ANALYSIS OF NATIONAL AND STATE EV POLICY TARGETS AND PATHWAY FOR EV

TRANSITION. A MODEL FOR LARGE SCALE ADOPTION OF E-BUSES

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INTRODUCTION

A. The project focuses on the quantification of EV policies at the national and state level. Along with this, the project predicts the total number of electric vehicle sales till the specified target year and the vehicle growth rate required to achieve the projected sales growth as declared in the specific EV policies. The study lays down the pathway to achieve the declared targets quantitatively.

RESULTS

A. The GDP growth rate and the growth rate of transportatlon are strongly correlated as the co-relation coefficient is found to be 0.93. Hence, it can



assumed that the transport growth rate can be around the GDP growth rate .

Projec	cted Vehic	cle sales gro	owth in dif	ferent sce	narios till :	2030	
600							528.59

Electric Vehicle sales growth in different scenarios till	
2030	
180	158.5

B. The project also proposes a utility-led business model for deployment of e-buses in the state of Odisha.

OBJECTIVE

- **A.** 1. Identification of states with declared EV targets by specific year
- 2. Quantification of the EV policy targets by the identified states.
- 3. Determine the growth rate(y-o-y) required to achieve the target.
- 4. Assess the pathway to achieve the specified targets.
- **B.** A financial model for deployment of electric



buses aiming to reduce TCO and profit (Rs/km) for the Bus service provider

METHODOLOGY

A. The methodology involves the use of regression analysis and demand forecasting technique to predict the sales data for the specified target year.



40% on the capital

over

Subsidy (max limit

of Rs 20 lakhs per

5% on loans for

purchase of e-

vehicle)[19]

buses [20]

and

Central

cost

10%

above

B. An excel based model has been developed utilizing the input parameters to calculate the financial parameters i.e., NPV, IRR, Payback Period,TCO,profit.



Estimated Vehicle sales growth till 2024



PROJECTED EV SALES

d) Maharashtra





B. The comparison of the standard and the utility-led model run for 10 years shows the following results:

UTILITY-LED MODEL (for BSP)	Parameters	Standard	Utility-led	Increase/Decrease	
IRR	28%		Model	Model		
		IRR	17%	28%	Increase	
Payback Period	4	Payback Period	6	4	Decrease	
(years)		(years)				
TCO /LCOT (INR/km)	45.65	TCO (INR/km)	52.411	45.65	Decreases by 12.9%	



Profit (INR/km) 7.588 14.34 Increases by 89% Profit (INR/km) 14.34 **CONCLUSION 1.** States should set up their EV targets which are feasible and should take appropriate efforts to align their targets with the desired EV growth rate. 2. Challenges plaguing e-bus sector can be overcome by appropriate selection of routes, route optimization and scheduling of operations. **3.** Utility-led model can reduce TCO and improve IRR and profit drastically than the standard operations model.