

India

Country spotlight

Population (million) (World Bank, 2016a):	1 311
Urban population (% of total) (World Bank, 2016b):	33%
GDP per capita (2014 USD/year) (World Bank, 2016c):	1 600
Average price gasoline and diesel (USD cent per L, 2014) (GIZ, 2015):	110; 91
Fuel tax class (2014) (GIZ, 2015):	taxed fuel price for gasoline, subsidised diesel

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In 2015, about 3.1 million LDVs were sold in India (IHS Markit, 2016). The LDV stock totalled 30.1 million cars (IEA, 2016a), implying an ownership rate of only 0.023 LDVs per capita, which is the lowest among the group of countries discussed in this report. India has the strongest growth prospects for future LDV sales, however, and LDV ownership is likely to increase dramatically once personal income approaches and exceeds USD 5 000 per year. In January 2014, the Indian government adopted CO₂ emission regulations, which will take effect from April 2016 (TransportPolicy, 2016). The standard sets a fleet target of about 130 g CO₂/km for 2016, which will go down to 113 g CO₂/km in 2021 (based on NEDC) (TransportPolicy, 2016).

Market profile and vehicle characteristics

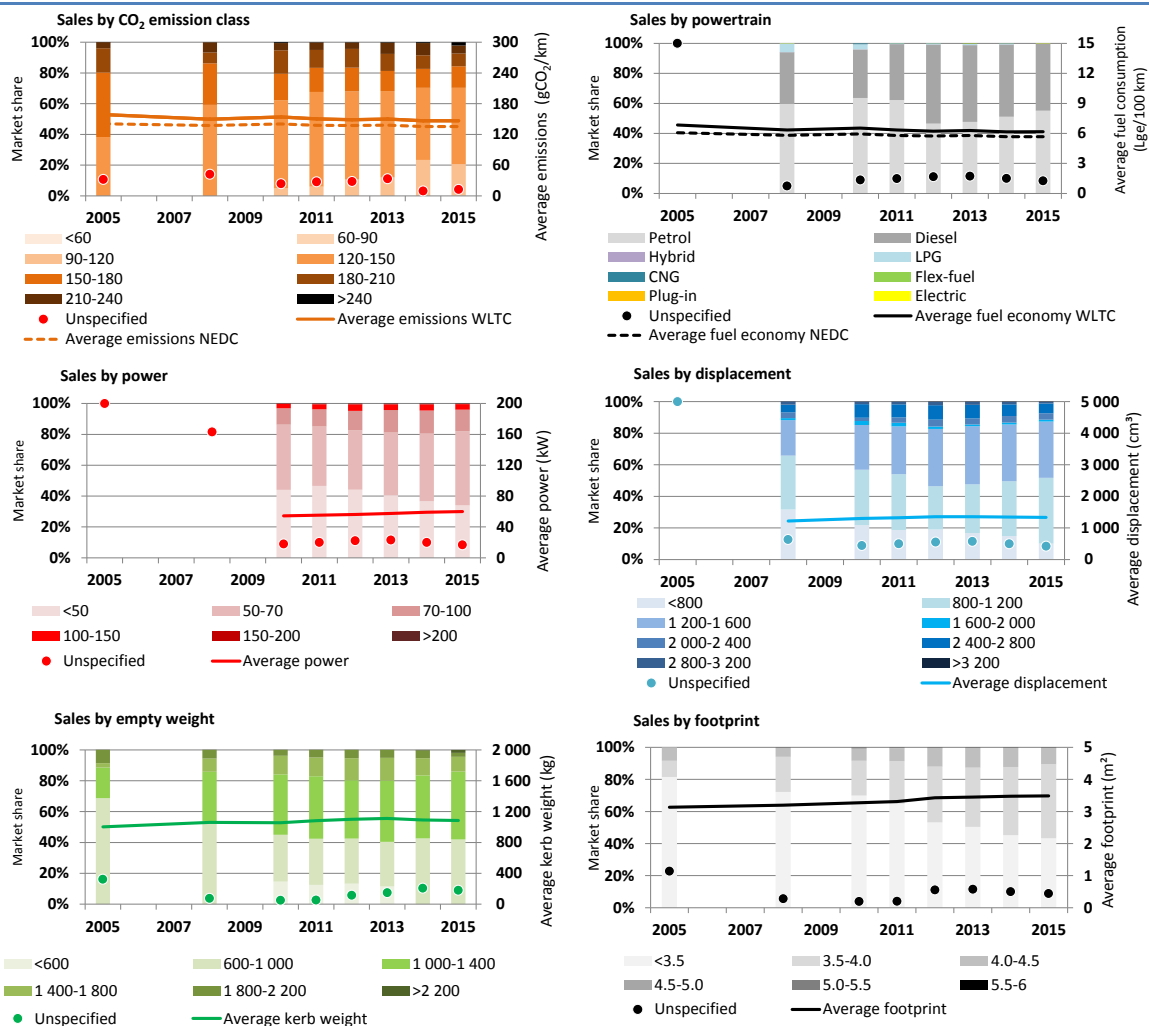
India's LDV market was the fifth-largest in the world in 2015, with just over 3 million cars sold, equal to the United Kingdom (IHS Markit, 2016). India is also positioning itself as a vehicle manufacturer, with 3.8 million vehicles produced in 2015, making India the sixth-largest producer worldwide (OICA, 2016). India has multiple domestic producers, including Maruti, Mahindra and Tata, whose market share fell between 2005 and 2015, but still represented around 65% of new sales.

Average CO₂ emissions of newly registered LDVs have hovered around 150 g CO₂/km across the past decade. Vehicles emitting 90-120 g CO₂/km have increased in market share to almost one-fifth in 2015. The average fuel consumption per km of new LDVs improved by a modest 2% from 2013 to 2015 to 6.2 Lge/100 km. India's average specific fuel consumption of new LDVs is 20% below the global average and around 25% lower than that of China and Indonesia. After four years of substantial growth between 2008 and 2012, diesel's market share fell, losing 16% of its market share to gasoline LDVs from 2012 to 2015. Diesel LDVs accounted for 45% of the market in 2015, and the remaining 55% of the market went to gasoline LDVs. Advanced powertrains had a negligible market share.

In 2015, new LDV engines had on average 10% more power than in 2010. The middle segment of 70-100 kW gained the most market share between 2013 and 2015, indicating that more customers bought slightly more powerful LDVs than in previous years. Nevertheless, vehicles in India are among the least powerful cars worldwide. For example, new LDVs in Germany are 75% more powerful and nevertheless have a slightly better average fuel economy. This comparison indicates that improved technologies could further advance India's average fuel economy. Average engine displacement declined by 2% from 2013 to 2015. India's LDV market moved towards the middle segments, with decreasing market shares of LDVs in low (<0.8 L) and high (more than 1.6 L) engine displacement segments.

Average weight increased between 2010 and 2013, but stabilized in 2014 and 2015, showing that the interest for relatively small vehicles remains strong in India. The average footprint of new LDVs is still growing, having reached 3.5 m² in 2015, while still remaining the smallest average footprint of all countries covered in this report. Only 10% of LDVs sold were larger than 4 m².

Figure 1 • LDV market by g CO₂/km, powertrain, power, displacement, weight and footprint, India, 2005-15

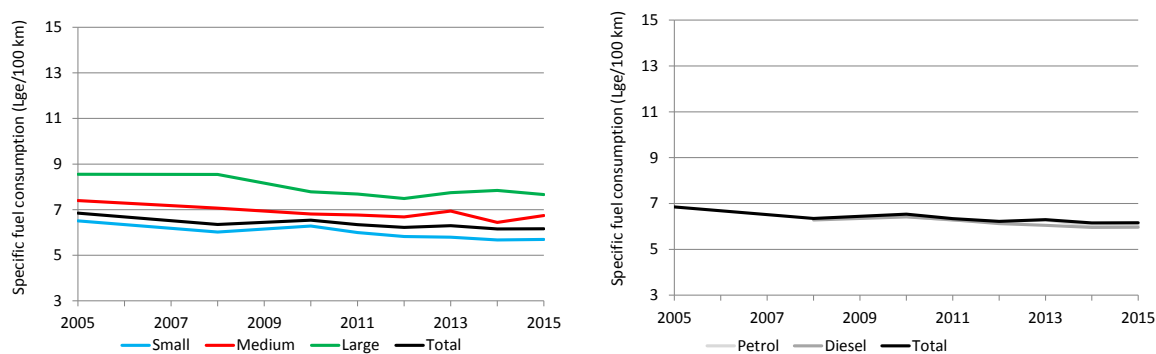


Source: IEA elaboration and enhancement for broader coverage of IHS Markit database.

Analysis of fuel economy trends

Average fuel economy by vehicle segment improved in the decade preceding 2015, despite some fluctuations (Figure 2, left). The efficiency of diesel and gasoline LDVs is very similar, with a slight advantage for diesel LDVs (Figure 2, right). In contrast to most non-OECD countries, diesel powertrains are also widely available in the smaller segments in India.

Figure 2 • Average new LDV fuel consumption per km by vehicle segment and powertrain, India, 2005-15

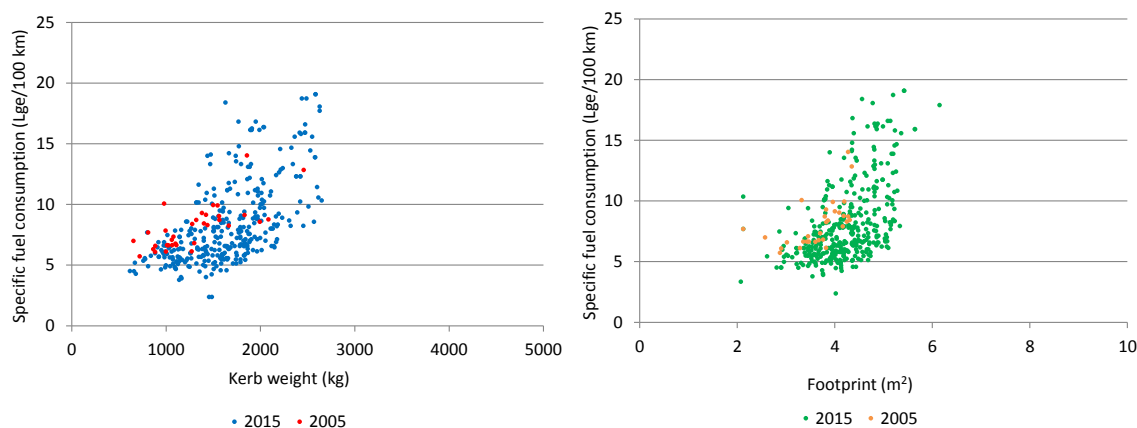


Source: IEA elaboration and enhancement for broader coverage of IHS Markit database.

This summary is taken from GFEI Working Paper 15. For more complete information and references, see <https://www.globalfuelconomy.org/data-and-research/publications/gfei-working-paper-15>

The graphs plotting fuel economy against LDV weight and footprint are much less populated in comparison with those for Europe, North America and China, indicating a lower variety of LDV models available to the market (Figure 55). Nevertheless, the number of models available increased substantially between 2005 and 2015. New LDVs clearly improved their specific fuel consumption despite increases in their weight and footprint between 2005 and 2015.

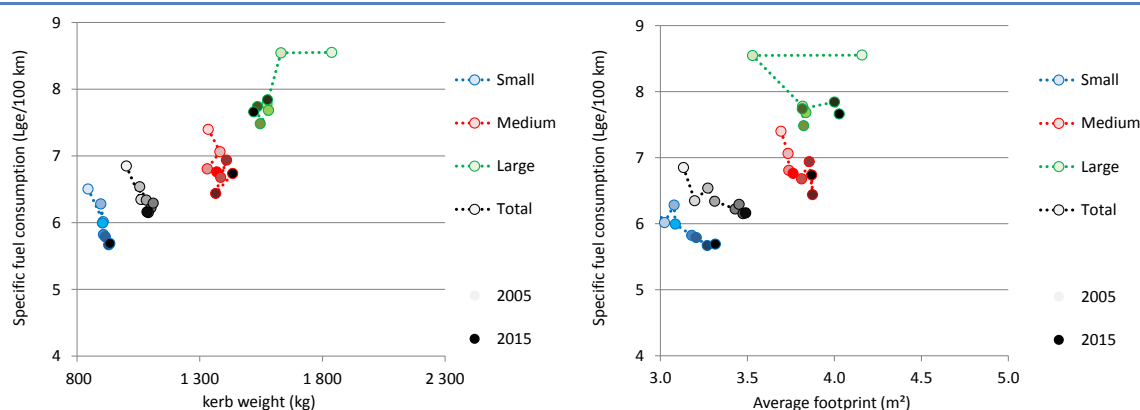
Figure 3 • Fuel consumption per km of new LDVs plotted against vehicle weight and footprint, India, 2005 and 2015



Source: IEA elaboration and enhancement for broader coverage of IHS Markit database.

LDV weight has slightly increased for small vehicles, while the weight of medium and large LDVs hardly changed, nor have medium and large vehicles improved in terms of average specific fuel consumption between 2010 and 2015. The footprint indicator shows more extreme differences for all vehicle segments. The footprint of small vehicles grew significantly, while large LDVs moved back and forth in average size between 2010 and 2015. The overall increase of footprint across all sales has been driven primarily by small LDVs, the most relevant by market share in India.

Figure 4 • Average new LDV fuel consumption per km by segment plotted against vehicle weight and footprint, India, 2005-15



Source: IEA elaboration and enhancement for broader coverage of IHS Markit database.

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