



## MAKING MARITIME SHIPPING NET ZERO— THE VIABILITY OF MARKET-BASED MEASURES

This analysis looks at the viability of market-based measures (MBMs), as one method by which global maritime shipping endeavours to reach net zero greenhouse gas (GHG) emissions. Simon Bullock, shipping researcher at the Tyndall Centre for Climate Change Research, and Alessio Sbraga and Gudmund Bernitz, both partners at HFW, provide comment on the current hurdles standing in the way of marine shipping decarbonisation, as well as on whether MBMs should form part of the decarbonisation puzzle.

This article was written by LexisNexis Paralegal Tom Inchley with contributions from HFW Partners and Shipping Sustainability Ambassadors: Alessio Sbraga and Gudmund Bernitz. It first appeared in LexisNexis COP26-The Road to Net Zero Special Publication 2021.

# “New green financial products are becoming more prevalent in the market, but the shipping community is calling for more, and wider access to, competitive green finance to enable investment in new technology.”

Ahead of the COP26, set to take place in Glasgow between 1 and 12 November 2021, considerable noise has been made around the need for maritime shipping to reduce its carbon emissions. Maritime UK CEO, Ben Murray's **statement** that 'net zero is not possible without decarbonising maritime' being only the latest iteration of this call.

Indeed, it seems that the **slow progress** the sector (which accounts for slightly less than 3% of global GHG emissions) has made towards net zero may just be at an end, as murmurs can be heard in numerous countries and organisations worldwide on the need to tackle the issue.

On 20 April 2021, the UK **declared** that it was incorporating its share of international aviation and shipping emissions into the UK's sixth Carbon Budget for the first time, thereby allowing 'these emissions to be accounted for consistently'.

The European Federation for Transport and Environment (T&E) recently published a **study** arguing that 7% of the EU's shipping fuels will need to be green by 2030 if the sector is to fully decarbonise by 2050. This study, which assumes the implementation of considerable efficiency measures in areas such as wind-assist and speed optimisation, resulted in T&E's shipping director,

Faig Abbasov, calling on the EU to 'mandate 7% electrofuel deployment by 2030 for all EU shipping as an ambitious but realistic way to fully decarbonise by 2050'.

Ahead of the Leaders' Summit on Climate in the US, which took place in April 2021, shipping companies submitted a proposal to the International Maritime Organization (IMO). The **proposal** asked the UN regulator to bring forward discussions of MBMs so that they are conducted as soon as possible, and before 2023, in an effort to ensure that the global shipping industry can collectively meet its decarbonisation targets.

According to the **IMO**, MBMs, which 'place a price on greenhouse gas emissions', serve two main purposes:

- they provide 'an economic incentive for the maritime industry to reduce its fuel consumption by investing in more fuel-efficient ships and technologies and to operate ships in a more energy efficient-manner (in-sector reductions)'
- they provide for 'offsetting in other sectors of growing ship emissions (out-of-sector reductions)'

These recent attempts by many countries and organisations to expedite the speed at which the maritime shipping sector

decarbonises are laudable. However, it hides many problems associated with actually achieving this aim. Indeed, evident in Murray's recent statements and the IMO's proposal is the fact that doing so will only be viable if robust measures are put in place to support the industry in its transition towards net zero.

As Murray **explains**:

'Such significant commitment to combatting climate change will demand robust action from government to help industry develop the solutions necessary, and to support the deployment of low emission vessels and infrastructure to meet ambitious trajectories for net zero goals.

Regulation alone is not going to be sufficient: building on the automotive experience, capital investment in maritime decarbonisation is needed to unlock the potential of industry and to kick-start the whole scale transition to zero emission maritime. This includes investment for green infrastructure, funding for R&D and incentive support for owners and operators to manage the transition to low emission vessels and alternative fuels.'

Similarly, the shipping companies' proposal to the IMO notes:

'To achieve the levels of ambition in the Initial Strategy, the Organization

needs to take a number of important additional steps. These include addressing the need to expand and accelerate applied research and development efforts that are critical to using zero-carbon technologies, and consideration of what policy measures will be necessary to facilitate the transition of the fleet to new fuels and/or technologies that are generally expected to be vastly more expensive than those in use by shipping today.'

So, what are the hurdles currently standing in the way of marine shipping decarbonisation, and how can they be overcome?

As a 2019 **report** published by Imperial College London explains, for maritime shipping 'there is no silver bullet solution to decarbonisation', but rather reducing the carbon footprint of the industry will require 'a range of options, including new fuel sources, raising technical or operational efficiencies and reducing demand'.

Simon Bullock, shipping researcher at the Tyndall Centre for Climate Change Research, points to three main hurdles, namely:

- insufficient urgency, with the IMO's current targets allowing the sector's emissions to increase to 2030. Bullock contends that 'for shipping to play its fair part in keeping to the Paris Agreement, it needs to revise its targets to 50% cuts by 2030, and zero by 2040'
- marine fuels remain untaxed globally, with their cost not reflecting the environmental damage they cause. Bullock believes that 'this competitive distortion is a major drag on deployment of low-emission fuels such as hydrogen and ammonia, and on energy efficiency measures'
- the lack of a political consensus from IMO Member states, which prevents the solving of the two hurdles above. Bullock highlights the recent regulation of Sulphur Oxide emissions as an example as to how 'effective action in the sector is possible'. However, he also mentions the 'forces of delay' in the IMO, which are 'powerful and effective' in blocking any process to expedite change. Indeed, Bullock contends that

'shipping is already seen as a laggard [in the global effort to combat climate change], and there is growing frustration that the IMO is not moving fast enough'. Although he believes that 'growing pressure will force stronger action', he also wonders whether it will be fast enough to prevent the worst effects of climate change

In addition, Alessio Sbraga and Gudmund Bernitz, partners at HFW, outline numerous requirements for the maritime shipping sector to 'achieve real decarbonisation', including:

- 'a change in attitude and an understanding of the scope and scale of change required
- appropriate financial incentives and investment for both new vessels and existing vessels to make the transition
- investment in alternative fuels, zero emission fuels and fuel flexibility
- investment in and development of new technology, innovation, and research and development for alternative fuels and to make vessels more energy efficient'

Sbraga and Bernitz also agree with Bullock insofar as they note that many of these hurdles will require time to overcome, and furthermore that 'regrettably, we do not have the luxury of time'.

However, for Sbraga and Bernitz, the most important solution for the decarbonisation of the sector is 'effective and meaningful regulatory intervention (with appropriate enforcement mechanisms and sanctions)'. For them, this would 'enable transition and bridge the gap' between today's widespread use of fossil fuels and realistic zero emissions fuels in the future.

Sbraga and Bernitz also mention that they are starting to see 'a multi-layered regulatory landscape taking shape at both an international, regional and national level' in an effort to see the reduction of GHG emissions. These measures come in various shapes and sizes. However, they all involve 'putting a price on carbon either directly (likely to be the EU Emission Trading System or

other emissions trading regimes and/or MBMs to be decided upon) or indirectly (regulating the energy efficiency and carbon intensity of vessels (the IMO's EEXI/CII Regulations))'.

However, they note the disparate nature of these measures, and highlight that 'the legal framework for those regulations is still not clear, which does not promote the commercial certainty required for large scale green investments'.

As a result, Sbraga and Bernitz conclude that the main challenges for the maritime shipping sector going forward will be:

- 'to understand how this regulatory jigsaw puzzle (and approaches to tackling GHG emissions) fits together and will work in practice
- how it will impact the main stakeholders and, importantly
- how this will shape the commercial relationships and both existing and future contracts in the shipping sector'

Indeed, they note that 'new green financial products are becoming more prevalent in the market, but the shipping community is calling for more, and wider access to, competitive green finance to enable investment in new technology'.

### **Do MBMs form part of the decarbonisation puzzle?**

In this article, we will set aside this search for a multifaceted solution to the decarbonisation of the maritime shipping sector, and instead focus on one specific area—namely the viability of MBMs and their role in the industry's transition to net zero.

As discussed above, MBMs are one of the ways by which organisations attempt to encourage shipping companies to be more environmentally friendly. This is achieved through various incentives and disincentives designed to try and guide their behaviour. These measures can come in numerous shapes and sizes, but often fall into **two** main categories:

- MBMs that attach a price large enough (usually through taxes and levies) to incentivise shipping

companies to switch to either more environmentally friendly methods and/or fuels, or innovate in an effort to reduce their emissions

- MBMs that work under a cap-and-trade system. These allow countries or organisations to introduce an emissions cap and issue a finite number of emission allowances consistent with that cap. Shipping companies are required to hold allowances for the emissions that they emit. They can also buy and sell allowances, which in turn creates a market price for emissions. As a result, shipping companies that find it cheaper to innovate to more environmentally friendly methods are able to save money by not buying allowances, and/or selling their allowances to their competitors

On MBM's viability, Bullock contends that they will prove 'essential', as a correction to 'the current anti-competitive distortion against cleaner fuels'. He highlights the recent submission by multinational commodity trading company Trafigura (as one of the world's largest ship charterers) to the IMO ahead of the 75th session of the IMO's Marine Environment Protection Committee (MEPC) in November 2020. Trafigura submission advocated the introduction of a carbon levy on maritime fuels of between \$US 250–300 per metric tonne of CO<sub>2</sub> (for more information, see Trafigura's 2020 Responsibility Report [here](#)). Bullock believes that 'some of the proceeds of such a levy can be used to help develop the necessary new clean fuel infrastructure, and to help poorer nations to innovate and retrofit their ships where they rely on less-efficient vessels'.

Sbraga and Bernitz also believe that 'MBMs have a role to play in incentivising the shipping community'. However, they highlight three relevant questions in relation to the introduction of MBMs, namely:

- how much should the carbon levy per tonne of CO<sub>2</sub> emitted be?
- when can or should this come into force?
- who shall enforce this?

They highlight a carbon levy that was tabled at MEPC 76 in June 2021 'by both the Solomon Islands and the Marshall Islands (with the proceeds to be used partly for research and development and partly to help developing countries combat climate change)'.

During MEPC 57 in 2010, proposals were first submitted by Member States on the introduction of MBMs for the shipping industry. However, as of yet, no IMO Member States have adopted any of the proposals suggested, as there remains serious **disagreements** between developed and developing countries on the types of MBMs that should be introduced.

As a result, if it comes into force, this carbon **levy**, which would place a \$US 100 price per metric tonne of CO<sub>2</sub> on shipping emissions, would represent the first MBM ever imposed upon the maritime shipping sector. Sbraga and Bernitz believe that the levy is an 'interesting proposal, but one which may not be rolled out immediately'. They contend that 'it would be sensible to have MBMs enforced on a global basis as soon as possible and the price per tonne of CO<sub>2</sub> emitted should be sufficient to speed up the transition'.

However, in keeping with tradition, no decision was reached at MEPC 76, with the discussion being pushed back to MEPC 77 to take place during November 2021.

In order to understand this tension between developed and developing countries on emission mitigation measures, it is helpful to look at the introduction of the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP).

During MEPC 62 in 2011, the EEDI was made mandatory for new ships and the SEEMP for all ships among the ICO's Member States.

The EEDI calculates a ship's energy efficiency using a complex formula, taking into account various factors, including emissions, speed and capacity. It requires that new ship designs meet a minimum level of energy efficiency per capacity mile (dependent on the type of ship), with that level being incrementally

tightened every five years in an effort to encourage innovation.

The SEEMP, in comparison, is an operational measure that introduced a mechanism that shipping companies can use to measure and control emissions from already existing shipping fleets in an effort to improve the overall operating efficiency of their ships.

However, the introduction of both the EEDI and the SEEMP met considerable opposition from a number of developing countries. The introduction of the EEDI was initially **blocked** by China, India, Brazil, South Africa and Saudi Arabia in 2010, despite all countries being heavily involved in the process. It was only introduced in 2011 due to a compromise between developed and developing countries, which allowed some countries to postpone its commencement date up to six and a half years from 1 January 2013. Despite this, Brazil, China, India, Saudi Arabia and Venezuela, still made **statements** opposing the introduction of the EEDI and SEEMP after their adoption.

The reasons for this are numerous. However, Professor Yubing Shi **contends** that the main reason as to why developing countries opposed the introduction of the EEDI and SEEMP is the failure to incorporate the Common But Differentiated Responsibilities (CBDR) principle into both measures.

The CBDR principle imposes primary, although not sole, responsibility for the solving of environmental problems on developed states, due to their supposed Reducing emissions larger historical contribution to these problems and their apparent capability (through their advanced technology and stronger economies) to better absorb the introduction of measures to lessen their environmental footprint. The lack of the CBDR principle in either the EEDI or the SEEMP is therefore seen by many developing countries as the introduction of measures that are likely to have a disproportionate effect upon themselves. Consequently, as Professor Yubing Shi explains: 'The lack of sufficient support from major developing countries...

imposes challenges for the future implementation of the EEDI and SEEMP measures.'

This ongoing tension between developed and developing countries, evident in the case of the EEDI and the SEEMP, is also apparent in the introduction of MBMs for similar reasons.

For example, **China** and **India** have opposed the possible adoption of MBMs by the IMO due to fears that to do so would jeopardise the interests of their respective shipping industries. Both countries at **MEPC 61**, expressed their reservations in relation to uncertainties surrounding MBMs, and called on the IMO to give sufficient time to all Member States, especially developing countries, to allow them to carry out further study and submit their own proposals to the MEPC.

Many developing countries, including Brazil, China, Cuba, India, Peru, Saudi Arabia and Venezuela, have also expressed **support** for the CBDR principle in relation to MBMs. This in turn has led to a tension between the CBDR principle and the IMO's international maritime treaty instruments, which are based on the principle of non-discrimination and equal treatment (what Professor Yubing Shi has **called** the 'No More Favourable Treatment' approach). Unsurprisingly, whereas developing countries are in favour of the former approach, developed countries prefer the latter.

### **MBMs and the current impasse**

To conclude, it is understandable that different MBMs are favoured by different countries, given their own unique circumstances and domestic political and economic landscapes. Naturally, this debate often becomes entangled within the wider struggles of the international geopolitical landscape, resulting in many countries refusing to budge unless international organisations, as well as other countries, address what they believe to be their own legitimate concerns regarding their own interests.

However, this inability of IMO Member States to form a consensus between them on the proper implementation of MBMs has led to an impasse, which the IMO is still attempting to overcome. This goes beyond MBMs, and largely explains the slow progress of the sector towards reaching net zero, as all global decarbonisation measures are forced to run the gauntlet of international relations before they can be introduced, let alone implemented.

As a result, discussions on the relative merits of different MBMs are somewhat moot until this impasse is resolved amicably among all of the IMO's Member States. Unfortunately, the recent call by shipping companies for the IMO to bring forward discussions on MBMs is unlikely to resolve this underlying tension between developed and developing countries.

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