

National Report by Spain 2018

Enhanced Black Carbon and Methane Emissions
Reductions – Arctic Council Framework for Action



MINISTERIO DE
ASUNTOS EXTERIORES
Y DE COOPERACIÓN

DIRECCIÓN GENERAL DE
RELACIONES ECONÓMICAS
INTERNACIONALES

Subdirección General de Relaciones
Económicas Multilaterales y de
Cooperación Aérea, Marítima y Terrestre

NATIONAL REPORT BY SPAIN APRIL 2018, FOR THE EXPERT GROUP ON BLACK CARBON AND METHANE – ARCTIC COUNCIL



Framework for Enhanced Black Carbon and Methane Reductions

Report to the Arctic Council by Spain on policies to reduce emissions of black carbon and methane

General remark

The reduction of Black Carbon and Methane Emissions in the Arctic is of critical importance to tackle Climate change in this rapid changing region. Therefore Spain wishes to join in the Arctic Councils' initiatives on Black Carbon and Methane Emissions Reduction. As an Observer State keen on enhancing multilateral cooperation on Arctic and international issues, it is my pleasure to introduce our small report.

This report contains the most actual data on emissions and emission projections which are consistent with the data submitted early this year to the European Commission (COM) and the United Nations Framework Convention on Climate Change and the United Nations Convention on Long-range Transboundary Air Pollution.



Summary of current black carbon emissions reported to CLRTAP

Emissions Inventories for the years 2000 up to 2016

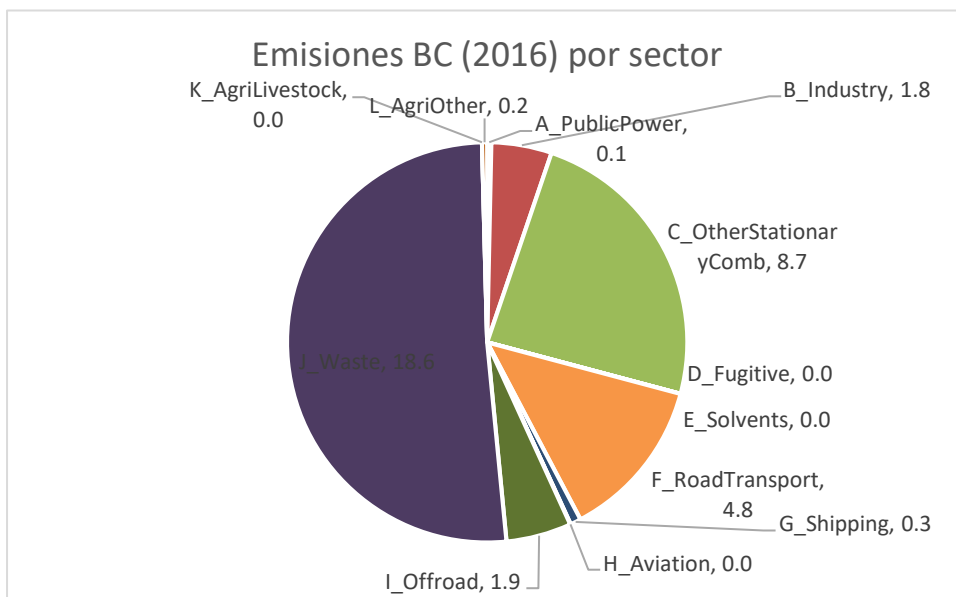
The emissions of black carbon (BC) are submitted voluntarily in the framework of the Convention on Transboundary Air Pollution on Long Distances (CLRTAP) under the Economic Commission for Europe of the United Nations (UNECE). The calculation of the BC inventories is annually performed by the single national entity for emission inventories at the Spanish Ministry for Agriculture and Fisheries, Food and Environment (MAPAMA).

The detailed reported data are available at: <http://www.mapama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>

Spain reports Black Carbon (BC) emissions for all years **since 2000 onward**. The **main source is open burning of agriculture residues**, followed by **residential stationary combustion**. Spain uses the EMEP/EEA 2016 Guidebook to estimate BC emissions. The following figure provides an overview on the sources and their respective contribution to the Spanish national total for year 2016.

Black Carbon Emissions in Spain

by detailed source category



Total Black Carbon emissions between 2000 and 2016 dropped by 31%. The main



drivers have been the transport emissions, with 26% of total 2000 emissions, and a 63% reduction between 2000 and 2016.

Black Carbon Emissions in Spain

In implementation of the recommendation by the EGBCM the following table provides the data in GNFR structure for 2010, 2013 and 2016.

	2016
A_PublicPower	0,1
B_Industry	1,8
C_OtherStationaryComb	8,7
D_Fugitive	0,0
E_Solvents	0,0
F_RoadTransport	4,8
G_Shipping	0,3
H_Aviation	0,0
I_Offroad	1,9
J_Waste	18,6
K_AgriLivestock	0,0
L_AgriOther	0,2
M_Other	0,0
Total	36,5

Projection of Black Carbon emissions

Currently there is no projection available for the Spanish Black Carbon emissions. The Spanish Emissions Inventory and Projections System is assessing options to improve the existing projections for fine particle emissions and based on these results to develop scenarios and projections for Black Carbon emissions.

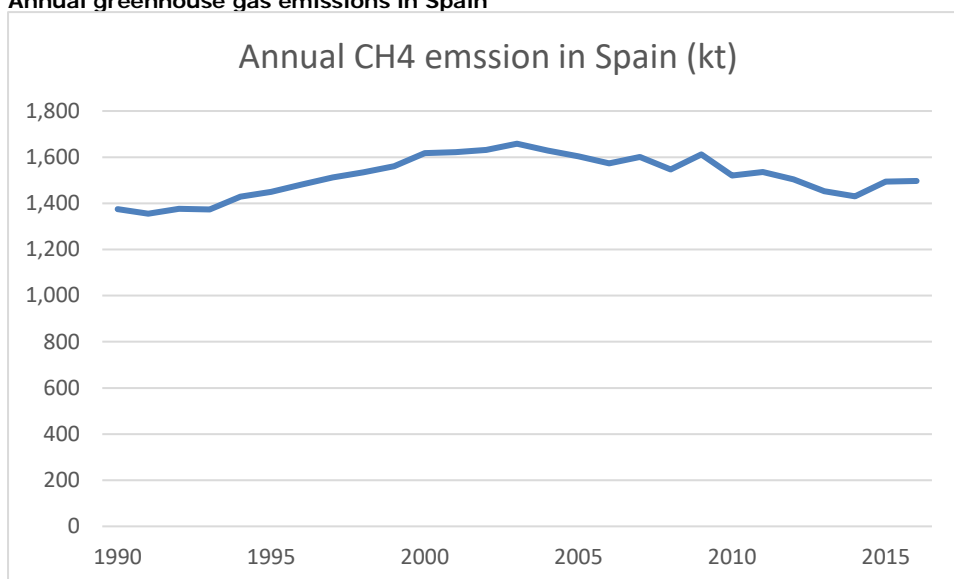


Summary of current methane emissions to UNFCCC

Emissions Inventories for the years 1990 up to 2016

Methane emissions in Spain are caused mainly by animal husbandry in agriculture (56%) and waste landfilling (28%). Methane emissions have increased by 9 % since 1990. This trend has been primarily the result of the increase of emissions in waste landfills.

Annual greenhouse gas emissions in Spain



The reported data in CRF-structure is available under: <http://www.mapama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei/>

Emission trends for Spain since 1990, CH₄ in kt

	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1. Energy	139	129	125	135	129	129	129	126	127	122	126	124	113	109	107
A. Fuel combustion (sectoral approach)	56	61	74	93	86	88	89	88	92	88	93	91	81	80	78
1. Energy industries	2	2	2	2	8	8	8	6	7	5	5	6	5	5	4
2. Manufacturing industries and construction	5	12	28	47	34	37	37	31	33	32	36	39	32	31	30
3. Transport	15	15	12	8	8	7	6	5	5	5	4	4	3	3	4
4. Other sectors	33	32	32	35	36	36	38	46	46	46	48	42	40	40	40
5. Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B. Fugitive emissions from fuels	83	68	51	43	43	42	40	38	36	34	32	34	32	29	29
1. Solid fuels	65	45	33	24	23	21	19	16	14	11	9	9	6	4	3
2. Oil and natural gas and other emissions from energy production	18	23	17	19	20	20	21	22	22	23	23	25	26	25	25
C. CO ₂ transport and storage															
2. Industrial processes	6	7	8	7	7	7	6	6	7	7	6	6	7	7	7
A. Mineral industry															
B. Chemical industry	5	7	7	6	6	6	5	5	6	6	5	5	6	6	7
C. Metal industry	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
D. Non-energy products from fuels and solvent use	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA



E. Electronic industry																
F. Product uses as ODS substitutes																
G. Other product manufacture and use	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	NA,I	IE,N	IE,N
H. Other	E	E	E	E	E	E	E	E	E	E	E	E	E	E	A	A
	1.00															
3. Agriculture	879	899	3	971	937	961	903	916	864	861	826	802	826	858	866	
A. Enteric fermentation	533	552	618	629	611	623	593	588	587	567	549	539	544	562	569	
B. Manure management	283	297	350	322	307	319	294	308	257	274	258	244	263	278	278	
C. Rice cultivation	15	11	19	19	18	17	16	19	20	20	18	18	18	18	18	
D. Agricultural soils	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field burning of agricultural residues	49	39	16	1	1	2	1	1	1	1	1	1	1	1	1	1
G. Liming																
H. Urea application																
I. Other carbon-containing fertilizers																
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry	13	9	12	12	11	5	3	7	4	6	14	4	3	7	6	
A. Forest land	12	9	11	12	11	4	3	7	3	6	13	4	3	7	6	
B. Cropland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C. Grassland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D. Wetlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E. Settlements	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Other land	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
G. Harvested wood products																
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
5. Waste	337	405	470	478	489	498	505	557	518	540	532	517	481	512	510	
A. Solid waste disposal	219	296	369	380	391	401	410	464	426	449	446	434	398	429	425	
B. Biological treatment of solid waste	3	3	5	10	10	11	14	15	18	18	17	16	15	16	16	
C. Incineration and open burning of waste	13	13	12	12	12	12	12	12	12	12	12	12	12	12	12	
D. Waste water treatment and discharge	100	93	83	75	74	73	68	65	62	61	57	55	55	56	57	
E. Other	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	
6. Other (as specified in summary 1.A)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total CH4 emissions without CH4 from LULUCF	1.362	1.440	1.606	1.592	1.561	1.595	1.543	1.605	1.516	1.530	1.490	1.448	1.427	1.486	1.490	



Projection of Methane emissions

Projections have been developed in accordance with the EU Monitoring Mechanism Regulation (regulation EU/525/2013) reporting requirements in a “with measure scenario” (WMS). The detailed descriptions on methods and models used as well as on the underlying parameter and data are contained in “2017 Projections Report for Spain pursuant to Regulation (EU) No. 525/2013”. This report is available under:

<http://www.mapama.gob.es/es/calidad-y-evaluacion-ambiental/temas/sistema-espanol-de-inventario-sei-/Proyecciones.aspx>

The reduction in 2035 compared to 1990 is estimated at -17%.

