

Spain

The Department of Environmental Quality and Evaluation, under the Ministry of Environment and Rural and Marine that was created by *Royal Decree 432/2008 of 12 Apr 2008*, is responsible for formulating and implementing national policy on pollution prevention and control, quality and environmental assessment, etc. In Spain, the Law on the Protection of the Atmosphere (Law 38/1972) provided the basis for addressing air pollution problems by enabling objectives to be set on air quality and emissions restrictions, and reducing air pollution from both fixed and mobile sources. This law has been replaced by a new law, the Law on Air Quality and the Protection of the Atmosphere (Law 34/2007 on Ley de calidad del aire y protección de la atmósfera or LCAPA) that was published on 17 November 2007. LCAPA provides a new regulatory framework consistent with demands of the legal and administrative force in Spain. Emission levels for air pollutants were first established by Royal Decree 833/1975 (6 Feb 1975). Royal Decree 833/1975 had been amended several time including Royal Decree 646/1991 (22 Apr 1990, in force until Mar 2004) that set emission limits for certain air pollutants from large combustion plants. Royal Decree 1800/1995 (3 Nov 1995) amends Royal Decree 646/1991 laying down new rules to limit air pollutants emissions from large combustion plants and laying down the conditions for controlling the emissions of SO₂ from oil refineries. These standards are replaced by more stringent emission standards established in Royal Decree 430/2004 (in force from 12 Mar 2004) that transposes Directive 2001/80/CE into Spanish legislation. As required by Directive 2001/80/CE Spain produced its first National Emission Reduction Program (Resolution of 11 September 2003, the General Secretariat of the Environment. BOE No 228, 23.09.2003) in 2003. The Program has since been updated and revised and the Second National Emission Reduction Program (resolution of 14 January 2008, the General Secretariat for the Prevention of Pollution and Climate Change Climate. BOE No 25, 29.01.08) has been published.

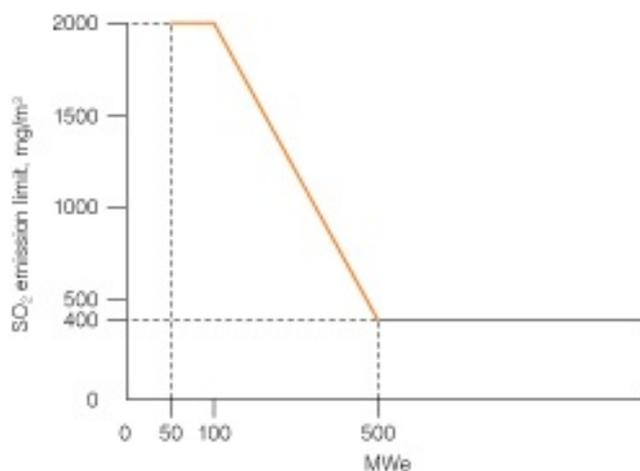
Emission limit values for Particulate Matter from large combustion plants burning solid fuel

plant type	plant size (MWth)	emission limit value (mg/m ³)
existing and new plant	< 500	100
	≥ 500	50*
future new plant	50 to 100	50
	> 100	30

* A limit value of 100 mg/m³ can be applied to facilities authorized under paragraph 3 of Article 5 with a thermal capacity greater than or equal to 500 MWth burning a solid fuel with a lower heating value of less than 5800 kJ/kg, a moisture content above 45% by weight, a combination of moisture content and ash more than 60% by weight and a calcium oxide content exceeding 10%.

Emission standards for SO₂ from large combustion plants burning solid fuel

A. Emission limit values for existing and new combustion plants burning solid fuel



Note: 1. Where the emission limit values above cannot be met due to the characteristics of the fuel, a rate of desulphurisation of at least 60% shall be achieved in the case of plants with a rated thermal input of less than or equal to 100 MWth, at least 75% for plants greater than 100 MWth and less than or equal to 300 MWth and 90% for plants greater than 300 MWth and less than or equal to 500 MWth. For plants greater than 500 MWth, a desulphurisation rate of at least 94% shall apply or of at least 92% where a contract for the fitting of flue gas desulphurisation or lime injection equipment has been entered into, and work on its installation has commenced, before 1 Jan 2001.

2. Notwithstanding the above emission limit values, facilities with a thermal capacity equal to or greater than 400 MWth, and do not operate more than 2000 hours a year until 31 Dec 2015, and do not operate more than 1500 hours a year from 1 January 2016 (rolling average over a period of five years), an emission limit value of 800 mg/m³ shall apply subject to the prior approval by the competent authority.

B. Emission limit values for future new combustion plants burning solid fuel with the exception of gas turbines*

plant size (MWth)	emission limit value (mg/m ³)
50 to 100	850
100 to 300	200**
> 300	200

* Limit value for emissions of SO₂ from coal gasifier is to be set in the future.

** Except for Canary Islands where limit values of 850 mg/m³ to 200 mg/m³ (linear decrease) shall apply.

Note: Should it not be possible to comply with the emission limit values indicated in the above table due to the characteristics of fuel, thermal power plants with a thermal capacity less than or equal to 300 MWth must achieve an emission level of 300 mg/m³ SO₂ or a rate of desulphurisation of at least 92% and for thermal power plants greater than 300 MWth a rate of desulphurisation of at least 95% together with a maximum permissible emission limit value of 400 mg/m³ shall apply.

Emission standards for NO_x (as NO₂) from large combustion plants

A. Emission limit values for existing and new combustion plants burning solid fuel

plant size (MWth)	emission limit value* (mg/m ³)
50 to 100	600
> 500	500
>500	200
(from 1Jan 2016)	

* Except for Canary Islands where the following values shall apply:

solid fuel in general: 650 mg/m³;

solid fuel with volatile content less than 10%: 1300 mg/m³.

Note: 1. Until 31 Dec 2015 plants of a rated thermal input greater than 500 MWth, which from 2008 onwards do not operate more than 2000 hours a year (rolling average over a period of five years) and are subject to National Emission Reduction Plan, in accordance with paragraph 3 of Article 5, shall have their contribution to the national plan assessed on the basis of a limit value of 600 mg/m³.

From 1 Jan 2016 facilities that do not operate more than 1500 hours a year (rolling average over a period of five years) will be subject to a limit value of 450 mg/m³

2. Until 1 Jan 2018 facilities that in the 12 month period prior to 1 Jan 2001 operated on, and continue to operate on, solid fuels whose volatile content is less than 10 %, the emission value of 1,200 mg/m³ shall apply.

B. Emission limit values for future new combustion plants burning solid fuel with the exception of gas turbines

plant size (MWth)	emission limit value (mg.m ³)
50 to 100	400
100 to 300	200*
> 300	200

* Except for Canary Islands where the limit value of 300 mg/m³ shall apply.

Note: Emission limit value for facilities burning gas from coal gasification is 200 mg/m³.

- General notes:
1. 'Existing plant' refers to any combustion plant for which the initial construction license, or failing that, the original operating license was granted on before 1 Jul 1987.
 2. 'New plant' refers to any combustion plant for which the initial construction licence, or failing that, the original operating licence was granted after 1 Jul 1987 but before 12 Mar 2004, or any new combustion plant for which the application for approval was submitted before 12 Mar 2004 provided that the plant is put into operation no later than 11 Mar 2005.
 3. 'Future new plant' refers to any combustion plant for which the initial construction licence, or failing that, the original operating licence was granted after 12 Mar 2004, or any combustion plant that began operation after 11 Mar 2005.
 4. Emissions limit values are expressed at 0 °C, 101.3 kPa and dry flue gas basis with 6% of oxygen in the flue gas.