

Chile

Country spotlight

Population (million) (World Bank, 2016a):	17.9
Urban population (% of total) (World Bank, 2016b):	90%
GDP per capita (2014 USD/year) (World Bank, 2016c):	13 400
Average price gasoline and diesel (USD cent per L, 2014) (GIZ, 2015):	152; 109

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Fuel tax class (2014) (GIZ, 2015): highly taxed petroleum fuels (gasoline)

In 2015, around 280 000 LDVs were sold in Chile (IHS Markit, 2016). In the same year the LDV stock totalled about 2.9 million, with LDV ownership of 0.16 per capita (IEA, 2016a).

Since 2012, vehicle labels providing information to consumers on fuel economy and pollutant emissions became mandatory (Lopez, 2014). In 2014, the Chilean Congress also approved tax reform introducing progressive fees on vehicles for which specific fuel consumption and pollutant emissions surpass a certain threshold (GFEI, 2015; Lopez, 2014). As a result, diesel vehicles with high nitrogen oxide (NO_x) emissions are subject to higher tax. Furthermore, Chile has banned the import of used vehicles, preventing inefficient vehicles from entering the Chilean LDV market (UNEP, 2015).

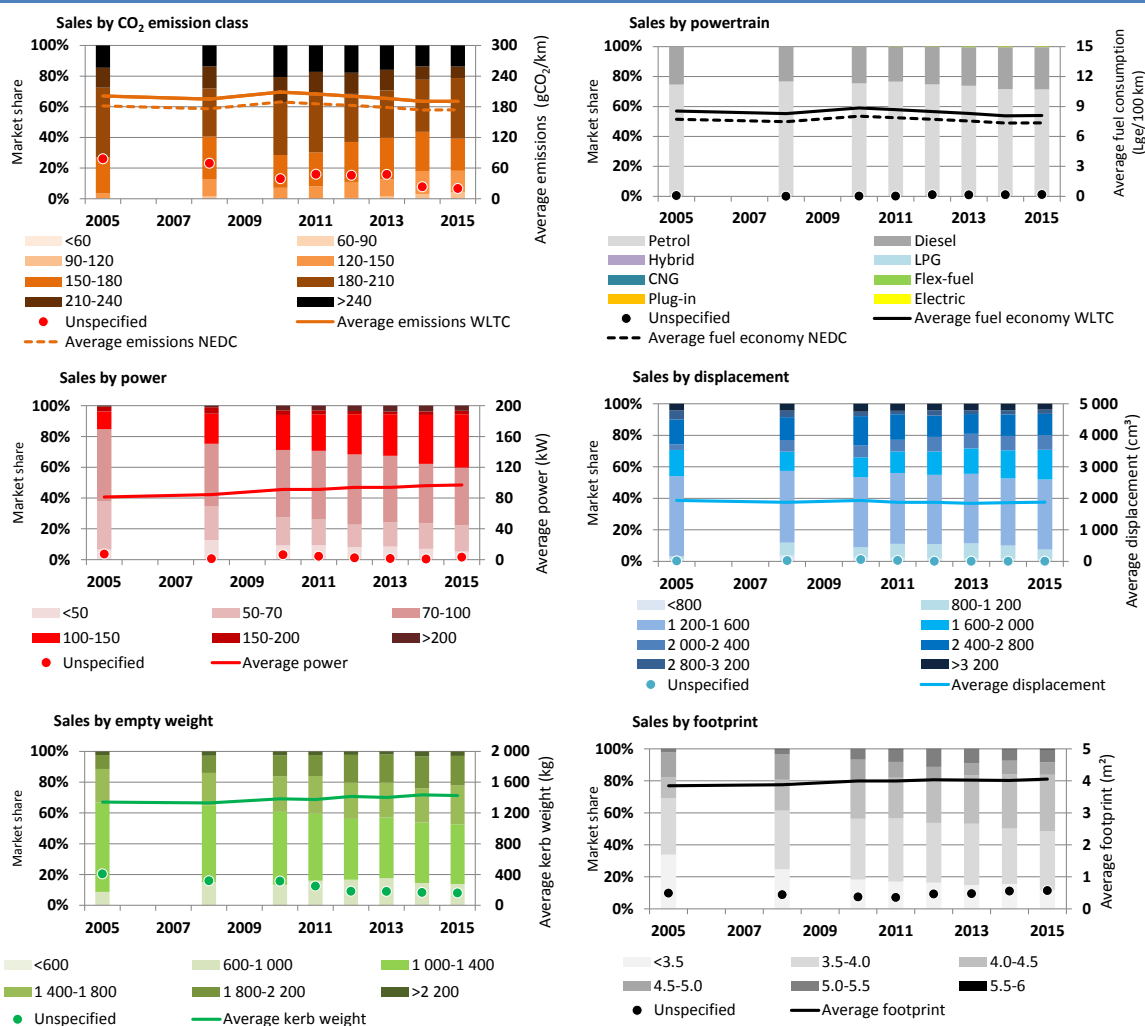
Market profile and vehicle characteristics

In 2015, just over 280 000 new LDVs were registered in Chile (IHS Markit, 2016). This represented a further fall in LDV sales since 2013, when sales totalled almost 380 000 LDVs. Chile has no domestic LDV production, but exports vehicle parts. The Chilean car market is dominated by Korean, Japanese and North American OEMs.

CO₂ emissions per kilometre decreased from 200 g CO₂/km to 190 g CO₂/km between 2013 and 2015. Sales of vehicles in the heaviest emission class (>240 g CO₂/km) declined significantly, while the market share of vehicles emitting 120-150 g CO₂/km increased in 2014. Between 2013 and 2015, the average fuel economy improved from 8.3 Lge/100 km to 8.1 Lge/100 km, 10% above the global average and 30% above the United Kingdom, the European country with average power, weight and footprint characteristics that are closest to Chile.

The market share of LDVs powered by diesel fuel grew from around 25% in 2013 to 30% in 2015 in Chile. This is consistent with the tax advantage given in 2015 to vehicles with a better fuel consumption/km (Lopez, 2014 and ICAP, 2016) and suggests that this outweighed the component of the same tax based on NO_x emissions/km.

The average power of new LDVs continues to increase and reached almost 100 kW in 2015. This is similar to power ratings in South Africa and the United Kingdom. Average engine displacement decreased until 2013, but rose again between 2013 and 2015 towards 1.9 L. Newly registered LDVs were around 2% heavier in 2015 compared with 2013, but had almost the same weight as in 2014. The average footprint of Chilean LDV registrations gradually increased from 3.8 m² in 2005 to 4.1 m² in 2015.

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

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

Analysis of fuel economy trends

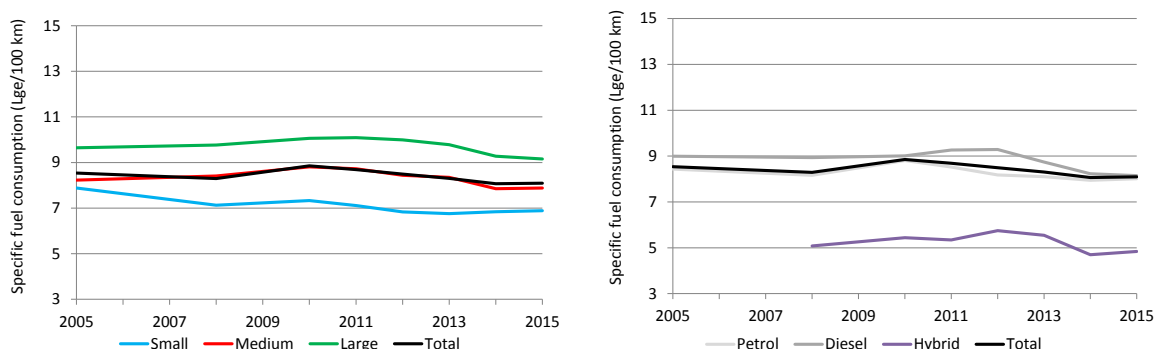
Improving average fuel economy began in 2010, but slowed in 2014 and levelled off in 2015 (Figure 2). In the small vehicle segment, specific fuel consumption has been rising since 2012. Moreover, the fuel economy of vehicles in the small and medium segments did not significantly improve between 2014 and 2015. On the other hand, the average fuel use per km of large vehicles declined between 2011 and 2015, slowing in the last year. Diesels had almost the same specific fuel consumption in 2015 as in 2013, as did gasoline powertrains. Hybrids remained about 35% more efficient than the average of all LDV sales.

The market saw a modest movement towards heavier, larger and more fuel-efficient vehicles between 2005 and 2015 (Figure 3). As in the case of Brazil, the wider vertical distribution of points on both plots shows that the distribution of both weight and footprint widened over the past decade.

Figure 4 suggests a clear tendency towards smaller and lighter vehicles in the small vehicle segment. Buyers of small vehicles may have paid more attention to the fuel economy label than those of medium-sized and large cars, possibly due to higher sensitivity to fuel costs (e.g. stricter budget constraints in the case of buyers of small cars). The fuel economy of medium vehicles improved, while the average weight of large LDVs increased in parallel of an increasing fuel use per km until 2013, thereafter experiencing a trend reversal in 2014 and 2015. Footprint evolved in a similar fashion to

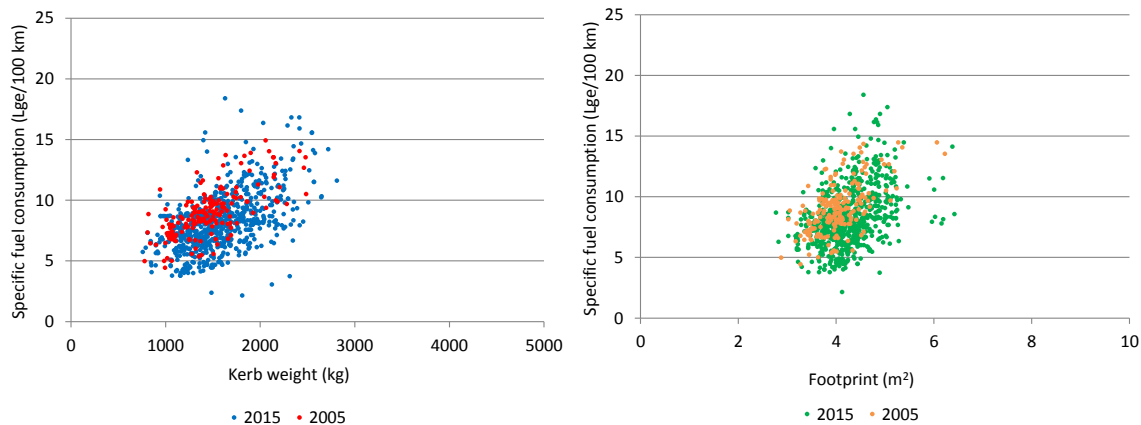
weight, except for small vehicles. This segment experienced only minor changes in footprint between 2010 and 2015.

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



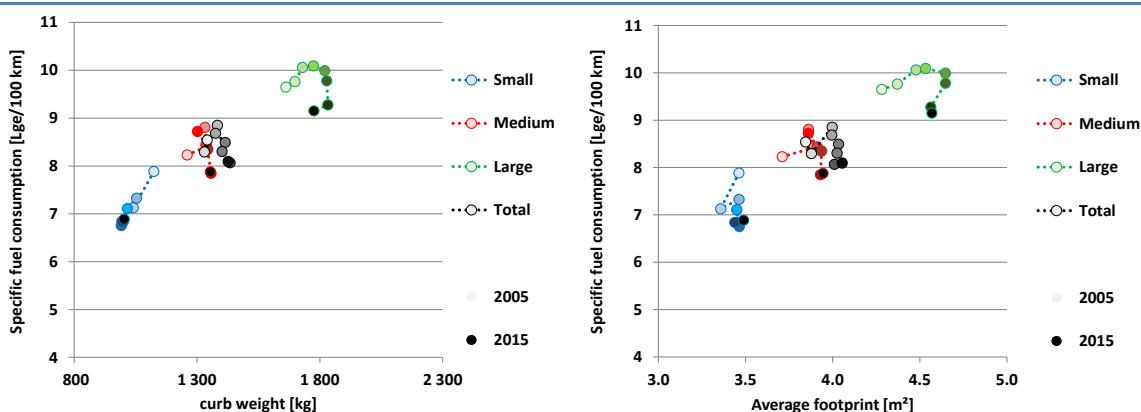
Source: IEA elaboration and enhancement for broader coverage of IHS Markit database.

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



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

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



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

References

- GFEI (Global Fuel Economy Initiative) (2015), Newsletter, Issue Number 11, www.fiafoundation.org/connect/publications/gfei-newsletter-11.
- GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) (2015), *International Fuel Prices 2014 – Data Preview*, www.giz.de/expertise/downloads/giz-2015-en-ifp2014.pdf.
- IEA (International Energy Agency) (2016a), “Technology and policy drivers of the fuel economy of new light-duty vehicles: comparative analysis across selected automotive markets”, GFEI Working paper 12, OECD/IEA, Paris, www.globalfueleconomy.org/data-and-research/publications/gfei-working-paper-12.
- IHS Markit (2016), *Vehicle Registrations and Other Characteristics at Model Level* (database), IHS Markit.
- Lopez, G. (2014), “Global Fuel Economy Initiative: Chile case study”, presentation by Gianni Lopez (Centro Mario Molina, Chile) at Sixth Latin American Regional Main Dialogue, 27-29 October, Washington, DC.
- OICA (International Organization of Motor Vehicle Manufacturers) (2016), *World Motor Vehicle Production*, www.oica.net/category/production-statistics.
- UNEP (2015), *Air Quality Policies: Chile*, UNEP, www.unep.org/transport/airquality/Chile.pdf.
- World Bank (2016a), *World Bank Open Data, World Development Indicators: Population Dynamics*, <http://databank.worldbank.org/data/reports.aspx?source=health-nutrition-and-population-statistics>.
- World Bank (2016b), *World Bank Open Data, Urban population (% of total)*, <http://databank.worldbank.org/data/reports.aspx?source=health-nutrition-and-population-statistics>.
- World Bank (2016c), *World Bank Open Data, GDP per capita (current USD)*, http://databank.worldbank.org/data/reports.aspx?Code=NY.GDP.PCAP.CD&id=af3ce82b&report_name=Popular_indicators&populartype=series.