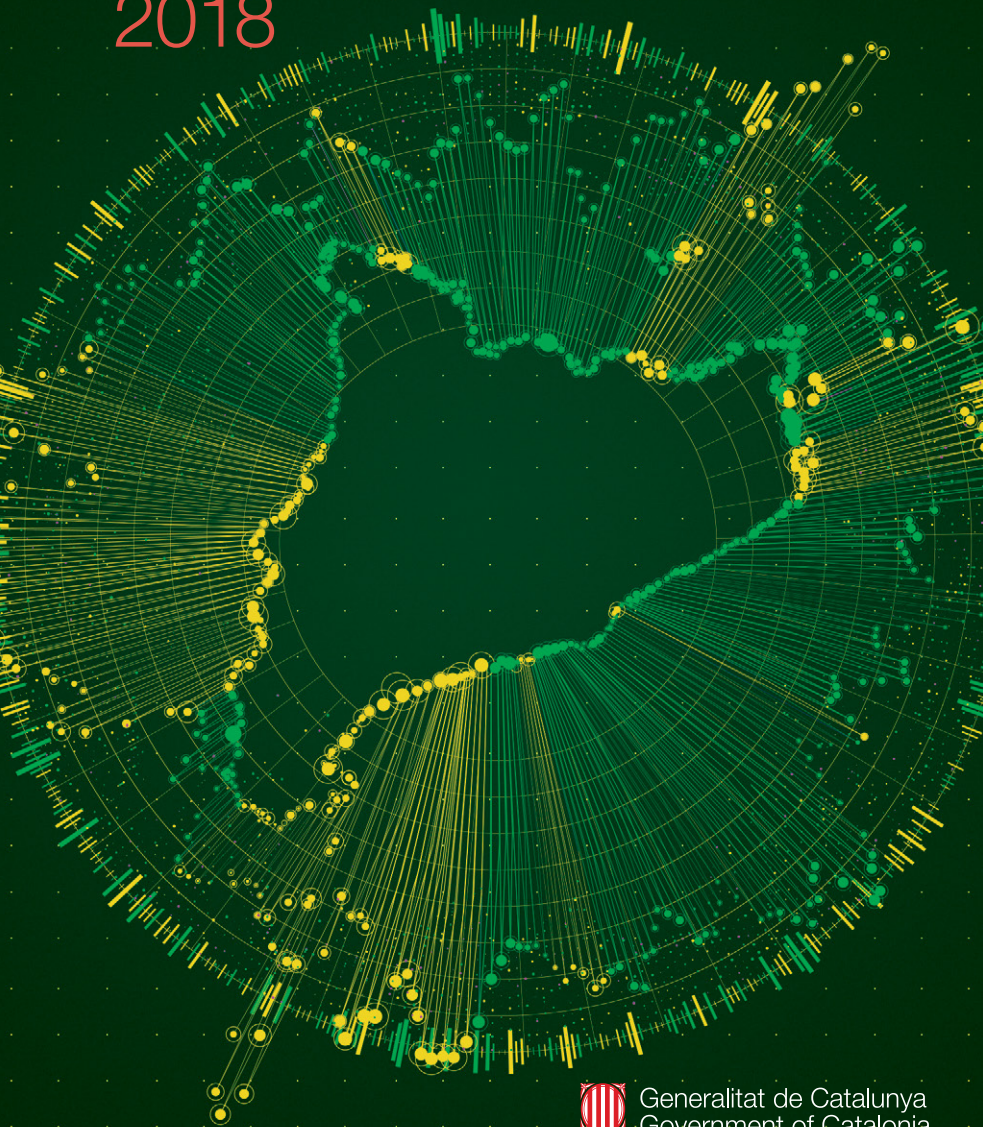


Data of the environment in Catalonia 2018



Generalitat de Catalunya
Government of Catalonia
**Ministry of Territory
and Sustainability**

Data of the environment in Catalonia 2018

Sources

Ministry of Territory and Sustainability

Secretariat for the Environment and Sustainability

Catalan Water Agency (ACA)

Waste Agency of Catalonia (ARC)

Meteorological Service of Catalonia

Ministry of Agriculture, Livestock, Fisheries and Food

Ministry of Governance and Institutional Relations Municipal

Statistical Institute of Catalonia

Forest Ownership Centre

The data are from 31 December of the year indicated

Management and coordination

Directorate-General for Environmental Policy and Nature

Environmental Information Service



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Unported License.

DL: B. 42384-2012



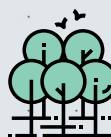
- 1. General data of environmental interest**
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- 2. Water**
page 6



- 3. Atmospheric environment**
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- 4. Biodiversity and natural environment**
page 14



- 5. Climate change**
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- 6. Sustainable production and consumption**
page 22



- 7. Environmental assessment**
page 24



- 8. Waste**
page 27



1.1 Grouping of municipalities by population intervals 2017

Intervals (inhabitants)	Number of municipalities		Town	
	Partial	Accumulated %	Partial	Accumulated %
0-1,000	488	51.5	193,457	2.6
1,001-5,000	250	77.8	579,726	10.3
5,001-10,000	89	87.2	626,445	18.6
10,001-20,000	57	93.2	813,880	29.3
20,001-50,000	41	97.6	1,266,880	46.1
50,001-100,000	13	98.9	939,468	58.6
over 100,000	10	100.0	3,136,046	100.0
Total	948		7,555,830	

Source: Ministry of Governance and Institutional Relations. Muncicat

1.2 Structure of economic activity 2017

Sectors of activity	GAV ¹	% of total	% variation ²	Employed ³	% of total	% inter-annual var.
Agriculture	2,169	1.0	-3.1	53.8	1.6	7.3
Industry and energy	46,170	21.4	4.9	622.9	18.7	1.2
Construction	10,422	4.8	4.7	221.8	6.7	13.1
Services	156,489	72.7	2.9	2,427.7	73.0	2.4
Total	215,250	100.0		3,326.2	100.0	

¹ In millions of current euros.

² Variation rate in volume.

Source: Idescat, based on data from the Active Population Survey (INE).

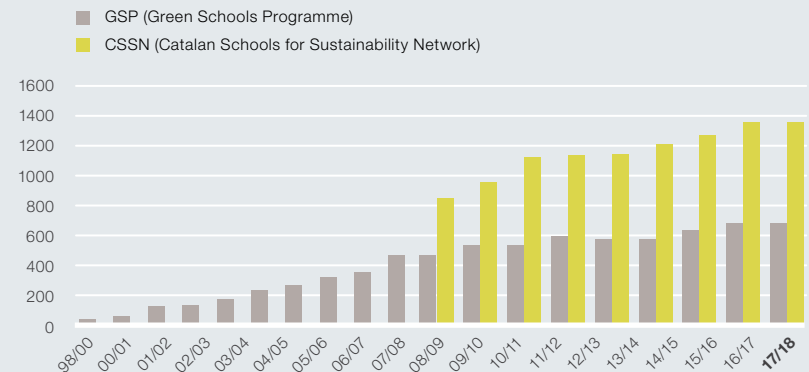
1.3 Parc de vehicles (milers de vehicles)

Type of vehicle	2013	2014	2015	2016	2017
Motorbikes	706.1	723.3	748.9	782.6	807.1
Cars	3,326.9	3,309.6	3,360.9	3,436.3	3,481.3
Buses, lorries and other	950.7	940.6	942.7	952.8	934.4
Total	4,983.7	4,973.5	5,052.5	5,171.7	5,222.8
Vehicles/1000 hab.¹	659.6	658.2	668.7	684.5	691.2

¹ Official population figures for each period.

Source: Statistical Institute of Catalonia (INE)

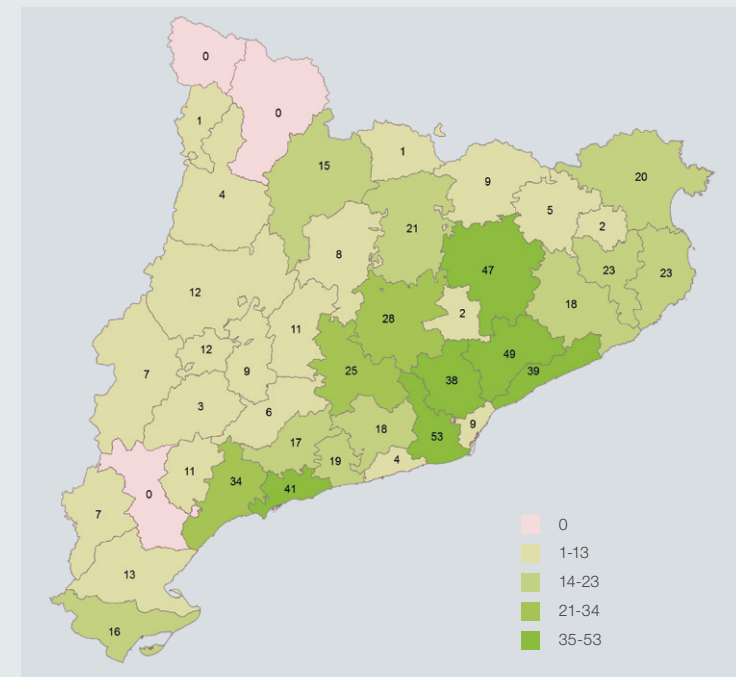
1.4 Education centres that belong to the Green Schools Programme



In 2009, the Catalan Schools for Sustainability Network (XESC) was created. This network includes Green Schools and local networks that promote education programmes for sustainability, aimed at education centres in Catalonia.

Source: Environmental Education Service

1.5 Regional distribution of education centres that belong to the Green Schools Programme. 2017-2018





2.1 Overall output of wastewater treatment plants in service

	2010	2013	2014	2015	2016	2017
Number of treatment plants in service	389	455	489	495	510	516
Number of treatment plants analysed	378	430	475	474	493	-
Treated flow (1000 m ³ /day) ¹	1,935	1,788	1,724	1,704	1,713	1,742
Overall average efficiency of removal of suspended matter (%)	94	93	94	95	94	94
Overall average efficiency of BOD ₅ ² removal (%)	94	94	95	95	96	96
Overall average efficiency of COD ₅ ³ removal (%)	90	91	93	93	94	94

Note: Currently, over 96% of the population of Catalonia is connected to urban wastewater treatment plants.

¹ In millions.

² Suspended matter.

³ Biochemical oxygen demand.

⁴ Chemical oxygen demand.

Source: Catalan Water Agency (ACA)

2.2 Generation, treatment and destination of sludge generated in wastewater treatment plants

Tonnes

Sludge generated ¹	2010	2013	2014	2015	2016	2017
El Besòs plant	144,628	133,606	122,927	358,285	143,045	352,743
El Prat plant	55,146	53,475	52,746	130,595	50,757	140,978
Other plants	335,645	340,843	345,170	52,720	358,820	52,881
TOTAL GENERATED	535,419	527,924	520,843	541,599	552,623	546,602

¹ Fresh matter,

Tonnes

Sludge treatment	2010	2013	2014	2015	2016	2017
Composting, Catalan Water Agency ACA ¹	42,278	24,525	31,268	37,360	40,603	39,722
External composting	136,248	170,125	209,406	218,477	225,527	213,573
Composting	178,526	194,651	240,674	255,837	266,130	253,295
Thermal drying	233,053	164,266	43,879	52,109	51,592	49,828
Other treatments ²	3,981	20,916	49,653	42,899	26,362	39,790
Digestion with no post-treatment	115,193	146,803	185,934	190,227	197,451	203,370
Total sludge treated	530,753	526,635	520,140	541,073	541,535	546,283

¹ Catalan Water Agency (ACA).

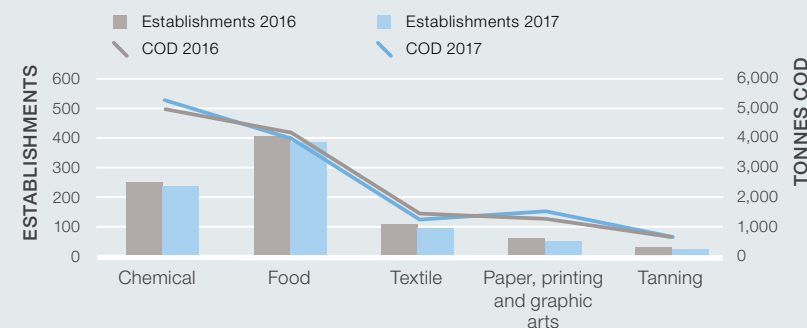
² Composting of contaminated material, hazardous treatment, etc,

Tonnes

Sludge disposed of by destination	2010	2013	2014	2015	2016	2017
Agriculture and gardening	287,157	343,794	412,363	444,765	455,715	462,991
Restoration of quarries	171	-	-	-	-	-
Controlled landfill	5,609	18,159	25,330	20,671	6,538	3,439
Energy recovery	41,322	27,045	7,615	8,010	7,964	7,370
Total sludge eliminated	334,259	388,999	445,307	473,466	470,216	473,799

Source: Catalan Water Agency (ACA)

2.3 Pollutant load discharged by establishments (COD¹ per year), by production sector, to river basin or to WWT²



¹ Chemical Oxygen Demand.

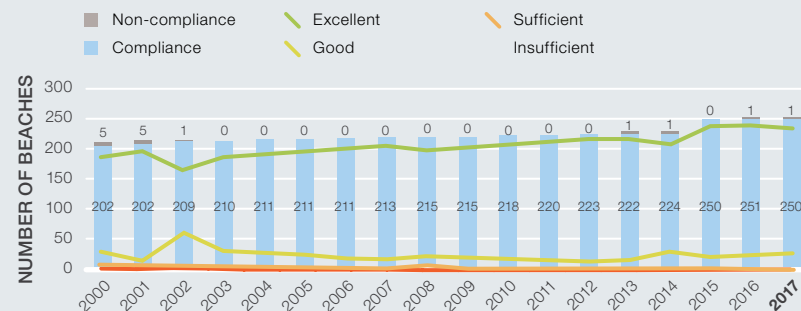
² Wastewater treatment plants.

	2016	2017	Number of establishments
Other production sectors	3,226	2,850	771

Note: According to the Declaration on the Use and Pollution of Water (DUCa): sections B (05.02) and C, D and E of CCEA: if 7,000 m³/year are exceeded, if pollution exceeds the parameters indicated in the regulations, if non-discharged waters represent over 50% of the total consumption or if the establishment has its own treatment system, according to Decree 103/2000, of 6 March, amended by Decree 47/2005, of 22 March.

Source: Catalan Water Agency (ACA)

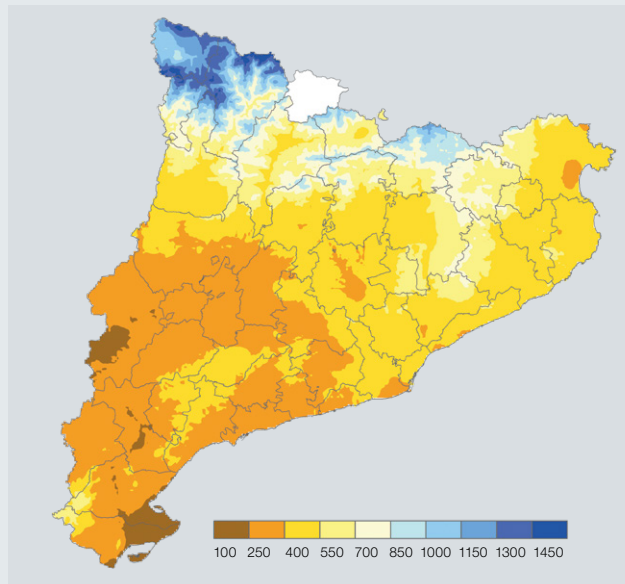
2.4 Degree of compliance with Directive 2006/7/EC: beaches¹



¹ According to European Directive 2006/7/EC, from 2008 the category of 'sufficient' is included, and the categories of 'poor' and 'very poor' are replaced by insufficient.

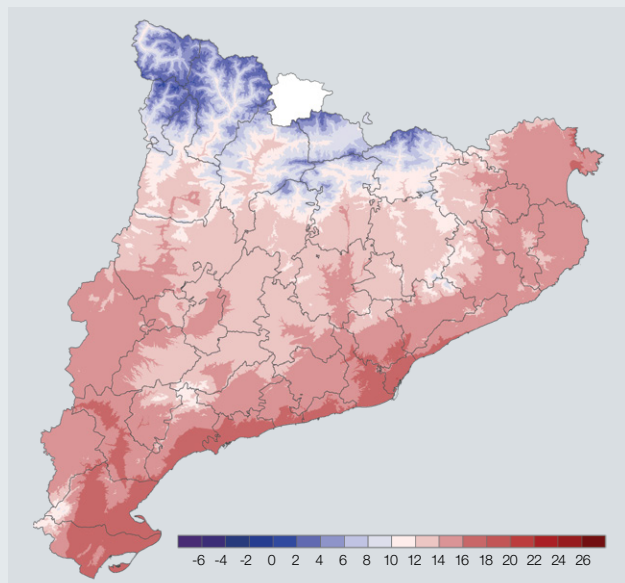
Source: Catalan Water Agency (ACA)

3.1 Map of precipitation in mm. 2017



Source: Meteorological Service of Catalonia

3.2 Map of cumulative average temperature in C°. 2017



Source: Meteorological Service of Catalonia



3.3 Distribution of ICQA¹ values, regarding air quality. 2017

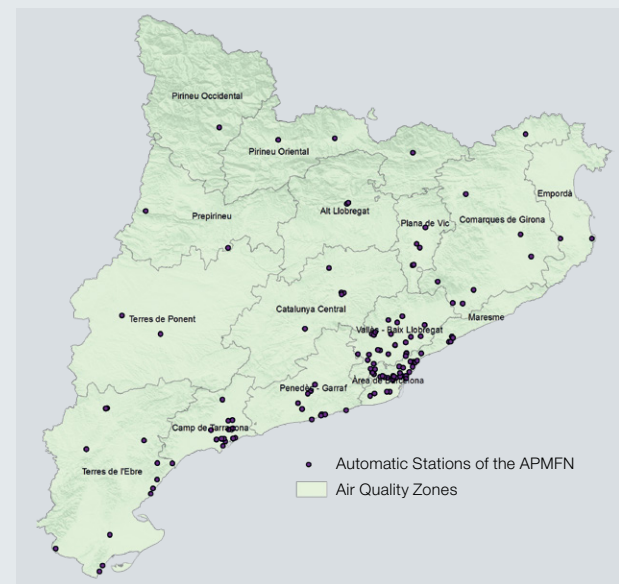


¹ ICQA: Catalan Air Quality Index

Note: The ICQA is calculated using the following emission levels: carbon monoxide (CO), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), ozone (O₃) and suspended particles (PM₁₀ and TSP). The result is a value for the measuring station and day that represents different levels of quality.

Source: Air Monitoring and Surveillance Service

3.4 Map of the 15 AQZ¹ in Catalonia and the APMFN². Year 2017



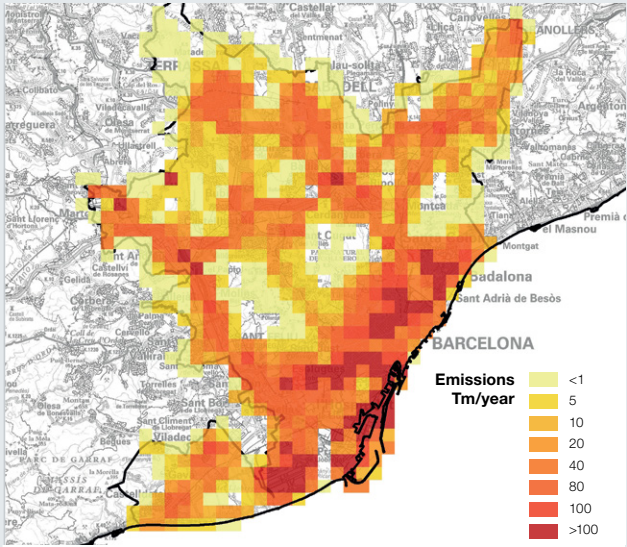
¹ Air quality zones.

² Air Pollution Monitoring and Forecasting Network.

Source: Air Monitoring and Surveillance Service

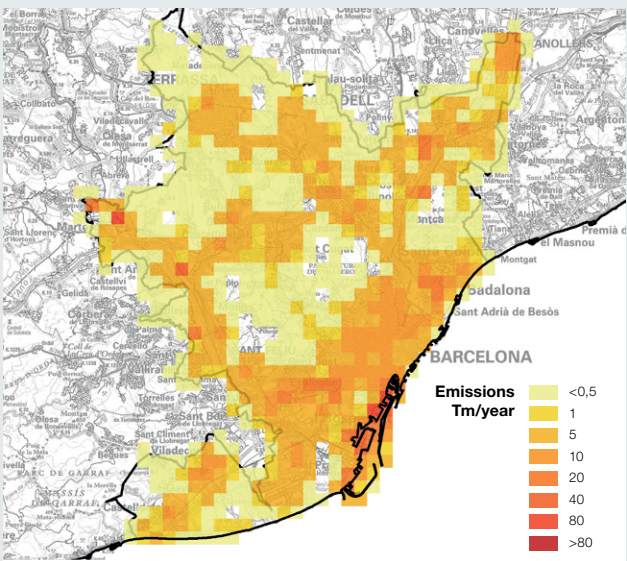


3.5 Annual NOx emissions in the area of special protection (ASP) of the atmospheric environment in the Barcelona conurbation. Year 2014



Source: Air Monitoring and Surveillance Service

3.6 Annual PM10 emissions in the area of special protection (ASP) of the atmospheric environment in the Barcelona conurbation. Year 2014



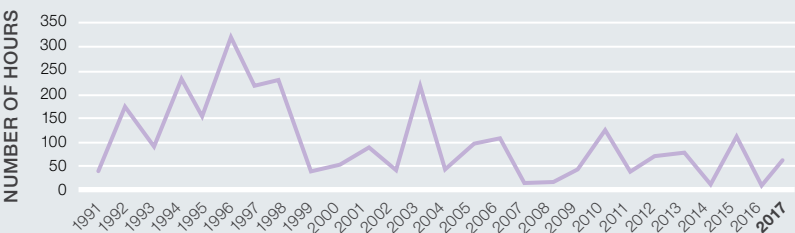
Source: Air Monitoring and Surveillance Service

3.7 Compliance with current regulations for NO₂, PM10 i O₃

	2010	2013	2014	2015	2016	2017
Percentage of compliance with current regulations for NO₂						
% of stations that comply with the ALV ¹ of NO ₂ in AQZ1 ² and ZQA2	32	70	77	60	80	83
% of stations that comply with the ALV ¹ of NO ₂ in AQZ3 and AQZ15	100	100	100	100	100	100
Percentage of compliance with current regulations for PM10						
% of APMFN stations that exceed the annual PM10 LV ³	0	0	0	0	2	0
% of APMFN stations that exceed the daily PM10 LV	4	3	2	4	1	1
Number of hours with exceedance of threshold values, according to current regulations for O₃						
No. of hours with exceedance of the information threshold for O ₃	125	79	5	115	10	60
No. of days with exceedance of the information threshold for O ₃	28	19	4	28	5	13

¹ Annual limit value.
² Air quality zone.
³ Limit value.
Source: Air Monitoring and Surveillance Service

3.8 Graphs of the number of hours and days with exceedance of the information threshold for O₃ 1991-2017



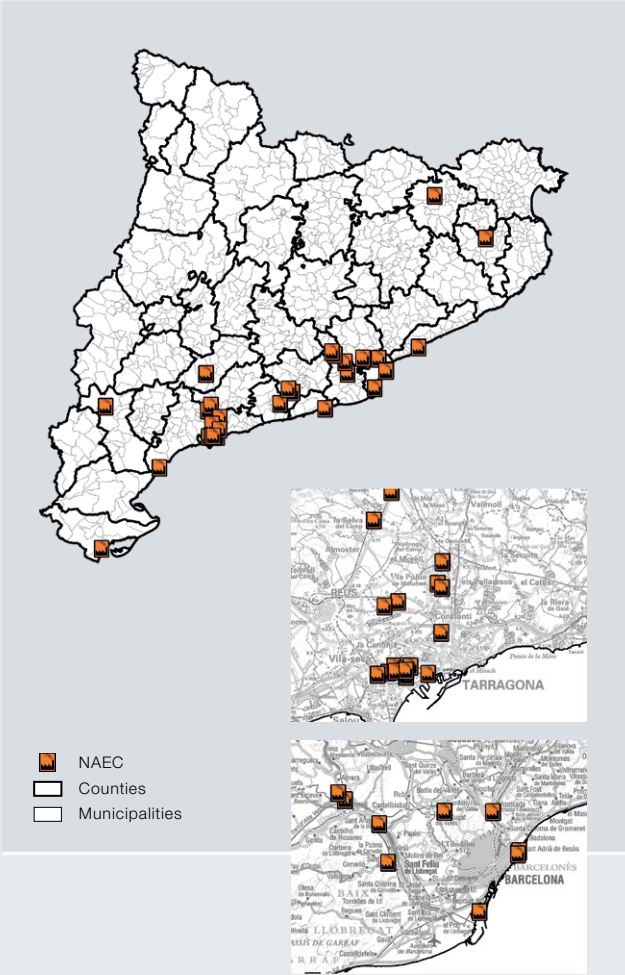
Source: Air Monitoring and Surveillance Service



Source: Air Monitoring and Surveillance Service

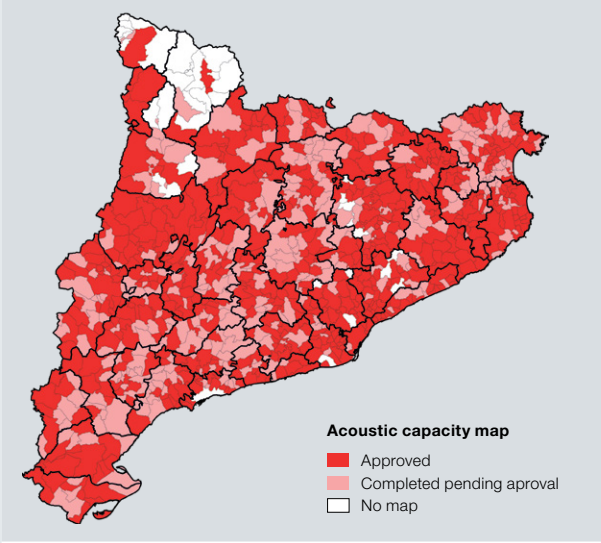


3.9 Location Map¹ of automatic sensors of the Network of Atmospheric Emissions of Catalonia (NAEC) for 2017



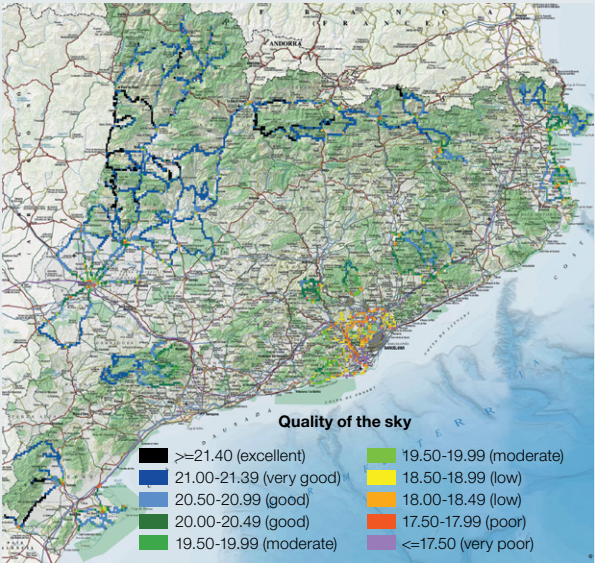
¹ NEAC sensors allow continuous and real-time monitoring of pollutants emitted by the focuses that have the highest impact on the atmosphere.
Source: Air Monitoring and Surveillance Service

3.10 Status of municipalities, regarding acoustic capacity maps. Year 2017



Source: Light and Noise Pollution Prevention and Control Service

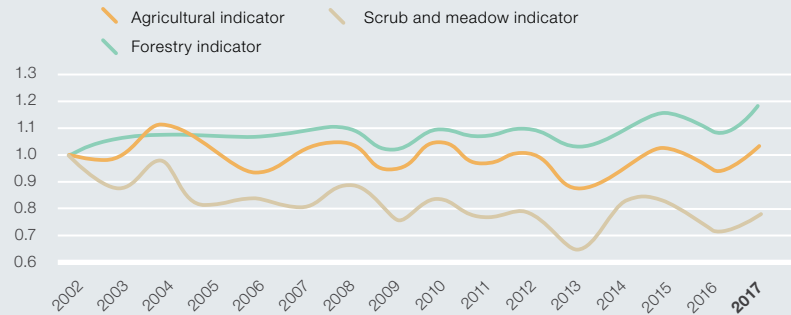
3.11 Night light impact on the environment. Map of the quality of sky background in Catalonia. 2017



Source: Light and Noise Pollution Prevention and Control Service

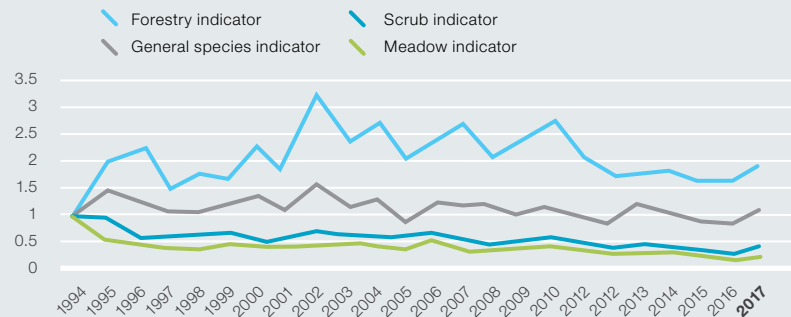


4.1 Indicators for common bird



Source: Monitoring Common Birds of Catalonia (SOCC) project, Catalan Ornithological Institute (ICO).

4.2 Indicators for butterflies



Source: Catalan Butterfly Monitoring Scheme (CBMS), Granollers Museum of Natural Sciences and the Ministry of Territory and Sustainability.

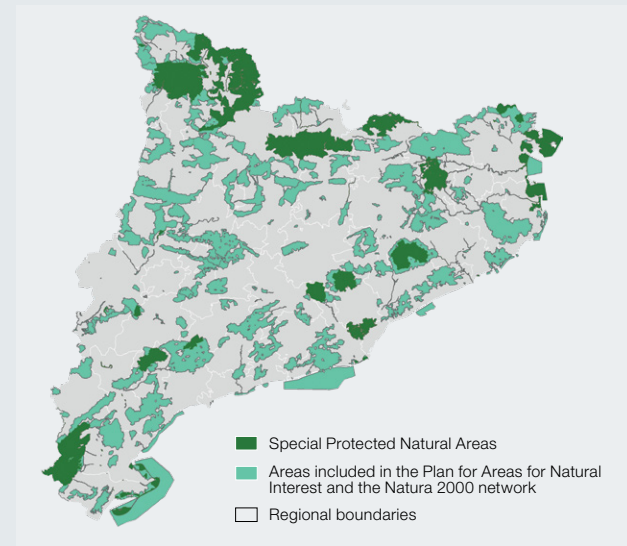
4.3 Current situation of the Plan for Areas of Natural Interest (PEIN) and the Natura 2000 network

Situation as at 31.12.2017	Surface area			
	Number of areas	Hectares Land	Hectares Sea	Hectares Totals
Plan for areas of Natural Interest (PEIN)	184	1,019,763	85,629	1,105,576
Specially Protected Natural Areas (ENPE) ¹		308,344	5,401	313,745
Natural Park	14	257,617	4,049	261,666
Natural Site of National Interest	7	12,011	0	12,011
Integral Nature Reserve	6	1,850	20	1,870
National Park	1	13,900	0	13,900
Partial Nature Reserve	58	13,814	934	14,748
(ZEC and ZEPA)	117	979,904	85,614	1,065,518

¹ Includes the peripheral protection zones and declared wildlife reserves. All the ENPE (Specially Protected Natural Areas) are included within the PEIN.

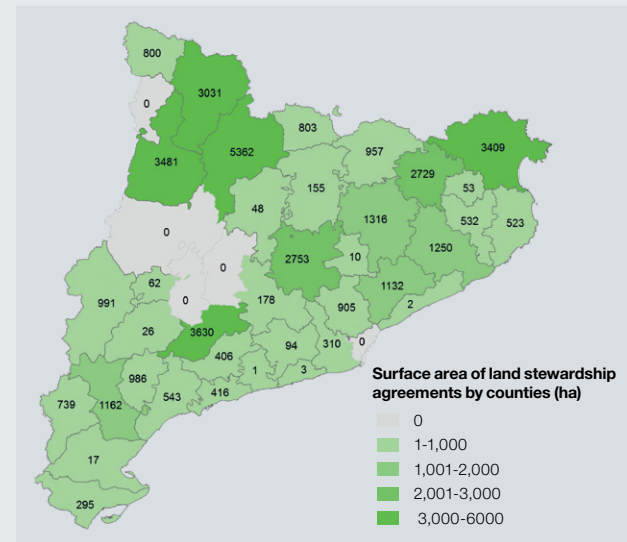
Source: Natural Environment Planning Service

4.4 Plan for Areas of Natural Interest, Specially Protected Natural Areas and Natura 2000 network. Year 2017



Source: Natural Environment Planning Service

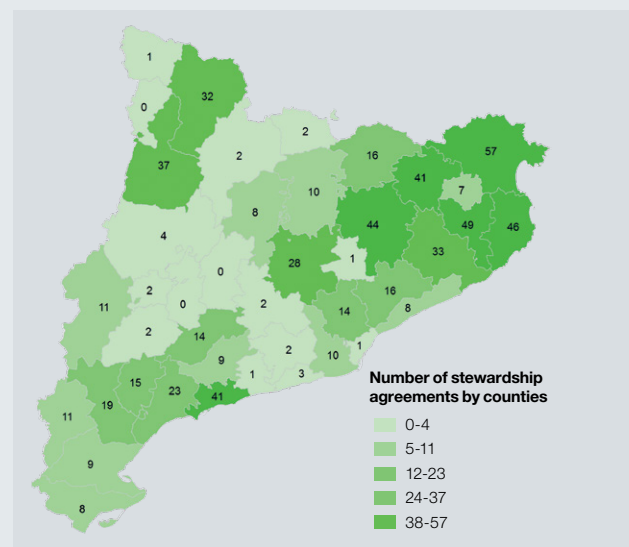
4.5 Map of distribution by counties of the 39.110 hectares with land stewardship agreements. Year 2017



Source: Stewardship Agreements Network



4.6 Map of distribution of the 639 land stewardship agreements. Year 2017



Source: Stewardship Agreements Network

4.7 Number of fires and affected surface area



Source: Ministry of Agriculture, Livestock, Fisheries and Food. Directorate-General for Forests. Forest Fire Prevention Service

4.8 Forest management of publicly owned forests

Any	Number of publicly owned forests managed per year	Publicly manage area per year (ha)
2001	24	7,269.69
2002	4	11,126.94
2003	29	18,335.36
2004	76	51,703.46
2005	126	64,493.52
2006	32	14,397.12
2007	56	38,549.89
2008	64	47,001.88
2009	71	34,762.29
2010	30	17,286.87
2011	36	12,429.60
2012	73	24,919.12
2013	24	10,296.00
2014	12	4,918.29
2015	17	7,001.00
2016	16	3,136.40
2017	11	5,201.44

Note: The data are not cumulative.

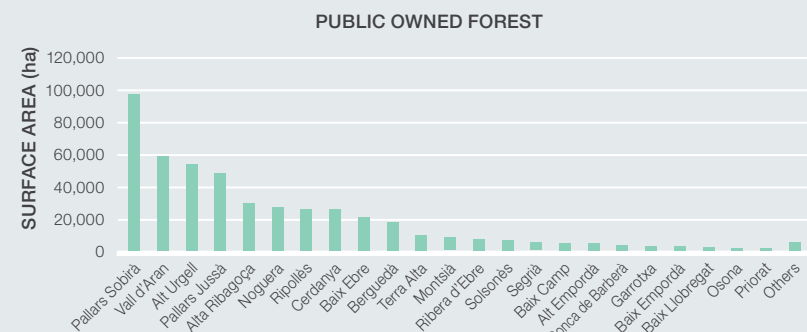
Source: Ministry of Agriculture, Livestock, Fisheries and Food. Directorate-General for Forests. Forestry Management Service.

Existing management 2017	503	262,134.40
Forests with PEFC certification*	70	39,847.00

* Programme for Endorsement of Forest Certification.

Source: Ministry of Agriculture, Livestock, Fisheries and Food. Directorate-General for Forests. Forestry Management Service.

4.9 Total publicly owned forest surface area by region. 2017



Source: Ministry of Agriculture, Livestock, Fisheries and Food. Directorate-General for Forests. Forestry Management Service.



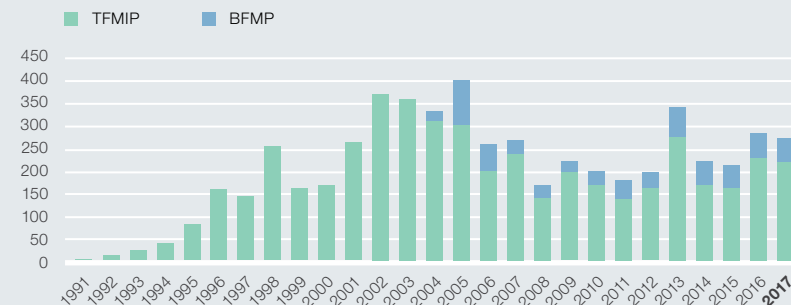
4.10 Forest management on private estates (Technical Forest Management and Improvement Plans (TFMIP), and Basic Forest Management Plans (BFMP))*

Any	TFMIP in effect	Managed area (ha) with effective TFMIP	Number of TFMIP approved by year	Number of TFMIP approved by year
2000	1,047	164,113.7	171	28,925.1
2001	1,308	205,511.2	273	43,324.9
2002	1,679	259,989.2	377	56,336.6
2003	2,033	309,023.6	364	50,201.5
2004	2,312	348,520.5	312	44,875.7
2005	2,550	379,111.5	308	37,701.0
2006	2,601	389,527.2	203	30,433.9
2007	2,733	405,641.0	242	34,058.5
2008	2,787	413,248.3	150	20,052.4
2009	2,833	419,339.7	207	28,293.3
2010	2,893	424,458.8	173	27,892.7
2011	2,884	424,327.0	148	23,067.0
2012	2,893	428,407.6	160	24,274.0
2013	2,974	444,896.0	285	43,412.0
2014	2,991	452,476.0	172	27,329.0
2015	2,984	446,205.0	167	20,115.0
2016	3,022	450,157.54	243	33,884.2
2017	3,107	455,923.3	229	32,251.5
Any	BFMP in effect	Area managed (ha) with BFMP in effect	Number of BFMP approved per year	Area managed (ha) with BFMP per year
2004	18	255.1	18	255.1
2005	113	1,322.0	95	1,066.9
2006	180	2,061.6	67	739.6
2007	199	2,323.7	19	262.1
2008	218	2,567.0	19	243.3
2009	231	2,761.5	14	218.8
2010	260	3,154.2	29	392.7
2011	290	3,452.0	31	320.0
2012	331	3,941.4	41	496.0
2013	395	4,743.0	64	802.0
2014	450	5,529.0	56	796.0
2015	489	6,074.0	46	640.0
2016	498	6,313.0	53	685.0
2017	511	6,579.0	51	683.0
TOTAL TFMIP and BFMP 2017	3,618	462,502.0	280	32,935.0

* The data are not cumulative; they show annual totals.

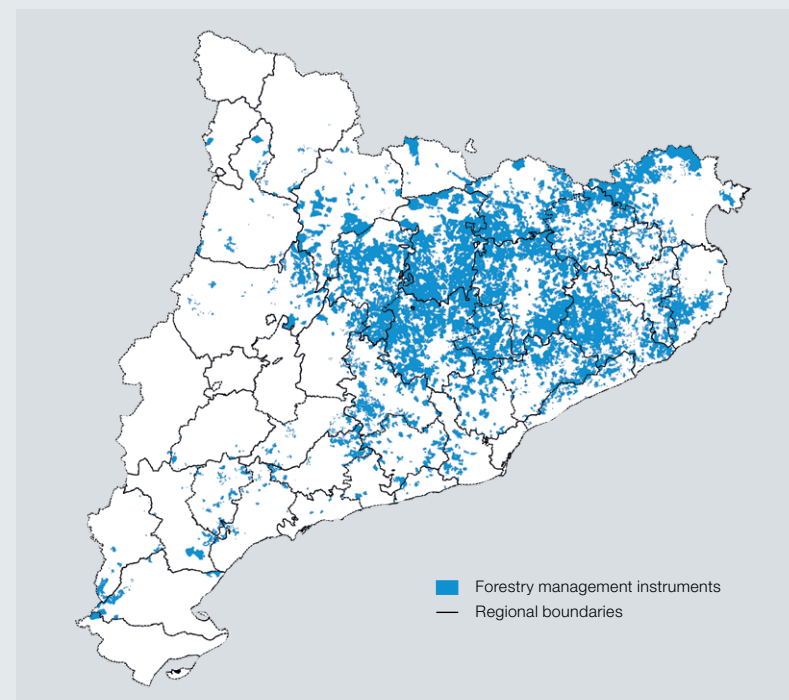
Source: Forest Ownership Centre

4.11 Annual distribution of TFMIP and BFMP approved for 1991-2017



Source: Forest Ownership Centre

4.12 Map of location of forest management on private estates. Year 2017



Source: Forest Ownership Centre



5.1 Total Greenhouse Gas (GHG) emissions in Catalonia since 1990 to 2016¹

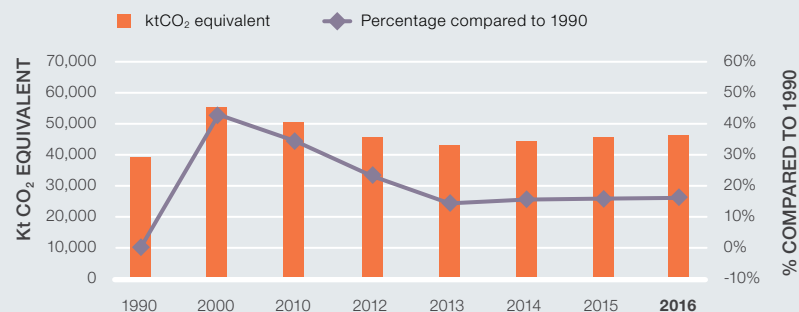
THOUSANDS OF TONNES OF CO₂ EQUIVALENTS

Sectors	1990	2000	2010	2011	2012	2013	2014	2015	2016
Energy processing	26,171	34,661	36,500	34,184	32,591	32,631	29,994	30,869	31,551
Industrial processes (non-energy)	7,120	13,501	7,029	6,554	6,062	3,589	5,302	6,303	6,843
Agriculture	4,024	4,645	4,165	4,274	4,205	4,107	4,126	3,939	3,593
Waste processing and disposal	1,842	2,437	3,227	3,218	3,436	2,586	3,346	2,421	2,541
Total	39,157	55,245	50,922	48,230	46,295	42,912	42,768	43,532	43,528
Percentage compared to 1990	0%	42%	33%	27%	22%	12%	13%	12%	15%

¹ Emissions for 1990 CO₂, CH₄ i N₂O and emissions for 1995 HFCs, PFCs i SF₆.

Source: Catalan Office for Climate Change

5.2 Trend of total GHG emissions in Catalonia

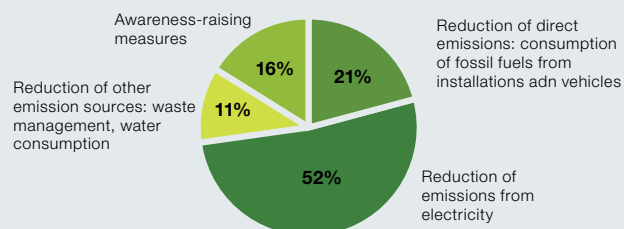


Source: Catalan Office for Climate Change

5.3 Voluntary Agreement Programme for the reduction of greenhouse gas (GHG) emissions. Any 2017

Total adhered organizations	146
Total measures for the reduction of emissions of GHG planned (accumulated 2010 - 2017)	1,682
Total measures for the reduction of emissions of GHG implemented (2010-2017 accumulated)	1,101

5.4 Distribution of the measures for the reduction of emissions of GHG implemented. Year 2017



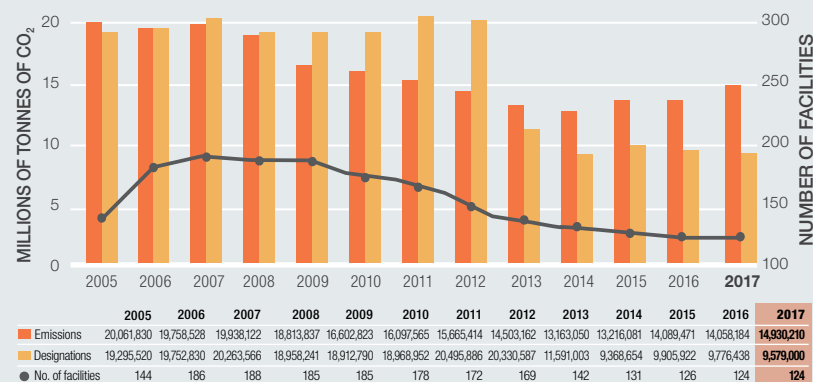
Source: Catalan Office for Climate Change

5.6 Distribution of GHG emissions by sector, assigned and validated in 2017

Type of activity by Law 1/2005	Number of facilities	Tonnes CO ₂ eq		
		Emissions reported [E]	Rights assigneds [A]	Balance [A-E]
Electricity generation sector	7	3,278,329	24,858	-3,253,471
1.a Electrical energy	7	3,278,329	24,858	-3,253,471
Combustion sector	63	2,175,971	929,318	-1,246,653
1.b Cogeneration	34	1,747,215	464,686	-1,282,529
1.c Other combustion facilities	29	428,756	464,632	35,876
Industrial sector	54	9,475,910	8,624,893	-851,017
2. Refineries	2	2,377,708	1,639,741	-737,967
5. Cast iron/steel	1	184,364	246,569	62,205
6. Ferrous metals	1	22,024	29,207	7,183
9. Non-ferrous metals	1	29,243	22,111	-7,132
10. Cement	5	3,242,202	3,440,305	198,103
11. Lime	4	249,584	282,581	32,997
12. Glass	5	245,456	200,752	-44,704
13. Ceramics	8	63,533	120,929	57,396
15. Chalk	1	23,145	15,151	-7,994
16. Paper pulp	3	195,442	65,113	-130,329
17. Paper and packaging board	14	232,657	270,414	37,757
19. Nitric acid	1	18,868	7,777	-11,091
23. Crude organic materials	7	2,212,063	1,931,480	-280,583
24. Hydrogen and syngas	1	379,621	352,763	-26,858
TOTAL	124	14,930,210	9,579,069	-5,351,141

Source: Catalan Office for Climate Change

5.7 Emissions, designations and number of facilities. 2005-2017



Source: Catalan Office for Climate Change



6.1 Number of companies, products and services with voluntary environmental protection systems

Sectors	2010	2013	2014	2015	2016	2017
Production companies	50	41	35	39	37	38
Service companies	193	141	164	160	177	171
Number of products	1,203	822	823	877	837	680

Number of licenses awarded. 2000-2017

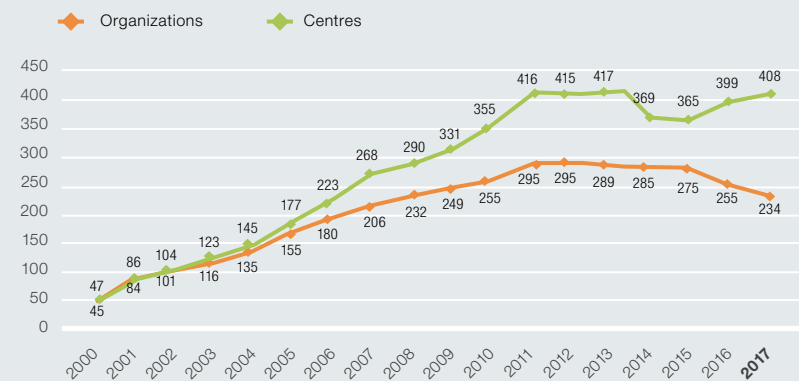


Source: Environmental Certification Service

6.2 The EMAS* register

	2010	2013	2014	2015	2016	2017
Number of organizations	255	289	285	275	255	234
Number of centres	355	417	369	365	399	408

The EMAS* register for organizations and centres. 2000-2017

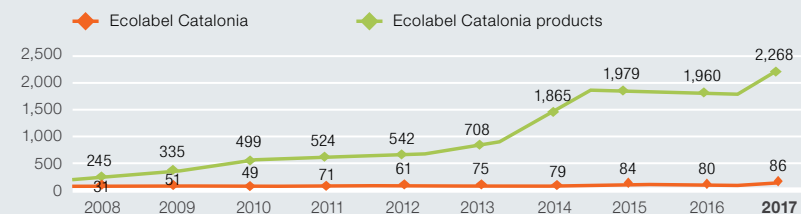


* Eco-Management and Audit Scheme
Source: Environmental Certification Service

6.3 The European Union Ecolabel

	2010	2013	2014	2015	2016	2017
Ecolabel Catalonia	49	75	79	84	80	86
Ecolabel Catalonia products	499	708	1,865	1,977	1,960	2,268

The EU Ecolabel. 2008-2017



Source: Environmental Certification Service

6.4 Number of low emissions vehicles in Catalonia

	2016	2017
Hybrid vehicles	23,882	35,165
Electric vehicles	6,188	9,252
Natural gas vehicles NGV	2,088	3,021
Liquefied petroleum gas LPG	1,487	2,122
Total	33,645	49,560

Source: Environmental Certification Service

6.5 Recharging points for electric vehicles (VE), natural gas vehicles (NGV) and liquefied petroleum gas (LPG)

	2013	2014	2015	2016	2017
Number of plugs in Catalonia	-	330	1,057	1,202	1,334
NGV recharging points in Catalonia	-	-	13	11	11
LPG recharge points in Catalonia	-	-	91	95	96

Source: Catalan Institute of Energy

Amount of aid granted in environmentally friendly vehicles

	2015	2016	2017
Grant-in-aid for the acquisition of electric vehicles and low emissions for taxis, commercial vehicles and other services	150,000	-	300,000
Grant-in-aid for the installation of public recharging points	200,000	-	864,750

Source: Environmental Certification Service and Catalan Institute of Energy

Number of grants awarded

	2015	2016	2017
Grant-in-aid for the acquisition of electric vehicles and low emissions for taxis, commercial vehicles and other services	90	-	201

Source: Environmental Certification Service

**7.1 Number of impact assessment statements (IAS) issued¹**

Actions	2013	2014	2015	2016	2017
Ports	0	0	0	1	1
Linear infrastructure	5	7	0	3	3
Reservoirs and water infrastructure	2	2	0	0	2
Changes in the use of the land	2	1	1	3	2
Impact on areas of natural interest (PEIN)	1	2	1	4	2
Total	10	12	2	11	10
Nombre d'informes d'impacte ambiental emesos (IIA) ²	2013	2014	2015	2016	2017
Ordinary impact assessment required	-	-	-	6	11
Ordinary impact assessment not required	-	-	-	43	71
Total	-	-	-	49	82

¹ According to the date of approval by the Environmental Panel (Ponència Ambiental).

² Upon review, the environmental impact is directly applied to large projects (Law 21/2013 Annex I), to smaller projects (Annex II) or those who are not in the annexes but are developed in protected areas (annex III).

Source: Subdirectorate-General for Intervention and Environmental Qualification. Projects Service. Projects Service

7.2 Number of impact assessment statements of industrial activities issued*

Type of activity	Annex I	Annex II i III	Annex 1.3	Total
Chemical/textile/paper	9	0	0	9
Energy	0	0	0	0
Steel industry	1	0	0	1
Waste	4	0	0	4
Food	2	0	0	2
Cattle	52	22	0	74
Mining	0	0	8	8
Others	1	6	0	7
Total	69	28	8	105

Reports of environmental impact of industrial activities	2013	2014	2015	2016	2017
Ordinary impact assessment required	12	7	5	7	4
Ordinary impact assessment not required	48	33	41	51	29
Total	60	40	46	58	33

* According to the Law 20/2009, of December 4, on prevention and environmental control of activities, are subject to the process of evaluation of environmental impact, according to current regulations, and therefore to the corresponding Declaration of environmental impact or Report of environmental impact, according to they must be submitted to the procedure of Ordinary or Simplified Environmental Impact Assessment.

Source: Subdirectorate-General for Intervention and Environmental Qualification. Prevention Service and Environmental Assessment Activity

7.3 Number of decisions on environmental reports and strategic environmental statements

	2013	2014	2015	2016	2017
Partial territorial plans and territorial master plans	0	0	0	0	0
Urban master plans	0	2	3	3	1
Municipal urban development plans (POUM)	27	30	33	7	11
Changes to general urban development planning	26	26	28	12	16
Derived urban development planning	26	15	10	13	3
Mobility plans	5	7	7	3	8
Other sector plans and programmes	1	5	1	5	2
Total	85	85	82	43	41

Source: Subdirectorate-General for Intervention and Environmental Qualification. Plans and Programmes Service

7.4 Resolutions of previous decision and strategic environmental reports

	2013	2014	2015	2016	2017
Total	14	18	72	109	114

Source: Subdirectorate-General for Intervention and Environmental Qualification. Plans and Programmes Service

7.5 Reference documents and documents of scope of strategic environmental studies

	2013	2014	2015	2016	2017
Partial territorial plans and territorial master plans	0	0	0	0	0
Urban master plans	4	6	4	2	2
Municipal urban development plans (POUM)	22	21	12	11	11
Changes to general urban development planning	40	29	33	32	29
Derived urban development planning	27	26	22	10	27
Mobility plans	9	5	8	7	1
Other sector plans and programmes	2	9	1	0	4
Total	104	96	80	62	74

Source: Subdirectorate-General for Intervention and Environmental Qualification. Plans and Programmes Service

7.6 Air emissions included in the European Pollutant Release and Transfer Register of Catalonia (PRTR-CAT)

Sector	Emissions to air in tonnes / year						
	Number of establishments with emissions to the air	Greenhouse gases (in CO ₂ eq)	Other gases ¹	Particles PM ₁₀	Heavy metals	Organic chlorinated substances	Others subst. organic ²
Combustion	19	3,412,077	15,566	28	1.2	0.02	0.2
Mineral	50	4,148,282	20,322	314	1.4	0	4.7
Chemistry	128	3,353,579	6,491	12	0.3	46.56	1.6
Waste management and sewage treatment plant	122	1,188,660	2,079	17	0.4	0	0
Metal	71	455,096	3,608	116	0.5	0	0
Livestock and food	891	1,584,144	22,306	68	0.3	0	0
Others	42	628,434	2,492	12	0	0	0
Total	1,323	1,4770,272	72,864	568	4.1	46.6	6.6

El nombre total d'establiments inclosos al Registre PRTR-CAT el 2017 va ser de 1.446 (56% granges, 33% industrials, 11% gestors residus).

¹ Altres gasos: principalment CO, NOx, SOx, COVNM, NH₃. ² Altres subst. orgàniques: Benzè, Naftalè, Òxid d'etilè, HAP...

Source: Information Service, Inspection and Environmental Control of Activities.

7.7 Water emissions included in the European Pollutant Release and Transfer Register of Catalonia (PRTR-CAT)

Sector	Emissions to water in tonnes / year					
	Number of establishments with emissions to the water	Inorganic substances ¹	Heavy metals	Organic chlorinated substances	Pesticides	Others subst. organic ²
Combustion	12	3,963	0	0.1	0	156
Mineral	25	48	0	0.02	0	4
Chemistry	104	121,945	6	17.4	0.004	992
Waste management and sewage treatment plant	89	268,806	78	55.7	6.7	6,803
Metal	68	1,228	2	0.1	0	40
Livestock and food	94	6,301	3	0.003	0	558
Altres	39	5,155	0	1.4	0	250
Total	431	407,446	88	75	6.7	8,804

¹ Organic substances: N, P, chlorides, fluorides, cyanides. ² Mainly COT and others (HAP, phenols, etc.)

Source: Information Service, Inspection and Environmental Control of Activities.

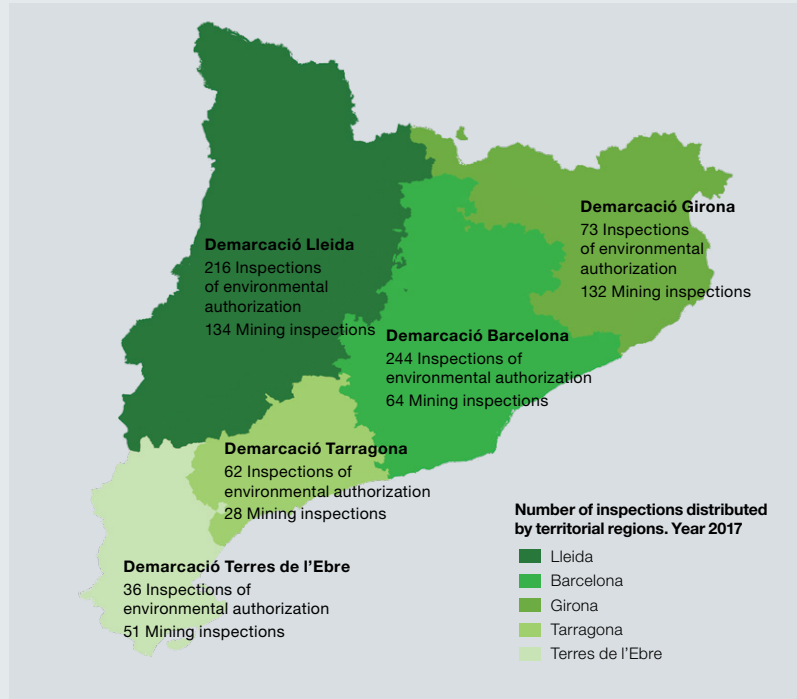


7.8 Inspections of establishments subject to environmental authorization and mining activities

Year	Integrated environmental inspections of establishments with environmental authorization				Inspection of the Restoration Program		
	Industrial activities	Managers of waste and controlled deposits	Ranching operations	Total	Tracking of the restoration	Final visits of guarantee, denunciations and evaluation	Total
2014	231	62	249	542	337	81	418
2015	222	72	301	595	353	74	427
2016	234	67	310	611	444	52	496
2017	227	85	322	631	346	63	409

Source: Information Service, Inspection and Environmental Control of Activities.

7.9 Territorial distribution of inspection activities of establishments subject to environmental authorization and mining activities

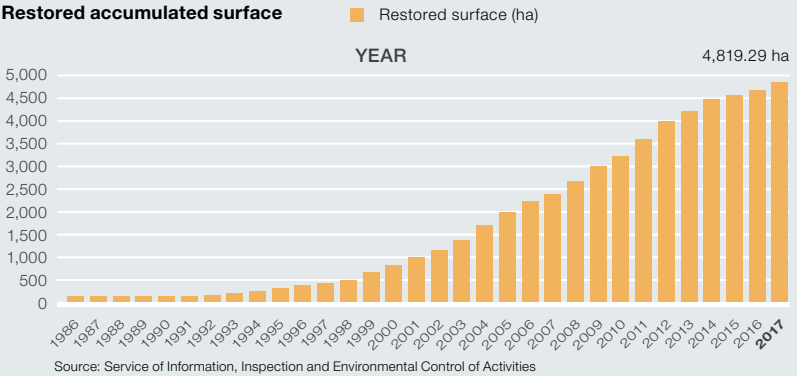


Source: Service of Information, Inspection and Environmental Control of Activities

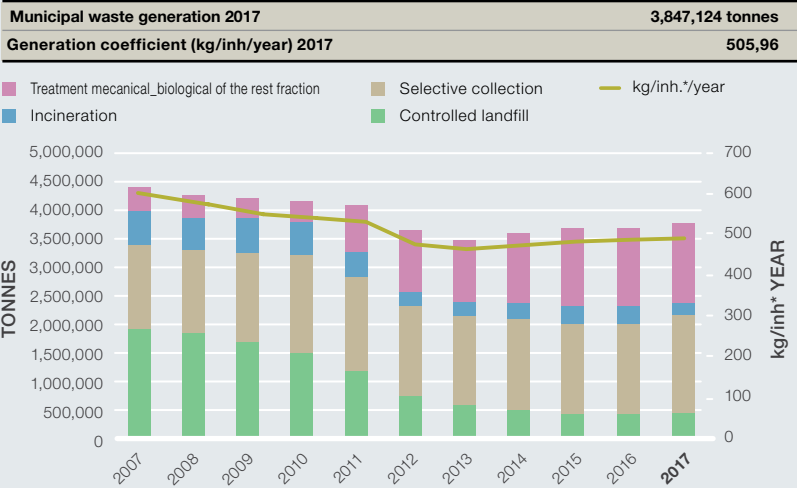
7.10 Open cast mining activities according to their state of restoration. December of 2018

State of restoration	Files			
	Number	%	Hectares	%
Mining activities reported and / or authorized activities that do not appear to have begun operating	130	5%	1,115	8%
Mining activities in operation and with restoration not started	600	25%	4,886	37%
Mining activities in operation and with integrated restoration	259	11%	1,767	13%
Restored open cast mining in guarantee period	177	7%	978	7%
Mining activities restored with a returned deposit	861	36%	4,516	34%
Arid extractions* in HPD (1)	381	16%		
Total	2,408		13,262	

(1) HPD: Hydraulic Public Domain.
* The surface is not counted since there are no restoration works because it is extractions within the riverbeds
Source: Service of Information, Inspection and Environmental Control of Activities



8.1 Final destination of municipal waste*



* Municipal waste is considered waste from domestic activities, shops, offices or services whose nature or composition is similar to that of domestic waste. The official population data for each year published by Idescat has been used.
Source: Waste Agency of Catalonia (ARC)



8.2 Selective collection

Waste	Tonnes collection 2017	Tonnes collection 2016	% Total compared to MW ¹	Variation % compared to 2016
Home or community composting	6,843	6,453	0.18	6.05
Organic fraction	378,943	371,697	9.85	1.95
Pruning-gardening	97,256	93,685	2.53	3.81
Paper and packaging board	296,075	263,648	7.70	12.30
Glass	181,377	166,136	4.71	9.17
Light packaging	145,790	139,242	3.79	4.70
Bulky and wood	226,699	210,329	5.89	7.78
RAEES ²	39,818	33,042	1.04	20.51
Scrap metal	9,434	8,597	0.25	9.73
Vegetable oils	1,311	1,299	0.03	0.89
Textile	9,674	7,854	0.25	23.18
Rubble	116,946	113,828	3.04	2.74
REPOQ ³	2,590	2,549	0.07	1.62
Other selective collection	23,025	17,685	0.60	30.20
Total gross selective collection	1,535,781	1,436,044	39.93	6.95

¹ Municipal waste.

² Register of Electronic and Electrical Equipment.

³ Small quantities of hazardous waste (produced by workshops and small-scale industries).

Official population data for 2010, published by Idescat.

Source: Waste Agency of Catalonia (ARC)

8.3 Carbon footprint of municipal waste in Catalonia. Treatment and transport

	2013	2014	2015	2016	2017
t CO₂ eq/year					
Total emissions generated	1,440,861	1,561,571	1,604,538	1,692,241	1,717,449
Total emissions avoided	-730,369	-687,676	-756,492	-829,862	-902,643
Total carbon footprint	710,492	873,895	848,046	862,378	814,806
kg CO₂ eq/habitant/year					
Emissions generated per inhabitant	191	194	214	225	227
Emissions avoided per inhabitant	-97	-91	-101	-110	-119
Carbon footprint per inhabitant	94	103	113	115	108
kg CO₂ eq/tonne/year					
Emissions generated per tonnes	401	428	433	454	446
Emissions avoided per tonnes	-204	-188	-204	-223	-235
Carbon footprint per tonnes	197	239	229	231	212

CO₂ eq: This is a universal measure to describe how much global warming each greenhouse gas may cause. It is used to assess the environmental impacts of the emission (or to prevent the emission) of various greenhouse gases.

Source: Waste Agency of Catalonia (ARC)

8.4 Industrial waste declaration by industrial activity (CCAIE), according to the 2017* declaration

Type of treatment	Tonnes			
	Hazardous	Non-hazardous	Total	%
Agriculture, livestock, forestry and fishing	98	6,669	6,767	0.18
Extractive industries	440	8,798	9,238	0.24
Food, drink and tobacco industries	21,175	917,230	938,405	24.74
Textile, footwear and leather	3,362	67,578	70,940	1.87
Wood and cork industry, except furniture; basketwork and sparto workshop	712	26,135	26,847	0.71
Paper industry, publishing, graphic arts and reproduction of registered supports	8,687	418,110	426,797	11.25
Manufacture of coke and refined petroleum	4,524	7,022	11,546	0.30
Chemical industries, pharmaceutical products, rubber and plastic products	290,458	354,909	645,367	17.01
Manufacture of other non-metallic mineral products	807	147,414	148,221	3.91
Metallurgy; manufacture of basic iron, steel, ferroalloy and other metal products	75,996	742,094	818,090	21.57
Manufacture of machinery, computer, electrical, electronic and transport equipment	16,581	365,273	381,854	10.07
Manufacture of furniture, other manufacturing industries; Repair and installation fixing	8,167	42,431	50,598	1.33
Distribution of electrical energy, gas, steam and air conditioning	2,907	16,527	19,434	0.51
Wastewater treatment plants and decontamination activities	2,594	85,210	87,804	2.31
Waste collection, treatment and disposal activities; valorization activities	1,815	20,823	22,638	0.60
Construction	1,475	9,661	11,136	0.29
Services (except wholesale scrap and waste products)	17,641	99,875	117,516	3.10
Wholesale scrap and waste products	0	151	151	0.00
Total	457,439	3,335,910	3,793,349	100

*The data may be slightly skewed due to the use of rounded-up decimals in calculations.

Source: Waste Agency of Catalonia (ARC)

8.5 Types of treatment of industrial waste declared in 2017*

Type of treatment	Hazardous	Non-hazardous	Total	%
Recovery energy	8,017	15,000	23,017	1
Recovery at source	46,765	97,276	144,041	4
Recovery external	172,067	2,475,304	2,647,371	70
Recovery by-products	8,233	133,085	141,318	4
Storage	1,768	21,863	23,631	1
Physicochemical treatment	121,723	97,186	218,909	6
Controlled disposal	65,034	486,450	551,484	15
Incineration	33,696	3,192	36,888	1
Others	134	6,554	6,688	0
Total	457,437	3,335,910	3,793,347	100

* The data may be slightly skewed due to the use of rounded-up decimals in calculations.

Source: Waste Agency of Catalonia (ARC)



8.6 Facilities in operation and under construction for the management of municipal waste in Catalonia. 2017

Type of facility	In operation	Under construction
Recovery		
Biological treatment of OFMSW	26	-
Mechanic-biological treatment of non-segregated fraction	13	-
Sorting	3	-
Sorting of light packaging	12	-
Disposal		
Incinerators	4	-
Controlled landfills	23	-
Transfer		
	27	1
OFMSW transfer plants	10	-
Waste collection points		
	356	-
Mini waste collection points	40	3
Mobile waste collection points	81	-

Source: Waste Agency of Catalonia (ARC)

8.7 Facilities in operation and on trial for the management of industrial waste in Catalonia. 2017

Type of facility	Management at source	Trial management at source	Gestió externa proves
Recovery			
Agricultural use	2	18	-
Composting	-	53	3
Anaerobic digestion	-	14	1
Waste recovery centre	1	734	32
Energy recovery centre	-	8	-
Disposal			
Controlled landfill	10	25	-
Incinerators	8	12	1
Treatment			
Physicochemical	1	8	1
Waste treatment	-	15	-
Waste treatment centres			
	-	13	1
Waste collection and transfer Centres			
	-	73	9

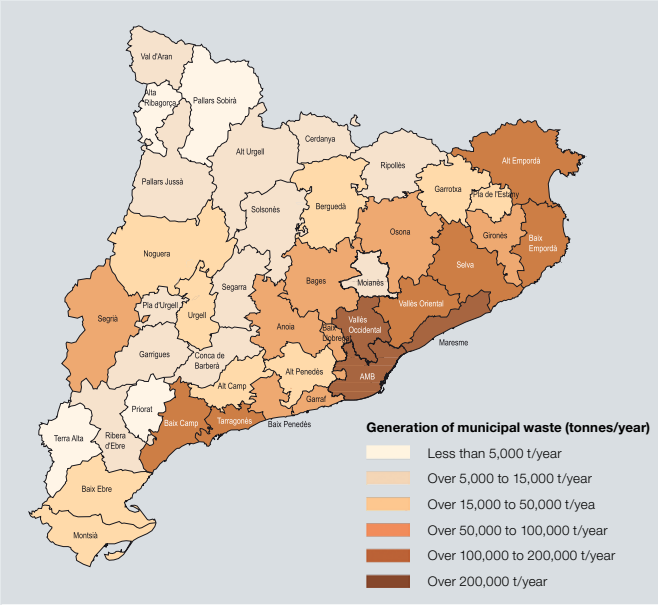
Source: Waste Agency of Catalonia (ARC)

8.8 Facilities in operation for the management of rubble and other construction waste in Catalonia. 2017

Type of facility	In operation	Under construction
Recovery	62	-
Disposal	54	-
Waste treatment centres	22	1
Waste collection and transfer Centres	54	-

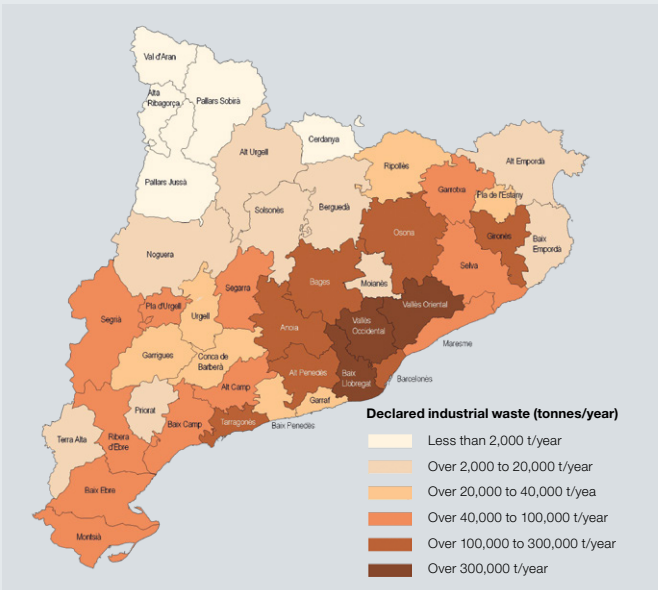
Source: Waste Agency of Catalonia (ARC)

8.9 Generation of municipal waste by region. 2017



Source: Waste Agency of Catalonia (ARC)

8.10 Industrial waste declared by region. 2017



Source: Waste Agency of Catalonia (ARC)

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