ಪ್ರಸ್ತಾವನೆಯನ್ನು ಕೇಂದ್ರ ಸರ್ಕಾರಕ್ಕೆ ಸಲ್ಲಿಸಲಾಗಿದೆ. ಬೆಂಗಳೂರು ಮಹಾನಗರ ಸಾರಿಗೆ ಸಂಸ್ಥೆ: ವಿದ್ಯುತ್ ಬಸ್ಸುಗಳ ಕಾರ್ಯಾಚರಣೆಗೆ ಸಂಸ್ಥೆಗೆ ಬಿಡುಗಡೆಯಾಗಿರುವ ಕೇಂದ್ರ ಸರ್ಕಾರದ ಅನುದಾನದ ವಿವರ ಕೆಳಕಂಡಂತಿದೆ:

		ಬಸ್ಸು ಗಳ ಸಂಖ್ಯೆ	ಯೋಜನೆ	ಕೇಂದ್ರ ಸರ್ಕಾರದ ಸ್ವೀಕೃತ ಅನುದಾನ	ಪರಾ
		300	ಫೇಮ್-2	62.92 ಕೋಟಿ	ಸಂಸ್ಥೆಯಲ್ಲಿ ಈಗಾಗಲೇ ಕಾರ್ಯಾಚರಣೆ ಮಾಡಲಾಗುತ್ತಿದೆ.
		921	ಫೇಮ್-2	71.99 ಕೋಟಿ	ಇಲ್ಲಿಯವರೆಗೆ 333 ಬಸ್ಸುಗಳು ಸಂಸ್ಥೆಯಲ್ಲಿ ಕಾರ್ಯಾಚರಣೆ ಯಲ್ಲಿದ್ದು, ಇನ್ನುಳಿದ ಬಸ್ಸುಗಳನ್ನು ಪ್ರಸಕ್ತ ಸಾಲಿನಲ್ಲಿ ಹಂತ ಹಂತವಾಗಿ ಕಾರ್ಯಾಚರಣೆ ಗೊಳಿಸಲಾಗುವುದು.
		ಮುಂದುವರೆದು, NCAP (National Clean Air Programme) ಯೋಜನೆಯಡಿಯಲ್ಲಿ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಸಾರಿಗೆ ಸಂಸ್ಥೆಯಿಂದ 76 ಹವಾನಿಯಂತ್ರಣ ರಹಿತ ಎಲೆಕ್ಟ್ರಿಕ್ ವಾಹನಗಳನ್ನು ಜಿಸಿಸಿ ಆಧಾರದ ಮೇಲೆ ಕಾರ್ಯಾಚರಣೆ ಮಾಡುವ ಬಗ್ಗೆ ಪರಿಶೀಲನೆಯಲ್ಲಿರುತ್ತದೆ. ವಿದ್ಯುತ್ ವಾಹನಗಳ ಚಾರ್ಜಿಂಗ್ ಕೇಂದ್ರಗಳ ವಿಷಯವನ್ನು ಇಂಧನ ಇಲಾಖೆಯು ನಿರ್ವಹಿಸುತ್ತಿದ್ದು, ವಿದ್ಯುತ್ ಸರಬರಾಜು ಕಂಪನಿಗಳ ಸ್ವಂತ ಬಂಡವಾಳ ಮತ್ತು ಪಿ.ಪಿ.ಪಿ. ಮಾದರಿಯಲ್ಲಿ ಖಾಸಗಿಯಾಗಿ ಸದರಿ ಮೂಲಭೂತ ಸೌಕರ್ಯಗಳನ್ನು ಕಲ್ಪಿಸಲಾಗುತ್ತಿರುವುದಾಗಿ ಇಂಧನ ಇಲಾಖೆಯು ತಿಳಿಸಿರುತ್ತದೆ.			
ಇ	ಸರ್ಕಾರ ಇತ್ತೀಚೆಗೆ ಕ್ಲಿನ್ ಮೊಬಿಲಿಟಿ (Clean Mobility) ಎನ್ನುವ ಬ್ಯಾನರ್ ಅಡಿ ಇ-ವಾಹನಗಳ ತಯಾರಿಕೆಗೆ ಸಹಾಯಧನ ಮತ್ತು ಇತರೆ ಸವಲತ್ತು ನೀಡುವ ಕೈಗಾರಿಕಾ ನೀತಿ ಹೊರತಂದಿದೆಯೇ; ಹಾಗಿದ್ದಲ್ಲಿ ಪೂರ್ಣ ಮಾಹಿತಿ ನೀಡುವುದು?	ಪ್ರಸ್ತುತ ರಾಜ್ಯದಲ್ಲಿ Electric Vehicle & Energy Policy, 2017 ಜಾರಿಯಲ್ಲಿದ್ದು, ಈ ನೀತಿಯಡಿ • Incentives and Concessions to Electric Vehicle & its Components Manufacturing Enterprises. • Incentives and Concessions to EV Battery Manufacturing/Assembly Enterprises. • Incentives and Concessions to EV Charging/Swapping Infrastructure Equipment Manufacturing Enterprises. • Incentives and Concessions to EV in non-transport and transport vehicles, Service Providers for EV Mobility. ಉತ್ಪಾದನಾ ಘಟಕಗಳಿಗೆ ಪ್ರೋತ್ಸಾಹವನ್ನು ನೀಡಿ ಉತ್ತೇಜಿಸಲಾಗುತ್ತಿದೆ. ಮುಂದುವರೆದು, ನೂತನ Karnataka Clean Mobility Policy ಜಾರಿಗೆ ತರುವ ಕ್ರಮ ಜಾರಿಯಲ್ಲಿರುತ್ತದೆ.			

ಸಿಐ 236 ಎಸ್‌ಪಿಐ 2024

(ಎಂ.ಬಿ. ಪಾಟೀಲ)

ಬೃಹತ್ ಮತ್ತು ಮಧ್ಯಮ ಕೈಗಾರಿಕೆ ಹಾಗೂ
ಮೂಲಸೌಲಭ್ಯ ಅಭಿವೃದ್ಧಿ ಸಚಿವರು

The central government of India has launched several schemes to promote the manufacturing of electric vehicles (EVs):

FAME India Scheme (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India)

- Background:
 - FAME India is a part of the National Electric Mobility Mission Plan.
 - The scheme's main objective is to encourage the adoption of electric and hybrid vehicles by offering upfront incentives on purchase.
 - The scheme covers Hybrid and electric technologies like Mild Hybrid, Strong Hybrid, Plug-in Hybrid and battery Electric Vehicles.
- Phase I:
 - Started in 2015 and was completed on 31st March 2019, with an outlay of Rs 895 crore.
 - The 1st phase of FAME The scheme had four focus areas namely, technology development, demand creation, pilot project, and charging infrastructure.
 - Achievements:
 - In the 1st phase of the scheme, about 2.78 lakh xEVs were supported with total demand incentives. In addition, 465 buses were sanctioned to various cities/states under this scheme.

1. FAME I: Launched in 2015, aimed at promoting the manufacturing and sustainable growth of EVs.

The FAME I (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) policy was launched by the Government of India on April 1, 2015, under the National Electric Mobility Mission Plan (NEMMP) 2020. The primary goal of the scheme was to encourage the adoption and manufacturing of hybrid and electric vehicles in India to promote sustainable and eco-friendly transportation.

Key Features of FAME I:

1. Objective: To promote electric mobility and address issues related to vehicular pollution and energy security.
2. Incentives: The scheme provided financial incentives for the purchase of electric and hybrid vehicles, including two-wheelers, three-wheelers, four-wheelers, and buses. Incentives were based on battery capacity and technology used in the vehicles.
3. Budget: The initial budget for FAME I was Rs. 795 crore, which was later increased to Rs. 895 crore.
4. Duration: Initially approved for two years, the scheme was extended multiple times, finally up to March 31, 2019.
5. Implementation: The Department of Heavy Industry (DHI) was the nodal agency for implementing the scheme. The National Automotive Board (NAB) monitored the progress and managed the disbursement of incentives.

6. Digitalization: FAME India portal was launched to bring transparency and efficiency in the monitoring and management of the scheme.

The scheme aimed to support the development of charging infrastructure, demand creation, technology platform development, pilot projects, and R&D in electric mobility.

The FAME II (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) policy, launched on April 1, 2019, is an extension of the FAME I scheme by the Government of India. The primary objective is to promote the adoption of electric vehicles (EVs) and the establishment of a supporting infrastructure to achieve a sustainable and environmentally friendly transportation system.

2. FAME II: Launched in 2019 with an outlay of 10,000 crore, focuses on supporting electric buses, three-wheelers, four-wheelers, and electric two-wheelers.

The Parliamentary Standing Committee on Industry has recently put forth crucial recommendations regarding the extension and enhancement of the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) Scheme Phase-II.

- The committee suggests extending the FAME India Phase-II Scheme's deadline by at least three more years to facilitate the transition momentum to electric mobility.
- The current deadline is March 31, 2024, with a budget allocation of Rs 10,000 crore.

The Committee Recommendations for Improvement

- Restoration of Subsidy on Electric Two-Wheelers:
 - The committee suggests restoring the subsidy on electric two-wheelers, which was reduced in June 2023.
 - Government reduced the FAME-II subsidy for electric two-wheelers after June 1, 2023.
 - The initial 40% incentive on ex-factory price was cut to 15%. Reduction in subsidies negatively impacted electric two-wheeler sales. Budget constraints cited as a reason for subsidy reallocation.
 - It also recommends projecting enhanced budget allocations, if required, to maintain the momentum and pace of electric vehicle penetration.
- Inclusion of Private Electric Four-Wheelers:
 - The ministry should increase the number of electric vehicles supported in the four-wheelers category and include private electric four-wheelers in the FAME-II Scheme, with a cap based on the cost and battery capacity of the vehicle.
- Supportive Government Frameworks:
 - The committee emphasizes the need for supportive, transparent, and consistent government frameworks at national, state, and local levels to make India a global EV hub.

- It also recommends focusing on establishing dedicated manufacturing hubs and industrial parks for batteries, cells, and EV auto components.
- Funding for BHEL and Charging Stations:
 - More funds should be allocated to Bharat Heavy Electricals Limited (BHEL) to facilitate popularizing EV mobility.
 - BHEL provided Engineering, Procurement, and Construction (EPC) solutions for EV charging stations. These include solar-based charging stations and battery energy storage systems.
 - Additionally, public sector undertakings and government institutions should participate in installing charging stations on their premises.
- Incentivizing Charging Station Installation:
 - FAME-II should incentivise individual investors in charging stations. Women's self-help groups and cooperative societies should be assisted in opening and operating charging stations, with assured returns provided by the government from its funds.

Key Features of FAME II:

1. Objective:
 - To promote the adoption of electric and hybrid vehicles.
 - To reduce dependency on fossil fuels and decrease vehicular emissions.
2. Budget and Duration:
 - The scheme has an outlay of Rs. 10,000 crore, later increased to Rs. 11,500 crore.
 - It is planned for a period of three years, from April 1, 2019, to March 31, 2022, but was extended further till March 31, 2024.
3. Incentives and Funding:
 - Approximately 86% of the funds are allocated for demand incentives.
 - The scheme supports 7,000 e-buses, 5 lakh e-3 Wheelers, 55,000 e-4 Wheeler Passenger Cars (including Strong Hybrid), and 10 lakh e-2 Wheelers.
 - Incentives are provided based on battery capacity, encouraging the use of advanced battery technologies.
4. Demand Incentives:
 - Incentives are available for various categories of electric vehicles:
 - Buses: Electric Vehicle technology.
 - Four Wheelers: Electric, Plug-in Hybrid, and Strong Hybrid.
 - Three Wheelers: Electric, including Registered E-Rickshaws.
 - Two Wheelers: Electric.
 - Demand incentives are capped at a percentage of the vehicle's cost: 40% for buses and 20% for other vehicles.
5. Charging Infrastructure:
 - A significant portion of the budget is allocated for setting up charging stations across the country.

- Aims to establish at least one charging station in a grid of 3 km x 3 km in cities, and every 25 km on both sides of highways.
- 6. Technology and Localization:
 - Only advanced battery and registered vehicles are eligible for incentives.
 - Emphasis on localization to promote the domestic manufacturing of components.
- 7. Public Transportation:
 - Greater emphasis on providing affordable and environmentally friendly public transportation.
 - Applicable mainly to vehicles used for public transport or registered for commercial purposes.
- 8. Implementation:
 - The Department of Heavy Industry (DHI) is the nodal agency for implementing the scheme.
 - The National Automotive Board (NAB) monitors the progress and manages the disbursement of incentives.
- 9. Monitoring and Evaluation:
 - Regular review and revision of the scheme parameters based on market trends and technological advancements.
 - Scheme performance is evaluated periodically to ensure effective implementation and fund utilization.

Impact and Progress:

- As of the latest reports, a significant number of electric buses, three-wheelers, four-wheelers, and two-wheelers have been subsidized under FAME II.
- Charging infrastructure development has been actively pursued, with numerous charging stations set up across the country.

The Production Linked Incentive (PLI) Scheme for Advanced Chemistry Cell (ACC) Battery Storage is an initiative by the Government of India aimed at boosting domestic manufacturing of advanced battery technologies. Launched by the Ministry of Heavy Industries, the scheme is part of India's broader strategy to enhance its manufacturing capabilities, reduce dependency on imports, and promote sustainable growth in the energy sector.

3. Production Linked Incentive (PLI) Scheme for Advanced Chemistry Cell (ACC) Battery Storage

- Approved in May 2021, with a financial outlay of 18,100 crore, this scheme aims to promote the manufacturing of ACC batteries in India, which are crucial for the EV sector.

Key Features of the PLI Scheme for ACC Battery Storage:

1. Objective:
 - To establish a competitive and sustainable battery manufacturing ecosystem in India.

- To reduce import dependency and make India a global hub for ACC battery manufacturing.
 - To promote the use of advanced chemistry cells in electric vehicles, renewable energy storage, and consumer electronics.
2. Financial Outlay:
 - The total outlay for the scheme is Rs. 18,100 crore.
 - Incentives are provided over a period of five years based on the sales of ACCs manufactured in India.
 3. Incentives:
 - The scheme provides financial incentives to manufacturers based on the scale of production and sales.
 - Incentives are linked to the performance and efficiency of the batteries produced.
 4. Eligibility:
 - Both new and existing companies are eligible to apply.
 - Companies must commit to a minimum investment and meet specific performance criteria to receive incentives.
 - The scheme encourages participation from global players to bring in technology and investments.
 5. Capacity and Scale:
 - The scheme aims to achieve a manufacturing capacity of 50 GWh (Gigawatt hours) of ACCs.
 - An additional 5 GWh of niche ACC capacity is also targeted under the scheme.
 6. Implementation and Monitoring:
 - The Department of Heavy Industry (DHI) is the implementing agency for the scheme.
 - The scheme includes provisions for regular monitoring and evaluation to ensure compliance and effective implementation.
 7. Impact on Electric Mobility and Renewable Energy:
 - The scheme is expected to significantly boost the adoption of electric vehicles (EVs) by reducing battery costs.
 - It supports India's renewable energy goals by enabling efficient energy storage solutions.
 - The development of a robust battery manufacturing ecosystem is crucial for energy security and the reduction of greenhouse gas emissions.
 8. Job Creation and Economic Growth:
 - The PLI scheme is expected to generate direct and indirect employment opportunities.
 - It aims to attract significant investments, fostering economic growth and technological advancement in the country.

Progress and Future Outlook:

- The scheme has received positive responses from various industry stakeholders, including major domestic and international companies.
- It is anticipated that the successful implementation of the scheme will position India as a key player in the global battery manufacturing industry.

4. PLI Scheme for Automobile and Auto Components

- Launched in September 2021, with an outlay of 25,938 crore, it aims to promote domestic manufacturing of advanced automotive technology products, including EVs and components.

The Production Linked Incentive (PLI) Scheme for Automobile and Auto Components is a strategic initiative by the Government of India aimed at boosting the manufacturing capabilities of the automobile sector and enhancing its global competitiveness. The scheme is designed to attract investments, foster innovation, and support the development of a robust automotive manufacturing ecosystem in India.

Key Features of the PLI Scheme for Automobile and Auto Components:

1. Objective:
 - To incentivize the manufacturing of advanced automotive technology products in India.
 - To reduce import dependency and enhance the export potential of Indian automotive products.
 - To generate employment opportunities and contribute to economic growth.
2. Financial Outlay:
 - The scheme has a budgetary allocation of Rs. 25,938 crore.
 - Incentives are provided over a period of five years based on the sales of eligible products manufactured in India.
3. Eligibility:
 - The scheme is open to both existing automotive companies and new investors in the sector.
 - Companies must meet certain criteria, such as minimum revenue thresholds and investment commitments, to qualify for incentives.
 - The scheme encourages participation from global automotive players to bring in advanced technologies and investments.
4. Components of the Scheme:
 - Champion OEM Incentive Scheme: Focuses on battery electric vehicles (BEVs) and hydrogen fuel cell vehicles (HFCVs).
 - Component Champion Incentive Scheme: Targets advanced automotive technology components of vehicles, completely knocked down (CKD)/semi knocked down (SKD) kits, vehicle aggregates of 2-wheelers, 3-wheelers, passenger vehicles, commercial vehicles, and tractors.
5. Incentives:
 - The scheme offers incentives ranging from 8% to 13% of the determined sales value of eligible products.
 - Additional incentives are available for companies achieving higher localization levels and production volumes.
6. Focus Areas:
 - Promotion of electric and hydrogen fuel cell vehicles.

- Support for the development of advanced automotive technologies and components.
 - Encouragement of domestic manufacturing and reduction of import dependence.
7. Implementation and Monitoring:
- The Ministry of Heavy Industries is the nodal agency for the implementation of the scheme.
 - Regular monitoring and evaluation mechanisms are in place to ensure compliance and effective utilization of the incentives.
8. Impact on the Automotive Sector:
- The scheme is expected to attract significant investments in the automotive sector.
 - It aims to position India as a global hub for automotive manufacturing, particularly in the emerging segments of electric and hydrogen vehicles.
 - By fostering innovation and technological advancements, the scheme is likely to enhance the competitiveness of Indian automotive products in the global market.

Benefits and Expected Outcomes:

- **Economic Growth:** The scheme is projected to create a significant number of direct and indirect jobs, contributing to overall economic growth.
- **Environmental Impact:** By promoting electric and hydrogen vehicles, the scheme aims to reduce vehicular emissions and support the transition to a cleaner and sustainable transportation system.
- **Global Competitiveness:** The incentives for advanced automotive technologies are expected to enhance the global competitiveness of Indian automotive manufacturers.

5. Tax Incentives and Subsidies

- **Income Tax Deduction:** Section 80EEB of the Income Tax Act provides a deduction of up to 1.5 lakh on interest paid on loans taken for the purchase of electric vehicles.
- **GST Reduction:** GST on EVs has been reduced from 12% to 5%.

The Government of India (GOI) offers various tax incentives and subsidies to promote the adoption of electric vehicles (EVs) as part of its efforts to reduce pollution and dependence on fossil fuels. Here are the key incentives and subsidies available for EVs in India:

Tax Incentives

1. **Income Tax Deduction under Section 80EEB:**
 - An individual can claim a deduction of up to Rs. 1.5 lakh on the interest paid on loans taken for the purchase of electric vehicles. This deduction is applicable to both four-wheelers and two-wheelers and is available for loans sanctioned between April 1, 2019, and March 31, 2023.
2. **Goods and Services Tax (GST) Reduction:**

- The GST rate on electric vehicles has been reduced from 12% to 5% since August 2019.
- The GST on chargers and charging stations for electric vehicles has been reduced to 5% (Heavy Industries Fame) (Heavy Industries Fame) .

Subsidies and Incentives

1. FAME II Scheme:

- The Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) India Scheme Phase II, launched in 2019, offers subsidies for electric buses, three-wheelers, four-wheelers, and two-wheelers.
- The scheme has an outlay of Rs. 10,000 crore and aims to support 7,000 e-buses, 5 lakh e-3 wheelers, 55,000 e-4 wheeler passenger cars, and 10 lakh e-2 wheelers (Press Information Bureau) (Heavy Industries Fame) .

2. State-Level Incentives:

- Various states provide additional incentives such as subsidies on the purchase of EVs, road tax exemptions, registration fee waivers, and incentives for setting up EV charging infrastructure.
- For instance, states like Delhi, Maharashtra, and Gujarat offer subsidies up to Rs. 1.5 lakh on electric cars and significant incentives on electric two-wheelers and three-wheelers (Heavy Industries Fame) (Heavy Industries Fame) .

3. Subsidy for Charging Infrastructure:

- The government provides financial assistance for the establishment of EV charging infrastructure under the FAME II scheme. This includes grants for setting up charging stations in cities and highways, aiming to create a robust EV ecosystem (Press Information Bureau) (Heavy Industries Fame) .

Custom Duty Exemptions

1. Custom Duty Exemptions on EV Components:

- The government has reduced or eliminated customs duties on several components used in the manufacture of electric vehicles to promote local manufacturing and reduce costs (Heavy Industries Fame) (Heavy Industries Fame) .

Production Linked Incentive (PLI) Scheme

1. PLI Scheme for Advanced Chemistry Cell (ACC) Battery Storage:

- The PLI scheme with an outlay of Rs. 18,100 crore aims to boost the manufacturing of advanced battery technologies in India, which is crucial for the growth of the EV sector.
- Incentives are provided based on production and sales of ACC batteries (Press Information Bureau) (Heavy Industries Fame) .

These initiatives collectively aim to create a favorable environment for the adoption of electric vehicles in India, reducing the overall cost of ownership for consumers and fostering the growth of the domestic EV manufacturing industry.

6. Charging Infrastructure Development

- The government has laid out plans to develop a robust charging infrastructure network across the country to support the widespread adoption of EVs.

The Government of India (GOI) is actively developing charging infrastructure to support the widespread adoption of electric vehicles (EVs). Several initiatives have been introduced under various schemes and policies to create a comprehensive network of EV charging stations across the country. Here are the key components of these efforts:

Key Initiatives and Schemes

1. FAME II Scheme:

- Under the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) India Scheme Phase II, Rs. 1,000 crore has been allocated specifically for the development of EV charging infrastructure.
- The aim is to establish around 2,700 charging stations in metros, other million-plus cities, smart cities, and cities of Hilly states across the country to ensure that at least one charging station is available in a grid of 3 km x 3 km.
- It also focuses on setting up charging infrastructure on major highways to ensure that there is a charging station every 25 km on both sides of the road (Heavy Industries Fame) (Heavy Industries Fame) .

2. Guidelines and Standards for Charging Infrastructure:

- The Ministry of Power issued guidelines and standards for the development of EV charging infrastructure in December 2018, which were further revised in 2020.
- These guidelines cover aspects such as the technical and safety standards for chargers, the role of public and private entities in setting up charging stations, and the interoperability of charging networks (Heavy Industries Fame) .

3. Private Sector Participation:

- The government encourages the participation of private players in setting up charging infrastructure through various incentives and facilitation measures.
- Companies like Tata Power, Fortum, and others have entered the EV charging space, setting up public charging stations in collaboration with local municipalities and state governments (Heavy Industries Fame) .

4. State-Level Initiatives:

- Several states have introduced their own policies and incentives to promote the establishment of EV charging stations.
- States like Maharashtra, Delhi, and Karnataka have announced subsidies and incentives for setting up charging infrastructure, including land

allocation, reduced electricity tariffs, and financial grants (Heavy Industries Fame) .

5. Public-Private Partnerships (PPPs):

- The government promotes PPPs for the development of charging infrastructure to leverage private sector efficiency and investment.
- Various pilot projects and partnerships have been launched to test and expand the charging infrastructure network (Heavy Industries Fame) .

6. Research and Development (R&D):

- Investment in R&D to develop cost-effective and efficient charging solutions is being encouraged.
- Efforts are being made to develop indigenous technologies for EV chargers to reduce costs and enhance local manufacturing capabilities (Heavy Industries Fame) .

Impact and Progress

- **Urban and Highway Charging:** Significant progress has been made in urban areas with the establishment of multiple charging stations. Highways are also being equipped with fast-charging stations to support long-distance travel.
- **Ease of Access:** Efforts are being made to integrate charging stations with digital platforms, allowing users to locate and book charging slots through mobile applications.
- **Increased Adoption:** The development of a robust charging infrastructure is expected to significantly boost the adoption of electric vehicles in India by addressing range anxiety and enhancing convenience for EV owners.

7. Phased Manufacturing Program (PMP)

- This initiative aims to promote domestic production of EV components to reduce dependency on imports and encourage local manufacturing.

The Phased Manufacturing Program (PMP) for Electric Vehicles (EVs) by the Government of India is a strategic initiative aimed at promoting domestic manufacturing and reducing the dependency on imports for EV components. This program aligns with India's broader goals of self-reliance (Aatmanirbhar Bharat) and enhancing the competitiveness of the domestic EV industry.

Key Features of the Phased Manufacturing Program (PMP):

1. Objective:

- To increase the local content in EV manufacturing by encouraging the production of components and sub-assemblies within the country.
- To create a robust supply chain for EV components domestically.
- To make EVs more affordable and accessible by reducing costs through local manufacturing.

2. Implementation Phases:

- The PMP is structured in phases to gradually increase the indigenization of various EV components.
- Each phase targets specific components and sets timelines for their local manufacturing to ramp up.

3. Targeted Components:
 - Initial Phases: Focus on components like battery packs, chargers, and electric motors.
 - Subsequent Phases: Include more sophisticated parts like Battery Management Systems (BMS), controllers, and other critical electronics.
4. Incentives and Support:
 - The program provides incentives to manufacturers who set up production facilities for EV components in India.
 - Support includes subsidies, tax breaks, and financial assistance for R&D and technology development.
5. Synergy with Other Schemes:
 - PMP is designed to work in tandem with other initiatives like the FAME II (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) scheme, the Production Linked Incentive (PLI) scheme for Advanced Chemistry Cell (ACC) Battery Storage, and the PLI scheme for Automobile and Auto Components.
 - These schemes collectively aim to build a comprehensive ecosystem for EV manufacturing in India.
6. Encouraging Global Players:
 - The program also aims to attract global EV manufacturers to set up production bases in India by offering a conducive business environment and competitive advantages.
7. Monitoring and Evaluation:
 - The progress of the PMP is regularly monitored to ensure that the set targets are being met.
 - Adjustments and updates are made based on the evolving market dynamics and technological advancements.

Impact and Progress

- Domestic Manufacturing: Significant strides have been made in localizing the production of key EV components, reducing costs, and improving supply chain resilience.
- Economic Growth: The program is expected to create numerous jobs, attract investments, and stimulate economic growth in the manufacturing sector.
- Environmental Benefits: By promoting EVs and reducing reliance on fossil fuels, the program contributes to India's environmental goals and emission reduction targets.

Future Outlook

- The PMP is expected to play a crucial role in making India a global hub for EV manufacturing.
- Continuous efforts are needed to address challenges such as technological gaps and scale-up production capacities to meet the growing demand for EVs.

8. Special Economic Zones (SEZs) and Manufacturing Clusters

- The government is promoting the establishment of SEZs and manufacturing clusters dedicated to EV manufacturing to streamline the production process and reduce costs. The Government of India (GOI) has been actively promoting the development of Special Economic Zones (SEZs) and Manufacturing Clusters to support the electric vehicle (EV) industry. These initiatives aim to create a conducive environment for investment, foster innovation, and build a robust manufacturing ecosystem for EVs and their components.

Special Economic Zones (SEZs)

1. Objective:

- To provide world-class infrastructure and an investor-friendly environment to attract foreign and domestic investments in the EV sector.
- To facilitate the export of EVs and their components by providing various fiscal and non-fiscal incentives.

2. Incentives:

- Fiscal Incentives: Includes exemptions from customs duties, central excise duties, service tax, state sales tax, and other levies.
- Income Tax Benefits: Includes a tax holiday for a certain period on export profits for units set up in SEZs.
- Simplified Procedures: Single-window clearance for various approvals, simplified compliance procedures, and relaxed labor laws.

3. Infrastructure and Facilities:

- SEZs offer state-of-the-art infrastructure, including power supply, water, transport, and logistics support.
- Provision of common facilities like R&D centers, testing facilities, and training institutes to support the EV industry.

4. Key SEZs for EVs:

- Sri City SEZ: Located in Andhra Pradesh, it is one of the prominent SEZs with several automotive and EV component manufacturers.
- Noida SEZ: Known for its proximity to the National Capital Region, it hosts various EV and electronics manufacturing units.

Manufacturing Clusters

1. Objective:

- To develop integrated manufacturing clusters with a focus on EVs and their components, fostering innovation, and enhancing the supply chain.
- To create an ecosystem that supports end-to-end manufacturing, from component production to final assembly.

2. Greenfield and Brownfield Projects:

- Development of new greenfield manufacturing clusters specifically designed for the EV industry.
- Upgradation and expansion of existing brownfield industrial areas to include EV manufacturing facilities.

3. Key Manufacturing Clusters:

- Chennai-Bengaluru Industrial Corridor (CBIC): Focuses on the development of an integrated manufacturing cluster for EVs and automotive components.

- Delhi-Mumbai Industrial Corridor (DMIC): Includes dedicated zones for EV manufacturing and aims to create a comprehensive industrial ecosystem.
 - Gujarat International Finance Tec-City (GIFT City): Although primarily a financial hub, it also promotes the establishment of manufacturing units, including those for EVs.
4. Incentives and Support:
- Capital Subsidies: Financial assistance for setting up manufacturing units and R&D centers.
 - Tax Benefits: Various state and central government tax benefits to reduce the cost of manufacturing.
 - Skill Development: Programs to train the workforce in advanced manufacturing technologies and EV-specific skills.

Collaboration and Investment

1. Public-Private Partnerships (PPPs):
 - The GOI encourages PPPs to leverage private sector efficiency and investment for the development of SEZs and manufacturing clusters.
 - Various projects are undertaken in collaboration with private players to ensure the rapid development of infrastructure.
2. Foreign Direct Investment (FDI):
 - 100% FDI is allowed in the EV sector under the automatic route, making it easier for foreign companies to invest in manufacturing and infrastructure development.
3. Government Initiatives:
 - Make in India: Aims to transform India into a global manufacturing hub, with a significant focus on the EV sector.
 - Aatmanirbhar Bharat: Emphasizes self-reliance by promoting domestic manufacturing of EVs and their components.

Future Outlook

- Economic Growth: The development of SEZs and manufacturing clusters is expected to attract significant investments, create job opportunities, and contribute to the overall economic growth of the country.
- Environmental Impact: By promoting the local manufacturing of EVs, these initiatives aim to reduce vehicular emissions and support India's commitment to reducing its carbon footprint.

9. NATIONAL ELECTRIC MOBILITY MISSION: 2020

Under its National Electric Mobility Mission Plan (NEMMP), the government is targeting to achieve 6-7 million sales of electric and hybrid vehicles in India by 2020. NEMMP aims to achieve national fuel security by promoting hybrid and electric vehicles in the country.

- NEMM intends to allow hybrid and electric vehicles to become the first choice for the purchasers so that these vehicles can replace the conventional vehicles and thus reduce liquid fuel consumption in the country from the automobile sector.

- National Electric Mobility Mission is a composite scheme using different policy-levers such as:
 - Demand side incentives to facilitate the acquisition of hybrid/electric vehicles.
 - Promoting R&D in technology including battery technology, power electronics, motors, systems integration, battery management system, testing infrastructure, and ensuring industry participation in the same.
 - Promoting charging infrastructure.
 - Supply side incentives.
 - Encouraging retro-fitment of on-road vehicles its hybrid kit.
- Under NEMMP 2020, Government has launched Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) scheme to promote manufacturing of electric and hybrid vehicle technology.

Objectives

- Achieve national energy security.
- Mitigation of the adverse impact of vehicles on the environment.
- Growth of domestic manufacturing capabilities in the automobile sector.

Steps Taken by Government for Faster Adoption of Electric Vehicles

- A tax cut has been announced on the loan amount taken for the purchase of electric vehicle in India.
- GST rates on electric vehicles have been slashed from the earlier 28% with cess to 12% with no cess.
- The sale of electricity has been allowed as a 'Service' for the charging electric vehicles which is set to provide huge incentives in order to attract investments into charging infrastructure.
- Ministry of Road Transport Highways issued notification regarding exemption of permit in case of battery-operated vehicles.

10. National Mission on Transformative Mobility and Battery Storage

Union Cabinet has approved setting up of a National Mission on Transformative Mobility and Battery Storage.

- The objective is to promote clean, connected, shared, sustainable and holistic mobility initiatives; Phased Manufacturing Programme (PMP) valid for 5 years until 2024.

Composition

- The multi-disciplinary “National Mission on Transformative Mobility and Battery Storage” with an Inter-Ministerial Steering Committee will be chaired by CEO NITI Aayog.
Role
- The Mission will recommend and drive the strategies for transformative mobility and Phased Manufacturing Programmes for Electric Vehicles, EV Components and Batteries.
- A Phased Manufacturing Program (PMP) will be launched to localize production across the entire EV value chain.
- The National Mission on Transformative Mobility and Battery Storage will determine the PMP and will finalize the details of such a program.
- The details of the value addition that can be achieved with each phase of localization will be finalized by the Mission with a clear Make in India strategy for the electric vehicle components as well as battery.
- The Mission will coordinate with key stakeholders in Ministries/ Departments and the states to integrate various initiatives to transform mobility in India.

Roadmaps

- A phased roadmap to implement battery manufacturing at Giga-scale will be considered with an initial focus on the large-scale module and pack assembly plants by 2019-20, followed by integrated cell manufacturing by 2021-22.
- Details of the PMP for Batteries shall be formulated by the Mission. The Mission will ensure holistic and comprehensive growth of the battery manufacturing industry in India.
- The Mission will prepare the roadmap that will enable India to leverage upon its size and scale to produce innovative, competitive multi-modal mobility solutions that can be deployed globally in diverse contexts.
- The Mission will define the roadmap for transformative mobility in “New India” by introducing a sustainable mobility ecosystem and fostering Make-in-India to boost domestic manufacturing and employment generation in the country.

Impact

- The Mission will drive mobility solutions that will bring in significant benefits to the industry, economy, and country.
- These solutions will help improve air quality in cities along with reducing India’s oil import dependence and enhance the uptake of renewable energy and storage solutions.
- The Mission will lay down the strategy and roadmap which will enable India to leverage upon its size and scale to develop a competitive domestic manufacturing ecosystem for electric mobility.

- The actions in this regard will benefit all citizens as the aim is to promote 'Ease of Living' and enhance the quality of life of our citizens and also provide employment opportunities through 'Make-in-India' across a range of skillsets.

Background

- Mobility has the potential to drive the economy forward and positively impact the lives of citizens both in urban and rural areas.
- Affordable, accessible, inclusive and safe mobility solutions are primary strategic levers for rapid economic development and improving 'Ease of Living'.
- Given its commitment to climate goals, India needs to adopt effective strategies to place itself as a key driver of the mobility revolution in the world.

Need for EVs in India

- Rapid urbanization has increased the demand for energy and transport infrastructure.
- India's commitment to addressing the issue of climate change necessitates the adoption of alternative fuels for environmental sustainability.
- The shift towards renewable energy sources has led to cost reduction from better 2/3 electricity generating technologies.
- Advances in battery technology have led to higher energy densities, faster charging and reduced battery degradation from charging.
- High expenses on oil import in the changing geopolitical conditions require India to ensure its energy security by moving towards alternative energy sources.

Factors that hinder the development of the EV industry in India

- Lack of a stable policy for EV production: Profit determination becomes uncertain considering the high capital costs and the uncertainty in policies related to EV production. This discourages investment in the industry.
- Lack of associated infrastructural support: The lack of clarity over AC versus DC charging stations, grid stability and range anxiety (fear that battery will soon run out of power) are other factors that hinder the growth of EV industry.
- Domestic factors affecting EV production: India does not have any known reserve of lithium and cobalt, it is dependent on countries like Japan and China for the import of lithium-ion batteries. Rupee depreciation has also negatively affected such imports.
- Lack of skilled workers: EVs have higher servicing costs and higher levels of skills is needed for servicing. India lacks dedicated training courses for such skill development.

The Karnataka government stands to benefit in several ways from the EV (Electric Vehicle) manufacturing policy issued by the Government of India (GOI):

1. **Economic Growth:** By promoting EV manufacturing, Karnataka can attract investments from companies in the EV sector. This can lead to job creation, increased economic activity, and a boost to local industries.
2. **Technology and Innovation:** The focus on EVs encourages technological advancements and innovation. Karnataka, being a hub for technology and research, can leverage this to strengthen its position as a leader in the automotive and tech industries.
3. **Environmental Benefits:** EVs produce fewer emissions compared to traditional vehicles, contributing to improved air quality and a reduction in pollution levels in the state.
4. **Infrastructure Development:** The push for EVs often includes the development of necessary infrastructure, such as charging stations, which can enhance urban mobility and support sustainable growth.
5. **Government Revenue:** Increased EV sales can lead to higher revenues from taxes and other charges related to the automotive sector. Additionally, there might be incentives and subsidies from the central government that can benefit the state.
6. **Global Competitiveness:** By aligning with national policies and promoting EV manufacturing, Karnataka can position itself as a competitive player in the global automotive market, attracting international businesses and collaborations.
7. **Sustainability Goals:** Supporting EV manufacturing helps Karnataka meet its sustainability and climate action goals, aligning with broader national and international commitments to reduce carbon emissions.