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ENERGY EFFICIENCY: IMPROVEMENTS PAST AND FUTURE

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As you have heard, I am speaking with two hats today. The first is standing in for the original speaker, Peter Hinchliffe, from the International Chamber of Shipping; and the second is as CEO of the UK Chamber of Shipping which is the UK national member association of ICS.

Both of our organisations are at the centre of the global debate on reducing ships' CO₂ emissions.

The first part of this afternoon's session has brought you up to speed on the importance of shipping and its underpinning of world trade. And you will hear in the next presentation from Miguel Palomares about the environmental regulation of our vital industry. My contribution will focus in particular on how shipping companies are facing up to the political and practical pressures to reduce carbon emissions and I shall try not to pre-empt or duplicate Miguel.

This December, the 'post Kyoto' climate change regime for the world economy as whole will be taken to the next stage at a major UN Conference in Copenhagen, COP 15, under the banner of the UN Framework Convention on Climate Change (UNFCCC). Over the last two decades, we have all seen action in our home countries – in differing degrees – to respond to the imperatives set out at Kyoto in 1990 and built on most recently in Bali in 2007. As you will hear from the UK minister tomorrow

morning, my own country has been among the most active and has set some very challenging targets.

The key point right from the start is to acknowledge that – economic downturn or no – this is **the** issue of the moment, that the need to reduce carbon emissions is as urgent as ever, and that all sectors are having to address it seriously and meaningfully.

As discussed in some detail in Per Kågeson's paper yesterday afternoon, it is widely recognised that shipping and aviation greenhouse gas emissions pose particular problems, because both sectors are high-growth industries and neither fits easily with existing allocation methodologies.

The international community has therefore been working towards an agreement on worldwide measures for shipping that will deliver genuine and tangible reductions in the consumption of fossil fuels – without creating restrictions for world trade, on which all of our lives depend in this modern age.

It is vitally important that the significance of shipping to global trade continues to be fully understood in the climate change debate and that the decisions taken do not unintentionally affect shipping in a way which would have an unwanted and adverse impact on the free flow of trade.

Unless the entire world economic order is to change, most shipping today is not discretionary.

That is also fundamentally why, when you are dealing with a uniquely global industry like shipping which is multi-lateral and operates across

several points of origin and destination, regulation absolutely must be at a global level. The UN's specialist agency for shipping – the International Maritime Organization – has a remarkable track record for delivering effective legislation for our unusual and unique sector. It has done so for 60 years across a wide range of standards relating to the design, construction, operation, safety and environmental performance of ships.

As you will shortly hear from Miguel, IMO – as the industry's global regulator – last year delivered successfully and impressively an international agreement on reducing pollutant emissions from ships (ie sulphur and nitrogen) and just ten days ago also adopted a new convention on the recycling of ships. These were similarly complicated and controversial subjects.

The international shipping industry itself plays an active part in the development of all this legislation and is fully supportive of the role of IMO.

So we very much hope that UNFCCC will agree that the development of detailed measures for shipping on carbon should be directed by the International Maritime Organization. It has already begun this work and is close to agreeing formal plans and indicators on Ship Management and Design, to encourage innovation and ensure that both present-day ships and ships of the future become increasingly more efficient through new thinking.

To turn now explicitly to efficiency improvements, shipping has been in a constant state of evolution ever since boats were first built – but perhaps in the fastest and most dynamic way over the last 50 years or so. This

evolution has fundamentally been about the search to deliver more cargo for less fuel consumption. It has been an endless and continuing quest for efficiency.

The need to use less fuel to deliver more cargo has been driven inexorably by the rise of globalisation and the substantial proportion of ship operating costs represented by fuel costs. Over the last decades, we have seen a huge increase in the size of ships and a substantial decrease therefore in the fuel:volumes ratio.

The record shows that cargo carried per tonne-mile of fuel burned has increased steadily over many years. In other words, the amount of CO₂ emitted per tonne of cargo has steadily reduced. So ships are much more efficient than ever before – and much more efficient than any other transport mode, as this slide shows. The ships here are relatively small. The prominent English environmentalist, Sir Jonathon Porritt, recently quoted 15 grammes of CO₂ emitted per tonne of freight by sea per kilometre and compared it with an even greater figure of 1,600 gm per kilometre for air freight. By either measure, this is efficient.

The problem is that world trade continues to increase year on year and therefore to demand ever greater cargo capacity and more ships – despite the trend toward bigger, more efficient ships. Developed countries continue to consume and developing economies have sucked in raw materials – with shipping the only transport mode that can deal with such massive volumes of trade. Hence the growth in maritime fuel consumption in absolute terms.

Let us put the current level of carbon emissions from shipping in perspective. This figure is difficult to establish precisely, but an IMO expert group has estimated it at somewhere around 850 million tonnes annually. The group has assessed shipping's output at around 2.7% of the world total – the level of a large country such as Germany. The sound bite of shipping carrying 80 to 90% of world trade – as you heard earlier this afternoon – for 2.7% of the carbon emission is striking.

But we are not complacent – if one projects forward expected efficiencies in other sectors, our relative share gets much bigger and this will increase the political imperative and pressures on shipping.

Looking forward, new technologies and operational efficiencies will certainly make it possible for shipping to reduce emissions. Current best estimates suggest reductions in the CO₂ emitted per tonne of cargo carried over one kilometre by perhaps by 15%-20% in the next 5-15 years.

However, a clear distinction must be drawn between **relative** reductions in relation to fuel burn per tonne-kilometre, which the industry can and must address and achieve, and **absolute** reductions in emissions by the shipping sector as a whole, which will need to be assessed in the light of the ever growing demands of world trade. An approach needs to be found which will not restrict whatever level of world trade our society wishes to maintain.

Our industry acknowledges the urgency and the need for practical and effective action. It is clear that shipping has been left out of the reckoning to date – because of the complexities. But it is equally clear that this will

not continue and that governments will be keen to ensure that all sectors contribute in a real and practical way to helping meet reduction targets.

From the viewpoint of shipping, the picture looks like this. There are no precise figures on this slide but it shows the nature of the challenge.

Business as usual – on the basis of the recent trend of around a 3% year-on-year increase in world trade – produces 40% more emissions by 2020.

Assuming they come through, technical and operational efficiency improvements will offset part of that increase (and IMO is working to require or recommend these in an agreed and structural manner). But that will still leave a substantial need for further reductions to meet governments' hopes and demands.

And it is this territory that is now being addressed by industry in depth. The debate has begun in far greater detail and earnest during the first part of this year, with national shipping industries and national governments only now beginning to reveal their hands and positions.

Before I get into the industry's position, let us just look briefly at the political landscape, as we approach the next rounds of intergovernmental discussions at IMO in July and at the UNFCCC in Copenhagen in December.

Encouragingly, the European Commission has indicated that it too would prefer to see a global IMO response, rather than an outbreak of regional initiatives. However, the Commission has also made it clear that, in the absence of an IMO solution by 2011, it may feel compelled to develop regional controls in order to help meet the firm EU political target for

reducing all EU carbon emissions by 20% (against a 1990 baseline) by 2020. It has also been suggested that if IMO does not achieve an agreement, shipping emissions might be included in the national emission reduction targets of EU Member States.

A further point – and this is applicable to any region or country which has the potential to take unilateral action: While of course we respect the EU's right to take unilateral action, it also has a responsibility first to do all it can to work within IMO to help achieve the goal of a world-wide solution. And this commitment to IMO must be both genuine and backed up by constructive engagement, not just lip-service.

Significantly, the latest climate change package proposed by the European Commission in 2008 did not include shipping (as it did aviation) in the re-launched EU Emission Trading Scheme. We agree that the engagement of international shipping will involve additional complexity and that it is necessary and right to keep the practical systems for carbon reduction in aviation and shipping separate.

The position of the United States will also be critical. With the election of President Obama, the US is developing a more focused response on CO₂, both at the Federal and State level. It is hoped that the US will also support IMO as the appropriate forum for the development of measures for shipping.

A question then hangs over the positions of the emerging economies like China, India, Brazil and the other so-called non-Annex 1 or developing countries. Although they are signatories to the Kyoto Protocol, they are

absolved of the need to make carbon reductions on the basis of the principle of “common but differentiated responsibilities”. It remains to be seen at what stage they begin to join the party in real terms.

In our view, in shipping, it will be important for industry and governments to aim for a genuinely global regime which makes no distinction by nationality or ship-registration, in order to ensure a full application of any measures agreed and not to introduce competitive distortions. Adherence to the long-established IMO concept of ‘no more favourable treatment’ is a crucial principle, even if it may be necessary in some areas to contemplate flexibility in an introductory phase-in period to allow all countries to accept and work within the global system.

So what are our goals and objectives for the coming rounds within IMO and the UNFCCC?

As we have seen from the graph I showed earlier, new technology and operational measures are fine and they will result in efficiency gains on an individual ship basis. But these gains are unlikely to even offset the predicted growth of the industry and will almost certainly not meet the aspirations of those governments in the forefront of the carbon reduction debate. This suggests that the industry must be prepared for additional encouragement in the form of a financial or market-based instrument or ‘MBI’ to bridge the gap between practical reduction measures and political demands.

Such an instrument should, in effect, enable the shipping industry to pay other sectors to make the carbon reductions that we ourselves cannot

make at this stage – through an international funding mechanism that would facilitate investment in off-setting systems such as reforestation and perhaps most importantly in research and development into ship design, construction and operation. There is a strong debate now as to whether this could be best achieved through a carbon trading market for shipping or through some form of tax or levy.

The debate is fairly evenly balanced at the moment, although I should add that in the UK, we have come out in favour of a cap-and-trade system for shipping to parallel the arrangements that exist for other sectors.

But even if, as the international industry, we are not quite ready to make a choice between a fuel levy and carbon trading, all are agreed on a range of elements that should apply to both current options. Some of these have been highlighted already in IMO which has adopted the so-called '9 principles'. But ICS is now taking these further and developing them into very practical system parameters.

As a starting point, the industry policy includes the following principles:

1. Its policy has an ultimate vision of zero carbon emissions from shipping.
2. International shipping should be treated as a separate global entity for the measurement and reporting of carbon emissions – ie like a country.
3. Any measures to reduce CO₂ from shipping should be global in coverage and regulated by the IMO.

4. Any market-based instrument adopted to supplement and encourage technical and operational efficiencies should result in real and demonstrable global carbon emission reduction without delay after it becomes operative.
5. The proposed scheme should be capable of replacing any regional or national systems already in place or being considered.
6. The measure should be fair to both large and small operators and minimise the risk of competitive distortion and modal shift to less environmentally friendly modes.
7. The establishment of an international administrative body will be necessary to handle funds accruing from the levy or trading scheme.
8. Both systems would be applied by reference to the fuel consumption of individual ships, with monitoring and verification through bunker purchase records and fuel suppliers' sales – using bunker delivery notes.
9. Disbursement of funds raised would take into account the need to meet the requirements of the target imposed on shipping for GHG reductions.
10. The measures should be easy to comply with and straightforward to administer at shipping company level.
11. The market-based instrument should be capable of interacting with other present and future MBIs (e.g. trading schemes), in order to maximise the opportunities for carbon abatement and mitigation.

These are complex and unique issues. We are very conscious that the clock is ticking and that, if a solution cannot be brokered in good time inside IMO, then unilateral regional or national measures will be inevitable.

It is important that regulators must not feel this is a problem for industry alone to solve. We are willing to help find and implement a solution. But nation states must also step up to the mark and help us to help them. The complexities are so enormous (big enough to warrant exclusion from Kyoto, the EU's ETS and the UK's Climate Change Act) that industry cannot reasonably be expected to provide all the answers. At present we see very limited concrete ideas emerging from even the most progressive nation states. If real action is to be forthcoming, both industry and Member States will need to work together to unearth and then resolve all the possible options.

I was delighted to read a comment by Sir Jonathan Porritt who was speaking on shipping emissions at a recent seminar: "You are miles ahead ... Do not lose it by being complacent." I hope what I have said today has demonstrated that the shipping industry is following his advice closely!