

5

LEGAL ISSUES AND REGULATORY DEVELOPMENTS

During the period under review, important developments included the adoption of the 2030 Agenda for Sustainable Development in September 2015 and the Paris Agreement under the United Nations Framework Convention on Climate Change in December 2015. Their implementation, along with that of the Addis Ababa Action Agenda, adopted in July 2015, which provides a global framework for financing development post-2015, is expected to bring increased opportunities for developing countries.

Among regulatory initiatives, it is worth noting the entry into force on 1 July 2016 of the SOLAS amendments related to the mandatory verification of the gross mass of containers, which will contribute to improving the stability and safety of ships and avoiding maritime accidents. At the International Maritime Organization (IMO), discussions continued on the reduction of greenhouse gas emissions from international shipping and on technical cooperation and transfer of technology particularly to developing countries. Also, progress was made in other areas clearly related to sustainable development. These included work on technical matters related to the imminent entry into force and implementation of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (known as the Ballast Water Management (BWM) Convention) and on developing an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

Continued enhancements were made to regulatory measures in the field of maritime and supply chain security and their implementation. Areas of progress included the implementation of authorized economic operator (AEO) programmes and an increasing number of bilateral mutual recognition agreements that will, in due course, form the basis for the recognition of AEOs at a multilateral level. As regards suppression of maritime piracy and armed robbery, in 2015, only a modest increase of 4.1 per cent was observed in the number of incidents reported to IMO, compared with 2014. The number of crew members taken hostage or kidnapped and those assaulted, and the number of ships hijacked, decreased significantly compared with 2014. In this respect, a circular on combating unsafe practices associated with mixed migration by sea and interim guidelines on maritime cyber risk management were approved at IMO. In the context of International Labour Organization (ILO) conventions, progress was also made on the issue of recognition of seafarers' identity documents and on improving their living and working conditions.

INTRODUCTION

In September 2015, the 2030 Agenda for Sustainable Development was adopted at the United Nations summit for the adoption of the post-2015 development agenda, representing consensus by the international community on a plan of action involving 17 Sustainable Development Goals, with 169 associated targets, which are “integrated and indivisible, global in nature and universally applicable” (see United Nations General Assembly resolution 70/1).¹ The Sustainable Development Goals are much more wide-ranging and comprehensive than the earlier Millennium Development Goals. They aim to eradicate, rather than reduce, global poverty, as well as harmonize the development and environment agendas and address inequality by leaving no one behind. Sustainable and resilient transport is among the cross-cutting issues, of relevance for achievement of progress on several of the Goals and targets, e.g. Sustainable Development Goal 9, to “build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”, and Sustainable Development Goal 13, to “take urgent action to combat climate change and its impacts”.

Of particular relevance in the context of maritime transport, ship-source pollution and coastal zone management is also Sustainable Development Goal 14, to “conserve and sustainably use the oceans, seas and marine resources for sustainable development”. Target 14.1 calls for significantly reducing all kinds of marine pollution by 2025, while target 14.2 calls for sustainably managing and protecting marine and coastal ecosystems by as early as 2020. Other targets are dedicated to minimizing and addressing the impacts of ocean acidification (target 14.3); by 2020, conserving at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information (target 14.5); by 2020, effectively regulating harvesting and ending overfishing, illegal, unreported and unregulated fishing and destructive fishing practices (target 14.4); and by 2020, prohibiting certain forms of fisheries subsidies which contribute to these practices (target 14.6). Target 14.7 particularly calls for increasing the economic benefits to small island developing States and the least developed countries, from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism, by 2030. In addition, target 14.a calls for increasing scientific knowledge, developing research capacity

and transferring marine technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and the least developed countries, while target 14.b calls for providing access for small-scale artisanal fishers to marine resources and markets.

Of particular importance in the context of legal and regulatory developments related to maritime transport is target 14.c: “Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of “The future we want”.² Worth noting is the broad and inclusive wording of this target, which directs the international community to implement international law as reflected in the Convention on the Law of the Sea. This would seem to cover, inter alia, a broad range of international legal instruments adopted under the auspices of IMO, for example, in the field of ship safety and marine environmental protection and pollution control.

UNCTAD contributes to the implementation of the 2030 Agenda, including Sustainable Development Goal 14, by working towards enhancing the regulatory governance of the oceans, including with respect to international shipping, marine pollution, security and safety, energy efficiency, fisheries and economic and environmental issues, particularly with a view to considerations arising for developing countries. UNCTAD research and analysis in the field of transport law, published as part of the *Review of Maritime Transport* and in individual studies and reports, as well as the relevant technical assistance and advice of UNCTAD aims to assist policymakers and other stakeholders in their understanding of the existing regulatory framework and in assessing the merits of accession to relevant international legal instruments and in their effective implementation and application at the national level.³

In December 2015, after nearly a decade of negotiations, a new and comprehensive global climate treaty, the Paris Agreement,⁴ was agreed at the twenty-first Conference of the Parties to the United Nations Framework Convention on Climate Change by all 196 participating Parties. The Paris Agreement is applicable to all countries and includes long-term goals. It reflects a new type of deal without binding emission reduction targets but with national plans and

a framework for transparency of effort and progression towards the purpose. The Paris Agreement expressly deals with domestic emissions, but emissions from international aviation and maritime transport are not explicitly covered within the framework of nationally determined contributions, which reflect national targets and actions. The Paris Agreement will enter into force when 55 Parties to the Convention, representing at least 55 per cent of global greenhouse gas emissions, ratify the agreement.

A. IMPORTANT DEVELOPMENTS IN MARITIME TRANSPORT LAW

Entry into force of the amendments to chapter VI/2 of the International Convention for the Safety of Life at Sea related to the mandatory verification of the gross mass of a container

An important regulatory development in 2016 is the entry into force of amendments to chapter VI/2 of SOLAS related to the mandatory verification of the gross mass of a container, which will have important implications for the whole transport supply chain. While the new requirements became mandatory as of 1 July 2016,⁵ a number of problems related to implementation and compliance have been identified, and IMO advised on adopting a pragmatic approach to implementation, particularly for the first three months immediately after 1 July 2016, while stakeholders refine their procedures for documenting, communicating and sharing relevant electronic data (IMO, 2016a). An overview of the substantive rules, as well as of potential problems identified, and efforts made so far towards the effective implementation of the amendments, is provided below.

Background

It is critical for the safety of ships, their crew and cargo to ensure the stability of any ship during a sea voyage. As cargo is loaded on a ship, a responsible ship officer has to decide where each particular item is to be placed. This becomes more challenging with container ships, rather than with tankers or bulk carriers, as the weight of each packed container tends to vary depending on the type of cargo that it contains. Shippers have always been required to include the declared weight on the container manifest, but these

were often only estimates or inaccurate. Despite the existence of a number of IMO instruments⁶ regulating the stability and safe operation of ships, including safe packing, handling and transport of containers, there were no requirements to verify the actual weight of packed containers prior to vessel loading.

If weight is incorrectly declared, and ships are overloaded with overweight or misplaced containers, their structural integrity and stability risk being compromised, containers may fall overboard and be lost at sea, and serious incidents may occur, as illustrated by a number of high-profile casualties.⁷ Although in many cases the difference between the declared and actual weight of containers was, in the event, not the named cause of the accidents, it was an aggravating factor. Thus, weighing containers may help avoid accidents, as well as any possible misdeclaration of exports.

Efforts to improve container security

Following the *MSC Napoli* incident in 2007, the World Shipping Council and the International Chamber of Shipping developed industry best practices for safe container handling.⁸ However, these guidelines remained only voluntary.⁹ After several years of study and discussion, IMO, in November 2014, approved the amendments to regulation 2 (Cargo information), part A of chapter VI, related to mandatory verification of gross mass of a container (SOLAS verified gross mass (VGM) amendments)¹⁰ (IMO, 2014a, annex I), set to enter into force on 1 July 2016. The Maritime Safety Committee also adopted implementing guidelines regarding the verified gross mass of a container carrying cargo (VGM guidelines) (IMO, 2014b). Under the SOLAS VGM amendments, the shipper is responsible for the verification of the gross mass of a container carrying cargo, before it is loaded onto a vessel, by one of two methods. The shipper can either (a) weigh the packed container using calibrated and certified equipment (method 1); or (b) weigh all packages and cargo items, and then add the weight of the empty container, using a certified method approved by the competent authority of the State in which packing of the container was completed (method 2). In addition, the shipper of a container shall ensure that the VGM is stated in the shipping document (e.g. a bill of lading), signed by a person duly authorized by the shipper, and submitted to the master or his or her representative, sufficiently in advance to be used in preparing the ship's stowage plan. If the VGM of the container is not provided as described above, the container shall

not be loaded onto the ship unless the master or his or her representative and the terminal representative have obtained the VGM through other means.

Potential problems in implementing the amendments

Concerns were expressed that not all shippers would be ready to comply with the amendments by 1 July 2016. Although aware of the VGM rules, many shippers complained that they lacked sufficient information by service providers (*Journal of Commerce*, 2016a; INTTRA, 2015). Problems identified included the following:

Lack of appropriate infrastructure and equipment

Accurate container weights need to be verified before vessel loading. Vessels themselves do not have the capability to weigh the containers, so verification has to be obtained on shore and provided to the port terminal operator prior to loading. That also depends on whether the terminal has the facilities to weigh the containers, and whether these facilities are calibrated and certified under national law.

Concerns have been expressed that the situation might be more challenging for smaller exporters, and for those shipping combinations of packaged products with various stowage equipment or loose products in containers, particularly as regards their lack of infrastructure, weighing machinery, information technology and other relevant processes (*Lloyd's List*, 2016a).

Form of communicating verified gross mass information

SOLAS does not mandate any particular form of communication between the parties exchanging the VGM information. It is important, however, to ensure that such information is correctly transmitted to and used by the carrier and the terminal when making the decision on whether to load a container on board a ship or not. Under both methods stipulated in the amendments, information required by the shipper is the same: the VGM of the packed container, identified as such and signed by the shipper or a person duly authorized by the shipper. The information and signature may be transmitted electronically. Normally, electronic data interchange messaging is used with respect to VGM. However, the form of exchange and precise content normally needs to be agreed between the commercial parties (*Lloyd's List*, 2016b).¹¹

Difficulties in national implementation

Some concerns have been expressed regarding the effective national implementation of the SOLAS VGM amendments. While the amendments indicate what needs to be done and how, and while they became effective as of 1 July 2016, it is left to the competent authorities of member States and industry actors to provide clarifications about them, through issuing relevant policies that are expected to help achieve consistent implementation. Industry guidelines (European Association for Forwarding, Transport, Logistics and Customs Services, 2016), issued in January 2016 by a forwarders' group, suggest that such policies should, among other things, clarify the following points: how shipping lines will treat VGM from forwarders acting as carriers;¹² how VGM is to be transmitted to carriers; what tolerance level Governments will allow; and which certification programmes will be recognized as equivalent.

An IMO circular letter (IMO, 2016b), issued in February 2016, notes that information about the VGM amendments should be circulated to all relevant parties ahead of their implementation. It states that while the VGM guidelines provide the basis for consistent implementation, "there is still a need for SOLAS Contracting Governments to communicate, at a national level, with all parties involved in maritime containerized transport (e.g. shippers, port authorities, container terminals, shipping agents and carriers) on how methods 1 and 2 will be given effect, together with any measures that will be put in place to ensure compliance".

National implementation guidance by the competent authorities of a number of countries has been posted on the websites of the World Shipping Council¹³ and the TT Club.¹⁴ However, it has been reported that by 1 July 2016, around 80 per cent of SOLAS Contracting Parties had yet to publish such guidance (*Lloyd's List*, 2016d). Industry associations have also issued joint guidelines on aspects of the new mandatory requirements (European Chemical Industry Council and others 2016; TT Club, 2015). In any event, adjusting contractual arrangements in light of the new requirements, and communication between regulatory agencies, port authorities, shipping lines, terminals, shippers and exporting companies, still remain crucial for effective national implementation.

Distorted competition

Potentially, stakeholders, including ports, terminals and carriers, in countries where preparations for the

implementation of the SOLAS VGM amendments were made earlier could be at a competitive advantage compared with those in other countries where such preparations were not made.

While expressing full support for the new rules, several European industry associations, representing various stakeholders, have called for uniform container weight rules in IMO member States, as variations in implementation may lead to distortion in competition. For countries in Europe for instance, uniform implementation would include the following: a common acceptance of weighing equipment; adopting similar standards on certification that do not have an adverse impact on the functioning of the logistics chain and are not overly restrictive; accepting a five per cent VGM weight variation that would reduce the risk of bottlenecks in ports due to the fact that more of the current equipment could be used; and communicating VGM at the earliest opportunity, and if possible before the packed container is delivered to a port facility, in order to avoid complications (European Association for Forwarding, Transport, Logistics and Customs Services and others, 2016). Similar implementation practices and procedures could also be applied in developing countries.

Consequences of not achieving full compliance by 1 July 2016

SOLAS VGM amendments impose an obligation on the shipper named on the ocean bill of lading,¹⁵ as the party responsible for providing the carrier and the terminal operator with the VGM of the packed container. The shipper may be a manufacturer, ship agent or freight forwarder, for example, and due to the complex nature of the international transport transactions, the person identified as the “shipper” in the bill of lading may not have direct or physical control over the process by which the VGM is determined, or indeed may not be responsible as contractual shipper under the contract of carriage. Nevertheless, the named shipper still remains responsible and must ensure that arrangements are in place for accurately determining and declaring the VGM in compliance with the SOLAS requirements. Normally, the parties to the contract of sale will need to determine by which method the VGM will be obtained¹⁶ and how this information is to be provided to the carrier by the shipper identified in the bill of lading (TT Club, 2015, sections A.1, C.1 and C.2).

On the other hand, SOLAS VGM amendments impose an obligation on the carrier and the terminal operator not to load the container on board a ship for which no VGM

has been provided or obtained. Any costs associated with the non-loading, storage, demurrage or eventual return of the container to the shipper should be subject to contractual arrangements between the commercial parties. Also, section 13 of the VGM guidelines provides that in order to allow the continued onward movement of containers received without a declared VGM, the ship master or his or her representative and the terminal representative may obtain the VGM of the packed container on behalf of the shipper. This may be done by weighing the packed container in the terminal or elsewhere, but whether and how to do this, including the apportionment of the costs involved, should be agreed between the commercial parties. If containers are weighed at the terminal and are found to be over the declared VGM, they may also be rejected, and fines and penalties may be imposed on shippers, in accordance with national legislation of the port State. In addition, if ports do not have the facilities to weigh by the 1 July 2016 date, which is in fact not a requirement under SOLAS, containers could be turned away at the gate causing problems, including increased congestion for facilities.¹⁷

United States position

There has been some confusion regarding the United States position on the SOLAS VGM amendments. Shippers, particularly the Agriculture Transportation Coalition, whose members constitute the majority of United States agriculture and forest products exporters, issued a position paper (Agriculture Transportation Coalition, 2016) in February 2016, calling for a delay in enforcement of VGM until all parties could agree on industry best practices. Concerns were expressed in the paper, including on the competitive disadvantage that the SOLAS VGM amendments would potentially cause to United States exporters, and the fact that the shipper does not know the container weight, but only the weight of cargo, while the rule appears to impose on the shipper liability to certify equipment which is owned/leased/controlled by the carriers. Concerns were also raised that tare weights printed on the back of the container were not necessarily accurate, that the amendments did not account for container or weight variance and that the new rules imposed significant new implementation costs on all participants in the United States export supply chains.

Responding to this, the World Shipping Council, representing global container lines, supported the SOLAS VGM amendments, pointing out, among other things, that the tare weight of containers was

painted on the door, and freely available, and that the shipper was not responsible for certifying that the tare weight painted on the container was accurate. This remained the responsibility of the container operator. The World Shipping Council also noted that providing an accurate weight of the packed container was an existing requirement under SOLAS and, therefore, it could not reasonably be argued that the VGM requirements introduced a new cost for weighing. It was actually a cost that should have already been built into the supply chain (World Shipping Council, 2016).

The United States Coast Guard determined that existing United States laws and regulations for providing VGM of containers were equivalent to the requirements in the SOLAS VGM amendments. In a letter to IMO, the United States Coast Guard explained that certain alternative approaches to determining VGM of containers could be equivalent to those outlined in the SOLAS amendments, stating that “shippers, carriers, terminals and maritime associations have outlined multiple acceptable methods for providing VGM, among which are that (a) ‘the terminal weighs the container and when duly authorized, verifies the VGM on behalf of the shipper’, and (b) ‘the shipper and carrier reach agreement whereby the shipper verifies the weight of the cargo, dunnage and other securing material, and the container’s tare weight is provided and verified by the carrier’” (United States Coast Guard, 2016). Close to the implementation date, the United States Federal Maritime Commission declared that steps taken by ocean carriers, in cooperation with terminal operators, were encouraging signs that the SOLAS VGM amendments were being implemented in a flexible, practical and pragmatic manner (United States, 2016a).

Outlook

In order to avoid delays and other adverse business consequences, stakeholders in IMO member States need to work together to develop clear procedures for the implementation of the SOLAS VGM amendments as soon as possible. So far, there appears to be no common resolution among shippers and carriers on how the verification of the container weight is to take place on the ground, and views regarding the full implications of the new requirements appear to differ. There also appears to be some frustration among shippers regarding potentially questionable and unspecified administration fees and other service charges imposed by some terminals and carriers (*Journal of Commerce*, 2016b). Additional

costs are of particular concern from the perspective of developing countries, many of which already face disproportionately high transport costs. In the meantime, as already briefly noted above, IMO has recommended in a circular (IMO, 2016a) that port State control officers should be pragmatic for the first three months immediately after 1 July 2016, while the stakeholders refine their procedures for documenting, communicating and sharing electronic VGM data. A number of States have already adopted the IMO advice.¹⁸ In this context, it is also worth noting that, according to the International Federation of Freight Forwarders’ Associations, during the first two weeks of implementation of the SOLAS VGM amendments, no major disruptions were observed, although there was some lengthening of the transit times (*Lloyd’s List*, 2016e).

B. REGULATORY DEVELOPMENTS RELATING TO THE REDUCTION OF GREENHOUSE GAS EMISSIONS FROM INTERNATIONAL SHIPPING AND OTHER ENVIRONMENTAL ISSUES

Reduction of greenhouse gas emissions from international shipping and energy efficiency

As outlined in previous issues of the *Review of Maritime Transport*, a new set of technical and operational measures to increase energy efficiency and reduce emissions of greenhouse gases from international shipping were adopted at IMO in 2011 (IMO, 2011, annex 19).¹⁹ These introduced the Energy Efficiency Design Index for new ships and the Ship Energy Efficiency Management Plan for all ships, included by way of amendments to International Convention for the Prevention of Pollution from Ships (MARPOL 1973 and its Protocol of 1978) annex VI²⁰ through the introduction of a new chapter 4, entitled “Regulations on energy efficiency for ships”, which entered into force on 1 January 2013. A number of guidelines and unified interpretations to assist in the implementation of this set of technical and operational measures were subsequently adopted at IMO in the following years (2012–2015). Furthermore, IMO is continuing its activities to support the 2013 resolution on the promotion of technical cooperation and transfer of

technology relating to the improvement of energy efficiency of ships. The issue of possible market-based measures for the reduction of greenhouse gas emissions from international shipping was not addressed during the last four sessions of the IMO Marine Environment Protection Committee (MEPC), each of which postponed further discussion. Information about relevant deliberations and outcomes during the sixty-ninth session of the MEPC (18–22 April 2016) is presented below.

Reduction of greenhouse gas emissions from international shipping

United Nations Framework Convention on Climate Change matters

MEPC considered a document (IMO, 2016c) providing information on the outcomes of the United Nations Climate Change Conferences held in 2015. The Committee welcomed the adoption of the Paris Agreement²¹ at the twenty-first session of the Conference of the Parties, under the United Nations Framework Convention on Climate Change, held in Paris, in December 2015, and recognized the continuing role of IMO in mitigating the impact of greenhouse gas emissions from international shipping.

The Paris Agreement

The Paris Agreement was opened for signature on 22 April 2016 at a high-level signature ceremony convened by the United Nations Secretary-General in New York, United States, and has since been ratified by 60 States.²² In it, States commit to reducing emissions fast enough to achieve the goal of “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C” (article 2). States are required to commit to climate mitigation goals by submitting and implementing increasingly ambitious nationally determined contributions in five-year cycles. The review of implementation of individual nationally determined contributions shall be made under an “enhanced transparency framework”, comprising a technical expert review and multilateral consideration (article 13). A global stocktake every five years is established “to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals” (article 14), preceded by a mitigation-focused facilitative dialogue in 2018 that will “take stock of collective country actions in

relation to progress towards the long-term goals” in the Agreement (paragraph 20 of the decision).²³ The Agreement also establishes a mechanism “to facilitate implementation of and promote compliance with the provisions of this Agreement” through “a committee that shall be expert-based and facilitative in nature and function in a manner that is transparent, non-adversarial and non-punitive” (article 15). However, further details regarding each of these processes are left to future decisions.

In addition, the Agreement recognizes the need for adaptation efforts, “enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development” (article 7(1)).²⁴ It also contains a loss and damage provision, which is intended to help vulnerable countries establish early warning systems, risk insurance facilities and other means of coping with climate change impacts (article 8). The Agreement calls for developed countries to provide support, including financial resources for mitigation and adaptation in developing countries under the United Nations Framework Convention on Climate Change (article 9). In addition, developed country Parties commit to communicate “quantitative and qualitative information... including, as available, projected levels of public financial resources to be provided to developing country Parties. Other Parties providing resources are encouraged to communicate biannually such information on a voluntary basis” (article 9 (5)). Parties have also agreed that by 2025, the Conference of the Parties shall set a new “collective quantified goal from a floor of \$100 billion per year, taking into account the needs and priorities of developing countries” (paragraph 54 of the decision).

Emission reduction targets for international shipping

Neither the Paris Agreement nor the related decision of the twenty-first Conference of the Parties included any reference to international shipping and aviation. Despite that, progress is expected to be made in each of these sectors with respect to emissions reduction. By way of background, according to the 1997 Kyoto Protocol²⁵ to the United Nations Framework Convention on Climate Change, the responsibility to limit and reduce international aviation and shipping emissions belongs to the International Civil Aviation Organization and IMO, as the two United Nations specialized agencies responsible for regulating these sectors.

Efforts have been made over the years by both agencies to adopt policies for reducing international emissions for which their respective sectors are responsible, albeit with somewhat slow progress. The Third IMO Greenhouse Gas Study 2014 (IMO, 2014c) estimated that international shipping emitted 796 million tons of CO₂ in 2012, compared with 885 million tons in 2007. This represented 2.2 per cent of the global emissions of CO₂ in 2012, compared with 2.8 per cent in 2007. The study also forecasted CO₂ emissions from shipping to increase by 50, to 250 per cent, by 2050. A similar scenario exists for aviation (International Civil Aviation Organization, 2013). Thus, both agencies, under current policies, may not be delivering sufficient measures to reduce emissions from these sectors, consistent with the 1.5°C/2°C objective of the Paris Agreement. Recently, the United Nations Secretary-General reminded both agencies of the urgent need to address the growth of emissions under their mandates (IMO, 2016d; International Civil Aviation Organization, 2016). The Assembly of the International Civil Aviation Organization, at its next meeting (September–October 2016), is expected to take a decision on the establishment of a global market-based measure for international aviation, to be fully implemented in 2020.²⁶

At IMO, MEPC at its sixty-ninth session considered a number of documents related to a possible reduction target for international shipping, which, among other actions:

- (a) Proposed that the Organization should develop an “Intended IMO Determined Contribution” on CO₂ reduction for the international shipping sector as a whole, taking account of the Paris Agreement of the twenty-first Conference of the Parties to the United Nations Framework Convention on Climate Change (IMO, 2016e);²⁷
- (b) Invited the Committee to develop a work plan to define international shipping’s fair share of the international community’s efforts to curb greenhouse gas emissions (IMO, 2016f);
- (c) Proposed four key areas in which progress was needed at that session if IMO was to remain relevant and respond in an appropriate and timely manner to the Paris Agreement: agreement on a work plan to identify shipping’s fair share of greenhouse gas emission reductions, continuation of work leading to revised phase 2 Energy

Efficiency Design Index requirements, agreement to advance consideration of measures for existing ships, including market-based measures and adoption of a transparent global data collection system (IMO, 2016g);

- (d) Commented on views expressed in document MEPC 69/7/2 (IMO, 2016f), concerning the role of international shipping in the reduction of global carbon emissions (IMO, 2016h).

In its submission proposing an “Intended IMO Determined Contribution”, the International Chamber of Shipping, representing the global shipping community, noted that the UNCTAD *Review of Maritime Transport 2015* confirms that more than half of current international shipping activity now services developing economies, a proportion that is expected to increase in the future. The submission further argues that it would be inconsistent with the “spirit of Paris” and the principle of common but differentiated responsibilities set out in article 2 of the Paris Agreement to expect that international shipping should decarbonize at the same rate at which developed nations have committed to decarbonize their economies in their intended nationally determined contributions. The International Chamber of Shipping also suggested that, since the concept of reduction targets had not yet been applied to individual Parties under the Paris Agreement, or any other industrial sector, the term “Intended IMO Determined Contribution” was appropriate. This would avoid the implication that some kind of sanction might follow any reduction target not being reached, which was one of the key reasons for the success of the twenty-first Conference of the Parties and consensus being achieved among all nations (IMO, 2016e).

Following discussion,²⁸ MEPC:

1. Welcomed the Paris Agreement under the United Nations Framework Convention on Climate Change and acknowledged the major achievement of the international community in concluding the agreement;
2. Recognized and commended the current efforts and those already implemented by IMO to enhance the energy efficiency of ships;
3. Widely recognized and agreed that further appropriate improvements related to shipping emissions can and should be pursued;

4. Recognized the role of IMO in mitigating the impact of greenhouse gas emissions from international shipping;
5. Agreed to the common understanding that the approval at this session and subsequent adoption of the data collection system was the priority;
6. Reiterated its endorsement of the three-step approach consisting of data collection, analysis and decision-making;
7. Agreed to establish a working group under this item at MEPC 70, with a view to an in-depth discussion on how to progress the matter, taking into account all documents submitted to this session and comments made, and any further related proposals (IMO 2016i, p. 38).

Energy efficiency for ships

As mentioned above, the Energy Efficiency Design Index for new ships and associated operational energy-efficiency measures for existing ships became mandatory in 2013, with the entry into force of relevant amendments to MARPOL annex VI. The regulations require IMO to review the status of technological developments and, if proven necessary, amend the time periods and the Energy Efficiency Design Index reference line²⁹ parameters for relevant ship types and reduction rates.

MEPC at its sixty-ninth session considered an interim report of its Correspondence Group tasked with reviewing the status of technological developments relevant to implementing phase 2 of the Energy Efficiency Design Index regulations. It instructed the group to continue considering the status of technological developments for roll-on/roll-off cargo ships and roll-on/roll-off passenger ships and to make recommendations to MEPC 70 on whether the time periods, the Energy Efficiency Design Index reference line parameters for relevant ship types and the reduction rates (in regulation 21 of MARPOL annex VI) should be retained or, if proven necessary, amended (IMO, 2016i, p. 27).

Technical cooperation and transfer of technology

MEPC discussed the importance of implementing the resolution on the promotion of technical cooperation and transfer of technology relating to the

improvement of energy efficiency of ships (IMO, 2013, annex 4). It considered a report (IMO, 2015a) which assessed the potential implications and impacts of the implementation of the “Regulations on energy efficiency for ships” in chapter 4 of MARPOL annex VI, in particular on developing countries, as a means of identifying their technology transfer and financial needs. For instance, the report identified that, as with any new regulation, relevant national maritime legislation might need to be updated and training of flag State and port State control officers could be needed. It also indicated that the level of awareness varied from region to region and, within regions, from country to country (IMO, 2015a, annex 1). In addition, the report identified barriers to transfer of technology, in particular to developing States, including associated costs and possible sources of funding to support transfer of technology relating to the improvement of energy efficiency of ships (IMO, 2015a, annex 3). It also noted that the scoping document on the establishment of an inventory of energy efficiency technologies for ships (IMO, 2015a, annex 2) had been forwarded to the Global Maritime Energy Efficiency Partnerships Project. An information portal for energy efficiency technologies for ships was also developed as part of the project.³⁰

The Committee approved a model agreement on technological cooperation for the implementation of the regulations in chapter 4 of MARPOL annex VI (IMO, 2015a, annex 4), which would be issued by the IMO secretariat as a circular (MEPC.1/Circ. 861), to encourage its use by member States. It also endorsed a set of recommendations to guide and assist member States, industry and other entities within States in implementing the regulations in chapter 4 of MARPOL annex VI (IMO, 2015a, annex 5).

Further technical and operational measures for enhancing the energy efficiency of international shipping

MEPC approved draft amendments to chapter 4 of MARPOL annex VI (data collection system for fuel consumption of ships) (IMO, 2016i, annex 7), which will be used, among other things, to estimate CO₂ emissions, with a view to adoption at the seventieth session. The amendments contain mandatory requirements for ships of 5,000 gross tons and above to record and report data on their fuel consumption, along with additional data on proxies for the transport work undertaken by the ship.

MEPC reaffirmed its agreement that data collection was the first step in a three-step approach, the second step being data analysis and the third step being decision-making on what further measures, if any, are required (IMO, 2016i, pp. 27–34).

Ship-source pollution and protection of the environment

Air pollution from ships

MEPC continued its work on developing regulations to reduce emissions of other toxic substances from burning fuel oil, particularly NO_x and SO_x. Together with CO₂, these significantly contribute to air pollution from ships, and are covered by MARPOL annex VI, amended in 2008 to introduce more stringent emission controls.

Emissions of nitrogen oxides

As highlighted in previous issues of the *Review of Maritime Transport*, measures have been adopted at IMO that require ships to gradually produce NO_x emissions below certain levels. Requirements for the control of NO_x apply to installed marine diesel engines of over 130 kW output power, and different levels (tiers) of control apply based on a ship's construction date. Tier III limits that apply in emission control areas, for ships constructed from 1 January 2016 onwards, are almost 70 per cent lower than those of the previous tier II. Thus, applying these limits would require additional expensive technology to be installed, including catalytic reduction and exhaustive gas circulation systems. Outside emission control areas designated for NO_x control, tier II limits, required for marine diesel engines installed on ships constructed on or after 1 January 2011, apply.

MEPC continued its consideration of issues related to progressive reductions in NO_x emissions from ship engines, and in particular adopted amendments to MARPOL and the NO_x Technical Code 2008, which are expected to enter into force on 1 September 2017, namely:

- Amendments to regulation 13 of MARPOL annex VI (record requirements for operational compliance with NO_x tier III emission control areas) (IMO, 2016i, annex 2);
- Amendments to the NO_x Technical Code 2008 (testing of gas-fuelled and dual fuel engines) (IMO, 2016i, annex 3).

Emissions of sulphur oxides

With effect from 1 January 2012, MARPOL annex VI established reduced SO_x thresholds for marine bunker fuels, with the global sulphur cap reduced from 4.5 per cent (45,000 parts per million (ppm)) to 3.5 per cent (35,000 ppm), outside emission control areas. The global sulphur cap is expected to be reduced further to 0.5 per cent (5,000 ppm) from 2020. Depending on the outcome of an IMO fuel availability study, to be completed by 2018, this requirement could be deferred to 2025. Within emission control areas where more stringent controls on SO_x emissions apply, the sulphur content of fuel oil must be no more than 0.1 per cent (1,000 ppm) from 1 January 2015.³¹ To meet these new requirements, shipowners and operators are adopting a variety of strategies, including installing scrubbers and switching to liquefied natural gas and other low-sulphur fuels.

Experts suggest that shipowners should prepare for a 2020 deadline. For instance, regardless of the IMO outcomes, European Union rules are already in place limiting sulphur in fuel to 0.5 per cent in European waters, as of 1 January 2020 (European Parliament and Council of the European Union, 2012). It has also been reported that as of 1 January 2016, in some of China's key ports, a voluntary sulphur reduction limit of 0.5 per cent applies, which will become mandatory in port waters from 1 January 2017, and then expand to emission control areas by 1 January 2019 (*Lloyd's List*, 2016f; *Fairplay*, 2016a).

The 2010 guidelines for monitoring the worldwide average sulphur content of fuel oils supplied for use on board ships (IMO, 2010, annex I) provide for the calculation of a rolling average of the sulphur content for a three-year period. The rolling average based on the average sulphur contents calculated for the years 2013–2015 is 2.45 per cent for residual fuel and 0.11 per cent for distillate fuel (IMO, 2014d, 2015b and 2016j). Following discussion, MEPC took the following steps:

- Adopted amendments to the 2010 guidelines for monitoring the worldwide average sulphur content of fuel oils supplied for use on board ships (IMO, 2016i, annex 6);
- Agreed to initiate the revision of the guidelines on the approval of systems for removing sulphur from exhaust gases (scrubbers) (IMO, 2016i, p. 59).

Fuel oil quality

MEPC considered a report of the Correspondence Group on fuel oil quality (IMO, 2016k and 2016l),

established to consider possible quality-control measures prior to fuel oil being delivered to a ship. MEPC discussed three aspects of possible draft guidance on best practice for fuel oil providers, fuel oil purchasers/users and for member States/coastal States, and instructed the group to continue its work.

MEPC also discussed the ongoing review by the IMO secretariat of the availability of compliant fuel oil to meet the global requirement that the sulphur content of fuel oil used on board ships shall not exceed 0.5 per cent as from 1 January 2020. MEPC agreed in principle that a final decision on the date of implementation³² of the global 0.5 per cent limit should be taken at MEPC 70, so that maritime administrations and industry can prepare accordingly.

Ballast water management

As seaborne trade continues to grow, with more than 50,000 merchant ships trading internationally, approximately 3–5 billion tons of ballast water per year are being transferred globally by ships (*The Maritime Executive*, 2015). Along with this growth, the risk of introduction and proliferation of non-native species following the discharge of untreated ships' ballast water – one of the four greatest threats to the world's oceans, and one of the major threats to biodiversity – increases as well.³³ Even though ballast water is essential to ensure safe operating conditions and stability for ships, it often carries with it a multitude of marine species, which may survive to establish a reproductive population in the host environment – becoming invasive, out-competing native species, multiplying into pest proportions and potentially bringing devastating consequences.

In February 2004, the BWM Convention was adopted under the auspices of IMO to prevent, minimize and ultimately eliminate the risks to the environment, human health, property and resources arising from the transfer of harmful aquatic organisms carried by ships' ballast water from one region to another. Several related resolutions were also adopted³⁴ and, since then, a number of guidelines and other instruments have been developed by IMO to encourage the uniform implementation of the Convention.³⁵ As explained in a recent article (UNCTAD, 2015a)³⁶ many countries have unilaterally developed or are developing national or local legislation, which remains generally consistent with these guidelines. Such action taken by States will assist in the consistent implementation of the BWM Convention after its entry into force, given also the fact that IMO does not have direct enforcement power.

However, sometimes national rules can impose obligations that are different from or additional to the IMO standards.

Upon entry into force of the BWM Convention, shipowners will be obliged to install a ballast water management system to comply with its requirements. However, shipping companies have been concerned that the expensive new treatment equipment they are required to install, even if it has been type-approved in accordance with IMO guidelines, may not be regarded as fully compliant by some Governments. For instance, in the United States, the United States Coast Guard standard is consistent with the IMO Ballast Water Performance standard, but the respective implementing guidelines are not. It appears that the United States Coast Guard considers the IMO treatment technology type-approval guidelines, known as "G8", insufficient, and has adopted its own unilateral regulations. Under these circumstances, shipping companies trading with the United States that will also need to satisfy the United States Coast Guard standards are concerned that, if they decide to install a system approved in accordance with IMO guidelines, it could be accepted by the United States Coast Guard only for a limited time. After that, they would have to install a fully United States Coast Guard approved system, which may give rise to additional costs. However, currently, no treatment technology that has obtained full approval by the United States Coast Guard is commercially available. Nor is there any guarantee that a ballast water management system approved in accordance with IMO guidelines will be later granted full approval and/or found compliant by the United States Coast Guard. Until these issues are fully resolved, some States may continue to be reluctant to ratify the BWM Convention. However, it is also worth noting that, in the meantime, transitional arrangements have been in place for ships entering United States waters, which include (a) allowing them to install a United States Coast Guard accepted system approved in accordance with the current IMO guidelines (G8), as well as (b) granting extensions to dates for installing the required ballast water management systems. At the same time, IMO has agreed that while current IMO guidelines are being revised and might potentially change, ships that install ballast water management systems approved in accordance with the current guidelines (G8) should not be penalized.

The BWM Convention finally fulfilled its remaining entry into force criterion (tonnage), in September 2016,

following ratification by Finland.³⁷ As at 20 September 2016, it had 52 Parties representing 35.14 per cent of the world's merchant gross tonnage, thus slightly exceeding the 35 per cent requirement. As a result of the latest ratification, the BWM Convention will enter into force on 8 September 2017.

At its sixty-ninth session, MEPC agreed to grant final approval to three³⁸ further ballast water management systems that make use of active substances, and noted that the total number of systems of a type approved by IMO is currently 65. It also re-established a Correspondence Group on the review of the guidelines for approval of ballast water management systems (G8).

MEPC approved two drafts that would be circulated and subsequently adopted upon entry into force of the BWM Convention, namely:

- Draft amendments to regulation B-3 of the BWM Convention (IMO, 2016i, annex 4), providing an appropriate timeline for ships to comply with the ballast water performance standard prescribed in regulation D-2 of the Convention;
- Draft resolution on determination of the date referred to in regulation B-3, as amended, of the BWM Convention (IMO, 2016i, annex 5).

Ballast water management is clearly linked with sustainable development as various international instruments indicate.³⁹ As part of the general IMO regulatory strategy regarding ship safety, cleaner seas and internationally agreed upon standards, the BWM Convention contributes to the implementation of Sustainable Development Goal 14.⁴⁰ In addition, the spread of invasive species has been recognized as one of the greatest threats to biodiversity and to the ecological and economic well-being of the planet.⁴¹ Therefore, prevention, control or eradication of invasive alien species by 2020 is also specifically addressed under Sustainable Development Goal 15, target 15.8.⁴²

Legally binding instrument under the United Nations Convention on the Law of the Sea

Worth noting is ongoing related work⁴³ towards the development of an internationally legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. Negotiations shall address topics identified in a package agreed in 2011, including “the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, in

particular, together and as a whole, marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, environmental impact assessments and capacity-building and the transfer of marine technology”.⁴⁴ These are all matters of interest to developing countries. An important principle established in the United Nations Convention on the Law of the Sea, the global legal framework for all ocean-related activities, is freedom of the high seas (parts of the sea beyond national jurisdiction), for both coastal and landlocked States. However, such freedom is subject to a number of conditions, as specified by the relevant rules of international law, including the United Nations Convention on the Law of the Sea. For instance, when engaging in various activities in the high seas, States have to consider, among other issues, the positions of other interested States and other interests, including the sustainable use of living resources and the protection of the environment.⁴⁵ Also according to the United Nations Convention on the Law of the Sea, the regime of common heritage of humanity applies to the seabed beyond the limits of national jurisdiction. This implies that the resources found there are to be used for the benefit of humanity as a whole with particular consideration for the interests and needs of developing countries.⁴⁶ Genetic resources are commercially valuable and their exploitation may in the near future become a promising activity taking place beyond the limits of national jurisdiction. However, neither the United Nations Convention on the Law of the Sea nor the United Nations Convention on Biological Diversity (1992) provide any specific legal framework regarding the international regime applying to genetic resources in areas beyond national jurisdiction. Therefore, a new instrument needs to be negotiated. In addition, as regards benefit sharing and capacity-building, it is critical that the special challenges and needs of developing countries, in particular small island developing States and the least developed countries, are taken into account when drafting the instrument.⁴⁷

Developments regarding the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, as amended by its 2010 Protocol

With more than 200 million tons of chemicals traded annually by tankers, the number of ships carrying hazardous noxious substance cargoes is growing steadily, and so is the risk of related accidents. While it is clearly important to ensure that those who have

suffered damage caused by hazardous noxious substance cargoes have access to a comprehensive international liability and compensation regime (IMO, 2016n), no relevant international convention is yet in force. The International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention), originally adopted in 1996, was amended in 2010 in an effort to overcome a number of perceived obstacles to its ratification. However, despite the recognized importance of an international liability and compensation regime for hazardous noxious substances carried by sea, to date no State has ratified the HNS Convention, as amended in 2010, and it is not clear if and when it will enter into force.⁴⁸ This leaves an important gap in the global liability and compensation framework, while a comprehensive and robust international liability and compensation regime is in place in respect of oil pollution from tankers (International Oil Pollution Compensation Fund regime),⁴⁹ as well as in respect of bunker oil pollution from ships other than tankers (International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001).

The IMO Legal Committee at its 103rd session (8–10 June 2016) encouraged all States to consider acceding to the 2010 HNS Convention as soon as possible, in order to bring it into force (IMO, 2016m).

Liability and compensation for transboundary pollution damage resulting from offshore oil exploration and exploitation

As also highlighted in the *Review of Maritime Transport 2015*, offshore oil exploration is characterized by particular technical, safety and operational challenges, which are increased in areas prone to earthquakes. Potentially devastating consequences may result from associated oil pollution incidents, both in terms of economic loss and in terms of effects on marine biodiversity and ecosystem health, in particular in sensitive marine environments such as the Arctic. However, no international legal instrument to provide for liability and compensation in cases of accidental or operational oil spills exists at present.

Recent incidents at offshore platforms, such as that in August 2009 on the *Montara* situated in the Australian exclusive economic zone, causing an oil spill reaching the shores of Australia and Indonesia, as well as that of the Deepwater Horizon drilling platform in the Gulf of Mexico, in April 2010, which exploded and killed 11 members of the crew and injured others, and caused a leak of 4 million barrels of oil into the waters

of the Gulf, have highlighted the important need for effective regulation of related liability issues. Given that no relevant international legal instrument exists, the need for such an instrument has been considered at the IMO Legal Committee since 2011 and was again raised at the Committee's 103rd session.

The Committee recalled its recommendation that member States should send examples of existing bilateral and regional agreements to the IMO secretariat. In this context, it noted a document (IMO, 2016o) presenting two examples of regional agreements which had been provided by one member State, as well as a revised draft guidance for bilateral/regional arrangements or agreements on liability and compensation issues connected with transboundary oil pollution damage resulting from offshore exploration and exploitation activities (IMO 2016p, annex), which contained an introduction and examples of elements that may be included and/or considered when negotiating bilateral/regional arrangements or agreements; or when developing or revising national law.

Following discussion, the Legal Committee restated its view that there was no compelling need to develop an international instrument to provide for liability and compensation for transboundary pollution damage resulting from offshore exploration and exploitation activities. However, guidance on bilateral or regional agreements should continue to be developed (IMO, 2016m, pp. 19–20).

While according to the United Nations Convention on the Law of the Sea, the global framework convention, it is normally the responsibility of coastal States to adopt adequate legislation with respect to pollution from seabed activities,⁵⁰ the extensive risks associated with offshore oil exploration and the considerable potential for extensive transboundary pollution underline the need for an international liability and compensation regime. While the reluctance of IMO to deal with the issue appears to be related to its mandate, which focuses on ship-source pollution (IMO, 2014e), the continued absence of an international liability regime leaves an important gap in the international legal framework and is a matter of concern, in particular for potentially affected developing countries.

Key developments in summary

During the period under review, important developments included, notably, the adoption of the 2030 Agenda for Sustainable Development and the Paris Agreement under the United Nations Framework

Convention on Climate Change, the implementation of which is expected to bring increased opportunities for developing countries. Among regulatory initiatives, worth noting is the entry into force on, 1 July 2016, of the SOLAS VGM amendments, which will contribute to improving the stability and safety of ships and avoiding maritime accidents. Discussions continued at IMO on the reduction of greenhouse gas emissions from international shipping, and on technical cooperation and transfer of technology, particularly to developing countries. Also, progress was made in other areas clearly related to sustainable development. These included work on technical matters related to the imminent entry into force and implementation of the 2004 BWM Convention and on developing an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

C. OTHER LEGAL AND REGULATORY DEVELOPMENTS AFFECTING TRANSPORTATION

This section highlights key issues in the field of maritime security and safety that may be of particular interest to parties engaged in international trade and transport. These include developments relating to maritime and supply chain security, maritime piracy, unsafe migration by sea, maritime cybersecurity and seafarers' issues.

Maritime and supply chain security

Framework of Standards to Secure and Facilitate Global Trade of the World Customs Organization

As highlighted in previous editions of the *Review of Maritime Transport*, the Framework of Standards to Secure and Facilitate Global Trade (also known as the "SAFE Framework") adopted in 2005 has become a widely accepted instrument as an important reference point for customs and economic operators alike, and has evolved over the years.⁵¹ A number of mutual recognition agreements of respective AEOs continue to be adopted, mostly on a bilateral basis, whereby two customs administrations agree to recognize the AEO authorization issued under the other programme and provide reciprocal benefits to AEOs. It is however hoped that these bilateral agreements will, in due course, form the basis for multilateral agreements at the subregional and regional levels. During the period under review, the

number of mutual recognition agreements signed and those under negotiation increased, indicating greater engagement by all relevant stakeholders. As at May 2016, 40 bilateral mutual recognition agreements had been concluded, and a further 30 were being negotiated. In addition, 69 AEO programmes had been established in 79 countries,⁵² with an additional 16 programmes planned to be launched in the near future.⁵³

Developments in the European Union and in the United States

A summary of relevant developments in the field of maritime and supply chain security in the European Union and in the United States, both important trade partners for many developing countries, is provided here.

The Union Customs Code adopted on 9 October 2013 aims to streamline, simplify and modernize customs legislation, rules and procedures, as well as offer greater legal certainty, uniformity and clarity for businesses and customs officials throughout the European Union (European Parliament and Council of the European Union, 2013). It also aims to help complete the shift by customs to a paperless and fully electronic and interoperable environment, and reinforce swifter customs procedures for compliant and trustworthy AEOs.⁵⁴

While most of the substantive provisions of the Union Customs Code entered into force on 1 May 2016, a transition period before full implementation, expected to last until 31 December 2020 at the latest, has been envisaged, mainly to develop and/or upgrade information technology systems needed to fully implement the legal requirements.⁵⁵ Detailed rules aiming to ensure a smooth and gradual transition from the existing regime to the new Union Customs Code are contained in the Transitional Delegated Act (European Commission, 2016a) and the Union Customs Code work programme (European Commission, 2016b). Their practical application is addressed in guidance documents,⁵⁶ including the AEO guidelines (European Commission, 2016c) that aim to provide common understanding, and a tool to facilitate the correct and harmonized application of the legal provisions on AEOs.

The AEO guidelines provide general information about the European Union AEO programme, including the benefits of the status and mutual recognition (part 1); describe the AEO criteria and the different aspects of the security requirements and supply chain security (part 2); deal with the overall decision-making process concerning both customs authorities and economic

operators (part 3); describe different aspects of the exchange of information between customs authorities including consultation (part 4); cover all aspects related to the management of the already granted status, including monitoring, re-assessment, amendment, suspension and revocation (part 5); and deal with mutual recognition of AEO programmes (part 6).

According to information provided by the European Commission's Taxation and Customs Union Directorate General, as at 10 June 2016, 19,512 applications for AEO authorizations had been submitted and 16,791 authorizations issued. The number of applications rejected up to 10 June 2016 was 2,031, and the number of authorizations revoked was 1,775.⁵⁷ The European Union has so far concluded six AEO mutual recognition agreements with third countries, including major trading partners, and further negotiations are currently taking place or will be launched in the near future with others of the most important trading partners.⁵⁸

As regards developments in the United States, it is worth noting that legislative requirements to scan 100 per cent of all United States-bound containers – part of the Safe Port Acts of 2006, highlighted in previous issues of the *Review of Maritime Transport* – were supposed to enter into force in 2012. However, a three-year pilot project found that such a requirement could not be accomplished without causing disruption to the supply chain and at great expense. Therefore, the United States Department of Homeland Security issued successive two-year extensions to the entry into force deadline, in 2012 and 2014.⁵⁹ A third deadline extension request was sent to Congress on 2 May 2016, which postponed implementation another time, until May 2018 (*Fairplay*, 2016b).

In May 2016, the Department of Homeland Security issued a request for information (United States, 2016b), seeking input on new programmes, capabilities, models, strategies or approaches that could be used to make progress towards 100 per cent scanning of both containerized and non-containerized maritime cargo bound for the United States. Of particular interest were solutions that built on existing programmes, such as the Customs–Trade Partnership against Terrorism, and leveraged private sector resources and expertise. The desired outcomes were to increase the amount of United States-bound maritime cargo scanned, improve global radiological/nuclear detection capability and capacity, and reduce nuclear and other radioactive materials out of regulatory control in the global maritime shipping environment. Inputs that were to be submitted in June 2016 are intended to be reviewed in the following

months (additional information may be requested during this time) with a view to further discussing a limited number of well-qualified submissions in late 2016.

In addition, in a joint letter⁶⁰ addressed to the Secretary of Homeland Security, a number of organizations representing United States manufacturers, farmers, wholesalers, retailers, importers, agribusiness, distributors and transportation and logistics providers reiterated their position against the 100 per cent scanning requirement as impractical, ineffective and a danger to global commerce, as illustrated by a series of pilot tests. The letter also expressed concern about some of the issues raised in the request of the United States Department of Homeland Security for information, particularly a potential expansion of the mandate to non-containerized cargo and the search for “quick wins”. While fully supporting the two-year waiver of the 100 per cent scanning, the letter urged that the Administration, instead of going through a waiver exercise every two years, should recommend to the Congress a comprehensive re-evaluation of the 100 per cent scanning requirement and focus on finding practical supply chain security solutions.

Programmes such as the Container Security Initiative and the Customs–Trade Partnership against Terrorism, in which representatives of the trade community participate, continue to be implemented with the aim of increasing supply chain security.⁶¹ The Container Security Initiative is now operational at 58 ports in North America, Europe, Asia, Africa, the Middle East, and Latin and Central America, pre-screening over 80 per cent of all maritime containerized cargo imported into the United States,⁶² while the Customs–Trade Partnership against Terrorism currently includes more than 10,000 certified partners from the trade community. As with AEOs, members of the Customs–Trade Partnership against Terrorism are considered low risk and are therefore less likely to be examined. The Customs–Trade Partnership against Terrorism signed its first mutual recognition agreement in June 2007 and, since then, has signed similar arrangements with nine countries or territories and the European Union.⁶³

In addition, through the voluntary Importer Self-Assessment programme, in place since June 2002, interested importers who are participating members of the Customs–Trade Partnership against Terrorism may assume responsibility for monitoring their own compliance in exchange for benefits,⁶⁴ while the Trusted Trader programme, already in the test phase, aims to join the existing Customs–Trade Partnership against Terrorism and Importer Self-Assessment programmes,

integrating and streamlining the processes of supply chain security and trade compliance within one partnership programme.⁶⁵ Worth noting in this context is the Proliferation Security Initiative, which aims to stop trafficking of weapons of mass destruction, and related materials, and is currently endorsed by over 100 countries around the world.⁶⁶

International Organization for Standardization

Previous issues of the *Review of Maritime Transport* reported on developments related to the International Organization for Standardization (ISO) 28000 series of standards entitled “Security management systems for the supply chain,” which are designed to help the industry successfully plan for, and recover from, any ongoing disruptive event. The core standard in this series is ISO

28000:2007, “Specification for security management systems for the supply chain”, which serves as an umbrella management system that enhances all aspects of security – risk assessment, emergency preparedness, business continuity, sustainability, recovery and resilience and/or disaster management – whether relating to terrorism, piracy, cargo theft, fraud or many of the other security disruptions. The standard also serves as a basis for AEO and Customs–Trade Partnership against Terrorism certifications. Various organizations adopting such standards may tailor an approach compatible with their existing operating systems.

There have been no new developments to report during the period under review. However, for ease of reference, the current status of the ISO 28000 series is detailed in box 5.1.

Box 5.1 Current status of the International Organization for Standardization 28000 series of standards

Standards published

- **ISO 28000:2007**, “Specification for security management systems for the supply chain”.

This standard provides the overall “umbrella” standard. It is a generic, risk-based, certifiable standard for all organizations, all disruptions and all sectors. It is widely in use and constitutes a stepping stone to the AEO and Customs–Trade Partnership against Terrorism certifications.

- **ISO 28001:2007**, “Security management systems for the supply chain – Best practices for implementing supply chain security, assessments and plans”.

This standard is designed to assist the industry to meet the requirements for AEO status.

- **ISO 28002:2011**, “Security management systems for the supply chain – Development of resilience in the supply chain – Requirements with guidance for use”.

This standard provides additional focus on resilience, and emphasizes the need for an ongoing, interactive process to prevent, respond to and assure continuation of an organization’s core operations after a major disruptive event.

- **ISO 28003:2007**, “Security management systems for the supply chain – Requirements for bodies providing audit and certification of supply chain security management systems”.

This standard provides guidance for accreditation and certification bodies.

- **ISO 28004-1:2007**, “Security management systems for the supply chain – Guidelines for the implementation of ISO 28000 – Part 1: General principles”.

This standard provides generic advice on the application of ISO 28000:2007. It explains the underlying principles of ISO 28000 and describes the intent, typical inputs, processes and typical outputs for each requirement of ISO 28000. The objective is to aid the understanding and implementation of ISO 28000. ISO 28004-1:2007 does not create additional requirements to those specified in ISO 28000, nor does it prescribe mandatory approaches to the implementation of ISO 28000.

- **ISO/PAS 28004-2:2014**, “Security management systems for the supply chain – Guidelines for the implementation of ISO 28000 – Part 2: Guidelines for adopting ISO 28000 for use in medium and small seaport operations”.

This standard provides guidance to medium-sized and small ports that wish to adopt ISO 28000. It identifies supply chain risk and threat scenarios, procedures for conducting risk/threat assessments and evaluation criteria for measuring conformance and effectiveness of the documented security plans in accordance with ISO 28000 and ISO 28004 implementation guidelines.

- **ISO/PAS 28004-3:2014**, “Security management systems for the supply chain – Guidelines for the implementation of ISO 28000 – Part 3: Additional specific guidance for adopting ISO 28000 for use by medium and small businesses (other than marine ports)”.

This standard was developed to supplement ISO 28004-1 by providing additional guidance to small and medium-sized businesses (other than marine ports) that wish to adopt ISO 28000. The additional guidance in ISO/PAS 28004-3:2012,

while amplifying the general guidance provided in the main body of ISO 28004-1, does not conflict with the general guidance nor does it amend ISO 28000.

- **ISO/PAS 28004-4:2014**, “Security management systems for the supply chain – Guidelines for the implementation of ISO 28000 – Part 4: Additional specific guidance on implementing ISO 28000 if compliance with ISO 28001 is a management objective”.

This standard provides additional guidance for organizations adopting ISO 28000 that also wish to incorporate the best practices identified in ISO 28001 as a management objective in their international supply chains.

- **ISO 28005-1:2013**, “Security management systems for the supply chain – Electronic port clearance (EPC) – Part 1: Message structures”.

This standard deals with computer-to-computer data transmission.

- **ISO 28005-2:2011**, “Security management systems for the supply chain – Electronic port clearance (EPC) – Part 2: Core data elements”.

This standard contains technical specifications that facilitate efficient exchange of electronic information between ship and shore for coastal transit or port calls, as well as definitions of core data elements that cover all requirements for ship-to-shore and shore-to-ship reporting as defined in the International Ship and Port Facilities Security Code, the IMO Convention on Facilitation of International Maritime Traffic, 1965, and relevant IMO resolutions.

- **ISO/PAS 28007-1:2015**, “Ships and marine technology – Guidelines for private maritime security companies (PMSC) providing privately contracted armed security personnel on board ships (and pro forma contract) – Part 1: General”.

This standard provides guidelines containing additional sector-specific recommendations, which companies (organizations) that comply with ISO 28000 can implement to demonstrate that they provide privately contracted armed security personnel on board ships.

- **ISO 20858:2007**, “Ships and marine technology – Maritime port facility security assessments and security plan development”.

This standard establishes a framework to assist marine port facilities in specifying the competence of personnel to conduct a marine port facility security assessment and to develop a security plan as required by the International Ship and Port Facilities Security Code. In addition, it establishes certain documentation requirements designed to ensure that the process used in performing the duties described above is recorded in a manner that permits independent verification by a qualified and authorized agency.

Combating maritime piracy and armed robbery

As the issues covered in a recent two-part report on maritime piracy prepared by UNCTAD (UNCTAD 2014b and 2014c) show, maritime piracy has evolved from a localized maritime transport concern into a cross-sectoral global challenge, with a range of important repercussions for the development prospects of affected regional economies, as well as for global trade. Just as the ships targeted by pirates, maritime piracy remains a “moving target”. Given the issues at stake and the broad range of costs and trade-related implications of maritime piracy at both the regional and the global levels, sustained long-term efforts to combat and repress piracy clearly remain a matter of strategic importance. Addressing the challenge of piracy in an effective manner requires strong cooperation at the political, economic, legal, diplomatic and military levels, as well as collaboration between diverse public and private sector stakeholders across regions.

The Maritime Safety Committee at its ninety-sixth session (11–20 May 2016) noted that the number of acts of piracy and armed robbery against ships reported to IMO, which occurred or were attempted in 2015, was 303, a modest increase by 12 incidents (4.1 per cent) over the 291 reported in 2014. The areas most affected were the Straits of Malacca and Singapore (134), the South China Sea (81) and the western Indian Ocean with 38 in total, followed by West Africa (35), South America and the Caribbean (5), the North Atlantic and Pacific Ocean (4), the Yellow Sea (4) and the Mediterranean Sea (2). The number of incidents caused by Somalia-based pirates (Arabian Sea) increased to 15, from 12 in 2014, still significantly lower than the 78 incidents reported in 2007 when Somalia-based piracy was prevalent. No ship was reported hijacked by Somali pirates in 2015.

In addition, approximately 46.5 per cent of attacks worldwide were reported to have occurred or to have been attempted in territorial waters, largely due to an increase in armed robbery activity in the Strait of

Malacca. Furthermore, in 141 (46.5 per cent) of the 303 reports received, the crews were violently attacked by groups of one to four people, who also reportedly carried knives or guns in 109 (77.3 per cent) out of those 141 incidents. The data also reveal that during the period under review, one crew member was reported killed in West Africa. This number remains the same as in 2014. About 71 crew members were reportedly taken hostage or kidnapped. This was a significant decrease from 137 incidents reported in 2014. In 2015, the crew were assaulted in 25 cases, almost half the number of cases reported in 2014 (49 cases). Worldwide, 5 ships were reportedly hijacked, as compared with 21 in 2014. The total number of incidents of piracy and armed robbery against ships reported to have occurred or to have been attempted from 1984 to the end of December 2015 has risen to 7,346 (IMO, 2016q).

The Maritime Safety Committee also noted the release of a new regional guide to counter piracy and armed robbery against ships in Asia by the Information Sharing Centre of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia, as well as the formal opening of the Djibouti Regional Training Centre building, intended to support regional maritime security and counter-piracy training in the region. In addition, expanding the use of a Long-Range Identification and Tracking Distribution Facility for the automatic provision of long-range identification and tracking information on flag States to the Maritime Trade Information Sharing Centre – Gulf of Guinea was supported, because of an increasing number of piracy attacks there, and the positive results from its use in the Gulf of Aden and the western Indian Ocean (IMO, 2016r).

Unsafe mixed migration by sea

The Maritime Safety Committee approved a circular (IMO, 2016s) aiming to promote awareness and cooperation among IMO member States so that they may address more effectively unsafe practices associated with the trafficking, smuggling or transport of migrants by sea, which have an international dimension. Recommended actions by States include compliance with international obligations, including ensuring compliance with SOLAS,⁶⁷ and taking appropriate action against masters, officers and crew members engaged in unsafe practices; cooperation to the fullest extent possible to prevent and suppress unsafe practices associated with the trafficking, smuggling or transport of migrants by sea, in conformity with the international law of the sea and all generally accepted relevant international instruments; and measures and procedures that can be followed

when States have reasonable grounds to suspect that a ship is engaged in unsafe practices associated with the trafficking, smuggling or transport of migrants by sea.

Measures towards enhancing maritime cybersecurity

With the ever-increasing use of software, the Internet and technologies, the importance of cybersecurity continues to increase. In recognition of this fact, the Maritime Safety Committee at its ninety-sixth session approved interim guidelines on maritime cyber risk management (IMO, 2016t). The guidelines provide recommendations aiming to safeguard shipping from current and emerging cyberthreats and vulnerabilities, due to the ever increasing use of software, the Internet and technologies on board ships and potential cyberattacks against them. Therefore, appropriate technical and procedural controls need to be in place to protect the company, ship operations, and information and data pertaining to a ship and its crew, passengers and cargo. The guidelines also include functional elements that support effective cyber risk management. For detailed guidance, users of the guidelines shall also refer to IMO member Governments' and flag administrations' requirements, as well as to relevant international and industry standards and best practices.⁶⁸

Seafarers' issues

Over 1.2 million seafarers operate ships around the world,⁶⁹ and the vast majority of them come from developing countries. Establishing internationally agreed standards on the working conditions of seafarers, providing them with necessary training and protecting their welfare are important, not only for them, but also for sustainable development, as these help to improve the ability of the global shipping industry to operate ships safely and in an environmentally responsible manner.

Amendments to the Maritime Labour Convention, 2006

The Maritime Labour Convention, 2006, which consolidates and updates more than 68 international labour standards relating to seafarers, and sets out their responsibilities and rights with regard to labour and social matters in the maritime sector, entered into force on 20 August 2013. As at 23 September 2016, it had 79 Parties, representing over 91 per cent of the world's gross tonnage,⁷⁰ and is considered the fourth pillar of the global maritime regulatory regime.

At times, certain shipowners who do not take their responsibilities seriously and find themselves in financial difficulty abandon seafarers in ports far from home without fuel, food, water or medical care and without pay for months. The IMO Legal Committee noted that, as at March 2016, the ILO Abandonment of Seafarers Database listed 192 abandoned merchant ships, some dating back to 2006, with abandonment cases still unresolved. Therefore, it agreed that it should keep the issue under consideration.⁷¹

In order to better protect abandoned seafarers and to provide financial security for compensation to seafarers and their families in cases of seafarers' death or long-term disability,⁷² amendments to the Maritime Labour Convention were approved by the International Labour Conference in June 2014, and are set to enter into force on 18 January 2017.

Fair treatment of seafarers in the event of a maritime accident

The International Transport Workers' Federation provided further information (IMO, 2016u) to the IMO Legal Committee on the analysis of the laws of IMO member States implementing the 2006 guidelines on fair treatment of seafarers in the event of a maritime accident (IMO, 2015c). Such analysis had revealed that member States had adopted different approaches with regard to the implementation of the guidelines, including their scope of application; the extent to which the legal principles contained in the guidelines were adopted; and the types of legal instruments employed. The reasons for those different approaches appear to include different interpretations by member States; different gap analyses revealing that the legal principles contained in the guidelines already exist to greater or lesser degrees in the national laws of member States; different legal systems and legislative drafting traditions between member States; and different government ministries and/or independent legal entities within member States that implement, administer and/or enforce the guidelines (IMO, 2016u).

As the Legal Committee concluded, different approaches in the implementation of the guidelines could be streamlined through the development of guidance.

International Labour Organization Convention on Seafarers' Identity Documents (Revised), 2003 (No. 185)

As highlighted in the *Review of Maritime Transport 2015*, the Convention on Seafarers' Identity Documents,

2003 (No. 185), relates to the issuance and recognition of the seafarers' identity document, which facilitates the temporary admission of seafarers to foreign territory, for the purposes of their well-being while in port, accessing onshore welfare facilities or taking shore leave, and for transit through a country related to the operation of ships. These are all vital elements for the realization of decent working conditions for seafarers, as part of the core mandate of the ILO.

Promoting the issuance of seafarers' identity documents by member States was the aim of amendments introduced to Convention No. 185. Discussions on those amendments were held during an ILO meeting of the Ad Hoc Tripartite Maritime Committee (10–12 February 2016). The amendments aim to identify cost-effective technical and administrative solutions to overcome problems that have arisen in the implementation of the Convention and to encourage further ratifications, particularly by ILO member States with maritime interests. It is worth noting that, although Convention No. 185 was adopted in 2003, only 32 out of 187 ILO member States had ratified it or were provisionally applying it as of 30 June 2016,⁷³ and that number includes only a few port States. Consequently, countries that had made considerable investment to properly implement Convention No. 185 could count on only a few other countries to recognize the seafarers' identity documents issued under it. In addition, only a few countries that had ratified Convention No. 185 were in a position to actually issue seafarers' identity documents conforming to it. These were also hampered by the fact that the fingerprint technology and biometric products required in annex I of the Convention were already considered out of date and were not used by the border authorities of many countries concerned. Many of these countries are using the International Civil Aviation Organization standards for travel documents instead, which are exclusively based on the facial image in a contactless chip as the biometric, rather than a fingerprint template in a two-dimensional barcode.

After discussion, the Committee adopted the proposed amendments to annexes I, II and III of Convention No. 158. Amendments established that the seafarers' identity document shall conform to the mandatory requirements contained in International Civil Aviation Organization document 9303 on machine-readable travel documents, which are now universally followed for travel, and similar documents. In the meantime, member States that were already implementing

Convention No. 185 were given sufficient time to make any necessary revisions to their national seafarers' identity documents and procedures for implementing the proposed amendments.⁷⁴

Key developments in summary

During the period under review, enhancements were made to regulatory measures in the field of maritime and supply chain security and their implementation. Areas of progress included the implementation of AEO programmes and an increasing number of bilateral mutual recognition agreements that will, in due course, form the basis for the recognition of AEOs at a multilateral level. As regards piracy and armed robbery against ships, the number of incidents reported to IMO to have occurred or to have been attempted in 2015, was 303, a modest increase of 4.1 per cent, compared with 2014. The

number of crew members taken hostage or kidnapped, those assaulted and the number of ships hijacked decreased significantly compared with 2014. In addition, a circular on combating unsafe practices associated with mixed migration by sea and interim guidelines on maritime cyber risk management were approved. In the context of ILO conventions, progress was also made on the issue of recognition of seafarers' identity documents for seafarers and improving their living and working conditions.

D. STATUS OF CONVENTIONS

A number of international conventions in the field of maritime transport were prepared or adopted under the auspices of UNCTAD. Table 5.1 provides information on the status of ratification of each of those conventions as at 30 June 2016.

Table 5.1 Contracting States Parties to selected international conventions on maritime transport, as at 30 June 2016

| Title of convention | Date of entry into force or conditions for entry into force | Contracting States |
|--|--|---|
| United Nations Convention on a Code of Conduct for Liner Conferences, 1974 | 6 October 1983 | Algeria, Bangladesh, Barbados, Belgium, Benin, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chile, China, Congo, Costa Rica, Côte d'Ivoire, Cuba, Czechia, Democratic Republic of the Congo, Egypt, Ethiopia, Finland, France, Gabon, Gambia, Ghana, Guatemala, Guinea, Guyana, Honduras, India, Indonesia, Iraq, Italy, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Liberia, Madagascar, Malaysia, Mali, Mauritania, Mauritius, Mexico, Montenegro, Morocco, Mozambique, Niger, Nigeria, Norway, Pakistan, Peru, Philippines, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Senegal, Serbia, Sierra Leone, Slovakia, Somalia, Spain, Sri Lanka, Sudan, Sweden, Togo, Trinidad and Tobago, Tunisia, United Republic of Tanzania, Uruguay, Venezuela (Bolivarian Republic of), Zambia (76) |
| United Nations Convention on the Carriage of Goods by Sea, 1978 (Hamburg Rules) | 1 November 1992 | Albania, Austria, Barbados, Botswana, Burkina Faso, Burundi, Cameroon, Chile, Czechia, Dominican Republic, Egypt, Gambia, Georgia, Guinea, Hungary, Jordan, Kazakhstan, Kenya, Lebanon, Lesotho, Liberia, Malawi, Morocco, Nigeria, Paraguay, Romania, Saint Vincent and the Grenadines, Senegal, Sierra Leone, Syrian Arab Republic, Tunisia, Uganda, United Republic of Tanzania, Zambia (34) |
| International Convention on Maritime Liens and Mortgages, 1993 | 5 September 2004 | Albania, Benin, Congo, Ecuador, Estonia, Lithuania, Monaco, Nigeria, Peru, Russian Federation, Spain, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Serbia, the Syrian Arab Republic, Tunisia, Ukraine, Vanuatu (18) |
| United Nations Convention on International Multimodal Transport of Goods, 1980 | Not yet in force – requires 30 Contracting Parties | Burundi, Chile, Georgia, Lebanon, Liberia, Malawi, Mexico, Morocco, Rwanda, Senegal, Zambia (11) |
| United Nations Convention on Conditions for Registration of Ships, 1986 | Not yet in force – requires 40 Contracting Parties with at least 25 per cent of the world's tonnage as per annex III to the Convention | Albania, Bulgaria, Côte d'Ivoire, Egypt, Georgia, Ghana, Haiti, Hungary, Iraq, Liberia, Libya, Mexico, Morocco, Oman, Syrian Arab Republic (15) |
| International Convention on Arrest of Ships, 1999 | 14 September 2011 | Albania, Algeria, Benin, Bulgaria, Congo, Ecuador, Estonia, Latvia, Liberia, Spain, Syrian Arab Republic (11) |

Note: For official status information, see the United Nations Treaty Collection (<https://treaties.un.org>).

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ENDNOTES

- ¹ Entitled “Transforming our world: the 2030 Agenda for Sustainable Development”. For more information on the Goals and targets, see <http://www.un.org/sustainabledevelopment/sustainable-development-goals/> (accessed 29 July 2016).
- ² See General Assembly resolution 66/288, the outcome of the United Nations Conference on Sustainable Development, paragraph 158: We recognize that oceans, seas and coastal areas form an integrated and essential component of the Earth’s ecosystem and are critical to sustaining it, and that international law, as reflected in the United Nations Convention on the Law of the Sea, provides the legal framework for the conservation and sustainable use of the oceans and their resources. We stress the importance of the conservation and sustainable use of the oceans and seas and of their resources for sustainable development, including through their contributions to poverty eradication, sustained economic growth, food security and creation of sustainable livelihoods and decent work, while at the same time protecting biodiversity and the marine environment and addressing the impacts of climate change. We therefore commit to protect, and restore, the health, productivity and resilience of oceans and marine ecosystems, to maintain their biodiversity, enabling their conservation and sustainable use for present and future generations, and to effectively apply an ecosystem approach and the precautionary approach in the management, in accordance with international law, of activities having an impact on the marine environment, to deliver on all three dimensions of sustainable development.
- ³ For more information and documentation, see the UNCTAD webpage on transport policy and legislation, available at <http://unctad.org/en/Pages/DTL/TTL/Legal.aspx> (accessed 29 July 2016).
- ⁴ For more information, see Rajamani (2016).
- ⁵ For States Parties to SOLAS, 1974. The first version of SOLAS, adopted in 1914, was a response to the *Titanic* disaster. The second version was adopted in 1929, the third in 1948 and the fourth in 1960. The convention in force today, SOLAS, 1974, updated and amended on numerous occasions, is a widely adopted instrument. It entered into force in 1980 and, as at 31 July 2016, it had 162 States Parties representing 98.53 per cent of world gross tonnage. For amendments to SOLAS, 1974, the “tacit acceptance” procedure is used, according to which an amendment shall enter into force at a particular date, unless before that date a specified number of Parties objects to it. For more information, see [http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-\(SOLAS\),-1974.aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx) (accessed 19 August 2016).
- ⁶ Including SOLAS regulations VI/2.1, VI/2.2 and VI/2.3.
- ⁷ Including *MSC Napoli* (2007), *Annabella* (2007), *MOL Comfort* (2013) and *Svenborg Maersk* (2014).
- ⁸ Presented to the IMO Maritime Safety Committee in December 2008. For more information on the 2009 *Safe Transport of Containers by Sea: Guidelines on Industry Best Practices* publication, see the World Shipping Council webpage at <http://www.worldshipping.org/industry-issues/safety/cargo-weight> (accessed 29 July 2016).
- ⁹ For a history of the IMO effort to improve container security, see World Shipping Council (2014).
- ¹⁰ The full text of the amendments is available at http://www.worldshipping.org/industry-issues/safety/SOLAS_CHAPTER_VI_Regulation_2_Paragraphs_4-6.pdf (accessed 29 July 2016).
- ¹¹ See also TT Club (2015). For more information, see the Shipplanning Message Development Group website at <http://www.smdg.org> (accessed 4 July 2016).
- ¹² For concerns expressed on this issue by the International Federation of Freight Forwarders’ Associations, and related response by one container line, see *Lloyd’s List* (2016c).
- ¹³ See <http://www.worldshipping.org/industry-issues/safety/global-container-weight-verification-rule-effective-july-1-2016> (accessed 29 July 2016).
- ¹⁴ See <http://www.ttclub.com/loss-prevention/container-weighing/stakeholder-digests/> (accessed 4 July 2016).
- ¹⁵ VGM guidelines define the “shipper” as “a legal entity or person named on the bill of lading or sea waybill or equivalent multimodal transport document as shipper and/or who (or in whose name or on whose behalf) a contract of carriage has been concluded with a shipping company”.

- ¹⁶ As permitted by the State in which the packing of the container is completed.
- ¹⁷ For more information, see <http://www.imo.org/en/MediaCentre/HotTopics/container/Pages/default.aspx> (accessed 29 July 2016).
- ¹⁸ See, for instance, notices by the competent authorities of India, available at http://dgshipping.gov.in/WriteReadData/News/201606240423183653668m_s_notice_no_07_of_2016.pdf (accessed 4 July 2016), and Hong Kong, China, available at <http://www.mardep.gov.hk/en/notices/pdf/mdn16087.pdf> (accessed 4 July 2016), stating that they will enforce the requirements in a practical and pragmatic manner from 1 July 2016 to 30 September 2016.
- ¹⁹ For a summary of the content of the regulations, see UNCTAD (2012a), pp. 97–98; for an overview of the discussions on the different types of measures, see UNCTAD (2011a), pp. 114–116.
- ²⁰ MARPOL annex VI came into force on 19 May 2005 and, as at 20 September 2016, had 87 States Parties representing 96.14 per cent of world tonnage.
- ²¹ See FCCC/CP/2015/L.9/Rev.1, annex, available at http://www.un.org/ga/search/view_doc.asp?symbol=FCCC/CP/2015/L.9/Rev.1 (accessed 3 October 2016).
- ²² At that ceremony, 174 States and the European Union signed the Paris Agreement, and 15 States also deposited their instruments of ratification. In accordance with article 21(1), the Agreement requires at least 55 Parties, accounting in total for at least 55 per cent of the total greenhouse gas emissions, for its entry into force. As at 23 September 2016, there were 191 signatories, of which 60, accounting for 47.76 per cent of total global greenhouse gas emissions, had become Parties. For more information on the status of the Paris Agreement, see http://unfccc.int/paris_agreement/items/9485.php (accessed 23 September 2016).
- ²³ See FCCC/CP/2015/L.9/Rev.1, available at http://www.un.org/ga/search/view_doc.asp?symbol=FCCC/CP/2015/L.9/Rev.1 (accessed 3 October 2016).
- ²⁴ It is worth noting, in this context, the role of UNCTAD within its mandate as recently reiterated by member States at the fourteenth session of the United Nations Conference on Trade and Development (Nairobi, 17–22 July 2016), to “continue to assist developing countries in enhancing the sustainability and climate resilience of their transport systems and infrastructure, including coastal transport infrastructure and services and transport corridors” (see the Nairobi Maafikiano, TD/519/Add.2, paragraph 55 (k)); as well as “contribute to policy dialogue and cooperation mechanisms in support of sustainable transport, climate change adaptation and disaster risk reduction for transport infrastructure, services and operations, including collaborative efforts to support and strengthen the conservation and sustainable use of oceans and their resources” (TD/519/Add.2, paragraph 55 (l)).
- ²⁵ See article 2(2). The Protocol was adopted in 1997 and entered into force on 16 February 2005. It currently has 192 Parties. The text is available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf> (accessed 29 July 2016).
- ²⁶ For more information, see <http://www.icao.int/environmental-protection/Pages/market-based-measures.aspx> (accessed 29 July 2016).
- ²⁷ This suggestion by the International Chamber of Shipping supports in principle a request by the Marshall Islands at MEPC 68, that MEPC should discuss the establishment of IMO commitments for CO₂ emissions reduction on behalf of the entire international shipping sector. This would mirror the commitments or intended nationally determined contributions made by nations under the Paris Agreement, from which international shipping is currently excluded.
- ²⁸ For a summary of shared comments made during discussions, see IMO (2016i), pp. 35–38.
- ²⁹ A reference line is defined as a curve representing an average index value fitted on a set of individual index values for a defined group of ships. The reference line value is formulated as: Reference line value = a (100 per cent dead-weight) – c where “a” and “c” are parameters determined from the regression curve fit. For more information, see IMO (2013), annex 14.
- ³⁰ See <http://glomeep.imo.org/> (accessed 17 August 2016).
- ³¹ MARPOL annex VI, regulation 14 “Sulphur oxides (SO_x) and particulate matter”. The first two SO_x emission control areas, the Baltic Sea and the North Sea areas, were established in Europe and took effect in 2006

and 2007, respectively. The third established was the North American emission control area, taking effect on 1 August 2012. In July 2011, a fourth emission control area, the United States Caribbean Sea, was established. This latter area covers certain waters adjacent to the coasts of Puerto Rico (United States) and the United States Virgin Islands, and took effect on 1 January 2014.

32 1 January 2020 or 1 January 2025.

33 See <http://globallast.imo.org> (accessed 29 July 2016).

34 Conference resolution 1: Future work by the Organization pertaining to the International Convention for the Control and Management of Ships' Ballast Water and Sediments; Conference resolution 2: The use of decision making tools when reviewing the standards pursuant to Regulation D5; Conference resolution 3: Promotion of technical cooperation and assistance; Conference resolution 4: Review of the Annex to the International Convention for the Control and Management of Ships' Ballast Water and Sediments.

35 For a list of these instruments as at October 2015, see <http://www.imo.org/en/OurWork/Environment/BallastWaterManagement/Documents/Compilation%20of%20relevant%20Guidelines%20and%20guidance%20documents%20-%20October%202015.pdf> (accessed 29 July 2016).

36 See also UNCTAD (2011b), pp. 8–13.

37 The Convention is set to enter into force 12 months after the date on which no fewer than 30 States, the combined merchant fleets of which constitute not less than 35 per cent of the gross tonnage of world merchant shipping, have become Parties to it. Since the last session of MEPC, Belgium, Fiji, Ghana, Indonesia, Morocco, Peru, Saint Lucia and Finland have become Parties to the Convention. More countries have announced their intention to ratify the Convention, notably, Australia (IMO, 2016m).

38 Two proposed by the Republic of Korea and one by Japan.

39 Note, for instance that the Convention, in its preamble, refers to the 1992 United Nations Conference on Environment and Development and its request that IMO develop rules on ballast water discharge; the need for a precautionary approach in accordance with principle 15 of the Rio Declaration on Environment and Development; States' obligations under the United Nations Convention on the Law of the Sea to prevent the spread of alien species; the conservation and sustainable use of marine biodiversity and marine and coastal ecosystems under the Convention on Biological Diversity and related instruments; and the 2002 World Summit on Sustainable Development.

40 Particularly targets 14.1, 14.2, 14.3, 14.5, 14.a, 14.b and 14.c. For more details, see the first section of chapter 5.

41 See <http://www.imo.org/en/OurWork/Environment/BallastWaterManagement/Pages/Default.aspx>. Also see <http://globallast.imo.org> (accessed 29 July 2016).

42 Target 15.8 relates to both land and water ecosystems and reads: "By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species."

43 In accordance with United Nations General Assembly resolution 69/292 of 19 June 2015.

44 Ibid.

45 United Nations Convention on the Law of the Sea, article 87.

46 United Nations Convention on the Law of the Sea, article 150.

47 For more information, see <http://www.un.org/Depts/los/biodiversity/prepcom.htm> (accessed 29 July 2016).

48 Also highlighted in UNCTAD (2013), pp. 110–111.

49 The 1992 Civil Liability Convention and 1992 International Oil Pollution Compensation Fund Convention. For an analytical overview of the international legal framework, see UNCTAD (2012b).

50 United Nations Convention on the Law of the Sea, article 208.

51 As at October 2015, 169 out of 180 World Customs Organization member States had signed the letter of intent to implement the Framework of Standards to Secure and Facilitate Global Trade. Its latest revised version (World Customs Organization, 2015) was issued in June 2015. The latest package of the Framework, bringing together all World Customs Organization instruments and guidelines that support its implementation, is available at <http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/>

- safe_package.aspx (accessed 29 July 2016). For more information on the content of the latest revisions, as well as on the concept of AEOs, see UNCTAD (2015b).
- 52 Due also to the fact that 28 European Union countries have one common, uniform AEO programme.
- 53 For more information, see World Customs Organization (2016).
- 54 For more information, see http://ec.europa.eu/taxation_customs/customs/customs_code/union_customs_code/ucc/introduction_en.htm (accessed 29 July 2016).
- 55 Ibid.
- 56 Available at http://ec.europa.eu/taxation_customs/customs/customs_code/union_customs_code/ucc/guidance_en.htm (accessed 29 July 2016).
- 57 The breakdown reported per authorization type issued was: AEO/customs simplifications 7,726; AEO/security and safety 661; and AEO/customs simplifications–AEO/security and safety 9,916.
- 58 The European Union has already concluded mutual recognition agreements with Andorra, China, Japan, Norway, Switzerland and the United States. Negotiations are ongoing with Canada. For more information on AEOs, see http://ec.europa.eu/taxation_customs/customs/policy_issues/customs_security/aeo/index_en.htm (accessed 29 July 2016).
- 59 For more detailed information and analysis, see UNCTAD (2014a), pp. 86–87.
- 60 The letter is available at <https://www.sfia.org/img/files/Final%20Multi%20Association%20DHS%20Letter%20on%20100%20Percent%20Maritime%20Cargo%20Scannin%20%20%20.pdf> (accessed 29 July 2016).
- 61 For more information on the various security initiatives, see UNCTAD (2004).
- 62 For more information about the Container Security Initiative, see <http://www.cbp.gov/border-security/ports-entry/cargo-security/csi/csi-brief> (accessed 29 July 2016).
- 63 The nine countries/territories are Canada, Taiwan Province of China, Israel, Japan, Jordan, Mexico, New Zealand, the Republic of Korea and Singapore.
- 64 For more information, see <http://www.cbp.gov/trade/isa/importer-self-assessment> (accessed 29 July 2016). For information on the benefits for participants, see <http://www.gpo.gov/fdsys/pkg/FR-2002-06-17/pdf/02-15308.pdf> (accessed 29 July 2016).
- 65 For more information, see <http://www.gpo.gov/fdsys/pkg/FR-2014-06-16/pdf/2014-13992.pdf> (accessed 29 July 2016).
- 66 For more information, see <http://www.state.gov/t/isn/c10390.htm> (accessed 29 July 2016).
- 67 Available at [http://www.mar.ist.utl.pt/mventura/Projecto-Navios-I/IMO-Conventions%20\(copies\)/SOLAS.pdf](http://www.mar.ist.utl.pt/mventura/Projecto-Navios-I/IMO-Conventions%20(copies)/SOLAS.pdf). For a brief history of SOLAS and a list of amendments to date and where to find them, see <http://www.imo.org/en/KnowledgeCentre/ReferencesAndArchives/HistoryofSOLAS/Documents/SOLAS%201974%20-%20Brief%20History%20-%20List%20of%20amendments%20to%20date%20and%20how%20to%20find%20them.html> (accessed 20 September 2016).
- 68 Including IMO (2016v).
- 69 See <http://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/seafarers/lang--en/index.htm> (accessed 18 August 2016).
- 70 For updated status information, see <http://www.ilo.org/global/standards/maritime-labour-convention/lang--en/index.htm> (accessed 16 October 2016).
- 71 Living and working conditions for seafarers were also a priority during the forty-ninth Committee meeting of the Paris Memorandum of Understanding on Port State Control, in May 2016, where great importance was given to a Concentrated Inspection Campaign on the Maritime Labour Convention, 2006, scheduled to be held from September to November 2016 (Paris Memorandum of Understanding on Port State Control, 2016).
- 72 For more information on the amendments, see UNCTAD (2014a), pp. 89–90.
- 73 For updated status information, see http://www.ilo.org/dyn/normlex/en/f?p=1000:11300:0::NO:11300:P11300_INSTRUMENT_ID:312330 (accessed 16 October 2016).
- 74 For more information, see http://www.ilo.org/global/standards/maritime-labour-convention/events/WCMS_411197/lang--en/index.htm (accessed 29 July 2016).