

# **Contemporary Issues of Maritime and Shipping in the Asia-Pacific**

Prof. Renping ZHANG  
Dalian Maritime University, China

Haikou, China  
19 Nov 2018

# Contemporary Issues of Maritime and Shipping

1. Key International Maritime Conventions
2. Current Issues



# Contemporary Issues of Maritime and Shipping

1. Key International Maritime Conventions
2. Current Issues

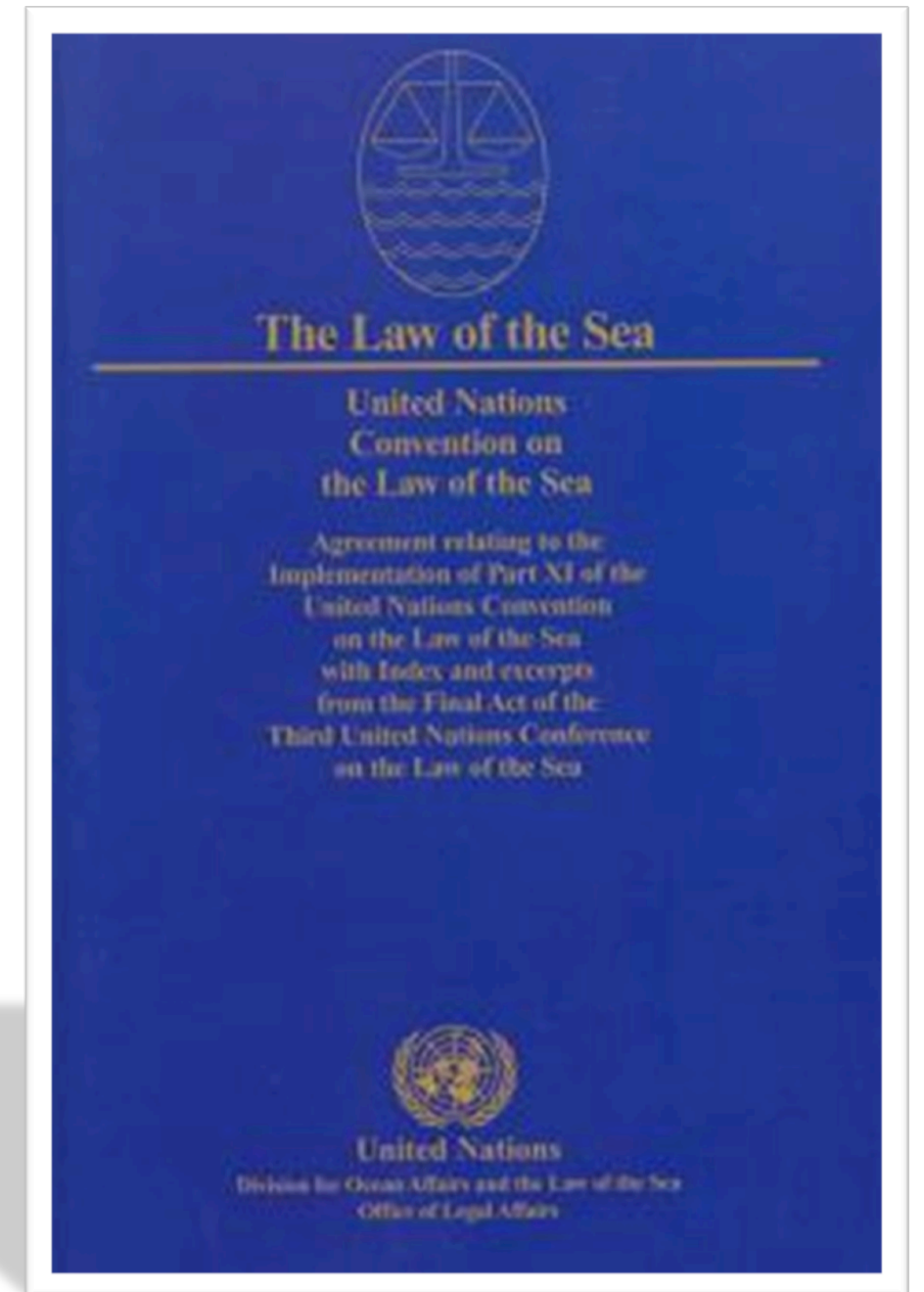


# 1 International Conventions

## UNCLOS

United Nations Convention on the Law of the Sea

- Global legal framework for ocean governance



# 1 International Conventions

## UNCLOS:

Article 94 - **flag State** jurisdiction;

Articles 21/35/41/54 - **coastal State** jurisdiction;

Article 218 – **port State** jurisdiction;

# 1 International Conventions

## IMO:

- Specialized United Nations agency
- Headquarters in London since 1958
- 5 regional offices
- 174 Member States plus 3 Associate Members
- 81 IGOs + 61 NGOs
- Secretariat of 300+ staff of 50 nationalities
- Six official languages



# 1 International Conventions

IMO is referred to, in UNCLOS, the

**“competent international organization”,**  
in connection with international shipping rules and  
standards concerning **maritime safety, ...**  
prevention and control of **marine pollution**  
from ships.

# **1 International Conventions**

**IMO Mission:**

**Safe, secure and efficient shipping  
on clean oceans**

# **1 International Conventions**

## **UNCLOS and IMO Instruments**

- **UNCLOS is a framework convention;**
- **UNCLOS general provisions can be implemented only through operative regulations in other international agreements, like IMO rules and standards.**



# 1 International Conventions

The best way of improving safety of navigation at sea is by developing international regulations that are followed by all shipping nations.

IMO first task was to develop **SOLAS**, then followed with others like **COLREGs**, **SAR** etc.



# **1 International Maritime Conventions**

## **IMO safety conventions:**

- SOLAS 1974,
- Load Lines 1966,
- Tonnage 1969,
- COLREG 1972,
- STCW 1978, (Manila Amendments)
- SAR 1979

# 1 International Conventions

## SOLAS

International  
Convention of Safety  
of Life at Sea

Source : IMO Home



# 1 International Conventions

## SOLAS Chapters

V Safety of navigation

IX Management of safe operation of ships

XI-1 Special measures to enhance maritime  
safety

XI-2 Special measures to enhance maritime  
security

# **1 International Conventions**

## **Chapter V Safety of navigation**

- Navigation & meteorological warnings
- Search and rescue
- Ships' routing
- Ship reporting system

# 1 International Conventions

## Chapter V Safety of navigation

- Vessel traffic services
- Ships' manning
- Long-range identification and tracking of ships
- Safe navigation

# 1 International Conventions

## COLREGs

Convention on the  
International  
Regulations for  
Preventing Collisions  
at Sea, 1972

Source : IMO Home



# 1 International Conventions

COLREGs include 38 rules divided into five sections:

Part A - General;

Part B - Steering and Sailing;

Part C - Lights and Shapes;

Part D - Sound and Light signals;

Part E - Exemptions.

# 1 International Conventions

## COLREGs

There are also four Annexes of technical requirements

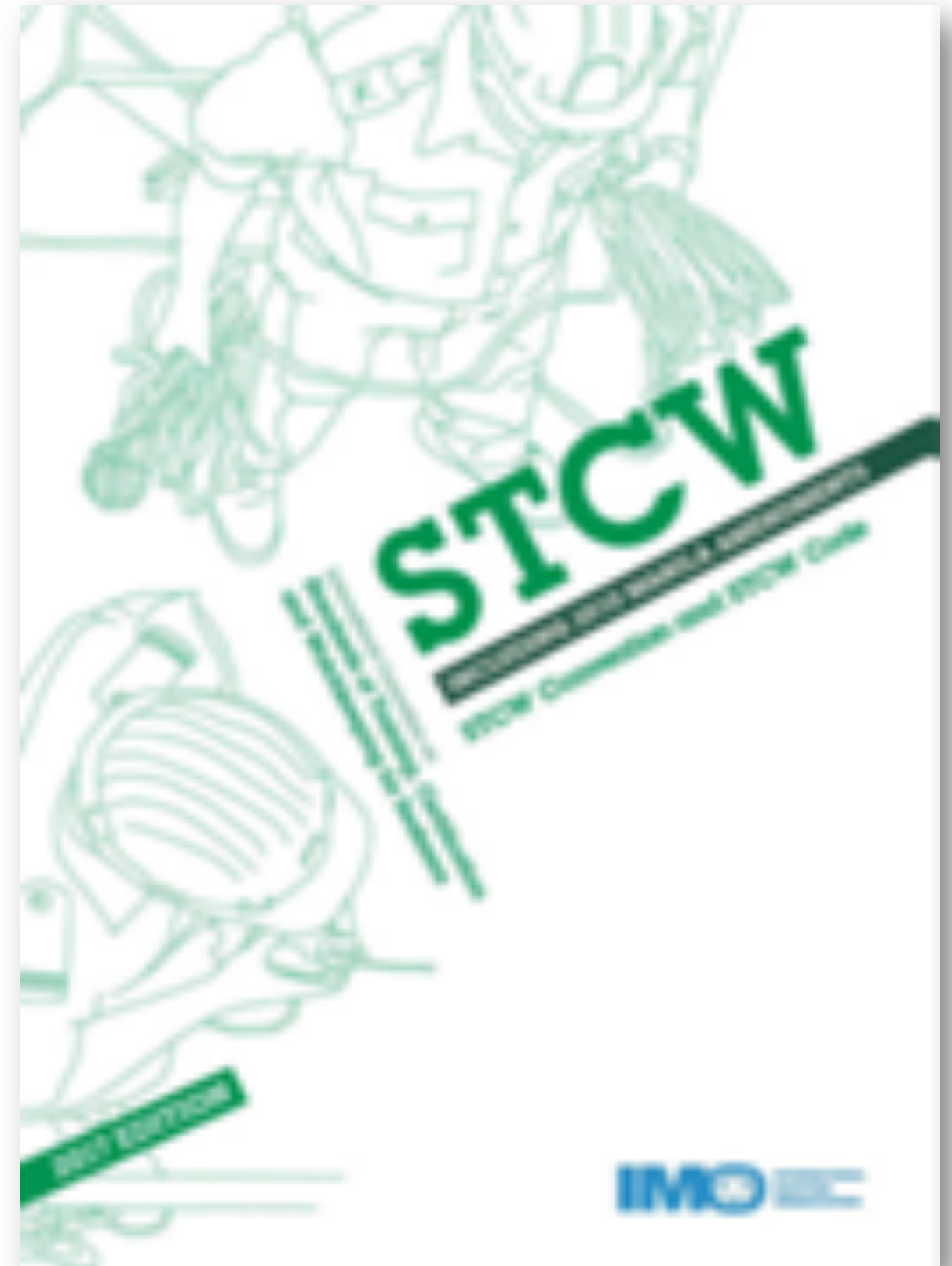
- lights and shapes & their positioning;
- sound signalling appliances;
- additional signals for fishing vessels;
- international distress signals.



# 1 International Conventions

**STCW 1978,  
Manila Amendments**  
International Convention  
on Standards of  
Training, Certification  
and Watchkeeping for  
Seafarers,

Source : IMO Home



# 1 International Conventions

## STCW Convention

Chapter II Master/deck dept.

Chapter III Engine dept.

Chapter V Special training...

...

Chapter VIII Watchkeeping



# 1 International Conventions

Maritime safety involves:

- Ship design and construction
- Ship system and equipment
- Carriage of cargoes and containers
- Navigation, communication and SAR
- Human element, training & watchkeeping

# 1 International Conventions

IMO has always paid great attention to improvement of navigational safety:

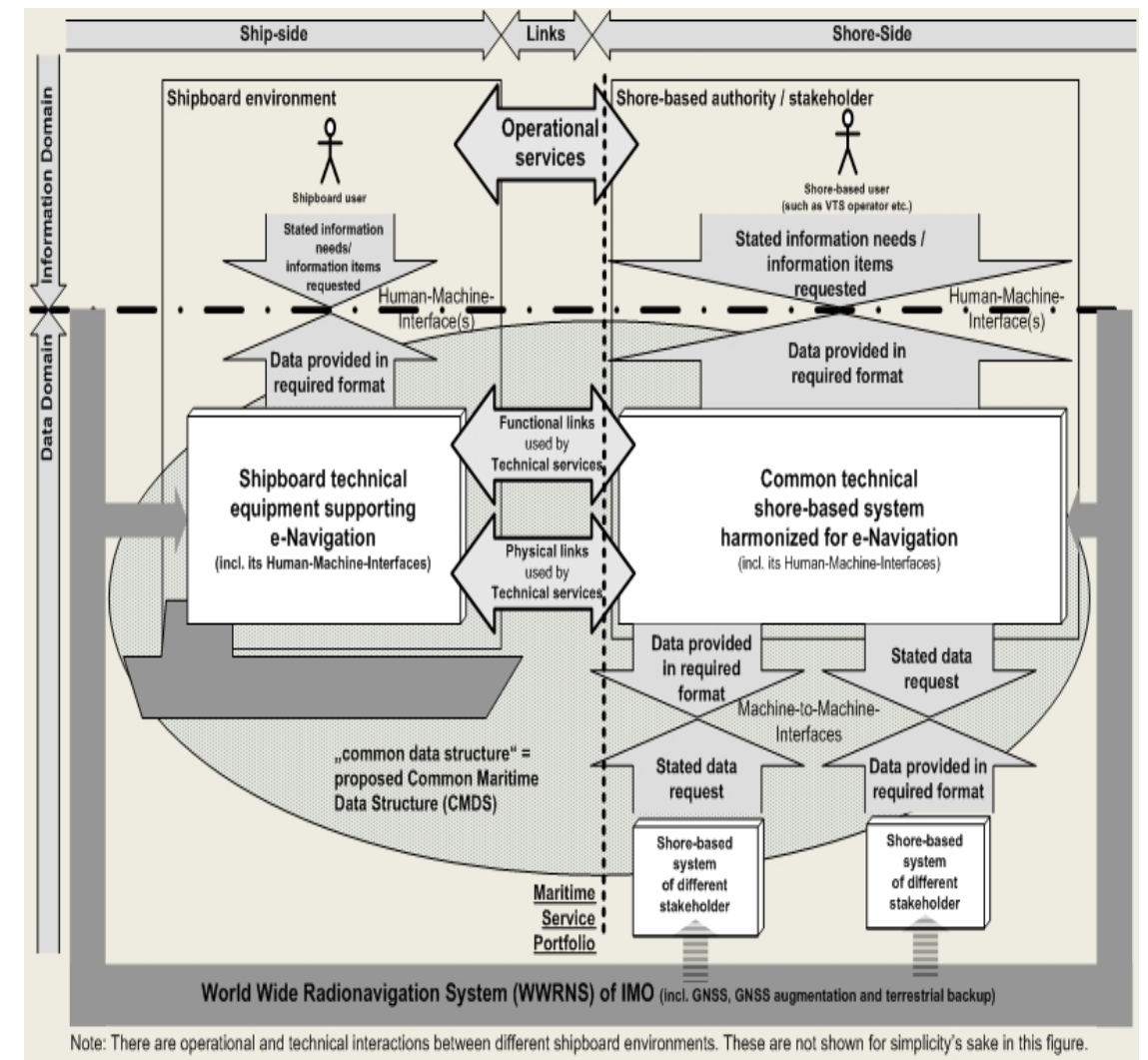
- IMO conventions / legal instruments (SOLAS, COLREG, STCW etc.);
- Standards and Codes
- Technical measures



# 1 International Conventions

## E-navigation

harmonised collection, integration, exchange, presentation, analysis of marine information to enhance navigation safety and security at sea and protection of marine environment.



# 1 International Conventions

## Preventing Collisions at Sea

Guidance for determining safe speed, risk of collision and conduct of vessels operating in or near TSS.

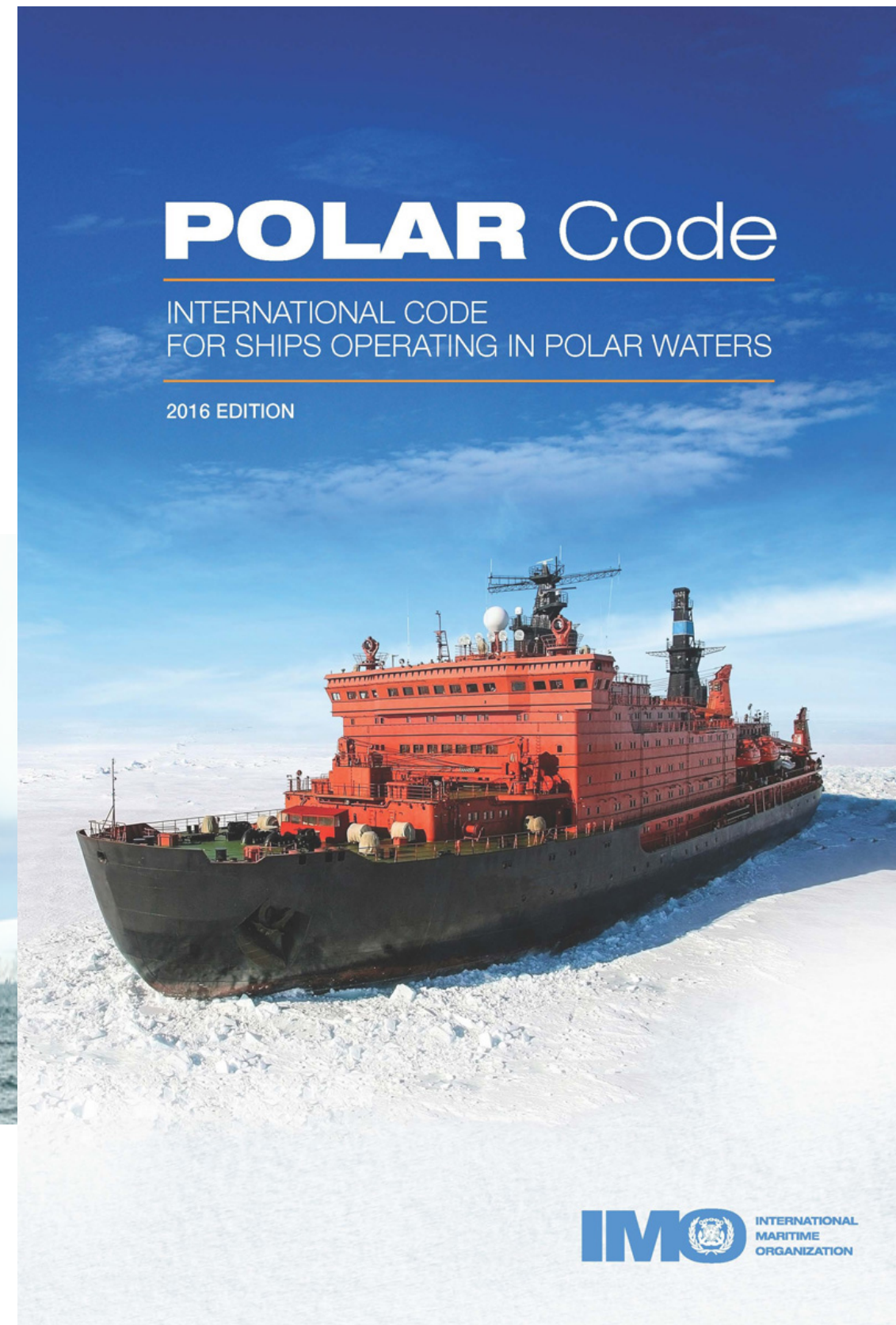
Source : IMO Home





# 1 International Conventions

## Shipping in Polar Waters



# Contemporary Issues



1. Key International Conventions
2. Current Issues



# 2 Current Issues

## Current Issues at MSC



## 2 Current Issues

### Agenda Items at MSC 98

- Maritime Autonomous Surface Ship;
- Passenger ship stability amendments;
- Cyber risk management;
- Piracy & armed robbery against ships;

## 2 Current Issues

### Maritime Autonomous Surface Ships (MASS) Scoping exercise

- IMO takes a proactive & leading role;
- scoping exercise is a starting point;
- this will be completed in four MSC sessions, through to mid-2020.

## 2 Current Issues

Scoping exercise is to touch on issues:

- human element,
- maritime safety & security,
- interactions with ports & pilotage,
- responses to incidents,
- protection of marine environment,

## 2 Current Issues

Scoping exercise is to address:

- different **levels** of automation,
- semi-autonomous to unmanned ships,
- **definition** of autonomous ship,

## 2 Current Issues

Scoping exercise is to consider:

- **legal aspects,**
- **responsibility** in MASS accident,
- **consequences** to cargo,
- **implications** to shoreside,

## 2 Current Issues

# Maritime Autonomous Surface Ship





## 2 Current Issues

# Maritime Autonomous Surface Ship

### Manned versus Unmanned

The remote operator should be legally subjected to the same navigational obligation and liability





## 2 Current Issues

Maritime cyber risk management

Resolution on maritime cyber risk management in safety management systems is adopted.

## 2 Current Issues

Administrations to ensure that maritime cyber risks are appropriately addressed in safety management systems no later than the first annual verification of the company's Document of Compliance after **1 January 2021**.

## 2 Current Issues

### Current topics at MEPC

- Global Sulphur Cap 2020
- Initial GHG Strategy
- Marine Plastic Litter



# 2 Current Issues

Sulphur 2020  
- Cutting  
Sulphur Oxide



Source : IMO Home

## 2 Current Issues

- Crude oil contains sulphur which, following combustion in the engine, ends up in ship emissions.





# 2 Current Issues

IMO Sulphur 2020 Limit  
– No Delay





## 2 Current Issues

IMO sulphur 2020 limit – No delay

- The new lower 0.50% limit on sulphur in ships' fuel oil will be in force from 1 January 2020,
- under IMO's MARPOL treaty, with benefits for the environment and human health.

## 2 Current Issues

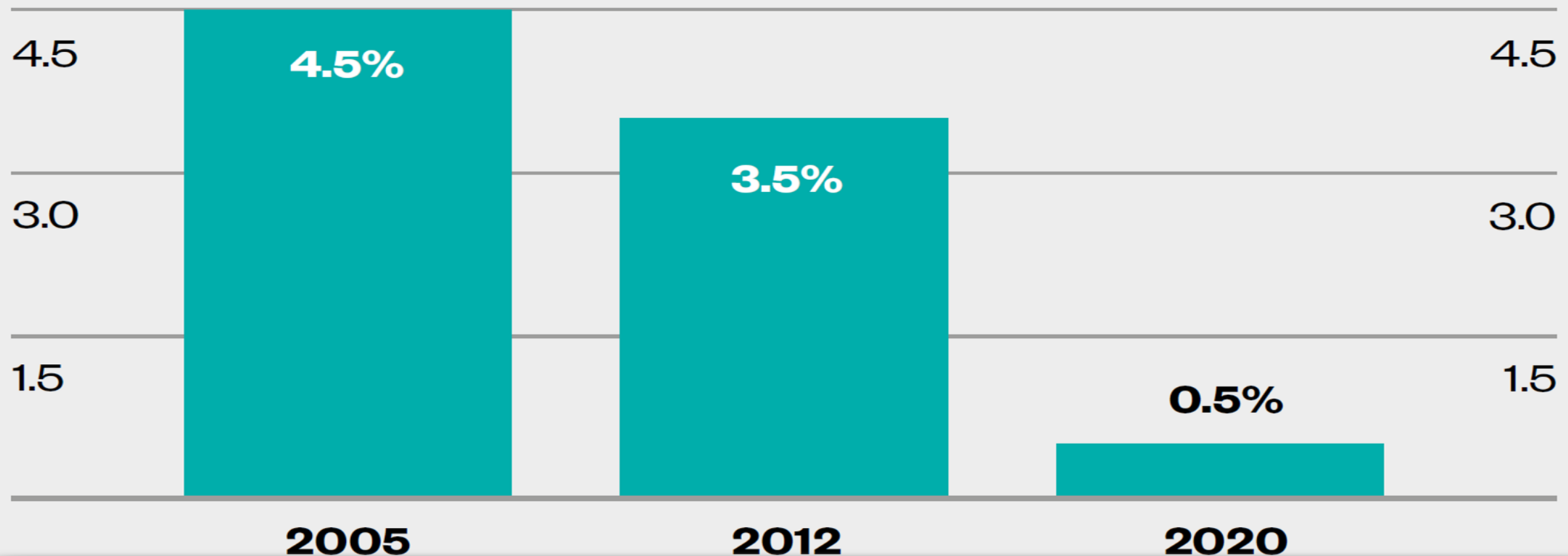
IMO sulphur 2020 limit – No delay

- the new limit will be applicable globally,
- while in designated emission control areas (ECAS) the limit will remain even lower, at 0.10%.

## 2 Current Issues

### Global Sulphur Cap

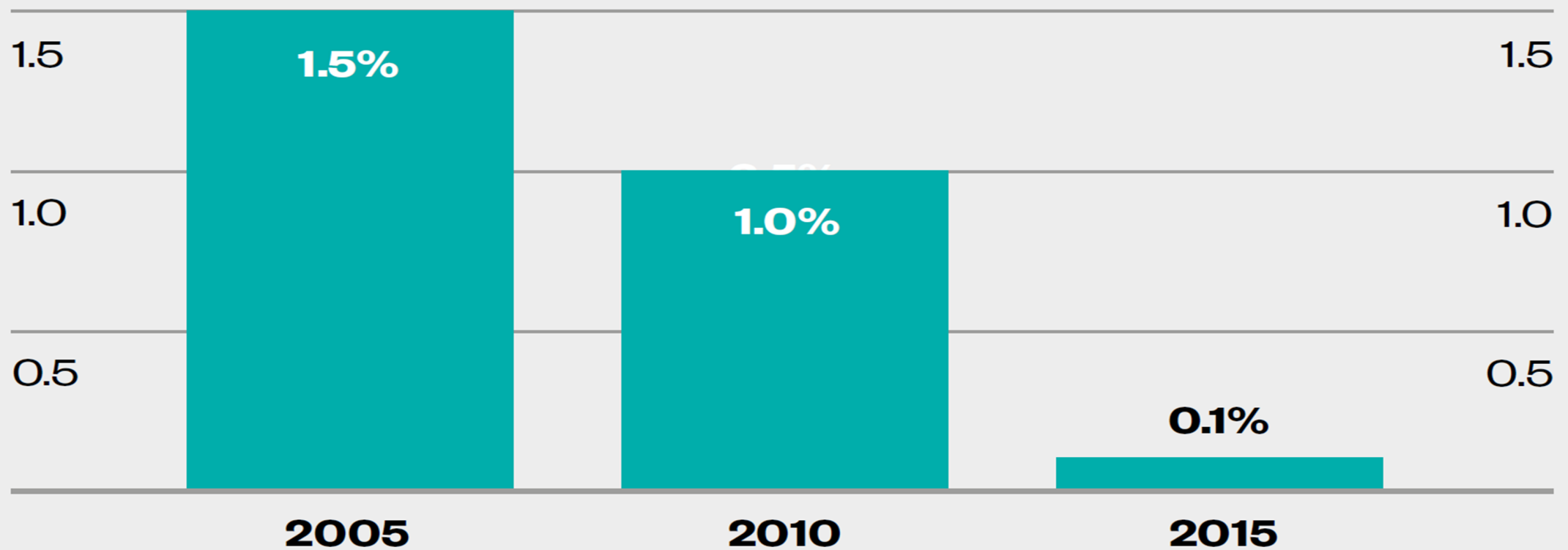
Sulphur content of fuel permitted outside  
Emission Control Areas



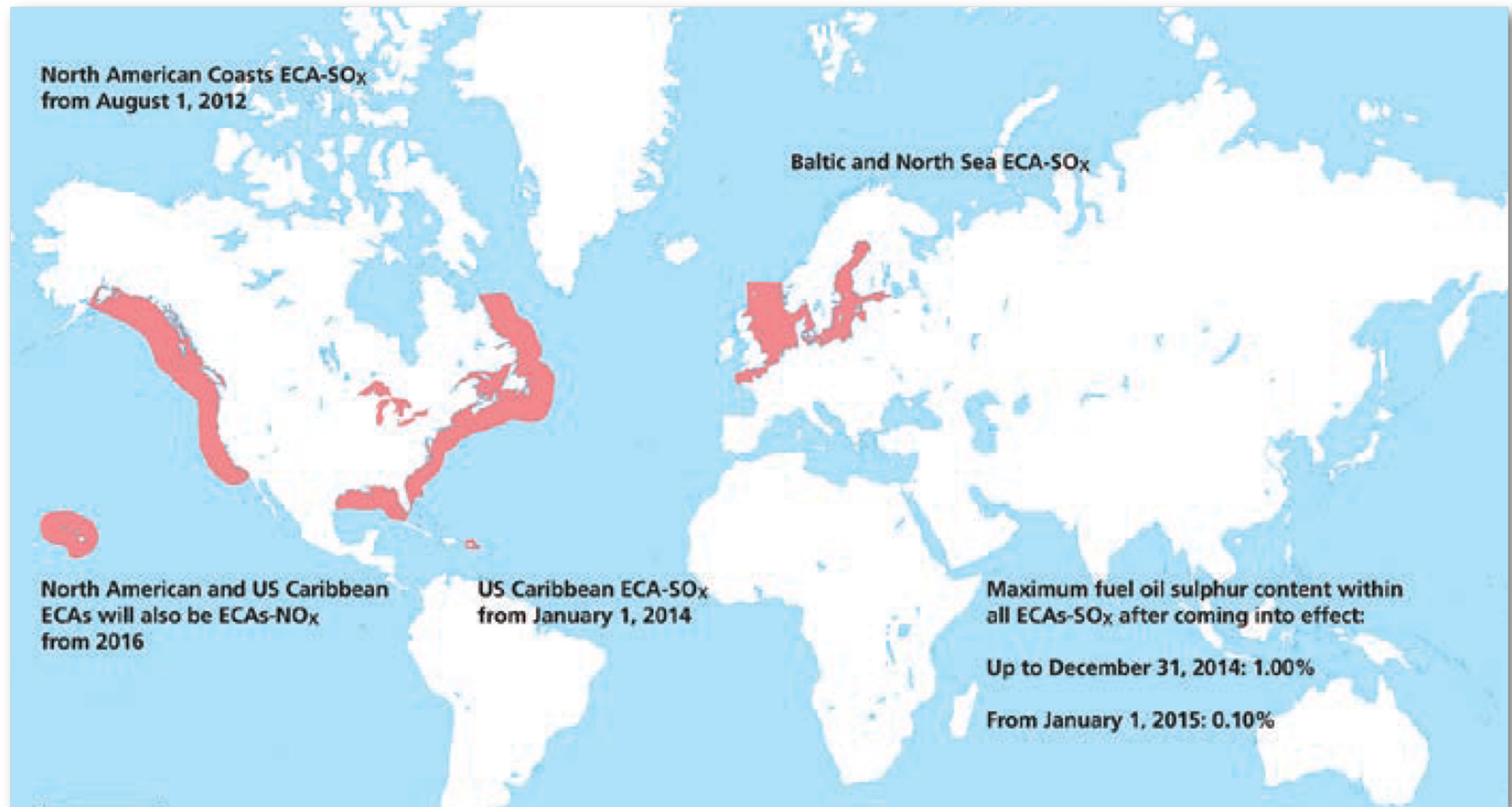
## 2 Current Issues

### IMO Agreement to Reduce Atmospheric Pollution from Ships

Sulphur content of fuel permitted inside Emission Control Areas



## 2 Current Issues



## 2 Current Issues

### Ban of carriage of non-compliant fuel oil

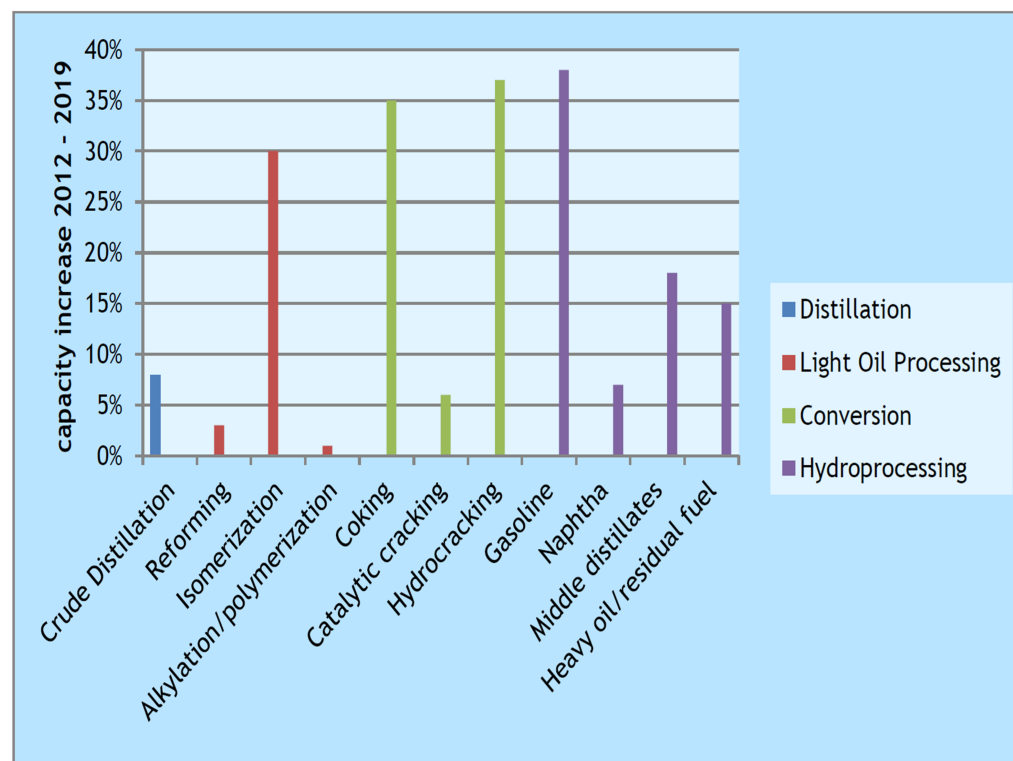


- MEPC 73 banned the carriage of non-compliant fuel oil for combustion purposes for propulsion or operation on board a ship.
- The ban will enter into force on **1 March 2020**.



## 2 Current Issues

Refinery capacity increases 2012-June 2019



Availability of low sulphur fuel

Sufficient scrubbers

# 2 Current Issues

## IMO Initial GHG Strategy



## 2 Current Issues

### What is the Initial GHG Strategy?

- The initial GHG strategy was adopted by IMO's MEPC 72 in April 2018.
- MEPC 72 set out a vision to reduce GHG emissions from ships;
- The initial GHG strategy envisages the identified “levels of ambition” of GHG reduction;

## 2 Current Issues

- The initial GHG strategy aims to reduce the total annual GHG emissions by at least
- 40% by 2030, and
- 50% by 2050
- compared to 2008

## 2 Current Issues

For the initial GHG strategy,

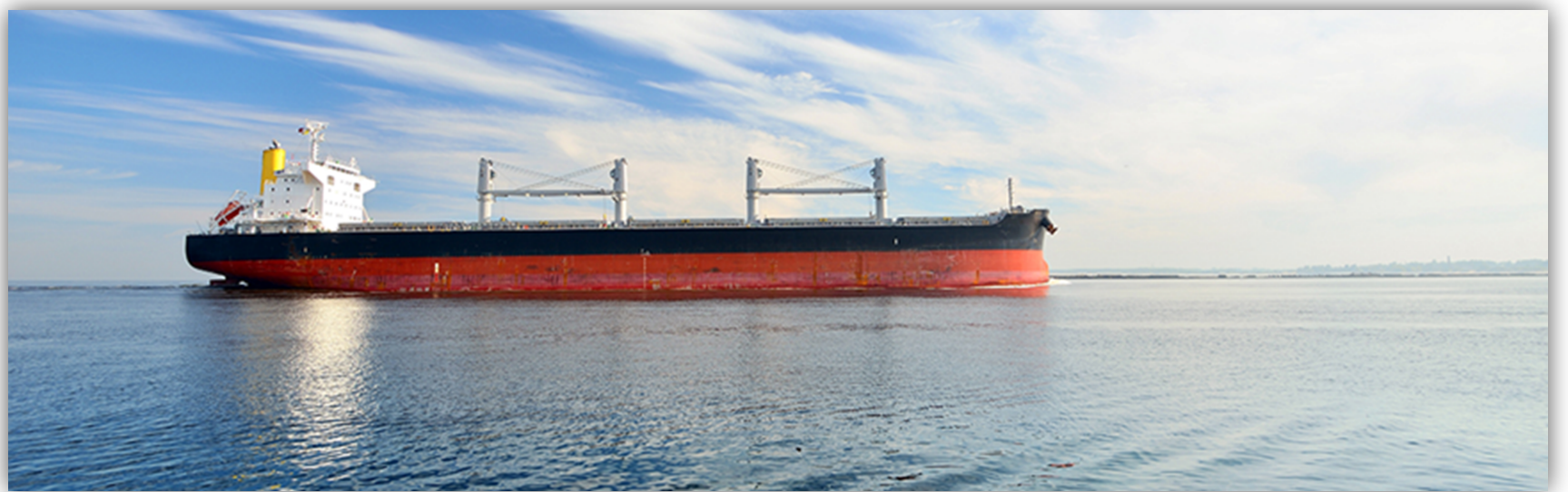
- Energy Efficiency Design Index (EEDI) is applied for new ships;
- Data Collection System for fuel oil consumption of ships is to be implemented on 1 Jan. 2019.



## 2 Current Issues

### IMO Initial GHG Strategy

- Follow- up action of GHG initial strategy is approved at MEPC 73, Oct. 2018





## 2 Current Issues

### Follow-up

- Short-term measures, 2018 – 2023
- Mid-term measures, 2023 – 2030
- Long-term measures, beyond 2030

### Actions

- Data collection system (DCS) begins on 1 Jan. 2019
- 4th IMO GHG study is to be initiated in early 2019.

## 2 Current Issues

### Marine plastic litter from ships addressed by IMO

- MEPC 73 adopted the action plan, to contribute to the global solution for preventing **marine plastic litter** entering the oceans through ship based activities.





## 2 Current Issues

### Marine plastic litter from ships

- Discharging plastics into the sea is prohibited under **MARPOL**;
- Under **London Convention/Protocol**, only permitted materials can be dumped and this waste has to be fully assessed to ensure it does not contain harmful materials like plastic litter.





## 2 Current Issues

IMO Action Plan  
to address  
marine plastic  
litter from ships

- Reduction of marine plastic litter generated from, and retrieved by, **fishing vessels**;
- Reduction of **shipping's** contribution to marine plastic litter;
- Improvement of the effectiveness of **port reception** and facilities and treatment in reducing marine plastic litter;

## 2 Current Issues

IMO Action Plan  
to address  
marine plastic  
litter from ships

- Enhanced public awareness, education and seafarer training;
- Improved understanding of the regulatory framework associated with marine plastic litter from ships;
- Strengthened international cooperation;
- Targeted technical cooperation and capacity-building.

## 2 Current Issues

### Asia Pacific

- Some of the countries in Asia Pacific do not have proper national maritime legislation and policy in place;
- Some of the countries in AP lack of financial resources for port infrastructure development;
- Others may need technical assistance, capacity-building and training;



## 2 Current Issues

### Asia Pacific

- Infrastructures of ports facilities and logistics capabilities in certain countries of the Asia Pacific have been slowly developed.
- National shipping fleets in other AP countries are small and fragmentary.
- National shipping companies in AP lack of management system, experience and professionals;

## 2 Current Issues

### Asia Pacific

- Challenges exist in some of the countries of the Asia Pacific:
  - Weak transport infrastructure,
  - Ineffective information system,
  - Lack of well-trained logistics personnel,
  - Etc....

## 2 Current Issues

### Asia Pacific

Last but not the least issue in the Asia Pacific:

- We should take proper consideration of the **land-locked** country in AP for its maritime and hinterland transport development.

## 2 Current Issues

# Greater Mekong Subregion Cross-Border Transport Facilitation Agreement

Source : AIB Home



## 2 Current Issues

### Asia Pacific

What and how:

- Belt and Road Initiative;
- 21<sup>st</sup> century Maritime Silk Road;

国际陆海贸易新通道，（陆海新通道）

New international sea-land trade passage  
(New sea-land passage)



*Thank You*

*Prof. Renping ZHANG*

*Dalian Maritime University, China*