COVER STORY

CLIMATE CHANGE: a challenge for IMO too!

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Despite the inertia that characterized initial reactions to early warnings concerning global warming and ocean acidification, it is encouraging that, albeit belatedly, we have now come to acknowledge that increased concentrations of greenhouse gases and the resulting increases in global temperatures are altering the complex web of systems that allow life to thrive on Earth: cloud cover, rainfall, wind patterns, sea levels and ocean currents, and the distribution of plant and animal species, are, to various degrees, all being affected.

Mankind is on the horns of a dilemma. For, whether we like it or not, our collective way of life has become unsustainable and we need to do something about it – and soon. The choices we have made about the way we lead our lives have been slowly eating away at the very support system that enables us to live and breathe. This cannot, and should not, go on. We need to make some tough decisions, we need to make them now and we need to act on them as one, with total and undivided commitment – today and in the future. Faced with facts we cannot argue against, we need to consider our priorities and accept that we have to make certain sacrifices; we need to start putting “life” ahead of “lifestyle”.

As a result of past and current emissions of what we now know to be “greenhouse gases”, climate change seems to have become inevitable. The climate does not respond immediately to external influences but, after 150 years of industrialization, global warming now has momentum and it will continue to affect the earth’s natural systems for hundreds of years, even if greenhouse gas emissions are reduced immediately and their levels in the atmosphere stop rising.

To introduce a maritime analogy, climate change is like a giant oil tanker, in that, to stop it, or even to alter its course, not only takes a massive force but also a considerable amount of time and distance – even though it only takes a light push on the right button on the engine panel or the autopilot to actually initiate the action of stopping or changing course. In the analogy, the oil tanker is the world going about its business – both marine and atmospheric. Having, in 2008, achieved a breakthrough in our efforts to reduce air pollution from ships, we are now energetically pursuing the limitation and reduction of greenhouse gas emissions from shipping operations – indeed, when considering which theme to choose for this year’s World Maritime Day, we unanimously opted for “Climate change: a challenge for IMO too!” in recognition of the intense focus this topic is receiving within the Organization, especially this year.

Our work on this hugely important subject stems from the genuine concerns for the environment of our Member States and the industry organizations that help us make balanced decisions in the pursuit of the Organization’s objectives – not to mention those entrusted to us under the United Nations Framework Convention on Climate Change and its Kyoto Protocol, which specifically provide that the limitation or reduction of emissions of greenhouse gases from ships should be pursued through IMO.

To that end, IMO has established an ambitious but achievable action plan and is now working towards the finalization of a robust regime that will regulate shipping at the global level and contribute to the deceleration of climate change. Much progress has been made by our Marine Environment Protection Committee on the development of an Energy Efficiency Design Index for new ships and a Ship Energy Management Plan for all ships (which includes guidance on best practices for fuel-efficient ship operations) and an Energy Efficiency Operational Indicator (which helps to determine the fuel efficiency of a ship).

All these efforts, together with a progress report on our discussions on potential market-based mechanisms, will result in a comprehensive package of measures that IMO will be able to convey to the Copenhagen Conference I mentioned previously.

Aside from the regulatory arena, which is IMO’s main field of competence and responsibility, the shipping industry itself has made considerable progress, from a technical perspective, to address energy efficiency issues. A range of technologies is available that could reduce the emissions from new ships, per tonne/mile, by 15 to 25 per cent, depending on the ship type and size. Some of these are cost-effective in times of high oil prices, while

At IMO, we are heavily and consistently engaged in the fight to protect and preserve our environment – both marine and atmospheric. Having, in 2008, achieved a breakthrough in our efforts to reduce air pollution from ships, we are now energetically pursuing the limitation and reduction of greenhouse gas emissions from shipping operations – indeed, when considering which theme to choose for this year’s World Maritime Day, we unanimously opted for “Climate change: a challenge for IMO too!” in recognition of the intense focus this topic is receiving within the Organization, especially this year.

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In a speech to industry leaders in India in February of this year, United Nations Secretary General Ban Ki-moon accurately summed up the situation, when he said, “Industrialized countries bear a great deal of responsibility for the state of the planet today. And they must bear their share of the burden when it comes to paying for solutions. But, at the same time, countries, which did not contribute as much to global warming, still have a responsibility to address it. I don’t think this is the time for finger pointing.” Unquote.

Were I to paraphrase President Obama’s speech at the Cairo University on 4 June, this is how I would address those who represent industrialized countries and those who represent emerging economies and the developing world: “The two groups are not exclusive and need not be in disharmony with each other. Instead, they overlap and share common principles and objectives: for a safer, more secure and, certainly, cleaner, greener and healthier environment. Humbled by the task before us to do our duty towards our environment, I ask the IMO Members and industry organizations to endorse the belief that the interests we share as citizens of this planet are far more powerful than the forces that drive us apart. All of us share this world for but a brief moment in time. The question is whether we spend that time focused on what pushes us apart or whether we commit ourselves to an effort – a sustained effort – to find common ground and to focus on the future we seek for our children; whether to continue the controversy as to who is to blame for the state of the planet and who should take the first step or how we should all, together, use our gifts to halt the destruction of our common heritage and bequeath, to generations to come, a world we will be proud of.”

The message is clear: to succeed in combating climate change, we must work together and play our part with the seriousness that the circumstances demand. If the problem pays no heed to man-made borders, then neither can the solution. We all have a responsibility to take bold, comprehensive and coordinated action that not only jump-starts the recovery of the planet but also launches a new era of serious and meaningful engagement to prevent a crisis, like the one we are facing at present, from worsening or recurring. Working together, with a sense of responsibility for future generations, the agreements the Copenhagen Conference will be able to make later this year can have genuine and lasting value.

From the human perspective, difficult issues such as poverty, disease, uneven economic development and population growth are additional factors that serve to exacerbate and complicate the problem. Climate change and our response to the multi-faceted problems it represents has really become “the defining challenge of our age.” Let there be no doubt that, as the 2009 World Maritime Day theme proclaims, it is a challenge for IMO too and that we – Member States, international shipping and the IMO Secretariat – are fully engaged in helping to redress it.
MEPC measures address GHG emissions

IMO’s Marine Environment Protection Committee (MEPC) has agreed to disseminate a package of interim and voluntary technical and operational measures to reduce greenhouse gas (GHG) emissions from ships, as well as a work plan for further consideration of market-based instruments to provide GHG-reduction incentives for the shipping industry.

The agreed measures include guidance on the development of a Ship Energy Efficiency Management Plan, for new and existing ships.

The agreed measures are intended to be used for trial purposes until the Committee’s sixtieth session in March 2010, when they will be refined, as necessary, with a view to facilitating decisions on their scope of application and enactment. The measures include:

- Interim guidelines on the method of calculation, and voluntary verification, of the Energy Efficiency Design Index for new ships, which is intended to stimulate innovation and technical development of all the elements influencing the energy efficiency of a ship from its design phase; and
- Guidance on the development of a Ship Energy Efficiency Management Plan, for new and existing ships, which incorporates best practices for the fuel efficient operation of ships; as well as guidelines for voluntary use of the Ship Energy Efficiency Operational Indicator for new and existing ships, which enables operators to measure the fuel efficiency of a ship.

Market-based instruments

The Committee held an in-depth discussion on market-based instruments and agreed a work plan for its further consideration of the topic, as of its next session (MEPC 60, March 2010), to build on discussions and submissions to date, taking into account also relevant outcomes of the climate change conference (COP 15) that the United Nations is to convene in Copenhagen in December 2009.

The Committee noted that there was a general preference for the greater part of any funds generated by a market-based instrument under the auspices of IMO to be used for climate change purposes in developing countries through existing or new funding mechanisms under the United Nations Framework Convention on Climate Change (UNFCCC) or other international organizations.

Greenhouse gas study 2009

The MEPC was assisted in its deliberations by the outcome of the Second IMO GHG Study, 2009, which is the most comprehensive and authoritative assessment of greenhouse gas emissions from ships engaged in international trade.

The Study estimated that ships engaged in international trade in 2007 contributed about 2.7 per cent of the world’s anthropogenic CO2 emissions and also states that emission reductions are feasible through technical and operational measures as well as through the introduction of market-based reduction mechanisms.

In the absence of global policies to control GHG emissions from international shipping, these emissions may increase by between 150 and 250 per cent by the year 2050 due to the expected continued growth in international seaborne trade, according to the study.

The outcome of the MEPC on GHG emissions from ships will be reported to COP 15, which will consider a successor instrument to the Kyoto Protocol to the UNFCCC.
MSC issues revised piracy guidance

Revised guidance on combating piracy and armed robbery against ships, as well as specific guidance relating to the continued attacks off the coast of Somalia and in the Gulf of Aden, was agreed by IMO’s Maritime Safety Committee (MSC) when it met for its 86th session (27 May – 5 June)

The MSC agreed updated Recommendations to Governments for preventing and suppressing piracy and armed robbery against ships; and Guidance to shipowners and ship operators, shipmasters and crews on preventing and suppressing acts of piracy and armed robbery against ships. The guidance to shipmasters and crew includes a new annex aimed at seafarers, fishermen and other mariners who may be kidnapped or held hostage for ransom, based on the current United Nations guidance on “surviving as a hostage”.

An MSC circular on Piracy and armed robbery against ships in waters off the coast of Somalia was agreed, to include Best Management Practices to Deter Piracy in the Gulf of Aden and off the Coast of Somalia, which have been developed by industry organizations, and additional guidance to vessels engaged in fishing, identified as being particularly vulnerable to attack.

The MSC agreed that flag States should strongly discourage the carriage and use of firearms by seafarers for personal protection or for the protection of a ship. Seafarers, it was agreed, are civilians and the use of firearms requires special training and aptitudes and the risk of accidents with firearms carried on board ship is great. Carriage of arms on board ship may encourage attackers to carry firearms or even more dangerous weapons, thereby escalating an already dangerous situation. Any firearm on board may itself become an attractive target for an attacker. Carriage of firearms may pose an even greater danger if the ship is carrying flammable cargo or similar types of dangerous goods.

It was agreed that the use of unarmed security personnel is a matter for individual shipowners, companies, and ship operators to decide. The carriage of armed security personnel, or the use of military or law-enforcement officers (duly authorized by the Government of the flag State to carry firearms for the security of the ship) should be subject to flag State legislation and policies and is a matter for the flag State to authorize, in consultation with ship owners, companies and ship operators.

The MSC also agreed proposed amendments to the Code of practice for the investigation of the crimes of piracy and armed robbery against ships (resolution A.922(22)), for consideration by the IMO Assembly later this year.

The number of acts of piracy and armed robbery against ships reported to the Organization to have occurred in 2008 was 306, against 282 during 2007, representing an increase of 8.5 per cent. In the first four months of 2009, 157 incidents were reported to IMO.

Wreck Removal Convention gets first ratification


The Convention was adopted by a five-day Diplomatic Conference held in Nairobi in May 2007 and will enter into force 12 months following the date on which ten States have either signed it without reservation as to ratification, acceptance or approval or have deposited instruments of ratification, acceptance, approval or accession with IMO.

When it enters into force, the Convention will provide the legal basis for States to remove, or have removed, shipwrecks that may have the potential to affect adversely the safety of lives, goods and property at sea, as well as the marine environment.

Uganda becomes Member State

Uganda has become the latest Member of IMO, following the deposit, on 30 June 2009, of an instrument of acceptance of the Convention on the International Maritime Organization, as amended, with the Secretary-General of the United Nations. With the accession of Uganda, the number of IMO Member States stands at 169, with a further three Associate Members.
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In a packed agenda, MSC 86 adopted amendments to the International Convention for the Safety of Life at Sea (SOLAS), including a new regulation to make the carriage of electronic charts mandatory, and the approval of goal-based standards for new oil tankers and bulk carriers, for future adoption.

Amendments to SOLAS regulation V/19, to make mandatory the carriage of Electronic Chart Display and Information Systems (ECDIS) and Bridge Navigational Watch Alarm Systems (BNWAS), under SOLAS chapter V, Safety of Navigation, were adopted, with an expected entry-into-force date of 1 January 2011. The requirements will be mandatory for new ships and phased in for existing ships.

Goal-based construction standards
The MSC approved international goal-based ship construction standards for bulk carriers and oil tankers, together with proposed amendments to SOLAS Chapter II-1 making their application mandatory, for consideration at MSC 87 with a view to adoption.

The proposed SOLAS regulation II-1/3-10 on Goal-based ship construction standards for bulk carriers and oil tankers would apply to oil tankers and bulk carriers of 150m in length and above. It would require new ships to be designed and constructed for a specified design life and to be safe and environmentally friendly, in intact and specified damage conditions, throughout their life. The ship should have adequate strength, integrity and stability to minimize the risk of loss of the ship or pollution to the marine environment due to structural failure, including collapse, resulting in flooding or loss of watertight integrity.

The MSC also approved, in principle, Guidelines for verification of conformity with goal-based ship construction standards for bulk carriers and oil tankers, for adoption at MSC 87. Draft Guidelines for the information to be included in a Ship Construction File were considered and will be further developed at the next MSC session.

The goal-based standards have been developed on the basis of a five-tier system, consisting of goals (Tier I), functional requirements (Tier II), verification of conformity (Tier III), rules and regulations for ship design and construction (Tier IV) and industry practices and standards (Tier V). The proposed goal-based standards reflect tiers I to III.

LRIT progress
The MSC was updated on the implementation status of the LRIT system and considered the outcome of the seventh session of the Ad Hoc LRIT Group, which met in March. The LRIT system, as from 1 January 2009, is in production and is being implemented by all SOLAS Parties. Some LRIT Data Centres are still undergoing testing and they are expected to complete the full integration into the LRIT system before 30 September 2009. In the meantime, contractual arrangements for receiving and providing LRIT information between LRIT Data Centres are under consideration.

The MSC agreed guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information; guidance to search and rescue services in relation to requesting and receiving LRIT information; and an MSC circular on information communicated to the Organization in relation to the establishment of LRIT Data Centres and their position in relation to developmental testing in the production of the LRIT system. The latter instructs the IMO Secretariat to make available a list showing the SOLAS Contracting Governments that have established LRIT Data Centres which have been integrated into, and are operating in, the LRIT system and the status of LRIT arrangements within other Contracting Governments.

STCW review
The MSC approved, in principle, the preliminary draft revised text of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 1978, as amended, and the STCW Code, prepared by the Sub-Committee on Standards of Training and Watchkeeping (STW).

The Committee authorized the holding of an ad hoc intersessional meeting of an STW working group, from 7 to 11 September 2009, to progress the work, with a view to finalization at STW 41 in January 2010. STW 41 would then finalize the draft text of amendments to the STCW Convention and Code, with a view to their circulation for consideration by a Diplomatic Conference, scheduled for mid-2010.

MSC agrees mandatory ECDIS by 2011
ECDIS are already commonplace by new regulations will make them mandatory in 2011
**MODU Code 2009 approved**

The draft Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009, which revises and updates the MODU Code adopted in 1989 (resolution A.649(16)), was approved, prior to submission to the IMO Assembly for adoption.

The MODU Code provides an international standard for mobile offshore drilling units of new construction, to facilitate the international movement and operation of these units and ensure a level of safety equivalent to that required by the SOLAS Convention and the 1988 Protocol to the Load Lines Convention for conventional ships engaged on international voyages.

**Alerts and Indicators - code approved**

The draft Code on Alerts and Indicators, 2009 was approved by the MSC. It is also being submitted to the Marine Environment Protection Committee (MEPC), in July, for concurrent approval and submission to the IMO Assembly for adoption.

The Code is intended to provide general design guidance and to promote uniformity of type, location and priority for alerts and indicators required by the SOLAS Convention, including relevant performance standards, and by the MARPOL Convention, as well as by other associated instruments and codes. The Code, when adopted, will update, revise and replace the Code on Alarms and Indicators, 1995 (resolution A.830(19)).

**FSA Experts Group established**

A Formal Safety Assessment (FSA) Experts Group was established to review FSA studies on cruise ships, ro-ro passenger ferries, liquefied natural gas carriers and container ships, which had been carried out within the ‘SAFEDOR’ research project and previously submitted to the MSC.

The MSC agreed to hold an intersessional meeting of the FSA Experts Group to finalize the review and report to MSC 87, to include any recommendations from each FSA study that may require action by the Committee or Sub-Committees.

**Maritime security - self-assessment scheme**

The MSC reviewed Member States’ experience with implementing MSC.1/Circ.1192 Guidance on voluntary self-assessment by SOLAS Contracting Governments and by port facilities and MSC.1/Circ.1194, which includes Guidance on basic elements of national oversight programmes for SOLAS chapter XI-2 and the ISPS Code. Governments, non-governmental organizations and inter-governmental organizations were invited to submit the results of their experiences to the next session.

The MSC agreed Revised guidance to Masters, companies and duly authorized officers on the requirements relating to the submission of security-related information prior to the entry of a ship into port (updating MSC/Circ.1130).

**Other SOLAS amendments**

Other SOLAS amendments adopted, with an expected entry force date of 1 January 2011, include:

- an amendment to SOLAS regulation II-1/3-5.2, to prohibit all new installations of asbestos on board ships, without exceptions; and
- amendments to the title of Chapter VI to read, Carriage of Cargoes “and Oil Fuels” and to Regulation VI/5-1 on Material safety data sheets (MSDS) to require MSDS to be provided for ships carrying oil or oil fuel, prior to the loading of such oil as cargo in bulk or bunkering of oil fuel. The MSC also adopted Recommendations for material safety data sheets (MSDS) for MARPOL Annex I type cargoes and oil fuels.

**Other issues**

The MSC considered other issues arising from the reports of Sub-Committees and other bodies, adopted a number of resolutions and approved other circulars and draft amendments, including:

- the revised Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI)
- Guidelines for the drainage of fire-fighting water from closed vehicle and ro-ro spaces and special category spaces for passenger and cargo ships
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The Technical Co-operation Committee, meeting for its 59th session, approved the Integrated Technical Co-operation Programme (ITCP) for the 2010-2011 biennium, comprising 14 programmes (seven regional and seven global) with funding requirements of some US$22.44 million.

Particular focus is placed on the continued provision of support to Africa and to Small Island Developing States and Least Developed Countries; strengthening the integration of women in the maritime sector; the promotion of partnerships with technical co-operation partners; enhancement of maritime security; and assistance in capacity-building aspects of the Voluntary IMO Member State Audit Scheme.

The ITCP includes an allocation of US$3,850,000, or 17 per cent of the total, for projects in Africa, including the funding of the three regional presence offices (in Abidjan, Accra and Nairobi) and to support the completion of the planned search and rescue network off Africa’s Atlantic and Indian Ocean coasts.

Activities will be organized to assist countries understand and implement the recently adopted Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 and to enhance training capabilities relating to the revised International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), in anticipation of the conference to adopt Amendments to the STCW Convention and STCW Code, scheduled to be held in Manila, the Philippines, in June 2010.

Piracy projects

In view of the increase in attacks of piracy off the coast of Somalia and in the Gulf of Aden, activities for the implementation of the Djibouti Code of Conduct concerning the Repression of Piracy and Armed Robbery against Ships in the Western Indian Ocean and the Gulf of Aden are also included in the ITCP for 2010-2011.

The delegation of Japan informed the Committee that the Japanese Parliament had approved a supplementary budget of US$15 million to support activities for the implementation of the Djibouti Code of Conduct, in particular, to support the establishment of piracy information exchange centres and to develop national legislation on piracy.

The Japanese donation is expected to form the basis of a new, targeted, IMO multi-donor trust fund, to be named the IMO Djibouti Code Trust Fund.

2008–09 ITCP implementation

The Committee noted the interim report on the 2008-2009 biennium, and expressed its appreciation to all the donors who had made cash contributions to the bi- and multi-lateral technical co-operation trust funds and/or provided in-kind support to facilitate the implementation of ITCP activities.

During 2008, 41 advisory missions were carried out, with a preponderance of maritime safety assignments; and 76 training events, including courses, seminars and workshops, were held at national, regional and global levels, covering a wide range of topics and resulting in the training of some 1,923 participants worldwide. In addition, 189 maritime officials attended events aimed at developing and harmonizing regional strategies on maritime technical issues.

Some US$10.3 million were spent on technical co-operation activities in 2008, representing an annual delivery rate of 77 per cent of the agreed budget; in line with the pattern of delivery of more than 70 per cent of the set budget from 2003 onwards.

Non financial inputs were also crucial to the overall success of the regional and national activities, including the hosting of seminars and workshops and the provision of experts and consultants for short-term advisory missions.

Among the various activities supported by the Technical Co-operation Fund, the steady expansion of the search and rescue coverage off the Atlantic and Indian Ocean coasts of Africa was highlighted, with four of the five planned subregional Maritime Rescue Coordination Centres (MRCCs) now in place. The latest MRCC to be commissioned was in Monrovia, Liberia, in April this year, while the signing of a multilateral agreement for the establishment of the fifth, and last, subregional MRCC – in Rabat, Morocco – is expected later in 2009.
Audit-Scheme auditors trained
The Committee was informed that a total of 201 individuals from 134 countries have been trained as auditors for the Voluntary IMO Member State Audit Scheme, through 14 regional courses, with three more courses planned for this year.

So far, 49 Member States have volunteered for audit and 31 audits have been conducted, including one dependent territory.

Millennium Development Goals
The Committee was informed of a number of technical co-operation activities specifically developed to contribute to the implementation of those Millennium Development Goals (MDGs) which fall within IMO’s competence. The Organization was invited to continue giving high priority to those activities which not only promoted the early ratification and effective implementation of IMO instruments, but also contributed to the attainment of the MDGs, taking into account the special needs of Small Island Developing States and Least Developed Countries and the particular maritime transport needs of Africa.

Activities carried out under the global programme on support for Small Island Developing States and Least Developed Countries for their special shipping needs included: one advisory mission on the evaluation and assessment of Search and Rescue (SAR) and Global Maritime Distress and Safety System (GMDSS) facilities for the establishment of a regional MRCC and a Maritime Rescue Sub-centre in the Caribbean; a regional training course on hydrography and a seminar focusing on the development of hydrocartographic capabilities in Pacific Island countries; the establishment of SAR and GMDSS facilities in Africa; needs’ assessment and advisory missions to Cape Verde, Mauritania, the Seychelles and the United Republic of Tanzania; and one four-year fellowship in Verde, Mauritania, the Seychelles and the United Republic of Tanzania. These studies had placed HIV/AIDS issues high on its agenda.

The Committee noted that the regional coordination delivery of ITCP activities as well as to represent IMO plans that would assist port workers with knowledge, skills, programmes and activities to prevent the spread of HIV/AIDS.

With regard to the development and improvement of partnership arrangements for technical co-operation (MDG 8), the Committee was informed that, to date, the Secretariat had concluded 66 partnership arrangements, including the IMO Trust Fund to enhance safety of navigation, environmental protection and security in the Straits of Malacca and Singapore; and the Global Industry Alliance for Marine Biosecurity, to address the transfer of alien species and plants in ships’ ballast tanks.

IMSSEA begins operations in Italy
The Committee noted that the International Maritime Safety, Security and Environment Academy was established in Genoa, Italy, in 2008, as a successor to the Trieste International Maritime Academy.

Since the Academy’s inaugural course on flag State implementation and port State control in October 2008, the Academy has conducted a further three courses covering search and rescue, marine accident investigation procedures and the handling of hazardous cargoes, training a total of 26 individuals from 15 countries. Another three courses, on the handling of dangerous goods, flag State implementation and the ISPS Code, are scheduled for later in 2009.

Regional presence delivers success
The Committee noted that the regional coordination and delivery of the ITCP mechanism had continued to function successfully in Africa and east Asia through the regional presence scheme, and in the Caribbean through the Regional Maritime Adviser.

The Committee was informed that, in the past year, the four IMO regional coordinators in Africa and east Asia had continued to implement and coordinate the delivery of ITCP activities as well as to represent IMO at meetings in their respective sub-regions.

During 2008, the regional coordinators organized 27 regional workshops/seminars and missions, and implemented nine workshops/seminars and three missions. Nine of these activities had focused on the Millennium Development Goals and the regional coordinators had visited 13 countries to provide ad hoc support and advice.

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MEPC adopts ship-to-ship oil transfer rules

Amendments to the MARPOL Convention to prevent pollution during ship-to-ship oil transfer operations were adopted by the Marine Environment Protection Committee (MEPC), when it met for its 59th session. In a packed agenda, the MEPC also agreed to circulate voluntary and interim measures to address greenhouse gas emissions from shipping (see page 6).

The MEPC adopted amendments to MARPOL Annex I for the prevention of marine pollution during some ship-to-ship (STS) oil transfer operations. The amendments are expected to enter into force on 1 January 2011.

The new chapter 8 on Prevention of pollution during transfer of oil cargo between oil tankers at sea will apply to oil tankers of 150 gross tonnage and above and will require any oil tanker involved in oil cargo STS operations to carry a plan prescribing how to conduct STS operations (the STS Plan), which would be approved by its Administration.

Notification to the relevant coastal State will be required not less than 48 hours in advance of the scheduled STS operations, although some relaxation to this rule is allowed in certain, very specific, cases. The regulations are not intended to apply to bunkering operations.
Consequential amendments to the International Oil Pollution Prevention (IOPP) Certificate, the Supplement to the IOPP Certificate and the Oil Record Book were also adopted.

**Oil residue - MARPOL amendments**

Amendments to MARPOL Annex I regulations relating to the on-board management of oil residue (sludge), were adopted. They clarify long-standing requirements and remove existing ambiguities in order to facilitate compliance. Definitions for oil residue (sludge), oil residue (sludge) tanks, oily bilge water and oily bilge water holding tanks are introduced for the first time.

Related amendments to the Supplement to the IOPP Certificate, Form A and Form B, and to the Oil Record Book were also adopted. The amendments are expected to enter into force on 1 January 2011.

**Antarctic protection**

The MEPC approved, with a view to adoption at its next session, proposed draft amendments to MARPOL Annex I on Special requirements for the use or carriage of oils in the Antarctic area.

The proposed draft amendments would add a new chapter 9 with a new regulation 43, which would prohibit the carriage in bulk as cargo, or carriage and use as fuel, of: crude oils having a density at 15°C higher than 900 kg/m³; oils, other than crude oils, having a density at 15°C higher than 900 kg/m³ or a kinematic viscosity at 50°C higher than 180 mm²/s; or bitumen, tar and their emulsions. An exception is envisaged for vessels engaged in securing the safety of ships or in a search and rescue operation.

**ECA proposal approved**

The MEPC approved a proposal to designate specific portions of the coastal waters of the United States and Canada as an Emission Control Area (ECA). The ECA would be for the control of emissions of nitrogen oxides (NOx), sulphur oxides (SOx), and particulate matter, under the revised MARPOL Annex VI Prevention of Air Pollution from Ships, which was adopted in October 2008 and is expected to come into force on 1 July 2010.

The draft amendments to the revised MARPOL Annex VI concerning the proposed ECA will be submitted to MEPC 60 for adoption. Currently, the revised Annex lists two areas for the control of SOx emissions: the Baltic Sea area and the North Sea, which includes the English Channel.

**Annex VI guidelines adopted**

MEPC 59 adopted Guidelines for the development of a volatile organic compound (VOC) management plan; revised Guidelines for monitoring the worldwide average of sulphur; and revised Guidelines for the sampling of fuel oil for determination of compliance with MARPOL Annex VI.

Based on input received by the Joint Group of Experts on the Scientific Aspects of Marine Environment Protection (GESAMP), the Committee also approved Interim criteria for discharge of washwater from exhaust gas cleaning systems (exhaust scrubbers), intended to update the existing criteria contained in the Guidelines for Exhaust Gas Cleaning Systems (contained in resolution MEPC.170(57)).

The Committee also approved circulars on Guidelines for the application of the NOx Technical Code relative to certification and amendments of tier I engines and Definitions for the cost-effectiveness formula in regulation 13.7.5 of the revised MARPOL Annex VI.

**Ship-recycling implementation guidelines**

Following the adoption of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships in May 2009, the Committee adopted Guidelines for the development of the inventory of hazardous materials.

Progress was also made in developing draft Guidelines for safe and environmentally sound ship-recycling. These are the first two guidelines intended to assist with the implementation of the Convention and are crucial for the voluntary implementation of the Convention prior to its entry into force.
Ballast water – new guidance

The MEPC approved Guidance to ensure safe handling and storage of chemicals used to treat ballast water and the development of safety procedures for risks to the ship and crew resulting from the treatment process. This Guidance is intended to assist with the implementation of the 2004 Ballast Water Management Convention.

The MEPC also agreed to give Final Approval to four ballast water management systems that make use of active substances and Basic Approval to three such systems.

The Ballast Water Review Group met during MEPC 59 to consider the status of ballast water technologies. It noted there were currently six Type Approved systems with four additional systems being granted Final Approval at this session. The Committee noted further that the installation of ballast water management systems may require extensive design consideration, such as physical and technical feasibility studies, modification of ships’ designs and provision of sufficient lead time for such modifications.

While acknowledging the difficulties, the Committee agreed that ballast water treatment technologies were available and were currently being fitted on board ships and confirmed that sufficient ballast water management systems would be available for ships constructed in 2010.

Anti-fouling – best practices agreed

The MEPC agreed to disseminate Guidance on best management practices for removal of anti-fouling coatings from ships, including TBT hull paints, which was developed by the Scientific Groups under the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London Convention) and its 1996 Protocol (London Protocol).

ISM Code guidelines

The Joint MSC/MEPC Working Group on the Human Element met during MEPC 59 to consider human element issues. The MEPC agreed proposed draft amendments to the Revised Guidelines on implementation of the International Safety Management (ISM) Code, for submission to the IMO Assembly’s 26th session in November-December 2009, for adoption.

OPRC-HNS model courses approved

The Committee approved two introductory IMO model courses on preparedness for, and response to, HNS pollution incidents in the marine environment, one aimed at the operational level and the second aimed at management level; the revised OPRC Train-the-Trainer course; and a Guidance document on the identification and observation of spilled oil.
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Climate change: a challenge for IMO too!

IMO and the shipping community as a whole are responding to current and emerging environmental challenges seriously, proactively and decisively, motivated by our own green agenda, our desire to serve the best interests of the marine and atmospheric environment and our duty of care for the planet we inhabit and the seas and oceans that sustain us.

There is general agreement among the world’s leading meteorological experts that the surface temperature of the earth has risen by around 0.6°C over the past 100 years. The relevant organs of the United Nations Framework Convention on Climate Change (UNFCCC) estimate that the average temperature of the earth’s surface has risen by as much as 0.74°C since the late 1800s and that, unless action is taken, it will increase by another 1.8°C to 4°C by the year 2100 – a change which it characterizes as “rapid and profound”. Even if the minimum predicted increase takes place, it will be larger than any century-long trend in the last 10,000 years.

The overwhelming balance of scientific evidence clearly states that we need look no further than the effects of a century and a half of industrialization to find the principal reasons for this alarming phenomenon. The burning of ever-greater quantities of fossil fuels, mainly oil and coal; the cutting down of forests, and the widespread practice of intensive farming methods, together with industrial processes, have all spiralled during the industrial era, and they have all served to increase the amount of so-called greenhouse gases (GHGs) in the atmosphere, especially carbon dioxide, methane, and nitrous oxide.

Such gases occur naturally. Indeed, they are critical for life on earth, as they keep some of the sun’s warmth from reflecting back into space; without them the world would be a cold and barren place. But, in the increasing quantities now being observed, they are pushing the global temperature to artificially high levels and altering the climate that sustains the ecosystems we have depended upon for thousands of years and the way of life we have come to know. Even if all GHG emissions ended today, the long-term effects of the gases already emitted would last for hundreds of years.

To introduce a maritime analogy, climate change is like a giant oil tanker, in that, to stop it, or even to alter its course, not only takes a massive force but also a considerable amount of time – which means that, already, climate change is inevitable, as a result of past and current emissions of GHGs.
Evidence and effects

The evidence for, and the effects of, global warming and the resultant climate change are well documented and the facts are overpowering. Some of these effects are already upon us, some are predicted; some are already inevitable, some might be averted if prompt and concerted action is taken now.

Numerous plant and animal species, already weakened by pollution and loss of habitat, are not expected to survive the next 100 years. Human beings, while not threatened in this way, are likely to face mounting difficulties in the way we conduct our lives. People in developing countries will be hardest hit, due their lack of resources in general and, in particular, a lack of resources they can bring to bear on alleviating the effects of climate change.

Higher temperatures cause the volume of water in the oceans to expand, and melting glaciers and ice caps add more water. As a result, during the 20th century, the average sea level rose by 10 to 20cm, and an additional increase of 18 to 59cm is predicted by the year 2100. If the higher end of that scale is reached, the sea could overflow the heavily populated coastlines of low-lying countries, resulting in tens of millions of displaced humans. The predicted sea-level rise could cause the disappearance of some nations entirely (such as the island State of the Maldives), foul freshwater supplies for billions of people in low-lying areas, and also spur mass migrations.

Agricultural yields are expected to drop in most tropical and sub-tropical regions – and in temperate regions, too – if the temperature increase is more than a few degrees. Computer models have predicted more frequent “extreme weather events” and recent severe storms, floods and droughts appear to show that they are on target. The Rhine floods of 1996 and 1997, the Chinese floods of 1998, the East European floods of 1998 and 2002, the Mozambique and European floods of 2000, and the monsoon-based flooding of 2004 in Bangladesh (which left 60 per cent of the country under water), are all examples of recent extreme rainfall.

By contrast, the drying of continental interiors could cause disruptions in land use and food supply, while the range of diseases such as malaria may expand. In Africa’s large catchment basins of Niger, Lake Chad, and Senegal, total available water has decreased by 40 to 60 per cent, and desertification has been worsened by lower average annual rainfall, runoff, and soil moisture, especially in southern, northern, and western Africa.

In colder climes, the evidence for climate change is perhaps even more pronounced. Average temperatures in the Arctic have increased at almost twice the global rate in the past 100 years. Temperatures at the top of the permafrost layer have generally increased, since the 1980s, by up to 3°C. Buildings and infrastructure have collapsed because permafrost under their foundations has melted.

In mountainous areas, glaciers and snow cover have declined and, as already mentioned, widespread decreases in glaciers and ice caps have contributed to sea level rise. Almost all mountain glaciers in non-polar regions retreated during the 20th century. This is a dramatic change, as glaciers are the main source of water both for households and irrigation in large parts of the world, often far from the glaciers themselves. As an illustration, the overall volume of glaciers in Switzerland has decreased by two-thirds and the same trend may be observed in all regions of the world.

As if all this were not evidence enough, there are also numerous examples of changing phenomena in the plant and animal kingdoms that point clearly to global warming.

In the European Alps, for example, some plant species have been migrating upward by one to four metres per decade, and some plants previously found only on mountaintops have disappeared. The growing season for many plants has lengthened by several days.

Elsewhere in Europe, mating and egg-laying of some bird species has occurred earlier in the season; butterflies, dragonflies, moths, beetles and other insects are now living at higher latitudes and altitudes, where previously it was too cold for them to survive.

Acidification of the oceans, a related phenomenon, also represents a potentially gigantic problem. There is an equilibrium between atmospheric CO₂ and the CO₂ dissolved in seawater: as atmospheric levels increase, so do the levels of CO₂ dissolved in the ocean waters, especially in the surface waters where most ocean life flourishes. The dissolved CO₂ reacts with the sea water to form carbonic acid (H₂CO₃), increasing the acidity of the water – to the point where many of the marine species we rely on for food could well disappear.

Climate change and shipping

The environmental credentials of every country and industry are now under sharper scrutiny than ever before. The pressure is mounting for every potential polluter, every user of energy and every conspicuous
Shipping is the delivery mechanism of global trade and will remain so for the foreseeable future (pic: Port of Felixstowe)

Some of these effects are already upon us, some are predicted; some are already inevitable, some might be averted if prompt and concerted action is taken now”

contributor to global warming and climate change to clean up their act and adopt greener practices. The transport industry is no exception to such scrutiny and pressure; and environmental concerns are now high on the agenda in all of its sectors, including shipping.

There is no avoiding the fact that the modern world has become utterly dependent on motorized transport systems that run largely on fossil fuels: an engine burning fossil fuel will, inevitably, emit a quantity of GHGs, principally CO₂ – emissions that are now widely accepted as being significant contributory factors towards global warming, climate change and ocean acidification.

In terms of CO₂ emissions per tonne of cargo transported one mile, shipping is recognized as the most efficient form of commercial transport. Yet the enormous scale of the global shipping industry, which is responsible for the transportation of the overwhelming majority of world trade, means that it produces around three per cent of global man-made GHG emissions.

The most authoritative figures for the impact of shipping on GHG emissions are to be found in the Second IMO GHG Study, 2009 – an update of the original IMO study, dated 2000. The 2009 study reaches a number of significant conclusions:

- Exhaust gases are the primary source of emissions from ships. Carbon dioxide is the most important GHG emitted by ships, both in terms of quantity and of global warming potential.
- Mid-range emission scenarios suggest that, by 2050, in the absence of reduction policies, ship emissions may grow by between 150 per cent and 250 per cent (compared to the emissions in 2007) as a result of the growth in world trade.
- A significant potential for reduction of GHGs through technical and operational measures has been identified. Together, if all measures are implemented, they could increase efficiency and reduce the emissions rate by 25 per cent to 75 per cent below the current levels, on a tonnes/miles basis, depending on the ship type and actual trade and operating pattern.
- Shipping has been shown, in general, to be an energy-efficient means of transportation compared to other modes. However, not all forms of coastal and short-sea shipping are more carbon efficient than all other forms of transport.

The challenge of reducing carbon emissions is, therefore, undoubtedly a critical issue for the shipping industry. As the industry’s regulator, IMO shares this concern and is heavily engaged in efforts to pursue the limitation and reduction of greenhouse gas emissions from ships. Indeed, the Organization has adopted “Climate change – a challenge for IMO too!” as the theme for this year’s World Maritime Day, in recognition of the intense focus this topic is receiving.
“IMO has established an ambitious but achievable action plan and is working towards the development and adoption of a robust regime that will regulate shipping at the global level and, thus, contribute to the deceleration of climate change.”

Throughout the Organization and the global community in 2009.

IMO’s work to regulate GHG emissions
IMO’s work on this hugely important topic stems from the genuine concerns of its Member States for the environment. Moreover, the Kyoto Protocol to the United Nations Framework Convention on Climate Change provides that the limitation or reduction of emissions of greenhouse gases from ships must be pursued through IMO.

To that effect, IMO has established an ambitious but achievable action plan and is working towards the development and adoption of a robust regime that will regulate shipping at the global level and, thus, contribute to the deceleration of climate change.

Significant progress has been made in developing a package of measures, most notably an Energy Efficiency Design Index for new ships, an Energy Efficiency Operational Indicator for all ships and guidance on best practices for the entire shipping industry. An advanced draft of each of these, and other measures, was presented to the 59th session of IMO’s Marine Environment Protection Committee (MEPC 59), in July 2009, which agreed to their circulation.

The first of these, the Energy Efficiency Design Index for new ships, is a formula to determine a ship’s use of energy in transporting the cargo it is intended for, at the intended speed. The index figure for each ship will be determined at the design stage and possibly be verified at the sea trial. A better index figure for a ship may be obtained by including more sophisticated systems in the design that can, for example, reduce resistance, reduce the required propulsion energy or use the energy more efficiently, e.g. improved hull shape or air lubrication systems to reduce resistance through the water, improved engines, propellers and the use of diesel-electric systems as well as wind-assisted propulsion power or solar energy to provide lighting, or waste heat recovery systems and shaft generators to improve the efficiency of the fuel used.

The Energy Efficiency Operational Indicator is a rating of how efficiently a given ship is operated – i.e. how much cargo it moves for the fuel used. It works by calculating cargo, fuel and distance for each voyage leg, averaged over a period (usually 12 months). As it will provide a standardized way of communicating a ship’s energy performance in operation, it may be used by ports to differentiate their fees (green ports), and be used by charterers or cargo owners in connection with energy efficiency branding or in negotiating sub-contracts.

It has been available in interim form since 2005, since when IMO has received results from hundreds of trials conducted, over several years, allowing the compilation of a huge volume of CO₂ data and leading to the observation that identical ships in seemingly similar trades may produce different results depending on different operation patterns or weather conditions. Operational differences concerning the specific utilization of individual ships involved in the trials may lead to significant variations; parameters, such as the length of time spent waiting in port areas, the length of ballast voyages, whether a ship is fully laden or not, can also produce different results.

The wide range of operational measures that affect GHG emissions from shipping mean that the involvement of stakeholders, other than the shipowner (e.g. ports and port operators/authorities, charterers, cargo owners and other authorities), is beneficial. IMO has, therefore, developed guidance for the entire shipping sector for the best possible energy-efficient operation of ships, to raise awareness, and to understand and explore possibilities.

Despite the current economic downturn, international trade is projected to continue growing and, with it, international maritime transport. Recognizing that technical and operational measures may not be sufficient to reduce the desired amount of GHG emissions from international shipping, market-based mechanisms have also been considered over
recent years. A market-based mechanism would serve two main purposes: off-setting growing ship emissions in other sectors and incentivizing the industry to invest in more fuel-efficient ships and to operate them more efficiently. In addition, a market-based mechanism could generate considerable funds that could be used for purposes such as adaptation and transfer of technology into developing countries. The two market-based instruments that have received most attention are a maritime emissions trading scheme and an international GHG fund, based on contributions made in proportion to fuel consumption.

The shipping industry – taking responsibility

While IMO works to produce a regulatory regime for the international shipping industry, the industry itself has not been slow to understand its own responsibilities with regard to GHG emissions. In recent years, not only has it contributed through its industry organizations to the technical and regulatory process at IMO, it has also been responsible for generating its own technical and operational developments to help reduce GHG emissions from ships.

Carbon emissions and fuel efficiency are directly linked. In simple terms, the less fuel burned, the smaller the volume of carbon emissions. In recent decades, led by its marine engineers, shipping has developed more efficient propulsion systems and propeller designs that have yielded considerable reductions in fuel consumption. Engine technology has evolved to the extent that modern main propulsion systems for ships consume about 10 per cent less fuel than their predecessors installed some ten years ago, but with the same power output. Naval architects, too, have made their contributions; significant improvements in hydrodynamics and in vessel hull design have brought reductions of between two and four per cent in fuel consumption.

Based on the industry’s continuous endeavours to achieve better results, additional improvements in hull, engine and propeller design can be expected, in the future, to produce further reductions in fuel consumption and there may also be possibilities for better utilization of waste heat. However, while work in these complex technical areas is ongoing, and some of these improvements may possibly materialize on board new ships within the short to medium term, it might be very difficult to apply these new technologies to existing ships. The solution for the existing fleet may, therefore, lie in improving the efficiency of certain aspects of their operation.

These are complex issues. Travelling at slower speeds, for example, might help reduce emissions; but it might also mean that more ships will be needed to transport the same quantity of cargo – not to mention that steaming at slower speeds would also have implications for the timely delivery of goods, such that receivers who have grown accustomed to a world of “just in time” delivery, and calculated their inventories of raw materials, components and other products accordingly, may need to make some adjustment in this regard.

Larger ships, while offering undoubted economies of scale, also have implications for port capacity and facilities, which would need to increase to accommodate them. They might also need to be supported by expanded networks of “feeder services”, using smaller ships. Clearly, detailed studies of the net environmental benefits of such initiatives and practices are still needed.

Marine engineers are also actively

“Despite the current economic downturn, international trade is projected to continue growing and, with it, international maritime transport”

Shipping contribution to global CO₂ emissions

Shipping is, overall, only a modest contributor to the total volume of greenhouse gas emissions, seen in the light of its services to the global community.
conducting research into a number of alternative fuel sources and new energy sources such as solar, wind and fuel cells in order to help reduce carbon emissions.

For example, due to its lower carbon content, liquefied natural gas (LNG) can be used as an alternative clean fuel containing no sulphur and almost eliminating the emissions of particulate matter; moreover, nitrogen oxide emissions are reduced by up to 90 per cent. There are technical and safety challenges related to the use of LNG as a marine fuel, in particular as it requires three times the storage space of liquid fuels and, in general, it will only be feasible for newbuildings.

The potential CO₂ reduction from the use of LNG is about 25 per cent but, due to an increase in the emissions of methane, with current technology, this benefit is reduced to about 15 per cent, although the full potential may, nonetheless, be achieved by new technology in the future.

The lack of LNG infrastructure and availability in bunkering ports, together with the challenges related to long-term storage, indicates that it might be more suitable for implementation by ships on fixed routes and short-sea shipping.

Fuel cells, too, may be a possibility for new ships in the long term. Although they are currently too limited in range to offer a viable solution, significant development work is going on. Small passenger ferries are being used for full-scale tests and fuel cells are also being tested on board vessels for auxiliary power generation.

Nuclear propulsion is technically feasible, although the costs associated with the support infrastructure could be a serious drawback to its more general use in merchant ships.

Biofuels might, conceivably, provide a possible alternative although there is, of course, considerable public debate about the net environmental benefits and the social effects of their wider utilization due to the production method of the so-called first generation of biofuels. Their use by shipping is currently seen as uneconomic, with uncertainty about sustainable availability in the large quantities that would be required, given the high demand anticipated from land transport. There are some technical challenges related to the storage and use of biofuels on board ships that need further studies but, in general, it is the uncertain net environmental benefit, as well as the price, that constitute the main obstacles.

It is evident that, while renewable energy sources, such as solar power, may have their place in helping to meet some ancillary requirements (such as lighting) on board ships, they are not considered as practical alternatives when it comes to providing primary propulsion power. Current solar-cell technology is sufficient to meet only a fraction of the auxiliary power requirements of a tanker, even if the entire deck area were to be covered with photovoltaic cells. Wind-assisted power, on the other hand, has a promising potential for fuel-saving in the medium and long term but, as present-day trial experiences of these technologies on board large vessels is limited, it is difficult to assess their full potential and further trials and development should be encouraged.

Despite all this excellent and encouraging “blue sky thinking” from academia and the industry, it seems inevitable, however, that fossil fuels will probably continue to be the predominant source of power for the majority of the shipping industry for the foreseeable future.

And, while it is very difficult, at this stage, to make detailed predictions about the improved fuel efficiencies that might be achieved in the future for individual ships – not least because these will vary significantly between ship types and trades – it has been suggested that, by 2020, a combination of regulatory, design and operational measures might possibly deliver a reduction of around 17 to 32 per cent in the fuel consumed by ships per tonne/mile of cargo transported. However, it is important to stress that work on these complex issues is still continuing, that more efficient and sophisticated ships will be more expensive and that many measures may not be cost-effective for a range of ships and trades.

What should always be remembered is that the size and activity level of the world fleet is, ultimately, governed by consumer demand, and this will remain the most significant driver for emissions from ships. Other important factors are distance and technology. The volumes transported will depend on developments in trade, locations of factories, consumption of raw materials and other factors, while the distance will be affected by issues such as changing trade patterns or possible new sea routes.

Thus, while it may be possible to reduce GHG emissions per tonne/mile in a moderately significant way (perhaps by 15 to 25 per cent in the next 5 to 15 years, as mentioned above, with new, more fuel-efficient and bigger ships eventually bringing additional improvements), it would be almost

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**Estimated CO₂ emissions (million tonnes) for total world fleet and fishing vessels – 2007**

<table>
<thead>
<tr>
<th></th>
<th>Number of ships</th>
<th>Gross Tonnage (GT)</th>
<th>Deadweight Tonnage (DW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annex I flag States</td>
<td>20,906 (32.73%)</td>
<td>219,400,752 (25.46%)</td>
<td>276,086,985 (22.28%)</td>
</tr>
<tr>
<td>Non-Annex I flag States</td>
<td>42,959 (67.27%)</td>
<td>642,327,003 (74.54%)</td>
<td>963,221,984 (77.72%)</td>
</tr>
<tr>
<td>Total</td>
<td>63,865</td>
<td>861,727,755</td>
<td>1,239,308,969</td>
</tr>
</tbody>
</table>

(Source: Lloyd’s Register-Fairplay database: 1 March 2009, world merchant fleet of ships above 400 GT)

*Annex I to the United Nations Framework Convention on Climate Change*
impossible to guarantee any absolute reduction by shipping as a whole, due to the projected growth in demand for shipping worldwide arising from the growing world population and global economy.

On the other hand, shipping companies themselves have a very strong incentive to reduce their fuel consumption and thus reduce their GHG emissions. Bunker fuel costs represent a significant proportion of ships’ operational expenses, having increased by significant amounts in recent years. The escalating cost of bunker fuel burned by ships (expected to increase further due to the imminent requirements for fuels of lower sulphur content) means that further improvements in efficiency are a matter of enlightened self-interest for shipowners.

As an interesting aside, fuel costs are already having an impact on the competitiveness of certain maritime trades. For example, short-sea and coastal shipping are often in direct competition with land transport modes. This is where “big picture” thinking is so important; the danger that efforts to reduce GHG emissions from shipping might actually result in a modal shift to other, less carbon-efficient forms of transport, clearly needs to be avoided.

The global regulatory situation
During the 1960s and 1970s, the scientific community first began to observe evidence that concentrations of carbon dioxide in the atmosphere were increasing and that, as a result, the phenomenon that we now know as global warming was underway. Climatologists and others pressed for action but it was not until 1988 that the Intergovernmental Panel on Climate Change (IPCC) was created by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). This group issued a first assessment report in 1990 which reflected the views of 400 scientists. The report stated that global warming was real and urged that something be done about it.

The Panel’s findings spurred Governments to develop the United Nations Framework Convention on Climate Change (UNFCCC). By the usual standards for international agreements, negotiation of the Convention was rapid. It was ready for signature at the 1992 United Nations Conference on Environment and Development – more popularly known as the “Earth Summit” – in Rio de Janeiro, Brazil.

Most of the world’s countries have since become party to the UNFCCC and, under its umbrella, have to consider both what can be done to reduce global warming and how to cope with whatever temperature increases are inevitable.

In 1997 when the Parties to the UNFCCC met in Japan, a number of nations approved
an addition to the treaty, called the Kyoto Protocol, which has more powerful (and legally binding) measures. This second, more far-reaching international treaty on climate change, entered into force on 16 February 2005.

Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere, as a result of more than 150 years of industrial activity, the Kyoto Protocol places the obligation for emission reductions on developed nations under the principle of “common but differentiated responsibilities.”

The major distinction between the Protocol and the Convention is that, while the Convention encouraged industrialized countries to stabilize GHG emissions, the Protocol commits them to do so. It sets binding targets for industrialized countries for reducing GHG emissions. These amount to an average of five per cent against 1990 levels over the five-year period 2008-2012.

With this first commitment period due to end in 2012, the international community is now working to establish a strong multilateral framework to ensure that there is no gap between the end of the Kyoto Protocol’s first commitment period in 2012 and the entry into force of a future regime. An initial plan for the development of a post-Kyoto regime was agreed at the United Nations summit in Bali, in December 2007, at which IMO was represented. This post-Kyoto regime will be adopted at a major UN Conference on climate change in Copenhagen, Denmark, in December 2009, to which IMO will report the progress it has made on the issue through the MEPC.

A responsibility shared

It is widely acknowledged that global warming almost certainly will be unfair in the way it affects people. Those who have done most to cause it will not be those who suffer its consequences most acutely. According to the UNFCCC, the industrialized countries of north America and western Europe, along with a few other States, such as Japan, are responsible for the vast bulk of past and current GHG emissions. Large emerging economies have also become major emitters.

Yet those who will suffer most from climate change will be in the developing world. They have fewer resources for coping with storms, with floods, with droughts, with disease outbreaks, and with disruptions to food and water supplies. They are eager for economic development themselves, but may find that this already difficult process has become even more difficult because of climate change. The poorer nations of the world have done virtually nothing to cause global warming, yet are most exposed to its effects.

Climate change will, of course, affect everybody. No one can be immune to it. By the same token, responsibility for finding the solution cannot, realistically, be laid at the door of any particular country or group of countries, any particular region or continent. We are, perhaps as never before, all in this together. Successfully addressing climate change will be far from easy; but the consequences of failing to do so are far too dire to contemplate.

United Nations Secretary General Ban Ki-moon accurately summed up the situation, speaking in February 2009, at a meeting of industry leaders in India, when he said, “Industrialized countries bear a great deal of responsibility for the state of the planet today. And they must bear their share of the burden when it comes to paying for solutions. But, at the same time, countries that did not contribute as much to global warming still have a responsibility to address it. I don’t think this is the time for finger pointing.”

The message is clear: to succeed in combating climate change, we must all play our part with the seriousness that the circumstances demand. If the problem pays no heed to man-made borders, then neither can the solution. We all have a responsibility to take bold, comprehensive and coordinated action that not only jump-starts recovery of the planet but also launches a new era of serious and meaningful engagement to prevent a crisis, like the one we are presently facing, from worsening or recurring. Working together, with a sense of responsibility for future generations, the agreements made in Copenhagen later this year can have genuine and lasting value.

Humankind is on the horns of a dilemma. For, whether we like it or not, our collective way of life has become unsustainable and we need to do something about it – and soon. The choices we have made about the way we lead our lives have been slowly eating away at the very support system that enables us to live and breathe. This cannot go on. We need to make some tough decisions, we need to make them now and we need to act on them with total commitment – now and in the future. Faced with facts we cannot argue against, we need to consider our priorities and accept that we have to make certain sacrifices; we need to start putting “life” ahead of “lifestyle”.

If we are serious about tackling, comprehensively and effectively, the complex and multi-faceted issues of global warming, climate change and ocean acidification, we must pursue “borderless strategies” and be prepared to think, and act, “outside the box”.

Despite the inertia that characterized mankind’s initial reaction to the early wake-up calls concerning global warming, it is encouraging that, albeit belatedly, we have now come to acknowledge that increases in global temperatures are altering the complex web of systems that allow life to thrive on earth: cloud cover, rainfall, wind patterns, sea levels and ocean currents and the distribution of plant and animal species are, to various degrees, all being affected.

From the human perspective, difficult issues such as poverty, disease, uneven economic development and population growth are additional factors that serve to exacerbate and complicate the problem. Secretary-General Ban Ki-moon, in his address to the UN Conference on Climate Change in Bali, in 2007, branded climate change and our response to the multi-faceted problems it represents as “the defining challenge of our age.” Let there be no doubt that, as the 2009 World Maritime Day theme proclaims, climate change is a challenge for IMO too.
Youngsters debate climate change at IMO

In July, IMO played host to 350 young people from 24 schools across the United Kingdom, as well as delegates from Israel and India, who took part in the Global Classrooms Model United Nations Conference on Climate Change.

Students took the part of national delegations to debate the topic, the week before IMO delegates themselves debated the issue of reducing greenhouse gas emissions from ships, during the 59th session of the IMO Marine Environment Protection Committee (MEPC).

In her welcoming address to the meeting, IMO Director Dr. Rosalie Balkin reminded the young conference delegates of the auspicious surroundings in which the event was taking place. “This is a debating chamber which has seen Heads of State, Ministers and Ambassadors speak with passion and authority on matters of global importance,” she said.

WMU to host ballast water forum

Registration is now open for the Global Research and Development (R & D) Forum on Emerging Ballast Water Management Systems at the World Maritime University (WMU) in Malmö, Sweden from 27 to 29 January 2010. There will also be a pre-conference expert workshop on 26 January.

The forum will be organised by IMO’s GloBallast Partnership, WMU and the Global Industry Alliance, and will provide an opportunity to share the latest R & D efforts to develop innovative ballast water management systems.

The conference will bring together some of the world’s best experts to discuss cutting-edge issues, and the emerging technology that can provide innovative and cost-effective solutions to meet the problems of ballast water management.

Online registration for Ballast Water R&D Forum 2010 is available at www.wmu.se/conferences, and the registration fee is €200. Alternatively, email conferences@wmu.se for more details.

IMO Award for Exceptional Bravery at Sea

The 2009 IMO Award for Exceptional Bravery at Sea will go to two nominees: Mr. Maurice Conti and Mrs. Sophie Conti, of the United States, for the rescue, in rough seas, of three crew members from the yacht Timella, which had grounded and then sunk, off a remote South Pacific coral reef; and AST2 Abram A. Heller, of the United States Coast Guard for single-handedly rescuing eight crew members of the foundered F/V Alaska Ranger, in arctic weather conditions. Four other nominees will receive Certificates of Commandation and 11 will receive Letters of Commendation.

Certificates will also be awarded to officers and crew members of naval vessels from a wide range of countries that have participated in joint efforts to prevent and repress piracy off the coast of Somalia and in the Gulf of Aden.

The winners will receive their awards at a ceremony to be held during the IMO Assembly, later in the year.

Coveted prize heads to Panama

The International Maritime Prize for 2009 will go to Mr. Alberto Alemán Zubieta, Administrator of the Panama Canal Authority. Mr. Alemán has degrees in Civil Engineering and Industrial Engineering from Texas A&M University and was CEO of one of Panama’s largest construction companies before becoming, in 1996, Chief Executive Officer/Administrator of the Panama Canal Commission, the United States Government federal agency which administered the Canal until 31 December 1999. In 1998 he was appointed as the Panama Canal Authority’s Administrator, a role which he performed simultaneously with that of administrator of the Commission. He has led the Panama Canal Authority since it took over the running of the Canal in 2000.

Secretary-General visits Poland

IMO Secretary-General Mitropoulos visited Poland in July, at the invitation of Mr. Cezary Grabarczyk, Minister of Infrastructure and Ms. Anna Wypych-Namiołko, Undersecretary of State, Ministry of Infrastructure. During the visit, the Secretary-General presented Mr. Lech Wałęsa, former President of the Republic of Poland, with a medal depicting the IMO International Memorial to Seafarers.
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