

# DECISIONS

## COMMISSION IMPLEMENTING DECISION

of 10 February 2012

laying down rules concerning the transitional national plans referred to in Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions

(notified under document C(2012) 612)

(Text with EEA relevance)

(2012/115/EU)

THE EUROPEAN COMMISSION,

HAS ADOPTED THIS DECISION:

Having regard to the Treaty on the Functioning of the European Union,

### Article 1

#### Combustion plants to be included in the transitional national plans

Having regard to Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) <sup>(1)</sup>, and in particular Article 41(b) thereof,

In accordance with the detailed provisions laid down in Section 1 of the Annex to this Decision, a transitional national plan shall only include entire combustion plants covered by Chapter III of Directive 2010/75/EU, taking into account the provisions of Article 32(1) and the aggregation rules provided for in Article 29 of Directive 2010/75/EU.

Whereas:

### Article 2

#### Content of the transitional national plans

(1) Article 32 of Directive 2010/75/EU provides that Member States, during the period from 1 January 2016 to 30 June 2020, may draw up and implement a transitional national plan covering particular combustion plants for which the plan shall cover emissions of one or more of the following pollutants: nitrogen oxides, sulphur dioxide and dust. For gas turbines, only nitrogen oxides emissions shall be covered by the plan.

1. Each transitional national plan shall include the following information in accordance with Section 2 of the Annex to this Decision:

(2) Combustion plants covered by the transitional national plan may be exempted from compliance with the emission limit values referred to in Article 30(2) of Directive 2010/75/EU for the pollutants which are subject to the plan or, where applicable, with the rates of desulphurisation referred to in Article 31 of Directive 2010/75/EU.

(a) a list of all the combustion plants that fall under the plan, including all relevant information on their operational characteristics;

(3) In order to ensure uniform implementation of Article 32 of Directive 2010/75/EU, implementing rules should be adopted.

(b) the calculated contribution of each individual combustion plant to the emission ceilings for 2016 and 2019;

(4) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 75(1) of Directive 2010/75/EU,

(c) a table setting out the emission ceilings for each of the pollutants the plan covers for the years 2016, 2017, 2018, 2019 and for the first semester of the year 2020;

(d) the details of the calculation of those emission ceilings.

In addition, the transitional national plan shall contain the following information:

(a) a description of how the implementation of the plan shall be monitored and reported to the Commission;

<sup>(1)</sup> OJ L 334, 17.12.2010, p. 17.

(b) a list of the measures that shall be applied to ensure that all combustion plants that are included in the plan comply on 1 July 2020 at the latest with the applicable emission limit values set out in Annex V to Directive 2010/75/EU.

2. For the purposes of point (a) of the first subparagraph of paragraph 1, Member States shall use the template provided for in Table A.1 in Appendix A to the Annex to this Decision.

For the purposes of point (c) of the first subparagraph of paragraph 1, Member States shall use the template provided for in Table B.3 in Appendix B to the Annex to this Decision.

#### Article 3

##### Setting emission ceilings in the transitional national plans

1. For the purposes of Article 32(3) of Directive 2010/75/EU the emission ceilings shall be calculated in accordance with the methods set out in Section 3 of the Annex to this Decision.

2. Member States shall use the template provided for in Table B.1 in Appendix B to the Annex to this Decision to present the relevant emission limit values and minimum rates of desulphurisation, the calculated contributions of each combustion plant to the 2016 emission ceilings and the total 2016 emission ceilings.

In the following cases, Member States shall, in the column of the template labelled 'comments', provide additional information on the emission limit values applied for the calculation:

- (a) where emission limit values mentioned in the Notes to Tables C.1 and C.2 in Appendix C to the Annex to this Decision have been applied;
- (b) where plants use multiple fuel types or consist of a combination of multiple plant types.

3. Member States shall use the template provided for in Table B.2 in Appendix B to the Annex to this Decision to present the relevant emission limit values and the minimum rates of desulphurisation, the calculated contributions of each combustion plant to the 2019 emission ceilings and the total 2019 emission ceilings.

In the following cases, Member States shall, in the column of the template labelled 'comments', provide additional information on the emission limit values applied for the calculation:

- (a) where emission limit values mentioned in the Notes to Tables D.1 and D.2 in Appendix D to the Annex to this Decision have been applied;
- (b) where plants use multiple fuel types or consist of a combination of multiple plant types.

#### Article 4

##### Implementation of the transitional national plan

In accordance with the second and third subparagraphs of Article 32(5) of Directive 2010/75/EU, a Member State may only implement its transitional national plan upon acceptance by the Commission.

#### Article 5

##### Subsequent changes to the transitional national plan

1. Member States shall establish a mechanism that allows identifying any relevant changes to combustion plants falling under the transitional national plan which may affect the applicable emission ceilings.
2. For the purposes of Article 32(6) of Directive 2010/75/EU, Member States shall inform the Commission of any subsequent changes to the plan affecting the applicable emission ceilings, in accordance with Section 4 of the Annex to this Decision.

#### Article 6

##### Compliance monitoring, remedial action and reporting to the Commission

1. For the purposes of Article 32(4) of Directive 2010/75/EU, the competent authorities shall monitor the emissions of nitrogen oxides, sulphur dioxide and dust of each combustion plant falling under the transitional national plan, by verifying the monitoring or calculation data of the operators of the combustion plants.
2. Member States shall ensure that emissions of nitrogen oxides, sulphur dioxide and dust from the combustion plants falling under the transitional national plan are limited to a degree which allows compliance with the emission ceilings. Where there is a risk that emission ceilings are not complied with, Member States shall take the necessary measures to prevent any emissions exceeding those ceilings.
3. Member States implementing a transitional national plan shall report to the Commission every year within 12 months the plant-by-plant data listed in Article 72(3) of Directive 2010/75/EU for all combustion plants included in the plan.

#### Article 7

This Decision is addressed to the Member States.

Done at Brussels, 10 February 2012.

For the Commission  
Janez POTOČNIK  
Member of the Commission

## ANNEX

**1. Combustion plants to be included in the transitional national plan**

Parts of combustion plants (e.g. one or more individual combustion units which are sharing a common stack with other units or which are in a situation as set out in Article 29(2) of Directive 2010/75/EU) shall not fall under a transitional national plan <sup>(1)</sup>.

For the purpose of the second indent, point (b) of Article 32(1) of Directive 2010/75/EU, combustion plants falling under that provision also include plants which are not operated by a refinery operator, but are located within the refinery and use the fuels referred to in that point.

Combustion plants that will be subject to the provisions of Chapter IV of Directive 2010/75/EU concerning waste incineration plants and waste co-incineration plants at any point during the application of the transitional national plan shall not be included in the transitional national plan.

**2. Combustion plant data to be included in the transitional national plan**

The transitional national plan shall include a list of all the combustion plants it covers and all data concerning these plants which was used to calculate the emission ceilings.

The plant-by-plant data to be included relates to the total rated thermal input, the fuels used and the operating characteristics of each combustion plant during the time period of the implementation of the transitional national plan.

As a minimum, the following data shall be included in the transitional national plan for each of the combustion plants falling under it:

- (1) Name and location of the combustion plant <sup>(2)</sup>;
- (2) Date on which the first permit for the combustion plant was granted;
- (3) Date on which the application for the first permit for the combustion plant was submitted alongside with the date on which the combustion plant was put into operation for the first time;

*Note:* This information is only required in case the combustion plant has been granted its first permit after 27 November 2002, but has been brought into operation no later than 27 November 2003.

- (4) Any extension by at least 50 MW of the total rated thermal input of the combustion plant, which took place between 27 November 2002 and 31 December 2010 (indicating the capacity added in MW) <sup>(3)</sup>;
- (5) Total rated thermal input (MW) of each combustion plant on 31 December 2010;
- (6) Annual number of operating hours <sup>(4)</sup> of each combustion plant, averaged over the period 2001-2010;

*Note:* This information is only required in case where specific emission limit values for combustion plants operating less than 1 500 hours per year are used to calculate the contribution of the combustion plant to the emission ceiling(s).

- (7) Pollutants for which the combustion plant concerned is not covered by the transitional national plan (if any) <sup>(5)</sup>.

<sup>(1)</sup> The same rule applies regarding Articles 33, 34 and 35 of Directive 2010/75/EU. Consequently, a part of a combustion plant cannot be covered by the provisions of Article 33, 34 or 35, while another part (or parts) of that plant would be included in the transitional national plan.

<sup>(2)</sup> As has been reported in the emission inventories drawn up under 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 (OJ L 309, 27.11.2001, p. 1).

<sup>(3)</sup> This information is needed in view of determining the relevant emission limit values on 1 January 2016 as set out in Article 10 of Directive 2001/80/EC.

<sup>(4)</sup> 'operating hours' means the time, expressed in hours, during which a combustion plant, in whole or in part, is operating and discharging emissions into the air, excluding start-up and shut-down periods.

<sup>(5)</sup> For example, gas turbines can only be covered by the transitional national plan concerning their NO<sub>x</sub> emissions. Other plants may be covered by the transitional national plan for some pollutant(s), while being subject to the emission limit values from Annex V to Directive 2010/75/EU for other pollutants.

(8) Annual amount of fuel used (TJ/year), averaged over the period 2001-2010, split over 6 fuel types: hard coal, lignite, biomass, other solid fuels, liquid fuels, gaseous fuels <sup>(1)</sup>;

(9) Annual waste gas flow rate (Nm<sup>3</sup>/year), averaged over the period 2001-2010 <sup>(2)</sup>;

*Note 1:* In the case of combustion plants firing multiple fuel types and/or consisting of multiple plant types, the waste gas flow rate needs to be provided for each of the fuel types and/or combustion plant types separately <sup>(3)</sup>.

*Note 2:* If the waste gas flow rate is calculated from the amount of fuel used (and not based on actual monitored waste gas flows), the factor (or factors in case of multiple fuels or combustion plant types) used for the calculation (Nm<sup>3</sup>/GJ) needs to be reported.

(10) Quantity of sulphur input via indigenous solid fuels <sup>(4)</sup> used (tonnes S/year), averaged over the period 2001-2010;

*Note:* This information is only required in case where the combustion plant uses indigenous solid fuels and where the minimum desulphurisation rate is used to calculate the contribution of the combustion plant to the emission ceiling for sulphur dioxide (for 2016 and/or 2019).

Where combustion plants covered by the transitional national plan are gas turbines or gas engines, the transitional national plan must specifically indicate this.

### 3. Determining the emission ceilings

#### 3.1. Calculation method for the individual plant contributions to the 2016 and 2019 emission ceilings

##### 3.1.1. General case

In order to determine the applicable emission ceilings for a pollutant for the years 2016 and 2019, the contribution of each combustion plant expressed in tonnes per year (tpa) shall be calculated using the following equation:

$$\text{Contribution to ceiling (tpa)} = \text{Waste gas flow rate (Nm}^3\text{pa)} \times \text{ELV (mg/Nm}^3\text{)} \times 1,0 \times 10^{-9}$$

where:

— 'Waste gas flow rate' is the volumetric flow rate of waste gases expressed in cubic metres per year (Nm<sup>3</sup>pa), averaged over the years 2001-2010. It is expressed at standard temperature (273 K) and pressure (101,3 kPa), at the relevant reference oxygen content (i.e. the same one as used for the emission limit value (ELV)) and after correction for the water vapour content,

— 'ELV' is the relevant emission limit value for the pollutant concerned expressed in mg/Nm<sup>3</sup>, assuming an oxygen content by volume in the waste gas of 6 % in the case of solid fuels, 3 % in the case of liquid and gaseous fuels (for combustion plants other than gas turbines or gas engines) and 15 % in the case of gas turbines and gas engines.

The details on how to determine the emission limit values for calculating the 2016 and 2019 emission ceilings are provided in sections 3.2 and 3.3.

##### 3.1.2. Specific case of plants firing multiple fuel types and/or consisting of multiple plant types

The equation referred to in section 3.1.1 cannot be used for combustion plants that fired multiple fuel types in the period 2001-2010 (simultaneously or not) or are consisting of multiple plant types.

<sup>(1)</sup> For combustion plants which, at any point during the period 2001-2010, have been co-incinerating waste (other than waste which is 'biomass' according to the definition under Article 3(31)(b) of Directive 2010/75/EU and were consequently covered by Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste (OJ L 332, 28.12.2000, p. 91)), the amount of waste burned during that period shall not be included under this point.

<sup>(2)</sup> See section 3.1.1 of this Annex concerning the applicable reference conditions.

<sup>(3)</sup> See section 3.1.2 of this Annex.

<sup>(4)</sup> 'indigenous solid fuel' means a naturally occurring solid fuel fired in a combustion plant specifically designed for that fuel and extracted locally.

Those combustion plants require the application of different emission limit values and/or reference conditions for calculating their contribution to the emission ceilings. Hence, the following method shall be used.

$$\text{Contribution to ceiling (tpa)} = \Sigma [\text{Waste gas flow rate (Nm}^3\text{pa)} \times \text{ELV (mg/Nm}^3\text{)} \times 1,0 \times 10^{-9}]$$

This equation implies that, for each of the fuel types used in the period 2001-2010, the average annual waste gas volume (Nm<sup>3</sup> per year) is multiplied by the relevant emission limit value (corresponding to the total rated thermal input of the entire combustion plant). The products of these multiplications are then added for all of the fuel types used.

It must be ensured that, for each fuel type, the waste gas volume and the emission limit value multiplied are expressed at the same reference oxygen content.

The same approach applies in cases where, in the period 2001-2010, taking into account Article 29(1) and (2) of Directive 2010/75/EU, a single combustion plant consisted of a combination of different plant types. Illustrative examples are:

- one or more gas turbines combined with one or more other types of combustion plants,
- one or more gas engines combined with one or more other types of combustion plants.

### 3.1.3. Minimum rate of desulphurisation (MDR)

The equation referred to in section 3.1.1 cannot be used for combustion plants firing indigenous solid fuel <sup>(1)</sup> and which cannot comply with the relevant emission limit values set for sulphur dioxide in Directive 2010/75/EU due to the characteristics of this fuel.

For such plants, the calculation of their contribution to the emission ceiling applicable for sulphur dioxide may be based on the application of the relevant minimum rates of desulphurisation <sup>(2)</sup> rather than on the emission limit values for sulphur dioxide.

In that case, the contribution of the combustion plant to the sulphur dioxide emission ceiling expressed in tonnes per year (tpa) shall be calculated using the following equation:

$$\text{Contribution to SO}_2 \text{ ceiling (tpa)} = \text{Sulphur input (tpa)} \times (1 - (\text{MDR}/100)) \times 2$$

where:

- 'Sulphur input' is the annual quantity of sulphur (S) contained in the indigenous solid fuel which was used in the combustion plant, expressed in tonnes per year (tpa), averaged over the period 2001-2010,
- 'MDR' is the relevant minimum rate of desulphurisation, expressed in percent.

The details on how to determine the relevant minimum rate of desulphurisation for calculating the 2016 and 2019 emission ceilings for sulphur dioxide are provided in sections 3.2 and 3.3.

### 3.2. Relevant emission limit values and minimum rates of desulphurisation for calculating the 2016 emission ceilings

According to Article 32(3) of Directive 2010/75/EU, the emission ceiling(s) for the year 2016 shall be calculated on the basis of the relevant emission limit values set out in Annexes III to VII to Directive 2001/80/EC or, where applicable, on the basis of the minimum rate of desulphurisation set out in Annex III to Directive 2001/80/EC. Thus, the calculation of the 2016 emission ceilings is based upon the relevant emission limit values and MDR, which would have been applicable on 1 January 2016 to the combustion plant concerned under Directive 2001/80/EC, taking into account the following provisions <sup>(3)</sup>.

<sup>(1)</sup> This applies for combustion plants which have been firing indigenous solid fuel in the period 2001-2010.

<sup>(2)</sup> 'rate of desulphurisation' means the ratio over a given period of time of the quantity of sulphur which is not emitted into air by a combustion plant to the quantity of sulphur contained in the solid fuel which is introduced into the combustion plant facilities and which is used in the plant over the same period of time.

<sup>(3)</sup> The relevant emission limit values for calculating the emission ceilings are not affected by the inclusion of a plant in a National Emission Reduction Plan under Article 4(6) of Directive 2001/80/EC.

The emission limit values and MDR shall be determined on the basis of the total rated thermal input of the entire combustion plant on 31 December 2010, the type(s) of fuel used and the annual number of operating hours averaged over the period 2001-2010. Where combustion plants have been extended by at least 50 MW in the period between 27 November 2002 and 31 December 2010, the rules for calculating the relevant emission limit values as set out in Article 10 of Directive 2001/80/EC shall be applied.

For all gas turbines included in the transitional national plan, the relevant emission limit value concerning nitrogen oxides is the one set out in Part B of Annex VI to Directive 2001/80/EC, irrespective of Article 2(7)(j) of Directive 2001/80/EC.

As no emission limit values have been set out in Directive 2001/80/EC for gas engines, the relevant emission limit value for nitrogen oxides is the one set out in Part 1 of Annex V to Directive 2010/75/EU.

For combustion plants which have been using different fuel types in the period 2001-2010, the relevant emission limit values shall be listed for each individual fuel. Section 3.1.2 provides details on the method to be used to calculate the contribution of each of those plants to the emission ceilings.

Directive 2001/80/EC allows certain combustion plants operating less than 1 500 hours (as a rolling average over a five-year period) to comply with less stringent emission limit values. The latter can only be used for calculating the contribution of an individual plant to the 2016 emission ceiling if the average number of operating hours for the plant over the years 2001-2010 is less than 1 500 hours per year.

An overview of the relevant emission limit values as set out in Annexes III to VII of Directive 2001/80/EC and of the relevant MDR established in Annex III to Directive 2001/80/EC is provided in Tables C.1, C.2 and C.3 in Appendix C to this Annex <sup>(1)</sup>.

### 3.3. *Relevant emission limit values and minimum rates of desulphurisation for calculating the 2019 emission ceilings*

According to Article 32(3) of Directive 2010/75/EU, the emission ceilings for the year 2019 shall be calculated on the basis of the relevant emission limit values set out in Part 1 of Annex V to Directive 2010/75/EU or, where applicable, the relevant rates of desulphurisation set out in Part 5 of Annex V to Directive 2010/75/EU. Thus, the calculation of the 2019 emission ceilings is based upon the relevant emission limit values and MDR, which would be applicable on 1 January 2019 under Directive 2010/75/EU to the combustion plant concerned.

The emission limit values and MDR shall be determined on the basis of the total rated thermal input of the entire combustion plant on 31 December 2010, of the type(s) of fuel used and of the annual number of operating hours averaged over the period 2001-2010.

An overview of the relevant emission limit values as set out in Part 1 of Annex V to Directive 2010/75/EU and of the relevant MDR established in Part 5 of Annex V to Directive 2010/75/EU is provided in Tables D.1, D.2 and D.3 in Appendix D of this Annex.

For combustion plants which have been using different fuel types in the period 2001-2010, the relevant emission limit values shall be listed for each individual fuel. Section 3.1.2 provides details on the method to be used to calculate the contribution of each of those plants to the emission ceilings.

Directive 2010/75/EU allows certain combustion plants operating less than 1 500 hours (as a rolling average over a five-year period) to comply with less stringent emission limit values. The latter can only be applied for calculating the contribution of a plant to the 2019 emission ceiling if the average number of operating hours for that plant over the years 2001-2010 is less than 1 500 hours per year.

### 3.4. *Calculating the emission ceilings*

#### 3.4.1. *Calculating the 2016 and 2019 emission ceilings*

For the years 2016 and 2019, the total emission ceilings per pollutant shall be determined by adding up the contributions of each individual plant to the respective emission ceilings:

$$\text{ceiling}_{2016} \text{ (tpa)} = \Sigma [\text{individual plant contribution to 2016 ceiling}]$$

$$\text{ceiling}_{2019} \text{ (tpa)} = \Sigma [\text{individual plant contribution to 2019 ceiling}]$$

<sup>(1)</sup> This overview is not exhaustive. In particular, it does not cover situations where a combustion plant had been extended by at least 50 MW between 27 November 2002 and 31 December 2010, in which case also the emission limit values listed in the Parts B of Annexes III to VII to Directive 2001/80/EC are of relevance (application of Article 10 of Directive 2001/80/EC).



### 3.4.2. Calculating the 2017, 2018 and 2020 emission ceilings

The ceilings for the year 2017 (ceiling2017) shall be calculated using the following equation:

$$\text{ceiling2017} = \text{ceiling2016} - \frac{(\text{ceiling2016} - \text{ceiling2019})}{3}$$

The ceilings for the year 2018 (ceiling2018) shall be calculated using the following equation:

$$\text{ceiling2018} = \text{ceiling2016} - \frac{2 * (\text{ceiling2016} - \text{ceiling2019})}{3}$$

The ceilings for the first semester of 2020 (ceiling2020) are half of the ceilings for 2019:

$$\text{ceiling2020} = \frac{\text{ceiling2019}}{2}$$

## 4. Subsequent changes to transitional national plans

Member States shall inform the Commission at least on the following:

- (a) the combustion plants which opt for the limited lifetime derogation in accordance with Article 33 of Directive 2010/75/EU;

*Note:* While Member States shall communicate their transitional national plans to the Commission on 1 January 2013 at the latest, operators have until 1 January 2014 to notify the competent authority whether they seek to opt for the limited lifetime derogation. Thus, a combustion plant may be initially included in the transitional national plan submitted to the Commission before being subject to a limited lifetime derogation. The combustion plant must then be removed from the transitional national plan once the competent authority has been notified by the operator of the combustion plant about the decision to opt for the limited lifetime derogation. The contributions to the applicable emission ceiling(s) of each of the combustion plants that would fall under Article 33 of Directive 2010/75/EU must then be deducted from the emission ceiling(s) as calculated in the latest accepted version of the transitional national plan (or, if no such plan has been accepted, as calculated in the latest version of the transitional national plan submitted to the Commission).

- (b) the combustion plants which are closed (i.e. those plants that have definitively stopped operating) or the total rated thermal input of which is reduced to less than 50 MW;
- (c) the combustion plants which start to co-incinerate waste after 31 December 2015 and which would therefore fall under Chapter IV of Directive 2010/75/EU.

*Note:* As mentioned in Article 32(3) of Directive 2010/75/EU, where a plant included in the transitional national plan is closed or no longer falls within the scope of Chapter III of Directive 2010/75/EU, this shall not result in an increase in total annual emissions from the remaining plants covered by the transitional national plan.

For the purpose of Article 32(6) of Directive 2010/75/EU, Member States do not have the obligation to communicate to the Commission the following information since the subsequent changes they refer to should not affect the applicable emission ceiling(s):

- a reduction or an increase of the total rated thermal input after 31 December 2010 (other than a reduction to less than 50 MW),
- a reduction or an increase of the number of annual operating hours after 2010,
- a change in fuel use (type, quantity) occurring after 2010 (other than a switch to burning waste, which would qualify the plant as a waste co-incineration plant causing its exclusion from the transitional national plan).

Changes affecting the name of the plant (e.g. due to a change of operator) shall be reported via the emission inventories to be provided by Member States in accordance with Article 6(3) of this Decision and Article 72(3) of Directive 2010/75/EU.

## Appendix A

Table A.1

## Template for the list of combustion plants to be included in the transitional national plan

| A      | B          | C                        | D                                                                                                                                                              |                                                                     |                                                                                                                                                                                  |  | E                                            | F                                                    | G                                                                                                                                      | H |
|--------|------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---|
| Number | Plant name | Plant location (address) | Date on which the application for the first permit for the plant has been submitted and date on which the plant has been put into operation for the first time | OR<br>Date on which the first permit for the plant has been granted | Any extension by at least 50 MW of the total rated thermal input of the combustion plant, which took place between 27 November 2002 and 31 December 2010 (total extension in MW) |  | Total rated thermal input on 31.12.2010 (MW) | Annual number of operating hours (average 2001-2010) | Pollutant(s) (SO <sub>2</sub> , NO <sub>x</sub> , dust) for which the plant concerned is NOT covered by the transitional national plan |   |

  

| A      | I                                                    | J                                                          |         |         |                   |              |               | K                                                                              | L                                                                                                                               | M                                                                                                                                     |
|--------|------------------------------------------------------|------------------------------------------------------------|---------|---------|-------------------|--------------|---------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Number | Indicate if the plant is a gas turbine or gas engine | Annual amount of fuel used (average 2001-2010)<br>(T)/year |         |         |                   |              |               | Average annual waste gas flow rate (average 2001-2010)<br>(Nm <sup>3</sup> /y) | Annual quantity of S in indigenous solid fuels used which was introduced into the combustion plant (average 2001-2010)<br>(tpa) | Conversion factor(s) used in case the waste gas flow rate was calculated from the fuel input (per fuel type)<br>(Nm <sup>3</sup> /GJ) |
|        |                                                      | hard coal                                                  | lignite | biomass | other solid fuels | liquid fuels | gaseous fuels |                                                                                |                                                                                                                                 |                                                                                                                                       |



## Appendix B

Table B.1

## Template for calculating the 2016 emission ceilings

| A                       | B    | C                               | D                                                         | E                                                    | F                                                                 | G                                                         | H                                                                 | I                                              | J                                                      | K        |
|-------------------------|------|---------------------------------|-----------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------|----------|
| Number                  | name | reference oxygen content<br>(%) | relevant ELV for SO <sub>2</sub><br>(mg/Nm <sup>3</sup> ) | relevant desulphurisation rate<br>(where applicable) | plant's contribution to the 2016 SO <sub>2</sub> ceiling<br>(tpa) | relevant ELV for NO <sub>x</sub><br>(mg/Nm <sup>3</sup> ) | plant's contribution to the 2016 NO <sub>x</sub> ceiling<br>(tpa) | relevant ELV for dust<br>(mg/Nm <sup>3</sup> ) | plant's contribution to the 2016 dust ceiling<br>(tpa) | comments |
| (individual plant data) |      |                                 |                                                           |                                                      |                                                                   |                                                           |                                                                   |                                                |                                                        |          |
| SUM                     |      |                                 |                                                           |                                                      | TOTAL SO <sub>2</sub> CEILING                                     |                                                           | TOTAL NO <sub>x</sub> CEILING                                     |                                                | TOTAL dust CEILING                                     |          |

Table B.2

## Template for calculating the 2019 emission ceilings

| A                       | B    | C                               | D                                                         | E                                                    | F                                                                 | G                                                         | H                                                                 | I                                              | J                                                      | K        |
|-------------------------|------|---------------------------------|-----------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------|----------|
| Number                  | name | reference oxygen content<br>(%) | relevant ELV for SO <sub>2</sub><br>(mg/Nm <sup>3</sup> ) | relevant desulphurisation rate<br>(where applicable) | plant's contribution to the 2019 SO <sub>2</sub> ceiling<br>(tpa) | relevant ELV for NO <sub>x</sub><br>(mg/Nm <sup>3</sup> ) | plant's contribution to the 2019 NO <sub>x</sub> ceiling<br>(tpa) | relevant ELV for dust<br>(mg/Nm <sup>3</sup> ) | plant's contribution to the 2019 dust ceiling<br>(tpa) | comments |
| (individual plant data) |      |                                 |                                                           |                                                      |                                                                   |                                                           |                                                                   |                                                |                                                        |          |
| SUM                     |      |                                 |                                                           |                                                      | TOTAL SO <sub>2</sub> CEILING                                     |                                                           | TOTAL NO <sub>x</sub> CEILING                                     |                                                | TOTAL dust CEILING                                     |          |

Table B.3

**Overview of emission ceilings**

|                 | 2016 | 2017 | 2018 | 2019 | (tonnes per year)<br>2020<br>(1 January-30 June) |
|-----------------|------|------|------|------|--------------------------------------------------|
| SO <sub>2</sub> |      |      |      |      |                                                  |
| NO <sub>x</sub> |      |      |      |      |                                                  |
| Dust            |      |      |      |      |                                                  |

## Appendix C

Table C.1

**Emission limit values relevant for the calculation of the individual contributions to the 2016 emission ceilings for combustion plants other than gas turbines and gas engines**

| Pollutant                   | Fuel type         | ELV (mg/Nm <sup>3</sup> )                                                                          |                                      |                                |                 |
|-----------------------------|-------------------|----------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------|-----------------|
|                             |                   | 50-100 MW                                                                                          | > 100-300 MW                         | > 300-500 MW                   | > 500 MW        |
| SO <sub>2</sub>             | Solid             | 2 000                                                                                              | 2 000 to 400 (linear scale) (Note 1) |                                | 400             |
|                             | Liquid            | 1 700                                                                                              |                                      | 1 700 to 400<br>(linear scale) | 400             |
|                             | Gaseous           | 35 in general<br>5 for liquefied gas<br>800 for coke oven gas and blast furnace gas                |                                      |                                |                 |
| NO <sub>x</sub><br>(Note 6) | Solid<br>(Note 2) | 600                                                                                                |                                      |                                | 200<br>(Note 3) |
|                             | Liquid            | 450                                                                                                |                                      |                                | 400             |
|                             | Gaseous           | 300                                                                                                |                                      |                                | 200             |
| Dust                        | Solid             | 100                                                                                                |                                      |                                | 50 (Note 4)     |
|                             | Liquid            | 50 (Note 5)                                                                                        |                                      |                                |                 |
|                             | Gaseous           | 5 in general<br>10 for blast furnace gas<br>50 for steel industry gases that can be used elsewhere |                                      |                                |                 |

The reference oxygen content is 6 % for solid fuels and 3 % for liquid and gaseous fuels.

## Notes:

1. 800 mg/Nm<sup>3</sup> for plants with a rated thermal input greater than or equal to 400 MW, which do not operate more than 1 500 hours per year.
2. 1 200 mg/Nm<sup>3</sup> for plants that in the 12-month period ending on 1 January 2001 operated on, and continue to operate on, solid fuels whose volatile content is < 10 %.
3. 450 mg/Nm<sup>3</sup> for plants which do not operate more than 1 500 hours per year.
4. 100 mg/Nm<sup>3</sup> for plants for which the original construction licence or, in the absence of such a procedure, the original operating licence was granted before 1 July 1987 and which are burning solid fuel with a heat content of less than 5 800 kJ/kg, a moisture content > 45 % by weight, a combined moisture and ash content > 60 % by weight and a calcium oxide content > 10 %.
5. 100 mg/Nm<sup>3</sup> for plants with a rated thermal input below 500 MW and burning liquid fuel with an ash content > 0,06 %.
6. for plants located in the French Overseas Departments, the Azores, Madeira or the Canary Islands the following ELV apply: solid fuels in general: 650 mg/Nm<sup>3</sup>; solid fuels with < 10 % volatile compounds: 1 300 mg/Nm<sup>3</sup>; liquid fuels: 450 mg/Nm<sup>3</sup>; gaseous fuels: 350 mg/Nm<sup>3</sup>.

Table C.2

**Emission limit values relevant for the calculation of the individual contributions to the 2016 emission ceiling for NO<sub>x</sub> for gas turbines and gas engines**

|                                                           | ELV for NO <sub>x</sub><br>(mg/Nm <sup>3</sup> ) |
|-----------------------------------------------------------|--------------------------------------------------|
| Gas engines (firing gaseous fuels)                        | 100                                              |
| Gas turbines (including CCGT) firing the following fuels: |                                                  |
| Natural gas (Note 1)                                      | 50<br>(Notes 2 and 3)                            |
| Gaseous fuels other than natural gas                      | 120                                              |
| Light and middle distillates                              | 120                                              |

The reference oxygen content is 15 %.

Notes:

1. Naturally occurring methane with not more than 20 % (by volume) of inerts and other constituents.
2. 75 mg/Nm<sup>3</sup> in the following cases (where the efficiency of the gas turbine is determined at ISO base load conditions):
  - gas turbines, used in combined heat and power systems having an overall efficiency greater than 75 %,
  - gas turbines used in combined cycle plants having an annual average overall electrical efficiency greater than 55 %,
  - gas turbines for mechanical drives.
3. For single cycle gas turbines not falling into any of the categories mentioned under Note 2, but having an efficiency greater than 35 % (at ISO base load conditions), the ELV shall be  $50 \times \eta/35$  where  $\eta$  is the gas turbine efficiency (at ISO base load conditions) expressed as a percentage.

Table C.3

**Minimum rates of desulphurisation relevant for the calculation of the individual contributions to the 2016 emission ceiling for SO<sub>2</sub> in case of combustion plants firing indigenous solid fuels which cannot comply with the emission limit values for SO<sub>2</sub> referred to in Article 30(2) and (3) of Directive 2010/75/EU due to the characteristics of this fuel**

| Total rated thermal input | Minimum rate of desulphurisation                                                                                                                                                                |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 50-100 MW                 | 60 %                                                                                                                                                                                            |
| > 100-300 MW              | 75 %                                                                                                                                                                                            |
| > 300-500 MW              | 90 %                                                                                                                                                                                            |
| > 500 MW                  | 94 % in general<br>92 % for plants where a contract for the fitting of FGD or lime injection equipment has been entered into, and work on its installation has commenced, before 1 January 2001 |

## Appendix D

Table D.1.

**Emission limit values relevant for the calculation of the individual contributions to the 2019 emission ceilings for combustion plants other than gas turbines and gas engines**

| Pollutant       | Fuel type                                    | ELV (mg/Nm <sup>3</sup> )                                                                                                            |                        |                        |                 |
|-----------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|-----------------|
|                 |                                              | 50-100 MW                                                                                                                            | > 100-300 MW           | > 300-500 MW           | > 500 MW        |
| SO <sub>2</sub> | Coal, lignite and other solid fuels (Note 1) | 400                                                                                                                                  | 250                    | 200                    |                 |
|                 | Biomass (Note 1)                             | 200                                                                                                                                  |                        |                        |                 |
|                 | Peat (Note 1)                                | 300                                                                                                                                  |                        | 200                    |                 |
|                 | Liquid                                       | 350<br>(Note 2)                                                                                                                      | 250<br>(Note 2)        | 200<br>(Note 3)        |                 |
|                 | Gaseous                                      | 35 in general<br>5 for liquefied gas<br>400 for low calorific gases from coke oven<br>200 for low calorific gases from blast furnace |                        |                        |                 |
| NO <sub>x</sub> | Coal, lignite and other solid fuels          | 300<br>(Notes 4 and 5)                                                                                                               | 200<br>(Note 5)        |                        | 200<br>(Note 6) |
|                 | Biomass and peat                             | 300<br>(Note 5)                                                                                                                      | 250<br>(Note 5)        | 200<br>(Note 5)        | 200<br>(Note 6) |
|                 | Liquid                                       | 450                                                                                                                                  | 200<br>(Notes 5 and 7) | 150<br>(Notes 5 and 7) | 150<br>(Note 3) |
|                 | Natural gas (Note 8)                         | 100                                                                                                                                  |                        |                        |                 |
|                 | Other gases                                  | 300                                                                                                                                  |                        |                        | 200             |
| Dust            | Coal, lignite and other solid fuels          | 30                                                                                                                                   | 25                     | 20                     |                 |
|                 | Biomass and peat                             | 30                                                                                                                                   | 20                     |                        |                 |
|                 | Liquid                                       | 30                                                                                                                                   | 25                     | 20                     |                 |
|                 | Gaseous                                      | 5 in general<br>10 for blast furnace gas<br>30 for gases produced by the steel industry which can be used elsewhere                  |                        |                        |                 |

The reference oxygen content is 6 % for solid fuels and 3 % for liquid and gaseous fuels.

## Notes:

1. 800 mg/Nm<sup>3</sup> for plants which do not operate more than 1 500 operating hours per year.
2. 850 mg/Nm<sup>3</sup> for plants which do not operate more than 1 500 operating hours per year.
3. 400 mg/Nm<sup>3</sup> for plants which do not operate more than 1 500 operating hours per year.
4. 450 mg/Nm<sup>3</sup> in case of pulverised lignite combustion.
5. 450 mg/Nm<sup>3</sup> for plants which do not operate more than 1 500 operating hours per year.

6. 450 mg/Nm<sup>3</sup> for plants which were granted a permit before 1 July 1987 and which do not operate more than 1 500 operating hours per year.
7. 450 mg/Nm<sup>3</sup> for plants in chemical installations using liquid production residues as non-commercial fuel for own consumption.
8. Naturally occurring methane with not more than 20 % (by volume) of inerts and other constituents.

Table D.2.

**Emission limit values relevant for the calculation of the individual contributions to the 2019 emission ceiling for NO<sub>x</sub> for gas turbines and gas engines**

|                                                           | ELV for NO <sub>x</sub><br>(mg/Nm <sup>3</sup> ) |
|-----------------------------------------------------------|--------------------------------------------------|
| Gas engines (firing gaseous fuels)                        | 100                                              |
| Gas turbines (including CCGT) firing the following fuels: |                                                  |
| Natural gas (Note 1)                                      | 50<br>(Notes 2, 3 and 4)                         |
| Gaseous fuels other than natural gas                      | 120<br>(Note 5)                                  |
| Light and middle distillates                              | 90<br>(Note 5)                                   |

The reference oxygen content is 15 %.

Notes:

1. Natural gas is naturally occurring methane with not more than 20 % (by volume) of inerts and other constituents.
2. 75 mg/Nm<sup>3</sup> in the following cases (where the efficiency of the gas turbine is determined at ISO base load conditions):
  - gas turbines, used in combined heat and power systems having an overall efficiency greater than 75 %,
  - gas turbines used in combined cycle plants having an annual average overall electrical efficiency greater than 55 %,
  - gas turbines for mechanical drives.
3. For single cycle gas turbines not falling into any of the categories mentioned under Note 2, but having an efficiency greater than 35 % (at ISO base load conditions), the ELV shall be  $50 \times \eta/35$  where  $\eta$  is the gas turbine efficiency (at ISO base load conditions) expressed as a percentage.
4. 150 mg/Nm<sup>3</sup> for plants which do not operate more than 1 500 operating hours per year.
5. 200 mg/Nm<sup>3</sup> for plants which do not operate more than 1 500 operating hours per year.

Table D.3.

**Minimum rates of desulphurisation relevant for the calculation of the individual contributions to the 2019 emission ceiling for SO<sub>2</sub> in case of combustion plants firing indigenous solid fuels which cannot comply with the emission limit values for SO<sub>2</sub> referred to in Article 30(2) and (3) of Directive 2010/75/EU due to the characteristics of this fuel**

| Total rated thermal input | Minimum rate of desulphurisation                    |
|---------------------------|-----------------------------------------------------|
| 50-100 MW                 | 80 %                                                |
| > 100-300 MW              | 90 %                                                |
| > 300 MW                  | 96 % in general<br>95 % for plants firing oil shale |