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MTCC CARIBBEAN NORTHERN SUB-REGIONAL
WORKSHOP ON MARPOL ANNEX VI



MARITIME AUTHORITY OF JAMAICA

Maritime Pollution Prevention at a Glance – Annex VI Activities

Kingston, Jamaica
2017 November 21

Legislative Framework: **MARPOL** Convention

- ✓ Accession to MARPOL in 1991
- ✓ Accession to the 1997 Protocol in August 2008



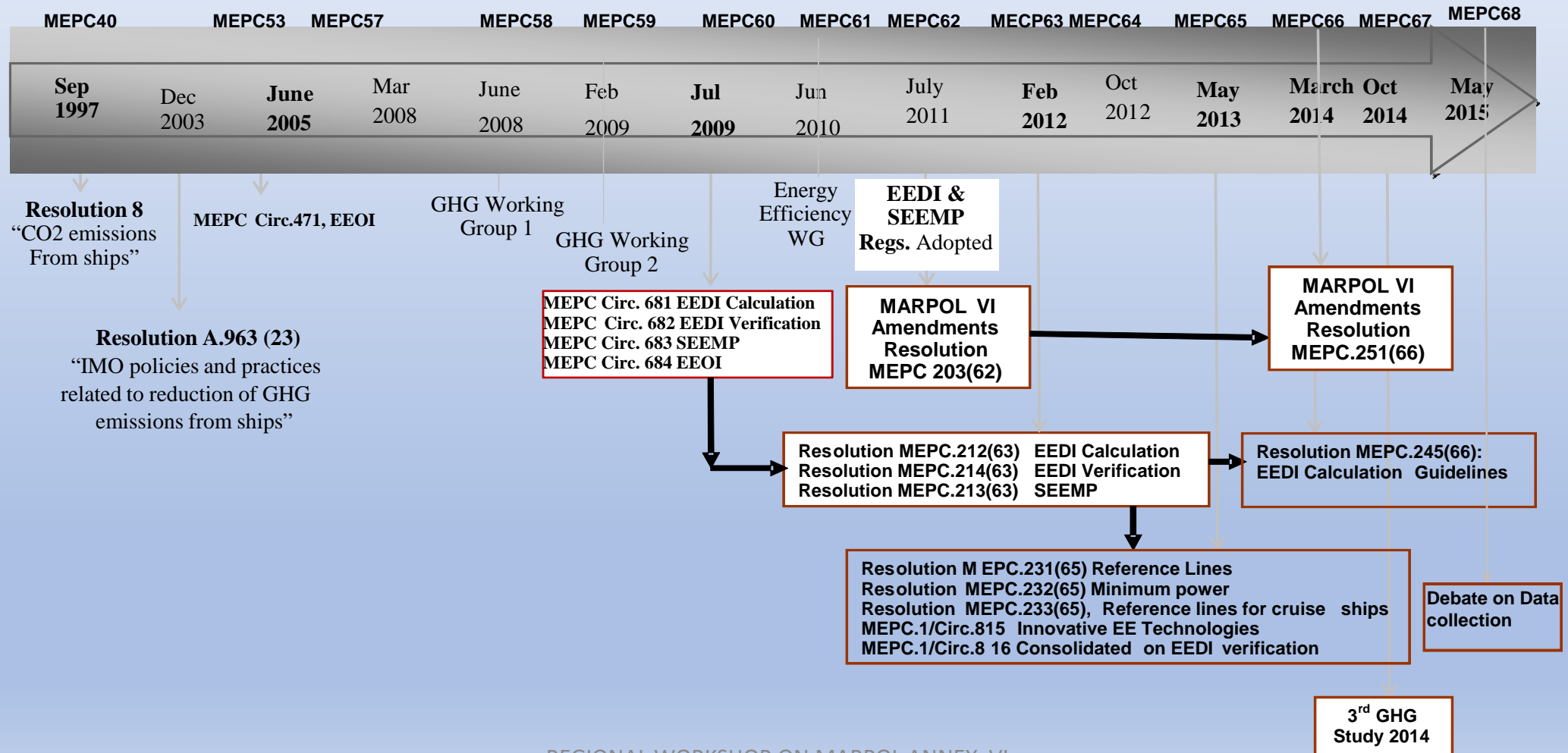
Legislative Framework: **MARPOL** Convention – Local Situation

- Not [yet] incorporated into Jamaica's Domestic law.
- Draft Shipping (Prevention of Pollution from Ships) Act 2017 will incorporate the Convention.
- Annex VI provisions to be incorporated in Regulations under Act.



Legislative Framework: MARPOL Convention – Expanding Annex VI

IMO Energy Efficiency Regulatory Developments



Legislative Framework: **MARPOL ANNEX VI**

- **Challenges in the incorporation of Annex VI**
 - Competing legislative priorities: Low priority of MARPOL legislation in general
 - Man-power constraints: legal drafters
 - Complexity of technical provisions
 - Absence of national policy
 - Political will: Lack of inclusive vision

Legislative Framework: OTHER LEGISLATION

- Draft Jamaica National Climate Change Policy and Action Plan (JNCCPA) (2010)
- The Natural Resources Conservation Authority (Air Quality) Regulations, 2006
 - ❑ Reg. 3 – Regulations do not apply to ships.
- Third Schedule: Application
 - Reg. 3. - (1) These Regulations shall not apply to any air pollutant emitted from an internal combustion engine in a truck, car, bus, train, ship, airplane or any other mode of transportation.
- To what does the Act apply?
 - ❑ Existing facility/source: any air polluting facility or air pollutant source which were constructed, in operation, installed, or in use, in Jamaica on or before the appointed day;
 - ❑ New facility/source: any air polluting facility or air pollutant source which commenced construction or operation or was installed in Jamaica after the appointed day;

Legislative Framework: Other Relevant Treaties

- United Nations Framework Convention on Climate Change (UNFCCC), New York, 1992
 - ✓ Date of Accession - January 6, 1995
 - ❑ The UNFCCC objective is to "stabilize [greenhouse gas](#) concentrations in the atmosphere at a level that would prevent dangerous [anthropogenic interference](#) with the [climate system](#)"
- Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 1997
 - ✓ Date of Accession - June 28, 1999
 - ❑ The **Kyoto Protocol** is an international [treaty](#) which extends the 1992 [United Nations Framework Convention on Climate Change](#) (UNFCCC) that commits State Parties to reduce [greenhouse gas](#) emissions, based on the [scientific consensus](#) that (a) [global warming](#) is occurring and (b) it is extremely likely that human-made [CO₂ emissions](#) have predominantly caused it.

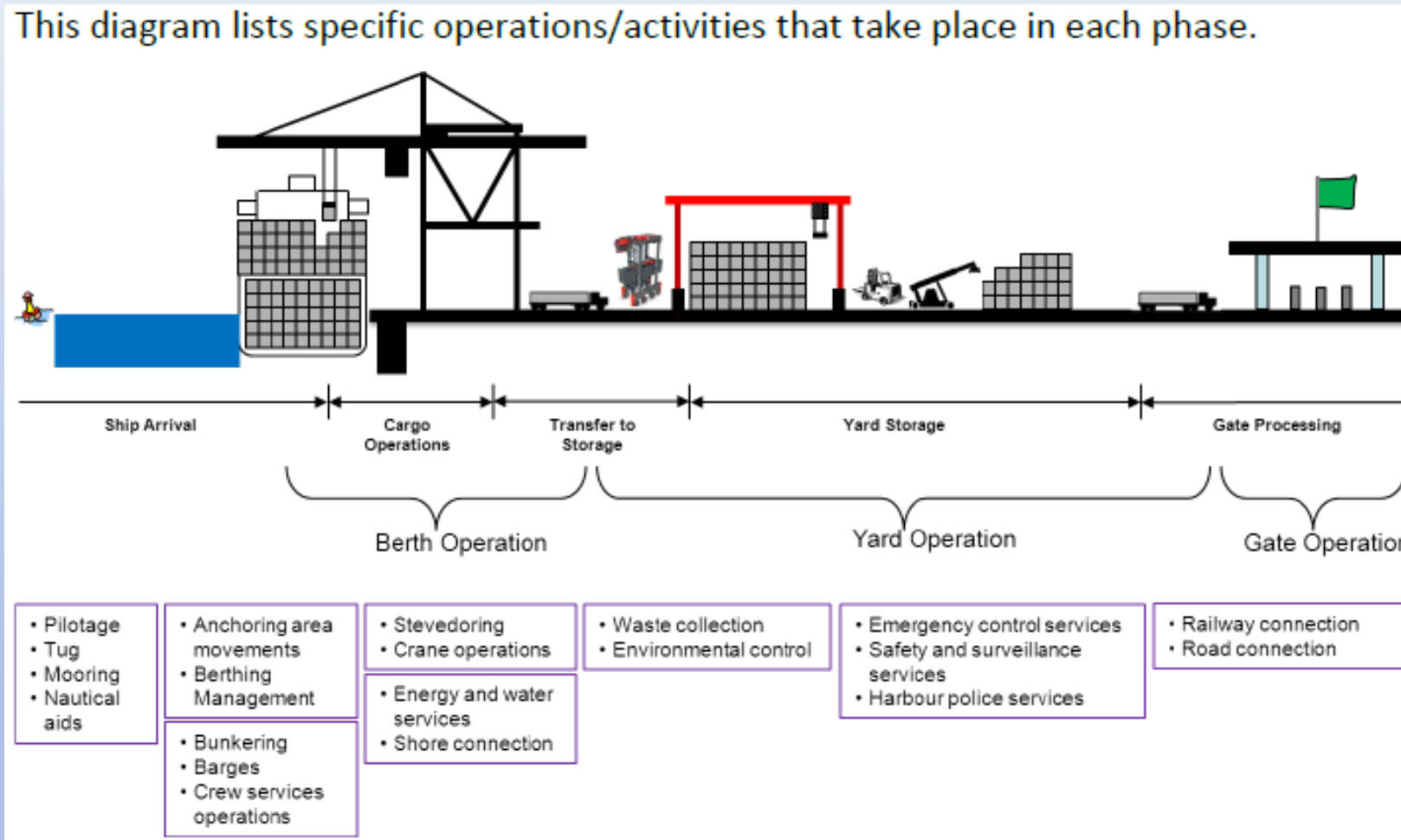
Legislative Framework: Impact on Shipping - Annex VI, Chapter 4

- Maritime Administrations & ROs
 - New regulations targeting Energy Efficiency Operation of Ships
 - New survey requirements for ships classified under Annex VI, Chapter 4
 - Additional Certificate: International Energy Efficiency(IEE) CertificateLeading over time to: expanded Flag and Port State oversight obligations and responsibilities
 - Testing,
 - Verifications
 - Surveys
- Enhanced Ship Board Energy Management Practices
 - Fleet optimisation and slow steaming
 - Ship(board) Energy Efficiency Management Plan
 - GHG Emission Reduction Technologies
 - Record keeping and information shearing

Legislative Framework: Impact on Shipping - Annex VI, Chapter 4

- Enhanced Ship / Port Interface Practices
 - Ship loading and ship capacity utilisation
 - Just-in-time operation and Virtual Arrival
 - E-navigation developments and weather routing
- Ship in Port Operational Energy Efficiency Measures
 - Clean Fuels
 - Onshore Power Supply
 - Green Port Initiatives

Legislative Framework: Impact on Shipping - Annex VI, Chapter 4

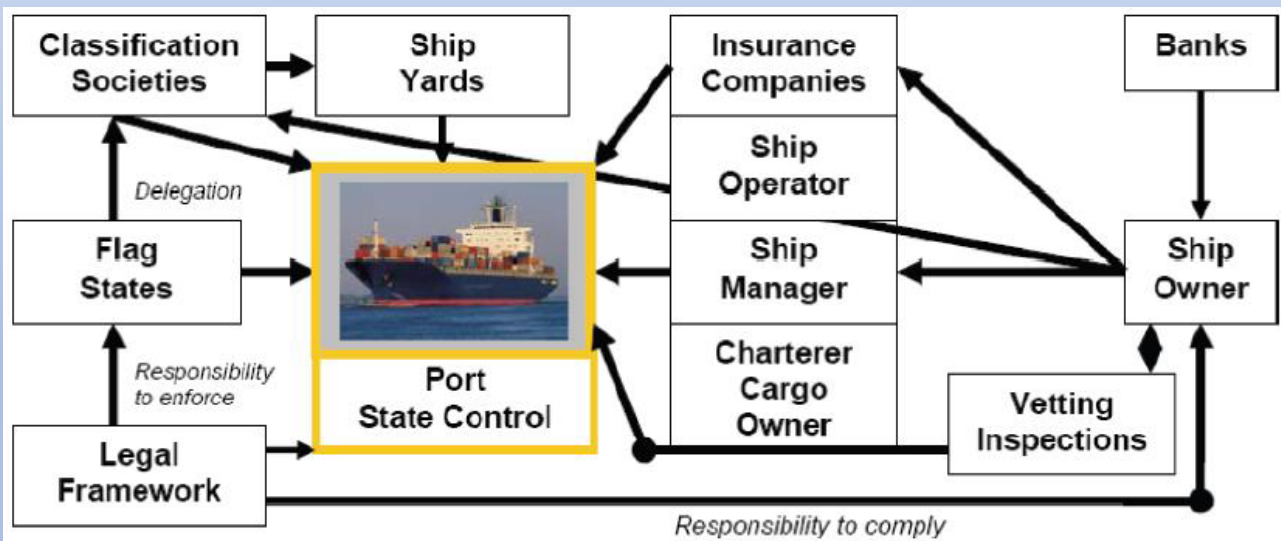


Ship / Port Interface considerations which affects in-port GHG levels

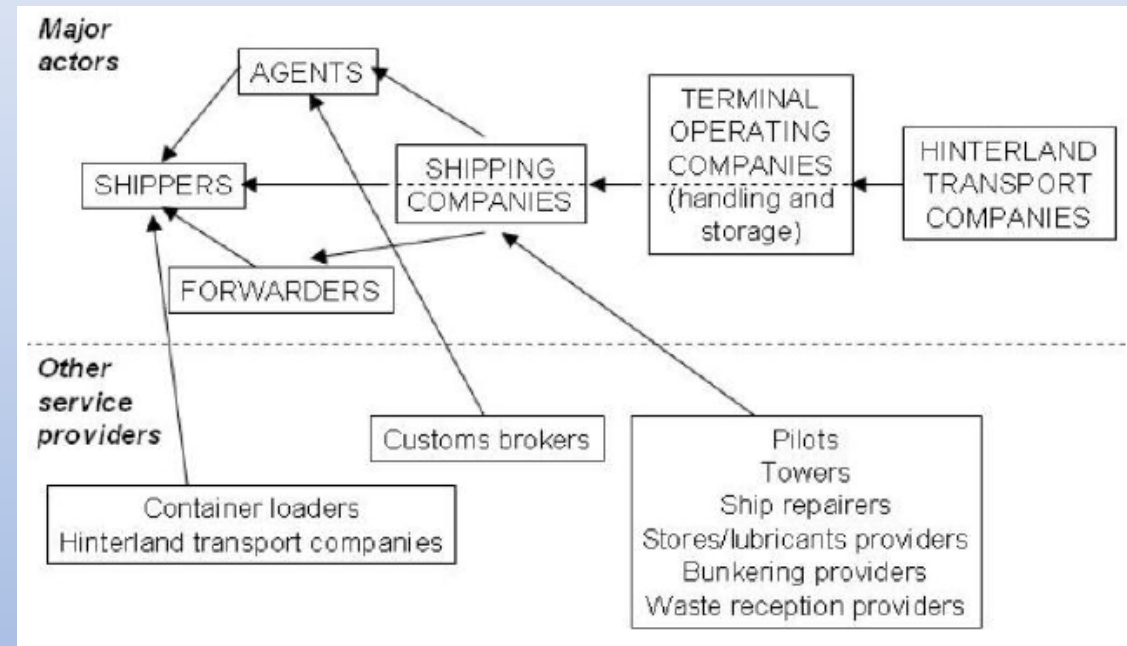
[EESO TTT Course Manual]

Enforcement & Compliance Framework for MARPOL Annex VI, Chapter 4

Enforcement & Compliance will require the cooperation and active inputs of all the industry players, for Port States particularly at the local level: The areas in which training & sensitization will be required

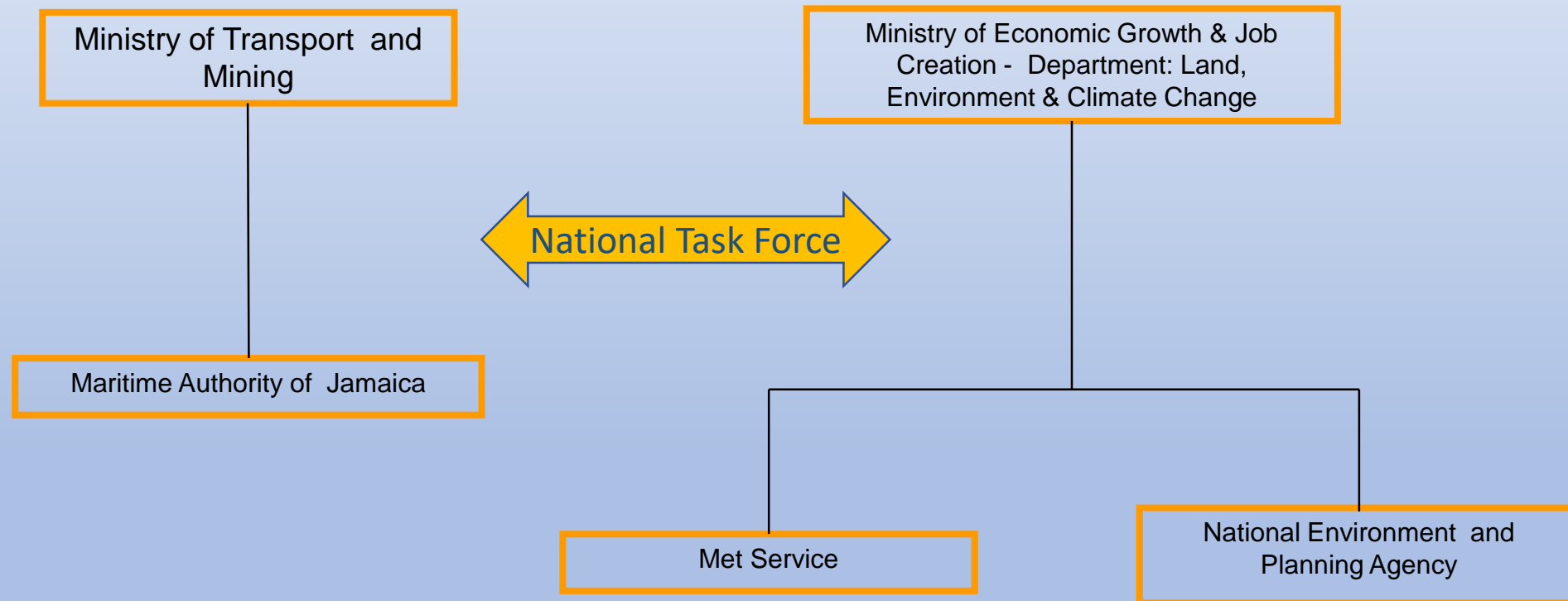


International Maritime industry players within regulatory and legal frameworks [2nd IMO GHG Study 2009]



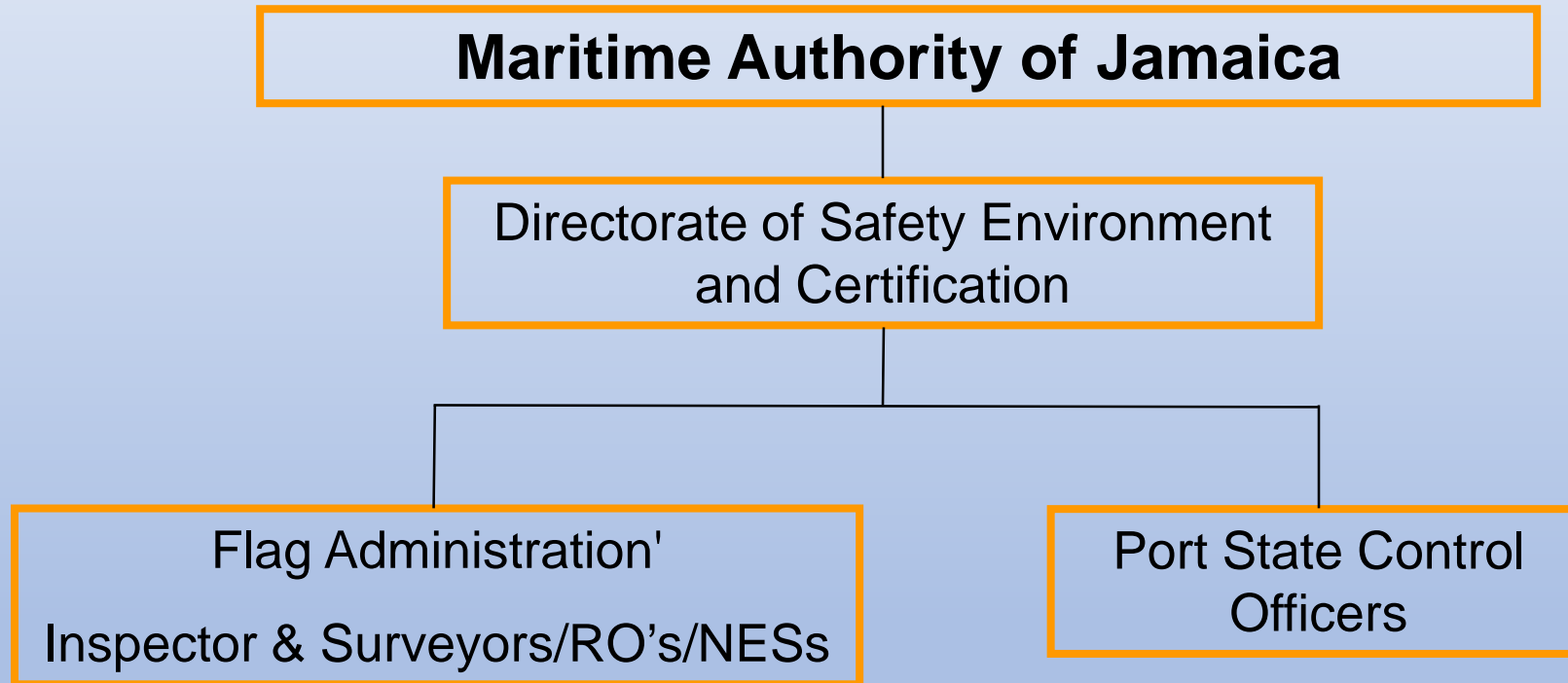
Port Activity Players [Meersman, Van de Voorde and Vanelander]

Administrative & Institutional Framework for MARPOL Annex VI, Chapter 4



Administrative & Institutional Framework for MARPOL Annex VI, Chapter 4

- Enforcement: Flag State and Port State Control



- Port State Control for Annex VI: Chapter II, Regulation 10

Administrative & Institutional Framework for MARPOL

Maritime Authority of Jamaica Functions



1. Administer the Registration of Ships



2. Regulate the Certification of Seafarers



3. Regulate Safety of Shipping – Construction & Navigation

Administrative & Institutional Framework for MARPOL

Maritime Authority of Jamaica Functions



4. Inspect ships for maritime security, safety, prevention of marine pollution



5. Establish maritime training & safety standards



6. Conduct marine casualty investigations

Administrative Framework for MARPOL Annex VI, Chapter 4 - GloMEEP Project

- Establishment of National Task Force - **MARPOL Annex VI, Chapter 4** (government agencies, local universities, shipping interests) – March 2016
- Appointment of Consultants (legislation, GHG baseline study, strategy) – September 2016
- IMO Guide Documents made available to national consultants
- Training in Georgia for the Consultants - October 2016
- Draft documents/reports prepared (legislation, GHG baseline study, strategy) – February 2017

Institutional & Enforcement Framework for MARPOL ANNEX VI

- Lead Government agency – Maritime Authority of Jamaica
- Global Environment Facility (GEF – funding)
- United Nations Development Programme (UNDP – funding)
- International Maritime Organization (IMO – capacity building)
- GloMEEP (Global Maritime Energy Efficiency Partnership) – National Task Force
 - Government agencies, local universities, shipping interests
 - Appointment of Consultants (legislation, GHG baseline study, strategy)

Administrative Framework for MARPOL ANNEX VI

- Inter-agency Committee:
 - Ministry of Transport and Mining
 - Maritime Authority
 - Port Authority
 - National Environment and Planning Agency
 - Shipping Association of Jamaica
 - University of Technology Jamaica
 - University of the West Indies
 - Caribbean Maritime University
 - Ministry of Economic Growth and Job Creation – Climate Change Division
 - Vision 2030 | National Development Plan
- Guidelines on the management of MARPOL Annex I and V waste developed
 - Similar inter agency framework could be used for MARPOL Annex VI implementation

IMO RELATED ACTIVITIES

- Regional Workshop on MARPOL ANNEX VI – Air Pollution and Greenhouse Gas (GHG) Emissions from International Shipping for the Wider Caribbean Region - February 17-19, 2014
- Jamaica selected as a Lead Pilot Country for the GEF IMO UNDP GloMEEP Project
- National GloMEEP workshops March 2016 and June 2017
- Capacity Building > IMO Train the Trainer (TTT) course on Energy Efficient Ship Operation – Dalian Maritime University P.R. China, May 23-27, 2016 (*CMU, MAJ*)
- IMO Workshop on the implementation of IMO Model Course 4.05 on Energy Efficient Operation of Ships, April 25-26, 2017 (*UWI, UTech, CMU*)

Administrative Framework for MARPOL ANNEX VI

- Jamaica's Assistance Potential:
 - A GloMEEP Lead Pilot Country
 - Two Instructors: IMO Train-the-Trainer, Energy Efficient Ship Operation
 - Experienced Port State Control Officers
 - Policy Consultants (legislation, GHG baseline study, strategy)

Energy Efficiency Operation of Ships

Technology Uptake & Barriers - ANNEX VI

- Presently, no maritime GHG emission reduction technology incentives on offer
- Presently, Flagged vessels (large) only – currency of IAPP Certificates and related information. No system in place to routinely collect data on or to monitor energy efficiency performance of ships
- Arriving & Departing Vessels: Ships' Agents for - Customs, Quarantine, PAJ, Port Security, Pilots
 - Arriving
 - Last Port (visited) Clearance & Ports of Call List (last 6 – 10 ports)
 - Maritime Health Declaration & Vaccination List
 - Crew List & Crew's Declaration
 - Stores List (may include fuel on board)
 - Ship Certs: ITC, LLC, ISPS
 - Bill of Lading or Ship's Manifest
 - Mill List (ammunition or other dangerous goods onboard and belonging to the vessel)
 - Pilots Departments maintains and transmits listing Daily Ship Movements and Ships in Port
 - Departing
 - Customs clearance forwarded by Ships' Agent (if no restrictions by national agencies)
- National Annex VI GHG emission initiatives: The GloMEEP Lead Pilot Country project.
- *Jamaica: No industrial level Energy Efficiency Technology research – courses taught in colleges; Government initiative of country's electricity grid; presence of commercial retail operations*

Energy Efficiency Operation of Ships Technology Uptake & Barriers - ANNEX VI



Energy Efficiency Operation of Ships Technology Uptake & Barriers - ANNEX VI

Technology: How we get things done.

The Barriers:

- Shipboard
 - Cost of hardware and systems – new and retrofitting
 - Availability of reliable operational components – hardware; software; adequately trained crew; compatible port interfaces; willing corporate adopters
 - Legislation – enforceable national legislations;
 - Compatibility of legislation with Annex VI technology
 - Economic – market share of importer/exporter states dictates vessel visit: vessel size, frequency, required port facility infrastructure investment and services offered

Energy Efficiency Operation of Ships Technology Uptake MARPOL ANNEX VI

Technology: How we get things done.

The Barriers:

- Shore Side
 - Cost of hardware and systems
 - Development stage of national energy distribution system
 - Availability of reliable operational components – hardware; software; adequately trained staff; technology state of visiting vessels; willing corporate adopters
 - Lack of Policy & Legislation – holistic national energy policy; realistic and enforceable
 - Economic – availability of required funds for research, pilots & infrastructure upgrades; cost to the logistics chain;

Energy Efficiency Operation of Ships Technology Uptake & Barriers - ANNEX VI

Barriers to establish a uniform data collection reporting system for the Caribbean region under one Window:

- Capacity/technology infrastructure in the various ports in the region
- Varying stage of legislative development
- Varying levels of port operation sophistication:
 - The Jamaica Customs Agency (JCA) has completed implementation of the Automated System for Customs Data (ASYCUDA), a web-based system designed to transform the agency to a paperless operation through the use of electronic documents.
 - The ASYCUDA World system has the capability to interface with other government and non-government Information Technology (IT) Systems, making all applications for permits and licences electronic.

Partnerships Opportunities

MARPOL ANNEX VI

- Port State Control - Human resource that can be made available to assist with the training other PSC Officers in the region.
- Between MTIs and other tertiary institutions – CMU, UWI, UTECH,
- Business sector interests – Shipping Agents, SAJ
- GoJ - Climate Change Division
- CARICOM Secretariat – Caribbean Community
- CMoU for training of PSC Officers for monitoring and enforcement of MARPOL Annex VI