General and regional statistics
Environment and energy

Authors: Viktoria BOLLA, Velina PENDOLOVSKA

eurostat
Statistics in focus
10/2011

Driving forces behind EU-27 greenhouse gas emissions over the decade 1999-2008

Over the decade, greenhouse gas (GHG) emissions in the EU-27 decreased by 2.4%. The areas where emissions decreased were: *energy use*, *waste*, *manufacturing and construction* and *agriculture*. At the same time emissions from the *energy industries*, *industrial processes* and *transport* were growing.

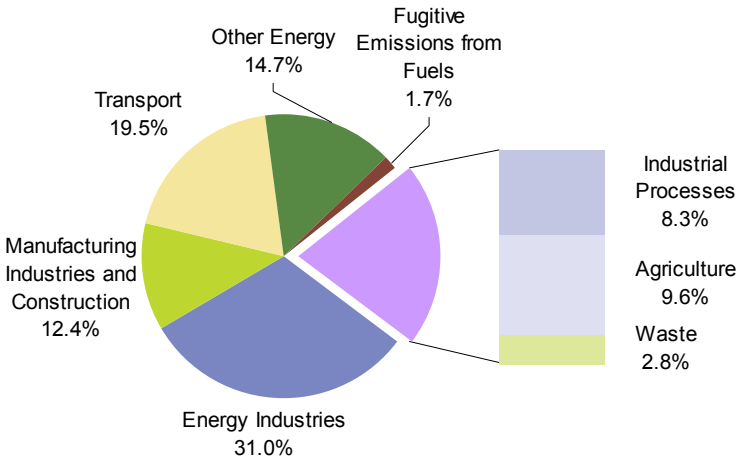
In this publication we look at important trends in these areas to help understand what has led to the emissions reduction. The European Statistical System collects official statistics that are often used to estimate greenhouse gas emissions which are then reported in emissions inventories. Thus, while the inventory data is collected by the European Environment Agency, Eurostat has statistics that provide a solid basis for analysis of the underlying driving forces behind emissions.

Climate change is a major threat to sustainable development. Indicators that monitor progress towards the objectives and targets of the EU Sustainable Development Strategy are utilized here to provide the framework for the present analysis.

Main findings of this publication:

- Consumption of energy grew by 5.2% while GHG emissions from overall energy use decreased by 1.3%:
  - Out of that, the energy industries showed an increase of emissions by 3.9%.
  - The 5% rise of emissions from transport can be explained by increasing transport volumes and the lack of significant shift towards cleaner modes and fuels.
  - The growth in those two sub-sectors was outweighed by a 10.7% decline of energy-related emissions in manufacturing and construction.
- In 2008, in the EU-27 Europeans generated on average 9 kg more municipal waste per capita than in 1999. Despite this growth, the improvement of waste treatment resulted in the largest proportional emission cut among all sectors. (*continues on next page*)

Figure 1: EU-27 greenhouse gas emissions by sector, 2008
(percentage of total)



Source: EEA, also available at Eurostat (online data code: tsdcc210)

- Decreasing numbers of livestock (cattle, pigs, goats and sheep) and smaller amounts of nitrogenous fertilizers used are behind the drop of GHG emissions in agriculture.
- The EU-27 economy has become more energy- and carbon-efficient than it was in 1999. This is largely due to the predominance of the services sector which generates much of the gross value added with little emissions.

When considering the 2.4% decline of total EU GHG emissions, it must be borne in mind that this figure reflects only emissions arising on the territory of the EU. It thus excludes those "embedded emissions" caused indirectly by EU consumption of imported goods produced in third countries.

Table 1: Changes in EU-27 greenhouse gas emissions by sector, 1999 and 2008
(million tonnes CO_2- equivalent and percentage)

Emissions Source Inventory Sector	1999	2008	Change 1999-2008	% Change 1999-2008	% Share of total 1999	% Share of total 2008
Energy, *of which:*	3956.80	3907.01	-49.80	-1.3	78.2	79.1
Energy Industries	1470.01	1527.71	57.71	3.9	29.1	30.9
Manufacturing Industries and Construction	681.61	608.79	-72.82	-10.7	13.5	12.3
Transport	915.86	961.77	45.92	5.0	18.1	19.5
Other Energy	889.33	808.73	-80.60	-9.1	17.6	16.4
Industrial Processes	400.96	409.71	8.75	2.2	7.9	8.3
Agriculture	509.27	471.80	-37.47	-7.4	10.1	9.6
Waste	179.25	138.95	-40.30	-22.5	3.5	2.8
Solvent and Other Product Use	13.89	12.27	-1.62	-11.7	0.3	0.2
Total emissions (excl. LULUCF)	**5060.17**	**4939.74**	**-120.43**	**-2.4**	100.0	100.0

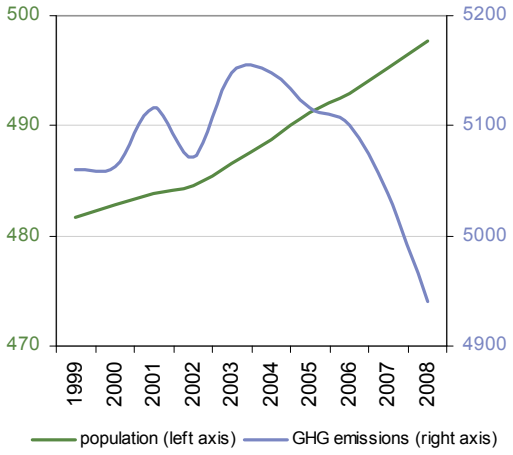
decrease in emissions increase in emissions

Source: EEA, also available at Eurostat (online data code: tsdcc210). LULUCF – Land Use, Land-Use Change and Forestry

This publication examines the period from 1999-2008 as it covers a decade of the latest available data. Officially, the EU's progress on GHG emission reduction is evaluated against targets set in its political commitments. Under the internationally binding Kyoto Protocol, the EU-15 has a collective target of 8% reduction below levels in a chosen base year (mostly 1990) to be achieved by 2012.[1] By 2008, the EU-15 had decreased its emissions by 6.9%.[2] Furthermore, the EU-27 has set a 20% reduction target by 2020, also as part of the Europe 2020 Strategy.

Population can be one of the main driving forces of emissions in any high-carbon economy. The number of inhabitants drives consumption and subsequently different economic activities. In the EU-27 the population grew by 3.3%, i.e. 16 million people, by 2008, while GHG emissions declined (Figure 2). Eurostat projections forecast growing population midterm, an increase of about 22 million people by 2035 compared to 2008. Beyond that, the size of the population is expected to decrease.

Figure 2: EU-27 population and greenhouse gas emissions
(million people, million tonnes of CO_2 equivalent)



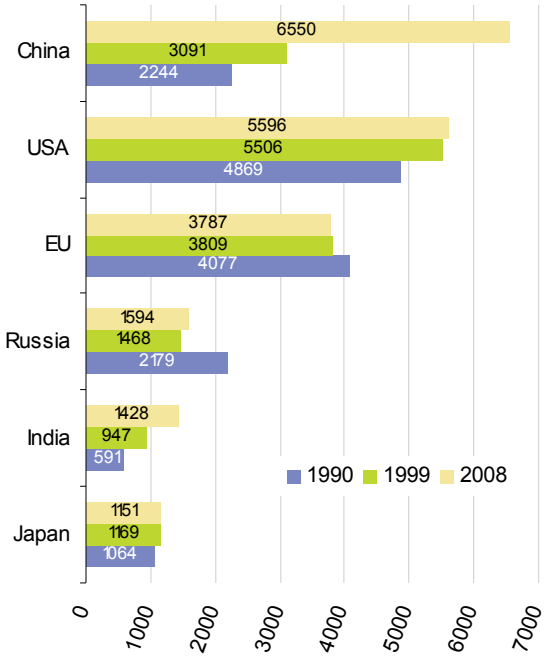
Source: Eurostat (online data code: tps00001) and EEA, also available at Eurostat (online data code: tsdcc210)

Figure 3 shows a global comparison of the largest emitters of CO_2, the most prevalent greenhouse gas. The EU has a shrinking share of global emissions. In 2008, China was the largest emitter, followed by the USA, the EU, Russia, India and Japan. CO_2 from energy only is used here as a proxy indicator as complete GHG data is not available for all these countries.

[1] *The target is to be achieved for the commitment period 2008-2012. The remaining EU Member States that joined the Union after the ratification of the Kyoto Protocol have similar targets, with the exception of Cyprus and Malta that have no Kyoto targets.*

[2] *For more on tracking official progress under the Kyoto Protocol, see COM(2010) 569 final.*

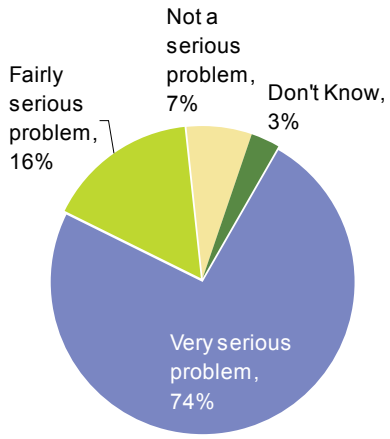
Figure 3: CO_2 emissions* of world's largest emitters
(million tonnes)



Source: Data for the EU: EEA, also available at Eurostat (online data code: tsdcc210); data for other countries: IEA, *CO_2 Highlights, 2010*
(*emissions from energy use only)

Public awareness is important for successfully dealing with the causes and consequences of climate change. According to the Eurobarometer survey conducted in 2008, the majority of EU citizens (three out of four) consider climate change to be a very serious problem (Figure 4). This shows a high level of awareness about the issue and marks a distinct change from a decade ago. In the Eurobarometer 1999 on the Environment, climate change was not yet included as a topic. It was taken up in the surveys from 2002 and the level of awareness and the extent to which people are concerned about it has continuously grown.

Figure 4: "How serious a problem do you think climate change is?", EU-27
(percentage of all answers)



Source: Eurobarometer, 2008

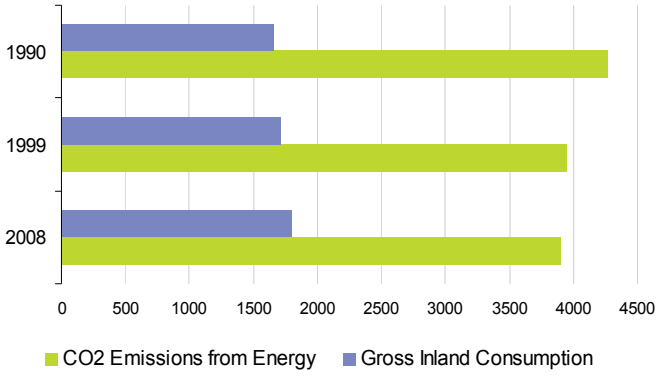
The EU uses more energy but emissions decrease: the energy industries and transport still the main driving forces behind emissions

Over the last decade, energy use in the EU has slightly increased, by 5.2%. Total energy demand has risen from 1 711 million tonnes of oil equivalent (toe) to 1 799 million toe in 2008. Despite the increase in energy consumption, energy-related GHG emissions have fallen.

Since activities involving fuel combustion remain the main source of greenhouse gas emissions, accounting for nearly three fifths of total EU emissions in 2008, it is interesting to explore the evolution of energy consumption vis-à-vis emissions from energy. Emissions from energy use arise not only from the energy industries, but also transport, manufacturing industries, services and households (see Figure 1, the bigger slice of the pie).

Between 1999 and 2008, GHG emissions from energy declined by nearly 50 million tonnes (in CO_2-equivalent), a decrease of 1.3%, compared with a 2.4% fall in overall EU GHG emissions over the same period.

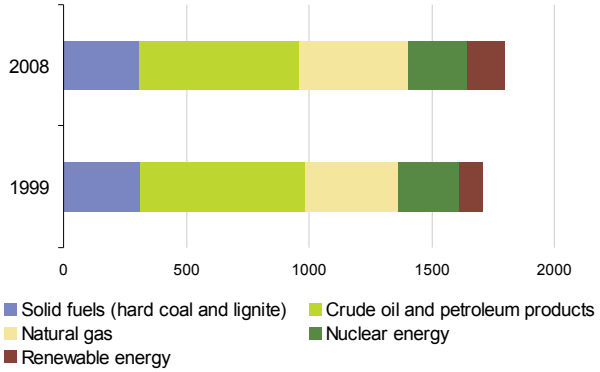
Figure 5: Emissions from energy use and energy consumption, EU-27
(million tonnes CO_2-equivalent and million tonnes of oil equivalent)



Source: EEA, Eurostat (online data codes: tsdcc210, tsdcc320)

The cuts in emissions from energy use even while increasing output suggests that energy production has switched towards less GHG-intensive sources such as, for example, renewable energy sources (RES). Indeed, as could be seen in Figure 6, the share of RES has increased – from 6% to 8% of gross inland consumption. Between 1999 and 2008, the consumption of GHG-intensive fuels such as coal (and other solid fuels) and oil has decreased from a share of 58% of total energy supply to 54%. In contrast, the share of the less GHG-intensive energy fuels such as natural gas has increased. Fossil fuels still dominate EU energy consumption, comprising 79% of gross inland consumption.

Figure 6: EU-27 energy consumption 1999 and 2008, by fuel
(million tonnes of oil equivalent)



Source: Eurostat (online data code: tsdcc320)

Nuclear energy and renewable energy sources, considered largely GHG-free or carbon-neutral as they are not based on fossil fuels, comprise the remaining 21%.

Renewable energies, such as hydro, wind, solar and biomass, albeit still a minor source in the overall picture, nonetheless experienced the greatest relative increase – from a mere 95 million toe in 1999 to 151 million toe (+59%).

The overall energy use, comprising fuel combustion and fugitive emissions from fuels, can be broken down into sub-sectors of economic activity where the emissions arise from (see Table 1). The greenhouse gas that is mainly produced from energy use is carbon dioxide (CO_2) comprising nearly 97% of emissions.

The energy industries dominate the picture both in terms of their energy consumption (that is, fuels combusted in the transformation sector for the production of electricity and heat) and in terms of emissions. They are followed by transport, the manufacturing industries (fuel combustion only, e.g. in blast furnaces of cement plants) and other, including *inter alia* the residential, commercial and agriculture/fisheries/forestry sectors.

Over the period 1999-2008, both the consumption and the emissions of the energy industries have increased. However, whereas consumption increased by roughly 13%, emissions rose by a mere 3.9%, suggesting increased carbon efficiency of the sector. In transport, energy consumption rose by 8% in the last decade and emissions increased by 5%. The manufacturing industries experienced the greatest decrease both in terms of energy consumption (-6.2%) and emissions (-10.7%). This decrease can be attributed to technological changes (improvements in efficiency), switching to cleaner fuels (natural gas, biomass) or restructuring of the manufacturing sector.

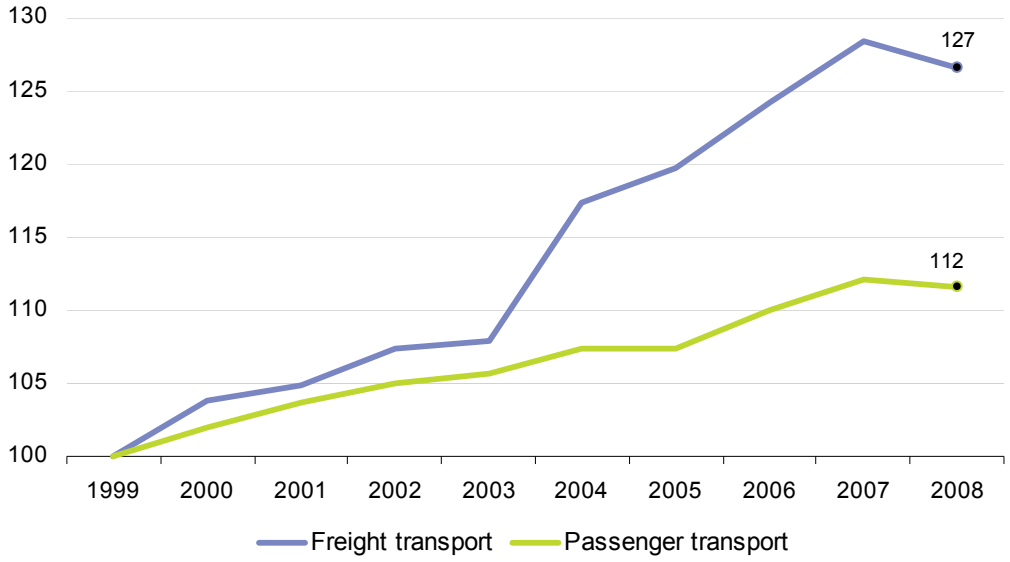
Five percent growth of transport-related emissions: increasing volumes, prevailing dominance of road transport in the modal split

With a share of 19.5% of total emissions in 2008, transport is the second largest source of emissions in the EU. Furthermore, transport is the sector that has exhibited continuously growing emissions. In the decade analysed, its GHG emissions grew by 5%, from 916 to 962 million tonnes CO_2-equivalent. Besides GHG emissions, transport is also responsible for other negative externalities, e.g. air pollution, particulate matters and noise. The effects of transport infrastructure on the nature, landscape and biodiversity are also adverse. At the same time transport is essential for society and for individuals.

It ensures mobility for the workers and flexibility for global production chains. Households spend about 10-15% of their consumption on transport, as much as they spend on food or housing.

When looking at sustainable development indicators related to transport, several major tendencies emerge, serving to explain the 5% increase of emissions. Firstly, passenger and freight transport volumes continued to grow over the period (Figure 7).

Figure 7: Volume of inland transport, EU-27, Index 1999=100
(based on tonne-kilometres and passenger-kilometres)

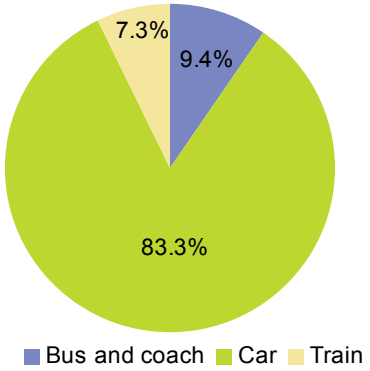


Source: Eurostat, DG Move, International Transport Forum, national statistics, estimates

Demographic projections and economic structures make it likely that the demand for transport – and thus its volume – will continue to grow in the coming decades. Temporarily, the recent economic slowdown has led to negative growth rates.

Increasing volumes do not of themselves necessarily lead to more emissions as advanced transport technologies or the deployment of cleaner modes could offset this growth. However, over the period neither the fuels or technologies used nor a modal shift were able to compensate for this development for both passenger and freight transport. By 2008, the modal split remained largely unchanged from the situation in 1999.

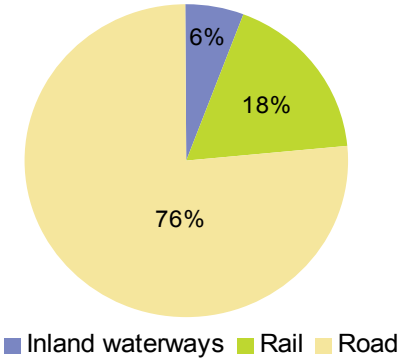
Figure 8: Modal split of EU-27 inland passenger transport, 2008
(percentage)



Source: Eurostat (online data code: tsdtr210)

Figures 8 and 9 display the share of different modes in total transport kilometres in 2008 which was stable for the whole decade. People still predominantly use their cars for transport purposes.

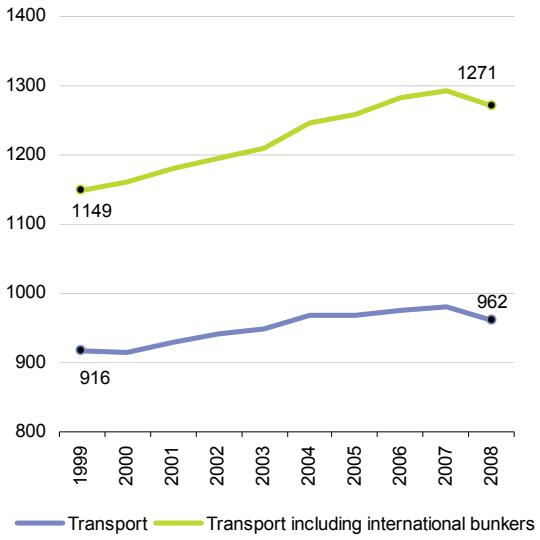
Figure 9: Modal split of EU-27 inland freight transport, 2008
(percentage)



Source: Eurostat (online data code: tsdtr220)

One of the main goals of the EU Sustainable Development Strategy is to achieve a balanced shift towards environmentally friendly transport modes to bring about a sustainable transport and mobility system. This shift would certainly bring down GHG emissions as well.

Figure 10: GHG emissions from transport, EU-27
(million tonnes CO_2-equivalent)



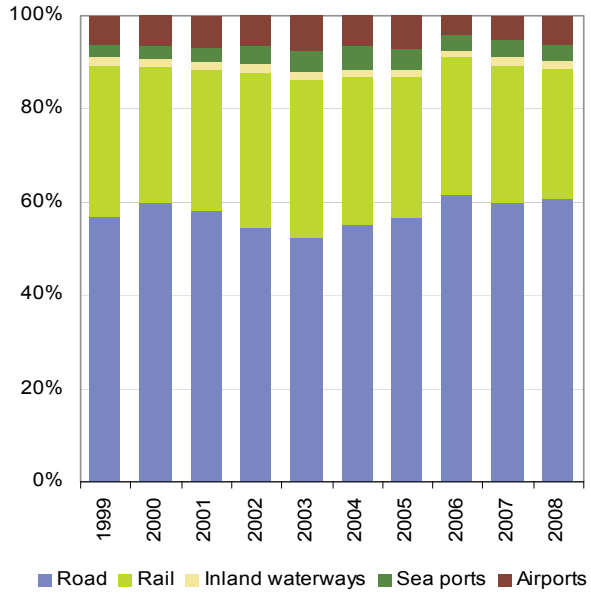
Source: EEA, Greenhouse Gas Data Viewer

The accounting methodology of GHG emissions treats international aviation and bunkers separately from transport emissions. They are not included in the international commitments for reduction. Emissions from international aviation and maritime transport (international bunkers) experienced a 12.3% growth over the studied period. If included in overall transport, this volume would bring the share of transport in total emissions up to 24.2%.

Achieving sustainable transport and lower emissions requires infrastructural development in modes with lower environmental impacts. The indicator in Figure 11 shows whether there has been a shift in investment towards environmentally friendly transport modes.

Total investment in transport infrastructure, including new construction, extension, reconstruction and major repairs, reached about € 95 billion euro in 2008. Between 1999 and 2008 the share of investments in the infrastructure of modes with lower environmental impacts (rail, maritime and inland waterways) slightly decreased. Road infrastructure investments remained dominant.

Figure 11: Investment in transport infrastructure, by mode, EU
(percentage)



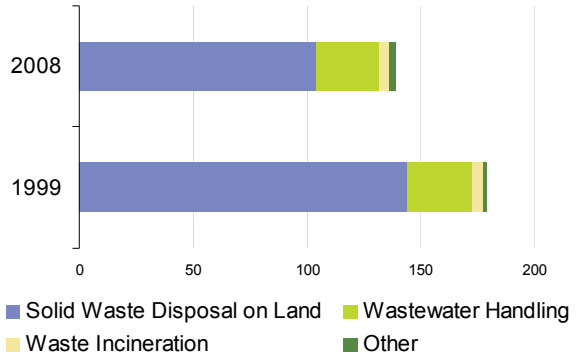
Source: International Transport Forum
NB: Data are missing for several countries; see the methodological notes for further information.

Emissions from waste show the biggest decrease: less municipal waste in landfill sites, more recycled and composted waste

Waste leads to GHG emissions in the form of methane (CH_4) from landfill sites and wastewater handling, and nitrous oxide (N_2O) from human sewage. Methane constitutes the bulk of the waste-related GHG emissions (about 88% in 2008). The level of methane emissions is closely related to the composition and treatment of waste; it typically rises with a higher share of organic material in the waste. In terms of mitigating climate change, methane emissions are of particular importance as the global warming potential of methane is 21 times higher than that of CO_2. Waste-related methane emissions can be tackled by reducing waste volumes, diverting waste from landfill or diverting methane from waste for use as fuel (e.g. biogas).

EU GHG emissions from waste decreased by 22.5% in the decade 1999-2008 (Table 1). This marks a much stronger decline when compared to total EU-27 emissions over the same period, which decreased by 2.4%.When considering the different sources of waste-related emissions, the main source was solid waste disposal on land with nearly 75% of the total in 2008, followed by wastewater handling with 20%, while burning waste (incineration) was responsible for less than 3 % of emissions from the waste sector (Figure 12).

Figure 12: GHG emissions from waste, 1999 and 2008, by waste source, EU-27
(million tonnes CO_2-equivalent)



Source: EEA, Greenhouse Gas Data Viewer

One of the data sources for estimating emissions from waste are statistics on municipal solid waste generation. EU-27 municipal waste generation grew from 511 kilograms per capita in 1999 to 520 kg/capita in 2008, a 1.8% increase. In 2008, about 40% of the municipal waste was landfilled.

The remainder was burned (19.3%), recycled (22.5%) or composted (16.9%) in roughly equal shares. This is a marked change from ten years ago, when roughly 60% was landfilled, about 16% burned and recycled respectively, and 9% composted.

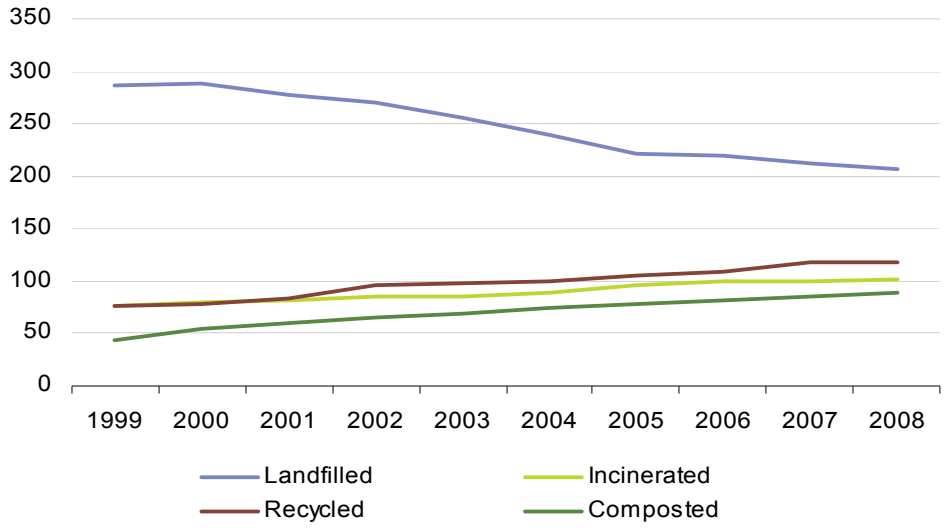
It should be noted that municipal waste constitutes only a share of biodegradable waste, which is responsible for CH_4 emissions from landfills. As the economic structure and waste management practices vary significantly among EU Member States, it is so far difficult to track all the developments concerning emissions only from Eurostat data. The national reduction strategies and the definition of biodegradable waste are published separately[3].

From a climate change perspective, the lower landfill rate observed is a positive trend because it leads to abatement of methane emissions. A higher recycling rate also helps to mitigate climate change by avoiding production-related emissions.

Waste is also used to generate energy. In 2008, nearly 24,500 thousand tonnes of oil equivalent in energy were generated from different wastes in the EU, out of which over 61% from municipal solid waste, 31% from biogas and 8% from industrial wastes. The energy production from waste in the EU in 2008 is almost double that generated a decade ago in 1999. Biogas has experienced the largest relative increase, going from 1,779 toe in 1999 to 7,586 toe – a 326% increase.

[3] http://ec.europa.eu/environment/waste/landfill_index.htm

Figure 13: Municipal waste per capita by treatment, EU-27
(kilograms)

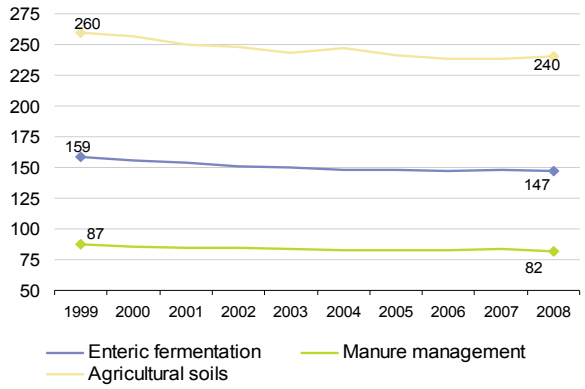


Source: Eurostat Waste Data Centre: http://ec.europa.eu/eurostat/waste

Decreasing number of livestock and less nitrogenous fertilizers used are among the main reasons for decline in the agricultural emissions

Agricultural GHG emissions decreased by 7.4% over the period (Table 1). The shares of the different sources of agricultural emissions remained stable as all of them decreased emissions by almost the same extent (Figure 14). Important reasons for the decrease in the emissions are decreasing numbers of livestock (cattle, pigs, goats and sheep) and the decreasing amount of nitrogenous fertilisers used.

Figure 14: EU-27 GHG emissions in agriculture, by source, 1999-2008
(million tonnes CO_2-equivalent)



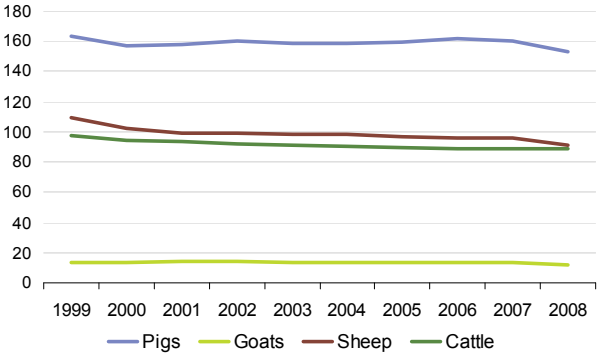
Source: EEA, Greenhouse Gas Data Viewer

Agriculture also affects GHG emissions indirectly through the emissions generated by the industrial production of inorganic fertilisers and machinery but these are not included in this analysis. Soil carbon impacts of agriculture which can be significant are also not taken into account in the agricultural GHG emission estimations.

Decreasing the number of animals or the use of manure or fertilisers are not the only options farmers have to reduce GHG emissions. Other farming practices which may mitigate GHG emissions include the use of lower-emissions manure storage systems and application techniques. At present these practices are only partly taken into account in the GHG emission estimations. That is because data availability on these mitigation options is limited in most countries. Therefore the effect of implementing such mitigation actions through the reform of the CAP or the implementation of the Nitrate Directive can not be fully analysed from the available data on GHG emissions.

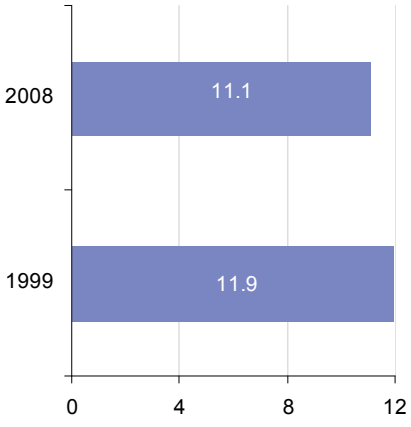
One of the sources of GHG emissions in agriculture is livestock via enteric fermentation occurring in animals' digestive systems: a process which emits methane; and manure decomposition, which emits several GHGs (nitrous oxides, methane and carbon dioxide). Figure 15 shows the trends in livestock numbers in the EU-27. Agricultural soils emit methane and nitrous oxide through soil denitrification. Amongst the factors that influence emissions from agricultural soils are the amount of fertilisers, the type of application techniques, the fertiliser type used, the incorporation time, etc. Over the period 1999-2008, the amount of nitrogenous fertilizers used decreased by 7% (Figure 16).

Figure 15: Evolution of EU-27 livestock numbers, 1999-2008
(a million heads)



Source: Eurostat (online data codes: apro_mt_lscatl, apro_mt_lspig, apro_lt_lsgoat)

Figure 16: Industry estimates of nitrogenous fertilizer use, EU-27
(million tonnes of nutrients)



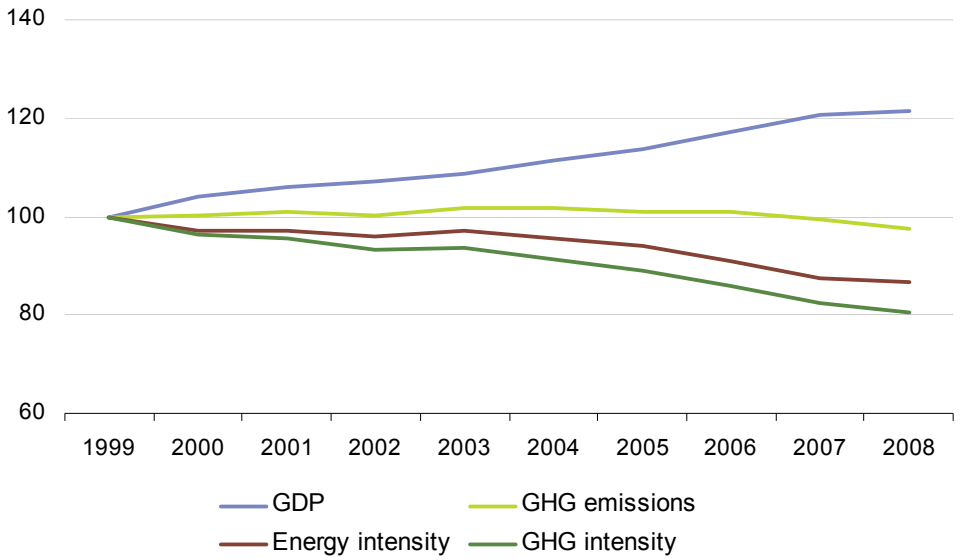
Source: Eurostat (online data code: env_ag_fert)

GDP grows but GHG emissions decrease: most economic activity sectors improve their carbon productivity

The EU economy largely depends on fossil fuels, especially for electricity generation, industry and transport. It may therefore be expected that an increase in economic activities – as measured by growth in GDP – would lead to an increase in overall GHG emissions.

However, the EU is now managing to break the link between economic growth and GHG emissions. EU GDP increased by more than 20% over the period 1999-2008, while EU GHG emissions decreased by 2.4% (Figure 16).

Figure 17: Greenhouse gas and energy intensity of the EU-27 economy, Index 1999=100



Source: Eurostat: for GDP (online data code: nama_gdp_k), GDP at chain-liked volumes reference year 2000 (at 2000 exchange rates); for energy intensity (online data code: tsien020), for GHG emissions (original source EEA) (online data code: tsdcc210).

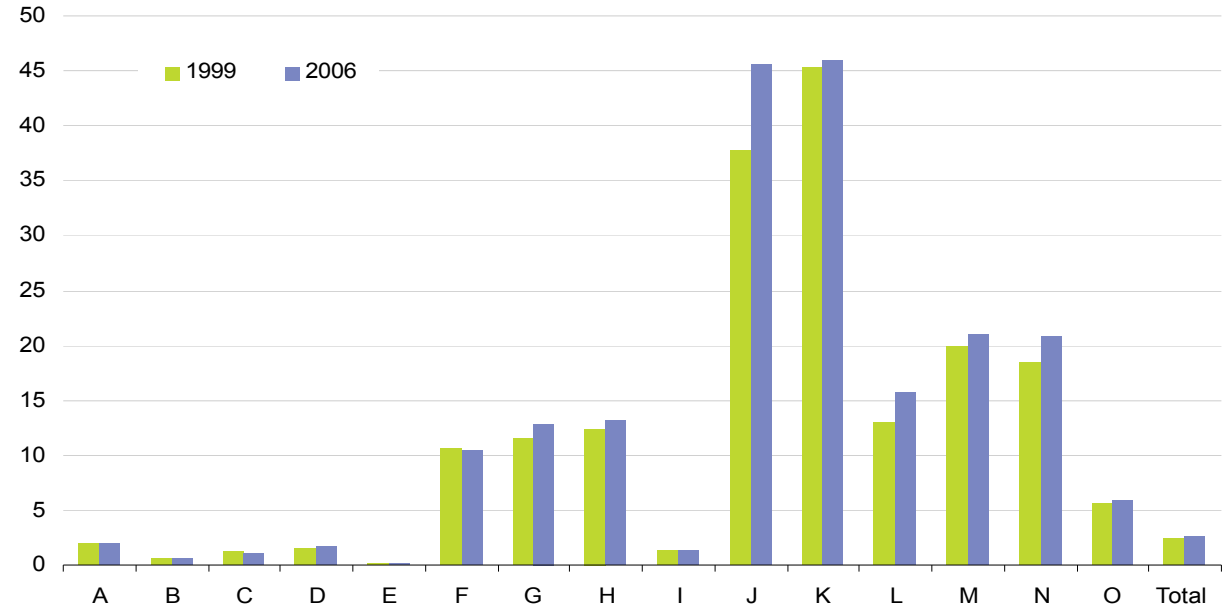
If less energy is used for each 1 000 euro of GDP then the intensity is lower which indicates gains in productivity and improved energy efficiency. EU energy intensity decreased by nearly 14% in 1999-2008 which means that for each 1000 euro of GDP the EU used 14% less energy by the end of the studied decade. There are two possible reasons for this: first, energy may have been used more efficiently; and second, the overall economic structure of the EU may have shifted to less energy-intensive economic activities (see Figure 18 for a breakdown by economic activities).

In the same way that overall energy consumption may be examined in its relation to GDP, total GHG emissions may also be considered in terms of the greenhouse gas intensity of the EU economy. In 2008, the EU GHG intensity was 36% lower than that in 1999. Thus, for each 1 000 euro of GDP on average 396 kg of emissions in CO_2-equivalent were emitted in 2008, compared with 601 kg in 1999. The GHG emissions intensity of the EU economy has improved much faster still than its energy intensity, which fosters a decoupling of emissions from energy use and economic growth.

Besides looking at overall trends, the analysis can also benefit from examining the different sectors that comprise the economy. This is possible thanks to environmental economic accounts which allow for an integrated analysis as they present the emissions using the same breakdown of economic activities in national accounts.

Figure 18 presents the carbon productivity of the different economic activities (except households), that is the contribution of each sector in terms of its gross value added compared with its CO_2 emissions. As an indicator, productivity can be considered the inverse of intensity – while intensity shows how much emissions are emitted for the production of one unit of economic output, productivity shows how much economic value can be generated for one unit of emissions. The more economic value per tonne of emissions, the higher the productivity.

Figure 18: Carbon productivity of the EU economy, by economic activity (NACE Rev.1.1 section) 1999 and 2008
(million euro/thousand tonnes)



Source: Eurostat (nama_nace31_k, env_ac_ainacehh)

NACE Rev. 1.1 sections comprise: A, B – primary sectors (agriculture, fishing); C – mining and quarrying, D – manufacturing, E – electricity, gas and water supply, F – construction, I – transport and storage, G-K – services, L-O – public sector. For a complete list, see Methodological notes.

As seen in Figure 18, generally the services sectors – such as trade, financial intermediation, hotels and restaurants, and real estate (NACE sections G to K, except I) have a high carbon productivity. In other words, their gross value added (GVA) is higher than their emissions: in 2006 their combined GVA was nearly 42% of the EU total, while their CO_2 emissions accounted for a mere 4.6%. The only exception here is transport (NACE I), responsible for a high share of emissions (14.2% in 2006), which outweigh its economic contribution (7.5%).

The least productive industries are the primary sectors – agriculture, forestry and fisheries (NACE A and B), mining and manufacturing (NACE C and D), and the electricity, gas and water supply sector (NACE E) with almost zero carbon productivity. Households are deliberately excluded from this analysis as they are treated here as consumers and not producers of economic value.

What can be observed as a general trend over the period 1999-2006 is that in most economic activities carbon productivity has increased. For the total EU economy, however, the increase is a bit less than 1% per year, from 2 420 euro per tonne of CO_2 in 1999 to 2 630 euro/tonne CO_2 in 2006.

METHODOLOGICAL NOTES

Detailed methodological notes on most of the indicators used in this publication can be found on the Eurostat sustainable development indicator web pages:
http://ec.europa.eu/eurostat/sustainabledevelopment

DATA SOURCES

Data on GHG emissions were taken from the Annual European Union GHG Inventory compiled by the European Environmental Agency (EEA). It is submitted annually to the United Nations Framework Convention on Climate Change (UNFCCC) and compiled in line with the IPCC international guidelines. The EEA GHG inventory data is accessible at:
http://dataservice.eea.europa.eu/pivotapp/pivot.aspx?pivotid=475

In addition, estimated data on CO_2 provided by the International Energy Agency (IEA) have been used, available at
http://www.iea.org/co2highlights/co2highlights.xls.

Data from the Eurobarometer report "Nationals' attitudes towards climate change. Special Eurobarometer 300" was used in the introduction.

Investment in transport infrastructure: The indicator is compiled from data collected by the International Transport Forum.

DEFINITION AND COVERAGE

Greenhouse gas emissions: The methodologies for estimating and reporting greenhouse gas emissions under the UNFCCC are described in United Nations Document FCCC/CP/2002/8. Note that definitions of sectors do not coincide with the NACE nomenclature. The emissions totals in this SiF do not include emissions and removals related to land use, land-use change and forestry (LULUCF); nor do they include emissions from international aviation and international maritime transport. CO2 emissions from biomass with energy recovery are reported as a Memorandum item according to UNFCCC Guidelines and not included in national greenhouse gas totals.

Gross inland energy consumption represents the quantity of energy necessary to satisfy the inland consumption of the geographical entity under consideration. It corresponds to the addition of consumption, distribution losses, transformation losses and statistical differences.

Modal split of freight transport and volume of freight transport: Rail and inland waterways transport are based on movements on national territory, regardless of the nationality of the vehicle or vessel. Road transport is based on all movements of vehicles registered in the reporting country. Almost in all countries vehicles with very low capacity are not covered.

Modal split of passenger transport and volume of passenger transport: The indicator includes transport on national territory by passenger car, bus and coach, and train.

Investment in transport infrastructure: The indicator is compiled from data collected by the International Transport Forum through their questionnaire on investment in transport infrastructure. Infrastructure investment means total gross investment expenditure (new construction, extension, reconstruction and major repairs) on transport infrastructure (building and other construction, machinery and equipment – excluding vehicles and rolling stock), and includes both government and private investments. The following issues should be considered when analysing the data:

- Data availability per country and year varies considerably between modes. There are some natural reasons for that since landlocked countries have no seaports and some countries do not have a river or canal network;
- Data are completely missing for Cyprus, Greece and the Netherlands.
- Parts of data, i.e. incomplete time series or coverage of only some modes, are missing for Bulgaria, Ireland, Slovenia, and Malta.

Sections of NACE rev 1.1:
A - Agriculture, hunting and forestry
B - Fishing
C - Mining and quarrying
D - Manufacturing
E - Electricity, gas and water supply
F - Construction
G - Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
H - Hotels and restaurants
I - Transport, storage and communication
J - Financial intermediation
K - Real estate, renting and business activities
L - Public administration and defence; compulsory social security
M - Education
N - Health and social work
O - Other community, social and personal service activities
P - Activities of households
Q - Extra-territorial organizations and bodies

Valuable comments and help were provided by Johan Selenius, Jonas Noreland, Nikolaos Roubanis, Vincent Tronet, Natasa Cenova and Christian Heidorn.

Further information

Eurostat Website: http://ec.europa.eu/eurostat

Data on “Environment Statistics”
http://epp.eurostat.ec.europa.eu/portal/page/portal/environment/data/database

Further information on “Environment Statistics”
Climate Change Dedicated Section: http://epp.eurostat.ec.europa.eu/portal/page/portal/climate_change/overview
Sustainable Development Indicators: http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators

More information

Eurostat, (2009), Sustainable development in the European Union - 2009 monitoring report on the EU sustainable development strategy
Eurostat, (2010), Environmental statistics and accounts in Europe Statistical Book
Eurostat, (2010), Using official statistics to calculate greenhouse gas emissions A statistical Guide
Eurostat, (2010), Energy, transport and environment indicators Pocketbook

Journalists can contact the media support service:

Bech Building, Office A4/125, L-2920 Luxembourg
Tel.: (352) 4301 33408
Fax: (352) 4301 35349
E-mail: eurostat-mediasupport@ec.europa.eu

European Statistical Data Support:

With the members of the ‘European statistical system’, Eurostat has set up a network of support centres in nearly every Member State and in some EFTA countries.

Their role is to provide help and guidance to Internet users of European statistics.

Contact details for this support network can be found on the Eurostat website at: http://ec.europa.eu/eurostat/.

All Eurostat publications can be ordered via the ‘EU Bookshop’:
http://bookshop.europa.eu/.

Manuscript completed on: 28.02.2011
ISSN 1977-0316
Catalogue number: KS-SF-11-010-EN-N