

Projections of highway vehicle population, energy demand, and CO₂ emissions in India to 2040

By Salil Arora, Anant Vyas, and Larry Johnson

Argonne National Laboratory

ABSTRACT

This paper presents projections of motor vehicles, oil demand, and carbon dioxide (CO₂) emissions for India through the year 2040. The populations of highway vehicles and two-wheelers are projected under three different scenarios on the basis of economic growth and average household size in India. The results show that by 2040, the number of highway vehicles in India would be 206-309 million.

The oil demand projections for the Indian transportation sector are based on a set of nine scenarios arising out of three vehicle-growth and three fuel-economy scenarios. The combined effects of vehicle-growth and fuel-economy scenarios, together with the change in annual vehicle usage, result in a projected demand in 2040 by the transportation sector in India of 404-719 million metric tons (8.5-15.1 million barrels per day). The corresponding annual CO₂ emissions are projected to be 1.2-2.2 billion metric tons.

In: Natural Resources Forum 35 (2011) 49–62, United Nations