Win-win Transportation Strategies for India: Linking Air Pollution and Climate Mitigation

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Highlights

• Five modeling teams analyzed India's transportation sector.

• Teams modeled six transportation scenarios to reduce CO2 and PM2.5 emissions.

• All measures provide strong co-benefits in reducing air pollutants and CO2 emissions.

• Increased energy efficiency has the highest potential for reducing emissions throughout 2050.

• It is possible to reach even larger emissions reductions by combining several policy measures.

Abstract

This article analyzes road transport in India to explore linkages between air pollution and climate change policies in the transportation sector. Five teams modeled five policy scenarios – fuel efficiency, electrification, alternative fuels, modal shifts, and moderation in transport demand – to explore which policy brings the largest synergetic effects in reducing carbon dioxide (CO2) and particulate matter (PM2.5) emissions. The teams also modeled the comprehensive scenario which included policy measures from individual scenarios. The paper concludes that all of the measures provide strong co-benefits in reducing air pollutants and CO2 emissions. The modeling results show that the increased energy efficiency of passenger and freight vehicles has the largest potential for reducing both CO2 and PM2.5 emissions. It is possible to reach an even larger reduction of air pollutants and CO2 emissions by combining several policy measures in the comprehensive scenario.

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