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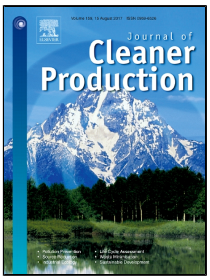

Pathways for energy conservation and emissions mitigation in road transport up to 2030: A case study of the Jing-Jin-Ji area, China

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Pathways for energy conservation and emissions mitigation in road transport up to 2030: A case study of the Jing-Jin-Ji area, China

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Abstract: Due to the tremendous increase in vehicle population, road transport is becoming a major source of air pollution emissions in the Jing-Jin-Ji area of China. In this research we apply the COPERT model to provide estimates of the regional fuel consumption and emissions to explore the mitigation potentials under six scenarios. Our results showed that constraining vehicle registration is the most effective measure for reducing fuel consumption, CO_2, CO and VOC emissions, while strengthening vehicle emissions standards can achieve great reduction of NO_X, $PM_{2.5}$ and SO_2 emissions. We also found that passenger cars would account for most of the CO, VOC and SO_2 emissions in the future, while most of NO_X and $PM_{2.5}$ emissions would be emitted by diesel powered vehicles. In order to save energy and reduce CO_2 as well as atmospheric pollutants at the same time, a combination of different measures is required.

Keywords: road transport; COPERT model; emission mitigation; policy scenarios; Jing-Jin-Ji area

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