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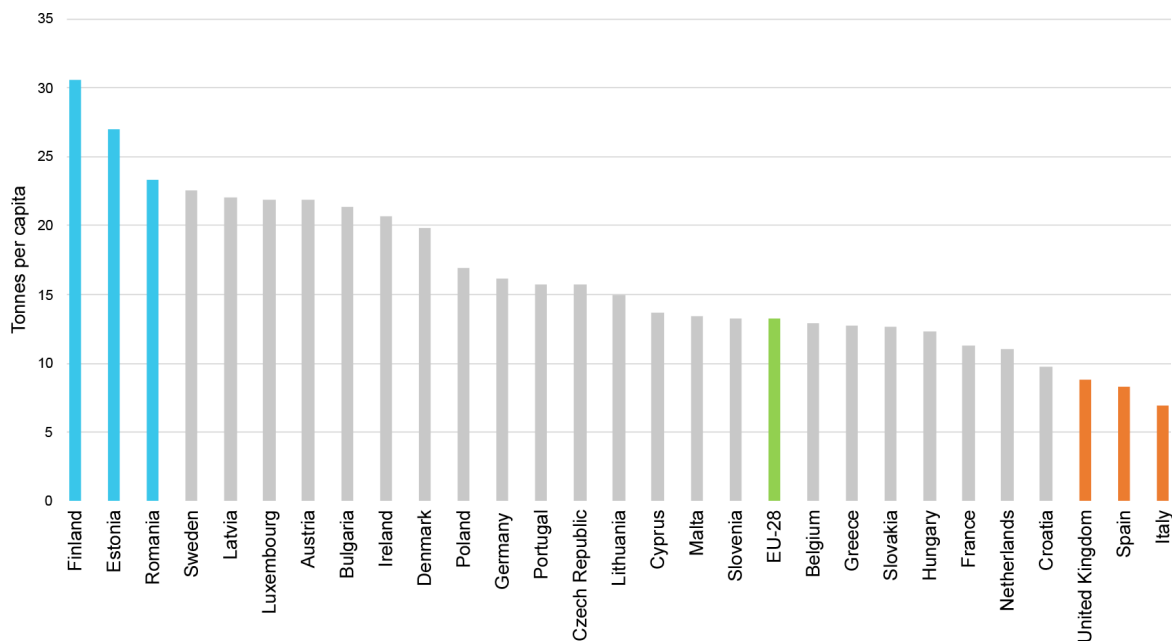
[Societal behaviours \(/environment/ecoap/indicators/societal-behaviours_en\)](/environment/ecoap/indicators/societal-behaviours_en)

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SUSTAINABLE RESOURCE MANAGEMENT

The circular economy is a key pathway for sustainable development: The EC states "This (circular economy) action plan will be instrumental in reaching Sustainable Development Goals". Specifically it shall contribute to lowering resource demands, thereby increasing resource security and lowering pressures on the environment domestically and abroad. This set of indicators examines the performance of EU Member States toward transforming their economies toward circularity (macro level indicators).

MATERIAL FOOTPRINT: DOMESTIC MATERIAL CONSUMPTION, TONNES PER CAPITA, 2015



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Material footprints quantify the demand for material extractions (biomass, metal ores, non-metallic minerals and fossil energy materials/carriers) triggered by consumption and investment by households, governments and businesses in the EU. Several indicators are provided by Eurostat to provide good insights on the EU's material flow accounts.

Domestic material consumption (DMC) provides insights on economy-wide material flow accounts at the MS level. It measures the total amount, in tonnes, of material directly used in an economy, either by businesses, government and other institutions for economic production or by households. DMC is measured in tonnes of extracted natural resources per year. DMC equals the extractions of materials used by producer units in the economy plus imports — called direct material input (DMI) — minus exports. The value of DMC also indicates the waste potential of a given region.

Based on estimated 2015 data from Eurostat, the 3 EU MS with the highest DMC (tonnes per capita) in 2015 are Finland (30.5 tonnes/capita), Estonia (27 tonnes/capita) and Romania (23.3 tonnes/capita). The 3 EU MS with the lowest DMC (tonnes per capita) in 2015 were the UK (8.8 tonnes/capita), Spain (8.3 tonnes/capita) and Italy (6.9 tonnes/capita). The EU average DMC in 2015 was 13.2 tonnes/capita.

It is important to note that the term "consumption" as used in DMC denotes apparent consumption and not final consumption. DMC does not include upstream hidden flows related to imports and exports of raw materials and products. As such, DMC does not provide an entirely accurate picture of global material footprints because they record imports and exports in the actual weight of the traded goods when they cross country borders instead of the weight of materials extracted to produce them.

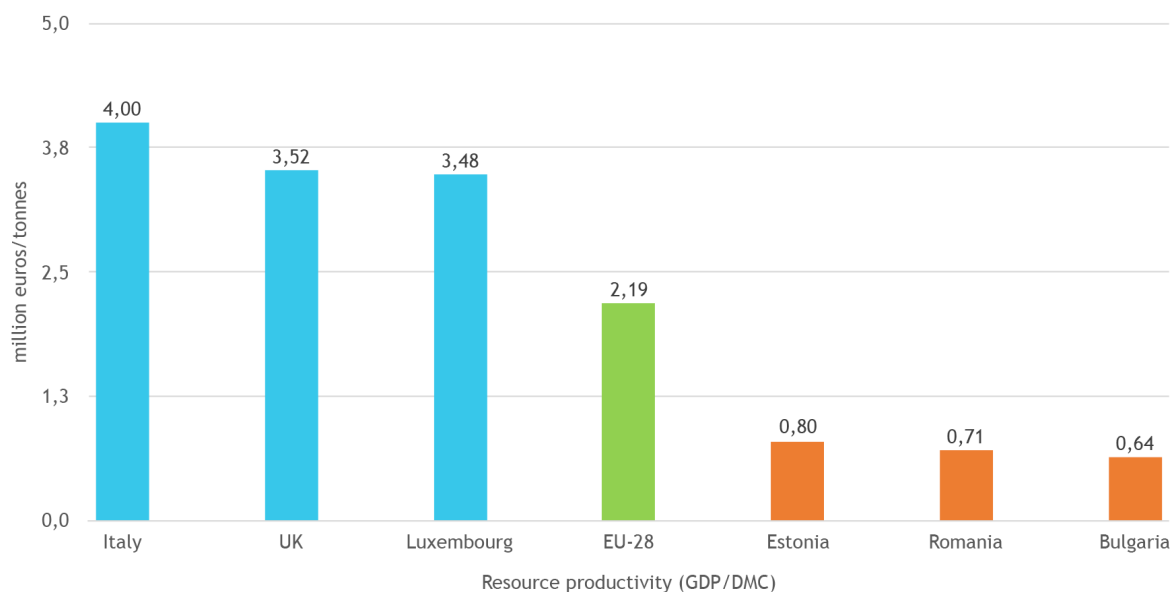
Raw material consumption (RMC) is an indicator that measures the material footprint of the EU as a whole. RMC represents the total amount of extracted raw materials needed to

produce the goods and services consumed by residents of the EU. In 2014, the global material footprint or RMC of the EU was 13.9 tonnes per capita compared to the average EU DMC of 13.3 tonnes per capita.

Source:

- Eurostat website on Material flow accounts: http://ec.europa.eu/eurostat/statistics-explained/index.php/Material_flow... (http://ec.europa.eu/eurostat/statistics-explained/index.php/Material_flow_accounts_-_flows_in_raw_material_equivalents)

RESOURCE PRODUCTIVITY OF THE THREE TOP AND BOTTOM MS IN 2015
(PURCHASING POWER STANDARD PER KILOGRAM)



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(https://ec.europa.eu/environment/ecoap/sites/ecoap_stayconnected/files/sustainable-3.xlsx)

Eurostat developed an indicator on resource productivity, which is a measure of the total amount of materials directly used by an economy, or domestic material consumption (DMC) in relation to gross domestic product (GDP). Resource productivity (GDP/DMC) provides insights on decoupling between the use of natural resources and economic growth and used as an EU sustainable development indicator for policy evaluation.

Resource productivity is measured as gross domestic product (GDP) over domestic material consumption (DMC). Two different versions of GDP are provided by Eurostat. GDP at market prices expressed in chain-linked volume is used for comparisons over time. GDP at market prices expressed in current prices, purchasing power standards (PPS), is used for cross-country comparisons in a specific year as PPS remove differences in price levels between countries. The latter is presented in the figure below.

The figure below shows the results for resource productivity based on 2015 Eurostat data.

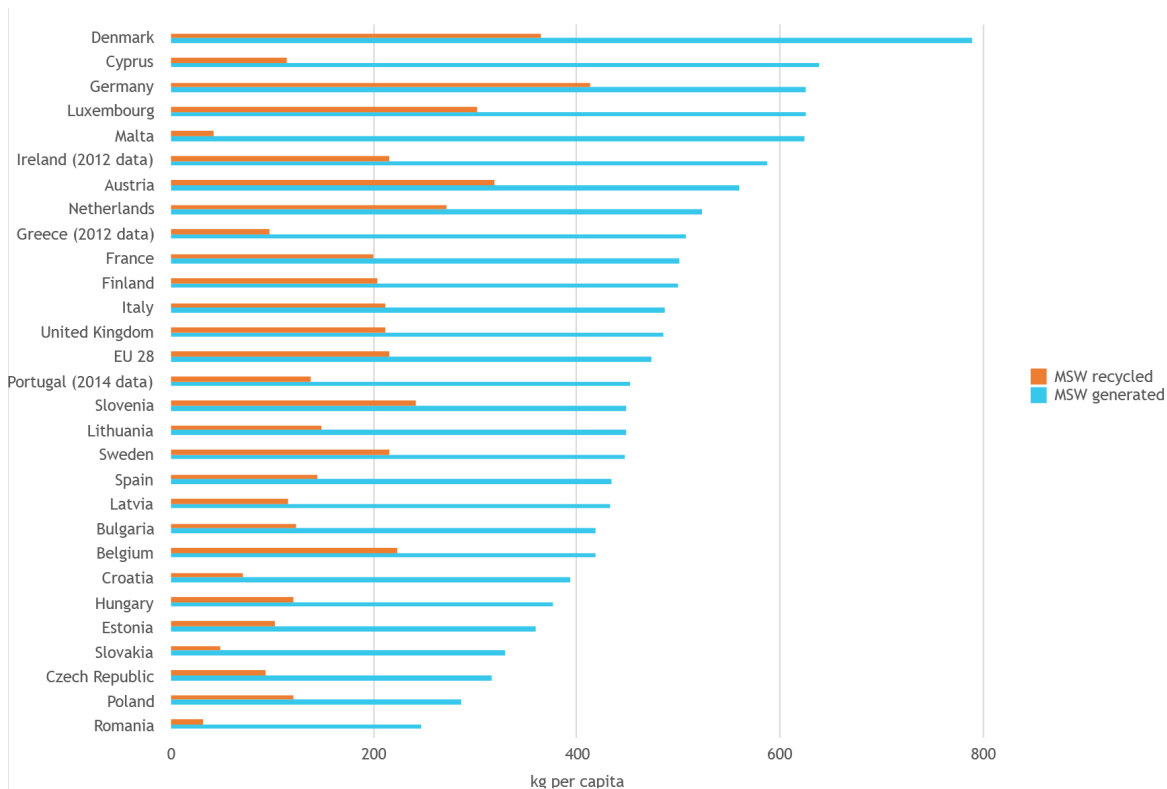
Results indicate that in 2015, Italy, the UK and Luxembourg were the 3 highest performers, whereas Estonia, Romania and Bulgaria were the 3 weakest performers in terms of resource productivity.

The Eurostat analysis on resource productivity indicates a correlation between resource use (DMC per capita) and GDP (in purchasing power standard (PPS) per capita) i.e. environmental pressure decreases up to a certain level as the economic activity goes up. However, Eurostat also warns against some limitations of the results due to DMC data, which does not take into account the EU outsourcing of material-intensive production. Further, impacts of the economic crisis on material-intensive industries could also play a key factor on material consumption and thus the DMC value for certain MS.

Source:

- Eurostat website on resource productivity indicator, http://ec.europa.eu/eurostat/statistics-explained/index.php/Resource_pro... (http://ec.europa.eu/eurostat/statistics-explained/index.php/Resource_productivity_statistics)

MUNICIPAL SOLID WASTE GENERATION AND RECYCLING, 2015, KG PER CAPITA



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(https://ec.europa.eu/environment/ecoap/sites/ecoap_stayconnected/files/sustainable-4.xlsx)

The chart combines two datasets: total amount of municipal waste generated and total amount of municipal waste recycled in 2015 (in kg per inhabitant). The recycling rate is calculated as the percentage of municipal waste generated that is recycled, composted and undergone anaerobic digestion.

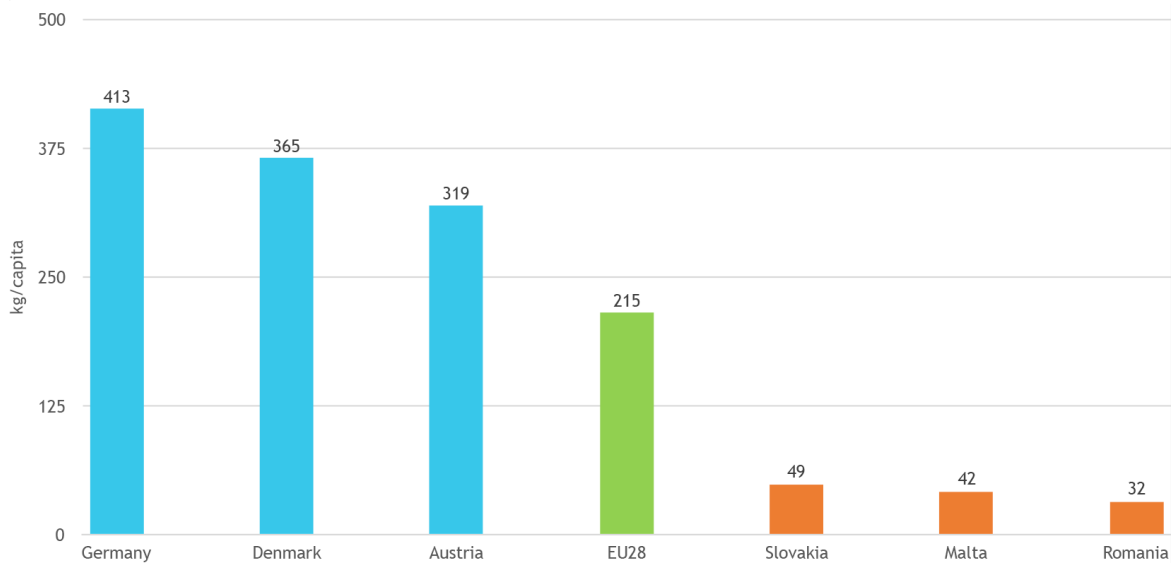
In 2015, municipal waste generation per capita was highest in Denmark (789 kg/cap), Cyprus (638 kg/cap) and Germany (625 kg/cap), and lowest in Romania (247 kg/cap), Poland (268 kg/cap) and the Czech Republic (316 kg/cap). According to the EEA, these trends reflect differences in economic wealth between countries (as wealthier countries usually generate more municipal waste per capita), and the recent economic downturn.. At the same time the data suggests large differences in the recycling rate performance among EU MS. In 2015, only five countries: Germany, Austria, Slovenia, Belgium and the Netherlands recycled at least half of their municipal waste. Luxembourg, Sweden, Denmark, Italy, the UK, Poland, Finland and France recycled a little less than half of their municipal waste (between 40 - 44%). These figures indicate that these countries are well on their way to meeting the Waste Framework Directive's target for recycling 50% of municipal waste by 2020.

Note: data reported for Greece and Ireland are from 2012, and Portugal from 2014. The EU28 average is based on the average of 2015 amount reported for all 28 member states, with the exception of Ireland, Greece and Portugal

Sources:

- http://ec.europa.eu/eurostat/statistics-explained/index.php/Municipal_wa...
(http://ec.europa.eu/eurostat/statistics-explained/index.php/Municipal_waste_statistics);
- <https://www.eea.europa.eu/themes/waste/municipal-waste/municipal-waste-m...>
(<https://www.eea.europa.eu/themes/waste/municipal-waste/municipal-waste-management-across-european-countries>)
- <https://www.eea.europa.eu/soer-2015/countries-comparison/waste>
(<https://www.eea.europa.eu/soer-2015/countries-comparison/waste>)

MUNICIPAL WASTE RECYCLED (KG/CAPITA) FOR 3 HIGHEST AND LOWEST MS, 2015



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(https://ec.europa.eu/environment/ecoap/sites/ecoap_stayconnected/files/sustainable-2.xlsx)

The bar chart above presents the three highest and three lowest Member States in terms of municipal waste recycling (MWR). Municipal waste recycling includes material recycling, composting and anaerobic digestion.

The data was extracted and estimated from Eurostat and is expressed in kilograms per capita. The EU-28 average of MWR (215 kg/capita) is based on the average 2015 amounts reported for all 28 EU MS, with the exception of Ireland and Greece where the latest data reported was used (2012) and Portugal (2014 data used) for the estimations.

In 2015, municipal waste recycling (kilograms per capita) was highest in Germany (413 kg/capita), Denmark (365 kg/capita) and Austria (319 kg/capita) and lowest in and lowest in Slovakia (49 kg/capita), Malta (42 kg/capita) and Romania (32 kg/capita). Of note is that Germany and Denmark have high municipal waste generation but also high rates of MSW recycling.

Sources:

- <http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=...>
(<http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tsdpc240&language=en>)
- http://ec.europa.eu/eurostat/cache/metadata/EN/t2020_rt120_esmsip.htm
(http://ec.europa.eu/eurostat/cache/metadata/EN/t2020_rt120_esmsip.htm)

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