

India's e-bus push

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The private sector holds the key to India's e-bus push

1. India's Climate Commitment:

- India shows its commitment to reducing emissions through a recent focus on electric vehicles (EVs), especially electric buses.
- The PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) scheme was recently approved by the Union Cabinet, marking a significant milestone.

2. Need for Private Sector Involvement:

- Private-sector integration is crucial to accelerate the adoption of electric buses and meet climate goals.
 - Current efforts primarily benefit **public sector entities**, leaving private bus operators with minimal support.
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Public Sector-Driven Electric Bus Deployment

3. Background of FAME Program:

- The FAME (Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicles) scheme initially drove public EV adoption.
- FAME I and II schemes subsidized over 7,500 electric buses for public use, targeting **state and city transport bodies**.

4. Private Sector Exclusion:

- Only 7% of India's 24 lakh registered buses are public, with **93%** being privately owned.
 - The lack of support for private operators limits large-scale EV adoption, essential for substantial environmental benefits.
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Challenges Faced by Private Bus Operators

5. Financial Constraints:

- **High initial costs** and lack of subsidies make it hard for private operators to shift to electric buses.
- Financing challenges are worsened by a high-risk perception around EVs, affecting battery lifespan and resale value.

6. Insufficient Charging Infrastructure:

- Most charging stations funded by the FAME scheme cater to **public transport**, typically located at government bus depots.
- Private operators lack access to these facilities, and independent charging infrastructure investments are often impractical and costly.

7. Operational Constraints Due to Limited Charging Access:

- Electric buses typically cover 250-300 km per charge, which limits **long-distance travel** without adequate charging options.
- Private operators are restricted by limited charging stations on intercity routes.

8. Uncertain Battery Lifespan and Resale Market:

- **Battery degradation** over time impacts range and reliability, and replacements add significant costs.
- An underdeveloped resale market for electric buses makes it harder for operators to recover depreciation costs.

9. Policy Gaps and Regulatory Inconsistencies:

- **National policies** primarily support public EV adoption, leaving private operators with limited transition support.
- Inconsistent state regulations around permits, tariffs, and land use create additional challenges for private investment.

Solutions for Private Sector Integration

10. Financial and Infrastructure Support:

- **Interest subsidies**, longer loan tenures, and credit guarantees could ease financial burdens on private operators.
- Such measures can reduce perceived risks and make EV adoption more viable for private bus operators.

11. Developing Shared Charging Infrastructure:

- Establishing **shared public charging stations** in cities and along major routes can support private sector adoption.
- State governments can initiate charging infrastructure projects under the PM E-DRIVE scheme and incentivize private investment.

12. Innovative Business Models - Battery-as-a-Service (BaaS):

- The **BaaS model**, which separates battery ownership, can lower upfront costs for private operators.
- Battery swapping and leasing, as seen in countries like China and Kenya, provide cost-effective EV access for private operators.

Conclusion

13. Integrated EV Ecosystem Needed:

- Expanding support to **private bus operators** is essential for a holistic EV transition.
- Addressing financial barriers, enhancing charging infrastructure, and introducing flexible business models will promote widespread EV adoption across both public and private sectors in India.



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