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Agenda item 10(d)
Emissions from fuel used for international aviation and maritime transport

UPDATE ON IMO’S WORK TO ADDRESS EMISSIONS FROM FUEL USED FOR INTERNATIONAL SHIPPING

SUMMARY

IMO’s Marine Environment Protection Committee has been considering as an integral part of its agenda, actions to address greenhouse gas (GHG) emission from ships engaged in international trade. It met for its 67th session (MEPC 67) from 13 to 17 October 2014, at IMO Headquarters in London with the participation of 93 Member States, 3 United Nations bodies, 4 intergovernmental organizations and 48 non-governmental organizations.

MEPC 67 continued its work on further developing guidelines to support the uniform implementation of the regulations on energy-efficiency for ships that entered into force on 1 January 2013 under MARPOL Annex VI. MEPC 67 agreed, in principle, to develop a data collection system for ships and, following deliberations in a working group, also agreed on the general description of a data collection system for fuel consumption of ships, including its core elements.

MEPC 67 approved the Third IMO GHG Study 2014, according to which international shipping emitted 796 million tonnes CO₂ in 2012, against 885 million tonnes in 2007. This represented 2.2% of the global emissions of CO₂ in 2012, against 2.8% in 2007.

IMO is also continuing its efforts with regard to technical co-operation and capacity building to ensure smooth and effective implementation and enforcement of the aforementioned new regulations worldwide and is now focusing on the implementation of resolution MEPC.229(65) on Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships.

Introduction

1 International shipping plays a vital role in the facilitation of world trade as the most cost-effective and energy-efficient mode of mass transport, making a significant contribution to global prosperity in both developing and developed countries.

2 IMO was established by Governments as a specialized agency under the United Nations to provide the machinery for intergovernmental cooperation in the field of regulation of ships engaged in international trade. IMO is responsible for the global regulation of all aspects of international shipping and has a key role in ensuring that lives at sea are not put at risk, including security of shipping, and that the environment is not polluted by ships’ operations – as summed up in IMO’s mission statement: Safe, secure and efficient shipping on clean oceans.
This document provides an update to previous submissions by IMO to SBSTA including document FCCC/SBSTA/2014/MISC.5/Rev.1.

Work on control of GHG emissions from international shipping

Measures to improve energy efficiency of international shipping were adopted by Parties to Annex VI of the Convention on the Prevention of Pollution from Ships (MARPOL) at MEPC 62 in July 2011 and entered into force on 1 January 2013. The Regulations for energy efficiency of ships apply to internationally trading ships of 400 gross tonnage and above, and make mandatory the:

1. Energy Efficiency Design Index (EEDI) for new ships; and
2. Ship Energy Efficiency Management Plan (SEEMP) for all ships.

The EEDI is a non-prescriptive, performance-based mechanism that leaves the choice of technologies to use in a specific ship design to the industry. So long as the required energy-efficiency level is attained, ship designers and builders are free to use the most cost-efficient solutions for the ship to comply with the regulations.

All ships of 400 gross tonnage and above engaged in international trade are required to implement and maintain a SEEMP which establishes a mechanism for operators to improve the energy efficiency of ships. This should be achieved by monitoring the energy efficiency performance of a ship’s transportation work and at regular intervals considering new technologies and practices to improve energy efficiency.

MEPC 67 continued its work on further developing guidelines to support the uniform implementation of the regulations on energy-efficiency for ships and took the following actions:

1. adopted the 2014 Guidelines on survey and certification of the EEDI, updating the previous version to include, for example, identification of the primary fuel for the calculation of the attained EEDI for ships fitted with dual-fuel engines using LNG and liquid fuel oil;
2. adopted amendments to the 2013 Interim Guidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse conditions, to make the guidelines applicable to phase 1 (starting 1 January 2015) of the EEDI requirements; and
3. established a correspondence group to review the status of technological developments relevant to implementing phase 2 of the EEDI regulatory framework that starts on 1 January 2020. Regulation 21.6 of MARPOL Annex VI requires, at the beginning of phase 1, the Organization to “review the status of technological developments and, if proven necessary, amend the time periods, the EEDI reference line parameters for relevant ship types and reduction rates set out in this regulation”.

Further technical and operational measures to enhance the energy efficiency of ships

MEPC 66 (April 2014) had discussed various submissions relating to proposals to establish a framework for the collection and reporting of data on the fuel consumption of ships and agreed to establish a correspondence group, to consider the development of a data collection system for ships, including identification of the core elements of such a system.
Having considered the report of the aforementioned correspondence group, MEPC 67 agreed, in principle, to develop a data collection system for ships and, following deliberations in a working group, agreed on the general description of the data collection system for fuel consumption of ships, including its core elements as follows: data collection by ships, flag State functions in relation to data collection and establishment of a centralized database by the Organization.

Noting that further work should be undertaken intersessionally, MEPC 67 agreed to re-establish the correspondence group and instructed it to develop full language for the data collection system for fuel consumption that can be readily used for voluntary or mandatory application of the system. The group will report to MEPC 68 in May 2015.

Third IMO GHG Study 2014

MEPC 67 approved the Third IMO GHG Study 2014, providing updated estimates for GHG emissions from ships. According to current estimates presented in this study, international shipping emitted 796 million tonnes of CO₂ in 2012, which accounts for no more than about 2.2% of the total emission volume for that year. By contrast, in 2007, before the global economic downturn, international shipping is estimated to have emitted 885 million tonnes of CO₂ which represented 2.8% of the global emissions of CO₂ for that year. These percentages are all the more significant when considering that shipping is the principal carrier of world trade, carrying as much as 90% by volume and therefore providing a vital service to global economic development and prosperity.

These updated emissions estimates are considered necessary, in general, to provide a better foundation for future work by IMO to address GHG emissions from international shipping especially as the Business as Usual scenarios, depending on future economic and energy developments, forecast a growth in CO₂ emissions for international maritime transport of between 50% to 250% in the period up to 2050. Sea transport is fuel-efficient and without these updated figures it would be difficult to provide a meaningful baseline to illustrate the steadily on-going improvement in fuel efficiency due to improved hull design, more effective diesel engines and propulsion systems and more effective utilization of individual ships resulting from the introduction of mandatory technical and operational measures.

Technical co-operation and transfer of technology

Regulation 23 (Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships) of chapter 4 of MARPOL Annex VI requires Administrations, in co-operation with the Organization and other international bodies, to promote and provide, as appropriate, support directly or through IMO to Member States, especially developing States that request technical assistance. It also requires the Administration of a Party to MARPOL Annex VI to co-operate actively with other Parties, subject to its national laws, regulations and policies, to promote the development and transfer of technology and exchange of information to States which request technical assistance, particularly developing States.

Linked to the implementation of energy efficiency measures, MEPC 65 (May 2013) adopted resolution MEPC.229(65) on Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships, which, among other things, requests the IMO, through its various programmes, to provide technical assistance to Member States to enable cooperation in the transfer of energy efficient technologies to developing countries in particular; and further assist in the sourcing of funding for capacity building and support to States, in particular developing States, which have requested technology transfer.
MEPC 66 (April 2014) discussed the implementation of resolution MEPC.229(65) and established, in accordance with the resolution, an Ad Hoc Expert Working Group on Facilitation of Transfer of Technology for Ships (AHEWG-TT). The AHEWG-TT, during its first meeting, agreed on the methodology for conducting its work, as well as a work plan which was endorsed by the Committee.

This work plan envisages: 1) assessing the potential implications and impacts of the implementation of the energy efficiency regulations in chapter 4 of MARPOL Annex VI, in particular on developing States, as a means to identify their technology transfer and financial needs; 2) identifying and creating an inventory of energy efficiency technologies for ships; 3) identifying barriers to transfer of technology, in particular to developing States, including associated costs, and possible sources of funding; and 4) making recommendations, including the development of a model agreement enabling the transfer of financial and technological resources and capacity building between Parties, for the implementation of the energy efficiency regulations.

The AHEWG-TT met for a second time this year from 9 to 10 October 2014, to continue its work with regard to the implementation of resolution MEPC.229(65). In line with its work plan, the group made significant progress with the first three of its four tasks, the results of which are expected to be submitted to MEPC 68 in May 2015.

**Technical cooperation activities**

To ensure a smooth and effective implementation and enforcement of the new energy efficiency regulations worldwide, IMO has also been focusing its efforts on technical co-operation and capacity building, and has been undertaking a series of regional and national workshops on implementation of the measures to address emissions from fuel used by international shipping. Under the Integrated Technical Co-operation Programme (ITCP) of IMO, further capacity building activities are currently planned in 2015, in order to sustain the level of technical cooperation interventions in various regions for the effective implementation and enforcement of energy efficiency measures for ships.

Furthermore, IMO, through the United Nations Development Programme (UNDP), has submitted a Project Document for final approval to the Global Environment Facility (GEF) for a project entitled “Transforming the global maritime transport industry towards a low carbon future through improved energy efficiency”. Having received the support and commitment of ten Lead Pilot Countries for this project, IMO expects this two year global project, that will assist developing countries in the implementation of the energy efficiency measures adopted by IMO, to be initiated in early 2015.

**Summary**

Although international maritime transport is the most energy efficient mode of mass transport and only a modest contributor to worldwide CO₂ emissions (estimated as 2.2% in 2012), a global approach for further improvements in energy efficiency and GHG emission reduction is considered necessary as sea transport is predicted to grow significantly in the coming years in line with expected future growth in world trade.

IMO has developed and adopted a framework of technical and operational measures that now serves as mandatory performance standard for increased energy efficiency in international shipping. The framework builds on IMO’s enforcement and control provisions (flag State implementation and port State control) and includes also ship management aspects such as monitoring, verification and reporting, as well as guidelines for effective implementation.
IMO, as the global regulator of international shipping, will continue its endeavours to reduce environmental impacts from international maritime transport, a vital industry to world trade and sustainable development, and keep relevant bodies of the UNFCCC informed of its progress.