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► **B**     **DIRECTIVE 2001/81/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
**of 23 October 2001**  
**on national emission ceilings for certain atmospheric pollutants**  
(OJ L 309, 27.11.2001, p. 22)

Amended by:

|                    |  | Official Journal |      |            |
|--------------------|--|------------------|------|------------|
|                    |  | No               | page | date       |
| ► <b><u>M1</u></b> | Council Directive 2006/105/EC of 20 November 2006  | L 363            | 368  | 20.12.2006 |
| ► <b><u>M2</u></b> | Regulation (EC) No 219/2009 of the European Parliament and of the Council of 11 March 2009 | L 87             | 109  | 31.3.2009  |
| ► <b><u>M3</u></b> | Council Directive 2013/17/EU of 13 May 2013  | L 158            | 193  | 10.6.2013  |
| ► <b><u>M4</u></b> | Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 | L 344            | 1    | 17.12.2016 |

Amended by:

|                    |   |       |    |           |
|--------------------|---|-------|----|-----------|
| ► <b><u>A1</u></b> | Act concerning the conditions of accession of the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia and the Slovak Republic and the adjustments to the Treaties on which the European Union is founded | L 236 | 33 | 23.9.2003 |
|--------------------|---|-------|----|-----------|



**DIRECTIVE 2001/81/EC OF THE EUROPEAN PARLIAMENT  
AND OF THE COUNCIL**

**of 23 October 2001**

**on national emission ceilings for certain atmospheric pollutants**

*Article 1*

**Objective**

The aim of this Directive is to limit emissions of acidifying and eutrophying pollutants and ozone precursors in order to improve the protection in the Community of the environment and human health against risks of adverse effects from acidification, soil eutrophication and ground-level ozone and to move towards the long-term objectives of not exceeding critical levels and loads and of effective protection of all people against recognised health risks from air pollution by establishing national emission ceilings, taking the years 2010 and 2020 as benchmarks, and by means of successive reviews as set out in Articles 4 and 10.

*Article 2*

**Scope**

This Directive covers emissions in the territory of the Member States and their exclusive economic zones from all sources of the pollutants referred to in Article 4 which arise as a result of human activities.

It does not cover:

- (a) emissions from international maritime traffic;
- (b) aircraft emissions beyond the landing and take-off cycle;
- (c) for Spain, emissions in the Canary Islands;
- (d) for France, emissions in the overseas departments;
- (e) for Portugal, emissions in Madeira and the Azores.

*Article 3*

**Definitions**

For the purposes of this Directive:

- (a) ‘AOT 40’ means the sum of the difference between hourly concentrations of ground-level ozone greater than  $80 \mu\text{g}/\text{m}^3$  (= 40 ppb) and  $80 \mu\text{g}/\text{m}^3$  during daylight hours accumulated from May to July each year;
- (b) ‘AOT 60’ means the sum of the difference between hourly concentrations of ground-level ozone greater than  $120 \mu\text{g}/\text{m}^3$  (=60 ppb) and  $120 \mu\text{g}/\text{m}^3$  accumulated throughout the year;
- (c) ‘critical load’ means a quantitative estimate of an exposure to one or more pollutants below which significant adverse effects on specified sensitive elements of the environment do not occur, according to present knowledge;

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- (d) ‘critical level’ means the concentration of pollutants in the atmosphere above which direct adverse effects on receptors, such as human beings, plants, ecosystems or materials, may occur, according to present knowledge;
- (e) ‘emission’ means the release of a substance from a point or diffuse source into the atmosphere;
- (f) ‘grid cell’ means a square 150 km x 150 km, which is the resolution used when mapping critical loads on a European scale, and also when monitoring emissions and depositions of air pollutants under the Cooperative Programme for Monitoring and Evaluation of the long-range Transmission of Air Pollutants in Europe (EMEP);
- (g) ‘landing and take-off cycle’ means a cycle represented by the following time in each operating mode: approach 4,0 minutes; taxi/ground idle 26,0 minutes, take-off 0,7 minutes; climb 2,2 minutes;
- (h) ‘national emission ceiling’ means the maximum amount of a substance expressed in kilotonnes, which may be emitted from a Member State in a calendar year;
- (i) ‘nitrogen oxides’ and ‘NO<sub>x</sub>’ mean nitric oxide and nitrogen dioxide, expressed as nitrogen dioxide;
- (j) ‘ground-level ozone’ means ozone in the lowermost part of the troposphere;
- (k) ‘volatile organic compounds’ and ‘VOC’ mean all organic compounds arising from human activities, other than methane, which are capable of producing photochemical oxidants by reactions with nitrogen oxides in the presence of sunlight.

*Article 4***National emission ceilings**

1. By the year 2010 at the latest, Member States shall limit their annual national emissions of the pollutants sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOC) and ammonia (NH<sub>3</sub>) to amounts not greater than the emission ceilings laid down in Annex I, taking into account any modifications made by Community measures adopted following the reports referred to in Article 9.

2. Member States shall ensure that the emission ceilings laid down in Annex I are not exceeded in any year after 2010.

*Article 5***Interim environmental objectives**

The national emission ceilings in Annex I shall have as their purpose to meet broadly the following interim environmental objectives, for the Community as a whole, by 2010:

(a) *Acidification*

The areas where critical loads are exceeded shall be reduced by at least 50 % (in each grid cell) compared with the 1990 situation.

**▼B***(b) Health-related ground-level ozone exposure*

The ground-level ozone load above the critical level for human health (AOT60=0) shall be reduced by two-thirds in all grid cells compared with the 1990 situation. In addition, the ground-level ozone load shall not exceed an absolute limit of 2,9 ppm.h in any grid cell.

*(c) Vegetation-related ground-level ozone exposure*

The ground-level ozone load above the critical level for crops and semi-natural vegetation (AOT40=3 ppm.h) shall be reduced by one-third in all grid cells compared with the 1990 situation. In addition, the ground-level ozone load shall not exceed an absolute limit of 10 ppm.h, expressed as an exceedance of the critical level of 3 ppm.h in any grid cell.

*Article 6***National programmes**

1. Member States shall, by 1 October 2002 at the latest, draw up programmes for the progressive reduction of national emissions of the pollutants referred to in Article 4 with the aim of complying at least with the national emission ceilings laid down in Annex I by 2010 at the latest.
2. The national programmes shall include information on adopted and envisaged policies and measures and quantified estimates of the effect of these policies and measures on emissions of the pollutants in 2010. Anticipated significant changes in the geographical distribution of national emissions shall be indicated.
3. Member States shall update and revise the national programmes as necessary by 1 October 2006.
4. Member States shall make available to the public and to appropriate organisations such as environmental organisations the programmes drawn up in accordance with paragraphs 1, 2 and 3. Information made available to the public and to organisations under this paragraph shall be clear, comprehensible and easily accessible.

**▼M4****▼B***Article 9***Reports by the Commission**

1. In 2004 and 2008 the Commission shall report to the European Parliament and the Council on progress on the implementation of the national emission ceilings laid down in Annex I and on the extent to which the interim environmental objectives set out in Article 5 are likely to be met by 2010 and on the extent to which the long-term objectives set out in Article 1 could be met by 2020. The reports shall include an economic assessment, including cost-effectiveness, benefits, an assessment of marginal costs and benefits and the socio-economic impact of the implementation of the national emission ceilings on particular Member States and sectors. They shall also include a review of the limitations of the scope of this Directive as defined in Article 2 and an evaluation of the extent to which further emission

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reductions might be necessary in order to meet the interim environmental objectives set out in Article 5. They shall take into account the reports made by Member States pursuant to Article 8(1) and (2), as well as, *inter alia*:

- (a) any new Community legislation which may have been adopted setting emission limits and product standards for relevant sources of emissions;
- (b) developments of best available techniques in the framework of the exchange of information under Article 16 of Directive 96/61/EC;
- (c) emission reduction objectives for 2008 for emissions of sulphur dioxide and nitrogen oxides from existing large combustion plants, reported by Member States pursuant to Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants <sup>(1)</sup>;
- (d) emission reductions and reduction commitments by third countries, with particular focus on measures to be taken in the accession candidate countries, and the possibility for further emission reductions in regions in the vicinity of the Community;
- (e) any new Community legislation and any international regulations concerning ship and aircraft emissions;
- (f) the development of transport and any further action to control transport emissions;
- (g) developments in the field of agriculture, new livestock projections and improvements in emission reduction methods in the agricultural sector;
- (h) any major changes in the energy supply market within a Member State and new forecasts reflecting the actions taken by Member States to comply with their international obligations in relation to climate change;
- (i) assessment of the current and projected exceedances of critical loads and the WHO's guideline values for ground-level ozone;
- (j) the possibility of identification of a proposed interim objective for reducing soil eutrophication;
- (k) new technical and scientific data including an assessment of the uncertainties in:
  - (i) national emission inventories;
  - (ii) input reference data;
  - (iii) knowledge of the transboundary transport and deposition of pollutants;
  - (iv) critical loads and levels;
  - (v) the model used;
 and an assessment of the resulting uncertainty in the national emission ceilings required to meet the interim environmental objectives mentioned in Article 5.
- (l) whether there is a need to avoid excessive costs for any individual Member State;

<sup>(1)</sup> See p. 1 of this edition of the Official Journal.

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(m) a comparison of model calculations with observations of acidification, eutrophication and ground-level ozone with a view to improving models;

(n) the possible use, where appropriate, of relevant economic instruments.

2. In 2012 the Commission shall report to the European Parliament and the Council on compliance with the ceilings in Annex I and on progress in relation to the interim environmental objectives in Article 5 and the long-term objectives set out in Article 1. Its report shall take account of the reports made by Member States pursuant to Article 8(1) and (2) as well as the matters listed in points (a) to (n) of paragraph 1.

*Article 10***Review**

1. The reports referred to in Article 9 shall take into account the factors listed in Article 9(1). In the light of these factors, of progress towards attaining the emission ceilings by the year 2010, of scientific and technical progress, and of the situation regarding progress towards attaining the interim objectives of this Directive and the long-term objectives of no exceedance of critical loads and levels and of WHO air quality guidelines for ozone, the Commission shall carry out a review of this Directive in preparation for each report.

2. In the review to be completed in 2004 an evaluation will be carried out of the indicative emission ceilings for the Community as a whole set out in Annex II. The evaluation of these indicative ceilings shall be a factor for consideration during analysis of further cost-effective actions that might be taken in order to reduce emissions of all relevant pollutants, with the aim of attaining the interim environmental objectives set out in Article 5, for the Community as a whole by 2010.

3. All reviews shall include a further investigation of the estimated costs and benefits of national emission ceilings, computed with state-of-the-art models and making use of the best available data to achieve the least possible uncertainty and taking also into account progress in the enlargement of the European Union, and of the merits of alternative methodologies, in the light of the factors listed in Article 9.

4. Without prejudice to Article 18 of Directive 96/61/EC, with the aim of avoiding distortion of competition, and taking into account the balance between benefits and costs of action, the Commission shall examine further the need to develop harmonised Community measures, for the most relevant economic sectors and products contributing to acidification, eutrophication and formation of ground-level ozone.

5. The reports referred to in Article 9 will, if appropriate, be accompanied by proposals for:

(a) modifications of the national ceilings in Annex I with the aim of meeting the interim environmental objectives of Article 5 and/or for modifications to those interim environmental objectives;

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- (b) possible further emission reductions with the aim of meeting, preferably by 2020, the long-term objectives of this Directive;
- (c) measures to ensure compliance with the ceilings.

*Article 11***Cooperation with third countries**

To promote the achievement of the objective set out in Article 1, the Commission and Member States, as appropriate, shall, without prejudice to Article 300 of the Treaty, pursue bilateral and multilateral cooperation with third countries and relevant international organisations such as the United Nations Economic Commission for Europe (UNECE), the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO), including through the exchange of information, concerning technical and scientific research and development and with the aim of improving the basis for the facilitation of emission reductions.

*Article 12***Reports concerning ship and aircraft emission**

1. By the end of 2002 the Commission shall report to the European Parliament and Council on the extent to which emissions from international maritime traffic contribute to acidification, eutrophication and the formation of ground-level ozone within the Community.
2. By the end of 2004 the Commission shall report to the European Parliament and Council on the extent to which emissions from aircraft beyond the landing and take-off cycle contribute to acidification, eutrophication and the formation of ground-level ozone within the Community.
3. Each report shall specify a programme of actions which could be taken at international and Community level as appropriate to reduce emissions from the sector concerned, as a basis for further consideration by the European Parliament and Council.

*Article 13***Committee**

1. The Commission shall be assisted by the Committee set up by Article 12 of Directive 96/62/EC, hereinafter referred to as 'the Committee'.
2. Where reference is made to this paragraph, Articles 4 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period referred to in Article 4(3) of Decision 1999/468/EC shall be set at three months.

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3. Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

**▼B***Article 14***Penalties**

Member States shall determine the penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties shall be effective, proportionate and dissuasive.

*Article 15***Transposition**

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before 27 November 2002. They shall forthwith inform the Commission thereof.

When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the main provisions of national law, which they adopt in the field covered by this Directive.

*Article 16***Entry into force**

This Directive shall enter into force on the day of its publication in the *Official Journal of the European Communities*.

*Article 17***Addressees**

This Directive is addressed to the Member States.



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## ANNEX I

**NATIONAL EMISSION CEILINGS FOR SO<sub>2</sub>, NO<sub>x</sub>, VOC AND NH<sub>3</sub>, TO BE ATTAINED BY 2010 <sup>(1)</sup>**

| Country                 | SO <sub>2</sub><br>Kilotonnes | NO <sub>x</sub><br>Kilotonnes | VOC<br>Kilotonnes | NH <sub>3</sub><br>Kilotonnes |
|-------------------------|-------------------------------|-------------------------------|-------------------|-------------------------------|
| Belgium                 | 99                            | 176                           | 139               | 74                            |
| Bulgaria <sup>(2)</sup> | 836                           | 247                           | 175               | 108                           |
| Czech Republic          | 265                           | 286                           | 220               | 80                            |
| Denmark                 | 55                            | 127                           | 85                | 69                            |
| Germany                 | 520                           | 1 051                         | 995               | 550                           |
| Estonia                 | 100                           | 60                            | 49                | 29                            |
| Ireland                 | 42                            | 65                            | 55                | 116                           |
| Greece                  | 523                           | 344                           | 261               | 73                            |
| Spain                   | 746                           | 847                           | 662               | 353                           |
| France                  | 375                           | 810                           | 1 050             | 780                           |
| Croatia <sup>(3)</sup>  | 70                            | 87                            | 90                | 30                            |
| Italy                   | 475                           | 990                           | 1 159             | 419                           |
| Cyprus                  | 39                            | 23                            | 14                | 9                             |
| Latvia                  | 101                           | 61                            | 136               | 44                            |
| Lithuania               | 145                           | 110                           | 92                | 84                            |
| Luxembourg              | 4                             | 11                            | 9                 | 7                             |
| Hungary                 | 500                           | 198                           | 137               | 90                            |
| Malta                   | 9                             | 8                             | 12                | 3                             |
| Netherlands             | 50                            | 260                           | 185               | 128                           |
| Austria                 | 39                            | 103                           | 159               | 66                            |
| Poland                  | 1 397                         | 879                           | 800               | 468                           |
| Portugal                | 160                           | 250                           | 180               | 90                            |
| Romania <sup>(2)</sup>  | 918                           | 437                           | 523               | 210                           |
| Slovenia                | 27                            | 45                            | 40                | 20                            |
| Slovakia                | 110                           | 130                           | 140               | 39                            |
| Finland                 | 110                           | 170                           | 130               | 31                            |
| Sweden                  | 67                            | 148                           | 241               | 57                            |
| United Kingdom          | 585                           | 1 167                         | 1 200             | 297                           |

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| Country | SO <sub>2</sub><br>Kilotonnes | NO <sub>x</sub><br>Kilotonnes | VOC<br>Kilotonnes | NH <sub>3</sub><br>Kilotonnes |
|---------|-------------------------------|-------------------------------|-------------------|-------------------------------|
| EU 28   | 8 367                         | 9 090                         | 8 938             | 4 324                         |

(<sup>1</sup>) These national emission ceilings are designed with the aim of broadly meeting the interim environmental objectives set out in Article 5. Meeting those objectives is expected to result in a reduction of soil eutrophication to such an extent that the area of the Union with depositions of nutrient nitrogen in excess of the critical loads will be reduced by about 30 % compared with the situation in 1990.

(<sup>2</sup>) These national emission ceilings are temporary and are without prejudice to the review according to Article 10 of this Directive, which is to be completed in 2008.

(<sup>3</sup>) The national emission ceilings for Croatia are to be attained by the date of its accession to the Union.

**▼B***ANNEX II***Emission ceilings for SO<sub>2</sub>, NO<sub>x</sub> and VOC (thousand tonnes)****▼M3**

|                      | SO <sub>2</sub><br>Kilotonnes | NO <sub>x</sub><br>Kilotonnes | VOC<br>Kilotonnes |
|----------------------|-------------------------------|-------------------------------|-------------------|
| EU 28 <sup>(1)</sup> | 7 902                         | 8 267                         | 7 675             |

<sup>(1)</sup> These emission ceilings are temporary and are without prejudice to the review according to Article 10 of this Directive, which is to be completed in 2008.

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These emission ceilings are designed with the aim of attaining the interim environmental objectives set out in Article 5 for the Community as a whole by 2010.

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