

Fuel Efficiency of Road Passenger Vehicles: Energy Security and Co-Benefits Analysis for India

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Fuel Efficiency of Road Passenger Vehicles: Energy Security and Co-Benefits Analysis for India

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Market segmentation for cars – Cross Country



ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

- India has highest share of small cars
- However share of medium size cars growing the fastest





Source : Cuenot, F., and L. Fulton. 2011. International comparison of light-duty vehicle fuel economy and related characteristics. OECD/IEA, Paris.







• Shift in vehicle size reducing fuel economy





Fuel Economy Initiative in India



- BEE Consultation Paper, October 2011 :
 - Comments received from stakeholders SIAM, and NGO's CSE, Prayas, IEA, etc.
 - Approval by PMO, August 2012
 - **<u>5 Star labelling</u>** based on weight of cars
 - Expected start 2017 (??)
 - Considered a part of BAU







Macro-economic drivers













Passenger Demand Estimation











Increase in Passenger Demand



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331

307







2050



Modal Shares













Scenario storylines



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• BAU Storyline

- Fuel economy norms proposed by BEE in 2011 are implemented
- Increasing incomes mean that an increasing weightage for safety, reliability and comfort from car buyers.
- Increasing preference for medium size cars

- Fuel Economy storyline
 - The vision of 4 lit / 100
 km in 2030 according to GFEI.
 - Similar improvements in engine technologies for 2 wheelers and buses





Soft-Linked Integrated ModeRISØ

Soft-Linked Integrated Model System (SLIM)

ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT





NEP



UNEP RISØ centre

ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT



Overall energy savings from BAU between 2010 and 2050 **476 Mtoe**





Fuel Efficiency: BAU and Fuel Economy











CO2 Emissions transport



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Overall emissions lower by

- 10.6% from BAU in 2020
- 25.0% from BAU in 2050







PM 2.5 Emissions



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DTU



Emission standards BS III till 2020, BS IV till 2030 and BS V beyond 2030



BS IV BS V

AHMEDABAT







- 1. Local Pollutants: More fuel efficient vehicles will reduce lower local pollutants but marginally.
- Energy Savings: 476 Mtoe of energy savings for period 2010 -2050(0.08 % of Cumulative GDP at current oil prices)
- 3. CO_2 Emissions: Lower by 25% in BAU in 2050
- 4. Overall impacts will be lower in association with other interventions e.g., sustainable mobility







Thank You

Questions / Suggestions



