

WRITTEN SUBMISSION FROM CHAMBER OF SHIPPING

CLIMATE CHANGE (SCOTLAND) BILL

MEMO TO THE TRANSPORT, INFRASTRUCTURE AND CLIMATE CHANGE COMMITTEE

The Chamber of Shipping is the trade association for the UK shipping industry (including deep-sea bulk, short-sea bulk, containers, ferry, cruise, offshore support and specialised operators), working to promote and protect the interests of its members both nationally and internationally. With 144 members and associate members, the Chamber represents over 860 ships of about 23 million gross tonnes and is recognised as the voice of the UK shipping industry

Question 5

The Bill defines “Scottish emissions”, in relation to a greenhouse gas, as being emissions of that gas which are attributable to Scotland. The policy memorandum states that “Scottish emissions” are defined as being those greenhouse gases which are emitted in Scotland or which represent the Scottish share of emissions of gases from international aviation and international shipping.

What are your views on this definition of Scottish emissions?

Question 20

Do you have any other comments on the Bill?

Summary

1. In the climate change debate shipping should be regarded as the best available solution to the global need for transportation. Shipping is the most energy-efficient mode of transport and the backbone of global trade – carrying 80% of all world trade and 92% of the UK’s goods. Furthermore, the carbon cost of carrying a tonne of freight by ship is 10 times less than by road and 100 times less than by air. Seen in light of the enormous volume of goods carried by ships, the CO₂ emissions from shipping is small. The reason for this is that shipping for many decades – even without regulation – has had a strong market-driven incentive to focus on reduction of fuel consumption. However the Chamber of Shipping fully acknowledges the need for further reduction of air emissions from shipping and believes that the way to achieve environmental protection must be found in a holistic manner. To be successful, such an approach should take into consideration the availability of technology to reduce emissions, the need to encourage innovation and the economics of world trade.

International shipping’s contribution to global carbon emissions

2. Precise figures concerning the contribution of international shipping to global carbon emissions are hard to come by. A variety of studies put the figure at anywhere between 1.5 and 5%. The International Maritime Organization (IMO) – the UN regulatory body for shipping – and most scientific commentators agree that a figure in the range 2 - 4% is realistic with an authoritative IMO study published in October 2008 putting the figure at 2.7%. While a precise figure would be helpful for measurement purposes, it is not necessary to wait for this before taking policy decisions. This is for two reasons; firstly, even at the higher end of the estimates of shipping’s contribution to carbon emissions, when seen in the context of the enormous amount of work performed, shipping remains by far the most efficient way to move bulk cargoes of goods and this position is unlikely to be usurped in the medium term. Secondly, despite its excellent carbon performance, the shipping industry is absolutely committed to reducing its carbon footprint in line with society’s expectations.

3. Looking at future trends (and regardless of the current economic conditions), it is likely that – in absolute terms – emissions from shipping will grow steadily for the foreseeable future despite efforts to improve the carbon performance of individual ships. This is because shipping is a service industry which responds directly to growth in world trade (without which expansion in the world economy could not occur) and that growth is likely to be greater than the achievable carbon reductions. It is worthy of note that no serious politician or government body has ever called for shipping's carbon emissions to be reduced at the expense of slowing down the world economy. Any reductions in ships' carbon emissions must therefore be achieved in a way that permits growth in the volume of goods shipped by sea.

Measuring Scotland' share of international maritime emissions

4. Measuring Scotland's share of international maritime emissions is extremely difficult, with almost all of the options failing to provide an accurate representation. Do we, for instance, wish to measure the relative contribution of the Scottish shipping industry (however defined) to that of the global shipping industry? Or do we wish to measure the amount of carbon generated by shipping in order to provide Scotland with the goods and services required? Or should Scotland accept responsibility for all carbon emitted by ships within its territorial waters? When considering the most appropriate methodology for allocating the share of global shipping emissions to Scotland's Carbon Budgets, it should be remembered that shipping is the only truly international industry. Not only will ships make multiple calls in any one voyage, but they will often carry cargo destined for onward transport to a number of other countries. This makes allocating emissions extremely difficult and carries with it the distinct possibility of introducing error into the Scotland's overall Carbon Budgets.
5. Measuring Scotland's share of international carbon emissions will also be made more problematical for it is only the UK, as a nation state, which has a duty to report bunker fuels sales (even if only as a 'memo item') under the Kyoto agreement. Similarly, bunkers that are recorded by the UK as being used for domestic voyages would include fuel used on voyages between the constituent parts of the UK. There would therefore be a significant risk of double counting if both the UK Climate Change Act and any similar legislation in Scotland were to seek to account for the same emissions. It is not clear how this issue could be easily overcome except by utilising some broad measure of disaggregation.
6. When considering questions of measurement, the other side of the coin – enforcement – must also be borne in mind. The UK Climate Change Act, the Kyoto agreement and the EU Emissions Trading Scheme have all excluded mandatory carbon reductions from shipping for the same reason – it is virtually impossible to legislate for such a mobile and international industry except at the global level. For any country to impose unilateral legislation on a global marketplace is to deliberately impose additional costs on its own stakeholders which will not be shared by their competitors.

Measurement only or mandatory reductions also?

7. It is unclear to the Chamber what mechanisms for the enforcement of any national measures will not be capable of being easily and legitimately avoided by operators. This means that the total emissions reductions will, in practice, be less and may paradoxically be even higher if legitimate avoidance measures result in longer voyages. For instance, if Scotland were to impose a carbon charge on a ship's final voyage into Scotland, a ship coming from China may decide to make an otherwise unnecessary call in France or Ireland in order to minimise the technical 'final voyage' into Scotland or, more likely, would call at an English port and move the goods across the border by another less carbon efficient transport mode such as road or rail.

8. If the Climate Change (Scotland) Bill was clear that it only wished to measure Scotland's contribution – a position that the Chamber of Shipping could support – to international shipping emissions this could be done as soon as an agreed methodology was decided upon. A 'bottom-up' approach (i.e. obtaining data from individual ships) would yield more accurate data than a 'top-down' (e.g. averages of bunker fuel sales etc) approach, but it should be recognised that this would place a considerable burden on both ship-owners and administrations alike.
9. The Committee will doubtless be aware that the UK Climate Change Act has mandated that the government in Westminster must take account of emissions from international shipping when considering its carbon budgets. In order to assist this process the Chamber of Shipping has teamed up with WWF-UK (formerly the World Wildlife Fund) to assist the UK government in quickly developing a methodology for measuring carbon emissions from ships that is truly reflective of those emissions that can appropriately fall within the UK's responsibility. Should the Climate Change (Scotland) Bill end up recommending a similar approach it may wish to consider whether our joint proposal to the Office of Climate Change might assist the body responsible for delivery north of the border. A copy of our joint proposal has been appended to this submission for ease of reference (see Annex 1 below).

A word on international agreements to control and reduce carbon emissions from global shipping

10. Measurement and control mechanisms for carbon are being actively discussed within the IMO and its Secretary General has announced his wish for that body to have agreed upon a concrete package of proposals in readiness for the UNFCCC Conference of the Parties (COP15) meeting in Copenhagen in December 2009. Meanwhile the EU have indicated that, should IMO not deliver a satisfactory package of measures by 2011, then they will look to include international shipping within the EU ETS by 2013. It is therefore clear that shipping will be included within some form of international / regional regime within a very few years.
11. The UK Government has played an active and constructive role in the negotiations at IMO and its policy position reflects well the realities of dealing with this particular sector. The Chamber of Shipping is keen that the UK Government should remain committed to an international solution delivered through the IMO. While we accept that measures delivered either unilaterally or through devolved administrations will always be an option open to governments, we would stress that these should be seen as options of last resort both in terms of effectiveness and ease of administering. To that end we would consider the inclusion of international shipping in the Climate Change (Scotland) Bill (while negotiations are building to a climax in the international arena) to be a retrograde step and one likely to hinder rather than help the broader discussions and efforts to reduce carbon emissions.
12. Carbon emissions trading and market-based instruments (MBIs) e.g. a fuel levy are politically very sensitive topics within the IMO. A significant number of developing, non-annex 1 countries (i.e. China, India, South Africa, Brazil etc) are of the opinion that they are not duty bound to seek carbon emission reduction measures through either the IMO or UNFCCC. Furthermore, they are also less willing to discuss measures to improve operational and technical efficiency and are extremely unwilling to contemplate the introduction of MBIs. The Chamber of Shipping, however, is firmly of the opinion that MBIs must play a part in efforts to reduce the sector's carbon footprint and has openly called for international shipping to be subject to a global, open emissions trading scheme in December 2008.

13. The Chamber is also actively working with its international parent body – the International Chamber of Shipping (ICS) – and sister associations throughout the world to develop consensus for this approach on the understanding that it delivers the necessary environmental outcome while maintaining the necessary level playing field and ensuring that any solution does not discriminate between national shipping registers.

Prospects for developing new engine technologies and fuels, as well as more fuel-efficient operations

14. Shipping is a mature technology and the scope for improvement by full application of existing technologies is limited. Ships engines have improved steadily since their inception while hull and propeller designs are almost fully optimised. For instance, new hull coatings may provide some enhanced fuel efficiencies (and hence carbon reduction) in the order of 5% - 10%. While there is always room for improvement (and much is dependent on what constitutes an 'existing' ship), it is thought that a modern, well-maintained vessel may be able to improve its performance by about 5% if cost/benefit is considered immaterial. Given that fuels costs account for 30-50% of total voyage costs it should be recognised that shipowners have long had every possible commercial incentive to optimise fuel efficiency.
15. New technologies will certainly come on stream in time. But they are not available now and, no matter how many prototypes or concepts are developed, shipowners cannot be expected to invest in anything other than robust, proven technologies that are commercially available. However, shipowners are keen to see new technologies emerge and are willing to offer ships to assist in trials and development processes. Again it should be stressed that, given the direct link between fuel efficiency and carbon emissions, shipowners also have a direct commercial interest in the development of fuel saving technologies.
16. Alternative fuel sources may also have a role to play and bio-fuels can be used in ships engines. However, given the volume of fuel used by the c50000 merchant ships trading internationally (transporting every kind of cargo) and the current uncertainty surrounding the net benefit of bio-fuels, the industry would consider it prudent for legislators to better assess the impact of a substantial take-up of bio-fuels by such a large consumer as international shipping before reaching any decisions.
17. Fuel cells, solar-power, wind kites etc are all theoretically possible alternative technologies but they are best viewed as supplementary power sources rather than alternatives to the main propulsion systems on board. Nuclear power is technically feasible for ships and there are examples of nuclear-powered merchant as well as military ships. Issues of security and acceptability are, of course, dominant in that particular debate.

18. Reducing the speeds at which ships travel is often seen as a 'quick win' in terms of reducing carbon emissions from ships. While it is true that reducing ships' speed has a dramatic effect on fuel consumption, the full range of underlying factors which have hitherto determined the speed at which ships generally travel remain relevant. It should be noted that shipowners / operators have relatively little say over the speed of their vessels as this is invariably determined by the charterer. Any reduction in ships' speed would therefore require the consent of customers as they would in general have to wait longer to receive their goods. Shippers seek to maintain supply continuity and time of delivery is an essential competitive parameter. To maintain an acceptable service at slower speeds would mean an increase in the number of ships required negating much of the fuel savings otherwise expected. Furthermore, very little can be achieved on traditional slow-steaming bulk carriers as these already steam at little more than thirteen or fourteen knots. For ferries, travelling time for the passenger is a key issue in the extensive competition with other (less carbon efficient) transport modes; many Scottish ports are tide-bound which further reduces the flexibility of port arrival / departure times and; they should also be considered, especially in Scotland, as a bridge between outlying areas forming essential and reliable infrastructure. Any policy decision requiring vessels to slow down would need to be underpinned by a robust and detailed analysis of all the implications of such a measure.

Additional Industry Comments

19. The shipping industry has been working through the IMO, EU and national governments on how best to reduce carbon emissions for some time. As a result, it may be helpful for the Committee to note the broad principles which we feel will deliver a mechanism that delivers its environmental objectives while maintaining the competitiveness of the industry.
20. Firstly, and perhaps obviously, industry is only interested in delivering a solution that is effective in contributing to the reduction of total global greenhouse gas emissions.
21. In order to achieve this and avoid evasion, such a system must be binding and equally applicable to all Flag States.
22. Across all maritime legislation, the shipping industry consistently argues for a goal-based (as opposed to a prescriptive) approach, as being better suited to such a diverse industry and also allowing shipowners the flexibility to meet their environmental responsibilities in the most cost-effective manner.
23. Linked to cost-effectiveness are considerations that seek to limit or at least minimise competitive distortion and that, within the parameters of sustainable development, do not penalise trade and growth nationally or globally.
24. It has been suggested that shipping suffers from the lack of a Formula 1 to lead and drive technological improvements. Whereas the aviation industry has benefited from the civilian application of military technologies and also from the space-race, shipping has had no such high-end sector motivated by a completely independent set of cost considerations. We would therefore suggest that any control measures for shipping should actively support and encourage the promotion and facilitation of technical innovation and R&D in the entire shipping sector.
25. In addition, it is clear that any regulatory mechanisms adopted must be flexible in order to accommodate likely future technologies in the field of energy efficiency.
26. Finally in our checklist, the industry would look to ensure that the 'back-office' side of any regulation is given due thought. For any system to be workable, and for true environmental benefit to be gained, it is clear that the approach must be practical, transparent, fraud-free and easy to administer.

Domestic Shipping

27. We note that the subject of this inquiry is the possible inclusion of international shipping emissions within Scottish Carbon Budgets. However, the Chamber has concerns that emissions from domestic shipping (which can take place as part of an international voyage) should be properly attributed. We are unclear how this will be done. For example, it is not clear how foreign-owned competitors, which have had the opportunity to refuel abroad before making Scottish domestic voyages, will be treated? We would ask the Committee to satisfy itself that the methodologies for including domestic shipping (and its definition) within the Climate Change (Scotland) Bill are likely to achieve the stated objectives.

January 29, 2009

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TO: COMMITTEE ON CLIMATE CHANGE
CC: DfT, DEFRA, DECC

Dear Ben,

Shipping and the Climate Change Act

Following the decision of the UK Government to include carbon emissions from international shipping within the Climate Change Act for measurement purposes - a position which both WWF and the Chamber of Shipping endorse – the two organisations, the leading stakeholders in this field, have committed to working together in its implementation. Our common objective is to assist the UK government to quickly develop a methodology for measuring the carbon emissions from ships that is truly reflective of those emissions that can appropriately fall within the UK's responsibility.

During our initial discussions we have reached some broad conclusions which we hope you will find useful in developing your own thinking. These are very much our preliminary thoughts and we remain eager to participate in the development of the methodology for measuring this most complicated of sectors.

Overall Coverage

'International shipping' is imprecise in meaning and its coverage will need to be defined. In general terms it would be taken to mean commercial shipping engaged in international voyages (ie not 'domestic shipping'). We assume that it is not intended to encompass leisure yachts, military or other Government vessels or installations at sea that are not otherwise regarded as ships such as fixed installations used for the production and pumping of oil. It should be noted that existing IMO legislation contains definitions of many relevant terms ('ship', 'international voyage' etc) and it would be sensible to use these wherever possible. It is not clear whether fishing vessels should be included, perhaps depending on whether their activities are encompassed elsewhere within the fishing industry itself.

Data on virtually all seagoing internationally-trading merchant ships of over 100 gross tons, including fishing vessels, is held within the Lloyds Register-Fairplay database and are allocated internationally-recognised unique numbers (IMO numbers). This would facilitate the inclusion of fishing vessels but we are not in a position to comment on whether similar methods of reporting and verification would be appropriate. Nonetheless, a clear definition of which vessels/installations are included will be necessary.

Consideration will also need to be given to an appropriate cut-off point for vessel size. Existing international maritime regulations, primarily from the IMO, apply only above certain levels of gross tonnage, though the levels vary for different purposes. For example, MARPOL, which deals with marine pollution, only applies to ships of more than 400gt; SOLAS, dealing with marine safety, applies to vessels of 500gt and over, while other conventions and agreements apply to vessels down to 100gt. Gross tonnage is considered the simplest and most appropriate measure for applying de minimise provisions.

In practice no commercial vessel below 100gt would be engaged in international trade, and very few in the next bands up. (As before, different considerations may well apply to fishing vessels.) The UK government will need to take a view on the most appropriate lower limit recognising the limits of the various data sets, the cost/benefit of measuring very small vessels and any effect the limit chosen may have on subsequent negotiations at EU or IMO level.

Possible Measurement Methodologies

Given that the Climate Change Act will, initially, only measure, rather than restrict, carbon emissions from international shipping, greater flexibility can be applied as to the methodology as there is a much reduced risk (so long as any associated administrative burden is low) that ships will choose to reflag as a result of any measurement requirements. Indeed, given that we would expect the methodology chosen to be flag-blind and non-discriminatory, reflagging for this reason alone would be pointless. However, it should be noted that methodologies which will work for measurement purposes will not necessarily work if mandatory reductions are later required. It will also be important that any methodology takes into account the risk of 'double counting' where other countries follow the UK's lead and seek to take responsibility for their share of emissions from international shipping.

There are numerous ways in which carbon emissions from international shipping could be measured, For example, by ship, by location, by voyage, by fuel sales, by number of port calls. However, the more accurate methods of measurement are considered to fall into two broad approaches, one based on physical activity and the other based on economic activity.

Physical Activity would be essentially a voyage calculation, relying on data such as point of origin, ship type, fuel type and distance sailed. There are two particularly difficult aspects to take into account:

- if outward voyages are to be included there is a clear difficulty in determining what the next voyage is to be; the UK has a much lower level of export cargos than imports, and consequently many ship leave the UK empty to seek their next employment – a bulk carrier in ballast may go to Rotterdam to load scrap metal or to Argentina to load grain, depending on market opportunities at the time, and often when on the high seas. If this general approach is chosen, it would be simpler to take account of inward voyages only (of course, where a ship arriving in ballast for an export cargo has come from is equally arbitrary, it is at least known);

- an appropriate methodology would need to be developed to fairly deal with vessels that have multiple loading and/or discharge ports. This is particularly relevant to the container trades, though applies also to other unit loads (such as new motor vehicles or refrigerated cargos) and some bulk trades in both petroleum/chemicals and dry commodities. For example, a containership on Far East service may have its first European port of call in the UK, with short voyages to Continental discharge ports or vice-versa; in addition there may be mid-voyage calls at container hubs in the Mediterranean. As well as the difficulty of determining an appropriate length of voyage, the split of cargo between that for the UK and that for elsewhere would be problematic (and touches on the need to avoid potential double-counting referred to above).

Measuring the Economic Activity could either be based on imports/exports or a percentage of GDP; or on shipping company economic activity. A significant advantage of the former approach is that it is better suited to providing the statistical base at the level needed to inform political policy-making whether in the UK, the IMO or elsewhere. In particular, it does not prejudice the approaches that might be adopted should specific instruments need to be developed later. Last, and by no means least, is the avoidance of a significant burden on business, much of which is not located in the UK and much of which is run by SMEs, as the Government already collects very extensive data on the UK's sea-borne trade.

If the location of the shipping company's activities were to be considered when assessing 'economic activity', the acknowledged difficulties of allocating that activity to the UK or elsewhere needs to be addressed. In that connection, we would draw your attention to work that is currently being undertaken by the Office for National Statistics (ONS) and the Department for Transport together with Lloyds Register-Fairplay to allocate ships within the world fleet according to "country of economic benefit" (COEB). It seems to us that, should the government wish to pursue a methodology based on economic activity, this work could be directly applicable and add to the range of different policy needs to which it might be usefully applied.

It is clear that both of these broad approaches (economic & physical activity) will give rise to a number of questions and queries and that these will need to be considered fully if the finally-adopted methodology is to have credibility as an appropriate measure of international shipping emissions. We conclude, however, from our initial examination that measurement by economic activity is likely to provide the Government with the data it requires to meet its responsibilities under the Climate Change Act with the lowest administrative burden on business.

Specific Considerations Related To Sections of the Shipping Industry

In addition to the application of different methodologies to conventional cargo-carrying merchant ships considered above, it is likely that there will be some sectors that are more problematic than others, depending on the broad approach chosen. For instance, measurements based on imports and/or exports would exclude most ships engaged in carrying passengers (whether cruise ships or ferries) or in the service sectors (offshore support vessels, dredgers etc). It would be possible to develop a statistical approach for some of those activities, for example relating passengers to the voyage concerned or to the numbers embarking/disembarking; though there would be difficulties to be addressed in relation to ferries where most are multi-purpose, carrying both freight and passengers in markedly different proportions according to time of day or seasonal demand.

For specialist service vessels it is recognised that a different method of assessment may be required, compared with those carrying passengers or freight. While any methodology decided upon will need to meet the circumstances of the majority of internationally trading ships, there are some significant sectors where credible measurement is important; for example, in the cruise sector, where passengers may base their purchasing decisions on the environmental performance of the vessels in question.

Definition of Domestic Shipping and Emissions Measurement

At present the UK measures the carbon emissions of domestic shipping based on bunker fuel sales as determined by the IPCC under the Kyoto framework. It is widely recognised that this measure under-records emissions. Given that many domestic voyages will be part of a sequence involving international legs (and such ships will purchase their bunkers wherever most economic), and that there are no significant differences between domestic or international ships except for their voyage patterns, it may be more appropriate for all shipping to be treated as 'international shipping', with the proportion of domestic shipping being separately assessed. Again, this would be less burdensome, fairer (as it would include internationally trading vessels performing a domestic leg) and be more accurate than the current arrangements.

Next Steps

The WWF and CoS hope that, by taking our thinking forward jointly on these important issues, we can assist you better as you move your own thinking forward. We would like to emphasise once again our willingness to be engaged in the detailed work going forward so that the most suitable methodology can be devised and applied as soon as practicable.

Yours sincerely

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