

INTERNATIONAL CHAMBER OF SHIPPING



2017

ANNUAL REVIEW



Representing the Global Shipping Industry



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The International Chamber of Shipping (ICS) is the principal global trade association for shipowners, concerned with all regulatory, operational and legal issues, as well as employment affairs.

The membership of ICS comprises national shipowners' associations representing all sectors and trades from 37 countries, covering more than 80% of the world merchant fleet.

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CHAIRMAN'S OVERVIEW

ICS Chairman
Esben Poulsson (Singapore)

This Annual Review explores a broad cross-section of the many important matters in which ICS is engaged with regulators and other intergovernmental bodies that impact upon the global shipping industry.

Following my election as ICS Chairman last year, this is the first occasion when I have been responsible for presenting the foreword. And it has certainly been an interesting year in which to assume the Chairmanship of the industry's principal global trade association.

A large amount of effort within ICS is currently being focused on persuading the International Maritime Organization (IMO) to develop some suitably ambitious CO₂ reduction objectives, on behalf of the sector as a whole, in response to the Paris Agreement on climate change.

The long term future of the industry – like the rest of the world economy – must eventually be fossil fuel free. The trajectory for getting there, not least the development of alternative fuels, could well take several decades, and probably presents a far greater challenge for shipping than for most land based sectors.

But I am extremely pleased that, in conjunction with other international shipping associations, ICS has succeeded in persuading IMO Member States to develop a comprehensive Road Map for CO₂ reduction, with an initial strategy to be agreed in 2018.

Sticking with environmental regulation, there were two other very important developments in the past 12 months: the decision by IMO Member States to implement the global sulphur in fuel cap in 2020, and the deposit of the necessary number of government ratifications of the IMO Ballast Water Management Convention to trigger its worldwide entry into force in September 2017. The economic and operational implications of both will be profound indeed. I am confident that these major changes will eventually achieve their intended objectives, but only provided that governments are willing to think carefully about implementation and the transition to the new requirements.

While much of ICS's work is about preparing for the future, we must always be cognizant of lessons from the past. I greatly enjoyed visiting the exhibition, at the IMO headquarters in London, showing the impressive progress that has been made, through a combination of regulation and industry measures, to reduce oil pollution from ships since the 'Torrey Canyon' incident 50 years ago.

In the wider world, the election of President Trump has focused new attention on free trade principles which can too easily be taken for granted. ICS has long been involved in quiet diplomatic work with governments behind the scenes in support of free trade in shipping. Now this work has suddenly become a subject of enhanced importance.

Esben Poulsson, with IMO Secretary-General, Kitack Lim, at The Economist World Ocean Summit, Bali, February 2017





While so far nothing has fundamentally changed, we need to be vigilant against any rise in protectionism which would be deeply damaging to the continuing improvement of global prosperity as well as to the prospects of recovery in shipping; the current downturn in most shipping trades having now lasted so long that the end must surely soon be in sight, as evidenced by recent signs of improved prospects for both the container and dry bulk segments.

Five months before my election as ICS Chairman, the new IMO Secretary-General, Mr Kitack Lim took office. I have since been pleased to meet with him on several occasions and have been impressed with his appreciation of the challenges confronting the industry, and his focus on improved communication in order to forge consensus and better understanding among the world's maritime administrations.

Meanwhile, within ICS, I also aim to improve our own communications and profile, and with the agreement of the ICS Board, I am personally leading a major rebranding exercise, the results of which should be unveiled later this year.

It is an honour to have been elected Chairman of ICS, as well as being a somewhat daunting responsibility. I have therefore been most grateful for the support I have received from the ICS Board, including the four Vice Chairmen, as well as our Committee Chairmen, our many Committee members, and our hard working and dedicated Secretariat. The sheer volume and diversity of issues being addressed by the ICS staff, let alone the success they continue to make of our publications portfolio, is most admirable.

On behalf of all ICS Members, I would like to repeat our appreciation to my predecessor, Masamichi Morooka. I hope very much to emulate his sound approach to leading the complex work of ICS and representing the best interests of shipowners, hopefully with a similar degree of optimism and in a good spirit.

Esben Poulsen

ICS VICE CHAIRMEN 2016/17

Left to right

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Mr Mark Martecchini (Liberia)

Mrs Karin Orsel (Netherlands)

Mr Gerardo Borrromeo (Philippines)



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Director Legal Affairs

Mrs Natalie Shaw

Director Employment Affairs

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REDUCING CO₂ AN INITIAL IMO STRATEGY FOR 2018

IMO NEEDS TO COME
FORWARD WITH
SOME AMBITIOUS
CO₂ REDUCTION
OBJECTIVES ON BEHALF
OF THE INTERNATIONAL
SHIPPING SECTOR

Shipping is by far the most carbon efficient form of commercial transport, and has a good story to tell when it comes to reducing CO₂ emissions and playing its part in the prevention of dangerous climate change. Fuel is by far a ship operator's greatest cost, so cutting CO₂ emissions is enlightened self interest.

As a result of fuel efficiency measures, the total CO₂ emissions from the sector are considerably lower than they were in 2008, despite increased maritime trade, while CO₂ emissions from the rest of the world economy are projected to continue increasing until the 2030s. However, the industry recognises that shipping needs to do even more and is determined to step up to the challenge, notwithstanding the considerable technical and political difficulties.

In June 2017, IMO Member States will begin the development of a Road Map to reduce CO₂ emissions from the international shipping sector, in line with the ambitious spirit of the Paris Agreement, adopted by Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015. The intention is for IMO to agree an initial strategy for this Road Map in 2018.

This important decision by the IMO Marine Environment Protection Committee (MEPC) in October 2016 was at the direct request of ICS and other international shipping associations, which called on IMO to act as soon as possible in order to prevent the serious threat of unilateral or regional action by governments.

As reported elsewhere in this Annual Review, the European Union is currently giving consideration to a recommendation from its Parliament that international shipping – including non-EU flag ships – should be incorporated in the EU Emissions Trading System. This would destroy the level playing in shipping and greatly damage the authority of IMO, while doing little to help further reduce shipping's CO₂ emissions which can only be achieved meaningfully with a global solution. But the danger of unilateral action also exists elsewhere, including Canada and California – and even China – which have already introduced carbon pricing at local level and could potentially decide to extend this to shipping.

ICS participated at an IMO side event at the UNFCCC climate change conference in Marrakech in November 2016



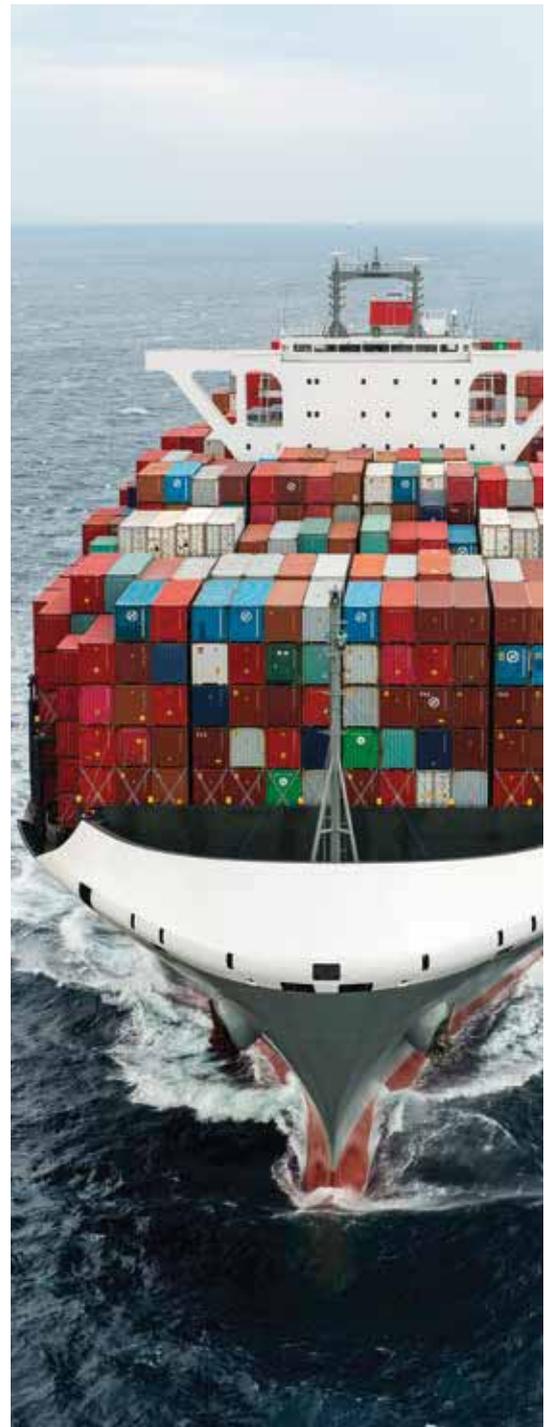


ICS is confident that IMO can adopt an ambitious strategy by 2018 matching the ambition of the Paris Agreement. However, ICS members have concluded that to be consistent with the spirit of the Paris Agreement, IMO needs to agree a baseline year for peak CO₂ emissions from shipping, as well as some serious long term aspirations to dramatically cut the sector's total CO₂.

ICS also believes that IMO should adopt aspirational objectives for the sector as a whole, rather than set targets for individual ships, in the same way that governments have already agreed CO₂ commitments for their national economies under the Paris Agreement. But IMO also needs to agree measures for delivery which ICS would like to see in place by 2023 (when UNFCCC will be conducting a major global stocktaking exercise of progress towards holding global temperature increases to below two degrees higher than pre-industrial levels).

IMO has made real progress to address CO₂ emissions from shipping, having adopted the Energy Efficiency Design Index (EEDI) in 2011, as a result of which ships built in 2025 will be at least 30% more efficient than most of those constructed before 2013. The impact of the mandatory IMO requirement for existing ships to develop and utilise Ship Energy Efficiency Management Plans (SEEMP) should also not be overlooked. With the introduction of additional technical and operational measures, ICS is confident that shipping can reduce its CO₂ emissions per tonne-km, as an average across the sector, by at least 50% by 2050 compared to 2008.

In spite of this progress, it is clear that society at large, as well as many governments, now expects IMO to deliver even more. Shipping and aviation, being international transport sectors, are not covered by the Intended Nationally Determined Contributions (INDCs) to which governments have committed as part of the Paris Agreement, and IMO has the mandate for addressing CO₂ emissions from international shipping. >>>



REDUCING CO₂

AN INITIAL IMO STRATEGY FOR 2018



However, IMO is vulnerable to the charge that shipping is now the only sector of the world economy which has not yet established goals with years and dates, however provisional, for when CO₂ emissions attributed to the sector might peak and then subsequently start being reduced. In theory at least, this has now been done for land based sectors via the INDCs committed by governments under the Paris Agreement. The International Civil Aviation Organisation (ICAO) has also done the same for international aviation.

The aviation sector, as a result of an agreement reached by ICAO Member States in November 2016, is committed to holding its total CO₂ emissions at 2020 levels, and has set an 'aspirational goal' of cutting the sector's total CO₂ emissions by 50% by 2050.

It is not entirely clear how this ambitious goal will be achieved by the aviation industry and, unlike IMO, ICAO has not yet established a global system for monitoring and reporting CO₂ emissions from aircraft or adopted an efficiency measure comparable to the EEDI. However, ICAO's objective of holding CO₂ emissions at 2020 levels will be delivered using a Market Based Measure (MBM) which will involve the use of CO₂ reduction credits to be obtained from outside the aviation sector.

The shipping and aviation sectors have very different characteristics for which different responses will be required. However, the deal reached by ICAO in 2016 can be expected to place additional pressure on IMO Member States to agree some comparable objectives that are appropriate for international shipping.

Importantly, in October 2016, IMO adopted a global CO₂ data collection system for ships which, as a mandatory requirement, will provide IMO with far more accurate fuel consumption data by 2019. Consistent with the 'three step process' which has been agreed by IMO Member States (data collection, analysis and consideration of additional measures) this data will be able to inform the development of measures for the delivery of any CO₂ reduction objectives agreed in 2018 when the IMO Road Map is finalised in 2023.

It is possible that IMO Member States could conclude that any objectives agreed will not be achievable in the





immediate future through technical and operational measures alone. Accordingly, if IMO Member States should decide to develop an MBM for international shipping, the clear preference of the industry is for a global bunker fuel levy charged per tonne of fuel purchased for consumption.

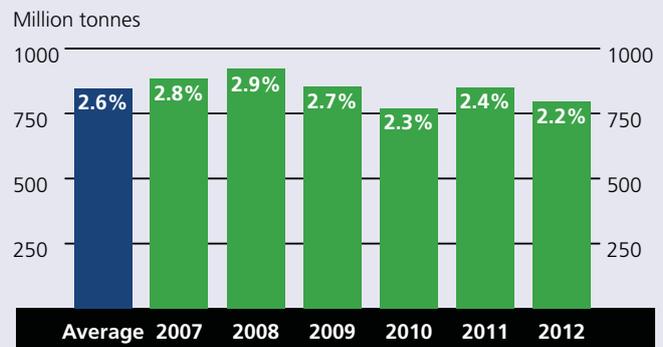
However, in the event that IMO should decide to develop an MBM, any money collected from the industry must result with a reduction in the CO₂ emissions attributed to the sector, and a significant proportion must be used for research into the development of alternative fuels that will allow shipping to drastically reduce its future CO₂ emissions.

IMO needs to establish CO₂ reduction goals that will be sufficiently ambitious to allow shipping to play its part in achieving the United Nations '2 degree' climate change target, but ICS believes these goals should also be realistic. Any MBM adopted must only be seen as an interim measure. Ambitious CO₂ reduction objectives will only be achievable with alternative (fossil free) marine fuels which do not yet exist, although ICS expects these will be available in the not too distant future.

Widespread availability of alternative fuels (such as hydrogen or fuel cells) and the associated infrastructure is probably not expected for at least another 20 or 30 years. The sector's total CO₂ reduced by more than 10% between 2007 and 2012. But projections for trade growth – over which the industry has no control, due to population growth and improved global living standards – suggest that dramatic reductions in the sector's total CO₂ emissions will be very difficult to achieve until these alternative marine fuels become widely available on a global basis. >>>



REDUCTION OF INTERNATIONAL SHIPPING'S CO₂ AND SHARE OF GLOBAL TOTAL EMISSIONS



Source: 2014 IMO GHG Study

REDUCING CO₂

AN INITIAL IMO STRATEGY FOR 2018



In the meantime, ICS will argue that any CO₂ reduction goals agreed by IMO must also address the legitimate and valid concerns of developing nations about the potential impacts on trade and sustainable development. According to the United Nations (UNCTAD), 60% of maritime trade now serves developing nations.

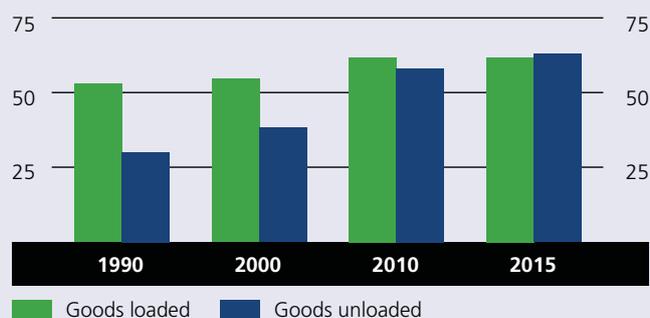
The challenges involved in developing a package of additional CO₂ reduction measures are technically and politically complex. Developing nations continue to argue that under the terms of the Paris Agreement they still have less responsibility for reducing CO₂ than richer nations. In shipping, however, any measures adopted by IMO must apply to all ships equally regardless of the flag state, in order to maintain a level playing and to avoid 'carbon leakage'.

In view of the complexity of these issues, the development of a global industry consensus on the best way to proceed has not been an easy process. However, ICS hopes to achieve a consensus, acceptable to all of its member national shipowners' associations. The intention of ICS is then to come forward during 2017 with some serious ideas about how IMO Member States should develop the Road Map for CO₂ reduction.

ICS believes that IMO should adopt an initial strategy in 2018 which can reconcile the need for ambitious long term objectives with the industry's current dependence on fossil fuels, while also taking full account of shipping's important role in moving about 90% of global trade which will be vital for the continuing and sustainable development of the world economy.

INCREASE IN DEVELOPING COUNTRIES' SHARE OF GLOBAL SEABORNE TRADE (BY VOLUME)

% of global goods loaded/unloaded at developing countries' sea ports



Source: UNCTAD Review of Maritime Transport 2016



GRACE DAHLIA
グレース ダリア

NKK

BALLAST CONVENTION MAKING IT A SUCCESS

IN SEPTEMBER 2017,
THE IMO BALLAST
WATER MANAGEMENT
CONVENTION WILL
ENTER INTO FORCE.
ICS IS COMMITTED TO
MAKING IT A SUCCESS.

Thirteen years after its original adoption by IMO Member States, the Ballast Water Management (BWM) Convention will enter into force in September 2017. It has already proved to be one of the most complex and controversial pieces of technical regulation ever agreed by IMO. However, there may now be light in sight at the end of a very long tunnel.

ICS fully supports the intention of the BWM Convention, which is to address the problem of invasive marine organisms having damaging impacts on local ecosystems through their unwitting transportation in ships' ballast tanks. However, it was adopted under huge political pressure back in 2004, when the technology required for ships to treat millions of gallons of ballast water simply did not exist outside of a laboratory. As a consequence, the enormous costs of installing completely unproven systems were dramatically underestimated, first by the manufacturers, and then by governments who believed what they wanted to hear.

In 2017, the total cost of ensuring compliance across the entire world fleet is estimated to be about US\$100 billion. But after so many years of delay, the entry into force of the Convention should at least give shipowners some of the certainty needed to make important decisions about whether to retrofit the new equipment or, because of the prohibitive cost (US\$1- 5 million per ship) send older ships for early recycling.

But the Convention's imminent entry into force still presents ship operators with a serious challenge because of the expected lack of shipyard and manufacturing capacity needed to retrofit the new treatment systems on around 40,000 vessels over a five year period. The situation has been further complicated by the United States which is not a Party to the BWM Convention. The U.S. has unilaterally adopted its own ballast water regulations, with which ships trading to the U.S. must already comply.

In October 2016, following a major industry campaign led by ICS over several years, the IMO Marine Environment Protection Committee (MEPC) finally adopted revised and more robust type-approval standards to be included in what will soon become a mandatory Code for Approval of Ballast Water Management Systems – the previous 'G8' Guidelines having been found by shipowners to be inadequate in a number of key areas. IMO has recommended that administrations apply





these revised standards as soon as possible. However, they will not become mandatory for new system approvals until 28 October 2018 and only systems being installed after October 2020 will be required to have been approved in accordance with the new Code.

In the meantime, apart from the possible shortage of shipyard and manufacturing capacity to retrofit around 40,000 systems, many shipping companies – through no fault of their own – face critical decisions. They will potentially be required to install expensive new equipment that may not be guaranteed to operate correctly in all of the normal operating conditions they would reasonably be expected to face when ballasting and de-ballasting during worldwide service. These decisions are all the more difficult if the ships are approaching the end of their typical 25 year life.

At the MEPC meeting in October 2016, IMO Member States made some progress towards unpicking this unprecedented regulatory mess, in the knowledge that the Convention will be entering into force globally in just a few months' time. >>>



BALLAST CONVENTION

MAKING IT A SUCCESS



As well as adopting the revised guidelines for type-approval, the MEPC also reiterated its agreement on a road map that will hopefully ensure that most Port State Control authorities will not unfairly penalise ‘early movers’ – companies which, in good faith, have already installed treatment systems that were tested and approved under the IMO type-approval guidelines adopted before the 2016 revision. The United States, however, unhelpfully continues to reserve its position on this part of the IMO package.

Because of the lack of confidence in the IMO type-approval process, and the previous uncertainty as to when the Convention would enter into force, very few existing ships have so far been retrofitted with the required treatment systems, the installation of which will soon become mandatory, creating a log jam in available yard capacity. But there is also little logic, from an environmental protection standpoint, in requiring thousands of ships to comply until they can be fitted with systems that have been approved under the more stringent 2016 standards.



Following a welcome submission to IMO in 2016 by Liberia, and a separate submission by shipowner organisations including ICS, the MEPC has begun consideration of whether the implementation schedule for installing ballast water management systems should be further amended, perhaps extending the date by which all ships must have installed a system to 2024 from 2022.

The additional two years would be facilitated by allowing ships that would currently be expected to fit a system by their first International Oil Pollution Prevention (IOPP) survey following the entry into force of the Convention to wait until the date of their second IOPP renewal survey. If agreed, this would allow shipping companies to identify and invest in far more robust technology to the benefit of the environment. The MEPC is expected to take a final decision on the implementation schedule at its meeting in July 2017.

It is no secret that ICS was previously ambivalent about encouraging flag states to ratify the BWM Convention in advance of the serious implementation issues being fully resolved. But now that it is certain that the Convention will enter into force, ICS is encouraging all IMO Member States to ratify as soon as possible, in order to ensure uniform global implementation and to pre-empt the possibility of further unilateral action by local environmental authorities.

The process leading up to the entry into force of the BWM Convention has been difficult and fraught. But as a result of the sustained efforts led by ICS, the industry will hopefully soon have the clarity it needs in order to get on with the job and, in the interest of environmental protection, make the global implementation of this important piece of legislation a success.



GLOBAL SULPHUR CAP PREPARING FOR 2020

THE IMPLEMENTATION OF THE GLOBAL 0.5% SULPHUR IN FUEL CAP WILL HAVE PROFOUND IMPLICATIONS FOR THE ECONOMICS OF SHIPPING

In October 2016, the IMO Marine Environment Protection Committee (MEPC) made a critical decision that will have profound implications for the economics of shipping.

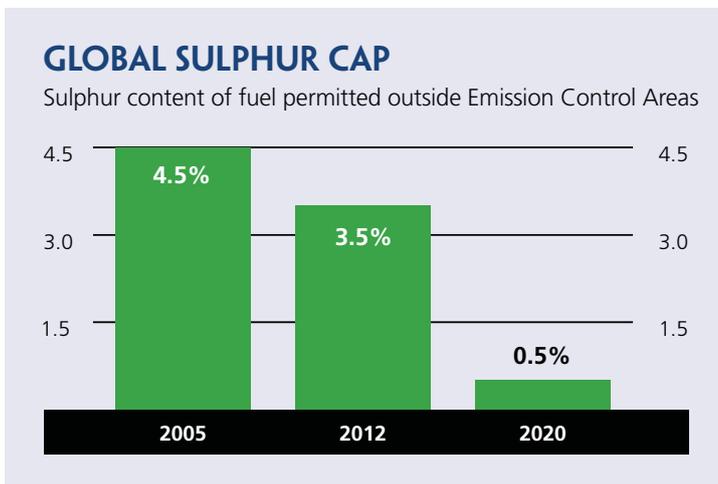
As expected by ICS, IMO confirmed that it will implement the global cap on the sulphur content of marine fuel on 1 January 2020 setting aside an option to postpone until 2025. This is the requirement under Annex VI of the MARPOL Convention, adopted in 2008, for all ships trading outside sulphur Emission Control Areas (ECAs) to use fuel with a sulphur content not exceeding 0.5%.

This decision is highly significant because the cost of compliant low sulphur fuel is currently about 50% more than the cost of residual fuel, and in response to the greatly increased demand that will now arise in 2020 this differential may increase considerably. Residual fuel is that most commonly used by ships today when operating outside of the ECAs which apply in North America and North West Europe (in which fuel with a sulphur content of 0.1% or less must be used).

Even if fuel costs stay at the current lower levels which have applied since the significant fall in oil prices in 2015, this mandatory switch to low sulphur fuel in 2020 could mean that bunker costs will return to their 2014 peak. But if by 2020, oil prices increase to something approaching US\$70 a barrel – still well short of the 2014 peak – it has been estimated that the differential between compliant low sulphur and residual

fuels could spike by as much as US\$400 a tonne. (The International Energy Agency now predicts a crude price of about US\$80 in 2020, assuming there is no oil price shock due to unforeseeable political events.)

Under the terms of the MARPOL Convention, IMO was obliged to conduct a study into the availability of compliant low sulphur fuel in order to allow Member States to decide whether the global cap should indeed be implemented in 2020. This fuel availability study was presented to the MEPC in advance of its meeting in October 2016 (with ICS having been represented on the steering committee for the IMO study).





ICS was careful to avoid expressing a view on whether or not implementation should be postponed, although in a submission to IMO (made with Intertanko) ICS did request the MEPC not to delay making a decision, so that both the shipping and oil refining industries would have as long as possible to prepare for this major change.

While the IMO study concluded that sufficient quantities of compliant fuel will probably be available in 2020, in reality the decision taken by IMO was largely a political one. The cap will apply in the middle of the ocean, where very few people live, but it was nevertheless adopted by IMO Member States in order to reduce risks to human health and to improve the marine environment (sulphur being considered generally as a cause of ocean acidification). Although the supply of compliant fuel was projected by the IMO study to be tight – with some sections of the oil industry, amongst others, questioning the conclusion that adequate supplies of fuel will be available – IMO Member States nevertheless decided that it would be politically unacceptable to postpone implementation. >>>

GLOBAL SULPHUR CAP

PREPARING FOR 2020



Now that the 2020 date has been decided, ship operators and oil refiners need to prepare for implementation. The oil refining industry in particular will need to take important decisions to ensure that sufficient quantities of compliant fuel will indeed be produced. But governments need to monitor this carefully, since it may be in the refiners' commercial interest to keep the supply of compliant fuel as tight as possible. It is important to remember that the IMO decision focused completely on the likely availability of compliant fuel and took no account of the possible purchase price.

It is anticipated that due to the massive scale and global nature of the switch, oil refiners may be very hard pressed to supply sufficient quantities of 0.5% sulphur fuel, produced specifically for marine use, to satisfy demand in all regions from day one (i.e. 1 January 2020).

In some locations, it is possible that other more expensive fuels, such as 0.1% sulphur distillate, will more likely be available, and that refiners and bunker suppliers may focus on meeting increased demand for existing low sulphur products in the knowledge that shipping companies will have no choice but to pay for them regardless of the price. This is therefore what many ships may have to use in order to comply. But even if significant quantities of 0.5% sulphur fuel are widely available in 2020, it is possible that the price may not be substantially cheaper than 0.1% fuel due to the major investment required to produce it.

As a consequence of these supply issues shipowners could take an alternative route deciding to invest in other compliance mechanisms (which are permitted by MARPOL) such as exhaust gas cleaning systems ('scrubbers') or the use of low sulphur fuels such as LNG. The decision to implement the 0.5% sulphur

cap in 2020 may also affect decisions on whether or not older and less fuel efficient ships will be sent for early recycling.

As the implementation date for the global cap approaches, it will be vital for IMO Member States to start addressing issues associated with compliance, in order to ensure fair competition and the maintenance of a level playing field.

Immediately after the MEPC decision in 2016, BIMCO, ICS and other shipping associations submitted a joint paper to IMO highlighting those fuel availability and implementation issues that will need to be resolved before 2020. The industry paper was well received

IMO AGREEMENT TO REDUCE ATMOSPHERIC POLLUTION FROM SHIPS

Sulphur content of fuel permitted in Emission Control Areas



by governments at an IMO Sub-Committee meeting in January, and work will continue on these critical issues at the MEPC meeting in July 2017 with a view to being completed by 2019.

Following the implementation of the 0.1% sulphur requirements within ECAs in 2015, there was little evidence of deliberate non-compliance, and the few non-conformities identified were due largely to technical problems during the fuel switchover. However, implementation of the global cap – including ensuring uniform compliance in trades away from the major shipping lanes – are likely to prove far more complicated, especially if compliant fuels are in short supply and there is a significant price spike in 2020.



2020 GLOBAL SULPHUR CAP

Implementation issues being addressed by IMO at the request of the shipping industry

1. Preparatory and transitional issues that may arise with the shift from the 3.5% sulphur limit to the new 0.5% limit
2. Impact on fuel and machinery systems resulting from the use of fuel oils with a 0.5% sulphur limit
3. Verification issues and control mechanisms and actions that are necessary to ensure compliance and consistent implementation
4. Development of a standard format (a standardised system) for reporting fuel oil non-availability that may be used to provide evidence if a ship is unable to obtain compliant fuel oil
5. Development of guidance to assist Member States and stakeholders in assessing the sulphur content of fuel oil delivered for use on board ship, based on the means available for verification that fuels supplied to ships meet the specified sulphur limit as stated on the bunker delivery note
6. Requesting ISO to consider the framework of ISO 8217 to maintain consistency between the relevant ISO standards on marine fuels and the implementation of the sulphur cap
7. Any consequential regulatory amendments and/or guidelines necessary to address emerging issues

GLOBAL SULPHUR CAP

PREPARING FOR 2020



ALTERNATIVE LOW SULPHUR COMPLIANCE OPTIONS

Assessing the demand and cost of low sulphur fuel required for compliance with the IMO global 0.5% sulphur cap in 2020 is complicated by several unknowns.

The most obvious is what the future price of crude oil will be, and for how long the reduction in bunker prices experienced since 2015 will be sustained. The cost of crude and bunker prices has gradually increased again, and many observers assume that oil prices are likely to be restored to levels closer to their 2014 peak by the time that the 2020 deadline arrives.

But another important factor will be the take up of alternative compliance options which are permitted by MARPOL Annex VI, and for which ICS fought hard when the 2008 amendments were adopted. However, except for blue chip operators, finance from banks for retrofitting existing ships is still in very short supply. Even though 2020 is only three years away, this may still be seen as too long term for many lenders, especially given the uncertainty about the cost savings that will be achieved until it is known what the price of low sulphur fuel will actually be.

EXHAUST GAS CLEANING SYSTEMS

With respect to exhaust gas cleaning systems or 'scrubbers' there are still significant questions about cost, reliability and environmental performance. There are also occupational health considerations involved, with seafarers potentially being exposed to the waste residue, especially if this has to be stored on board ship, should discharge into the sea be prohibited and ships have to opt for 'hybrid' or 'closed loop' systems.

Despite the successful conduct of trials, especially on board passenger ships and ferries, only a few hundred ships are using this technology in 2017. However, the situation could change in the run up to 2020, especially with respect to younger ships, although this will greatly depend on the price of low sulphur fuel.

Given the current uncertainty about the price of compliant fuel in 2020, shipowners face extremely difficult investment decisions, although for many the use of scrubbers could prove to be attractive.

The take up of scrubbers could increase significantly after 2020 once the price of compliant low sulphur fuel is known, especially if this is as high as some predict, and it can be demonstrated that the costs of retrofitting (estimated at \$US1-4 million per ship) can be paid back within two or three years. If the use of scrubbers takes off in the 2020s the price of installation could go down, but this could be offset by a lack of available dry dock facilities to undertake the work. Another critical unknown is the extent to which residual marine fuel will still be widely available to support scrubber operation after 2020.



LNG

As well as being sulphur free, liquefied natural gas (LNG) has the attraction of producing slightly less CO₂ emissions (although this has to be set against the potential dangers of methane slip, methane being a worse GHG than CO₂).

However, while many new ships are being fitted with dual fuel systems, and others are being constructed with the option to permit their installation at some point in the future, for many existing vessels the engineering involved may be too costly to permit retrofitting.

The other major unknown is the extent to which the current lack of LNG infrastructure will be addressed before 2020. The European Commission was pressing for a law making it mandatory for EU ports to have LNG bunkering facilities in place, but this was watered down by EU Member States, possibly setting back the widespread use of LNG by several years. That said, LNG bunkering facilities are now starting to be established in a growing number of ports worldwide and – with some extra encouragement from governments – LNG may become the fuel of choice for more new ships in the 2020s.

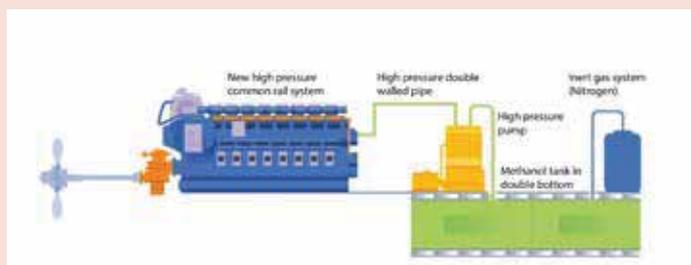


However, depending on the ship type, size and voyage length, there are significant practical design issues to be addressed, not least those relating to the complexity and cost of LNG containment systems, together with size and location of bunker tanks and their impact on cargo carrying capacity and/or the operating range of the ship.

Adding to the uncertainty about the comparative costs of LNG and low sulphur fuel, there are also questions about the US shale gas revolution and whether this will continue to deliver relatively cheap LNG, or whether it will be halted by oil producers continuing to fight back by increasing supply (one of the reasons for lower fuel prices since 2015).

METHANOL

In the medium term, there is also the possibility of ships using other fuels such as methanol, which for some ships might produce a clean and economically viable alternative. There have been concerns about safety but ICS believes that, following favourable trials, use of such alternatives should be permitted, with risks being identified and mitigation measures developed as a future part of the new IMO Code for Ships Using Gases or Other Low Flashpoint Fuels (IGF Code). These measures would also need to be supplemented with appropriate training for seafarers given the potential risks to ships' crews and the need for a full understanding of how these fuels should be used.



POLLUTION COMPENSATION GLOBAL REGIME UNDER THREAT

THE PRINCIPLE THAT SHIPOWNERS CAN LIMIT LIABILITY FOR OIL POLLUTION IS THE *QUID PRO QUO* FOR PAYMENT OF COMPENSATION REGARDLESS OF FAULT

March 2017 marked the 50th anniversary of the 'Torrey Canyon' oil spill, off the south west coast of the United Kingdom. This is generally regarded as the first major pollution incident involving a Very Large Crude Carrier (VLCC) or what the public continues to regard as a 'super tanker'. In the same way that the loss of the 'Titanic' directly led to the adoption of the original SOLAS Convention, the 'Torrey Canyon' was the catalyst that led to the adoption of MARPOL and IMO's focus on environmental protection.

ICS has attached its name to an exhibition entitled '50 years working together: Government and Industry collaboration to address the risk of oil pollution from ships', which is expected to remain on display at IMO throughout much of 2017. The dramatic reduction in the number of serious oil spills since the adoption of MARPOL is indeed impressive. However, while the goal of the industry is zero accidents and zero pollution, ships will always operate in an environment presenting a high degree of physical risk. Although the number of serious pollution incidents that occur today is very low indeed, the possibility remains that occasional oil spills will regrettably continue to occur.

'Torrey Canyon' incident, 1967



A largely unsung achievement of IMO, which also followed on from the 'Torrey Canyon', was the adoption of the Civil Liability Convention (CLC) in 1969 and the International Oil Pollution Compensation Fund (FUND) Convention in 1971.

These important IMO Conventions have established a very effective global system for ensuring that those affected by oil pollution from tankers will receive high levels of financial compensation without undue delay, the costs being shared by the shipping industry and cargo receivers.

An essential feature of the IMO compensation regime is that shipowners and their insurers accept strict liability for any pollution damage that may be caused, regardless of actual fault. Compensation payments can thus be made swiftly, without protracted legal arguments. However, the important trade-off for strict liability is that shipowners are able to limit their liability, in order that they can obtain the necessary insurance cover.

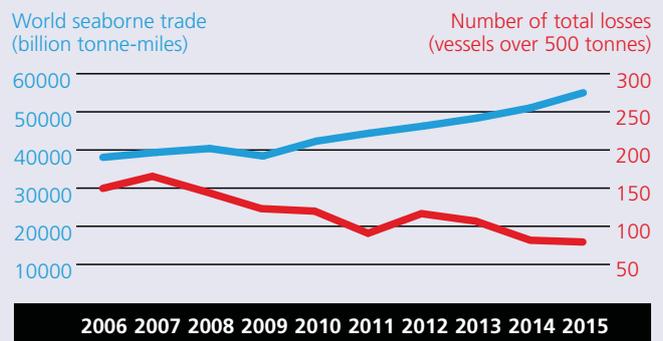
Disturbingly, this tried and tested, and very successful global system is now under threat from unilateral action.

ICS and the International Group of P&I Clubs (which represents third party liability insurers mutually owned by shipping companies) are very concerned by recent developments that threaten the stability of the international regime for oil pollution compensation, and fear that a tipping point may have been reached.

These developments include the controversial decision of the Spanish Supreme Court, in January 2016, relating to the 'Prestige' incident of 2002, and the enactment of a new domestic law in France, in August 2016, providing for unlimited liability for environmental damage. This latter development followed on from the decision of the French Supreme Court in 2012 on the 'Erika' incident of 1999.

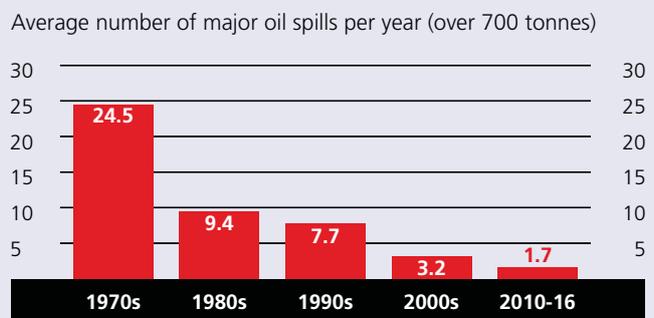
The court decisions in both cases are inconsistent with the fundamental principles of the IMO Civil Liability and FUND Conventions and threaten to disturb the balance of interests on which the international oil spill compensation system is based. >>>

MARITIME CASUALTIES



Source: Lloyd's List Intelligence Casualty Statistics, Analysis: AGCS

REDUCTION IN MAJOR OIL SPILLS



Source: ITOFF



POLLUTION COMPENSATION

GLOBAL REGIME UNDER THREAT



At the October 2016 session of the International Oil Pollution Compensation Funds (IOPCF) governing bodies, ICS made a strong statement in support of a submission by the International Group of P&I Clubs concerning the Spanish Supreme Court's findings in respect of the Master and the shipowner's insurer.

The Spanish Supreme Court had overturned the decision of a lower trial court and held that the Master was guilty of the crime of reckless damage to the environment and that, as a result, the shipowner was not entitled to limit its liability under the IMO Civil Liability Convention. The shipowner's insurer was also held directly liable above the CLC limit, for up to US\$1 billion (the limit of cover provided by the International Group of P&I Clubs for oil pollution damage).

The Spanish and French government delegations made lengthy interventions at the October IOPCF meeting disagreeing with the industry's position. However, several other governments indicated that they share many of the industry's concerns about the proper implementation of the Civil Liability Convention and the consequences for the shipping and insurance industries of the French and Spanish decisions, as well as for the long term interests of future pollution victims.



In April 2017, ICS made a further submission to the IOPC Funds governing bodies on the wider implications of the Spanish Supreme Court judgement, and other national court decisions that are inconsistent with the IMO liability Conventions.

Somewhat more positively, in December 2016, the French Shipowners' Association helpfully arranged a seminar to discuss the implications of the new French law which provides for unlimited liability for environmental damage, bearing in mind that liability and compensation for such damage from shipping incidents are already covered by the IMO Conventions to which France has subscribed. The French Government representative at the meeting indicated that although the new law was intended to supplement both the EU Environmental Liability Directive and the international regime, the IMO Conventions would continue to take precedence in accordance with France's constitution. However, the French Ministry of Justice has yet to confirm this.

Meanwhile, ICS members have concluded that there is a need for greater ratification by governments of the 2003 Supplementary Fund Protocol, noting that of 114 States Party to the FUND Convention, only 31 are Parties to the Supplementary Fund. This is of concern because the Protocol which was adopted after the 'Prestige' and 'Erika' incidents provides for much higher limits of liability.

If the Protocol was in force in a nation which suffered a future pollution incident, it is likely that the higher levels of compensation available would discourage the types of claims seen with the 'Erika' and 'Prestige' cases, and the unhelpful actions that have been taken by the Spanish and French courts.

Throughout 2017, ICS will continue to liaise with governments and IMO in order to stress the great importance of safeguarding the international regime on liability and compensation for pollution damage. ICS will also emphasise the need for more governments to ratify the 2003 Supplementary Fund Protocol in order to increase the compensation amounts that would be available in the event of future incidents.



CONSTANT CHANGE CONTINUING CRISIS

POLICY MAKERS MAY NOT FULLY APPRECIATE THE VERY CHALLENGING CIRCUMSTANCES IN WHICH MANY SHIPPING COMPANIES ARE CURRENTLY OPERATING

Shipping has been enduring a serious economic downturn since the 2008 financial crisis. 2016 was another dramatic year, witnessing the collapse of Hanjin, one of the world's major container lines. Following a spate of acquisitions and mergers, there will only be 14 major container lines by 2018 out of the top 20 that existed last year. While, despite some consolidation, there is far less market concentration in dry bulk and tanker segments, fortunes in these trades are also still decidedly mixed.

Freight rates still barely cover operating costs, let alone the repayment of loans for the vessels themselves. The principal role of ICS is to represent the industry with governments on regulatory matters. Policy makers, however, may not always fully appreciate the very challenging economic conditions in which shipping companies are currently operating. It is nonetheless important to emphasise that there is no evidence of any decline in the quality and safety of ship operations worldwide, which continue to be impressive.

2017 looks set to be yet another very difficult year for most sectors of the shipping industry. While global maritime trade is projected to increase, this looks likely to be outstripped by the quantity of new vessels that are scheduled to be delivered from shipyards – many of which enjoy significant government support – with the result that there may still be far too many ships chasing too few cargoes.

More positively, the size of the world order book is in dramatic decline. The danger, however, is that as shipyards cut their prices in desperation, large numbers of investors, with little experience of the risks involved, may be tempted to buy what



CHINA CONTAINERISED FREIGHT INDEX



Source: Shanghai Shipping Exchange

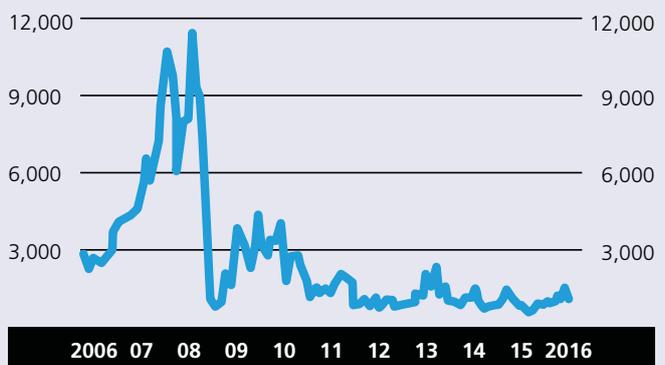


are perceived to be bargains, which could then destroy any shipping recovery before it actually begins.

It is often said that shipowners have no choice but to be optimists. Projections for future population growth and the long term improvement of global living standards – key drivers of shipping demand – might suggest that things can eventually only get better. Despite the fears of renewed protectionism in the wake of the election of President Trump, China is committed to spending around \$US1.5 trillion on infrastructure development around the world as part of its 'One Belt, One Road' initiative. President Trump, moreover, has also stated an intention to inject large amounts of cash into modernising U.S. infrastructure, which should only be good for shipping. >>>

BALTIC DRY INDEX

2006 – 2016



Source: The Baltic Exchange

CONSTANT CHANGE

CONTINUING CRISIS



But the fact remains that most shipping markets show little sign of significant improvement. Global maritime trade has largely continued to grow because of incredible demand from China. But in recent years there has been a notable fall in the rate of Chinese GDP growth. While this has averaged around 10% per annum since 1989, Chinese growth in 2016 was the slowest recorded for 26 years.

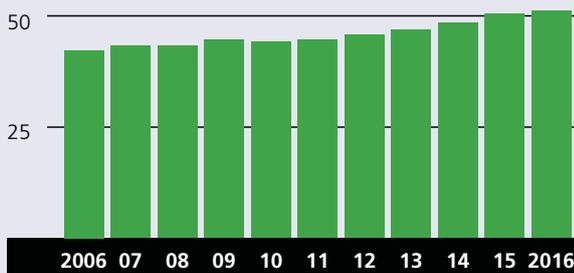
As emerging economies like China increasingly come to resemble OECD economies, a larger proportion of their GDP growth is taken up by services and domestic consumption. Services now account for the majority of Chinese GDP (although this figure is typically around 75% in most OECD economies). Unlike manufacturing and infrastructure development, this does not generate the same demand for maritime trade.

As the industry seeks to ready itself for the prospect of an eventual recovery, it is also about to be confronted with massive increases to operating costs, primarily due to important new environmental regulations. The collective cost to the industry of implementing the IMO Ballast Water Management Convention, which will enter into force in September 2017, is expected to exceed US\$100 billion. The additional collective cost to the industry of complying with the IMO global sulphur in fuel cap in 2020 could be as much as US\$100 billion *per annum*.

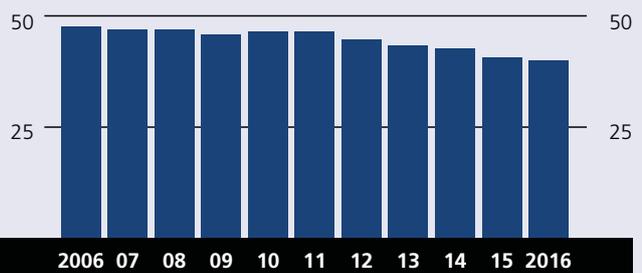
SERVICES AS A PROPORTION OF CHINA'S GDP

Service industries in China, which generate less demand for shipping, account for a rising share of the economy

Services share of GDP



Manufacturing share of GDP



Source: National Bureau of Statistics



On the plus side, however, now that shipowners have more certainty about the timing of these major regulatory changes, they can at last take decisions about whether to accelerate the recycling of older tonnage, which should have a positive impact on the supply/demand balance – provided of course these are not immediately replaced with new builds.

To restore equilibrium in the market, it is clear that a large number of vessels will need to be recycled before the end of their normal 25 year life. But while early recycling might be good for the industry as a whole, this may not always be in the best interests of many individual shipping companies, especially if their ships are debt free, have been well maintained, and can still be operated efficiently and profitably.

The position of ICS has always been to oppose the concept of a maximum age for ships since this could act as a disincentive to the maintenance of older vessels with implications for safety and pollution prevention. State support for early ship recycling is also potentially counterproductive if it is conditional on building more unwanted tonnage.

It is difficult to speak in terms of shipping being in crisis when this seems to be never ending and appears to have become the 'new normal'. However, in this time of general political and economic uncertainty, there is at least a feeling in 2017 that the industry is at the beginning of the end of this very difficult period, which is now one of the longest shipping downturns that has ever been recorded.



THE YEAR IN REVIEW

SHIP RECYCLING

ICS fully accepts the responsibility of the shipping industry to promote the safe and environmentally sustainable disposal of ships throughout the world's ship recycling yards, most of which are located in developing nations. ICS is therefore committed to ensuring that governments ratify the IMO Hong Kong Convention on ship recycling as soon as possible.

Momentum for ratification might at last be starting to develop, with the world's largest flag state, Panama, having ratified the Convention in September 2016 joining Belgium, France and Norway; with Denmark, Turkey and others expected to follow suit during 2017. Progress is also slowly being

made in encouraging important ship recycling nations such as India towards ratification, although there is a danger that these efforts could be undermined by regional action being taken by the European Union.

Seven years after its adoption, it is disappointing that the Hong Kong Convention has still only been ratified by a handful of IMO Member States. It is especially disappointing that EU Member States, which originally pushed hard for the Convention's adoption, have been so slow to ratify, instead focusing their efforts on a unilateral EU Regulation on ship recycling which started to take effect in 2016. Governments need to make ratification a far more urgent priority if they are serious about improving conditions in recycling yards on a global basis.

ICS, with the support of a wide coalition of international shipping industry organisations, continues to promote its expanded Transitional Measures for Shipowners Selling Ships for Recycling, which were published to assist the industry in 2016. Their purpose is to allow shipowners to adhere to the Hong Kong Convention's requirements, as far as practicably possible, in advance of the full implementation of a legally binding global regime.

The industry's Transitional Measures set out detailed advice on the preparation and maintenance of inventories of hazardous materials as required by the IMO Convention (and by the separate new EU Regulation which has already entered into force and which also has implications for non-EU flag



ships calling at EU ports). The Guidelines also address measures which shipping companies are strongly recommended to take now when selling end of life ships. As well as serving as a sign of good faith by the shipping industry prior to the entry into force of the IMO regime, these Transitional Measures should help companies avoid falling foul of the EU regime.

An important aspect of the EU Regulation is the establishment of an EU List of approved ship recycling yards which EU shipowners will be required to use when disposing of redundant ships. However the first edition of the List, published by the European Commission in December 2016, only includes 18 yards, all of which are located in Europe, despite applications having been received from non-EU yards.

Unless the EU recognises facilities in non-EU nations, including yards in southern Asia, it seems unlikely that sufficient yard capacity will have been approved to meet the demand for recycling from EU shipping companies once the EU Regulation fully applies, probably at the end of 2018. Of greater concern to ICS, however, is the very negative signal which the omission of non-EU yards presents to those developing nations whose support will be needed to make the Hong Kong Convention a success.

A number of yards in India have recently made dramatic efforts to improve conditions, several gaining certification from classification societies confirming that they comply with Hong Kong Convention standards. It is important that such efforts are acknowledged by the European Commission as it expands its list during 2017. Otherwise there is a danger that the EU Regulation could actually undermine the improvement of standards worldwide if those yards which have demonstrated compliance with the Hong Kong Convention do not end up on the official list of approved yards that can be used by EU shipowners.

The European Commission needs to demonstrate that the EU List genuinely exists to promote the raising of recycling standards globally, rather than being some kind of protectionist vehicle which is aimed

at promoting ship recycling yards located within the EU.

Meanwhile, in co-operation with ECSA, ICS is also firmly resisting proposals, developed by consultants for the European Commission, to compel ships to pay for EU ship recycling licences when calling at EU ports. Under these proposals, the money visiting ships would have to pay into a proposed EU fund, including those flying the flag of non-EU nations, would only be returned at the end of the vessel's working life, many years later, when it will probably have a different owner, and only then on condition that the ship is recycled at a yard approved by the European Commission.

If these draconian proposals to establish an EU ship recycling fund were taken forward, they would cause serious problems with the EU's trading partners. As well as being unduly complex, wildly impractical and very difficult for the EU to administer, the establishment of such a fund would likely be perceived outside the EU as anti-competitive interference with the conduct of international shipping, creating the danger that other nations might apply retaliatory measures.

ECSA and ICS have prepared a detailed commentary on the proposals for an EU fund, which they have shared with the European Commission, as well as EU Member States and the European Parliament. Discussions will continue throughout 2017.



EU EMISSIONS TRADING SYSTEM

As explained elsewhere in this Annual Review, ICS is working intensively with other industry associations to encourage IMO to adopt an ambitious strategy for CO₂ emissions reduction by the international shipping sector, following its decision in October 2016 to develop a Road Map, with an initial strategy to be agreed in 2018. Unfortunately these efforts to reach a global agreement continue to be frustrated by developments in Europe.

In February 2017, the European Parliament voted to propose that international shipping, including non-EU flag ships, should be incorporated into the EU Emissions Trading System from 2023 (with the possible option of ships instead being able to pay a levy into an EU fund). As a 'compromise', however, the Parliament has proposed that this regional measure might only be implemented should IMO fail to agree an 'acceptable' package of alternative measures by 2021. In other words, the proposal is being presented as a threat.

Emissions trading, which has been developed primarily for industries such as power generation, coal mining, and cement and steel production, is completely inappropriate for international shipping which mostly comprises SMEs typically operating less than ten ships. Moreover, its unilateral application to global shipping would create serious market distortion, as many ships would divert to non-EU ports (including potentially a post-



Brexit United Kingdom) in order to minimise exposure to the EU system. Moreover, the unilateral application of the ETS to shipping could generate trade disputes with China and other Asian nations, as happened several years ago when the EU tried unsuccessfully to impose its ETS on international aviation.

But ICS is particularly concerned that this vote for a unilateral, regional measure simply risks polarising debate among IMO Member States which have already agreed to develop a strategy for reducing shipping's CO₂ emissions in line with the goals of the Paris Agreement on climate change.

During the course of 2017, the Parliament's proposal will have to be considered by the EU Member States and the European Commission via the so called 'trilogue' process. Reducing CO₂ from shipping is a global problem which can only be addressed successfully at global level by IMO. EU Member States, which



are also members of IMO, therefore have a duty to reject these unhelpful proposals, as they are taken forward as part of a wholesale attempt to reform the EU Emissions Trading System. Trying to include thousands of small shipping companies – including thousands of companies not based in the EU – is only going to complicate this attempt at reform.

However, while the possible incorporation of shipping into the EU ETS is a great concern to shipping, it is only a small part of a major EU regulatory package to reform the EU ETS (which has done little to help reduce the EU's CO₂ emissions because of the oversupply of allowances). The final result could therefore involve considerable 'horse trading'.

In practice, the European Commission will have a very influential role in what is ultimately decided because if it rejects the Parliament's proposal on shipping this can only be overturned by a unanimous vote by all 28 EU Member States.

Encouragingly, the European Commission has made it clear in public that it would greatly prefer a global solution to be developed at IMO. However, in order to reject the Parliament's recommendations, the Commission will need to be able to justify its decision with evidence that IMO is indeed making real progress. The agreement by IMO to develop a Road Map is not considered sufficient to impress the European Parliament, but a Road Map populated with CO₂ reduction objectives could be.



In co-operation with the European Community Shipowners' Associations (ECSA), ICS will therefore be working hard throughout 2017 to convince the Commission and EU Member States that IMO will indeed be able to develop some suitably ambitious CO₂ reduction objectives, for the sector as whole, by 2018, together with a plan for the development of measures by 2023 to help ensure delivery of these objectives – 2023 being the date which IMO Member States have agreed for the finalisation of the global Road Map.

ALIGNMENT OF IMO AND EU CO₂ REPORTING REGIMES

In October 2016, following several years of work, IMO Member States adopted a mandatory global system of data collection from CO₂ emissions from international shipping, as a precursor to the development of additional CO₂ reduction measures.

The final system adopted is viewed by ICS as an acceptable compromise between those

IMO Member States which are primarily interested in having reliable information about fuel consumption and CO₂ emissions in order to inform the development of future IMO work, and those that wished to collect more detailed information about fuel efficiency and so called 'transport work'. >>>

However, ICS support for this IMO compromise has been given with the understanding that the mechanism should be simple for ships to administer and primarily be based on fuel consumption. ICS and most non-EU IMO Member States remain strongly opposed to the use of such a mechanism as a means for eventually establishing a mandatory system of operational efficiency indexing for application to individual ships, the ultimate purpose of which would be to penalise vessels on the basis of a theoretical and arbitrary operational rating. This is because of the potential inaccuracies of such a metric and thus the significant danger of market distortion.

For example, the fuel consumed by two identical ships during two similar voyages will vary considerably due to factors such as currents, ocean conditions and weather. Similarly, fuel consumed by individual ships, particularly those in tramp sectors, may vary considerably from one year to the next, being dependent on trading patterns and the nature of charters over which the ship operator has little control.

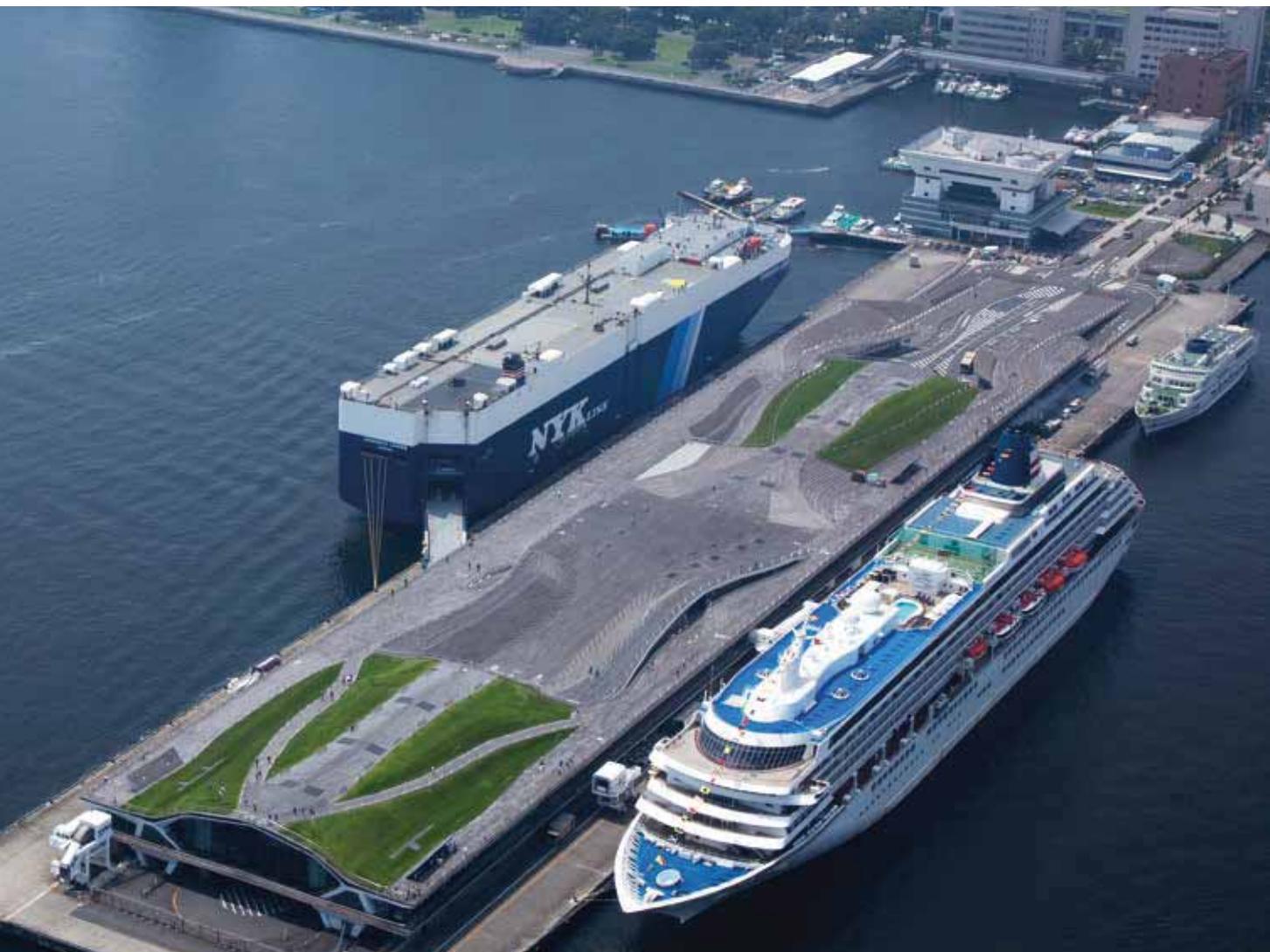
In the interest of maintaining the primacy of IMO, ICS has argued throughout the process that the question of additional CO₂ reduction measures should be left open until a mandatory CO₂ emissions reporting system has been agreed. It is with this broad understanding that IMO has since pursued its work, including the important decision in 2016 to develop a Road Map for CO₂ reduction in line with the Paris Agreement on climate change.

ICS has therefore been most concerned by the European Union's decision to pre-empt the IMO negotiations by unilaterally adopting a regional Regulation on the Monitoring, Reporting and Verification (MRV) of individual ship emissions, in advance of IMO completing its work on data collection. The EU Regulation will also apply to non-EU flag ships trading to Europe, with the apparent intention of subsequently developing this into a mandatory operational efficiency indexing system, i.e. an unacceptable form of Market Based Measure by stealth.

The EU Regulation was adopted during 2015, and includes controversial provisions for the submission of data by ships on so called 'transport work' using different metrics to those now agreed at IMO, in addition to data on fuel consumption. Moreover, discussions in which ICS has been participating, within the European Sustainable Shipping Forum, suggest that the verification and certification method being developed will be overly complex and unfit for purpose. EU climate officials seemingly wish to ignore the tried and tested processes for statutory certification used in international shipping, instead proposing an unjustifiably large administrative burden for ship operators.

Of even greater concern is that commercially sensitive information will be published annually by the European Commission, along with ship name and company identifiers. This is with the intention of facilitating comparison of the supposed operational efficiency of individual ships – which is very likely to be inaccurate and very different to the actual fuel efficiency or CO₂ emitted in real life. In short, the EU Regulation contains many of the elements which most IMO Member States have chosen to reject when adopting the global system.





The EU Regulation is meant to be fully implemented in 2018 (one year before the IMO system) although it also contains text to the effect that the system can be amended to reflect the final outcome of any agreement at IMO. In practice, however, there is no guarantee that the EU will be willing to fully align its rules with the agreed international consensus.

In January 2017, ICS – in conjunction with the European Community Shipowners’ Associations (ECSA), the Asian Shipowners’ Association (ASA) and other international associations – sent a letter to the three EU Commissioners for environment, climate change and transport, requesting them to ensure that the EU regime will be aligned as

far as possible with the system now agreed by IMO. The industry emphasised its concern that, in addition to complying with the IMO system, all ships calling at EU ports – including non-EU flag ships – will soon have to comply and send data about their ships directly to the European Commission. Some of the requirements under the EU Regulation actually have to be complied with during 2017.

Apart from the need to have global regulatory uniformity and avoid dual systems, ICS believes it will be important for the EU to send an early signal to other IMO Member States that it intends to help achieve a single CO₂ data collection system for international shipping. >>>

With encouragement from the industry, non-EU Member States have been persuaded to accept the IMO 'three step' process and the adoption of the CO₂ data collection system, as a precursor to consideration of additional measures, but with the understanding that this would help to prevent unilateral action.

A signal from the Commission confirming that it is taking the necessary steps to align the EU regime with the IMO data collection regulation would therefore be most helpful to avoid polarisation during the next round of discussions in 2017 as work begins on the IMO Road Map, stimulating further progress towards an ambitious global solution.

SIGNIFICANT DIFFERENCES THAT CURRENTLY EXIST BETWEEN THE IMO AND EU CO₂ REPORTING REGIMES FOR SHIPS

Metrics

The metrics which the EU requires ships to report (including non-EU flag ships calling at EU ports) are far more detailed than those required under the IMO regime. Apart from the administrative burden created, there is a concern among many IMO Member States that the next step may be for the EU to use this data to develop a unilateral operational efficiency index, which in turn might be used to penalise individual ships unfairly, using abstract metrics that have no relation to the ship's actual carbon efficiency or CO₂ emissions.

Verification

The EU verification system requires the use of nationally accredited verifier bodies similar to those associated with the EU Emissions Trading System, rather than Recognized Organizations (primarily classification societies) authorised to work on behalf of flag administrations under IMO Conventions.

Publication of Data

The EU Regulation requires the European Commission to publish the data received complete with company and individual ship identifiers, so that it can be used by third parties with the specific intent of affecting the commercial market. Under the IMO system, the information from ships submitted to IMO via the flag state is anonymous to third parties. The purpose of the IMO regime is simply to establish the total CO₂ emissions of the international shipping sector, to facilitate further policy decisions and consideration of additional GHG reduction measures. But the EU wishes to publish detailed (and commercially sensitive) data about individual ships visiting EU ports, which may be misused, resulting in the unfair penalisation of ships, and leading to market distortion as a consequence.



PROBLEMS WITH THE UNITED STATES BALLAST WATER REGIME

As reported elsewhere in this Annual Review, the IMO Ballast Water Convention will enter into force in September 2017. However, the implementation of the new IMO regime will not immediately resolve the major difficulties that exist for shipowners trading to the United States. There is still great uncertainty with respect to the differing U.S. approval regime for treatment equipment, which started being enforced in 2014.

The U.S. regulations require all ships that discharge ballast in U.S. waters to use a treatment system approved by the United States Coast Guard (USCG). However, because no systems had been approved until December 2016, ships already needing to comply with the U.S. regulations have either been granted extensions for fitting the required treatment systems or else permitted to install a USCG accepted Alternate Management System (AMS) – in practice a system type-approved in accordance with the original IMO G8 Guidelines.

In December 2016, the USCG finally announced its approval of three treatment systems, and additional approvals are expected to follow during 2017. After many years of uncertainty this is a very welcome development. However, there are issues relating to the system type-approval certificates, and the Coast Guard is now making it more



difficult for shipping companies to obtain or renew extensions as they must now provide detailed documentary evidence, on a ship by ship basis, explaining why the limited number of systems that have so far been approved may not be appropriate for installation. Companies must also provide details of a plan and timeline to comply with the U.S. regulations.

Rather than granting extensions, it is expected that USCG will increasingly require shipowners to install an AMS. But these will only be accepted for operation for five years, after which time a fully USCG approved system must be installed. But the USCG does not guarantee that an AMS will be subsequently granted full approval. Shipowners that may have installed an AMS in good faith might therefore have to replace the system completely after only five years. >>>



The conflicting IMO and U.S. requirements, when combined with the small number of systems fully approved by the USCG, is producing a very difficult situation for shipping companies that wish to trade in U.S. waters.

The situation in the U.S is further complicated by the fact that the Environmental Protection Agency (EPA) is responsible for vessel discharges, including ballast water, that are regulated by the Clean Water Act, while individual U.S. states including California and New York, have also sought to apply their own standards.

In 2016, efforts were made in Congress – with the support of ICS national associations including the Chamber of Shipping of America – to make USCG solely responsible for implementing a single U.S. standard. Despite

being passed by the House of Representatives, the Vessel Incidental Discharge Act (VIDA) stalled while in Conference Committee with the Senate during the final days of the Obama Administration. However, a fresh bipartisan effort to introduce a similar bill to Congress was made in February 2017, and is fully supported by ICS.

In September 2016, during the biennial United States dialogue meeting with the Consultative Shipping Group (CSG) of maritime administrations, a delegation of ICS member national associations impressed upon USCG the great importance of coming to a pragmatic solution on ballast water issues, in order to avoid chaos. In co-operation with IMO Member States, ICS will continue these important efforts throughout 2017.

IMPLEMENTING STCW 2010 TRAINING STANDARDS

International shipping is a global industry and for over 30 years has had a global system in place for ensuring that all the world's internationally trading seafarers (of which there are currently over 1.6 million) have competences and qualifications that comply with a global standard, regardless of the nation responsible for training and issuing the certificate.

In January 2017, the five year transitional period for implementing the 2010 amendments to the IMO Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW 2010) finally came to end. To prevent last minute certification log jams and potential difficulties during Port State Control inspections, ICS has encouraged maritime employers to liaise closely with IMO Member States, checking to ensure that those maritime administrations responsible for issuing their seafarers' STCW certification are fully prepared, and that arrangements have been made to ensure that any necessary updating training has been undertaken by the seafarers which they employ.

The 2010 'Manila Amendments' to STCW entered into force in 2012, with different

requirements being phased-in at various dates before 1 January 2017. These provisions include new and updated seafarer competences, as well as changes to some seafarer grades and certification requirements. Most maritime administrations determined that seafarers holding national certificates of competence needed to have completed mandatory updating courses in order to be certified beyond the start of 2017.





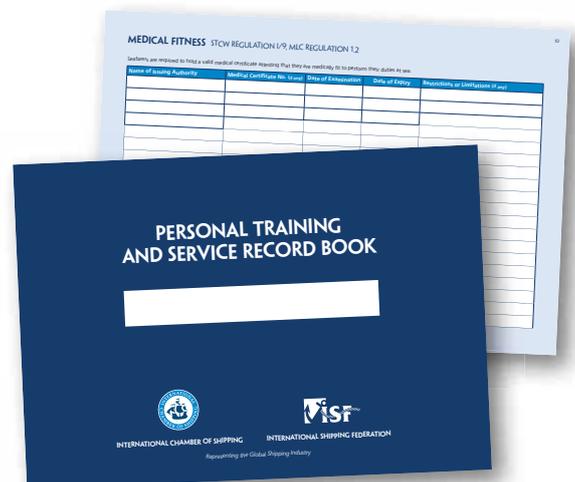
In view of the 1 January 2017 implementation date, maritime administrations should, where necessary, have approved any special updating courses for seafarers, and made any necessary arrangements for the issue and revalidation of seafarers' certificates in accordance with the 2010 amendments. In their capacity as flag states, administrations have also needed to be ready to process a potentially large number of applications for flag state endorsements.

At the IMO Maritime Safety Committee in November 2016, ICS raised concerns about the extent to which all maritime administrations were fully prepared for the end of the transition period and the possibility that, though no fault of their own, some ships and crews might be unfairly penalised for not having all of the required certification. As a consequence, IMO issued guidance to Port State Control inspection regimes requesting that they apply a pragmatic approach until 1 July 2017, in the event that teething problems persist.

One new requirement that should not be overlooked is that trainee ratings – including the new STCW Grades of Able Seafarer (Deck) and Able Seafarer (Engine) – now need to provide documentary evidence of structured on board training that has been recorded in an approved training record book. Thousands of trainee ratings worldwide are now using On Board Training Records produced by ICS, in addition to the thousands of officers worldwide that have qualified in

accordance with STCW 2010 competence standards using the ICS books for cadets. Many maritime administrations have approved these ICS books for use in conjunction with their national certification regime including, significantly, the Philippines, which produces a special edition of the ICS books tailored for its own certification system.

During 2017, ICS will be publishing an updated version of its Personal Training and Service Record Book for qualified seafarers, which has been fully updated to take account of STCW 2010 as well as relevant requirements under the ILO Maritime Labour Convention. The intention is to provide seafarers and their employers with a uniform means of recording the training and drills which have been undertaken, for use when transferring between ships or employers, or when seeking to revalidate certificates.





GLOBAL SUPPLY OF SEAFARERS

At the IMO Maritime Safety Committee in May 2016, ICS and BIMCO launched the results of their latest five year Manpower Report on the global supply and demand for seafarers. This was a major project conducted with assistance from DM Consulting and Dalian Maritime University, overseen by a steering committee of industry representatives.

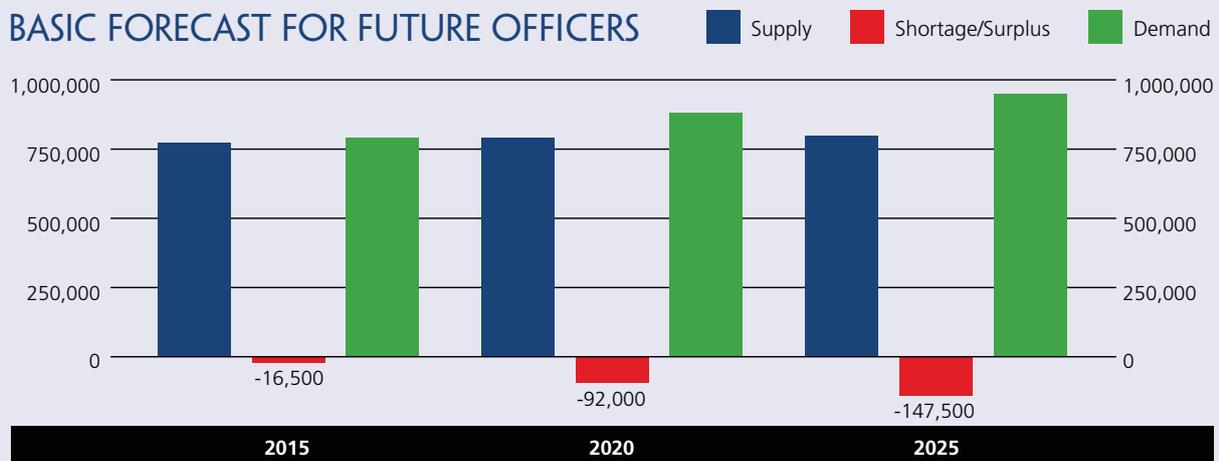
According to the latest ICS and BIMCO Report, the global supply of seafarers in 2015 was estimated at 1,647,500 of which about 774,000 are officers and 873,500 are ratings. Encouragingly, the worldwide supply of officers is estimated to have increased considerably since 2010, with the supply of ratings increasing too.

GLOBAL SUPPLY AND DEMAND FOR SEAFARERS

CURRENT ESTIMATED SEAFARERS



BASIC FORECAST FOR FUTURE OFFICERS



Source: Manpower Report 2015 estimates

Significantly, China is thought to have overtaken the Philippines as the largest single source of seafarers qualified for international trade (although the Philippines is still the largest source of ratings). However, data from international shipping companies suggests that the extent to which these Chinese seafarers are available for service on foreign-owned ships may be limited, with the Philippines and Russia seen as equally important sources of officers, followed closely by Ukraine and India.

The global demand for seafarers in 2015 is estimated at 1,545,000, with the industry estimated to need approximately 790,500

officers and 754,500 ratings. As a result of the substantial growth in the number of ships in the world fleet since 2010, the estimated demand for officers has increased significantly, although the demand for ratings has increased by only 1%. The figures therefore suggest a current global shortage of about 16,500 officers (2.1%) but a surplus of about 119,000 ratings (15.8%).

The report suggests that the industry has made good progress in recent years with respect to increasing recruitment and training levels, and reducing officer wastage (i.e. retaining qualified officers and increasing the number of years which they serve at sea). But using projections for the growth of the world merchant fleet over the next ten years, the ICS and BIMCO Report predicts that, unless training levels increase significantly, the growth in demand for seafarers could generate a serious shortage in the total supply of officers. Without continuing efforts to promote careers at sea and improve levels of recruitment and retention, it cannot be guaranteed that there will be an abundant supply of qualified and competent seafarers in the future.



ILO DEVELOPMENTS

The purpose of the International Labour Organization (ILO) Maritime Labour Convention (MLC) is to establish a global level playing field of employment standards for seafarers, embracing the ILO concept of 'Decent Work'. Over 80 nations have so far ratified the Convention which entered into force in 2013. This now embraces all of the major seafarer supply nations, including China, India and the Philippines, and the MLC's provisions are now being fully enforced worldwide through Port State Control.

Important matters covered by the MLC include the obligations of employers with respect to contractual arrangements with seafarers, oversight of manning agencies, health and safety, work hour limits, crew accommodation, catering standards and seafarers' welfare. >>>

Unlike IMO Conventions, the MLC was the product of ILO's unique tripartite process. ICS was the official ILO social partner that negotiated the text on behalf of maritime employers with governments and ICS's counterpart, the International Transport Workers' Federation (ITF) which represents seafarers. ICS therefore has a special interest in ensuring that the MLC is being properly implemented.

Unlike many other ILO Conventions, the ILO MLC is an organic instrument that can be subject to continuous change and is now firmly established as the fourth pillar of globally enforced maritime legislation (alongside the SOLAS, MARPOL and STCW Conventions).

In 2016, in Geneva, ICS co-ordinated employers' representatives from over 20 national shipowners' associations at the second meeting of the Special Tripartite Committee (STC). The STC was established to keep the working of the MLC under continuous review and to consider proposals for further amendments.

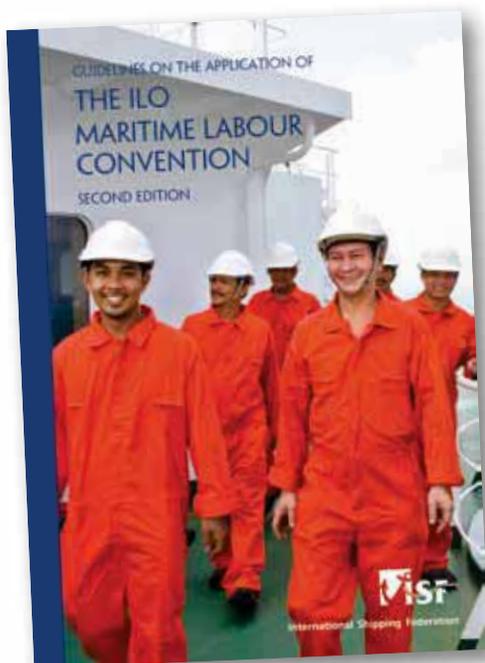
The 2016 Tripartite meeting agreed to an ICS proposal to harmonise provisions related to the renewal of Maritime Labour Certificates with similar certificate renewal provisions as are contained in other international

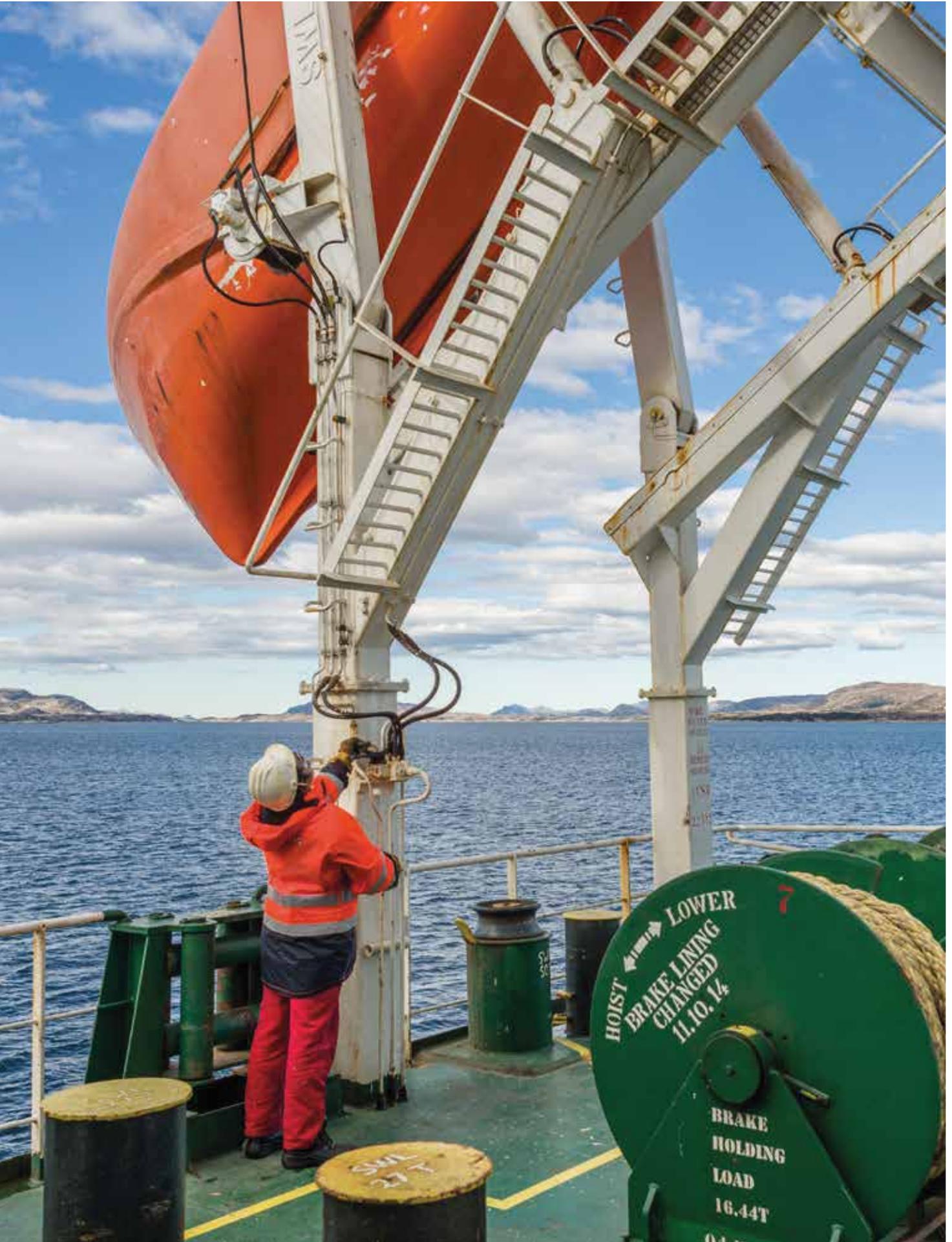
maritime instruments. The STC also agreed amendments highlighting the importance of health and safety on board ships and proposed that account should be taken of new voluntary Guidance on Eliminating Shipboard Harassment and Bullying, which is now being jointly promoted by ICS and ITF following its launch last year. Following adoption by the ILO International Labour Conference in June 2016, these MLC amendments will now enter into force in late 2018.

Preparations are beginning for the third Special Tripartite Committee (STC) for the MLC scheduled to be held Geneva in early 2018. The STC agenda will include the future process for the submission of amendments to the MLC, and the issue of how best to approach the payment of wages during situations of piracy. ILO correspondence groups have been formed on these issues in which ICS has participated actively. The work of these groups was reviewed at an ILO intersessional meeting in Geneva held in April 2017, with ICS co-ordinating the Shipowner Group.

Other issues which are likely to be discussed by the STC in 2018 include flag state implementation problems; whether the MLC amendments addressing abandonment (which entered into force in January 2017) have had a positive effect, and issues arising from the reports submitted to the ILO Committee of Experts.

Meanwhile, other MLC issues being addressed by the ICS Labour Affairs Committee during 2017 include: Australia's interpretation of the ILO MLC concerning the maximum period of continuous seagoing service before leave is required: the expiry date of a seafarer's contract (as stipulated by the MLC) and potential PSC difficulties. ICS is also working with ITF with the aim of producing a new handbook on the provision of welfare services to support the provisions of the MLC.





CREW REPATRIATION

The ILO Maritime Labour Convention (MLC) requires shipowners to demonstrate that they have financial security in place to ensure that repatriation will occur in almost every circumstance, including bankruptcy. Without such evidence, the shipowner will not be issued with a Maritime Labour Certificate and will therefore be unable to trade.

In normal circumstances, it is always the responsibility of the shipping company to ensure that the seafarers it employs are repatriated to their home countries. In the rare and unfortunate event that normal arrangements fail, such as when a shipping company goes bankrupt, the flag state has an obligation to repatriate the crew to their countries of residence and at no cost to the seafarer.

Prior to the entry into force of the ILO MLC, many flag states were reluctant to accept this responsibility. But the MLC now makes it easier for the costs to be recovered from shipping companies which must have financial guarantees in place via insurance companies (normally P&I Clubs) to ensure that seafarers repatriation costs will always be met, regardless of the seafarers' nationality, even in the event that a company is insolvent.

But protecting seafarers from being stranded, and the implementation of an international mechanism to ensure the payment of accrued entitlements, are actually two separate issues.

This distinction might seem academic to seafarers. However, in many cases of reported abandonment the flag state has in fact made arrangements to repatriate stranded crews who have decided to stay with their ship until they are sure that any unpaid wages will be recovered.

The issues are complex because the provision of financial security for potentially unpaid wages is a liability which is hard to quantify and thus complicated to insure. That is why the issue was not fully resolved by the ILO Diplomatic Conference which adopted the MLC ten years ago. But the occasions when crews decide to stay with their ships, despite an offer of repatriation, should now reduce dramatically following an important amendment to the MLC which entered into force in January 2017, with the full support of maritime employers represented by ICS. This requires shipping companies, wishing to be issued with a Maritime Labour Certificate, to demonstrate that they have the necessary financial security arrangements in place to address unpaid wages in the event of bankruptcy.

Meanwhile, whenever cases of possible crew abandonment are reported, ICS and ITF now have a mechanism in place, in conjunction with ILO and IMO, to ensure that, in liaison with the vessel's flag state, crews are repatriated as quickly as possible.





ILO MINIMUM WAGE

The shipping industry is unique in that it has a recommended global minimum wage, which is reviewed periodically by the ILO Joint Maritime Commission (JMC) in Geneva. The JMC comprises employers' representatives co-ordinated by ICS and seafarers' union representatives co-ordinated by ITF.

Following the recommendation of a JMC Sub-Committee which met in April 2016, the ILO Minimum Wage for Able Seafarers will remain at US\$614 basic per month until 2018 (having been increased from US\$592 in January 2016 as a result of a previous JMC agreement concluded in 2014).

Although difficult trading conditions continue, the current level of the ILO minimum wage should help to provide some stability for employers. However, ICS and ITF will be returning to Geneva in 2018 to consider possible further adjustments in the future.

ICS is strongly committed to the principle of the ILO Minimum Wage which is now

referenced in the ILO Maritime Labour Convention. While it is still only recommendatory, and is not directly relevant to other seafarer grades, it has a strong moral authority. It is particularly important for employers in developing countries and may also be relevant to other collective bargaining negotiations, including those which take place in the International Bargaining Forum (IBF).

The ILO Minimum Wage is substantially higher than that paid for comparative work ashore in developing countries. Moreover, the total wage enjoyed by most seafarers is significantly higher once overtime hours and other mandatory payments, such as leave entitlements, are taken into account. By definition the ILO wage is a minimum. But most ratings from developing countries that serve on internationally trading ships, especially where ITF contracts apply, receive significantly higher wages than that recommended by ILO.

MEDITERRANEAN MIGRANT CRISIS

While no longer dominating headlines in the same way it did two years, the migrant rescue at sea crisis in Mediterranean is still far from over. Shockingly, according to the office of the United Nations High Commissioner for Refugees (UNHCR) more than 5,000 migrants lost their lives during 2016 while attempting to make the dangerous sea crossing in overcrowded and unseaworthy craft – the highest loss of life yet. In the same period, according to the UN, over 350,000 migrants entered Europe by sea, most arriving in Italy and Greece.

The main cause of the very large number of migrant deaths is the smugglers' murderous practice of sending hundreds of people off to sea at the same time making it extremely difficult for rescuers to save them all.

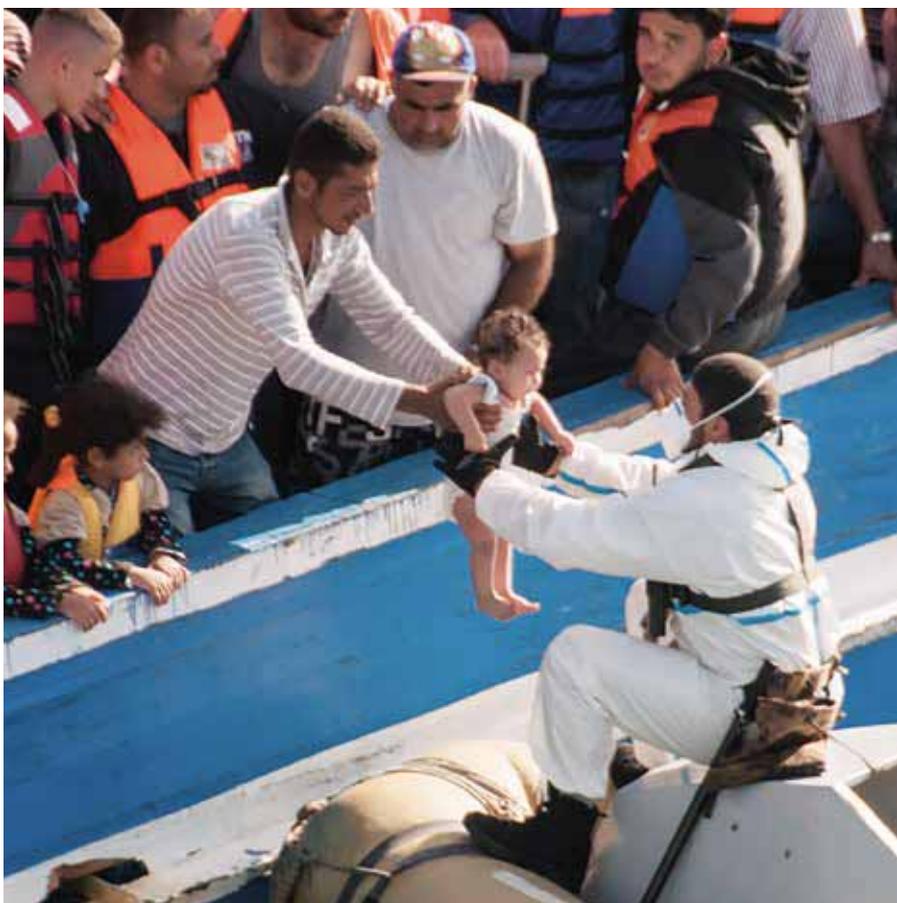
If 2015 is remembered as the year in which the humanitarian crisis involving over a million refugees and migrants seeking to enter Europe began to spiral out of control, the danger is that 2017 may be remembered as the year in which the crisis became institutionalised. But the concern of ICS and the industry it represents is primarily humanitarian.

Due to efforts being made by the EU and NATO navies, merchant shipping has not been at the forefront of the crisis in quite the same way it was 18 months ago, when ships were involved in hundreds of rescue operations and the rescue of over 60,000 people. The number of rescue operations in which commercial ships have recently been involved has decreased to some extent due to the increase in resources now being provided by EU Member States and the EU border agency, FRONTEX, through its Triton and Poseidon Sea operations. Search and Rescue (SAR) operations were significantly expanded following emergency Summits of EU leaders in 2015 in response to the shocking loss of life in a series of appalling incidents.

However, large numbers of merchant ships are still routinely diverted by Rescue Co-ordination Centres to assist in large scale rescue operations, and it has to be remembered that

the merchant seafarers involved are civilians, many of whom have been severely affected by the desperate situations which they have had to face.

Following the agreement in March 2016 between the EU and Turkey, the large flows of migrants focused on eastern Mediterranean routes, especially to Greece via Turkey, have reduced significantly. However, following a temporary respite in the numbers of people attempting to make the sea crossing from North Africa, the central Mediterranean route has become attractive again. The situation has been exacerbated by the lack of central government and ongoing civil conflict in Libya, which has made it possible for criminal gangs of people traffickers to operate with near impunity. Recent reports that EU funded efforts by Libyan Coast Guards to intercept and detain migrants are being undermined by corruption, which then simply increases the





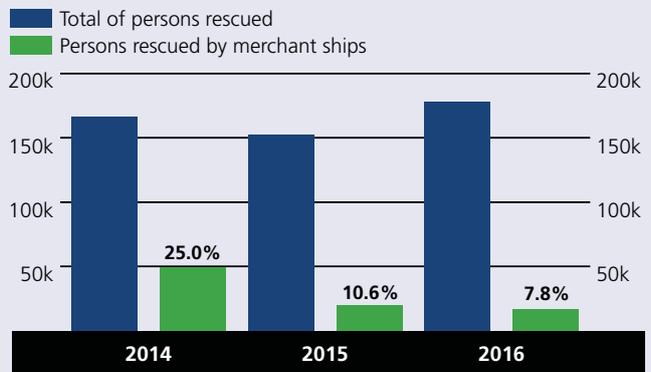
profits of the traffickers, are not encouraging. However, the situation remains very fluid.

Deteriorating relations between Turkey and the EU could mean that the former may no longer continue to accept the return of illegal migrants from the EU, while it is not yet clear whether recent developments in the conflicts in Syria, Iraq and Yemen will reduce or further increase the numbers of people seeking to escape to Europe from the Middle East. Meanwhile, famine now affecting millions of people across sub-Saharan Africa in early 2017 seems only likely to add to the problem, at a time when EU political leaders are distracted by other issues.

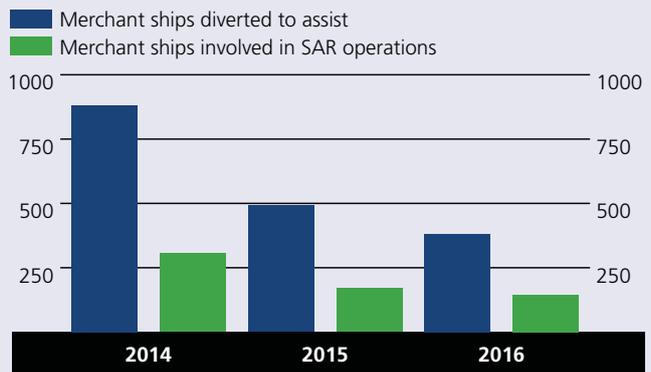
To their credit, governments such as Italy and Greece have consistently permitted prompt and predictable disembarkation of rescued people from merchant ships. But the crisis now seems to be taking an ever more political direction. Tensions due to concerns about migration have been increasing across Europe. Some senior national politicians have been making statements to the effect that rescued migrants should not be permitted to enter Europe in the first place.

The real fear is that shipping, at some point in the near future, might face the prospect of prompt disembarkation of rescued persons being refused, as attitudes in Europe towards immigration harden. In the meantime, until the root causes are resolved (war in the Middle East and instability and famine in many parts of Africa) migrants can be expected to attempt to enter Europe by sea in very large numbers.

MIGRANTS RESCUED



SHIPS AFFECTED



Source: Italian Coast Guard

ICS has been careful to avoid becoming involved in the general political debate about the migrant crisis. That said, while shipping companies will always meet their humanitarian and legal responsibilities to come to the rescue of anyone in distress at sea, the obligations contained in the IMO SOLAS and SAR Conventions were never intended to address this unprecedented situation.

In co-operation with ECSA, ICS is therefore continuing to argue that EU Member States must maintain adequate SAR resources. In co-operation with IMO, ICS is also continuing to press the United Nations to come forward with a humanitarian solution, however difficult this might be in practice until stable governance is restored to Libya and other nations in the region.



PIRACY

In March 2017, for the first time in five years, a merchant ship – an oil tanker – was successfully hijacked by Somali pirates, with its crew of Sri Lankan seafarers taken hostage for ransom (although they were released very quickly following a swift intervention by the authorities in Puntland).

It is still too early to tell if this signals the start of a major resurgence of the piracy that occurred in the Indian Ocean between 2007 and 2012, when over 4,000 seafarers were taken hostage in the most appalling conditions. However this incident underlines the vital importance of ships and their crews remaining vigilant and to continue applying the latest version of industry Best Management Practices (BMP4) which has played such an important part in the prevention of successful attacks.

The reduction in Somali pirate attacks has largely been attributed to the combined success of self-protective measures taken by shipping companies, including BMP4, the continued use of private maritime security companies, and the protection that has been provided by military assets in the region. But the future maintenance of current levels of military protection against piracy has become problematic due to competing pressures on navies as a result of the political situation in the Middle East and elsewhere, as well as

the need to respond to the migrant crisis in the Mediterranean.

The mandate for the EU counter piracy operation, Operation Atalanta, has been extended until the end of 2018. But its future thereafter remains uncertain. ICS, along with other industry partners, is in discussion with EUNAVFOR about the transition planning for 2019 onwards, including what elements of the operation might be maintained, and what could be passed over to others such as the NATO Combined Military Force (CMF) and other independent military deployers including China, India, Japan and Russia.





At the moment ICS is keen to see the continuation of the Maritime Security Centre – Horn of Africa (MSCHOA) operated by EUNAVFOR, possibly with an expanded role. ICS is also exploring the possibility of a contingency EU force that could be called upon quickly in the event of sudden resurgence in pirate activity.

Elsewhere in the world, piracy and armed robbery continue to be a major threat to shipping, with the ICC International Maritime Bureau recording some 191 incidents in 2016, many of them serious, with many others probably going unrecorded.

Disturbingly, maritime kidnappings showed a threefold increase on 2015, with 62 people held for ransom in 15 separate incidents. Just over half were captured off West Africa, while 28 were kidnapped from tugs, barges, fishing boats and – more recently – from merchant ships, around Malaysia and Indonesia. Recent kidnappings in the Sulu Sea between east Malaysia and the Philippines, including several brutal murders of fishermen and a yachtsman in early 2017, are a particularly serious concern.

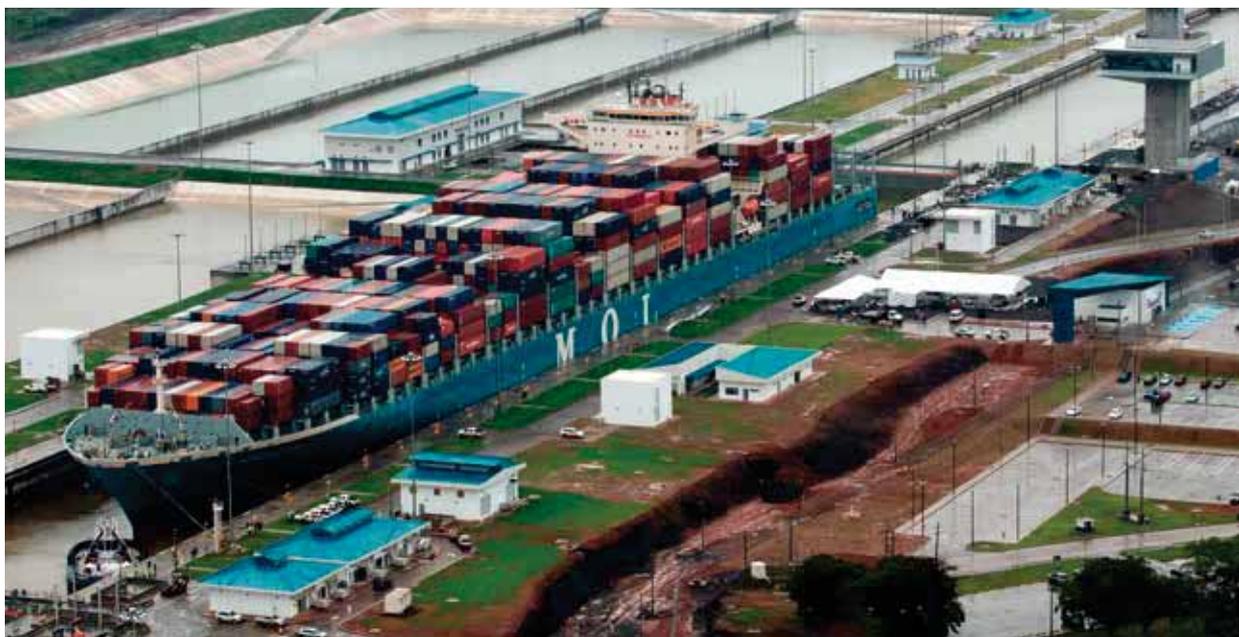
SHIPBUILDING ISSUES

In October 2016, around 200 representatives of classification societies, shipbuilders and shipowners came together in Tokyo for their annual 'Tripartite Meeting' on shipbuilding and design issues of common interest. The 2016 meeting, hosted by Class NK, the Japanese Shipowners' Association and the Shipbuilders' Association of Japan, was organised by ICS – a task traditionally rotated among the international shipowners' associations.

The Tripartite Meeting has been held every year since 2002, and it was decided that it was timely to take stock of the forum's achievements and to fine tune future aspirations. A working group has therefore been convened to make recommendations for consideration at the next Tripartite Meeting which will be convened in China during November 2017. The Tripartite

structure has stimulated various streams of work over the years and the 2016 meeting reflected on the significant work that has recently been undertaken, while also reviewing current activities.

One of the milestones reviewed by the meeting was the introduction of the IMO Goal Based Standards (GBS) for bulk carriers and oil tankers, which entered into force for ships contracted for construction from July 2016. In particular, the Tripartite Meetings have helped, over a five year period, to oversee inter-industry agreement about the handling of the content of the Ship Construction File (SCF), as required by the GBS. The purpose of the SCF is to provide information related to the structural design and construction of a ship to those that need it, to help ensure safe operation throughout the vessel's working life. >>>



Among other Tripartite spin off groups, work is continuing on fuel data collection (as will be required by mandatory IMO and EU CO₂ data collection systems), under the leadership of the International Association of Classification Societies (IACS). There will also be further work on cyber risks and security, also being led by IACS but assisted by BIMCO which has led development of recent inter-industry guidance on the issue.

During the meeting in October, ICS raised the importance of collating knowledge on likely ship efficiency improvements from shipbuilders so that better estimates can be made of CO₂ reduction performance, and will lead work on this in the coming year.

Reflecting on requirements directly arising from regulation, the 2016 meeting also agreed that ICS should initiate the collection of experience with the fitting/retrofitting and operation of ballast water treatment equipment, and that Intercargo would lead work to develop appropriate designs for incorporating on board storage/disposal facilities for HME (Hazardous to the Marine Environment) cargo residues, and HME cargo hold washing water. Meanwhile, the Active Shipbuilding Experts' Federation (ASEF) and SEA Europe have initiated discussion on human element issues, in particular on training requirements arising out of innovative technologies.



DIGITISATION AND AUTOMATION

As well as being increasingly important topics on the agenda of the ICS Marine Committee, 'digitisation' and 'automation' are generating much attention in the maritime media and a plethora of conferences. Shipowners could be forgiven for thinking that these might be magic bullets for an industry weathering some very challenging commercial and regulatory conditions. But while new opportunities undoubtedly exist, ICS believes

that expectations need to be moderated with a full awareness of the potential risks and of the implications for safety, efficiency and environmental performance.

Opportunities certainly exist for greater digitisation of data collection, exchange and analysis in order to optimise every aspect of ship operations in exciting new ways. While opinions about the issue vary, many see digitisation as moving from an environment



characterised by a reliance on manual processes to one in which processes and services are driven by data.

Digitisation offers the potential for new ways of working over equivalent manual processes, notably in the context of time and resources. Digitisation can be a hugely powerful tool for delivering high quality, time sensitive services to customers and providing information for both strategic and operational decision making. But it is not without its own challenges.

These challenges can often be lost in the enthusiasm for the potential benefits of digitisation. Obvious risks include the implications for confidentiality and maintaining the integrity and availability of data in the context of cyber security.

But a less obvious challenge is actually being able to access high quality tools to collect, manage and analyse the potentially enormous volumes of data that digitisation will inevitably generate.

There is also the fundamental question: to what extent should a company digitise its operations to maximise the positive effects? Often, digitisation and ‘big data’ are seen

as intrinsically linked. However, not every company is equipped or has a need to exploit ‘big data’, so there is arguably no justification for a universal pursuit of this approach. While there may be many ‘big data’ opportunities at an industry level, for many shipping companies the priority will be achieving the right amount of digitisation tailored to its specific needs, and to its trade and operations.

Discussions around automation in international shipping seem to focus on an assumed end state in which autonomous (‘robot’) ships might suddenly begin to operate alongside or in place of existing vessels. But, while good for equipment manufacturers seeking quick publicity, focusing on this highly ambitious end state possibly misses many of the important issues that will really affect the success or failure of increased automation in shipping.

When the industry and IMO consider automation in shipping, what they should be considering is the evolution of automation, which has been described by many observers as a continuum marked by several levels of increasing reliance on automated systems and a complementary reduction in the need for intervention by human beings. >>>

Fully autonomous ships may be the final level. But in reality, and based on the current levels of 'pull' from shipowners, it is unlikely the industry will leap from one end of the continuum to the other. What can be probably be anticipated is a stepwise progression through increasing levels of automation and the evolution of smarter, safer ships.

But like digitisation, this incremental evolution offers both opportunities and risk. International shipping can probably observe and learn from the experience of counterparts in aviation who have been wrestling with the opportunities and challenges of automation for some time. The single biggest challenge

is ensuring that shipboard personnel are equipped with the competence and skills required to work effectively with the automated systems that they are expected to use and manage. At the same time, manufacturers need to ensure that these systems can work effectively with human beings in a positively reinforcing combination.

The message from ICS is a simple one. The future holds many opportunities to enhance safety, efficiency and sustainability, but while digitisation and automation may offer advantages over current approaches, neither is a magic bullet, and both come with their own significant new challenges.

CYBER RISK MANAGEMENT

Cyber security is an increasingly important issue for shipowners from a security, safety, and insurance perspective. Ship operations now routinely involve the use of operational technology to manage safety-critical functions on board; an obvious example being Electronic Chart Display and Information Systems (ECDIS). Equally, the management of ships, both on board and ashore, relies on information technology for functions such as email, pre-arrival reporting and cargo management.

In May 2016, the IMO Maritime Safety Committee finalised Interim Guidelines on Maritime Cyber Risk Management. These recommendatory guidelines provide an indication of the direction which should be taken by the shipping industry to protect vessels operating at sea. While shipping companies are part of the audience for these guidelines, ICS believes their application is wider and reflects the fact that shipping companies alone cannot secure maritime transport from the potential risks posed by increasing reliance on operational and information technology. The interim IMO guidelines also recognise the role of the Guidelines for Cyber Security Onboard Ships, produced by BIMCO, ICS and other industry organisations in 2015, as the principal means by which shipping companies should address the IMO recommendations.

While the extent of any current threats posed to international shipping is unclear, it is probably only a matter of time before the general trend in increasing cyber risk exposure has a noticeable impact on the industry. In this regard, companies looking to take their first steps into cyber risk management, or looking to consolidate existing activity, are advised to focus on training and awareness of all personnel. Other important issues to be addressed include the complexity and quality of software, the persistent vulnerability that this may create for companies and thus the industry's need for support from equipment manufacturers and classification societies.

Since November 2016, ICS has participated in the International Association of Classification Societies (IACS) Cyber Systems Joint Working Group. The purpose is to develop recommendations for IACS classification societies relating to the implementation of cyber systems on board ships. Appropriately, this work is not limited to security, but encompasses wider issues relating to the resilience of operational technology installed on board. This work



is essential to the future of addressing cyber risks in the shipping industry and will include an industry level risk assessment.

Work on updating elements of the industry's Guidelines for Cyber Security Onboard Ships has also commenced, with a view to submitting a further edition to IMO during 2017. This update will include additional sections on ship/shore interfaces, third party service providers, cyber safety and insurance considerations. There will also be revised guidance on network design and segmentation of critical systems.

ICS will continue to participate in industry level work on cyber risk management and cyber systems, with a view to ensuring that shipping companies are provided with sufficient support from manufacturers and classification societies so as to be able to manage cyber risks effectively.

Meanwhile, an important aspect of any risk management strategy is risk transfer. The application of exclusions to some commercial

marine hull and machinery (H&M) and war insurance policies, such as the London market Institute Cyber Attack Exclusion Clause, has led to uncertainty about the scope of cyber risk cover. ICS discussions with London market underwriters have clarified that such exclusions would only apply to malicious cyber-attacks intended to inflict harm and not to accidental computer malfunction or breakdown that resulted in a loss that would fall within the H&M policy.

Apparently, the exclusion in the H&M policies was intended to shift the risk to the war policies affording underwriters the opportunity to cancel the policy and reinstate on more appropriate terms when necessary. This explanation, along with the London market's confirmation that the risk of a cyber-attack on a ship which could lead to systemic loss was considered remote, has led ICS to renew its advice to shipowners to continue to press for the removal of cyber risk exclusions from their commercial marine insurance policies.



POLLUTION LIABILITY AND COMPENSATION

Despite the serious threat to the principle of limitation of liability discussed elsewhere in this Annual Review, the IMO Civil Liability (CLC) and FUND Conventions have been remarkably effective in ensuring that those effected by oil pollution from tankers are provided with prompt compensation without legal wrangling. The shipowner's contribution is paid regardless of fault, and on the rare occasions that valid claims exceed the shipowner's liability under the CLC, additional compensation is provided by the International Oil Pollution Compensation Fund (IOPCF) financed by oil importers.

Today, over US\$1 billion is available in countries that have joined the Supplementary Fund to cover the cost of clean-up and to compensate those affected by a single spill, a feat which would be near impossible for a single nation to support alone.

An important consideration during the discussions that led to the adoption by governments of the Supplementary Fund Protocol in 2003 was the need to maintain an equitable balance in the sharing of compensation costs between the shipping and oil industries. To support the continuing success of the global regime, the shipping industry offered to make additional contributions in certain circumstances and two voluntary but binding industry agreements were adopted known as the Small Tanker Oil Pollution Indemnification Agreement (STOPIA) and the Tanker Oil Pollution Indemnification Agreement (TOPIA). While the mechanics of these agreements are complicated, their main aim is to maintain an approximately equal apportionment of costs for pollution damage claims between the shipping industry and the oil importers.

2016 marked ten years since STOPIA and TOPIA were introduced and the first scheduled review which was carried out by the IOPCF and the International Group of P&I Clubs (IG). The aim was to determine the approximate proportions in which the overall costs of pollution damage claims in the previous ten years have been borne by the shipping and oil industries. A clause in both agreements provides that where either party has borne a proportion exceeding 60% of the overall cost then measures should be taken to adjust the financial burden.

A snapshot review of ten years of claims data from February 2006 to February 2016 in fact showed that shipowners, through their P&I Clubs, had actually paid 86% of claims during this period, reflecting that there have recently been very few large scale pollution incidents.

However, the shipping industry and the IG have decided not to take measures to adjust the financial burden at this review, recognising that claims are cyclical and that while the vast majority of tanker incidents continue to be fully compensated by shipowners alone without any recourse to the IOPCF, a single





major tanker incident in the future could significantly alter the percentage proportion borne by the oil industry. Nevertheless, the shipping industry has stressed that this decision has been made in recognition of present circumstances and that the right is retained to take measures following future reviews should an imbalance continue to be evident.

Meanwhile, ICS has welcomed the successful conclusion of discussions between the IOPCF and the International Group of P&I Clubs (IG) concerning the funding of interim payments which are made to claimants in the immediate aftermath of pollution incidents.

The funding of interim payments by the Clubs is important because if the text of the IMO Conventions was strictly followed, P&I Clubs would pay the limitation amount into court and then the court would decide the

claims and pay the claimants the amounts due. In a major incident where there are many claims this could cause serious delay in providing immediate compensation to claimants who might be facing hardship. For this reason, P&I Clubs often make interim payments and if these eventually exceed the shipowner's limitation amount the difference is then usually reimbursed by the IOPCF, thus maintaining the balance of payments between the shipping and oil industries.

Unfortunately, this informal arrangement was damaged by the decision of governments to wind up the 1971 Fund at the end of 2014, even though potential claims were still outstanding against the 1971 Fund. This decision left the Clubs potentially exposed to claims and undermined the trust on which their relationship with IOPCF was based. There was a concern that in any future incidents where there was a risk of the tanker owner's liability being exceeded, the Clubs would have to think twice before advancing compensation payments to claimants above the CLC limits in case any overpayments were not reimbursed by the Fund.

Despite these difficulties, continued discussion and collaboration between the IG and the IOPCF eventually bore fruit and, in October 2016, governments approved an agreement on standard terms relating to interim payments which was formally signed by the IG and the IOPCF in December 2016.

Elsewhere, ICS has been active in discussions about whether the IMO pollution compensation regime is adequate to address increased shipping activity in polar waters. As a part of an exercise conducted by Comité Maritime International (CMI – the international association of maritime lawyers), ICS and the IG have produced analysis which concludes that overall the legal infrastructure is sound, though it would be improved if all of the Arctic nations party to the 1992 Fund also subscribed to the Supplementary Fund Protocol. These findings have been included in a CMI report which is expected to be published in 2017.

EU ENVIRONMENTAL LIABILITY DIRECTIVE

The EU Environmental Liability Directive (ELD) was adopted in 2004 to establish a common framework for the prevention and remediation of environmental damage within EU Member States. But environmental damage resulting from shipping accidents was excluded from the ELD as shipping has its own, well-functioning regime for compensating such damage via the IMO liability and compensation Conventions.

The European Commission has recently undertaken a review of the application of the ELD, with specific reference to the exceptions for international shipping. Initially, it was feared that the maritime exceptions might be under threat as one study associated with the review identified that the absence of liability for 'pure environmental damage' might override the reasons for retaining the exclusions. While the ELD does not define 'pure environmental damage', it is usually considered to mean damage to non-marketable or free resources of nature, such as seabirds.

ICS, ECSA and the International Group of P&I Clubs strongly disagreed with this particular study, arguing that the IMO Conventions already provide reasonable compensation for



'pure environmental damage' and that the exclusions in the ELD applicable to shipping accidents should therefore be maintained. Moreover, if damage exceeds the shipowner's limits of liability, compensation is further guaranteed by the International Oil Pollution Compensation Fund (IOPCF) whereas the ELD regime does not provide similar benefits.

These arguments were accepted in the European Commission's final report, published in April 2016, which concluded that the exceptions should be maintained for the time being. Although the Commission considered that the standards of remediation are lower in the IMO Conventions than under the ELD, its report states that the Conventions have a range of other advantages including their worldwide scope.





The Commission has proposed that it should explore whether its concerns regarding the standards of remediation could be addressed through non-legislative means – through working towards a common understanding of concepts at the IOPC Funds or in other fora composed of Parties to the Conventions. While the shipping industry does not share the concerns regarding the standards of remediation provided by the IMO Conventions, ICS agrees that this is the correct course to follow if the EU wishes to discuss the types of environmental damage covered by the Conventions.

In its report on the ELD, the Commission also expressed concern about the slow uptake of the IMO HNS (liability) Convention and recommended that it should be considered for deletion from the list of exceptions contained in the Directive ‘unless clear evidence of the EU Member States’ joint commitment to conclude this international convention arises’.

The slow ratification of the HNS Convention is a concern which is shared by ICS, particularly as the adoption of the 2010 Protocol was intended to overcome any impediments to ratification and governments should no longer have any reason to delay. A concerted effort is currently underway, under the auspices of IMO, to bring the HNS Convention into force. In Europe, ongoing discussions on a Council Decision authorising EU Member States to ratify the HNS Convention look set to come to a positive conclusion soon, and it is hoped that this will provide the impetus needed for EU governments to begin ratifying this important Convention.

The Commission’s report is still under review by the European Parliament, and the Commission itself is due to present a multi-annual work programme on the implementation of the ELD in 2017. But for now it seems likely that the status quo for shipping will be maintained.

U.S. ENERGY EXPORTS

ICS is concerned by recent developments that may signal a more protectionist approach by the United States with respect to the carriage of its energy exports, which have continued to increase as a result of the 'shale revolution' and the lifting of the 40 year prohibition on the export of crude oil that was enacted by Congress under the previous Administration.

In February 2017, Congressman John Garamendi introduced 'The Energizing American Maritime Act' proposing new legislation which would require 30% of all American exports of crude oil and LNG to be transported on U.S. flag vessels by the year 2025, with 15% to be carried on U.S. flag ships by 2020.

Similar proposals have been made in recent years which were subsequently watered down following interventions by the State Department and the office of the U.S. Trade Representative, which were conscious of the United States' free trade commitments in the context of ongoing negotiations at the World Trade Organization about maritime services. However, following the election of President Trump, this latest attempt at cargo reservation could possibly gain more traction.

A central focus of the new U.S. Administration is stimulating the economy and increasing U.S. jobs, and in theory such a measure would secure employment for many U.S. seafarers, as it is mandatory to employ them on any U.S. flag ship. It is therefore not impossible that the new Republican Administration could support such legislation, even though it has been introduced by a Democrat Congressman.

Energy security is a very sensitive political issue in the United States, and there are vested interests, especially in the U.S. shipbuilding industry, as well as the seafarers' unions, which are seeking to link concerns about jobs



and defence to the growth in energy exports being carried on non-U.S. ships. Because of the significantly higher costs associated with employing U.S. seafarers (which is a U.S. flag requirement) carrying energy exports on U.S. flag tankers would of course be far more expensive than using non-U.S. ships. However, the danger is that American oil companies might possibly see this as a price worth paying if this was the cost of being able to continue exporting U.S. crude overseas.

There are currently no U.S. flag LNG carriers and virtually all U.S. crude tankers are confined to protected Jones Act trades. Unlike ships in cabotage trades, there is no absolute requirement for the few U.S. flag ships that operate internationally to have been built in the United States. But U.S. shipbuilding interests may nevertheless hope to benefit from any move towards a more protectionist agenda, however unlikely the prospect of them building economically viable ships in practice.

More generally, ICS is very concerned that any discussion of cargo reservation in the United States could give encouragement to other nations that might be contemplating similarly protectionist measures. This includes Russia, which is currently consulting on a law to restrict the carriage of Russian hydrocarbons on non-Russian flag ships (although it is understood that this is primarily aimed at Russian owned ships which flag with open registers).

In co-operation with the Consultative Shipping Group of governments (which represents those maritime administrations which are committed to free trade principles in shipping) and their transport attachés in Washington, ICS members will be monitoring this and any similar U.S. developments very closely during 2017.





NEGOTIATIONS ON FREE TRADE

Progress towards the development of new global trade agreements has always been a standing item on the agenda of the ICS Shipping Policy Committee. But following the election of President Trump (and the decision of the United Kingdom to leave the European Union in 2019) these issues have assumed renewed attention.

For many years, ICS has supported the successful conclusion at the World Trade Organization (WTO) of the 'Doha round' of trade negotiations and a new multilateral agreement to reduce or eliminate remaining obstacles to free trade, given that any boost to trade would also boost demand for international shipping. But ICS has also long sought the inclusion of maritime services in the new WTO agreement, as shipping (along with aviation) is one of the few major industries not covered by the General Agreement on Tariffs and Trade concluded in the 1990s when the WTO was established.

In practice, a complex network of bilateral agreements between nations ensures that most shipping markets adhere to free trade principles, with few restrictions on market access. With the exception of government contracts and cabotage trades (between two ports in the same country), there is relatively little cargo reservation whereby national cargoes are protected for carriage on a nation's own ships at the exclusion of other more competitive vessels.

However, the reason why a WTO agreement on maritime services is still so important is that those maritime free trade commitments that have been made by governments have never been codified on a global basis. There is always a danger that governments could again become attracted to more protectionist approaches, viewing the benefits of trade as a 'zero sum game'. If there was another economic shock like

the 2008 banking crisis, there is a possibility that nations could come under serious domestic political pressure to renege on their commitments to free trade in shipping. It should be remembered that as recently as the 1990s, some parts of the industry were subject to the UNCTAD Liner Code which legitimised protectionism and the reservation of 40% of imports and 40% of exports on national flag ships.

The WTO negotiations have in effect now been moribund for several years due to a lack of engagement by the United States and serious differences between developed and developing nations over issues such as agriculture. However, an attempt was made by a smaller group of nations to produce a Trade in Services Agreement (TiSA) which includes draft provisions on maritime services. However, the TiSA does not include China and the new U.S. Administration seems ill-disposed towards multilateral negotiations.

One of the first actions of the Trump Administration was to withdraw the United States from the Asia Pacific Trans-Pacific Partnership (TPP). It also seems unlikely that the Transatlantic Trade and Investment Partnership (TTIP) between the U.S. and EU will go ahead in the immediate future. (The EU was hoping to make inroads regarding U.S. restrictions on international feeder services, which the U.S. defines as cabotage although the cargo is destined for a port outside the United States). >>>



One question mark perhaps is whether China might try to fill the vacuum being left by the United States. But it seems unlikely that the U.S. would permit its political allies to participate in alternative agreements brokered by China, such as the Free Trade Area for the Asia Pacific promoted by China and Russia at the APEC Summit in November 2016.

Despite the change in atmosphere following the election of President Trump, it has to be

remembered that nothing has fundamentally changed. Trade negotiations are always long term projects, often involving two steps forward and then one step back. However, in liaison with the Consultative Shipping Group of maritime administrations, which is committed to the maintenance of free trade principles, it will be important for the industry to be vigilant against any further moves towards protectionism.

TRADE FACILITATION

Despite the lack of progress towards a new multilateral agreement on market access for maritime services at the World Trade Organization (WTO), ICS has welcomed the entry into force, in February 2017, of the WTO Trade Facilitation Agreement (TFA).

This is an important global trade agreement which, according to the International Chamber of Commerce (ICC) – of which ICS is a member – could provide a boost to global trade flows of over US\$1 trillion. The TFA now becomes an official part of the multilateral trading system which covers more than 96% of global GDP.

By reducing unnecessary ‘red tape’ at borders, the TFA will hopefully have a significant effect on the ability of small and medium size businesses in developing countries to have greater access to global markets, which should have a positive impact on demand for maritime services. The ICC estimates that the TFA could increase SME exports by up to 80% in some developing nations’ economies.

ICC is actively supporting the implementation of the TFA through the Global Alliance for Trade Facilitation, an initiative which ICS also fully supports.

Meanwhile, in 2016, IMO adopted some substantial amendments to the IMO Facilitation Convention, following a comprehensive review in which ICS had been involved closely throughout a process lasting several years.

The purpose of the IMO Convention on Facilitation of International Maritime Traffic (FAL) is to assist maritime transport by reducing

paper work, simplifying formalities, documentary requirements and procedures associated with the arrival, stay and departure of ships engaged on international voyages.



WORLD TRADE ORGANIZATION

FAL is perhaps an unusual IMO instrument as it is intended to make life easier for ships and their crews by reducing reporting formalities and administrative burdens, rather than adding to them. A major challenge throughout the revision process was to ensure that the Convention’s provisions were not unwittingly watered down by Customs and immigration authorities.

One difficult issue that was satisfactorily resolved, following an ICS submission made jointly with the World Shipping Council and BIMCO, concerned the date by which time governments should establish systems for the electronic exchange of information. The industry submission highlighted the many cost and efficiency benefits of electronic data exchange, both to industry and government, with a view to encouraging adoption of the earliest agreeable implementation date for the mandatory use of electronic systems, in line with the recommendations of the World Customs Organization.

It is important that governments focus on the benefits that electronic exchange of information will bring, rather than the initial cost of establishing the necessary infrastructure. Within the European Union, for example, the successful implementation of the ‘single window concept’ by EU Member States still remains disappointing slow.



FLAG STATE PERFORMANCE

In 2016, following the entry into force of amendments to the relevant IMO Conventions, the IMO Member State Audit Scheme became mandatory. This is a significant development that should not go unnoticed, making a further contribution to improving maritime safety and the prevention of pollution.

A balance has to be struck between the commercial advantages of shipowners selecting a particular flag and the need to discourage the use of any ship register that does not meet its international obligations. While it is shipping companies that have primary responsibility for the safe operation of their ships, it is flag states that must implement and enforce the rules.

ICS is therefore a strong supporter of the IMO Member State Audit Scheme and greatly welcomes the evolution of the current voluntary audits of maritime administrations into a mandatory programme (although it will still be several years before all the world's maritime administrations have passed through the IMO audits).

In the interests of transparency, and notwithstanding sensitivities about matters of sovereignty, ICS believes that the results of all IMO audits should eventually be published. In the meantime, ICS has welcomed the development of a new module within the IMO Global Integrated Shipping Information System (GISIS) through which governments have the option to make their reports

available to the public. ICS also welcomes the practice of some regional Port State Control (PSC) authorities to request information from flag states as to whether the voluntary IMO audits have been conducted, including this in their criteria for targeting inspections.

In February 2017, and as a complement to the IMO Scheme, ICS published its latest Shipping Industry Flag State Performance Table, which can be downloaded free of charge via the ICS website. The Table assesses the performance of flag states using criteria such as Port State Control records, the ratification of IMO and ILO Conventions, and participation at IMO meetings. It is intended as a tool to help ship operators engage in discussion with their flag administrations about areas of performance where improvement might still be necessary.

This year's ICS Table continues to highlight the sound performance of all of the world's major flag administrations, regardless of whether they are open registers or so called 'traditional' maritime flags. But in response to feedback from IMO Member States, ICS has made some further refinements in order to make the Table as objective and useful as possible. This includes the way in which the delegation to conduct surveys to responsible Recognized Organizations is now recorded.

In addition, flag states which do not qualify for the United States 'Qualship 21' programme have not been given negative performance indicators in the latest ICS Table. The list of flag states qualifying

for Qualship 21 now varies considerably from year to year and non-inclusion is therefore no longer viewed as being a sound indicator of negative performance. However, flag states that continue to qualify for the U.S. programme are still given a positive performance indicator.



UNCLOS IMPLEMENTING AGREEMENT

The United Nations Convention on the Law of the Sea (UNCLOS) provides the fundamental legal framework for protecting the oceans, and under the authority of UNCLOS the shipping industry is comprehensively regulated by IMO. But the regulation of other ocean activities, especially on the High Seas, is not so well developed.

In 2016, the United Nations, in New York, started some high level negotiations on a new UNCLOS implementing agreement concerning conservation of Biodiversity in areas Beyond National Jurisdiction (BBNJ) – in other words the High Seas.

While shipping is not the main focus of this UN initiative, which is really aimed at strengthening the regulation of deep sea fishing and new activities such as seabed mining, this work is likely to lead to the establishment of Marine Protected Areas on the High Seas.

In order to ensure that sectors such as fishing cannot argue for exclusion on the grounds that there are already other mechanisms in place to regulate them, the UN is keen for the agreement to be as comprehensive as possible in scope. This means that it will probably also apply to shipping, even though there is currently no suggestion that shipping is insufficiently regulated by IMO.

Potentially therefore, there is a risk that this UN work could adversely impact on shipping, interfering with principles such as freedom of navigation, or otherwise cut across the work of IMO. It could also potentially upset the current balance that exists between the rights and obligations of flag states, coastal states and port states.

Alongside IMO, ICS has therefore attended the first two sessions of the UN Preparatory Committee that have taken place in New York. At the second meeting, at the end of August 2016, ICS was invited to join IMO maritime administrations at an IMO side event, to help explain to the UN negotiators how shipping is comprehensively regulated by IMO. Most of the national UN negotiators are drawn from

foreign affairs, environment and ocean ministries which are not necessarily closely engaged in the work of IMO.

The negotiations are still at an early stage and the issues are complex because, in addition to IMO, the ocean is already regulated by a large number of different UN and regional agencies. But for the moment it appears that most of the key governments are broadly aware of the importance of ensuring that any new measures that could affect shipping should not be taken forward without the full involvement of IMO. None of the key players seem to have serious concerns about shipping or question the ability of IMO to deal with MPAs should it be decided to apply them to shipping on the High Seas.

It currently seems that there is little appetite among governments to establish a new UN Oceans agency. However, it is possible that ocean issues – such as the designation of High Seas MPAs – could be determined by regular Conferences of Parties to the new agreement, administered by the UN Division of Ocean Affairs. However, it is hoped that the detail and appropriateness of any measures that might apply in such MPAs – e.g. special navigational measures to avoid harm to rare species of whales – would still be determined by the relevant specialist agency, in this case IMO. It is also hoped that such decisions would have to be based on serious science, e.g. with input from bodies such as GESAMP (the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection).

The broader interests of ocean industries continue to be represented at these UN meetings by the World Ocean Council (WOC) of which ICS is a founder member. Meanwhile, working closely with IMO, ICS will continue to follow the work of the next UN Preparatory Committee meetings during 2017, in advance of a Diplomatic Conference which is scheduled to adopt a final text, possibly as early as 2018.





UN SUSTAINABLE DEVELOPMENT GOALS

In June 2017, the United Nations General Assembly will be holding a major conference in New York on the sustainability of the oceans and how the UN can best implement its Sustainable Development Goal (SDG 14) concerning the protection of the oceans which was adopted at the UN Summit of world leaders held in Rio de Janeiro in 2012.

ICS will make the case that the shipping industry is undoubtedly a driver of 'green growth' given its impressive environmental performance. The UN Conference will provide an opportunity to present the progress which the shipping industry is making to play its part in reducing environmental impacts on the oceans, especially with regard to CO₂, sulphur emissions and ballast water management. However, the UN Summit in Rio agreed that there are three pillars to sustainability including the economic and social as well as the environmental.

ICS believes that government regulators should give equal priority to each of the three pillars of sustainable development, including the economic. This is especially important in view of shipping's role in the continuing spread of global prosperity and the movement

of about 90% of trade in goods, energy and raw materials.

The vital need to protect the environment and for ships to comply fully with all new environmental regulations is fully recognised by ICS. But unless the industry is commercially viable it will not be able to deliver the investments in environmental and social improvements that are sought by regulators on behalf of society at large.

The debate at the UN level about sustainability is also relevant to the IMO 'better regulation' agenda which, at the request of the industry, is now being taken forward by the IMO Council. Following the Rio Summit, it is hoped that IMO's new focus on sustainable development will mean that all proposals for any future IMO environmental regulation will be shown to meet existing IMO criteria for 'compelling need' and be subjected to a full and proper cost benefit and impact analysis, in a similar manner to proposals relating to the improvement of maritime safety.

ICS believes that the conduct by IMO of full and proper cost benefit analysis of all new regulatory proposals will ensure the delivery of sustainable development, consistent with the goals agreed by the United Nations, including the best means of ensuring optimal environmental protection.

While shipping's regulators have a responsibility to protect the environment and the interests of wider society, they also need to be practical and have an understanding of the impact that their actions can have on the industry's own long term sustainability, especially if the 'compelling need' for potentially expensive proposals has not been properly demonstrated.

The international shipping industry, as represented by ICS, is committed to the delivery of further environmental and social improvements in the interests of sustainable development. But sustainable development requires a shipping industry that is economically sustainable too.





PUBLICATIONS

In addition to representing the industry, the production of publications on regulatory developments and best practices is an important part of ICS activity. Many ICS publications are used by ships throughout the world fleet, and are often listed as carriage requirements under national legislation.

In 2016, ICS published a revised 5th edition of the ICS Bridge Procedures Guide. About 30,000 copies of the new edition have already been sold worldwide.

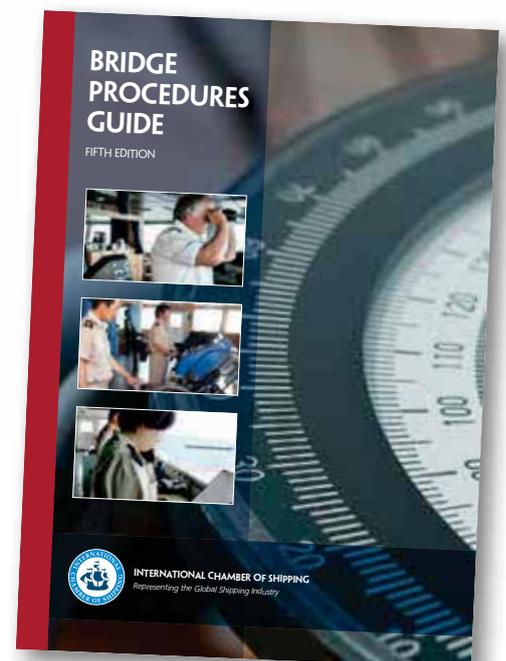
ICS is also now making good progress on a new edition of the ICS Tanker Safety Guide (Liquefied Gas), with publication anticipated during 2017, following the recent publication of a new edition of the ICS Tanker Safety Guide (Chemicals).

Another project that should be completed in 2017 is a new version of the Personal Training and Service Record Book for qualified seafarers to complement the On Board Training Record Books for trainee officers and ratings that are widely used by thousands of young seafarers across the global industry. ICS also hopes to finalise a new edition of its Guidelines on Garbage Management Plans during 2017.

Following the entry into force of the ILO Maritime Labour Convention, the ICS Guidelines on the Application of the ILO MLC have continued to prove very popular, as has the 'ISF Watchkeeper' seafarers' work hour record software which is produced

jointly with IT Energy. A major upgrade of ISF Watchkeeper was launched in early 2017 in order to ensure that the product remains the best available to help ship operators demonstrate compliance with complex IMO and ILO work hour regulations and record keeping requirements.

In addition to publications for sale, which are available from maritime booksellers worldwide, ICS also produces a large number of free resources for ship operators which can be downloaded from the ICS website – now also accessible via a phone friendly version.



INTERNAL AFFAIRS

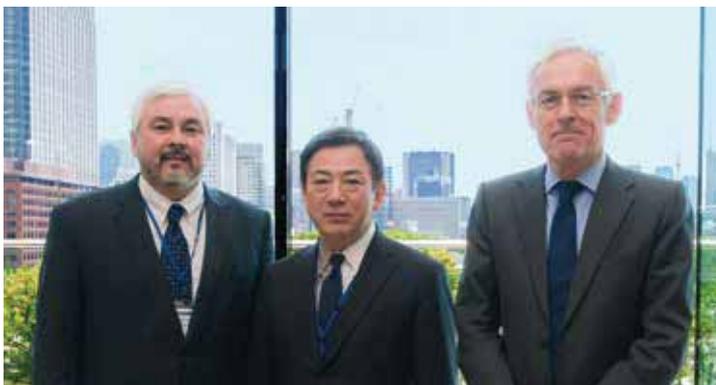
The ICS Annual General Meeting was generously hosted by the Japanese Shipowners' Association in Tokyo in June 2016, with the member national associations electing a new ICS Chairman, Mr Esben Poulsson (Singapore).

Mr Poulsson succeeds Mr Masamichi Morooka (Japan) who had decided to stand down after four years in office. Being at the helm of the industry's most influential international trade association, Mr Poulsson now serves as a leading representative of the global shipping industry, overseeing liaison with its regulators such as IMO and ILO.

The new ICS Chairman has already visited more than 20 member national shipowners' associations, in order to better understand their differing concerns and priorities, with plans to visit others during the course of 2017.

In addition to the ICS Board, Mr Poulsson has been supported during his first year in office by the four ICS Vice Chairmen: Mr John C Lyras (Greece), Mr Mark Martecchini (Liberia), Mrs Karin Orsel (Netherlands) and Mr Gerardo Borromeo (Philippines).

The membership of ICS remains unchanged and includes national shipowners' associations from 37 countries and territories. ICS also continues to work closely with its Regional Partners, the Asian Shipowners' Association (ASA) and the European Community Shipowners' Associations (ECSA).



Right to left: ICS Chairman, Esben Poulsson with outgoing Chairman, Masamichi Morooka, and one of the ICS Vice Chairmen, Gerardo Borromeo

During 2017, ICS is conducting a major rebranding exercise in order to better reflect the organisation's role in the 21st Century. The exercise should be finalised in the second half of the year.

The Secretariat and staff of ICS continues to be provided by Maritime International Secretariat Services Limited which is wholly owned by ICS. In March 2017, Mr Alistair Hull, one of the ICS Technical Directors, left ICS after nine years of service. His contribution will be greatly missed. Meanwhile, Mr Sunil Krishnakumar, a marine engineer with seagoing experience, joined the ICS Marine Department in February 2017. In September 2016, ICS was also pleased to welcome Miss Jade Smith as the new Marine Department Administrator.

In February 2017, ICS Secretary General, Peter Hinchliffe, announced that he will be retiring in May 2018. The search for his successor will begin during 2017.

The next ICS Annual General Meeting will be hosted by the Turkish Chamber of Shipping in Istanbul, in May 2017.



ICS AGM in Tokyo, 2016

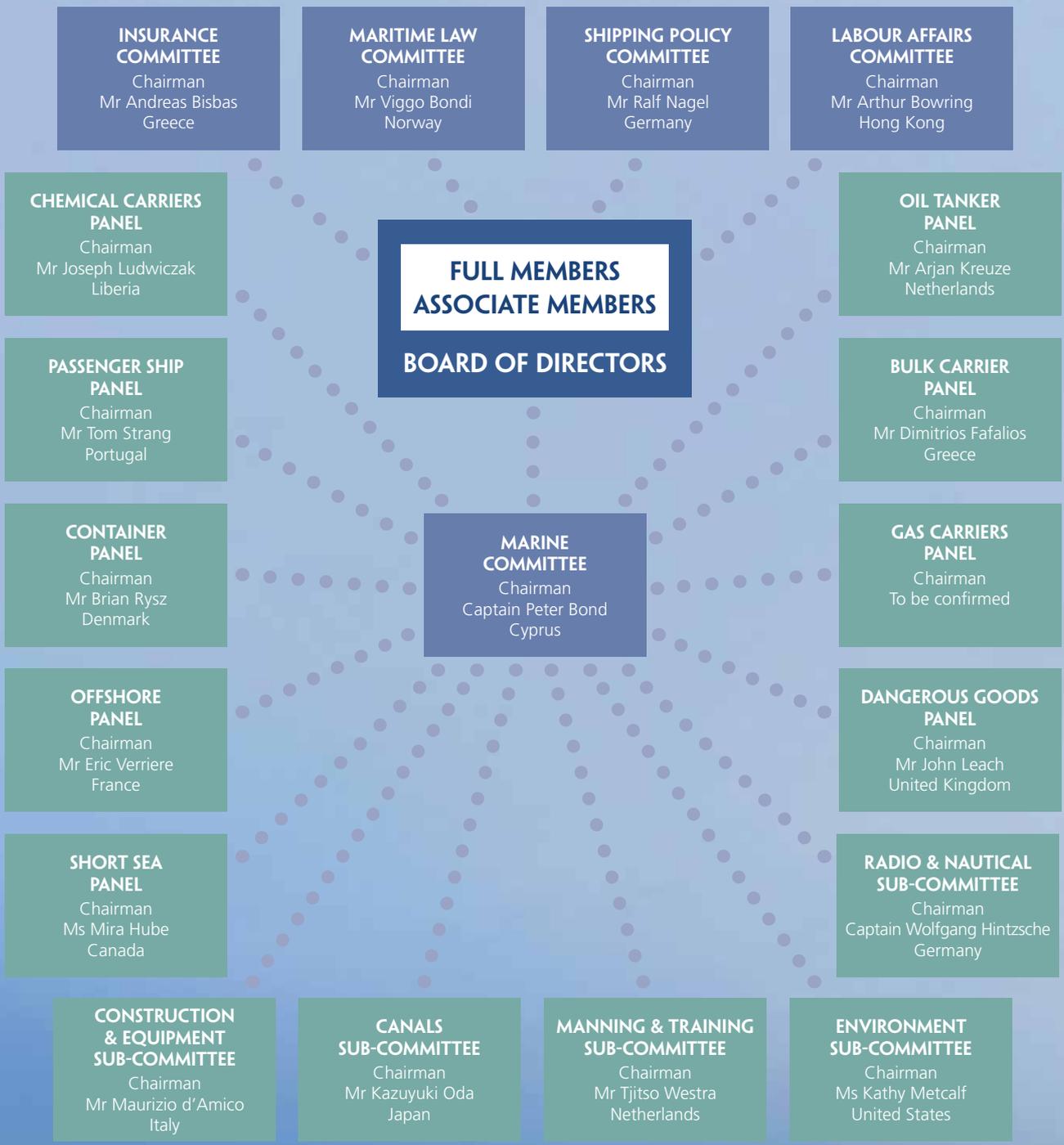
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ICS COMMITTEE STRUCTURE



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BAHAMAS	Bahamas Shipowners' Association
BELGIUM	Royal Belgian Shipowners' Association
BRAZIL	Union of Brazilian Shipowners †
CANADA	Canadian Chamber of Marine Commerce
CHILE	Chilean Shipowners' Association
CHINA	China COSCO Shipping Corporation †
CYPRUS	Cyprus Shipping Chamber
DENMARK	Danish Shipowners' Association
FAROE ISLANDS	Faroese Merchant Shipowners' Association
FINLAND	Finnish Shipowners' Association
FRANCE	French Shipowners' Association
GERMANY	German Shipowners' Association
GREECE	Union of Greek Shipowners Hellenic Chamber of Shipping §
HONG KONG, CHINA	Hong Kong Shipowners' Association
INDIA	Indian National Shipowners' Association
IRELAND	Irish Chamber of Shipping
ITALY	Italian Shipowners' Association
JAPAN	Japanese Shipowners' Association
KOREA	Korea Shipowners' Association
KUWAIT	Kuwait Oil Tanker Co.
LIBERIA	Liberian Shipowners' Council
MEXICO	Grupo TMM S.A.
NETHERLANDS	Royal Association of Netherlands Shipowners
NORWAY	Norwegian Shipowners' Association
PHILIPPINES	Filipino Shipowners' Association
PORTUGAL	Portuguese Shipowners' Association
RUSSIA	Russian Chamber of Shipping
SINGAPORE	Singapore Shipping Association
SPAIN	Spanish Shipowners' Association
SWEDEN	Swedish Shipowners' Association § Swedish Shipowners' Employer Association †
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