EUROPEAN UNION

THE EUROPEAN PARLIAMENT **THE COUNCIL**

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DIRECTIVE
OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
RELATING TO A REDUCTION IN THE SULPHUR CONTENT OF CERTAIN LIQUID FUELS
(CODIFICATION)

DIRECTIVE (EU) 2016/...
OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 11 May 2016

relating to a reduction in the sulphur content
of certain liquid fuels

(codification)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee[1],

After consulting the Committee of the Regions,

Acting in accordance with the ordinary legislative procedure[2],

[1] OJ C 12, 15.1.2015, p. 117.
[2] Position of the European Parliament of 9 March 2016 (not yet published in the Official Journal) and decision of the Council of 11 April 2016.

Whereas:

(1) Council Directive 1999/32/EC[1] has been substantially amended several times[2]. In the interests of clarity and rationality, that Directive should be codified.

(2) The environmental policy of the Union, as set out in the action programmes on the environment, and in particular in the Sixth Environment Action Programme adopted by Decision No 1600/2002/EC of the European Parliament and of the Council[3], and in the Seventh Environment Action Programme adopted by Decision No 1386/2013/EU of the European Parliament and of the Council,[4] has as one of its objectives to achieve levels of air quality that do not give rise to significant negative impacts on, and risks to, human health and the environment.

(3) Article 191(2) of the Treaty on the Functioning of the European Union (TFEU) provides that Union policy on the environment is to aim at a high level of protection, taking into account the diversity of situations in the various regions of the Union.

(4) This Directive lays down the maximum permitted sulphur content of heavy fuel oil, gas oil, marine gas oil and marine diesel oil used in the Union.

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1 Council Directive 1999/32/EC of 26 April 1999 relating to a reduction in the sulphur content of certain liquid fuels and amending Directive 93/12/EEC (OJ L 121, 11.5.1999, p. 13).

2 See Annex III, Part A.

3 Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme (OJ L 242, 10.9.2002, p. 1).

4 Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet' (OJ L 354, 28.12.2013, p. 171).

(5) Emissions from shipping due to the combustion of marine fuels with a high sulphur content contribute to air pollution in the form of sulphur dioxide and particulate matter, which harm human health and the environment and contribute to acid deposition. Without the measures set out in this Directive, emissions from shipping would soon have been higher than emissions from all land-based sources.

(6) Acidification and atmospheric sulphur dioxide damage sensitive ecosystems, reduce biodiversity and amenity value and detrimentally affect crop production and the growth of forests. Acid rain falling in cities may cause significant damage to buildings and the architectural heritage. Sulphur dioxide pollution may also have a significant effect upon human health, particularly among those sectors of the population suffering from respiratory diseases.

(7) Acidification is a transboundary phenomenon requiring Union as well as national or local solutions.

(8) Emissions of sulphur dioxide contribute to the formation of particulate matter in the atmosphere.

(9) Air pollution caused by ships at berth is a major concern for many harbour cities when it comes to their efforts to meet the Union's air quality limit values.

(10) Member States should encourage the use of shore-side electricity, as the electricity for present-day ships is usually provided by auxiliary engines.

(11) The Union and the individual Member States are Contracting Parties to the UN-ECE Convention of 13 November 1979 on Long-Range Transboundary Air Pollution. The second UN-ECE Protocol on transboundary pollution by sulphur dioxide stipulates that the Contracting Parties should reduce sulphur dioxide emissions in line with or beyond the 30 % reduction specified in the first Protocol, and the second UN-ECE Protocol is based on the premise that critical loads and levels will continue to be exceeded in some sensitive areas. Further measures to reduce sulphur dioxide emissions will still be required. The Contracting Parties should therefore make further significant reductions in emissions of sulphur dioxide.

(12) Sulphur, which is naturally present in small quantities in oil and coal, has for decades been recognised as the dominant source of sulphur dioxide emissions, which are one of the main causes of 'acid rain' and one of the major causes of the air pollution experienced in many urban and industrial areas.

(13) Studies have shown that the benefits from reducing sulphur emissions by reductions in the sulphur content of fuels will often be considerably greater than the estimated costs to industry in this Directive. The technology exists and is well established for reducing the sulphur level of liquid fuels.

(14) In accordance with Article 193 TFEU, this Directive should not prevent any Member State from maintaining or introducing more stringent protective measures in order to encourage early implementation with respect to the maximum sulphur content of marine fuels, for instance using emission abatement methods outside SO_x Emission Control Areas. Such measures are required to be compatible with the Treaties and are to be notified to the Commission.

(15) A Member State, before introducing new, more stringent protective measures, should notify the draft measures to the Commission in accordance with Directive (EU) 2015/1535 of the European Parliament and of the Council[1].

(16) The TFEU requires consideration to be given to the special characteristics of the outermost regions of the Union, namely the French overseas departments, the Azores, Madeira and the Canary Islands.

(17) With regard to the limit on the sulphur content of heavy fuel oil, it is appropriate to provide for derogations in Member States and regions where the environmental conditions so allow.

(18) With regard to the limit on the sulphur content of heavy fuel oil, it is also appropriate to provide for derogations for their use in combustion plants which comply with the emission limit values laid down in Directive 2001/80/EC of the European Parliament and of the Council[2], or in Annex V to Directive 2010/75/EU of the European Parliament and of the Council[3].

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1 Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services (OJ L 241, 17.9.2015, p. 1).

2 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).

3 Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010, p. 17).

(19) For refinery combustion plants excluded from the scope of point (d) of Article 3(2) or point (c) of Article 3(3) of this Directive the emissions of sulphur dioxide averaged over such plants should not exceed the limits set out in Directive 2001/80/EC, or Annex V to Directive 2010/75/EU, or any future revision of those Directives. In the application of this Directive, Member States should bear in mind that substitution by fuels other than those referred to in Article 2 should not produce an increase in emissions of acidifying pollutants.

(20) In 2008, the International Maritime Organisation (IMO) adopted a resolution to amend Annex VI to the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL), containing regulations for the prevention of air pollution from ships. The revised Annex VI to MARPOL entered into force on 1 July 2010.

(21) The revised Annex VI to MARPOL introduces, inter alia, stricter sulphur limits for marine fuel in SO_x Emission Control Areas (1,00 % as of 1 July 2010 and 0,10 % as of 1 January 2015) as well as in sea areas outside SO_x Emission Control Areas (3,50 % as of 1 January 2012 and, in principle, 0,50 % as of 1 January 2020). Most Member States are obliged, in accordance with their international commitments, to require ships to use fuel with a maximum sulphur content of 1,00 % in SO_x Emission Control Areas as of 1 July 2010. In order to ensure coherence with international law as well as to secure proper enforcement of new globally established sulphur standards in the Union, this Directive should be in line with the revised Annex VI to MARPOL. In order to ensure a minimum quality of fuel used by ships either for fuel-based or technology-based compliance, marine fuel the sulphur content of which exceeds the general standard of 3,50 % by mass should not be allowed for use in the Union, except for fuels supplied to ships using emission abatement methods operating in closed mode.

(22) Amendments to Annex VI to MARPOL regarding SO_x Emission Control Areas are possible under IMO procedures. In the event that further changes, including exemptions, are introduced with regard to the application of limits for SO_x Emission Control Areas in Annex VI to MARPOL, the Commission should consider any such changes and, where appropriate, without delay make the necessary proposal in accordance with the TFEU to fully align this Directive with the IMO rules regarding SO_x Emission Control Areas.

(23) The introduction of any new emission control areas should be subject to the IMO process under Annex VI to MARPOL and should be underpinned by a well-founded case based on environmental and economic grounds and supported by scientific data.

(24) In accordance with Regulation 18 of the revised Annex VI to MARPOL, Member States should endeavour to ensure the availability of marine fuels which comply with this Directive.

(25) In view of the global dimension of environmental politics and shipping emissions, ambitious emission standards should be set at a global level.

(26) The Union will continue to advocate more effective protection of areas sensitive to SO_x emissions and a reduction in the normal limit value for bunker fuel oil at the IMO.

(27) Passenger ships operate mostly in ports or close to coastal areas and their impacts on human health and the environment are significant. In order to improve air quality around ports and coasts, those ships are required to use marine fuel with a maximum sulphur content of 1,50 % until stricter sulphur standards apply to all ships in territorial seas, exclusive economic zones and pollution control zones of Member States.

(28) In order to facilitate the transition to new engine technologies with the potential for significant further emission reductions in the maritime sector, the Commission should further explore opportunities to enable and encourage the uptake of gas-powered engines in ships.

(29) Proper enforcement of the obligations with regard to the sulphur content of marine fuels is necessary in order to achieve the aims of this Directive. The experience from the implementation of Directive 1999/32/EC has shown that there is a need for a stronger monitoring and enforcement regime in order to ensure the proper implementation of this Directive. To that end, it is necessary that Member States ensure sufficiently frequent and accurate sampling of marine fuel placed on the market or used on board ship as well as regular verification of ships' logbooks and bunker delivery notes. It is also necessary for Member States to establish a system of effective, proportionate and dissuasive penalties for non-compliance with the provisions of this Directive. In order to ensure more transparent information, it is also appropriate to provide that the register of local suppliers of marine fuel be made publicly available.

(30) Complying with the low sulphur limits for marine fuels, particularly in SO_x Emission Control Areas, can result in a significant increase in the price of such fuels, at least in the short term, and can have a negative effect on the competitiveness of short sea shipping in comparison with other transport modes, as well as on the competitiveness of the industries in the countries bordering SO_x Emission Control Areas. Suitable solutions are necessary in order to reduce compliance costs for the affected industries, such as allowing for alternative, more cost-effective methods of compliance than fuel-based compliance and providing support, where necessary. The Commission should, based inter alia on reports from Member States, closely monitor the impacts of the shipping sector's compliance with the new fuel quality standards, particularly with regard to possible modal shift from sea to land-based transport and should, if appropriate, propose proper measures to counteract such a trend.

(31) Limiting modal shift from sea to land-based transport is important given that an increasing share of goods being transported by road would in many cases run counter to the Union's climate change objectives and increase congestion.

(32) The costs of the new requirements to reduce sulphur dioxide emissions could result in modal shift from sea to land-based transport and could have negative effects on the competitiveness of the industries. The Commission should make full use of instruments such as Marco Polo and the trans-European transport network to provide targeted assistance so as to minimise the risk of modal shift. Member States may consider it necessary to provide support to operators affected by this Directive in accordance with the applicable State aid rules.

(33) In accordance with existing guidelines on State aid for environmental protection, and without prejudice to future changes thereto, Member States may provide State aid in favour of operators affected by this Directive, including aid for retrofitting operations of existing vessels, if such aid measures are deemed to be compatible with the internal market in accordance with Articles 107 and 108 TFEU, in particular in light of the applicable guidelines on State aid for environmental protection. In this context, the Commission may take into account that the use of some emission abatement methods go beyond the requirements of this Directive by reducing not only the sulphur dioxide emissions but also other emissions.

(34) Access to emission abatement methods should be facilitated. Those methods can provide emission reductions at least equivalent to, or even greater than, those achievable using low sulphur fuel, provided that they have no significant negative impacts on the environment, such as marine ecosystems, and that they are developed subject to appropriate approval and control mechanisms. The already known alternative methods, such as the use of on-board exhaust gas cleaning systems, the mixture of fuel and liquefied natural gas or the use of biofuels should be recognised in the Union. It is important to promote the testing and development of new emission abatement methods in order, among other reasons, to limit modal shift from sea to land-based transport.

(35) Emission abatement methods hold the potential for significant emission reductions. The Commission should therefore promote the testing and development of such technologies, inter alia by considering the establishment of a co-financed joint programme with industry, based on principles from similar programmes, such as the Clean Sky Programme.

(36) The Commission, in cooperation with Member States and stakeholders, should further develop measures identified in the Commission's Staff Working Paper of 16 September 2011 entitled 'Pollutant emission reduction from maritime transport and the sustainable waterborne transport toolbox'.

(37) In the case of a disruption in the supply of crude oil, petroleum products or other hydrocarbons, the Commission may authorise the application of a higher limit within a Member State's territory.

(38) Member States should establish the appropriate mechanisms for monitoring compliance with the provisions of this Directive. Reports on the sulphur content of liquid fuels should be submitted to the Commission.

(39) This Directive should contain detailed indications as regards the content and the format of the report to ensure harmonised reporting.

(40) The power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission in respect of the amendment of the equivalent emission values for, and the criteria for the use of, emission abatement methods laid down in Annexes I and II to this Directive, in order to adapt them to scientific and technical progress in such a way as to ensure strict consistency with the relevant instruments of the IMO, and in respect of the amendment of points (a) to (e) and (p) of Article 2, point (b)(i) of Article 13(2) and Article 13(3) of this Directive in order to adapt those provisions to scientific and technical progress. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level. The Commission, when preparing and drawing up delegated acts, should ensure a simultaneous, timely and appropriate transmission of relevant documents to the European Parliament and to the Council.

(41) In order to ensure uniform conditions for the implementation of this Directive, implementing powers should be conferred on the Commission. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council[1].

[1] Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).

(42) It is appropriate for the Committee on Safe Seas and the Prevention of Pollution from Ships (COSS) established by Regulation (EC) No 2099/2002 of the European Parliament and of the Council[1] to assist the Commission in the approval of the emission abatement methods which are not covered by Council Directive 96/98/EC[2].

(43) Effective, proportionate and dissuasive penalties are important for the implementation of this Directive. Member States should include in those penalties fines calculated in such a way as to ensure that the fines at least deprive those responsible of the economic benefits derived from their infringement and that those fines gradually increase for repeated infringements. Member States should notify the provisions on penalties to the Commission.

(44) This Directive should be without prejudice to the obligations of the Member States relating to the time-limits for the transposition into national law of the Directives set out in Annex III, Part B,

HAVE ADOPTED THIS DIRECTIVE:

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1 Regulation (EC) No 2099/2002 of the European Parliament and of the Council of 5 November 2002 establishing a Committee on Safe Seas and the Prevention of Pollution from Ships (COSS) and amending the Regulations on maritime safety and the prevention of pollution from ships (OJ L 324, 29.11.2002, p. 1).

2 Council Directive 96/98/EC of 20 December 1996 on marine equipment (OJ L 46, 17.2.1997, p. 25).

Article 1

Purpose and scope

1. The purpose of this Directive is to reduce the emissions of sulphur dioxide resulting from the combustion of certain types of liquid fuels and thereby to reduce the harmful effects of such emissions on man and the environment.

2. Reductions in emissions of sulphur dioxide resulting from the combustion of certain petroleum-derived liquid fuels shall be achieved by imposing limits on the sulphur content of such fuels as a condition for their use within Member States' territory, territorial seas and exclusive economic zones or pollution control zones.

   The limitations on the sulphur content of certain petroleum-derived liquid fuels as laid down in this Directive shall not, however, apply to:

   (a) fuels intended for the purposes of research and testing;

   (b) fuels intended for processing prior to final combustion;

   (c) fuels to be processed in the refining industry;

   (d) fuels used and placed on the market in the outermost regions of the Union, provided that the relevant Member States ensure that, in those regions:

      (i) air quality standards are respected;

      (ii) heavy fuel oils are not used if their sulphur content exceeds 3 % by mass;

(e) fuels used by warships and other vessels on military service. However, each Member State shall endeavour to ensure, by the adoption of appropriate measures not impairing the operations or operational capability of such ships, that the ships act in a manner consistent, so far as is reasonable and practical, with this Directive;

(f) any use of fuels in a vessel necessary for the specific purpose of securing the safety of a ship or saving life at sea;

(g) any use of fuels in a ship necessitated by damage sustained by it or its equipment, provided that all reasonable measures are taken after the occurrence of the damage to prevent or minimise excess emissions and that measures are taken as soon as possible to repair the damage. This shall not apply if the owner or master acted either with intent to cause damage, or recklessly;

(h) without prejudice to Article 5, fuels used on board vessels employing emission abatement methods in accordance with Articles 8 and 10.

Article 2

Definitions

For the purpose of this Directive the following definitions shall apply:

(a) ‘heavy fuel oil’ means:

(i) any petroleum-derived liquid fuel, excluding marine fuel, falling within CN codes 2710 19 51 to 2710 19 68, 2710 20 31, 2710 20 35 or 2710 20 39, or

(ii) any petroleum-derived liquid fuel, other than gas oil as defined in point (b) and other than marine fuels as defined in points (c), (d) and (e), which, by reason of its distillation limits, falls within the category of heavy oils intended for use as fuel and of which less than 65 % by volume (including losses) distils at 250 °C by the ASTM D86 method. If the distillation cannot be determined by the ASTM D86 method, the petroleum product is likewise categorised as a heavy fuel oil;

(b) 'gas oil' means:

(i) any petroleum-derived liquid fuel, excluding marine fuel, falling within CN codes 2710 19 25, 2710 19 29, 2710 19 47, 2710 19 48, 2710 20 17 or 2710 20 19, or

(ii) any petroleum-derived liquid fuel, excluding marine fuel, of which less than 65 % by volume (including losses) distils at 250 °C and of which at least 85 % by volume (including losses) distils at 350 °C by the ASTM D86 method.

Diesel fuels as defined in point 2 of Article 2 of Directive 98/70/EC of the European Parliament and of the Council[1] are excluded from this definition. Fuels used in non-road mobile machinery and agricultural tractors are also excluded from this definition;

[1] Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC (OJ L 350, 28.12.1998, p. 58).

(c) ‘marine fuel’ means any petroleum-derived liquid fuel intended for use or in use on board a vessel, including those fuels defined in ISO 8217. It includes any petroleum-derived liquid fuel in use on board inland waterway vessels or recreational craft, as defined respectively in Article 2 of Directive 97/68/EC of the European Parliament and of the Council[1] and Article 1(3) of Directive 94/25/EC of the European Parliament and of the Council[2], when such vessels are at sea;

(d) ‘marine diesel oil’ means any marine fuel as defined for DMB grade in Table I of ISO 8217 with the exception of the reference to the sulphur content;

(e) ‘marine gas oil’ means any marine fuel as defined for DMX, DMA and DMZ grades in Table I of ISO 8217 with the exception of the reference to the sulphur content;

(f) ‘MARPOL’ means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto;

(g) ‘Annex VI to MARPOL’ means the annex, entitled ‘Regulations for the Prevention of Air Pollution from Ships’, that the Protocol of 1997 added to MARPOL;

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[1] Directive 97/68/EC of the European Parliament and of the Council of 16 December 1997 on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery (OJ L 59, 27.2.1998, p. 1).

[2] Directive 94/25/EC of the European Parliament and of the Council of 16 June 1994 on the approximation of the laws, regulations and administrative provisions of the Member States relating to recreational craft (OJ L 164, 30.6.1994, p. 15).

(h) ‘SO_x Emission Control Areas’ means sea areas defined as such by the International Maritime Organisation (IMO) under Annex VI to MARPOL;

(i) ‘passenger ships’ means ships that carry more than 12 passengers, where a passenger is every person other than:

(i) the master and the members of the crew or other person employed or engaged in any capacity on board a ship on the business of that ship, and

(ii) a child under one year of age;

(j) ‘regular services’ means a series of passenger ship crossings operated so as to serve traffic between the same two or more ports, or a series of voyages from and to the same port without intermediate calls, either:

(i) according to a published timetable, or

(ii) with crossings so regular or frequent that they constitute a recognisable schedule;

(k) ‘warship’ means a ship belonging to the armed forces of a State, bearing the external marks distinguishing such ships of its nationality, under the command of an officer duly commissioned by the government of the State and whose name appears in the appropriate service list or its equivalent, and manned by a crew which is under regular armed forces discipline;

(l) ‘ships at berth’ means ships which are securely moored or anchored in a Union port while they are loading, unloading or hotelling, including the time spent when not engaged in cargo operations;

(m) ‘placing on the market’ means supplying or making available to third persons, against payment or free of charge, anywhere within Member States’ jurisdictions, marine fuels for on-board combustion. It excludes supplying or making available marine fuels for export in ships’ cargo tanks;

(n) ‘outermost regions’ means the French overseas departments, the Azores, Madeira and the Canary Islands, as set out in Article 349 TFEU ;

(o) ‘emission abatement method’ means any fitting, material, appliance or apparatus to be fitted in a ship or other procedure, alternative fuel, or compliance method, used as an alternative to low sulphur marine fuel meeting the requirements set out in this Directive, that is verifiable, quantifiable and enforceable;

(p) ‘ASTM method’ means the methods laid down by the American Society for Testing and Materials in the 1976 edition of standard definitions and specifications for petroleum and lubricating products;

(q) ‘combustion plant’ means any technical apparatus in which fuels are oxidised in order to use the heat generated.

Article 3

Maximum sulphur content of heavy fuel oil

1. Member States shall ensure that heavy fuel oils are not used within their territory if their sulphur content exceeds 1,00 % by mass.

2. Until 31 December 2015, subject to appropriate monitoring of emissions by competent authorities, paragraph 1 shall not apply to heavy fuel oils used:

   (a) in combustion plants which fall within the scope of Directive 2001/80/EC, which are subject to Article 4(1) or (2) or point (a) of Article 4(3) of that Directive and which comply with the emission limits for sulphur dioxide for such plants as set out in that Directive;

   (b) in combustion plants which fall within the scope of Directive 2001/80/EC, which are subject to point (b) of Article 4(3) and Article 4(6) of that Directive and the monthly average sulphur dioxide emissions of which do not exceed 1 700 mg/Nm^3 at an oxygen content in the flue gas of 3 % by volume on a dry basis;

   (c) in combustion plants which do not fall under points (a) or (b), and the monthly average sulphur dioxide emissions of which do not exceed 1 700 mg/Nm^3 at an oxygen content in the flue gas of 3 % by volume on a dry basis;

(d) for combustion in refineries, where the monthly average of emissions of sulphur dioxide averaged over all combustion plants in the refinery, irrespective of the type of fuel or fuel combination used, but excluding plants which fall under points (a) and (b), gas turbines and gas engines, does not exceed 1 700 mg/Nm^3 at an oxygen content in the flue gas of 3 % by volume on a dry basis.

3. As from 1 January 2016, subject to appropriate monitoring of emissions by competent authorities, paragraph 1 shall not apply to heavy fuel oils used:

(a) in combustion plants which fall within the scope of Chapter III of Directive 2010/75/EU, and which comply with the emission limits for sulphur dioxide for such plants as set out in Annex V to that Directive or, where those emission limit values are not applicable in accordance with that Directive, for which the monthly average sulphur dioxide emissions does not exceed 1 700 mg/Nm^3 at an oxygen content in the flue gas of 3 % by volume on a dry basis;

(b) in combustion plants which do not fall under point (a), and the monthly average sulphur dioxide emissions of which does not exceed 1 700 mg/Nm^3 at an oxygen content in the flue gas of 3 % by volume on a dry basis;

(c) for combustion in refineries, where the monthly average of emissions of sulphur dioxide averaged over all combustion plants in the refinery, irrespective of the type of fuel or fuel combination used, but excluding plants falling under point (a), gas turbines and gas engines, does not exceed 1 700 mg/Nm^3 at an oxygen content in the flue gas of 3 % by volume on a dry basis.

Member States shall take the necessary measures to ensure that no combustion plant using heavy fuel oil with a sulphur concentration greater than that referred to in paragraph 1 is operated without a permit issued by a competent authority, which specifies the emission limits.

Article 4

Maximum sulphur content in gas oil

Member States shall ensure that gas oils are not used within their territory if their sulphur content exceeds 0,10 % by mass.

Article 5

Maximum sulphur content in marine fuel

Member States shall ensure that marine fuels are not used within their territory if their sulphur content exceeds 3,50 % by mass, except for fuels supplied to ships using emission abatement methods subject to Article 8 operating in closed mode.

Article 6

Maximum sulphur content of marine fuels used in territorial seas, exclusive economic zones and pollution control zones of Member States, including SO_x Emission Control Areas, and by passenger ships operating on regular services to or from Union ports

1. Member States shall take all necessary measures to ensure that marine fuels are not used in the areas of their territorial seas, exclusive economic zones and pollution control zones if the sulphur content of those fuels by mass exceeds:

   (a) 3,50 % as from 18 June 2014;

   (b) 0,50 % as from 1 January 2020.

   This paragraph shall apply to all vessels of all flags, including vessels whose journey began outside of the Union, without prejudice to paragraphs 2 and 5 of this Article and Article 7.

2. Member States shall take all necessary measures to ensure that marine fuels are not used in the areas of their territorial seas, exclusive economic zones and pollution control zones falling within SO_x Emission Control Areas if the sulphur content of those fuels by mass exceeds:

   (a) 1,00 % until 31 December 2014;

   (b) 0,10 % as from 1 January 2015.

This paragraph shall apply to all vessels of all flags, including vessels whose journey began outside the Union.

The Commission shall have due regard to any future changes to the requirements pursuant to Annex VI to MARPOL applicable within SO_x Emission Control Areas, and, where appropriate, without undue delay make any relevant proposals with a view to amending this Directive accordingly.

3. The application date for paragraph 2 for any new sea areas, including ports, designated by the IMO as SO_x Emission Control Areas in accordance with Regulation 14(3)(b) of Annex VI to MARPOL shall be 12 months after the date of entry into force of the designation.

4. Member States shall be responsible for the enforcement of paragraph 2 at least in respect of:

– vessels flying their flag; and

– in the case of Member States bordering SO_x Emission Control Areas, vessels of all flags while in their ports.

Member States may also take additional enforcement action in respect of other vessels in accordance with international maritime law.

5. Member States shall take all necessary measures to ensure that marine fuels are not used in their territorial seas, exclusive economic zones and pollution control zones falling outside SO_x Emission Control Areas by passenger ships operating on regular services to or from any Union port if the sulphur content of those fuels exceeds 1,50 % by mass until 1 January 2020.

Member States shall be responsible for the enforcement of this requirement at least in respect of vessels flying their flag and vessels of all flags while in their ports.

6. Member States shall require the correct completion of ships' logbooks, including fuel-changeover operations.

7. Member States shall endeavour to ensure the availability of marine fuels which comply with this Directive and inform the Commission of the availability of such marine fuels in its ports and terminals.

8. If a ship is found by a Member State not to be in compliance with the standards for marine fuels which comply with this Directive, the competent authority of the Member State is entitled to require the ship to:

(a) present a record of the actions taken to attempt to achieve compliance; and

(b) provide evidence that it attempted to purchase marine fuel which complies with this Directive in accordance with its voyage plan and, if it was not made available where planned, that attempts were made to locate alternative sources for such marine fuel and that, despite best efforts to obtain marine fuel which complies with this Directive, no such marine fuel was made available for purchase.

The ship shall not be required to deviate from its intended voyage or to delay unduly the voyage in order to achieve compliance.

If a ship provides the information referred to in the first subparagraph, the Member State concerned shall take into account all relevant circumstances and the evidence presented to determine the appropriate action to take, including not taking control measures.

A ship shall notify its flag State and the competent authority of the relevant port of destination when it cannot purchase marine fuel which complies with this Directive.

A port State shall notify the Commission when a ship has presented evidence of the non-availability of marine fuels which comply with this Directive.

9. Member States shall, in accordance with Regulation 18 of Annex VI to MARPOL:

(a) maintain a publicly available register of local suppliers of marine fuel;

(b) ensure that the sulphur content of all marine fuels sold in their territory is documented by the supplier on a bunker delivery note, accompanied by a sealed sample signed by the representative of the receiving ship;

(c) take action against marine fuel suppliers that have been found to deliver fuel that does not comply with the specification stated on the bunker delivery note;

(d) ensure that remedial action is taken to bring any non-compliant marine fuel discovered into compliance.

10. Member States shall ensure that marine diesel oils are not placed on the market in their territory if the sulphur content of those marine diesel oils exceeds 1,50 % by mass.

Article 7

Maximum sulphur content of marine fuels used by ships at berth in Union ports

1. Member States shall take all necessary measures to ensure that ships at berth in Union ports do not use marine fuels with a sulphur content exceeding 0,10 % by mass, allowing sufficient time for the crew to complete any necessary fuel-changeover operation as soon as possible after arrival at berth and as late as possible before departure.

   Member States shall require the time of any fuel-changeover operation to be recorded in ships' logbooks.

2. Paragraph 1 shall not apply:

   (a) whenever, according to published timetables, ships are due to be at berth for less than two hours;

   (b) to ships which switch off all engines and use shore-side electricity while at berth in ports.

3. Member States shall ensure that marine gas oils are not placed on the market in their territory if the sulphur content of those marine gas oils exceeds 0,10 % by mass.

Article 8

Emission abatement methods

1. Member States shall allow the use of emission abatement methods by ships of all flags in their ports, territorial seas, exclusive economic zones and pollution control zones, as an alternative to using marine fuels that meet the requirements of Articles 6 and 7, subject to paragraphs 2 and 4 of this Article.

2. Ships using the emission abatement methods referred to in paragraph 1 shall continuously achieve reductions of sulphur dioxide emissions that are at least equivalent to the reductions that would be achieved by using marine fuels that meet the requirements of Articles 6 and 7. Equivalent emission values shall be determined in accordance with Annex I.

3. Member States shall, as an alternative solution for reducing emissions, encourage the use of onshore power supply systems by docked vessels.

4. The emission abatement methods referred to in paragraph 1 shall comply with the criteria specified in the instruments referred to in Annex II.

5. Where justified in the light of scientific and technical progress regarding alternative emission abatement methods and in such a way as to ensure strict consistency with the relevant instruments and standards adopted by the IMO, the Commission shall:

   (a) be empowered to adopt delegated acts, in accordance with Article 16, amending Annexes I and II;

(b) adopt implementing acts laying down the detailed requirements for monitoring of emissions, where appropriate. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Article 9

Approval of emission abatement methods

for use on board ships flying the flag of a Member State

1. Emission abatement methods falling within the scope of Directive 96/98/EC shall be approved in accordance with that Directive.

2. Emission abatement methods not covered by paragraph 1 of this Article shall be approved in accordance with the procedure referred to in Article 3(2) of Regulation (EC) No 2099/2002, taking into account:

(a) guidelines developed by the IMO;

(b) the results of any trials conducted under Article 10;

(c) effects on the environment, including achievable emission reductions, and impacts on ecosystems in enclosed ports, harbours and estuaries; and

(d) the feasibility of monitoring and verification.

Article 10

Trials of new emission abatement methods

Member States may, in cooperation with other Member States, as appropriate, approve trials of ship emission abatement methods on vessels flying their flag, or in sea areas within their jurisdiction. During those trials, the use of marine fuels meeting the requirements of Articles 6 and 7 shall not be mandatory, provided that all of the following conditions are fulfilled:

(a) the Commission and any port State concerned are notified in writing at least six months before trials begin;

(b) permits for trials do not exceed 18 months in duration;

(c) all ships involved install tamper-proof equipment for the continuous monitoring of funnel gas emissions and use it throughout the trial period;

(d) all ships involved achieve emission reductions which are at least equivalent to those which would be achieved through the sulphur limits for fuels specified in this Directive;

(e) there are proper waste management systems in place for any waste generated by the emission abatement methods throughout the trial period;

(f) there is an assessment of impacts on the marine environment, particularly ecosystems in enclosed ports, harbours and estuaries throughout the trial period; and

(g) full results are provided to the Commission and are made publicly available within six months of the end of the trials.

Article 11

Financial measures

Member States may adopt financial measures in favour of operators affected by this Directive where such financial measures are in accordance with State aid rules applicable and to be adopted in this area.

Article 12

Change in the supply of fuels

If, as a result of a sudden change in the supply of crude oil, petroleum products or other hydrocarbons, it becomes difficult for a Member State to apply the limits on the maximum sulphur content referred to in Articles 3 and 4, that Member State shall inform the Commission thereof. The Commission may authorise a higher limit to be applicable within the territory of that Member State for a period not exceeding six months. It shall notify the Council and the Member States of its decision. Any Member State may refer that decision to the Council within one month. The Council, acting by a qualified majority, may adopt a different decision within two months.

Article 13

Sampling and analysis

1. Member States shall take all necessary measures to check by sampling that the sulphur content of fuels used complies with Articles 3 to 7. The sampling shall commence on the date on which the relevant limit for maximum sulphur content in the fuel comes into force. It shall be carried out periodically with sufficient frequency and quantities such that the samples are representative of the fuel examined, and in the case of marine fuel, of the fuel being used by vessels while in relevant sea areas and ports. The samples shall be analysed without undue delay.

2. The following means of sampling, analysis and inspection of marine fuel shall be used:

   (a) inspection of ships' logbooks and bunker delivery notes; and

   (b) as appropriate, the following means of sampling and analysis:

      (i) sampling of the marine fuel for on-board combustion while being delivered to ships, in accordance with the Guidelines for the sampling of fuel oil for determination of compliance with the revised Annex VI to MARPOL, adopted on 17 July 2009 by Resolution 182(59) of the Marine Environment Protection Committee (MEPC) of the IMO, and analysis of its sulphur content, or

      (ii) sampling and analysis of the sulphur content of marine fuel for on-board combustion contained in tanks, where technically and economically feasible, and in sealed bunker samples on board ships.

3. The reference method adopted for determining the sulphur content shall be ISO method 8754 (2003) or EN ISO 14596:2007.

In order to determine whether marine fuel delivered to, and used on board, ships is compliant with the sulphur limits required by Articles 4 to 7, the fuel verification procedure set out in Appendix VI to Annex VI to MARPOL shall be used.

4. The Commission shall be empowered to adopt implementing acts concerning:

(a) the frequency of sampling;

(b) the sampling methods;

(c) the definition of a sample representative of the fuel examined.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Article 14

Reporting and review

1. Each year by 30 June, Member States shall, on the basis of the results of the sampling, analysis and inspections carried out in accordance with Article 13, submit a report to the Commission on the compliance with the sulphur standards set out in this Directive for the preceding year.

On the basis of the reports received in accordance with the first subparagraph of this paragraph and the notifications regarding the non-availability of marine fuel which complies with this Directive submitted by Member States in accordance with the fifth subparagraph of Article 6(8), the Commission shall, within 12 months of the date referred to in the first subparagraph of this paragraph, draw up and publish a report on the implementation of this Directive. The Commission shall evaluate the need for further strengthening of the relevant provisions of this Directive and make any appropriate legislative proposals to that effect.

2. By 31 December 2013, the Commission shall submit a report to the European Parliament and to the Council which shall be accompanied, if appropriate, by legislative proposals. The Commission shall consider in its report the potential for reducing air pollution taking into account, inter alia: annual reports submitted in accordance with paragraphs 1 and 3; observed air quality and acidification; fuel costs; potential economic impact and observed modal shift; and progress in reducing emissions from ships.

3. The Commission may adopt implementing acts concerning the information to be included in the report and the format of the report referred to in paragraph 1. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Article 15

Adaptation to scientific and technical progress

The Commission shall be empowered to adopt delegated acts in accordance with Article 16 concerning the adaptations of points (a) to (e) and (p) of Article 2, point (b)(i) of Article 13(2) and Article 13(3) to scientific and technical progress. Such adaptations shall not result in any direct changes to the scope of this Directive or to sulphur limits for fuels specified in this Directive.

Article 16

Exercise of the delegation

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2. The power to adopt delegated acts referred to in Article 8(5) and Article 15 shall be conferred on the Commission for a period of five years from 17 December 2012. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.

3. The delegation of power referred to in Article 8(5) and Article 15 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the powers specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

5. A delegated act adopted pursuant to Article 8(5) and Article 15 shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of three months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by three months at the initiative of the European Parliament or of the Council.

Article 17

Committee procedure

1. The Commission shall be assisted by a committee. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.

2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

Where the committee delivers no opinion, the Commission shall not adopt the draft implementing act and the third subparagraph of Article 5(4) of Regulation (EU) No 182/2011 shall apply.

Article 18

Penalties

Member States shall determine the penalties applicable to breaches of the national provisions adopted pursuant to this Directive.

The penalties determined shall be effective, proportionate and dissuasive and may include fines calculated in such a way as to ensure that the fines at least deprive those responsible of the economic benefits derived from the infringement of the national provisions as referred to in the first paragraph and that those fines gradually increase for repeated infringements.

Article 19

Repeal

Directive 1999/32/EC, as amended by the acts listed in Annex III, Part A, is repealed, without prejudice to the obligations of the Member States relating to the time-limits for the transposition into national law of the Directives set out in Annex III, Part B.

References to the repealed Directive shall be construed as references to this Directive and shall be read in accordance with the correlation table in Annex IV.

Article 20

Entry into force

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Article 21

Addressees

This Directive is addressed to the Member States.

Done at Strasbourg,

For the European Parliament	*For the Council*
The President	*The President*

ANNEX I

EQUIVALENT EMISSION VALUES
FOR EMISSION ABATEMENT METHODS
AS REFERRED TO IN ARTICLE 8(2)

Marine fuel sulphur limits referred to in Articles 6 and 7 of this Directive and Regulations 14.1 and 14.4 of Annex VI to MARPOL and corresponding emission values referred to in Article 8(2):

Marine fuel Sulphur Content (% m/m)	Ratio Emission SO_2 (ppm)/CO_2 (% v/v)
3,50	151,7
1,50	65,0
1,00	43,3
0,50	21,7
0,10	4,3

Note:

– The use of the Ratio Emissions limits is only applicable when using petroleum-based distillate or residual fuel oils.

– In justified cases where the CO_2 concentration is reduced by the exhaust gas cleaning (EGC) unit, the CO_2 concentration may be measured at the EGC unit inlet, provided that the correctness of such a methodology can be clearly demonstrated.

ANNEX II

CRITERIA FOR THE USE OF EMISSION ABATEMENT METHODS
AS REFERRED TO IN ARTICLE 8(4)

The emission abatement methods referred to in Article 8 shall comply at least with the criteria specified in the following instruments, as applicable:

Emission abatement method	Criteria for use
Mixture of marine fuel and boil-off gas	Commission Decision 2010/769/EU[1].
Exhaust gas cleaning systems	Resolution MEPC.184(59) adopted on 17 July 2009 'Washwater resulting from exhaust gas cleaning systems which make use of chemicals, additives, preparations and relevant chemicals created *in situ*', referred to in point 10.1.6.1 of Resolution MEPC.184(59), shall not be discharged into the sea, including enclosed ports, harbours and estuaries, unless it is demonstrated by the ship operator that such washwater discharge has no significant negative impacts on and does not pose risks to human health and the environment. If the chemical used is caustic soda it is sufficient that the washwater meets the criteria set out in Resolution MEPC.184(59) and its pH does not exceed 8,0.

[1] Commission Decision 2010/769/EU of 13 December 2010 on the establishment of criteria for the use by liquefied natural gas carriers of technological methods as an alternative to using low sulphur marine fuels meeting the requirements of Article 4b of Council Directive 1999/32/EC relating to a reduction in the sulphur content of certain liquid fuels as amended by Directive 2005/33/EC of the European Parliament and of the Council on the sulphur content of marine fuels (OJ L 328, 14.12.2010, p. 15).

Biofuels	Use of biofuels as defined in Directive 2009/28/EC of the European Parliament and of the Council[1] that comply with the relevant CEN and ISO standards. The mixtures of biofuels and marine fuels shall comply with the sulphur standards set out in Article 5, Article 6(1), (2) and (5) and Article 7 of this Directive.

[1] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140, 5.6.2009, p. 16).

ANNEX III

PART A

Repealed Directive with list of the successive amendments thereto
(referred to in Article 19)

Council Directive 1999/32/EC (OJ L 121, 11.5.1999, p. 13)	
Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1)	Point 19 of Annex I only
Directive 2005/33/EC of the European Parliament and of the Council (OJ L 191, 22.7.2005, p. 59)	
Regulation (EC) No 219/2009 of the European Parliament and of the Council (OJ L 87, 31.3.2009, p. 109)	Point 3.4 of the Annex only
Directive 2009/30/EC of the European Parliament and of the Council (OJ L 140, 5.6.2009, p. 88)	Article 2 only
Directive 2012/33/EU of the European Parliament and of the Council (OJ L 327, 27.11.2012, p. 1)	

PART B

Time-limits for transposition into national law

(referred to in Article 19)

Directive	Time-limit for transposition
1999/32/EC	1 July 2000
2005/33/EC	11 August 2006
2009/30/EC	31 December 2010
2012/33/EU	18 June 2014

ANNEX IV

CORRELATION TABLE

Directive 1999/32/EC	This Directive
Article 1(1)	Article 1(1)
Article 1(2), subparagraph 2, introductory wording	Article 1(2), subparagraph 2, introductory wording
Article 1(2), subparagraph 2, (a), (b) and (c)	Article 1(2), subparagraph 2, (a), (b) and (c)
Article 1(2), subparagraph 2, (d), introductory wording	Article 1(2), subparagraph 2, (d), introductory wording
Article 1(2), subparagraph 2, (d), first indent	Article 1(2), subparagraph 2, (d)(i)
Article 1(2), subparagraph 2, (d), second indent	Article 1(2), subparagraph 2, (d)(ii)
Article 1(2), subparagraph 2, (e) to (h)	Article 1(2), subparagraph 2, (e) to (h)
Article 2, introductory wording	Article 2, introductory wording
Article 2, point 1	Article 2(a)
Article 2, point 1, first indent	Article 2(a)(i)
Article 2, point 1, second indent	Article 2(a)(ii)
Article 2, point 2	Article 2(b)
Article 2, point 2, first indent	Article 2(b)(i)
Article 2, point 2, second indent	Article 2(b)(ii)
Article 2, point 2, final wording	Article 2(b), final wording
Article 2, point 3	Article 2(c)
Article 2, point 3a	Article 2(d)
Article 2, point 3b	Article 2(e)
Article 2, point 3c	Article 2(f)
Article 2, point 3d	Article 2(g)
Article 2, point 3e	Article 2(h)
Article 2, point 3f	Article 2(i)

Directive 1999/32/EC	This Directive
Article 2, point 3g	Article 2(j)
Article 2, point 3h	Article 2(k)
Article 2, point 3i	Article 2(l)
Article 2, point 3k	Article 2(m)
Article 2, point 3l	Article 2(n)
Article 2, point 3m	Article 2(o)
Article 2, point 4	Article 2(p)
Article 2, point 5	Article 2(q)
Article 3	Article 3
Article 3a	Article 5
Article 4	Article 4
Article 4a(1)	Article 6(2)
Article 4a(1a)	Article 6(1)
Article 4a(2)	Article 6(3)
Article 4a(3)	Article 6(4)
Article 4a(4)	Article 6(5)
Article 4a(5)	Article 6(6)
Article 4a(5a)	Article 6(7)
Article 4a(5b)	Article 6(8)
Article 4a(6)	Article 6(9)
Article 4a(7)	Article 6(10)
Article 4b	Article 7
Article 4c(1) and (2)	Article 8(1) and (2)
Article 4c(2a)	Article 8(3)
Article 4c(3)	Article 8(4)
Article 4c(4)	Article 8(5)
Article 4d	Article 9

Directive 1999/32/EC	This Directive
Article 4e	Article 10
Article 4f	Article 11
Article 5	Article 12
Article 6(1)	Article 13(1)
Article 6(1a)	Article 13(2)
Article 6(2)	Article 13(3)
Article 6(1b)	Article 13(4)
Article 7(1) and (2)	Article 14(1) and (2)
Article 7(1a)	Article 14(3)
Article 7(3)	-
Article 7(4)	Article 15
Article 9	Article 17
Article 9a	Article 16
Article 10	-
Article 11(1)	Article 18, first paragraph
Article 11(2)	Article 18, second paragraph
-	Article 19
Article 12	Article 20
Article 13	Article 21
Annexes I and II	Annexes I and II
-	Annex III
-	Annex IV