

ANNEX G

Questions for Consultation

Draft Regulations

Annex	Section	Question
Regulations	Whole document	Do you consider that, as drafted, the proposed Merchant Shipping (Prevention of Air Pollution from Ships) and Motor Fuel (Composition and Content) (Amendment) Regulations 2014, appropriately cover the requirements of Directive 2012/33/EU?

Merchant Shipping Notice

Annex	Section	Question
Merchant Shipping Notice	Whole document	Is the content of the draft Merchant Shipping Notice helpful and appropriate?

Marine Guidance Note

Annex	Section	Question
Marine Guidance Note	Whole document	Is the content of the draft Marine Guidance Note helpful and appropriate?

Consultation Stage Impact Assessment

All new legislation is required to be accompanied by an Impact Assessment (IA) which sets out the potential costs and benefits likely to arise from its introduction. In producing the IA at Annex B, we have sought to identify the nature and extent of these costs and benefits arising from the introduction of the regulations.

The IA sets out the costs and benefits associated with the different options by which the requirements of the Directive can be met, a brief summary of the options is included below. Full details of the costs and benefits, quantified where possible, can be found in the body of the IA.

Option 1: Fuel switching

A key aspect of estimating the cost of this new regulation is the assumed price differential between high sulphur fuels and low sulphur fuels, or the 'fuel premium'. Assumptions on future fuel consumption also significantly affect the results.

Other additional costs associated with fuel switching which may be incurred include the need for additional tanks and piping, possible modifications/adjustments on fuel pumps, fuel injection systems, lubrication systems and fuel tanks.

Option2: Emission Abatement technology

An alternative option to fuel switching is the use of emissions abatement technologies or sea water scrubbing. The basic principle of operation for a sea water scrubber is that hot exhaust gases are mixed with seawater resulting in the SO₂ in the exhaust being transferred to the seawater. The seawater is then re-circulated, and the solid particles removed from the exhaust gas are trapped in a settling or sludge tank where they are collected for disposal. Variations on this technology include the fresh water scrubber - that mixes caustic soda (NaOH) instead of seawater with the exhaust emissions – and the hybrid scrubber, which can use either seawater or NaOH to remove sulphur.

Option3: Alternative fuels

Alternative fuels such as LNG and Methanol offer a low sulphur alternative to 'traditional' marine fuel oils. Although both are comparatively cheaper than low sulphur marine oils, there are other costs associated with switching to these fuel types, such as conversion costs and the costs of ensuring the required land based infrastructure is in place.

The IA surmises that it is likely that a significant number of ships will opt for alternative fuels post-2015, when the more stringent sulphur limits enter into force, with some industry estimates suggesting that up to 30% of ships could be utilising dual-fuel or pure gas engines by 2020 as a result of the new requirements in the Directive.

Impact Assessment	1.5 Environmental Impacts	The Government is aware of a growing body of work in Baltic region seeking to quantify costs associated with the impairment of leisure use by pollution – for example the impact on freshwater anglers of acidification – are consultees aware of any examples of this work in the UK research community?
Impact Assessment	5.1.2 Costs associated with fuel switching	Do consultees agree that the cost of fuel switching (eg: modification of fuel system to allow SECA/non-SECA operation) is already likely to have been incurred under the existing regime? If not could you provide evidence of likely additional costs? The new regulations require low sulphur fuel to be purchased in order to comply. Do you consider the availability of low sulphur fuel to be a financial issue? How will this impact other users? Are there any potential, significant costs that have not been taken into consideration with respect to fuel switching? Will refineries in the United Kingdom be able to cope with the demand for low sulphur fuel?
Impact Assessment	5.1.3 Fuel Premium	The fuel premium scenarios identified in the IA are drawn from those highlighted in other studies of the Directive and the UK Governments own work on the issue. Do these scenarios appear reasonable?

Impact Assessment	5.1.4 Fuel Consumption	Will the Energy Efficiency Design Index have a significant impact on these numbers?
Impact Assessment	5.1.5 Costs associated with fitting scrubbers	<p>The values in this section were developed as a result of previous assessment work carried out by the UK and other interested parties. They reflect information provided by industry during the 2008-2009 period. Noting recent developments in exhaust gas cleaning systems do these values appear reasonable?</p> <p>In particular do the capital expenditure and operational expenditure costs appear to reflect industry experiences?</p> <p>To what extent do you expect EGCS costs to fall as higher demand allows manufacturers to achieve greater economies of scale?</p> <p>Do you agree with the assumption that EGCS uptake will not be significant before 2020 or do you consider that the technology may become widespread at an earlier date?</p> <p>What level of uptake of EGCS do you consider likely before 2020 and after 2020?</p> <p>Do you consider the availability of scrubber technology will be an issue when the Regulations are implemented?</p> <p>For ships with scrubbers, is your existing scrubbing equipment (if applicable) in compliance with the proposed new requirements? If not, what changes do you envisage being required and at what overall cost?</p>
Impact Assessment	5.1.7 Monetised cost estimates for the UK shipping industry	<p>When considering modal shift the Government is aware that trade associations have undertaken work with their members, and where practicable this work has been reflected. We would ask consultees to consider again the issues of both modal and geographic shift and:</p> <p>The Impact Assessment refers to modal shift. Is this likely and what wider impacts may occur as a result?</p> <p>Noting the limited alternatives to shipping cargo is it possible that geographic shifts in routes may occur as a result of these proposed changes?</p> <p>It is recognised that the IA does not directly refer to the possible impacts of the Directive on the UK ports industry. The ports industry is therefore invited to provide information and evidence regarding the potential impacts of the Directive on their sector.</p> <p>Could this proposal impact vessel or route viability, what are the potential social impacts of this?</p>
Impact Assessment	5.1.8 Alternative Fuels	<p>What level of uptake of other alternatives do you consider likely?</p> <p>Are you aware of any investments in port or marine infrastructure to support alternatives such as LNG?</p> <p>Are you aware of other alternatives that have not been considered</p>

		<p>in the IA that may be suitable for uptake before 2020?</p> <p>Are alternative fuels a viable option?</p>
Impact Assessment	6.1.1 Expected health benefits for the UK	<p>The Impact Assessment does not currently provide final, monetized, values for these benefits. These have been deliberately left as additional work is ongoing to improve the assessment. Considering the information currently presented:</p> <p>Do you consider that these represent a fair assessment of health benefits?</p> <p>Do you have specific views on the issues highlighted with the Entec 2009 study – particularly with reference to the split in emissions between the ECA and global limits and the geographic location of the emissions?</p> <p>Are you aware of any information that could provide more detail on those items (reproduced on page 24 of the IA) that have been highlighted as non-monetised health benefits?</p> <p>Have the health benefits associated with this measure been fully recognised and recorded? Are there any that have been missed?</p>
Impact Assessment	6.2 Other Benefits	<p>Due to a lack of detailed modeling the economic value of environmental benefits accruing from the policy have not been calculated at this stage. Work will continue on this element of the IA during consultation but we would ask consultees to consider:</p> <p>If they are aware of any work that could assist in quantifying the cost of restoring buildings due to acid deposition?</p> <p>If they have any information on crop damage and/or forestry damage due to acid rain and related problems of acidification?</p> <p>Have the range of benefits (other than health) associated with this measure been fully recognised?</p> <p>Are there any significant benefits which we have overlooked?</p>
Impact Assessment	7 EU and European Neighbours' Cost Benefit Analysis	<p>The current UK valuation presented in the consultation stage Impact Assessment is significantly lower than that arrived at by the assessment commissioned by the European Commission, due to differences in appraisal values and methodology. In addition the work carried out previously at IMO suggested a higher level of benefits than those identified during the UK assessment work.</p> <p>To what degree do consultees consider the Commission IA reflects costs and benefits accurately?</p> <p>In particular do consultees feel that the EU approach to health benefits is more or less suitable for this policy?</p>
Impact	9	The proposed penalties are in line with current Merchant Shipping

Assessment	Enforcement, Sanctions and Monitoring	<p>legislation – to what extent do consultees consider that the penalties are appropriate?</p> <p>In particular do consultees consider that the legal responsibility for compliance has been appropriately placed, and are the penalties considered proportionate?</p> <p>Do consultees agree with the statements made in relation to compliance in the IA (and in particular section 5.1.1) that the major compliance risks if the UK fails to implement the Directive will be the domestic fleet and, to a lesser degree, the long distance deep water fleet?</p> <p>While the UK has not considered the issue in this IA some other Member States have suggested the use of remote sensing (including Lidar mounted on aircraft) as a supplement to sampling of fuel – how do consultees feel the UK should respond to this issue?</p>
Impact Assessment	11.2 Small Firms Impact Assessment	<p>To what extent will the UK bunker supply industry be affected? In particular do particular challenges for small suppliers arise from the policy?</p> <p>Are there any small business groups that have not been considered fully in the policy design and subsequent impact assessment?</p>

<u>General Questions</u>

General questions		Do you have any comments on the Government's approach to implementing the Directive?
General questions		Are there any other issues that consultees believe the Department should take into account in implementing the Directive?
General questions		Are there any research findings, evidence or other publications that consultees wish to bring to the attention of the Department as part of this implementation process?
General questions		What other changes, if any, do you see being required to enable you to comply with the new requirements and at what overall costs?