A modelling approach to supply and demand of gasoline in the passenger car sector in China up to 2030

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Abstract

Gasoline and diesel consumption in China have been increasing, but at rather different rates. It is expected that their increase rates will differ further due to slow down of the economy, mainly affecting diesel demand, and fast development of the private car sector thus fast increase in gasoline. On the supply side, a certain degree of uncertainty and flexibility also exist, mainly resulting from potential changes in oil import amount and quality, development of alternative liquid fuels, retrofitting refineries and building new ones, and others. In this paper, we present a modelling based approach to analyzing supply potential and flexibility of gasoline up to 2030, and demand for gasoline from the private car sector under various development scenarios. Results indicate that production ratio between diesel and gasoline in China can change in the range between 1.27 and 2.92. A gap of 20 million tonnes between demand and supply of gasoline may appear around 2019 and afterwards, indicating some constraints or fuel-saving measures should be taken.