



STATUTORY INSTRUMENTS.

S.I. No. 232 of 2018



EUROPEAN UNION (NATIONAL EMISSION CEILINGS)
REGULATIONS 2018

EUROPEAN COMMUNITIES (NATIONAL EMISSION CEILINGS)
REGULATIONS 2018

I, DENIS NAUGHTEN, Minister for Communications, Climate Action and Environment, in exercise of the powers conferred on me by Section 3 of the European Communities Act 1972 (No. 27 of 1972) and for the purpose of giving effect to Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016¹ on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC² and repealing Directive 2001/81/EC³ hereby make the following Regulations:

Citation

1. These Regulations may be cited as the European Union (National Emission Ceilings) Regulations 2018.

Entry into Force

2. These Regulations shall come into operation on 29 June 2018.

Definitions

3. (1) In these Regulations, save where the context otherwise requires:

“the Agency” means the Environmental Protection Agency established under section 19 of the Environmental Protection Agency Act, 1992 (No. 7 of 1992);

“the Directive” means Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC;

“Minister” means the Minister for Communications, Climate Action and Environment;

“emission” means the release of a substance from a point or diffuse source into the atmosphere;

“anthropogenic emissions” means atmospheric emissions of pollutants associated with human activities;

“air quality objectives” means the limit values, target values and exposure concentration obligations for air quality set out in Directive 2008/50/EC and Directive 2004/107/EC of the European Parliament and of the Council;

¹OJ L 344, 17.12.2016, p. 1-31

²OJ L156, 25.06.2003, p 17-24

³OJ L 309, 27.11.2001, p. 22-30

*Notice of the making of this Statutory Instrument was published in
“Iris Oifigiúil” of 6th July, 2018.*

“sulphur dioxide” or “SO₂” means all sulphur compounds expressed as sulphur dioxide, including sulphur trioxide (SO₃), sulphuric acid (H₂SO₄), and reduced sulphur compounds such as hydrogen sulphide (H₂S), mercaptans and dimethyl sulphides;

“nitrogen oxides” or “NO_x” means nitric oxide and nitrogen dioxide, expressed as nitrogen dioxide;

“non-methane volatile organic compounds” or “NMVOC” means all organic compounds other than methane, that are capable of producing photochemical oxidants by reaction with nitrogen oxides in the presence of sunlight;

“fine particulate matter” or “PM_{2.5}” means particles with an aerodynamic diameter equal to or less than 2.5 micrometres (µm);

“black carbon” or “BC” means carbonaceous particulate matter that absorbs light;

“national emission reduction commitment” means the Member States' obligation in the reduction of emissions of a substance; it specifies the emission reduction that as a minimum has to be delivered in the target calendar year, as a percentage of the total of emissions released during the base year (2005);

“landing and take-off cycle” means the cycle that includes taxi in and out, take-off, climb out, approach, landing and all other aircraft activities that take place below the altitude of 3,000 feet;

“international maritime traffic” means journeys at sea and in coastal waters by water-borne vessels of all flags, except fishing vessels, that depart from the territory of one country and arrive in the territory of another country;

“pollution control zone” means a sea area not exceeding 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, established by a Member State for the prevention, reduction and control of pollution from vessels in accordance with applicable international rules and standards;

“Union source-based air pollution control legislation” means Union legislation which aims at reducing the emissions of air pollutants covered by this Directive by undertaking mitigation measures at the source;

“LRTAP Convention” means the 1979 UNECE Convention on Long Range Transboundary Air Pollution, including its protocols, annexes and appendices;

“TSAP 16” means the reports, “Adjusted historic emission data, projections, and optimized emission reduction targets for 2030 — A comparison with COM data 2013”, published in January 2015 by the International Institute for Applied Systems Analysis in support of the European Commission's Thematic Strategy on Air Pollution, which aims to set out cost effective emission reduction potential for each of the relevant pollutants;

“Directive 2008/50/EC” means Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe;

“Directive 2000/60/EC” means Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy;

“Council Directive 92/43/EEC” means Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora;

“Regulation (EU) No 1306/2013 of the European Parliament and of the Council” means Regulation (EU) No 1306/2013 of the European Parliament and of the Council of 17 December 2013 on the financing, management and monitoring of the common agricultural policy and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008;

“Directive 2010/75/EU” means Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control);

“Ammonia Guidance Document” means document ECE/EB.AIR/129, the UNECE Framework Advisory Code of Good Agricultural Practice for Reducing Ammonia Emissions, including its annexes and such updates as may be made from time to time;

“UNECE Guidance Document on Nitrogen Budgets” means document ECE/EB.AIR/119, the UNECE Guidance Document on National Nitrogen Budgets, including its annexes and such updates as may be made from time to time.

(2) In these Regulations—

- (a) a reference to a paragraph or sub-paragraph which is not otherwise identified is a reference to a paragraph or sub-paragraph of these Regulations;
- (b) a reference to a Schedule which is not otherwise identified is a reference to a Schedule to these Regulations;
- (c) a letter, word, phrase or symbol which has been assigned a meaning by the Directive, or is used in the Directive, has that meaning where the context requires except where otherwise indicated.

National Emission Ceilings

4. (1) The Minister shall ensure that annual anthropogenic emissions of sulphur dioxide (SO₂), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOC), ammonia (NH₃), and fine particulate matter (PM_{2.5}) are limited in accordance with the emission reduction commitments specified for each

pollutant in tables A and B of Schedule 2, in accordance with the timeframe specified in those tables.

(2) (a) Without prejudice to paragraph (1), the Minister shall ensure that the 2025 anthropogenic emissions of sulphur dioxide (SO₂), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOC), ammonia (NH₃), and fine particulate matter (PM_{2.5}), are consistent with a linear reduction trajectory established between the pollutants' emission levels defined by the emission reduction commitments for 2020-2029 in Schedule 2 and the emission levels defined by the emission reduction commitments for 2030 in Schedule 2.

(b) (i) Notwithstanding the provisions of subparagraph (a), a non-linear reduction trajectory may be followed if this is more economically or technically efficient, provided that as from 2025 it converges progressively on the linear reduction trajectory and that it does not affect any emission reduction commitment for 2030.

(ii) Where a non-linear trajectory is being followed under clause (i), it and the reasons for following it shall be set out in the National Air pollution Control Programme established by the Minister in accordance with Regulation 6(1).

(c) Where the emissions for 2025 cannot be limited in accordance with the determined reduction trajectory, the reason for the deviation from the trajectory, as well as the measures required to return to the trajectory, shall be explained in the subsequent informative inventory reports provided to the European Commission in accordance with Regulation 9(2).

(d) for the purposes of paragraph (c) above, the Minister, following consultation with such other Minister of the Government as he or she considers appropriate, shall provide the Agency with the reasons for deviation from the trajectory and the measures required to return to the trajectory.

(3) The following emissions shall not be accounted for the purpose of complying with paragraphs 1 and 2:

(a) aircraft emissions beyond the landing and take-off cycle;

(b) emissions from international maritime traffic;

(c) emissions of nitrogen oxides and non-methane volatile organic compounds from activities falling under the 2014 Nomenclature for Reporting (NFR) as provided by the LRTAP Convention categories 3B (manure management) and 3D (agricultural soils).

Flexibilities

5. (1) (a) The Agency may establish, in accordance with Part 4 of Schedule 4, adjusted annual national emission inventories for sulphur dioxide,

nitrogen oxides, non-methane volatile organic compounds, ammonia and fine particulate matter where non-compliance with the national emission reduction commitments in Schedule 2 would result from applying improved emission inventory methods updated in accordance with scientific knowledge.

- (b) For the purpose of determining whether the relevant conditions set out in Part 4 of Schedule 4 are fulfilled, the emission reduction commitments for the years 2020 to 2029 shall be considered as having been set on 4 May 2012.
 - (c) As from 2025 the following additional conditions shall apply to adjustments in case of there being significantly different emission factors or methodologies used for determining emissions from specific source categories in comparison with those which were expected as a result of the implementation of a given norm or standard under Union source-based air pollution control legislation, pursuant to points 1(d)(ii) and (iii) of Part 4 of Schedule 4:
 - (i) significantly different emission factors do not arise from Ireland's implementation or enforcement of that legislation;
 - (ii) the Agency has informed the European Commission of the significant difference in the emission factors which, pursuant to Article 11(2) of the Directive, shall investigate the need for further action.
- (2) If in a given year one or more of the relevant national emission reduction commitments in Schedule 2 cannot be complied with, compliance with those commitments can be achieved if the following conditions are met:
- (a) there was an exceptionally cold winter or an exceptionally dry summer in the year that the exceedance occurs;
 - (b) the average national total annual emissions for the year in which the exceedance occurs, the preceding year and the following year is lower than or equal to the national annual emission level determined by the reduction commitment in Schedule 2.
- (3) If in a given year one or more of the relevant national emission reduction commitments in Schedule 2 cannot be complied with, compliance with those relevant national emissions reductions commitments may be deemed to have been complied with for a maximum of five years, including the year in which the exceedance occurs, if the following conditions are met:
- (a) the national emission reduction commitment that has been exceeded is set at a level that is more stringent than the cost-effective level identified in TSAP 16,

- (b) all cost effective measures have already been implemented in respect of the pollutant for which the national emission reduction commitment has been exceeded,
- (c) in each of the five years in question, the national emission reduction commitment for at least one other relevant pollutant has been met, and
- (d) in each year for which the derogation is claimed, the amount by which emissions exceed the relevant national emission reduction commitment is less than or equal to the amount by which emissions for another relevant pollutant are below the applicable national emission reduction commitment, applying the conversion methodology.

(4) The obligations under Regulation 4 shall be deemed to have been complied with for a maximum of three years, where non-compliance with the emission reduction commitments for the relevant pollutants results from a sudden and exceptional interruption or loss of capacity in the power and/or heat supply or production system, which could not reasonably have been foreseen, and provided that the following conditions are met:

- (a) the Minister has published information demonstrating that all reasonable efforts, including the implementation of new measures and policies have been made to ensure compliance, and will continue to be made to keep the period of non-compliance as short as possible; and
- (b) the Minister has published information demonstrating that the implementation of measures and policies additional to those referred to in point (a) would lead to disproportionate costs, substantially jeopardise national energy security, or pose a substantial risk of energy poverty to a significant part of the population.

(5) Where it is intended to apply paragraph 1, 2, 3 or 4 of this Regulation, the Agency shall inform the European Commission thereof by 15 February of the reporting year concerned. That information shall include the pollutants and sectors concerned and, where available, the magnitude of the impacts upon national emission inventories.

(6) Where the European Commission has raised no objections within nine months from the date of receipt of the relevant report referred to in Regulation 7(3), the Agency and the Minister concerned shall consider the use of that flexibility to be valid and accepted for that year.

National air pollution control programme

6. (1) The Minister, following consultation with such other Minister of the Government as he or she considers appropriate, shall draw up, adopt and implement a National Air Pollution Control Programme in accordance with Part 1 of Schedule 3 in order to limit anthropogenic emissions in accordance with Regulation 4.

- (2) When drawing up, adopting and implementing the programme referred to in paragraph (1), the Minister shall:
- (a) assess to what extent national emission sources are likely to have an impact on air quality in Ireland and neighbouring Member States using, where appropriate, data and methodologies developed by the European Monitoring and Evaluation Programme (EMEP) under the Protocol to the LRTAP Convention on long-term financing of the cooperative programme for monitoring and evaluation of the long-range transmission of air pollutants in Europe;
 - (b) take account of the need to reduce air pollutant emissions for the purpose of reaching compliance with air quality objectives in Ireland and, where appropriate, in neighbouring Member States;
 - (c) prioritise emission reduction measures for black carbon when taking measures to achieve national reduction commitments for fine particulate matter; and
 - (d) ensure coherence with other relevant plans and programmes established under source-based air pollution control legislation.
- (3) The National Air Pollution Control Programme shall include the emission reduction measures laid down as obligatory in Part 2 of Schedule 3 and may include in those programmes the emission reduction measures laid down as optional in Part 2 of Schedule 3 or measures having equivalent mitigation effect.
- (4) The Minister, following consultation with such other Minister of the Government as he or she considers appropriate, shall update the national air pollution control programme at least every four years.
- (5) Without prejudice to Regulation 4, the emission reduction policies and measures contained in the National Air Pollution Control Programme shall be updated within 18 months of the submission of the latest national emission inventory or national emission projections if, according to the submitted data, the obligations set out in Regulation 4 are not complied with or if there is a risk of non-compliance.
- (6) The Minister shall consult the public, in accordance with Directive 2003/35/EC, and such competent authorities as he considers appropriate, which, by reason of their specific environmental responsibilities in the field of air pollution, quality and management at all levels, are likely to be concerned by the implementation of the national air pollution control programmes, on the draft national air pollution control programmes and any significant updates prior to the finalisation of that programme.
- (7) Where appropriate, transboundary consultations shall be conducted.

National emission inventories, projections and informative inventory reports

7. (1) (a) The Agency shall prepare and annually update national emission inventories for the pollutants set out in Table A of Schedule 1, in accordance with the requirements set out therein.

(b) The Agency may prepare and annually update national emission inventories for the pollutants set out in Table B of Schedule 1, in accordance with the requirements set out therein.

(2) The Agency shall prepare and update every four years spatially disaggregated national emission inventories and large point source inventories and, every two years, national emission projections for the pollutants set out in Table C of Schedule 1, in accordance with the requirements set out therein.

(3) The Agency shall draw up an informative inventory report which shall accompany the national emission inventories and projections referred to in paragraphs 1 and 2, in accordance with the requirements set out in Table D of Schedule 1.

(4) Where a flexibility under Regulation 5 is being applied, the informative inventory report of the year concerned shall include the information demonstrating that the use of that flexibility fulfils the relevant conditions set out in Regulation 5(1) and Part 4 of Schedule 4 or in Regulation 5(2), (3) or (4), where applicable.

(5) The Agency shall prepare and update the national emission inventories (including if appropriate adjusted national emission inventories), national emission projections, spatially disaggregated national emission inventories, large point source inventories and the accompanying informative inventory reports in accordance with Schedule 4.

Monitoring air pollution impacts

8. (1) (a) The Minister shall ensure the monitoring of negative impacts of air pollution upon ecosystems based on a network of monitoring sites that is representative of Ireland's freshwater, natural and semi-natural habitats and forest ecosystem types, taking a cost-effective and risk-based approach.

(b) In fulfilling the requirements of sub-paragraph (b) the Minister shall ensure coordination with other monitoring programmes established pursuant to Union legislation including Directive 2008/50/EC, Directive 2000/60/EC and Council Directive 92/43/EEC and, if appropriate, the LRTAP Convention and, where appropriate, make use of data collected under those programmes.

(c) The Minister may use the optional monitoring indicators listed in Schedule 5.

(2) The Agency may use the methodologies laid down in the LRTAP Convention and its Manuals for the International Cooperative Programmes when collecting and reporting the information listed in Schedule 5.

Reporting

9. (1) (a) The first National Air Pollution Control Programme drawn up in accordance with Regulation 6(1) shall be communicated to the European Commission by 1 April 2019.
- (b) Where a National Air Pollution Control Programme is updated in accordance with Regulation 6(5), the updated programme shall be communicated to the European Commission within two months.
- (2) (a) The Agency shall provide the national emission inventories and projections, spatially disaggregated national emission inventories, large point source inventories and the informative inventory reports referred to in Regulation 7(1), (2) and (3) and, where relevant, in Regulation 7(4), to the European Commission and to the European Environment Agency in accordance with the reporting dates set out in Schedule 1.
- (b) The reporting undertaken in accordance with subparagraph (2)(a) shall be consistent with the reporting to the Secretariat of the LRTAP Convention.
- (3) The Minister shall report the following information referred to in Regulation 8 to the European Commission and the European Environment Agency:
- (a) by 1 July 2018 and every four years thereafter, the location of the monitoring sites and the associated indicators used for monitoring air pollution impacts; and
- (b) by 1 July 2019 and every four years thereafter, the monitoring data referred to in Regulation 8.

Access to Information

10. (1) The Minister shall, in compliance with Directive 2003/4/EC, ensure the active and systematic dissemination to the public of the National Air Pollution Control Programmes and any updates, by publishing them on a publicly accessible website.

(2) The Agency shall, in compliance with Directive 2003/4/EC, ensure the active and systematic dissemination to the public of the national emission inventories (including, where applicable, the adjusted national emission inventories), the national emission projections, the informative inventory reports and additional reports and information provided to the European Commission in accordance with Regulation 9, by publishing them on a publicly accessible website.

Revocations

11. (1) Regulations 7, 8, 9 and 10 of The European Communities (National Emission Ceilings) Regulations 2004 (S.I. No. 10 of 2004) are revoked with effect from 1 July 2018.

(2) The European Communities (National Emission Ceilings) Regulations 2004 (S.I. No 10 of 2004) and the European Communities (National Emissions Ceiling) (Amendment) Regulations 2012 (S.I. No. 303 of 2012) are revoked with effect from 31 December 2019.

SCHEDULE 1**MONITORING AND REPORTING OF ATMOSPHERIC EMISSIONS**

Table A

Annual emission reporting requirements as referred to in the first subparagraph of Regulation 7(1)

Element	Pollutants	Time series	Reporting dates
Total national emissions by NFR ⁽¹⁾ source category ⁽²⁾	-SO ₂ , NO _x , NMVOC, NH ₃ , CO - heavy metals (Cd, Hg, Pb) ⁽³⁾ - POPs ⁽⁴⁾ (total PAHs ⁽⁵⁾ , benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno (1,2,3-cd)pyrene, dioxins/furans, PCBs ⁽⁶⁾ , HCB ⁽⁷⁾)	Annual from 1990 to reporting year minus (X-2)	15 February ⁽⁹⁾
Total national emissions by NFR source category ⁽²⁾	PM _{2.5} , PM ₁₀ ⁽⁸⁾ and, if available, BC	Annual, from 2000 to reporting year minus 2 (X-2)	15 February ⁽⁹⁾
<p>⁽¹⁾ nomenclature reporting (NFR) as provided by the LRTAP Convention. ⁽²⁾ natural emissions shall be reported in accordance with the methodologies laid down in the LRTAP Convention and the EMEP/EEA air pollutant emission inventory guidebook. They shall not be included in national totals and shall be reported separately. ⁽³⁾ Cd (cadmium), Hg (mercury), Pb (lead). ⁽⁴⁾ POPs (persistent organic pollutants). ⁽⁵⁾ PAHs (Polycyclic aromatic hydrocarbons). ⁽⁶⁾ PCBs (Polychlorinated biphenyls). ⁽⁷⁾ HCB (hexachlorobenzene). ⁽⁸⁾ 'PM₁₀' means particles with an aerodynamic diameter equal to or less than 10 micrometres (µm). ⁽⁹⁾ re-submissions due to errors shall be provided within four weeks at the latest and shall include a clear explanation of the changes made.</p>			

Table B

Annual emission reporting requirements as referred to in the second subparagraph of Regulation 7(1)

Element	Pollutants	Time Series	Reporting date
Total national emissions by NFR source category ⁽¹⁾	-heavy metals (As, Cr, Cu, Ni, Se and Zn and their compounds) ⁽²⁾ -TSP ⁽³⁾	Annual, from 1990 (2000 for TSP,) to reporting year minus 2 (X-2)	15 February
<p>⁽¹⁾ natural emissions shall be reported in accordance with the methodologies laid down in the LRTAP convention and the EMEP/EEA air pollutant emission inventory guidebook. They shall not be included in national totals and shall be reported separately. ⁽²⁾ As (arsenic), Cr (chromium), Cu (copper), Se (selenium), Zn (zinc). ⁽³⁾ TSP (total suspended particles).</p>			

Table C

Reporting requirements on emissions and projections as referred to in Regulation 7(2)

Element	Pollutants	Time series/target years	Reporting dates
National gridded data of emissions by source category (GNFR)	-SO ₂ , NO _x , NMVOC, CO, NH ₃ , PM ₁₀ , PM _{2.5} -heavy metals (Cd, Hg, Pb) -POPs (total PAHs, HCB, PCBs, dioxins/furans) -BC (if available)	Every four years for reporting year minus 2 (X-2) as from 2017	1 May ⁽¹⁾
Large Point Sources (LPS) by source category (GNFR)	-SO ₂ , NO _x , NMVOC, CO, NH ₃ , PM ₁₀ , PM _{2.5} -heavy metals (Cd, Hg, Pb) -POPs (total PAHs, HCB, PCBs, dioxins/furans) -BC (if available)	Every four years for reporting year minus 2 (X-2) as from 2017	1 May ⁽¹⁾
Projected emissions by aggregated NFR	-SO ₂ , NO _x , NH ₃ , NMVOC, PM _{2.5} and if available, BC	Biennial, covering projection years 2020, 2025, 2030 and, where available, 2040 and 2050 as from 2017	15 March
⁽¹⁾ re-submissions due to errors shall be provided within four weeks and include a clear explanation of the changes made.			

Table D

Annual reporting requirements on informative inventory report referred to in Regulation 7(3)

Element	Pollutants	Time series/target years	Reporting dates
Informative Inventory Report	-SO ₂ , NO _x , NMVOC, CO, NH ₃ , PM ₁₀ , PM _{2.5} -heavy metals (Cd, Hg, Pb) and BC -POPs (total PAHs, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, dioxins/furans, PCBs, HCB) -if available, heavy metals (As, Cr, Cu, Ni, Se and Zn and their compounds) and TSP	All years (as indicated in tables A-B-C)	15 March

SCHEDULE 2**ANNEX II NATIONAL EMISSION REDUCTION COMMITMENTS**

Table A

Emission reduction commitments for sulphur dioxide (SO₂), nitrogen oxides (NO_x) and non-methane volatile organic compounds (NMVOC). The reduction commitments have the year 2005 as base year, and for road transport, apply to emissions calculated on the basis of fuels sold (*)

	SO ₂ reduction compared with 2005		NO _x reduction compared with 2005		NMVOC reduction compared with 2005	
	For any year from 2020 to 2029	For any year from 2030	For any year from 2020 to 2029	For any year from 2030	For any year from 2020 to 2029	For any year from 2030
Ireland	65%	85%	49%	69%	25%	32%
(*) The option of calculating the national emission total on the basis of fuels used as a basis for compliance under the LRTAP Convention may be used in order to ensure coherence between international and Union law.						

Table B

Emission reduction commitments for ammonia (NH₃) and fine particulate matter (PM_{2.5}).

The reduction commitments have the year 2005 as base year, and for road transport, apply to emissions calculated on the basis of fuels sold (*).

Member State	NH ₃ reduction compared with 2005		PM _{2.5} compared with 2005	
	For any year from 2020 to 2029	For any year from 2030	For any year from 2020 to 2029	For any year from 2030
Ireland	1%	5%	18%	41%
(*) The option of calculating the national emission total on the basis of fuels used as a basis for compliance under the LRTAP Convention may be used in order to ensure coherence between international and Union law.				

SCHEDULE 3**CONTENT OF NATIONAL AIR POLLUTION CONTROL PROGRAMMES REFERRED TO IN REGULATIONS 6 AND 9***PART 1*

Minimum content of national air pollution control programmes

1. The initial national air pollution control programmes referred to in Regulations 6 and 9 shall at least cover the following content:

- (a) the national air quality and pollution policy framework in which context the programme has been developed, including:
 - (i) the policy priorities and their relationship to priorities set in other relevant policy areas, including climate change and, when appropriate, agriculture, industry and transport;
 - (ii) the responsibilities attributed to national, regional and local authorities;
 - (iii) the progress made by current policies and measures in reducing emissions and improving air quality, and the degree of compliance with national and Union obligations;
 - (iv) the projected further evolution assuming no change to already adopted policies and measures;
- (b) the policy options considered to comply with the emission reduction commitments for the period between 2020 and 2029 and for 2030 onwards and the intermediate emission levels determined for 2025 and to contribute to further improve the air quality, and their analysis, including the method of analysis; where available, the individual or combined impacts of the policies and measures on emission reductions, air quality and the environment and the associated uncertainties;
- (c) the measures and policies selected for adoption, including a timetable for their adoption, implementation and review and the competent authorities responsible;
- (d) where relevant, an explanation of the reasons why the indicative emission levels for 2025 cannot be met without measures entailing disproportionate costs;
- (e) where relevant, an account of the use of the flexibilities set out in Regulation 5 and any environmental consequences arising from such use;

- (f) an assessment of how selected policies and measures ensure coherence with plans and programmes set up in other relevant policy areas.
2. The national air pollution control programme updates referred to in Regulations 6 and 9 shall at least include:
- (a) an assessment of the progress made with implementation of the programme, the reduction of emissions and the reduction of concentrations;
 - (b) any significant changes in the policy context, assessments, the programme or the implementation timetable thereof.

PART 2

Emission reduction measures referred to in Regulation 6(3)

The National Air Pollution Control Programme shall take into account the relevant Ammonia Guidance Document, and shall make use of best available techniques in accordance with Directive 2010/75/EU.

A. Measures to control ammonia emissions

1. A national advisory code of good agricultural practice to control ammonia emissions shall be established, taking into account the UNECE Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions of 2014, covering at least the following items:
- (a) nitrogen management, taking into account the whole nitrogen cycle;
 - (b) livestock feeding strategies;
 - (c) low-emission manure spreading techniques;
 - (d) low-emission manure storage systems;
 - (e) low-emission animal housing systems;
 - (f) possibilities for limiting ammonia emissions from the use of mineral fertilisers.
2. A national nitrogen budget may be established to monitor the changes in overall losses of reactive nitrogen from agriculture, including ammonia, nitrous oxide, ammonium, nitrates and nitrites, based on the principles set out in the UNECE Guidance Document on Nitrogen Budgets.
3. The use of ammonium carbonate fertilisers shall be prohibited, ammonia emissions from inorganic fertilisers may be reduced by using the following approaches:
- (a) replacing urea-based fertilisers by ammonium nitrate-based fertilisers;

- (b) where urea-based fertilisers continue to be applied, using methods that have been shown to reduce ammonia emissions by at least 30% compared with the use of the reference method, as specified in the Ammonia Guidance Document;
- (c) promoting the replacement of inorganic fertilisers by organic fertilisers and, where inorganic fertilisers continue to be applied, spreading them in line with the foreseeable requirements of the receiving crop or grassland with respect to nitrogen and phosphorus, also taking into account the existing nutrient content in the soil and nutrients from other fertilisers.

4. Ammonia emissions from livestock manure may be reduced by using the following approaches:

- (a) reducing emissions from slurry and solid manure application to arable land and grassland, by using methods that reduce emissions by at least 30% compared with the reference method described in the Ammonia Guidance Document and on the following conditions:
 - (i) only spreading manures and slurries in line with the foreseeable nutrient requirement of the receiving crop or grassland with respect to nitrogen and phosphorous, also taking into account the existing nutrient content in the soil and the nutrients from other fertilisers;
 - (ii) not spreading manures and slurries when the receiving land is water saturated, flooded, frozen or snow covered;
 - (iii) applying slurries spread to grassland using a trailing hose, trailing shoe or through shallow or deep injection;
 - (iv) incorporating manures and slurries spread to arable land within the soil within four hours of spreading;
- (b) reducing emissions from manure storage outside of animal houses, by using the following approaches:
 - (i) for slurry stores constructed after 1 January 2022, using low emission storage systems or techniques which have been shown to reduce ammonia emissions by at least 60% compared with the reference method described in the Ammonia Guidance Document, and for existing slurry stores at least 40%;
 - (ii) covering stores for solid manure;
 - (iii) ensuring farms have sufficient manure storage capacity to spread manure only during periods that are suitable for crop growth:

- (c) reducing emissions from animal housing, by using systems which have been shown to reduce ammonia emissions by at least 20% compared with the reference method described in the Ammonia Guidance Document;
- (d) reducing emissions from manure, by using low protein feeding strategies which have been shown to reduce ammonia emissions by at least 10% compared with the reference method described in the Ammonia Guidance Document.

B. Emission reduction measures to control emissions of fine particulate matter and black carbon

1. Without prejudice to Annex II on cross-compliance of Regulation (EU) No 1306/2013 of the European Parliament and of the Council, open field burning of agricultural harvest residue and waste and forest residue may be banned.

The implementation of any ban effected in accordance with the first subparagraph shall be monitored and enforced. Any exemptions to such a ban shall be limited to preventive programmes to avoid uncontrolled wildfires, to control pest or to protect biodiversity.

2. A national advisory code of good agricultural practices for the proper management of harvest residue may be established, on the basis of the following approaches:

- (a) improvement of soil structure through incorporation of harvest residue;
- (b) improved techniques for incorporation of harvest residue;
- (c) alternative use of harvest residue;
- (d) improvement of the nutrient status and soil structure through incorporation of manure as required for optimal plant growth, thereby avoiding burning of manure (farmyard manure, deep-straw bedding).

C. Preventing impacts on small farms

In taking the measures outlined in Sections A and B, impacts on small and micro farms shall be fully taken into account.

Member States may, for instance, exempt small and micro farms may, for instance, be exempted from those measures where possible and appropriate in view of the applicable reduction commitments.

SCHEDULE 4

METHODOLOGIES FOR THE PREPARATION AND UPDATING OF NATIONAL EMISSION INVENTORIES AND PROJECTIONS, INFORMATIVE INVENTORY REPORTS AND ADJUSTED NATIONAL EMISSION INVENTORIES REFERRED TO IN REGULATIONS 5 AND 7

For the pollutants referred to in Schedule 1, the following shall be prepared: national emission inventories; adjusted national emission inventories where relevant: national emission projections; spatially disaggregated national emission inventories; large point source inventories; and informative inventory reports; using the methodologies adopted by Parties to the LRTAP Convention (EMEP Reporting Guidelines). In addition, supplementary information, in particular the activity data, needed for the assessment of the national emission inventories and projections shall be prepared in accordance with the same guidelines.

Reliance upon the EMEP Reporting Guidelines is without prejudice to the additional arrangements specified in this Schedule and to the requirements on reporting nomenclature, time series and reporting dates specified in Schedule 1.

PART 1

National annual emission inventories

1. National emission inventories shall be transparent, consistent, comparable, complete and accurate.
2. Emissions from identified key categories shall be calculated in accordance with the methodologies defined in the EMEP/EEA Guidebook and with the aim of using a Tier 2 or higher (detailed) methodology.

Other scientifically based and compatible methodologies for establishing national emission inventories may be used where those methodologies produce more accurate estimates than the default methodologies set out in the EMEP/EEA Guidebook.

3. For emissions from transport, the calculation and reporting of emissions shall be consistent with national energy balances reported to Eurostat.
4. Emissions from road transport shall be calculated and reported on the basis of the fuels sold in the State. Emissions from road transport based on fuels used or kilometres driven in the State may also be reported.
5. Annual national emissions shall be reported expressed in the applicable unit specified in the NFR reporting template of the LRTAP Convention.

PART 2

National emission projections

1. National emission projections shall be transparent, consistent, comparable, complete and accurate and reported information shall include at least the following:

- (a) clear identification of the adopted and planned policies and measures included in the projections;
- (b) where appropriate, the results of sensitivity analysis performed for the projections;
- (c) a description of methodologies, models, underlying assumptions and key input and output parameters.

2. Projections of emissions shall be estimated and aggregated to relevant source sectors. A 'with measures' (adopted measures) projection and, where relevant, a 'with additional measures' (planned measures) projection shall be provided for each pollutant in accordance with the guidance established in the EMEP/EEA Guidebook.

3. National emission projections shall be consistent with the national annual emission inventory for the year x-3 and with projections reported under Regulation (EU) No 525/2013 of the European Parliament and of the Council (1).

PART 3

Informative inventory report

The informative inventory reports shall be prepared in accordance with the EMEP Reporting Guidelines and reported using the template for inventory reports as specified therein. The inventory report shall include, as a minimum, the following information:

- (a) descriptions, references and sources of information of the specific methodologies, assumptions, emission factors and activity data, as well as the rationale for their selection;
- (b) a description of the national key categories of emission sources;
- (c) information on uncertainties, quality assurance and verification;
- (d) a description of the institutional arrangements for inventory preparation;
- (e) recalculations and planned improvements;
- (f) if relevant, information on the use of the flexibilities provided for under Regulation 5(1), (2), (3) and (4);

- (g) if relevant, information on the reasons for deviating from the reduction trajectory determined in accordance with Regulation 4(2), as well as the measures to converge back on the trajectory;
- (h) an executive summary.

PART 4

Adjustment of national emission inventories

1. Where an adjustment to the national emission inventory is proposed in accordance with Regulation 5(1), the proposal to the European Commission shall include, at least, the following supporting documentation:

- (a) evidence that the concerned national emission reduction commitment/s is/are exceeded;
- (b) evidence of the extent to which the adjustment to the emission inventory reduces the exceedance and contributes to compliance with the concerned national emission reduction commitment/s;
- (c) an estimation of whether and when the concerned national emission reduction commitment/s is/are expected to be attained based on national emission projections without the adjustment;
- (d) evidence that the adjustment is consistent with one or several of the following three circumstances. Reference can be made, as appropriate, to relevant previous adjustments:
 - (i) in the case of new emission source categories:
 - evidence that the new emission source category is acknowledged in scientific literature and/or the EMEP/ EEA Guidebook;
 - evidence that this source category was not included in the relevant historic national emission inventory at the time when the emission reduction commitment was set;
 - evidence that emissions from a new source category contribute to the State being unable to meet its emission reduction commitments, supported by a detailed description of the methodology, data and emission factors used to arrive at that conclusion;
 - (ii) in the case of significantly different emission factors used for determining emissions from specific source categories:

- a description of the original emission factors, including a detailed description of the scientific basis upon which the emission factor was derived;
 - evidence that the original emission factors were used for determining the emission reductions at the time when they were set;
 - a description of the updated emission factors, including detailed information on the scientific basis upon which the emission factor was derived;
 - a comparison of emission estimates made using the original and the updated emission factors, demonstrating that the change in emission factors contributes to the State being unable to meet its reduction commitments;
 - the rationale for deciding whether the changes in emission factors are significant;
- (iii) in the case of significantly different methodologies used for determining emissions from specific source categories:
- a description of the original methodology used, including detailed information on the scientific basis upon which the emission factor was derived;
 - evidence that the original methodology was used for determining the emission reductions at the time when they were set;
 - a description of the updated methodology used, including a detailed description of the scientific basis or reference upon which it has been derived;
 - a comparison of emission estimates made using the original and updated methodologies demonstrating that the change in methodology contributes to the State being unable to meet its reduction commitment;
 - the rationale for deciding whether the change in methodology is significant.

2. The same supporting information for adjustment procedures based on similar preconditions can be submitted.

3. Adjusted emissions shall be recalculated to ensure consistency, to the extent possible, of the time series for every year that the adjustment/s is/are applied.

SCHEDULE 5

OPTIONAL INDICATORS FOR MONITORING AIR POLLUTION IMPACTS REFERRED TO IN REGULATION 8

- (a) for freshwater ecosystems: establishing the extent of biological damage, including sensitive receptors (microphytes, macrophytes and diatoms), and loss of fish stock or invertebrates:

the key indicator acid neutralising capacity (ANC) and the supporting indicators acidity (pH), dissolved sulphate (SO_4), nitrate (NO_3) and dissolved organic carbon:

frequency of sampling: from yearly (in lake autumn turnover) to monthly (streams).

- (b) for terrestrial ecosystems: assessing the soil acidity, soil nutrients loss, nitrogen status and balance as well as biodiversity loss:

- (i) the key indicator soil acidity: exchangeable fractions of base cations (base saturation) and exchangeable aluminium in soils:

frequency of sampling: every 10 years;

supporting indicators: pH, sulphate, nitrate, base cations, aluminium concentrations in soil solution:

frequency of sampling: every year (where relevant);

- (ii) the key indicator soil nitrate leaching ($\text{NO}_{3,\text{leach}}$):

frequency of sampling: every year;

- (iii) the key indicator carbon-nitrogen ratio (C/N) and the supporting indicator of total nitrogen in soil (N_{tot}):

frequency of sampling: every 10 years;

- (iv) the key indicator nutrient balance in foliage (N/P,N/K, N/Mg):

frequency of sampling: every four years.

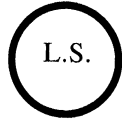
- (c) for terrestrial ecosystems: assessing ozone damage to vegetation growth and biodiversity:

- (i) the key indicator vegetation growth and foliar damage and the supporting indicator carbon flux (C_{flux}):

frequency of sampling: every year;

(ii) the key indicator exceedance of flux-based critical levels:

frequency of sampling: every year during the growing season.



GIVEN under my Official Seal,
29 June 2018.

DENIS NAUGHTEN,
Minister for Communications, Climate Action and
Environment.

EXPLANATORY MEMORANDUM

(This note is not part of the Instrument and does not purport to be a legal interpretation.)

These Regulations transpose Directive 2016/2284/EU of the European Parliament and the Council relating to national emission ceilings for certain atmospheric pollutants.

The Regulations provide that the EPA shall prepare an annual inventory report of emissions of 5 specified pollutants (sulphur dioxide (SO₂), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOC), ammonia (NH₃), and fine particulate matter (PM_{2.5})), and in certain years a report on projections of emissions.

The Regulations require the Minister to ensure that emissions of the specified pollutants are limited in accordance with the ceilings set out in Schedule 2. The Regulations also require the preparation of a national air pollution control programme, and the establishment of a network to monitor the negative impacts of air pollution.

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nó trí aon díoltóir leabhar.

DUBLIN
PUBLISHED BY THE STATIONERY OFFICE
To be purchased from
GOVERNMENT PUBLICATIONS,
52 ST. STEPHEN'S GREEN, DUBLIN 2.
(Tel: 01 - 6476834 or 1890 213434; Fax: 01 - 6476843)
or through any bookseller.

€6.60



Wt. (B33535). 285. 7/18. Essentra. Gr 30-15.