WORLD MARITIME DAY

A CONCEPT OF A SUSTAINABLE MARITIME TRANSPORTATION SYSTEM

SUSTAINABLE DEVELOPMENT:
IMO'S CONTRIBUTION BEYOND RIO+20

IMO
INTERNATIONAL MARITIME ORGANIZATION

FOREWORD BY THE SECRETARY-GENERAL OF THE INTERNATIONAL MARITIME ORGANIZATION

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"International shipping transports about 90 per cent of global trade to people and communities all over the world. Shipping is the most efficient and cost-effective method of international transportation of goods, providing a dependable, low-cost means of transporting goods globally, facilitating commerce and helping to create prosperity among nations and peoples. Global food security is dependent on a safe and secure delivery method - international shipping. Shipping also delivers energy for all and is a life-line for trade and for manufacturing industries. Shipping is not discretionary. It is indispensable for economic growth and sustainable development.

On the social side, as the delivery mechanism for global trade, international maritime transport supports and sustains a huge number of wealth-creating and poverty-alleviating activities in both developed and developing countries. Shipping provides job opportunities to people around the world. More than 1.5 million people are employed as seafarers and the vast majority of them are from developing countries. And, if the world economy continues to grow, more highly trained and qualified seafarers will be needed. To meet the demands of growth, more than 50,000 new seafarers are needed every year. Related activities such as shipbuilding, ship repair and ship recycling provide more jobs to people in developing countries and will contribute towards achieving the Millennium Development Goals.

With regard to the environment, shipping is constantly improving its performance under IMO's conventions. The discharge of oil and harmful substances from ships to the marine environment is continuously declining. IMO has now established 14 Particularly Sensitive Sea Areas (PSSAs) as well as global regimes for greener and cleaner ship recycling. IMO has established a regime to prevent air pollution from ships and to regulate emissions of greenhouse gases. Regulations to stop the transfer of invasive species through ships' ballast water have been firmly established and we are looking for global implementation of these as soon as possible.

At the United Nations Conference on Sustainable Development last year, Rio+20, I presented a vision for sustainable maritime development. I stated that maritime

transportation is an essential component of any programme for sustainable development because the world relies on a safe, secure and efficient international shipping industry. This can only be achieved under the comprehensive regulatory framework developed and maintained by IMO. The regulatory regime developed by IMO provides a blueprint for countries to develop their maritime transport infrastructure in a safe, efficient and environmentally sound manner. I stated that IMO could provide the institutional framework for the sustainable development of maritime activities.

Immediately after Rio+20 I started working on the promotion of sustainable maritime development. As a first step, I established an internal mechanism to work with our industry partners. Although my original intention foresaw a possible formal consultation process in conjunction with the mechanism established under the United Nations General Assembly, developments since the beginning of this year showed that such an approach was not appropriate.

The process has, therefore, been informal with the intention being to provide a meaningful input to this year's World Maritime Day theme. This approach was adopted to ensure that our process did not impinge on the formal intergovernmental process towards the development of Sustainable Development Goals.

I hope that our work provides an opportunity for IMO member Governments and, in particular, policy makers directly involved in shipping and maritime industries, as well as the shipping and maritime industries, to consider the sustainability of the international shipping industry and the Maritime Transportation System and the role of IMO in achieving desired objectives under the theme of the 2013 World Maritime Day: "Sustainable Development: IMO's Contribution beyond Rio+20".

This document reflects the latest outcome of the internal mechanism's considerations and expands on the idea of a Sustainable Maritime Transportation System. The concept is still at an embryonic stage and the current document does not provide all the answers, nor indeed explore all the relevant issues.

Nevertheless, it reflects our best attempt, within a limited time, to define the idea of a Sustainable Maritime Transportation System and I believe it will provide useful material for discussion at the Symposium on Sustainable Maritime Transportation System to be held on this year's World Maritime Day on 26 September 2013."

TABLE OF CONTENTS

INTRODUCTION

Maritime transport is the backbone of world trade and globalization. Twenty-four hours a day and all year round, ships carry cargoes to all corners of the globe. This role will continue to grow with the anticipated increase in world trade in the years to come as millions of people are expected to be lifted out of poverty through improved access to basic materials, goods and products. World trade and maritime transport are, therefore, fundamental to sustaining economic growth and spreading prosperity throughout the world, thereby fulfilling a critical social as well as an economic function. Furthermore, maritime transport will be indispensable in a sustainable future global economy as it is the most environmentally sound mode of mass transport, both in terms of energy efficiency and the prevention of pollution. These environmental, social and economic dimensions of maritime transport are equally important and should be fully recognized in any strategy, policy, regulatory framework or action.

The United Nations (UN) Conference on the Human Environment, held in Stockholm in 1972, marked a paradigm shift in the approach to 'progress' in civil society because, for the first time, the damaging impact of economic growth on the environment was placed on the international agenda and acknowledged as a global issue demanding global action through strengthened and new forms of co-operation.

Twenty years on, in 1992, at the UN Conference on Environment and Development held in Rio de Janeiro (also referred to as the Earth Summit), Governments agreed a number of initiatives to change the traditional approach to economic development. They adopted, among other things, the so-called "Agenda 21" ("21" referring to the 21st century), a comprehensive programme for global action on development and environmental sustainability in different areas of human activity including maritime transport. They also adopted the Rio Declaration on Environment and Development, a series of principles defining the rights and responsibilities of States.

In essence, the significance of the 1992 Rio Conference was that Governments agreed to pursue an integrated approach. They recognized that development concerns needed to be addressed together with environmental concerns in order to fulfill basic needs, improve standards for all, better protect and better manage ecosystems, and ensure a safer as well as a more prosperous future for all peoples.

Ten years later, in 2002, the World Summit on Sustainable Development was held in Johannesburg. Its focus was to go beyond the short Rio Declaration and embrace a comprehensive action programme on sustainable development. The challenge was how to halt deepening poverty and improve people's lives while, at the same, time ensuring the conservation of natural resources through their balanced management and use and the protection of the environment in a world that continues to experience relentless population growth, with ever-increasing demands on the basic provision of food, water, shelter, sanitation, health care and primary education, as well as on energy and economic security.

The Johannesburg Declaration on Sustainable Development reaffirmed the commitment of Governments to Agenda 21 and acknowledged that, while globalization forges ever greater links between the economies of the world, creating new opportunities, the benefits and costs of this globalization were unevenly distributed. It was recognized that, in order to redress this global inequality, special attention should continue to be given to the development needs of Small Island Developing States and the least developed countries. It was further recognized that sustainable development requires a long-term perspective and that participation in policy formulation, decision-making and implementation must be broad-based. Significantly, it was emphasized that the private sector not only had a role to play but also had a duty to contribute to the sustainable and equitable evolution of communities and societies.

Today, the most commonly accepted definition of sustainable development is still that adopted by the Brundtland Commission in its Report, entitled "Our Common Future", in 1987:

> "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:
>
> the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and
>
> the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."

1. World Commission on Environment and Development (WCED). Our common future. Oxford: Oxford University Press, 1987 p. 43.

The Brundtland definition emphasizes intergenerational equity to the extent that it includes not only the present but also the future impacts on civil society of today's actions. Moreover, it has a truly global dimension inasmuch as it recognizes that the effects of environmental degradation cannot be construed as local because they affect the global ecological system.

The concept of sustainable development gained further ground at the UN Conference on Sustainable Development held in Rio de Janeiro in 2012. Known as Rio+20, the Conference witnessed intense negotiations that resulted in the outcome document, entitled "The Future We Want". The document calls for a wide range of actions and also commits Governments to working towards a transition to a "green economy". This should evolve around the three, equally important, dimensions of sustainable development – i.e. the economic, social and environmental dimensions.

Most importantly, at Rio+20, Governments agreed that the UN General Assembly should launch a process to establish a set of specific Sustainable Development Goals (SDGs), together with a strategy to finance their implementation.

To develop the SDGs, a 30-member Open Working Group of the UN General Assembly was established in January 2013 and has commenced its work on the SDGs. The SDGs are to be limited in number, aspirational and easy to communicate.

It is expected that the SDGs will focus on establishing the fundamental criteria that will need to be in place and applied in order to ensure that the world continues to develop sustainably.

The aim of this document, then, is threefold:

one, to raise the profile of maritime transport and highlight why maritime transport is a fundamental element in achieving a more sustainable world;

two, to discuss a concept of a Sustainable Maritime Transportation System (SMTS); and

three, to identify the various 'imperatives' or goals that must be met to implement an SMTS, and the activities that will need to be undertaken to achieve them – possibly requiring actions by the relevant bodies and the various maritime stakeholders. It should be borne in mind that the goals are not to be conceived as measurable results, but rather an expression of a desirable state.

This document is presented with the understanding that it is aimed at the transport dimension of activities the Maritime Transportation System, and as such does not cover for example fisheries and offshore resource exploitation. As for the transportation dimension it does not consider contractual rules such as Hague-Visby and UNCITRAL rules (Hamburg rules, Rotterdam rules, etc.).

The three dimensions of sustainable development, namely the economic, environmental and social dimensions, are equally important – also in the context of maritime transport.

In an evolving world where economies are ever more interdependent and natural resources are under increasing pressure, we must work in global partnerships to reach the common goal of balancing expectations about industrialization and growth with social and environmental demands. As the UN Specialized Agency responsible for setting global standards for safe, secure, clean and efficient maritime transport, IMO can contribute to widening awareness of the need for sustainable maritime development and for coordinated maritime policies worldwide.

THE MARITIME TRANSPORTATION SYSTEM AND ITS FUNCTION IN A GLOBALIZED WORLD

The Maritime Transportation System is global in nature, in that it services world trade by connecting markets in different parts of the world, moving 90 per cent of cargoes and commodities to all corners of the world at comparatively low cost when compared with the value of the goods being shipped.

It benefits from a well-established and comprehensive, international regulatory regime for safe and environmentally sound maritime transportation, delivering by far the world's cleanest, least polluting service for the mass transport of cargoes, and with industry actors committed to environmental protection.

It also provides a unique platform for co-operation between Governments, international and regional organizations, industry actors and many other maritime stakeholders. Modern society fundamentally relies on the Maritime Transportation System and benefits from its smooth operation. Indeed, modern society has become accustomed to a relatively inexpensive, yet reliable and convenient freight handling system.

At the same time, the maritime transport industry, because of its globalized nature, has no specific home and tends to be "invisible" in people's daily lives. Ships spend their working lives out of sight – sailing the seas and oceans between different countries and legal jurisdictions, very often far away from their country of registry, in support of the global economy. Yet international maritime transport employs over 1.5 million seafarers and many more port and logistics personnel, who are responsible for the safe and reliable delivery of food, raw materials, energy and consumer goods to the world's seven billion people every day: a relatively "invisible" service, but one which is, nevertheless, an indispensable component of the world economy.

The components of the Maritime Transportation System

The global nature of the Maritime Transportation System is well demonstrated by the array of Governments and organizations involved in the law and policy-making processes related to international shipping. Furthermore, stakeholders of many diverse nationalities are players in the day-to-day business of the shipping industry. These include actors involved in the design, construction, ownership, operation, management and crewing of ocean-going merchant vessels, in seafarer training, as well as in the classification, finance, and liability and insurance aspects of shipping. Other stakeholders include cargo owners, as well as the ultimate end-users (i.e. customers of transport services), and ancillary services such as pilotage, vessel traffic services, towage and salvage.

Maritime transport exists in conjunction with the many shore-side infrastructures, services and personnel for cargo handling and delivery and for the financial and support services essential to maintain an efficient – i.e. cost effective, reliable and seamless – operation. As such, the Maritime Transportation System is a vital link in an international logistics chain, moving cargo across the world at the service of global trade, economic development and growth. By the same token, all actors in the chain are equally essential for the Maritime Transportation System to work cohesively.

Value chain

The Maritime Transportation System, as part of a larger logistics chain servicing the cross-border distribution of goods from one place to another, often over huge distances, is subject to a complex array of policies and regulations.

Materials will first be subject to the maritime infrastructure, policies and economic, social and environmental conditions of their country of origin. They then move through a port system into international carriage, where a different set of rules applies. These rules are based on internationally applicable commercial regulations and on global standards, rules and regulations developed by IMO, among others. When the goods eventually arrive at their destination, in a different country, they are once again landed at ports which have their own, distinct infrastructure and policies. From here, they may be further distributed to a final destination, where, in turn, other conditions and policies may apply.

Although we can visualize these successive phases of the through-transport ('door-to-door') logistics chain adding up to one whole, cohesive operation, the reality is one of many different and competing interests and priorities in each phase of the transport chain. Nevertheless, the chain as a whole is required for the global transport function to work. Excessive competition

could threaten, disrupt or erode this global cohesion which, in turn, is bound to impact adversely on the cost-effectiveness of moving goods around the world.

Further in this regard, it is important to bear in mind that shipping remains, first and foremost, a business endeavour, which delivers an essential public service to the world at relatively low cost, while operating under many varying regulations in different jurisdictions. Furthermore, these regulations are not static. Changes are introduced to accommodate new challenges, such as technological advances and increased societal expectations for improved safety, security and environmental protection. Therefore, the shipping industry must constantly strive to improve its procedures and be prepared to adapt to changing regulatory compliance requirements. However, if regulations become too burdensome and costs to the shipping industry increase, the movement of enormous volumes of basic materials and goods at relatively low cost could be at risk, and this would not be in the public interest and would be detrimental to growth and prosperity in civil society as a whole.

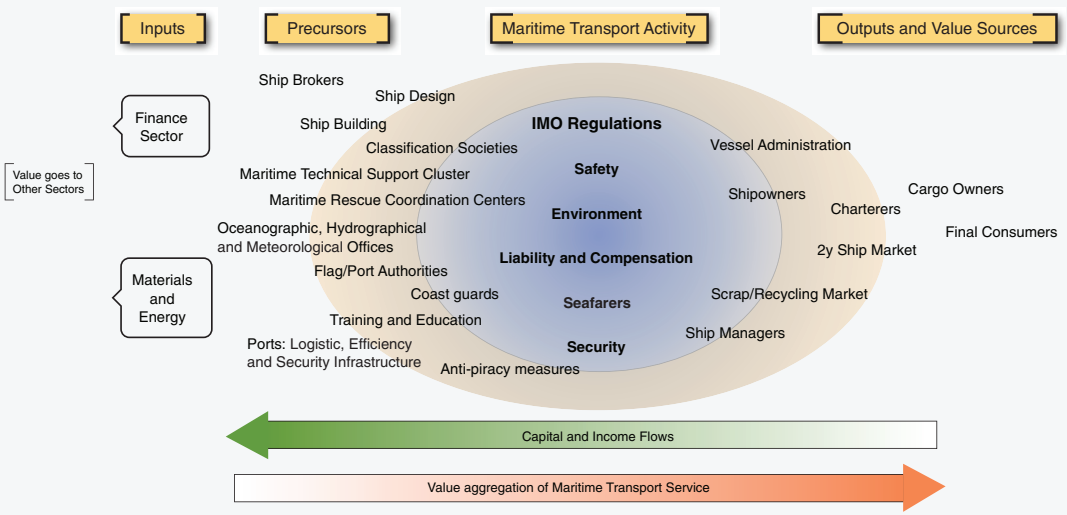
In addition to these considerations regarding the balance between cost and benefit, it is important to bear in mind value creation and value flows in the Maritime Transportation System, which is a chain of actors all of whom must share and distribute values (see also diagram below). If all the actors in the shipping sector, while fulfilling their different functions, work together in support of this value chain, the Maritime Transportation System will not only function well for all stakeholders concerned, including civil society, it will also have a sustainable future.

To recapitulate, the movement of goods by the Maritime Transportation System is subject to economic, social and environmental responsibilities and requirements on many levels. The challenge lies in how these can be translated equitably and fairly across the chain of actors in order to make the whole System sustainable. This is particularly difficult because coordination between shore-side maritime actors and the international shipping sector is not well-established. This is due to a prevalent tendency towards profit-maximizing by each of the actors, who may succeed in shunting costs to other actors, and this may in turn affect the sustainability of those other actors' operations, and so affect the logistics chain as a whole. In other words, a loss of resilience, and of sustainability, in one link risks degrading the chain over time.

A specific mention should be made of the role of the Maritime Transportation System in developing countries, where an efficient and well-structured system is a pre-requisite for growth and prosperity. The further development of maritime industries in these countries is a necessity. The benefits of the shipping sector as an enabler of world trade cannot be underscored sufficiently, especially for the benefit of the developing world and its participation in new trading patterns around the world. For the developing world there are tremendous opportunities arising from a more complete engagement with the shipping sector.

All actors in the Maritime Transportation System are subject to external costs. Some of these costs are general, affecting all actors. Other costs may affect only specific parts within the System, eventually affecting the whole System or just a link in the System; in the latter

The Maritime Transportation System



In this document, we have focused principally on the non-commercial regulatory environment of the international transport sector. In this document, we have also used the terms "shipping sector" and "maritime sector" interchangeably as referring to the waterborne transport actors of the Maritime Transportation System; the whole Maritime Transportation System includes actors beyond the shipping sector but which are auxiliary to the logistics and delivery of international trade through waterborne freight.

case, there will always be an incentive to pass costs to other actors.

If, then, it is accepted that any transfer of cost from one part of the System to another may seriously compromise the sustainability of that other part of the System (and possibly over time the resilience of the entire System), it is imperative that the repercussions across the System, or to its actors, are considered in full in order to ensure the functioning of each link in the chain, with respect to the economic, social and environmental impacts on the actors in the System and on the System as a whole.

IMO's role in a Sustainable Maritime Transportation System

IMO is the UN Specialized Agency responsible for setting global standards for the safety, security and facilitation of international shipping and the prevention of pollution by ships. IMO currently has 170 Member States and three Associate Members, whose representatives meet regularly throughout the year to develop and adopt new regulations or amendments to existing regulations, in consultation with other international organizations, IMO's industry partners and other non-governmental organizations. IMO regulates all technical aspects of international shipping, delivering 53 treaty instruments, supported by hundreds of codes and guidelines, covering the entire life span of commercial ships from cradle to grave. IMO regulations cover the design, construction, operation, manning and recycling of ships, the education of seafarers, as well as liability and compensation following accidents and incidents. More recently, IMO has extended its activities to the enhancement of maritime security for both ships and port facilities and to the promotion of measures to combat piracy and armed robbery against ships. IMO measures create the "level playing field" crucial for the international maritime sector.

IMO's regulatory framework covers all kinds of technical matters pertaining to the safety of ships and of life at sea, efficiency of navigation, and the prevention and control of marine and air pollution from ships. It also covers the associated legal and administrative mechanisms for promoting co-operation among Governments and the availability of shipping services to world trade on a non-discriminatory basis — IMO conventions, on entry into force, cover all ships, regardless of the flag they fly, as ships of non-convention States entering the waters or ports of convention States are subject to the 'no more favorable treatment' principle.

The Organization also provides technical assistance on request, through its Integrated Technical Co-operation Programme (ITCP), to Member States with clearly identified needs for assistance to help them implement the IMO conventions and other instruments they have signed up to and, relatedly, to promote capacity-building for the development of their national maritime legislation and maritime policies.

More recently, the IMO has extended its activities to the enhancement of maritime security for both ships and port facilities and to the promotion of measures to combat piracy and armed robbery against ships.

The broad scope of its mandate means that IMO is well placed to support the cohesion and good functioning of the Maritime Transportation System and to contribute to its sustainable development throughout the world. The potential for the Organization to make a real difference lies with capacity-building measures under its ITCP aimed at developing and strengthening the maritime transport sectors in developing countries in particular.

Lastly, it is important not to lose sight of the fact that, while IMO's mandate is principally focused on vessels engaged in international trade, there are real opportunities for the Organization to play a meaningful and important role in facilitating coordination of relevant policies at the national and regional levels as well. This is because of its standing in the world as the most respected competent body in all technical matters pertaining to shipping. Thus, it can assist with coordination of the different actors in the Maritime Transportation System. It can also provide valuable feedback on the effects of measures as they are implemented throughout the System.

A CONCEPT OF A SUSTAINABLE MARITIME TRANSPORTATION SYSTEM

In order to provide a seamless and reliable service in the most efficient manner, the Maritime Transportation System must deliver safe, secure, efficient and reliable transport of goods across the world, while minimizing pollution, maximizing energy efficiency and ensuring resource conservation. To achieve this, the complexity of the interrelation among actors in the Maritime Transportation System should be recognized and taken into account when addressing specific actions. The key elements of a Sustainable Maritime Transport System are briefly highlighted in the following paragraphs.

A Sustainable Maritime Transportation System requires well-organized Administrations that co-operate internationally and promote compliance with global standards, supported by institutions with relevant technical expertise, such as classification societies acting as recognized organizations (i.e. organizations entrusted by a flag State to carry out mandatory inspections and surveys on its behalf).

In order to operate with the required high efficiency, a Sustainable Maritime Transportation System requires coordinated support from the shore-side entities intrinsic to shipping, such as providers of aids to navigation, oceanographic, hydrographic and meteorological services, search and rescue services, incident and emergency responders, port facilities, trade facilitation measures, and cargo-handling and logistics systems.

As necessary as a reliable supply of fuel is for ships, so is a qualified and flexible work force a prerequisite for a Sustainable Maritime Transportation System. An important challenge facing the shipping industry today is how to attract and retain a sufficient number of adequately trained and qualified seafarers and maritime industry professionals with the right motivation, knowledge and skills for the professional application of evolving technologies and procedures. This challenge will increase as world trade continues to grow and shipping activities increase accordingly. A Sustainable Maritime Transportation System will need the collaboration of shore-side actors, from both industry and Governments, (in, for example, the due implementation of the Maritime Labour Convention), for the protection and provision of care for seafarers, in order to ensure that the System's social integrity does not become eroded and that qualified, professional seafarers have an attractive work environment.

Equally important for a Sustainable Maritime Transportation System to operate smoothly and efficiently are global standards that support "level playing fields" across the world, supporting global safety and environmental standards, addressing technical and operational requirements for ships as well as the appropriate education and training of crews. Pollution prevention and control, the protection of marine biodiversity and principles of ocean governance should be continuously reflected in discussions at IMO to ensure the inclusive, efficient and effective regulation of ships – from the very first stage of their design through to their ultimate disposal for recycling at the end of their useful life.

Security is essential for a Sustainable Maritime Transportation System, yet it is largely beyond the control of its actors. The shipping sector has found itself at the front line of new security threats emanating from global terrorism and from modern-day piracy on the world's sea lanes, as well as facing traditional forms of armed robbery against ships in port or at anchor. Ships have no natural self-defence against these threats. Yet their true impact reaches far beyond the vessel's next port of call or the balance sheet of the shipping company concerned, as a possibly incalculable economic cost may result from loss of confidence in the Maritime Transportation System. Therefore, the shipping sector needs external assistance, such as from navy patrols or on-shore action, to meet its security needs. However, it must also take its own preventative measures[2] to address security threats arising at sea or in port, and which endanger both cargo and crew.

A Sustainable Maritime Transportation System also needs the support of a sound financial system to support its evolving requirements for economic, social and environmental sustainability. The financial sector should be properly appraised of the evolving nature of the Maritime Transportation System, so as to allow for the efficient long-term allocation of resources to advance all three pillars of sustainable development.

Lastly, a Sustainable Maritime Transportation System must actively engage with Classification Societies, academic institutions and other research and development entities, in order to embrace new technologies and new operational practices that will allow it to continually progress towards achieving

2. For example the Best Management Practices for Protection against Somalia Based Piracy (BMP 4)

higher efficiency, environmental targets and economic advances.

Moving forward to a Sustainable Maritime Transportation System

Focusing on these principal elements of a Sustainable Maritime Transportation System, IMO can use its position as the UN Specialized Agency for global standard-setting for international shipping to look into the future of the Maritime Transportation System and provide coordination for maritime sustainable development.

IMO's role as a trusted facilitator for global maritime standards is essential as the Maritime Transportation System requires norms that are standardized and global in nature, in order to ensure "level playing fields" across the world.

A Sustainable Maritime Transportation System requires coordination at national and international levels. At the national level, coordination for environmental protection must always take into account the other pillars of sustainable development, namely, social needs, including the health and safety of seafarers, as well as the economy of the shipping industry, and it should be pursued through a national consultation process on issues being discussed at IMO. At the international level, processes of consultation and coordination among Governments and other multilateral, inter-governmental and international bodies should follow from national coordination and consultation with the various stakeholders through the formal discussion process at IMO.

It should be equally evident that, in order to ensure a coordinated Sustainable Maritime Transportation System, policies related to the specific components of the Maritime Transportation System should be coordinated in the process at IMO. These include policies on the port sector, aids to navigation, oceanographic, hydrographic and meteorological services, fuel supply, the education and training of seafarers, maritime security and anti-piracy actions etc. Relevant actors at the national, regional and international levels will need to consider how measures that have been implemented for a specific sector may affect other sectors of the Maritime Transportation System and how activities can be coordinated, in order to maintain its sustainability over time, in social and environmental terms as well as from the economic perspective.

It is clear that, for sustainable maritime development to flourish there will be a distinct role for Governments, for industry, for international organizations and for all actors in the Maritime Transportation System, and it is desirable that IMO could act as a coordinator of policies, thus providing an institutional framework for the sustainable development of maritime transportation. All actors will need to collaborate with the aim of achieving the three dimensions of sustainable development across the Maritime Transportation System – the economic, social and environmental dimensions – but with the safety of shipping always being the overriding priority.

Awareness initiatives such as the Day of the Seafarer and World Maritime Day should continue to strive for wider understanding of the value and the importance of the Maritime Transportation System to the general public, by highlighting how it delivers so much value to world trade at relatively minimal cost.

ACTIONS NEEDED FOR A SUSTAINABLE MARITIME TRANSPORTATION SYSTEM

A Sustainable Maritime Transportation System must cover a broad range of activities, over some of which IMO has traditionally only had marginal influence. In presenting this vision of a Sustainable Maritime Transportation System, the intention is not to broaden the scope of IMO's activities, but rather to widen awareness of the importance of the System through increased understanding of the coordination opportunities the System provides – at the regional, sub-regional and national levels and at both Government and industry level.

The following are some of the 'imperatives' or overall goals that IMO, in partnership with others, must aspire to in order to establish a Sustainable Maritime Transportation System. They should be read in conjunction with the Annex to this document, where specific actions and relevant actors for each of the goals are identified.

GOALS AND ACTIONS

1. SAFETY CULTURE AND ENVIRONMENTAL STEWARDSHIP

Background – In order to carry world trade in a safe, reliable and efficient manner, maritime transport requires a global regulatory framework, based on IMO's multitude of conventions covering all aspects of international shipping. That framework promotes safety, maximizes energy efficiency and resource conservation and minimizes pollution, while enabling seamless and reliable maritime transport around the world. To achieve this, each actor within the Maritime Transportation System must operate in a responsible manner, adhering to best practices and applying them, from the ship's design stage, through all phases of operation, to its ultimate disposal for recycling at the end of its useful life. A culture of safety and environmental stewardship should be promoted and embodied in activities of all actors to ensure the sustainability of the Maritime Transportation System is maintained.

IMO regulates all aspects of international shipping and the 53 treaty instruments currently in force (including SOLAS and MARPOL, the principal conventions on safety and marine pollution), supported by hundreds of codes and guidelines, covering the entire lifespan of commercial ships, from cradle to grave.

IMO's Partners – Actors in the Maritime Transportation System.

Goal 1 – A Sustainable Maritime Transportation System must promote a safety culture, fostered through global standards and their rigorous enforcement. These global standards should ensure a "level playing field", but the safety culture should go beyond mere regulatory compliance and deliver added value for the System through the promotion of safety.

Goal 2 – A Sustainable Maritime Transportation System must minimize the environmental impact of shipping and activities of maritime industries. Environmental stewardship should be reflected in the development and implementation of global standards for pollution prevention and protection of the marine environment.

2. EDUCATION AND TRAINING IN MARITIME PROFESSIONS, AND SUPPORT FOR SEAFARERS

Background – The shipping sector will continue to evolve the use of ever-more-sophisticated equipment for enhancing the safety of ships and cargo, route planning and navigation, cargo handling, energy efficiency monitoring, vessel-source pollution control and prevention, and environmental stewardship. Newly introduced equipment will lead to crews performing new or different functions. Retrofitted or new equipment, together with evolving shipboard procedures throughout a seafarer's career, will necessitate follow-up training.

Moreover, advancement of the Maritime Transportation System will require training, education and capacity-building of maritime professionals for the broader system – including engineers, lawyers, port personnel, ship managers and senior policy administrators. Especially in developing countries, this would enable maritime professionals to explore further roles and expand the involvement in shipping and related maritime industries in the future.

At the same time, many seafaring careers today may be shorter than in the past, because of increasing employment mobility, or because of the growth of professional opportunities ashore. In view of the difficulties associated with a career at sea (including time away from family and friends, isolation and possible exposure to fatigue) the shipping industry will face greater pressure to provide a better and more attractive work environment for seafarers. Failure to do so will make it increasingly difficult to recruit and retain quality seafarers and to attract the calibre of people, capable of being trained and who can continually adapt their knowledge base in response to constantly evolving technologies and shipboard procedures.

IMO's Partners – The maritime transport industry, including ship designers and builders; maritime technology developers and equipment manufacturers; ship managers; seafarers' representatives and those providing support and care for seafarers; training and educational institutes (including WMU and IMLI); as well as flag and port State authorities; the International Labour Organization (ILO).

Goal 1 – A Sustainable Maritime Transportation System requires properly trained and educated seafarers. Such training and education should be based on, inter alia, the STCW Convention, and include refresher training and education upgrades, as necessary. Safety and environmental awareness should be the priorities. There is a need to develop capacity-building activities under IMO's ITCP, as well as coordination with ILO's Maritime Labour Convention, for maritime training and education.

Goal 2 – The quality of life for seafarers at sea is important in order to maintain and develop the maritime transport industry as an attractive career option for talented professionals seeking a varied career involving both ship- and shore-based employment. The retention of qualified professionals is perhaps the greatest challenge for the sector due to recurring issues such as criminalization of seafarers, denial of shore leave and repatriation rights, and lack of recreational facilities for seafarers to support shipboard work and living conditions on a level comparable with that enjoyed by shore-based professionals. These issues should be considered in collaboration with ILO.

Goal 3 – To underpin the continuous, global development of the maritime transport industry, non-seagoing maritime professionals must also be trained and educated, especially in the developing world. Professionals need training for legal, engineering, ship management and port careers. This can be achieved through maritime education and training and capacity-building at educational institutions, including WMU and IMLI.

3. ENERGY EFFICIENCY AND SHIP-PORT INTERFACE

Background – Shipping is by far the most energy efficient means of mass cargo transport. Nevertheless, efforts to find ways to improve efficiency throughout shipping operations must continue. Shipping is continuously exploring ways to further reduce fuel consumption with a view to improving ships' energy efficiency (and reduce their "carbon footprint"). This drive to achieve ever-greater efficiency must continue in parallel with the changing demand for maritime transport, in order to efficiently handle required levels of cargo transport over the coming decades. As ships do not operate independently from shore-based entities in the Maritime Transportation System, efficiency must extend beyond the ships themselves to shore-based entities. These include ports, which must deliver an efficient service and provide the essential maritime infrastructure, as well as other entities in the logistics chain pertaining to cargo handling, vessel traffic management and routeing protocols. The way that the commercial aspects of ship management and chartering impinge on vessel efficiency should also be addressed.

New ports opening up to serve newly emerging markets, provide an excellent opportunity to streamline activities within the Maritime Transportation System and to coordinate between stakeholders in order to avoid unnecessary delays in clearing ships, cargoes, crews and passengers. The bulk of the administrative requirements associated with the Maritime Transportation System, such as customs clearance etc. occur at the most critical points of a ship's voyage, demanding the attention of the master and crew when they should be least distracted.

IMO's Partners – The industry at large, both at sea and ashore; the maritime technologies cluster, including classification societies; ship managers; cargo owners; as well as flag and port State authorities. Also, Governments (represented by different administrative authorities with competences in ports, for example port and other maritime authorities, customs, immigration, police, health, food and agriculture authorities); businesses (including private sector port operators, shippers, cargo interests, ship agents, trade organizations, ship owners and ship managers); as well as international organizations, such as the World Customs Organization (WCO), the World Trade Organization (WTO), the United Nations Conference on International Trade Law (UNCITRAL) and the United Nations Conference on Trade and Development (UNCTAD).

Goal 1 – Inherent in a Sustainable Maritime Transportation System should be efficiency beyond the ship, addressing the ship-shore interface through streamlining and standardization of the documentation for both the delivery and the reception of cargo, improving coordination and promoting the use of electronic systems for clearance of ships, cargoes, crews and passengers.

Goal 2 - A Sustainable Maritime Transportation System needs efficient port facilities to keep the operational efficiency of ships at the highest level (e.g. hull cleaning and propeller polishing facilities, specialized fuel and power supply services) The logistics infrastructure should allow ships to sail at optimal speeds for their charted trajectories (e.g. cargo logistics and port planning, just-in-time berthing, weather routeing). All these elements would form part of a "holistic" energy efficiency concept for the whole system. Innovation and best practices for efficient ship operation and ship-to-shore interfacing should be rigorously pursued.

4. ENERGY SUPPLY FOR SHIPS

Background – Ships cannot be operated without fuel and fuel must be provided by oil and energy industries through terminals in ports. Shipping has traditionally used heavy fuel oil, but global society now requires progressively cleaner emissions. As a result, stringent emission control measures have been introduced. In order to meet these emission control measures, innovation and new technology are necessary - on-board treatment facilities and new engine technology, for example. The quality of fuel oil relates directly to emission quality: therefore, proper quality standards for fuel oil should be implemented.

IMO's Partners – Oil and refining industries; ports and terminals; the maritime technology cluster, including classification societies; ships' bunker suppliers; as well as Government agencies responsible for energy.

Goal 1 – For a Sustainable Maritime Transportation System, global distribution and availability of marine fuels must be ensured. Port facilities to provide fuel to ships should be arranged, based on a proper assessment of future fuel demand. It is vital for the smooth functioning of the Maritime Transportation System that quality fuels are readily available, globally.

Goal 2 – As modern society increasingly demands clean air, so the Sustainable Maritime Transportation System will need to have access to an ample amount of clean energy, such as LNG and low-sulphur fuel oils. Furthermore, the burden and cost for compliance with the stringent emission control standards, such as the sulphur regulations, should be shared by society equitably rather than be pushed onto the users, i.e. the shipping industry.

Goal 3 - A Sustainable Maritime Transportation System should promote partnerships between the energy supply industry and the shipping sector in order to address the need for bunkering facilities for new fuel types. This goal evidently involves port planning interests, flag administration and national maritime administrations, as well as cargo owners and industries relying on stable transportation services.

5. MARITIME TRAFFIC SUPPORT AND ADVISORY SYSTEMS

Background – The use of the oceans is becoming more intensive as a result of the increase in maritime transport and other uses, such as offshore exploration and the exploitation of traditional and renewable energy sources, fishing and tourism (including the growth of cruise shipping, for example in Polar waters, and other maritime-based leisure activities).

In more crowded seas, with greater traffic density and larger ships, shipping routes will need to be supported by better and clearer information systems (including through meteorological, oceanographic and hydrographic services, aids to navigation, lights houses and technology such as Vessel Traffic Services (VTS), Global Maritime Distress and Safety System (GMDSS) and satellite communication technology), for vessels to achieve the required efficiency while enhancing safety.

Likewise, rapid technological advances in aids to navigation bring challenges for both safety and efficiency, as does the general lack of standardization in the shipping industry with respect to harmonization of equipment and systems. E-navigation is expected to integrate existing and new navigational tools, in particular electronic tools, in an all-embracing system that will contribute to enhanced navigational safety while simultaneously reducing the burden on the navigator.

IMO's Partners – The maritime technology support cluster; ship managers; ships' crews; as well as flag administrations and port authorities; intergovernmental organizations, such as the International Hydrographic Organization (IHO); and international organizations, such as the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).

Goal – A Sustainable Maritime Transportation System requires co-operation and harmonization in the development of optimal systems for navigation, including pilotage and ice breaking services, where necessary, the use of intelligent routeing systems and aids for weather routeing, including e-navigation, so as to optimize safety and fuel efficiency, without undermining the Master's authority and competency in the operation of the vessel. Reliable charts, based on up-to-date hydrographic, oceanographic and environmental data are of paramount importance. Consideration should also be given to further expansion of traffic information systems such as the Marine Electronic Highway concept.

6. MARITIME SECURITY

Background – Security threats to shipping affect the predictability of trade flows. The damaging consequences of security-related incidents could affect the poorest people in particular, in terms of food security, while also threatening the energy security of the world. The underlying causes of piracy and armed robbery are complex and often rooted in the political, economic and social conditions of coastal States, giving rise to lawlessness and criminal acts on land, as well as at sea - particularly so in the case of piracy off the coast of Somalia. These threats, as well as other security threats (such as terrorism), will continue to exist. As world trade expands, extending to new sea routes and new ports and leading to more congested shipping traffic in certain regions, new security challenges will present themselves. The Maritime Transportation System is subject to a wide array of security threats, ranging from piracy and armed robbery against ships, to threats from global terrorism and the unlawful trade in weapons, smuggling, trafficking in narcotics and in persons, and illegal or unreported fishing.

IMO's Partners – Governments and multilateral organizations responsible for maritime affairs, naval and coastguard forces, customs and law enforcement; other authorities concerned with the protection and security of sea lanes used for international trade; the shipping industry; port and maritime authorities; including all actors with responsibilities for the implementation and enforcement of security requirements under the ISPS Code.

Goal – In order for the Maritime Transportation System to be sustainable, seafarers, ships and shipping lanes must be protected by the communities that rely on them and benefit from sea trade. Protection measures must respond to the threats posed to sea trade and to the ships and the seafarers in its service. Due account must also be taken of the increased cost of providing security which erodes the sustainability of shipping. The ISPS Code is required to be implemented and enforced not only on board all ships, but also in all ports engaged in international maritime transport.

7. TECHNICAL CO-OPERATION

Background – As trade expands throughout the world, new actors will enter the Maritime Transportation System. New ports will open in the developing world and existing ports will be upgraded. Existing aids to navigation will be reviewed and new aids will need to be introduced in emerging trading areas. Today, a large proportion of internationally trading ships is already registered in developing countries, the great majority of seafarers on board ships engaged in international shipping are already supplied by developing countries, and order books indicate a growing role for a number of developing countries in building ships for the anticipated growth in world trade. But the developing countries have not yet marked their presence in the field of management activities in international shipping – which highlights a tremendous opportunity for developing countries in the shipping sector. Maritime capacity-building in developing countries should be actively supported and, in this regard, Governments in developing countries should recognize the critical importance of developing and implementing national maritime policies, while all Governments should strive to coordinate their respective maritime policies, in order to ensure sustainability of the Maritime Transportation System.

IMO's Partners – National, international and multilateral organizations; non-governmental organizations with particular technical expertise, such as classification societies; the private sector; global and regional multilateral banks; financial institutions; institutes of learning such as the WMU and IMLI.

Goal 1 – To ensure a Sustainable Maritime Transportation System, new and sustainable funding sources and partnerships for technical co-operation should be developed, to enhance existing programmes of technical assistance and to meet future needs, both for ship- and shore-based functions in critical areas of activity (such as shipbuilding and repair, port facility development and management, and maritime personnel training). Increased coordination of capacity-building activities will be necessary to reduce duplication of efforts, and to ensure that the assistance that is received is not only what is asked for but is also what is needed, and to expand the capacity to ensure a proper and functioning maritime administration as well as maritime activities in, for example, ship management and other related professions. This should involve the development of national maritime policies, focusing on competitiveness in the shipping sector of the country concerned and on the sector's safety and security, as well as on the broader spectrum of the country's maritime activities including the sustainable use of sea areas under national jurisdiction.

Goal 2 – Technical co-operation should extend to the development and maintenance of oceanographic, hydrographic and meteorological information and aids to navigation in support of maritime sector development in developing countries and include capacity-building for vessel traffic information and management services, all-weather search and rescue and pollution emergency response.

8. NEW TECHNOLOGY AND INNOVATION

Background – New ships will be increasingly sophisticated in all aspects of their design, construction and operation, while existing ships will be expected to meet ever more stringent efficiency as well as environmental demands, which will require them to adapt their operational practices and to comply with new regulatory requirements for retrofitting equipment. Continuing technological advances call for increased sharing of knowledge, experience and know-how in order to maximize the benefits of innovation and new technology for shipping safety and environmental stewardship and thus for the cost-effectiveness of the sector.

IMO's Partners – Governments; IGOs, NGOs; technical innovators — including ship builders, engine makers, research institutes and classification societies — and the human element support cluster; and shore-side actors.

Goal – A Sustainable Maritime Transportation System requires a platform for the facilitation of innovation, showcasing new technology and its applications. This will also entail partnerships between Governments, ship builders, classification societies, manufacturers, R&D establishments and academic institutions. The maritime transport industry should take advantage of new technology in order to maximize its environmental performance as well as to enhance safety, and be prepared for new cargo types and new trades. Governments should provide incentives to advance new technology and innovation for the Maritime Transportation System.

9. FINANCE, LIABILITY AND INSURANCE MECHANISMS

Background – The shipping industry will continue to face new regulatory requirements due to public expectations (as expressed by Governments through the regulatory process at IMO) as well as its own commitment to safety, efficiency and environmental stewardship. These requirements may entail significant capital investments (including retro-fitting on existing ships) in the foreseeable future, which will continue through the next generation of ships. Furthermore, under the current system of free trade and the global economy, shipping has always been a beneficiary of long-term investment, based on the growth of seaborne trade due the world's economic expansion. Therefore contraction in the world's economy directly affects the supply-demand balance of the total transportation capacity of ships, and the profitability of the shipping industry.

The financial consequences of shipping accidents can be considerable for ship owners, cargo interests, ships' crews and passengers, as well as for the environment and those whose well-being or livelihood depends on clean seas. Prompt and adequate compensation for legitimate loss or damage suffered is both necessary to sustain sound businesses and expected by civil society.

IMO's Partners – The shipping industry and the finance and insurance communities.

Goal 1 – A Sustainable Maritime Transportation System should be supported with available, sound financing for construction of new ships or conversion or modification of existing ships in order to meet requirements for safety and the environment, bearing in mind the cyclical nature of the shipping sector.

Goal 2 – A Sustainable Maritime Transportation System relies on regulations governing liability and compensation in the event of maritime incidents as these provide much needed liability limits and compensation for loss or damage caused to third parties. An international regulatory framework that promotes a harmonized approach to the allocation and enforcement of liabilities and related insurance requirements will help to ensure that costs are kept at reasonable levels, while those suffering loss or damage are assured prompt compensation.

10. OCEAN GOVERNANCE

Background – As the world's economies develop, and the use of the world's oceans intensifies, new challenges in the resolution of competing interests need to be overcome, taking into account the principles of the United Nations Convention on the Law of the Sea (UNCLOS) and global standards of other relevant instruments. The Maritime Transportation System will be affected by competing interests in ocean uses, ranging from tensions such as those that exist between environmental concerns and increased demands for seaborne freight capacity expansion, to pressures for the protection of ocean spaces for users other than the shipping sector (for example managed through the creation of Particularly Sensitive Sea Areas). Coordination between competing interests is required, so that a balance can be achieved and any costs fairly distributed. Any reallocations of ocean uses must be properly understood and agreed by all concerned, paying attention to relevant harmonized, global standards and ensuring the sustainability of the different uses.

IMO's Partners – United Nations system organizations; Governments; IGOs; non-governmental organizations.

Goal – Actors engaged in different uses of the ocean must engage in outreach and coordination in the interests of ocean protection and good ocean governance. The aim should be harmonization of initiatives, and there should be a thorough discussion of the effects of envisaged measures and regulations on the Maritime Transportation System in order to ensure that it is sustainable and can continue to provide its services effectively.

1. SAFETY CULTURE AND ENVIRONMENTAL STEWARDSHIP

Goal 1 – A Sustainable Maritime Transportation System must be based on a safety culture fostered through global standards and their rigorous enforcement by relevant professional agents in order to ensure "level playing fields" across the world. Optimally, a safety culture should go beyond mere regulatory compliance and deliver added value for the System through the promotion of safety culture aims. These should include, inter alia, anchoring the vision of sustainable development into "Corporate Social Responsibility" (CSR) related activities.

Goal 2 – A Sustainable Maritime Transportation System must minimize the environmental impact of shipping and activities of maritime industries. Environmental stewardship should be reflected in the development and implementation of global standards for pollution prevention and protection of the marine environment.

Activities	IMO's Partners
Ensure timely ratification and uniform implementation of all IMO Instruments	Governments, industry[3], seafarers' representatives
Continue work on global standards and guidelines in support of IMO regulations	NGOs (including ISO (International Organization for Standardization) and IACS (International Association of Classification Societies), industry, seafarers' representatives, academic institutions
Safety culture campaigns and activities, including the "Zero Accident" campaign	Governments, NGOs (Including IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities) and MAIIF (Marine Accident Investigators' International Forum), industry
Environmental stewardship campaigns and activities, including supporting HELMEPA's Global Observatory for Marine Litter initiative	Governments, NGOs (including HELMEPA (Hellenic Marine Environment Protection Association)), industry, seafarers' representatives
Continuing efforts to minimize the negative effects of shipping on the marine environment, through stakeholder participation (prevention, preparedness and response)	Governments, industry, seafarers' representatives
Addressing operational safety of non-convention ships in domestic trade, including ferries, through new and existing initiatives	Governments, IGOs, NGOs, industry, seafarers' representatives
Activities in partnership with PSC (Port State Control) authorities	Governments, PSC MoUs
Monitoring the implementation and effectiveness of IMO instruments and guidelines to assess the need for further improvements, including better communication of information related to accidents, casualties and near-misses, for analyses and possible mitigation actions	UN bodies, Governments, IGOs, NGOs (such as MAIIF), industry, seafarers' representatives, academic institutions

3. Reference to "industry" in this table, indicates all relevant shipping sector stakeholders within the Maritime Transportation System.

2. EDUCATION AND TRAINING IN MARITIME PROFESSIONS, AND SUPPORT FOR SEAFARERS

Goal 1 – A Sustainable Maritime Transportation System requires properly trained and educated seafarers. Such training and education should be based on, inter alia, the STCW Convention, and include refresher training and education upgrades, as necessary. Safety and environmental awareness should be the priorities. There is a need to develop capacity-building activities under IMO's ITCP, as well as coordination with ILO's Maritime Labour Convention, for maritime training and education.

Goal 2 – The quality of life for seafarers at sea is important in order to maintain and develop the maritime transport industry as an attractive career option for talented professionals seeking a varied career involving both ship- and shore-based employment. The retention of qualified professionals is perhaps the greatest challenge for the sector due to recurring issues such as criminalization of seafarers, denial of shore leave and repatriation rights, and lack of recreational facilities for seafarers to support shipboard work and living conditions on a level comparable with that enjoyed by shore-based professionals. These issues should be considered in collaboration with ILO.

Goal 3 – To underpin the continuous, global development of the maritime transport industry, non-seagoing maritime professionals must also be trained and educated, especially in the developing world. Professionals need training for legal, engineering, ship management and port careers. This can be achieved through maritime education

Activities	IMO's Partners
Promotion and recognition of seafaring as an attractive career choice	Governments, ILO, industry, seafarers' representatives, NGOs, academic institutions (including WMU (World Maritime University) and IMLI (International Maritime Law Institute), training providers
Strengthening the development of maritime professional careers throughout the Maritime Transportation System	Governments, industry, seafarers' representatives, IGOs, NGOs, regional maritime organizations, local professional organizations, academic institutions (including WMU and IMLI), classification societies
Elevating the profile of maritime education and retraining (on-shore and on-ship) as ongoing career opportunities by ensuring they are tailored for future challenges including innovation and evolution of technology	Governments, ILO, industry, seafarers' representatives, training providers, NGOs, academic institutions (including WMU and IMLI)
Promote and develop initiatives to ensure global uniformity and better coordination of maritime education and training, including developing and updating model courses and training methods to meet new technical demands as well as the evolving profile of modern seafarers, including at-sea training and e-learning	Governments, industry, training providers, seafarers' representatives, NGOs, academic institutions, (including WMU, IMLI, IMLA (International Maritime Lecturers Association) and IAMU (International Association Of Maritime Universities))
Promotion of on-board training	Governments, industry, NGOs, academic institutions
Promote fellowships for maritime industry professionals from developing countries	Governments, industry, seafarers' representatives, WMU, IMLI, donors
Continue to recognize the role of the human element in the development of all future regulations and operational practices, in particular with respect to new technologies and innovations	Governments, UN bodies, IGOs, NGOs
Continuously promote fair treatment of seafarers, taking into account their working conditions and sailing patterns:, as well as avoiding criminalization	ILO, Governments, industry, seafarers' representatives (including ITF, IFSMA (International Federation of Shipmasters' Associations), ICMA (International Christian Maritime Association), SRI (Seafarers' Rights International))
Continue to work with ILO to improve the quality of life, including living conditions, , of seafarers, particularly those on long duty cycles, bearing in mind the need to retain qualified seafarers	ILO, Governments, industry, seafarers' representatives

3. ENERGY EFFICIENCY AND PORT-SHIP INTERFACE

Goal 1 – Inherent in a Sustainable Maritime Transportation System should be efficiency beyond the ship, addressing the ship-shore interface through streamlining and standardization of the documentation for both the delivery and the reception of cargo, improving coordination and promoting the use of electronic systems for clearance of ships, cargoes, crews and passengers.

Goal 2 - A Sustainable Maritime Transportation System needs efficient port facilities to keep the operational efficiency of ships at the highest level (e.g. hull cleaning and propeller polishing facilities, specialized fuel and power supply services) The logistics infrastructure should allow ships to sail at optimal speeds for their charted trajectories (e.g. cargo logistics and port planning, just-in-time berthing, weather routeing). All these elements would form part of a "holistic" energy efficiency concept for the whole system. Innovation and best practices for efficient ship operation and ship-to-shore interfacing should be rigorously pursued.

Activities	IMO's Partners
Implementation of energy-efficiency measures (such as EEDI and SEEMP)	Industry, financial institutions (including GEF (Global Environment Facility) and RDBs (regional development banks))
Continued development and implementation of efficiency measures for ships	Governments, industry
Promote the use of standardized single- window electronic systems and consolidated advance information for clearance of ships (including adoption of "Virtual Arrival"), their crews, cargo and passengers	Governments, IGOs (including WCO (World Customs Organization), WTO (World Trade Organization), UNCTAD (United Nations Conference on Trade and Development), UNECE (United Nations Economic Commission for Europe)), industry
Promote maritime trade facilitation, through regional and national coordination and cooperation	Governments, IGOs, industry
Coordination of initiatives for intelligent use of ports and terminal spaces and cargo handling infrastructure (e.g. coordination for arrival slots).	Governments, IAPH (International Association of Ports and Harbors), industry
Assistance to ensure infrastructure financing in developing countries	Financial institutions (including World Bank and RDBs)

4. ENERGY SUPPLY FOR SHIPS

Goal 1 – For a Sustainable Maritime Transportation System, global distribution and availability of marine fuels must be ensured. Port facilities to provide fuel to ships should be arranged, based on a proper assessment of future fuel demand. It is vital for the smooth functioning of the Maritime Transportation System that quality fuels are readily available, globally.

Goal 2 – as modern society increasingly demands clean air, so the Sustainable Maritime Transportation System will need to have access to an ample amount of clean energy, such as LNG and low-sulphur fuel oils. Furthermore, the burden and cost for compliance with the stringent emission control standards, such as the sulphur regulations, should be shared by society equitably rather than be pushed onto the users, i.e. the shipping industry.

Goal 3 - a Sustainable Maritime Transportation System should promote partnerships between the energy supply industry and the shipping sector in order to address the need for bunkering facilities for new fuel types. This goal evidently involves port planning interests, flag administration and national maritime administrations, as well as cargo owners and industries relying on stable transportations services.

Activities	IMO's Partners
Study into the future demand and availability of low-sulphur fuel, taking into account: • projected seaborne trade expansion; • impact of energy-efficiency measures on fuel demand; • expected volume of supply of new types of fuel such as LNG; and • total demand for low sulphur fuel.	Governments, IGOs, NGOs, industry (including oil and refinery industries)
Assess the need for fuel terminal development, including for new and cleaner fuel types (such as LNG) based on future demand	Governments, industry (including oil and refinery industries)
Study into the total cost to the Maritime Transportation System of the use of clean energy or the application of on-board treatment systems: • cost of on-board treatment systems, • cost of low-sulphur fuel; and • cost of terminal development for new fuel types, e.g. LNG	Governments, IGOs, NGOs, industry (including oil and refinery industries, ports and terminals)
Consideration of safety aspects in conjunction with the usage of new fuel types, as well as development of appropriate training	Governments, industry, seafarers' representatives

5. MARITIME TRAFFIC SUPPORT AND ADVISORY SYSTEMS

Goal – A Sustainable Maritime Transportation System requires co-operation and harmonization in the development of optimal systems for navigation, including pilotage and ice breaking services, where necessary, the use of intelligent routeing systems and aids for weather routeing, including e-navigation, so as to optimize safety and fuel efficiency, without undermining the Master's authority and competency in the operation of the vessel. Reliable charts, based on up-to-date hydrographic, oceanographic and environmental data are of paramount importance. Consideration should also be given to further expansion of traffic information systems such as the Marine Electronic Highway concept.

Activities	IMO's Partners
Continue the development of global up-to-date chart coverage in collaboration with IHO, in particular Electronic Navigational Charts	HO (International Hydrographic Organization), Governments, industry, NGOs (including IALA)
Showcase lessons learned from maritime traffic support systems including experiences from VTS areas and the Marine Electronic Highway project in the Straits of Singapore and Malacca	Governments, industry, seafarers' representatives, NGOs (including IALA)
Showcase and promote the use of up-to-date hydrographic, meteorological and environmental data as tools for route optimisation	Governments, IGOs (including IHO, WMO), NGOs, industry (including data and equipment providers)
Support continued standardization of aids to navigation and operation of on-board navigation equipment, including optimisation of ECDIS use with further sources of data	Governments, industry, IGOs (including IHO), NGOs (including IALA)

6. MARITIME SECURITY

Goal – In order for the Maritime Transportation System to be sustainable, seafarers, ships and shipping lanes must be protected by the communities that rely on them and benefit from sea trade. Protection measures must respond to the threats posed to sea trade and to the ships and the seafarers in its service. Due account must also be taken of the increased cost of providing security which erodes the sustainability of shipping. The ISPS Code is required to be implemented and enforced not only on board all ships, but also in all ports engaged in international maritime transport.

Activities	IMO's Partners
Promote maritime security coordination and co-operation between and among States, regions, organizations and industry, including enhanced civil/ military cooperation	Governments, industry, international and regional organizations
Promote and strengthen guidance on preventive, evasive and defensive measures to protect ships from security threats	Governments, industry, seafarers' representatives
Assist Member States in enhancing implementation of IMO maritime security measures, with a multi-agency approach to address vulnerabilities of ships and ports.	Governments, industry
Support United Nations and other IGO's efforts in the fight against global terrorism and related threats to maritime transport and global trade security	UN bodies, Governments
Support full and effective ISPS implementation in ports worldwide	Governments, ports and terminals
Support regional measures to address maritime security risks and efforts to share information, knowledge and resources in combatting all forms of maritime crime	Governments, IGOs, industry

7. TECHNICAL CO-OPERATION

Goal 1 – To ensure a Sustainable Maritime Transportation System, new and sustainable funding sources and partnerships for technical co-operation should be developed, to enhance existing programmes of technical assistance and to meet future needs, both for ship- and shore-based functions in critical areas of activity (such as shipbuilding and repair, port facility development and management, and maritime personnel training). Increased coordination of capacity-building activities will be necessary to reduce duplication of efforts, and to ensure that the assistance that is received is not only what is asked for but is also what is needed, and to expand the capacity to ensure a proper and functioning maritime administration as well as maritime activities in, for example, ship management and other related professions. This should involve the development of national maritime policies, focusing on competitiveness in the shipping sector of the country concerned and on the sector's safety and security, as well as on the broader spectrum of the country's maritime activities including the sustainable use of sea areas under national jurisdiction.

Goal 2 – Technical co-operation should extend to the development and maintenance of oceanographic, hydrographic and meteorological information and aids to navigation in support of maritime sector development in developing countries and include capacity-building for vessel traffic information and management services, all-weather search and rescue and pollution emergency response.

Activities	IMO's Partners
Identify new and innovative funding sources for technical co-operation, including for WMU and for IMLI, as part of a coherent and robust resource-mobilization policy	Governments, industry, international and regional funding institutions (World Bank, GEF, RDBs), multi-bilateral donors
Strengthen the capacity and function of the WMU to evaluate technical-cooperation needs of developing countries and assist them in forming national maritime policies	WMU, training providers, academic institutions (including WMU and IMLI)
Development of new capacity-building delivery mechanisms based on country profiles detailing technical cooperation needs	Governments, IGOs, NGOs, academic institutions
Coordination of technical co-operation and capacity-building activities for the Maritime Transportation System	UN bodies, Governments, IGOs, classification societies
Assist developing countries in developing national maritime policies as a cross-sectoral basis to maximise sustainable use of the oceans, focusing on competitiveness, efficiency, safety and security, aligned with global standards	Governments
Assist all countries in developing training, education and support systems for the development and upkeep of shore facilities related to ship safety and environmental protection, such as incident-management systems, navigational aids and current oceanographic and hydrographic data	Governments

8. NEW TECHNOLOGY AND INNOVATION

Goal – A Sustainable Maritime Transportation System requires a platform for the facilitation of innovation, showcasing new technology and its applications. This will also entail partnerships between Governments, ship builders, classification societies, manufacturers, R&D establishments and academic institutions. The maritime transport industry should take advantage of new technology in order to maximize its environmental performance as well as to enhance safety, and be prepared for new cargo types and new trades. Governments should provide incentives to advance new technology and innovation for the Maritime Transportation System.

Activities	IMO's Partners
Showcasing new technology and innovation, development of appropriate global standards and approval procedures	Governments, IGOs, NGOs (including IALA, IACS and ISO), industry (including shipbuilders and manufacturers)
Encourage development of new technology and innovation to meet future needs for the Maritime Transportation System, including energy sources	Governments, IGOs, NGOs (including IALA, IACS and ISO), industry (including shipbuilders and manufacturers)
Encourage industry to take up new technology and innovation, and to provide feedback on experiences and results	Governments, classification societies, industry, NGOs
Encourage scientific research and development activities and incorporate results into activities of IMO and classification societies	IMO, Governments, NGOs, industry, seafarers' representatives, classification societies
Develop and maintain a database of relevant technology and systems to comply with new or existing legislation, starting with new designs and technologies for EEDI compliant ships	Governments, classification societies, industry
Promote partnerships between academic and/or research institutions and the maritime industry for targeted results	Industry, academic/research institutions (including classification societies), industry (including shipbuilders and manufacturers)

9. FINANCE, LIABILITY AND INSURANCE MECHANISMS

Goal 1 – A Sustainable Maritime Transportation System should be supported with available, sound financing for construction of new ships or conversion or modification of existing ships in order to meet requirements for safety and the environment, bearing in mind the cyclical nature of the shipping sector.

Goal 2 – A Sustainable Maritime Transportation System relies on regulations governing liability and compensation in the event of maritime incidents as these provide much needed liability limits and compensation for loss or damage caused to third parties. An international regulatory framework that promotes a harmonized approach to the allocation and enforcement of liabilities and related insurance requirements will help to ensure that costs are kept at reasonable levels, while those suffering loss or damage are assured prompt compensation.

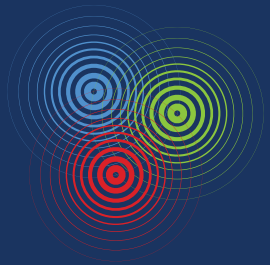
Activities	IMO's Partners
Highlight the benefits of a "level playing field" and financial security deriving from broad ratification and implementation of international liability and compensation schemes against the consequences of maritime incidents	Governments, industry, financial and insurance sectors
Create awareness of the chain of actors in the value chain of Maritime Transportation System to ensure fair access to sound financing	Governments, industry, UNCTAD, WTO, financial and insurance sectors
Create awareness of future regulations and promote financial mechanisms to ensure compliance, including retrofitting of existing vessels	Governments, industry, UNCTAD, financial and insurance sectors

10. OCEAN GOVERNANCE[4]

Goal – Actors engaged in different uses of the ocean must engage in outreach and coordination in the interests of ocean protection and good ocean governance. The aim should be harmonization of initiatives, and there should be a thorough discussion of the effects of envisaged measures and regulations on the Maritime Transportation System in order to ensure that it is sustainable and can continue to provide its services effectively.

Activities	IMO's Partners
Ensure freedom of navigation for ships of all flags under the provisions of UNCLOS	UN bodies (including ECOSOC), Governments
Engage in "use of the seas" initiatives and information sharing, with a view to coordinating trade, environmental and safety aspects (i.e. Special Areas– including PSSAs, Arctic navigation, etc.)	UN bodies, Governments, Arctic Council, World Ocean Council
Engagement to develop and implement the World Bank's Global Partnership for Oceans (GPO)	World Bank, UN bodies, NGOs

4. This document is aimed at the transport dimension of the Maritime Transportation System, and as such does not cover for example fisheries and offshore resource exploitation



SUSTAINABLE DEVELOPMENT:

IMO'S CONTRIBUTION BEYOND RIO+20