Fostering responsible consumption and circular economies in regions (SDG 12)

With lower levels of household energy consumption and declining waste generation over the last two decades, capital regions in Europe lead the way to more sustainable consumption.

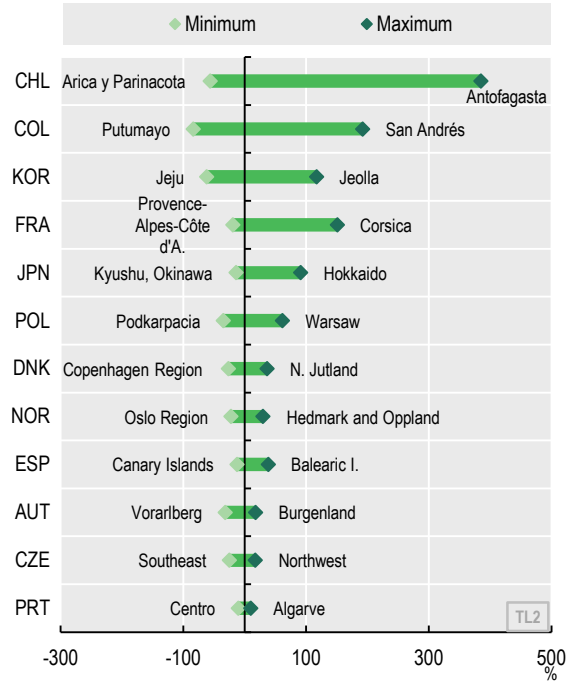
The preservation of the environment requires all regions and cities to increase resource efficiency and promote responsible consumption. Yet, within OECD countries, per capita energy consumption in the region with the highest consumption is typically three times higher than in the region with the lowest consumption – where household energy consumption includes water heating, space cooling and heating, cooking, lighting and electrical appliances but excludes transport and consumption outside the house. In Europe, households living in capital regions tend to consume less energy per capita than the national average. In Denmark and Norway, Copenhagen and Oslo are the regions with the lowest energy consumption per capita in 2018. With an energy consumption per capita of 490 kg of oil equivalent (see Definition), Ile-de-France records the second-lowest level of energy consumed per capita in France, 3 times lower than in Corsica. In Portugal, where the level of energy consumption is relatively high compared to other European countries, the average households' energy consumption in the region of Lisbon is about 15% lower than in the touristic region of Algarve – the Portuguese region with the highest energy use per capita. Similarly, in Spain, households in the region of Madrid consume on average 35% less energy than in the Balearic Islands (Figure 3.15).

Since transitioning from fossil-fuel-powered vehicles to cleaner modes of transport is essential to reduce both CO_2 emissions and air pollution, responsible consumption also relates to people's choices in available modes of transport. Road transport generates close to 22% of the CO_2 emissions in Europe and is among the main sources of air pollution (EC, 2019; EEA, 2019). However, the number of private vehicles per capita contributing to such emissions differs widely across types of regions in OECD countries. In Asian and European countries, metropolitan regions have on average fewer vehicles per inhabitant than regions far from metropolitan areas. In Austria, Estonia, Finland, Sweden, Switzerland and the United Kingdom, motor vehicle rates are at least 15% higher in regions far from metropolitan areas than in metropolitan regions (Figure 3.16).

Within-country differences in the use of private vehicles are particularly large in North American and Southern European countries. In the United States, Montana records around 3 times more vehicles per inhabitant than the District of Columbia that counts only 286 private vehicles per 1 000 people. Similar differences exist in France, Italy and Portugal. The largest regional disparities in vehicles rates, however, are recorded in Greece, Italy, Mexico and the United States. Moreover, motor vehicle rates have increased at a very high speed in some regions of Mexico over the past 20 years. In the region of Tlaxcala (Mexico) for example, where 54 vehicles were registered per 1 000 inhabitants in 2000, the private vehicle rate has multiplied by a factor of 6, going up to 347 vehicles per 1 000 inhabitants in 2018 (Figure 3.17).

3.15. Disparities in energy consumption per capita, large regions (TL2), 2018

Percentage deviation from the country average



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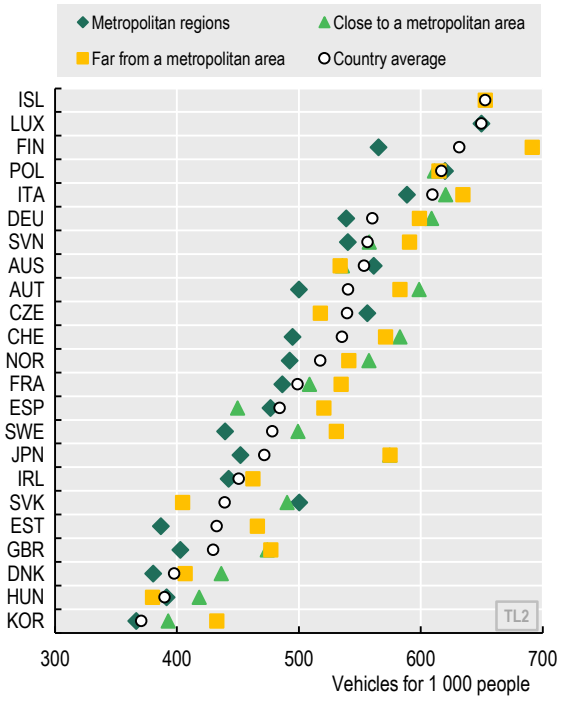
3.16. Private vehicles rate by type of small regions (TL3), 2018

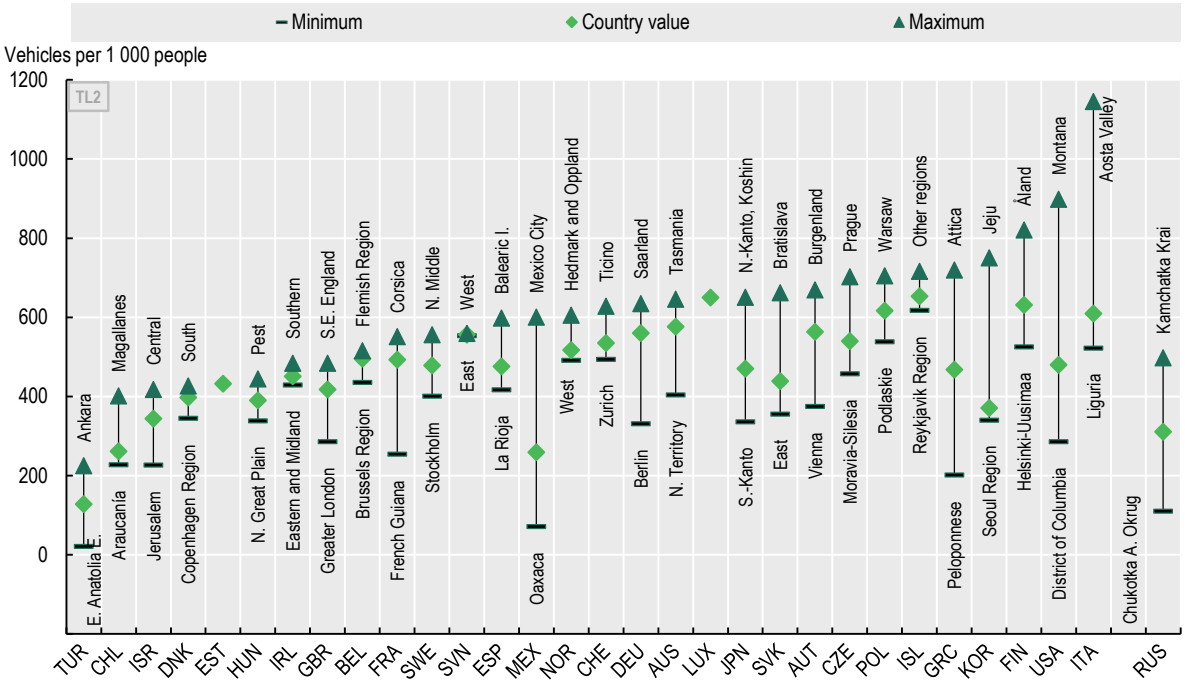
Private motor vehicles per 1 000 people



StatLink https://doi.org/10.1787/888934190324

3.17. Regional disparities in private vehicles rate, 2018

Vehicles per 1 000 people, large regions (TL2)



StatLink https://doi.org/10.1787/888934190343

In addition to efficient energy consumption and cleaner modes of transport, pursuing sustainable development also requires lowering materials consumption, thereby avoiding waste and recycling more. Materials extraction and processing contributes to GHG emissions and accounts for substantial water, soil and air pollution (OECD, 2019).

While European capital regions have significantly reduced their municipal waste generation per inhabitant over the last 20 years, most Latin American regions have increased it, though municipal waste per capita remains much lower, reflecting lower income levels. In Europe, capital regions often show the highest reduction in waste generation per person in their respective countries. For example, the regions of London (United Kingdom) and Vienna (Austria) decreased municipal waste generation by over 30% between 2000 and 2018 – equivalent to a reduction of 190 and 250 kilograms of waste per capita respectively. Similarly, the regions of Berlin, Ile-de-France and Lisbon reduced their waste production by more than 33 kilograms of waste per capita, even though most of the regions in France, Germany and Portugal actually experienced an increase in per capita waste generation from 2000 to 2018. In contrast to European capital regions, most regions in Chile, Colombia and Mexico have increased their waste generation over the period 2000-18 (Figure 3.18-Figure 3.19). In addition to reducing waste generation, recycling constitutes another challenge in Latin American regions as its practice remains very limited. For example, although Atacama (Chile) and Mexico City (Mexico) show the highest levels of recycled waste in their country (24% and 17% respectively), these levels are significantly below the OECD average of 40% (Figure 3.20).

Definition

Energy consumption per capita refers to households' electricity and heat consumption, excluding energy used for transportation. Kilograms of oil equivalent, or kgoe, is a normalised unit of energy. It is equivalent to the amount of energy that can be generated from one kilogram of crude oil.

Motor vehicles per capita refers to the road motor vehicles intended for the carriage of passengers and designed to seat no more than nine persons including the driver. Motorcycle are excluded.

Recycled municipal waste includes waste that undergoes material recycling, composting or energy recovering. Landfilling is excluded.

Sources

OECD (2020), *OECD Regional Statistics (database)*, OECD, Paris, *http://dx.doi.org/10.1787/region-data-en*.

OECD (2019), *Global Material Resources Outlook to 2060: Economic Drivers and Environmental Consequences*, OECD Publishing, Paris, *https://dx.doi.org/10.1787/9789264307452-en*.

See country metadata in Annex B.

Reference years and territorial level

See territorial grids and regional typology in Annex A.

Figure notes

Figure 3.15: 2017 for FRA, KOR and PRT; 2016 for JPN; and 2012 for NOR.

Figure 3.16: 2014 for DNK, ISL, ITA, CHE and TUR; 2013 for AUT, JPN, MEX and GBR; 2012 for AUS and LUX; 2011 for EST; and 2010 for FRA and ESP.

Figure 3.17: 2020 for AUS; 2017 for FRA; 2014 for AUS, BEL, DNK, GRC, ISL, ITA, CHE and TUR; 2013 for JPN and GBR; 2012 for LUX; 2011 for EST; and 2010 for ESP.

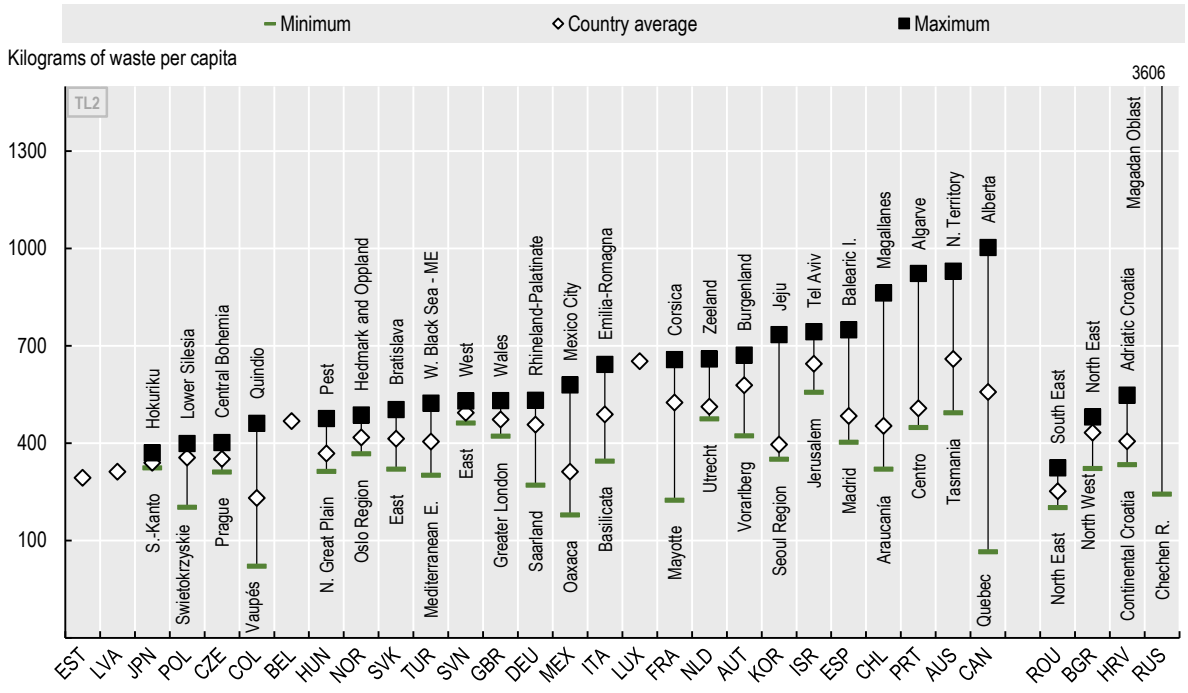
Figure 3.18: 2017 for FRA; 2014 for AUS, BEL, DNK, GRC, ISL, ITA, CHE and TUR; 2013 for JPN and GBR; 2012 for LUX; and 2010 for EST and ESP.

Figure 3.19: First year: 2001 for TUR; 2002 for CAN, SVK and SVN; 2004 for AUT, BGR and CZE; 2005 for FRA; 2006 for DEU and JPN; 2007 for AUS and COL; and 2008 for KOR. Last year: as in Figure 3.18.

Figure 3.20: 2017 for AUS, CHL, ITA and NLD; 2016 for JPN and MEX; 2015 for DEU and NOR; 2013 for BGR, HRV, CZE, EST, LVA, LUX, GBR; 2012 for BEL and ROU; and 2010 for SWE.

3.18. Regional disparities in municipal waste per capita, 2018 or most recent

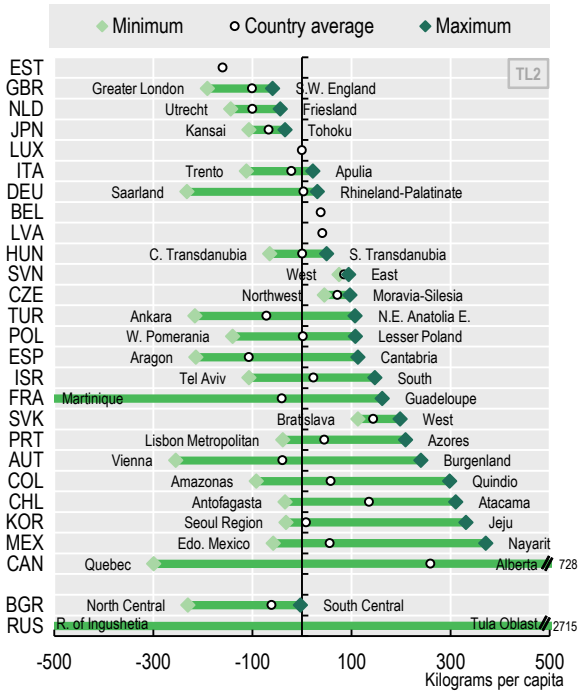
Kilograms of municipal waste per capita, large regions (TL2)



StatLink https://doi.org/10.1787/888934190362

3.19. Change in municipal waste per capita, 2000-18

Change in kilograms of municipal waste per capita, large regions (TL2)



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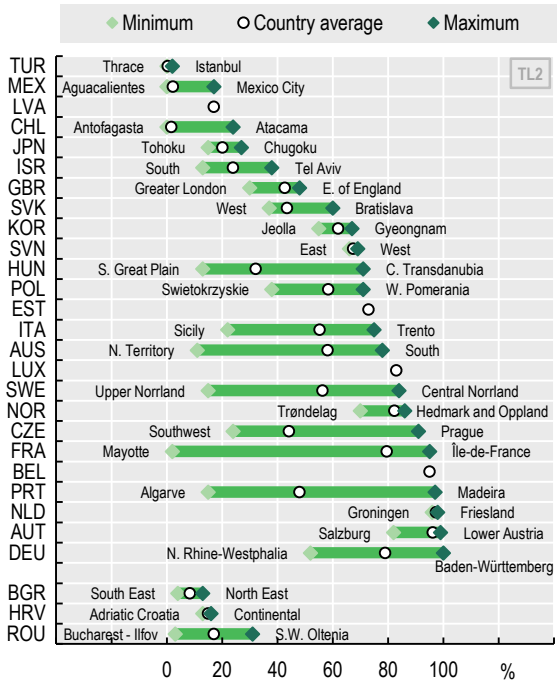
3.20. Recycled municipal waste, 2018

Recycling includes energy recovery and composting, percentage of total waste, large regions (TL2)



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