

17 November 2021

Environmental accounts. Air Emission Accounts
Preview 2020 and year 2019

The Spanish economy emitted 274.6 million tonnes of greenhouse gases in 2020, 15.6% less than in 2019.

Greenhouse Gas (GHG) emissions decreased by 34.6% between 2008 and 2020

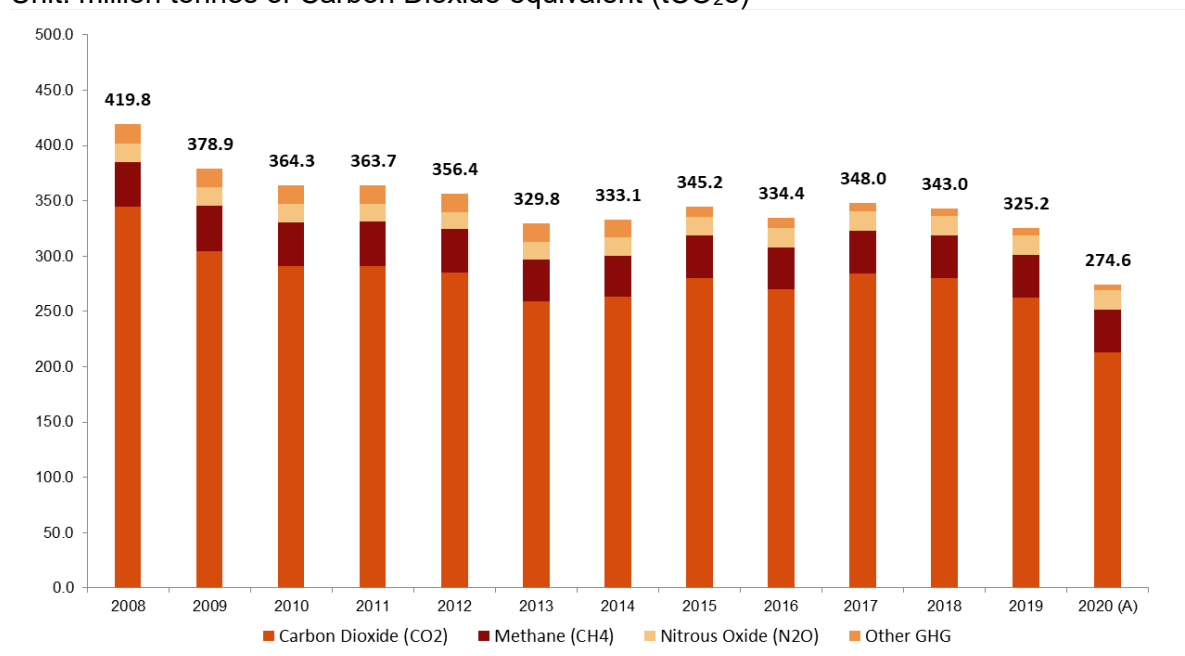
20.9% of emissions corresponded to households

The Air Emission Accounts record the emissions made by resident economic units, both within and outside the economic territory.

In 2020, Greenhouse Gas (GHG) emissions decreased by 15.6%, standing at 274.6 million tons of Carbon Dioxide equivalent (tCO₂e)¹.

Greenhouse Gas Emissions

Unit: million tonnes of Carbon Dioxide equivalent (tCO₂e)



Between 2008 (first year of the accounting series) and 2020, the decrease in Greenhouse Gas (GHG) emissions was 34.6%.

¹ In order to make a comparison of atmospheric emissions of greenhouse gases other than carbon dioxide, all are converted to their carbon dioxide equivalent (CO₂e) value by multiplying the mass of the gas in question by its global warming potential.

There are different types of Greenhouse Gases. The main ones, due to their level of emissions, are Carbon Dioxide (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O).

In 2020, emissions of Carbon Dioxide were reduced by 18.8% and those of Nitrous Oxide by 1.5%. On the contrary, those of Methane increased by 0.1%.

Greenhouse gas emissions by type of gas. Year 2020

Unit: thousand tonnes of Carbon Dioxide equivalent (tCO₂e)

	Total	% of the total	% annual variation	impact
CO ₂ – Carbon dioxide	213,313.6	77.7	-18.8	-15,182
CH ₄ – Methane	38,533.3	14.0	0.1	0,012
N ₂ O – Nitrous oxide	17,569.4	6.4	-1.5	-0,083
Other GHG	5,155.6	1.9	-17.1	-0,326
TOTAL	274,571.9	100.0	-15.6	

Greenhouse Gas Emissions by branches of activity and households.

In 2020, 25.8% of the total greenhouse gas emissions were concentrated in *Manufacturing*. *Households* accounted for 20.9% of the total and *Agriculture, livestock, forestry and fishing*, 18.2%.

The branches of activity that decreased their GHG emissions the most in 2020 were *Transport and storage* (–30.1%) and *Supply of electricity, gas, steam, air conditioning and water* (–21.3%).

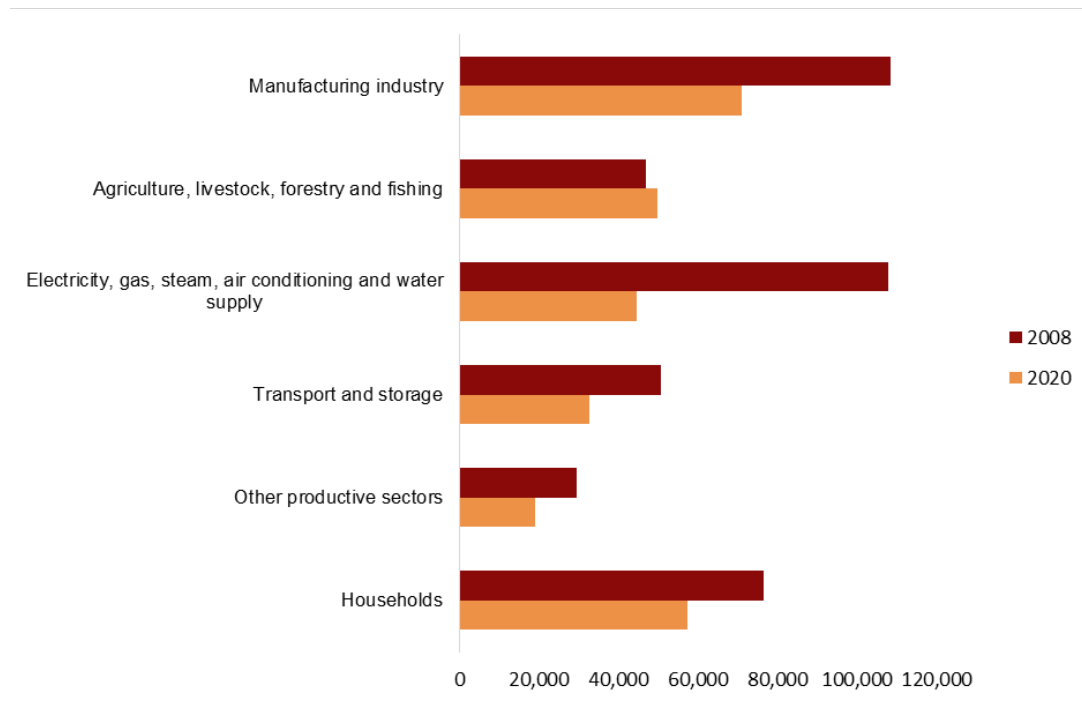
Greenhouse Gas Emissions by branches of activity and households.

Unit: thousand tonnes of Carbon Dioxide equivalent (tCO₂e)

	TOTAL GHG	% of the total	% annual variation	% variation 2008-2020
Manufacturing industry	70,946.9	25.8	-13.5	-34.5
Agriculture, livestock, forestry and fishing	49,904.2	18.2	-1.1	6.6
Electricity, gas, steam, air conditioning and water supply	44,472.3	16.2	-21.3	-58.8
Transport and storage	32,756.7	11.9	-30.1	-35.5
Other productive sectors	19,135.8	7.0	-11.5	-35.2
Households	57,356.0	20.9	-15.4	-25.0
TOTAL	274,571.9	100.0	-15.6	-34.6

Compared to 2008, the branches of activity where GHG emissions decreased the most were *Supply of electricity, gas, steam, air conditioning and water* (–58.8%) and *Transport and storage* (–35.5%).

Greenhouse Gas Emissions by branches of activity and households. Years 2008 and 2020.



Unit: thousand tonnes of Carbon Dioxide equivalent (tCO₂e)

The highest amounts of Carbon Dioxide emitted in 2020 corresponded to the *Manufacturing Industry* (65.9 million tons), *Households* (54.7 million) and *Transportation and storage* (32.2 million).

Meanwhile, *Agriculture, livestock, forestry and fishing* emitted the highest amounts of Methane (62.6% of the total) and Nitrous Oxide (79.7%).

Greenhouse Gas Emissions by type of gas, branches of activity and households. Year 2020

Unit: thousand tonnes of Carbon Dioxide equivalent (tCO₂e)

	TOTAL GHG	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	Other GHG
Manufacturing industry	70,946.9	65,941.0	2,265.5	539.6	2,200.8
Agriculture, livestock, forestry and fishing	49,904.2	11,748.9	24,127.3	14,009.4	18.6
Electricity, gas, steam, air conditioning and water supply	44,472.3	31,641.7	11,020.2	1,424.4	386.0
Transport and storage	32,756.7	32,225.5	29.0	421.9	80.3
Other productive sectors	19,135.8	16,998.1	281.7	651.3	1,204.7
Households	57,356.0	54,758.4	809.6	522.8	1,265.2
TOTAL	274,571.9	213,313.6	38,533.3	17,569.4	5,155.6

Other atmospheric emissions. Year 2019

Other environmental problems that cause harmful effects on the environment and health are acidifying gases, tropospheric ozone precursor gases and particulates (fine dust).

Emissions of atmospheric pollutants. Year 2019

Units: thousands of tonnes.

	TOTAL	% annual variation	% variation 2008-2020
Acidifying gases	1,612.8	-4.8	-24.3
Tropospheric ozone precursors	1,770.5	-3.0	-27.0
Particulates < 10µm	197.6	-1.5	-8.7

Acidifying gases, which include Sulphur Oxides (SO_x), Nitrogen Oxides (NO_x) and Ammonia (NH₃) measured in equivalent tons of Sulphur Dioxide (tSO_{2e})² depending on their degree of acidification, fell by 4.8% in 2019.

Tropospheric ozone precursor gases, which correspond to Non-Methane Volatile Organic Compounds (NMVOC), Nitrogen Oxides (NO_x), Methane (CH₄) and Carbon Monoxide (CO) measured in equivalent tons of NMVOC², decreased 3.0% in 2019.

On the other hand, emissions of particles with an aerodynamic diameter of less than 10 microns (PM₁₀) fell by 1.5% in 2019, standing at 197.6 thousand tonnes.

The highest emissions of acidifying gases corresponded to *Agriculture, livestock, forestry and fishing* (997.7 thousand tons of tSO_{2e}), *Manufacturing industry* (190.6) and *Transportation and storage* (167.3).

Emissions of atmospheric particles by branches of activity and households. Year 2019

Units: thousands of tonnes.

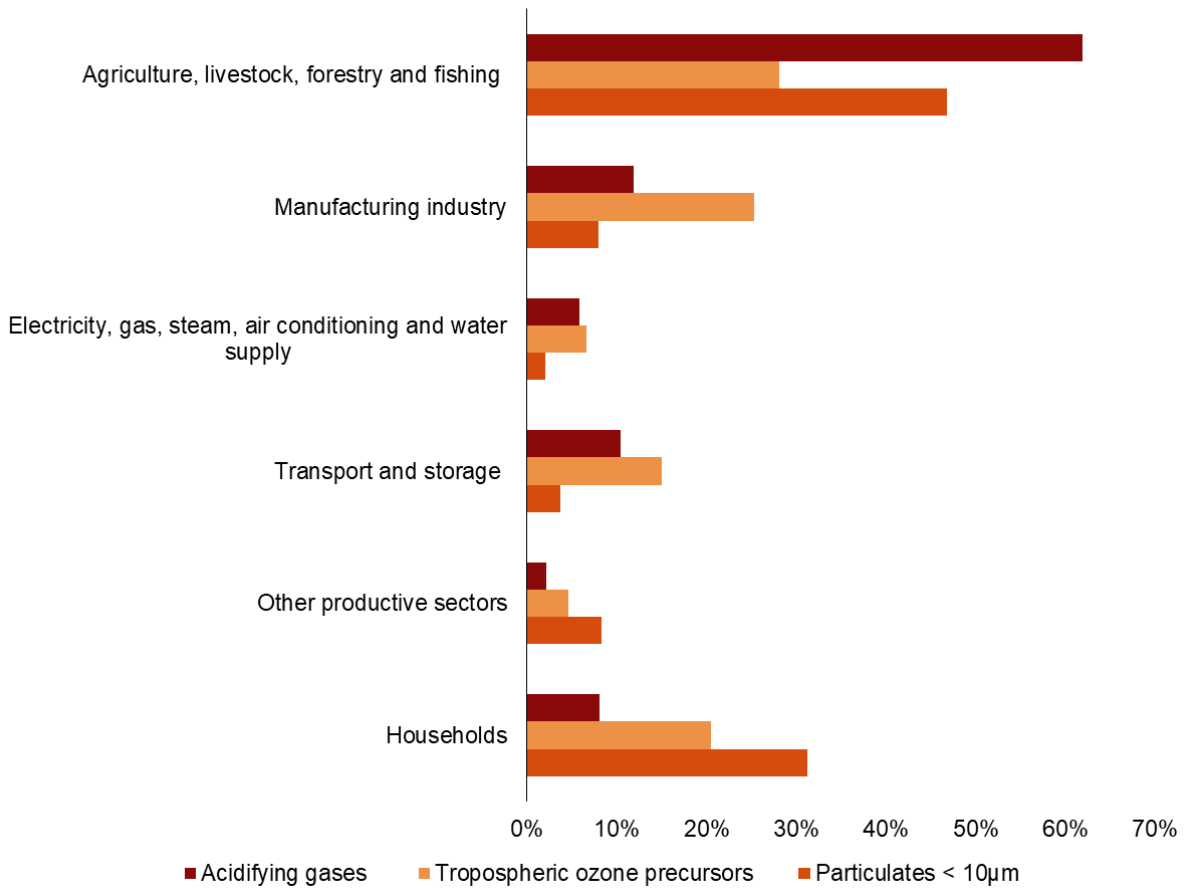
	Acidifying gases	Tropospheric ozone precursors	Particulates < 10µm
Agriculture, livestock, forestry and fishing	997.7	496.9	92.4
Manufacturing industry	190.6	448.5	15.8
Electricity, gas, steam, air conditioning and water supply	93.3	116.3	4.0
Transport and storage	167.3	265.4	7.4
Other productive sectors	33.6	80.9	16.2
Households	130.3	362.5	61.8
TOTAL	1,612.8	1,770.5	197.6

² For the aggregation of gases due to environmental problems, the mass of the corresponding gas is multiplied by a calculation factor established by the European Environment Agency (EEA) and Eurostat.

On the other hand, *Agriculture, forestry and fishing* emitted the highest amounts of ozone precursor gases (496.9 thousand tons of equivalent NMVOC), followed by *Manufacturing* (448.5 thousand tons).

The highest amounts of emissions of particles with an aerodynamic diameter less than 10 microns (PM₁₀) corresponded to *Agriculture, forestry and fishing* (92.4 thousand tons) and Households (61.8).

Emissions of atmospheric pollutants by branches of activity and households. Year 2019
Percentage



Data Review and Update

The data published today is provisional and will be revised when next year's data is released.

Methodological note

The objective of the Environmental Accounts (EA) is to integrate environmental information into the central system of National Accounts in a coherent way. They include a set of satellite accounts, which are transmitted annually, compiled using the accounting formats applicable to the different sectoral and territorial areas, with a strong use of physical data. They show the interaction between the economy, households and environmental factors.

The Air Emissions Accounts present data regarding the polluting emissions into the atmosphere, in a way that is compatible with the National Accounts System, registering the emitting agents, broken down by branch of economic activity and households as final consumers.

The estimates of the Account of emissions to the atmosphere are made from the National Inventories of Emissions to the Atmosphere, prepared by the Ministry for Ecological Transition and the Demographic Challenge, which use the IPCC and EMEP/EEA methodology, with the NFR/CRF nomenclature (*Nomenclature for Reporting / Common Reporting Format*), which groups emissions into sectors, categories and subcategories.

For more information, the methodology can be accessed at:

https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176941&menu=metodologia&idp=1254735976603

The standardized methodological report is at:

<https://www.ine.es/dynt3/metadatos/es/RespuestaDatos.html?oe=30084>

INE statistics are produced in accordance with the Code of Good Practice for European Statistics, which is the basis for the institution's quality policy and strategy. For more information see the section on [Quality at INE and the Code of Best Practices](#) on the INE website.

For further information see **INEbase**: www.ine.es/en/ Twitter: [@es_ine](https://twitter.com/es_ine)

All press releases at: www.ine.es/en/prensa/prensa_en.htm

Press Office: Telephone numbers: (+34) 91 583 93 63 /94 08 – gprensa@ine.es

Information Area: Telephone number: (+34) 91 583 91 00 – www.ine.es/infoine/?L=1
