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# IAPH's Initiatives towards Green Port

Masaharu SHINOHARA

Vice President for Asia, South/West, East & Middle East  
International Association of Ports & Harbors

Visiting Professor  
Open University of Japan

Executive Officer  
Kobe-Osaka International Port Corporation

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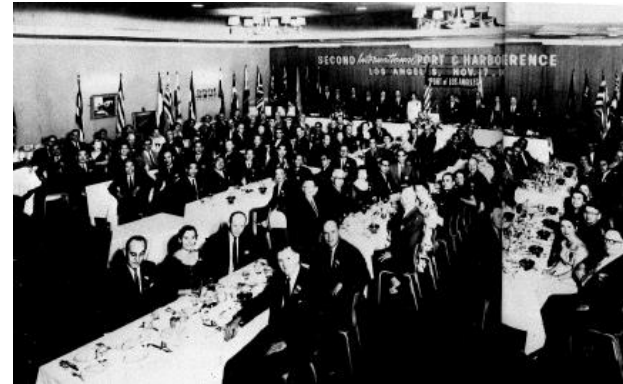
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# Brief History of IAPH

- Mr. Gaku Matsumoto, Chairman of Ports and Harbours Association of Japan, proposed the establishment of a worldwide port association after the World War II .
- In 1952, Matsumoto et al. hosted the first World Ports Conference at Kobe, Japan, inviting major ports around the world, and made a resolution to create IAPH.
- In 1955, some 100 delegates from 38 ports and maritime organizations in 14 countries gathered in Los Angeles to announce the creation of the IAPH.
- Over the past 68 years, IAPH has steadily developed into a global alliance of ports, representing today some 170 port authorities as Regular Members and some 140 port-related businesses as Associate Members.
- It is an NGO headquartered in Tokyo and is granted consultative status from five UN specialized agencies .
- In 2018, IAPH established the **World Ports Sustainability Program (WPSP)**. Guided by the 17 UN Sustainable Development Goals, it aims to unite sustainability efforts of ports worldwide by sharing best practices through its project portfolio and collaborative partnerships.



Kobe Conference in 1952



Los Angeles Conference in 1955

# IAPH President and Vice Presidents

## President

## Vice Presidents



**Capt. Subramaniam Karuppiah**  
General Manager  
Port Klang Authority, Malaysia

Vice President for Africa



**Mr. Michael Achagwe Luguje**  
Director General,  
Ghana Ports and Harbours Authority, Ghana

Vice President for America, Central & South



**Mr. José Firmo**  
CEO, Port of Açú, Brazil

Vice President for America, North



**Mr. Robin Silvester**  
President & Chief Executive Officer  
Vancouver Fraser Port Authority, Canada

Vice President for Asia, South/West, East & Middle East



**Mr. Masaharu Shinohara**  
Executive Officer  
Kobe-Osaka International Port Corporation,  
Japan

Vice President for Asia, South East & Oceania



**Mr. Eranda Kotelawala,**  
CEO  
Solomon Islands Ports Authority  
Solomon Islands

Vice President for Europe



**Mr. Jens Meier**  
CEO  
Port of Hamburg, Germany

# Management Team

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## IAPH Management Team

IAPH is governed by the Council chaired by the President. Under the direction and supervision of the President, the following two full-time officials manage the day-to-day operations.

### Secretary General



Dr. Masahiko Furuichi  
IAPH Head Office

The SG is responsible for administering the day to day operations of the Association. The Head Office is based in Tokyo, Japan, and he administers the secretariat staff and financial affairs of the Association.

### Managing Director - Policy and Strategy



Dr. Patrick Verhoeven  
Antwerp, Belgium

The MD is currently based in Antwerp, Belgium, primarily responsible to the Board and the President for the development of and implementation of the strategic plans and policies as established by the Board and for representing the IAPH within the industry.

# Number of Regular Members (as of April 2023)

## Asia, South/West, East and Middle East Region 58

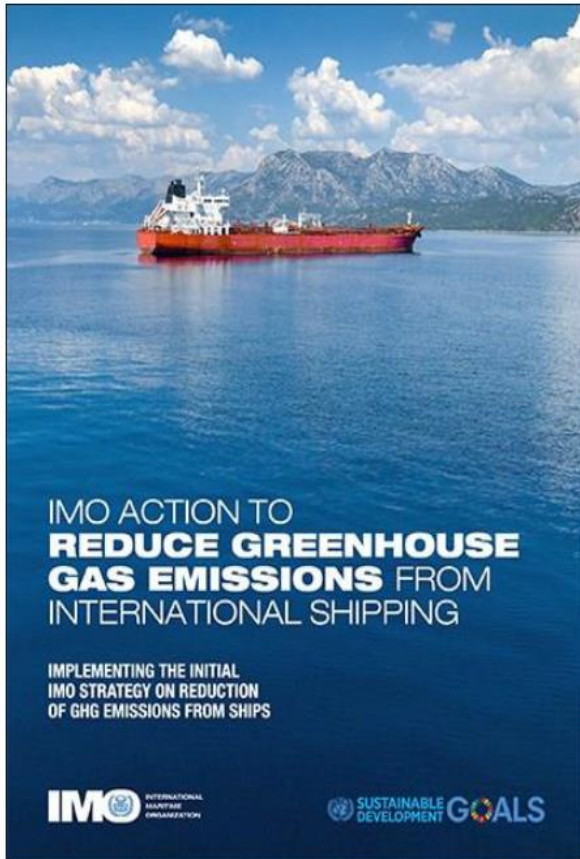
- Bangladesh 2
- China 11
- India 3
- Iran 1
- Japan 25
- Korea 7
- Maldives 1
- Oman 1
- Pakistan 1
- Qatar 1
- Saudi Arabia 1
- Sri Lanka 1
- U.A.E. 3

## Worldwide

- Asia, South/West, East and Middle East 58
- Europe 42
- Asia, Southeast & Oceania 25
- Africa 20
- North America 15
- Central & South America 12
- Total 172

# Climate & Energy

# 1. Climate and Energy



## Policy

Revision of the IMO GHG Strategy  
Market-Based Measure and allocation of revenue  
Implementation of revised IMO Ports Resolution  
COP28 in UAE

## Projects

Clean Energy Marine Hubs Initiative with  
International Chamber of Shipping  
Green Shipping Corridor development  
Climate resiliency (with Inter-American  
Development Bank)  
IMO-Norway GreenVoyage programme

## Tools

**Environmental Ship Index 2.0** **ESI**  
Port Readiness for Clean Marine Fuels (joint  
WPCAP / CMF initiative)  
Roadmap of CMF bunkering safety tools

# What is ESI?

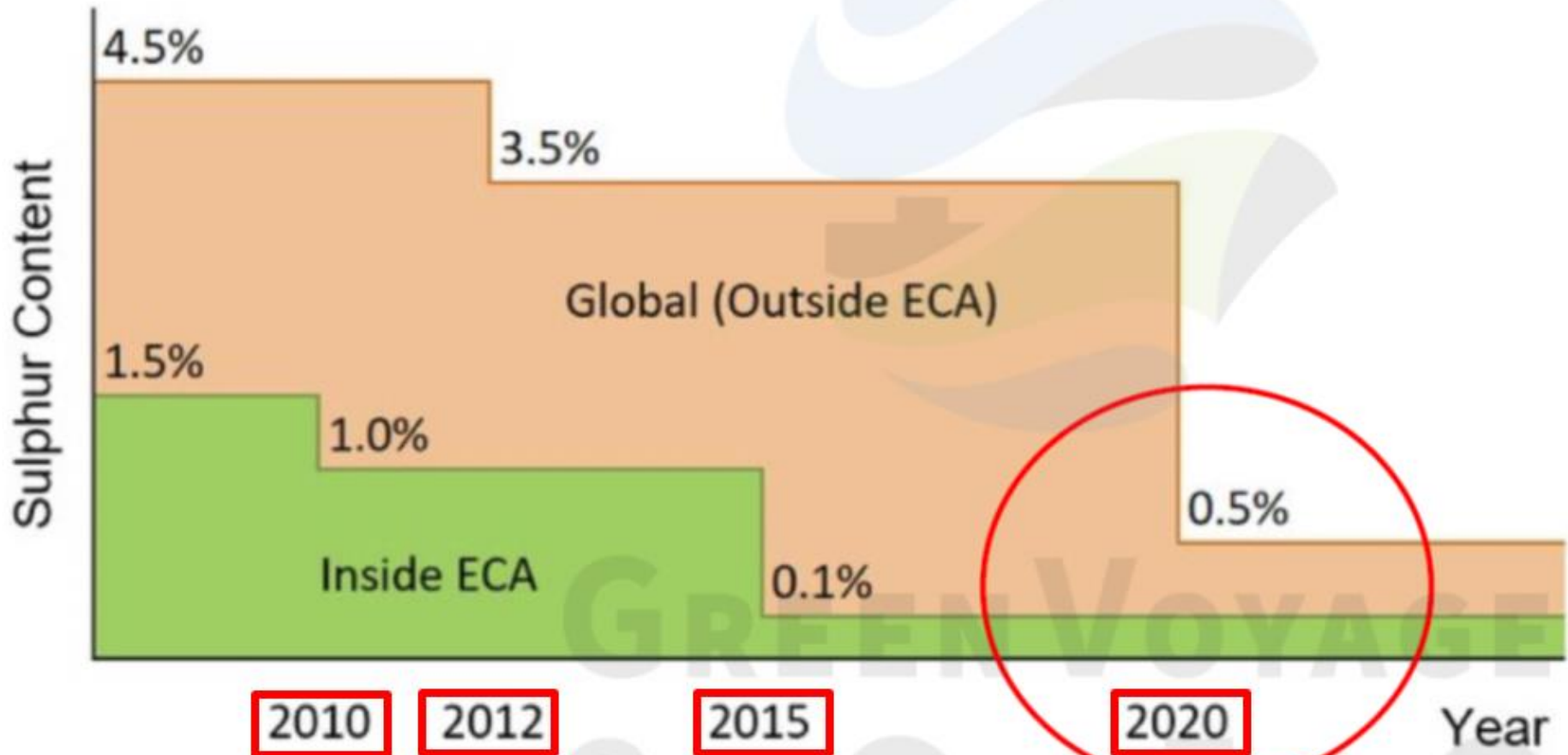
- Environmental Ship Index (ESI) is the **voluntary incentive scheme** which was designed and used by port authorities and maritime administrations to incentivize ship owners, operators and managers to **improve environmental performance of their vessels.**
- ESI was designed and created in 2011, and initially implemented by several ports in close cooperation with IAPH.
- The subsequent ESI Working Group established administrative and operating procedures to refine and continuously improve the index.



# IMO Emission Control Areas (SO<sub>x</sub> and NO<sub>x</sub>)

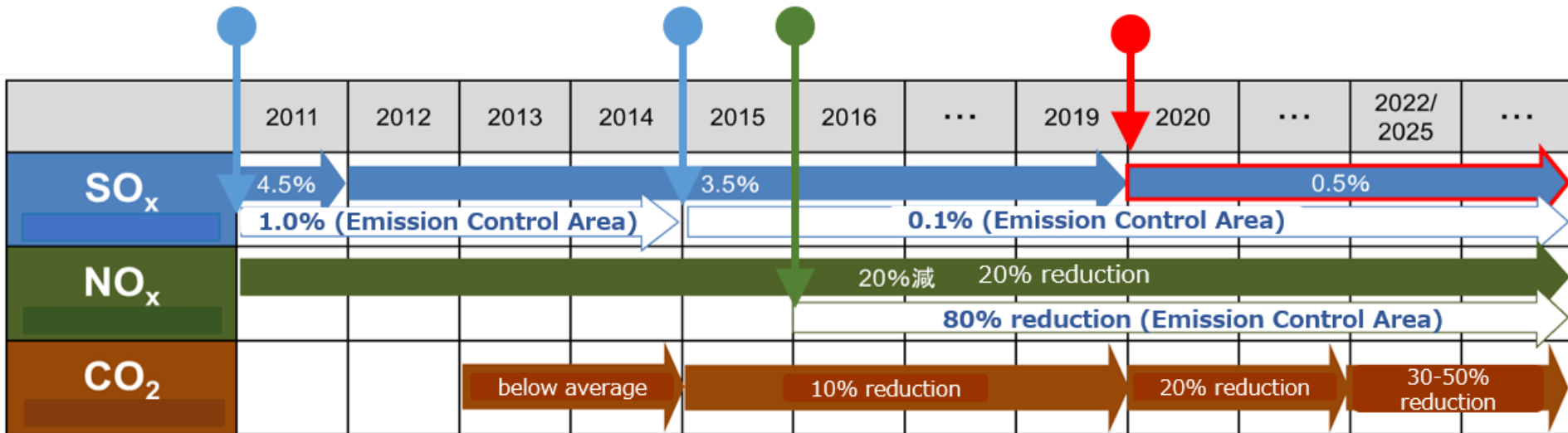


# Brief history of IMO regulation on SOx



# IMO regulations for international shipping emissions

1. Air pollutant emission (SO<sub>x</sub>, NO<sub>x</sub>)
2. Greenhouse Gas emission (CO<sub>2</sub>)

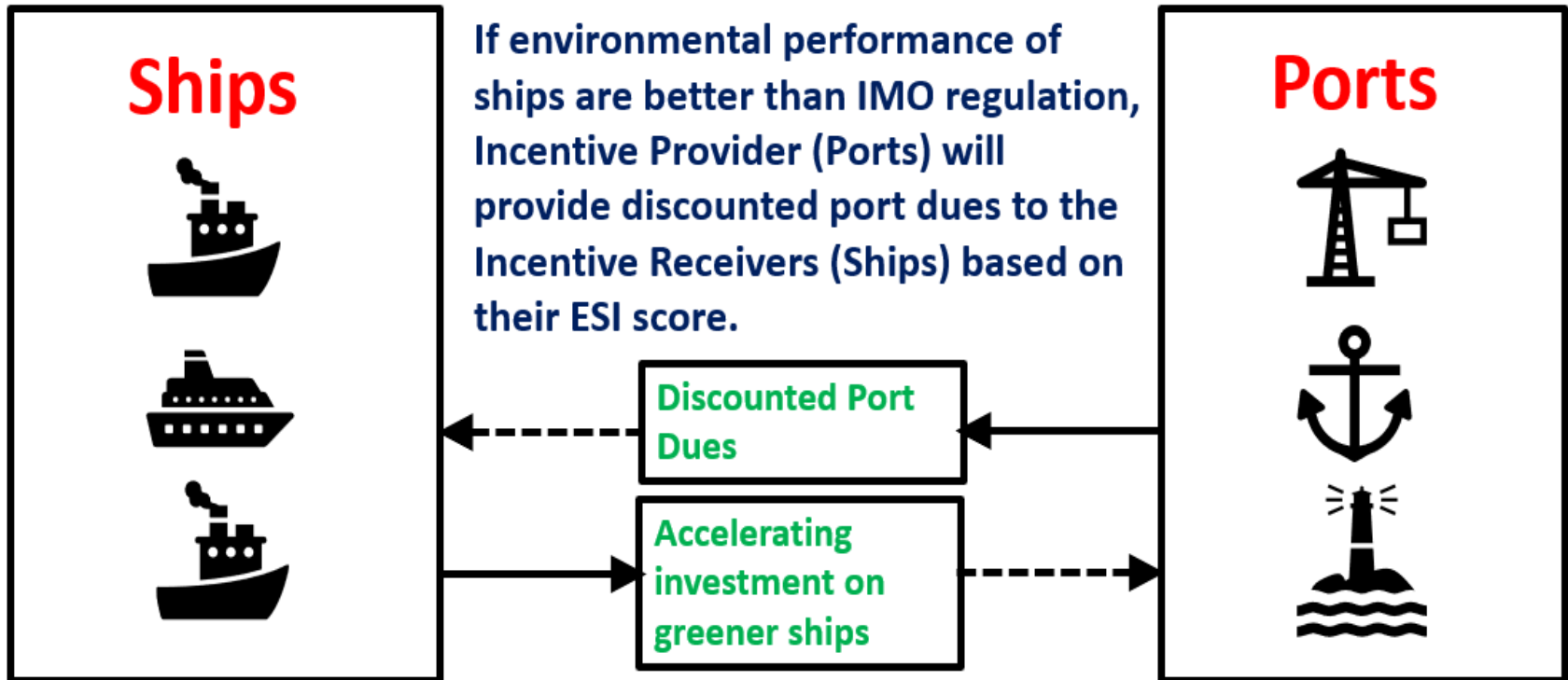


ESI Program started its operation.

# Voluntary Incentive Scheme of ESI Program

## Incentive Receivers (IRs)

## Incentive Providers (IPs)



**Better air quality in and around the ports could be realized by ESI Program in conjunction with the IMO regulations.**

# How is the ESI score calculated ?

- The Environmental Ship Index (ESI) identifies ocean-going ships that perform better in reducing air emissions than required by the current emission standards of the IMO.
- The ESI evaluates the amount of Nitrogen oxide (NOx), Sulphur oxide (SOx) that are released by a ship and includes a reporting scheme on the greenhouse gas (GHG) emission of the ship.
- The ESI is a good indication of the environmental performance of ocean-going vessels and will assist in identifying cleaner ships in a general way.

**ESI Score (capped at 100)**

**= ESI NOx + ESI SOx + ESI CO2 + OPS**

**ESI NOx = 2\*NOx sub points (engine performance)**  
**(ranging between 0 and 66.66)**

**ESI SOx = SOx sub points (sulphur content)**  
**(ranging between 0 and 33.33)**

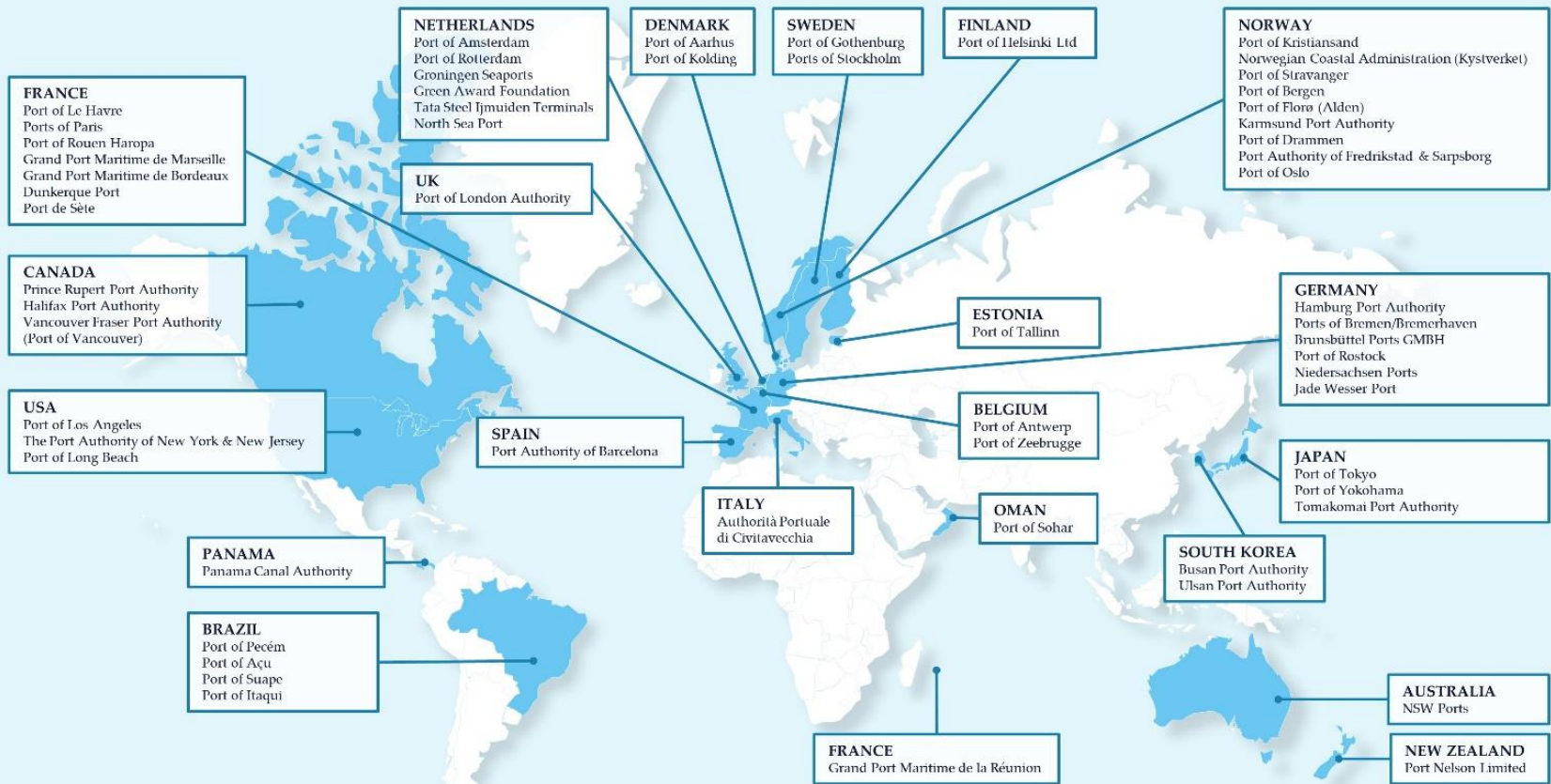
**ESI CO2 = 5 (for reporting of fuel and distance)**  
**+ z (efficiency increase in % is added)**  
**(total capped at 15)**

**OPS = 10**  
**(if On-shore Power Supply installation is fitted)**

# Incentive Providers (Ports) around the world

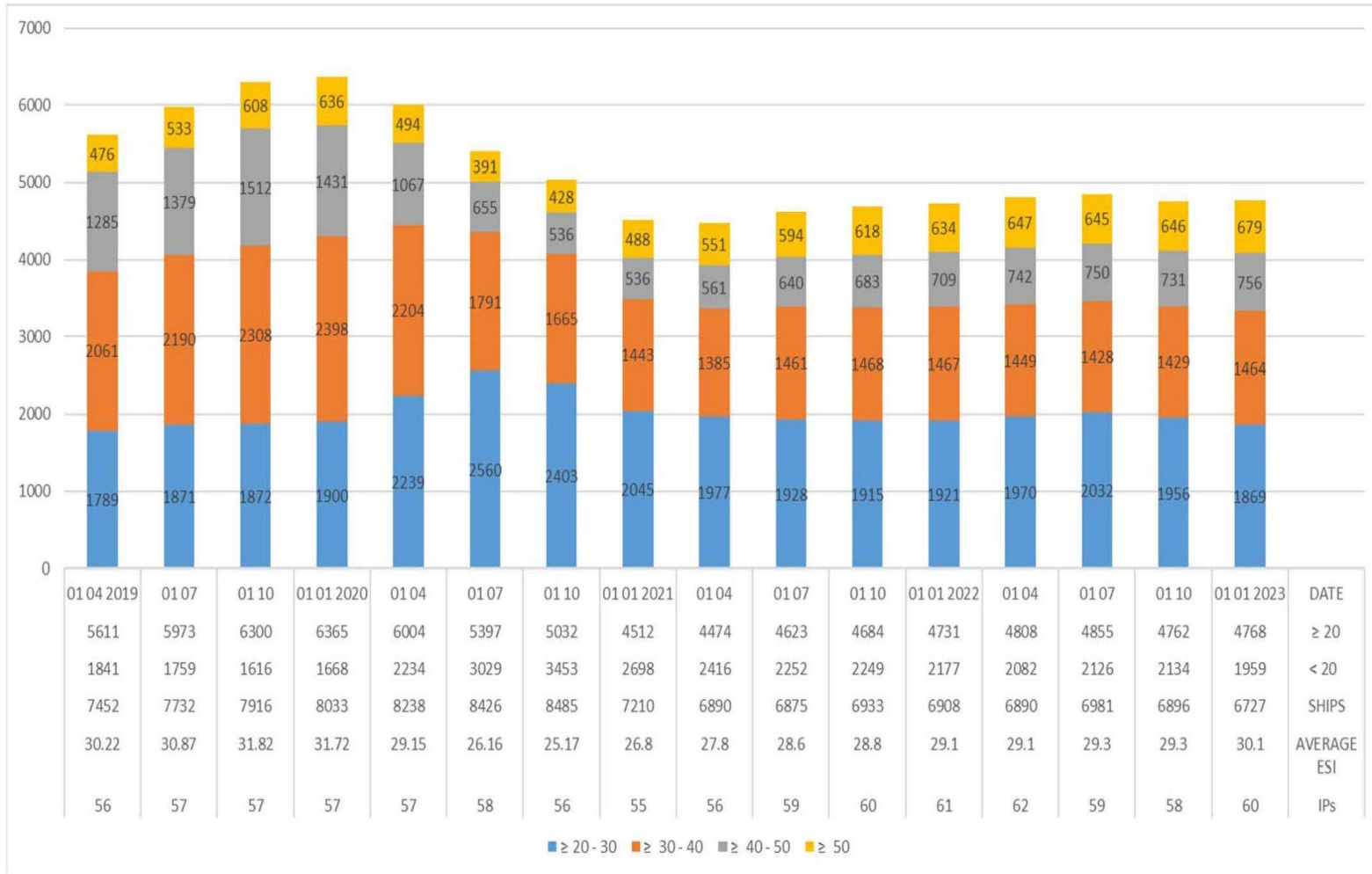
Total: 61 Ports

Asia: 5 Ports



# ESI-registered Ships and their score distribution

## ESI Scores: 1 January 2023



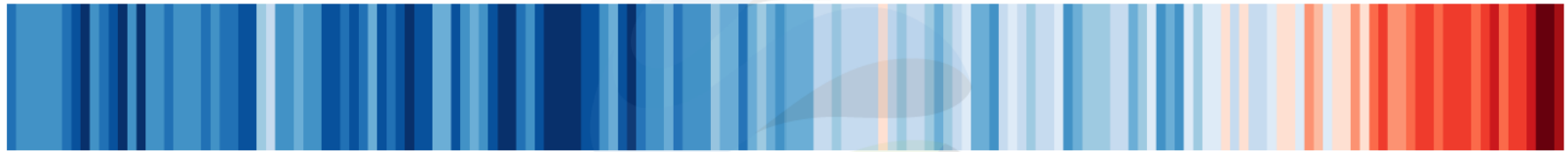
ESI Score ≥ 20:  
4768

ESI Score < 20  
1959

**Total 6727**

# IMO initial GHG Strategy (2018)

Addressing climate change requires a reduction in the use of fossil fuels



Percentage of global CO<sub>2</sub> emissions from international shipping<sup>[1]</sup>



IMO initial GHG strategy target for greenhouse gas emissions reduction by 2050 compared with 2008 levels<sup>[2]</sup>

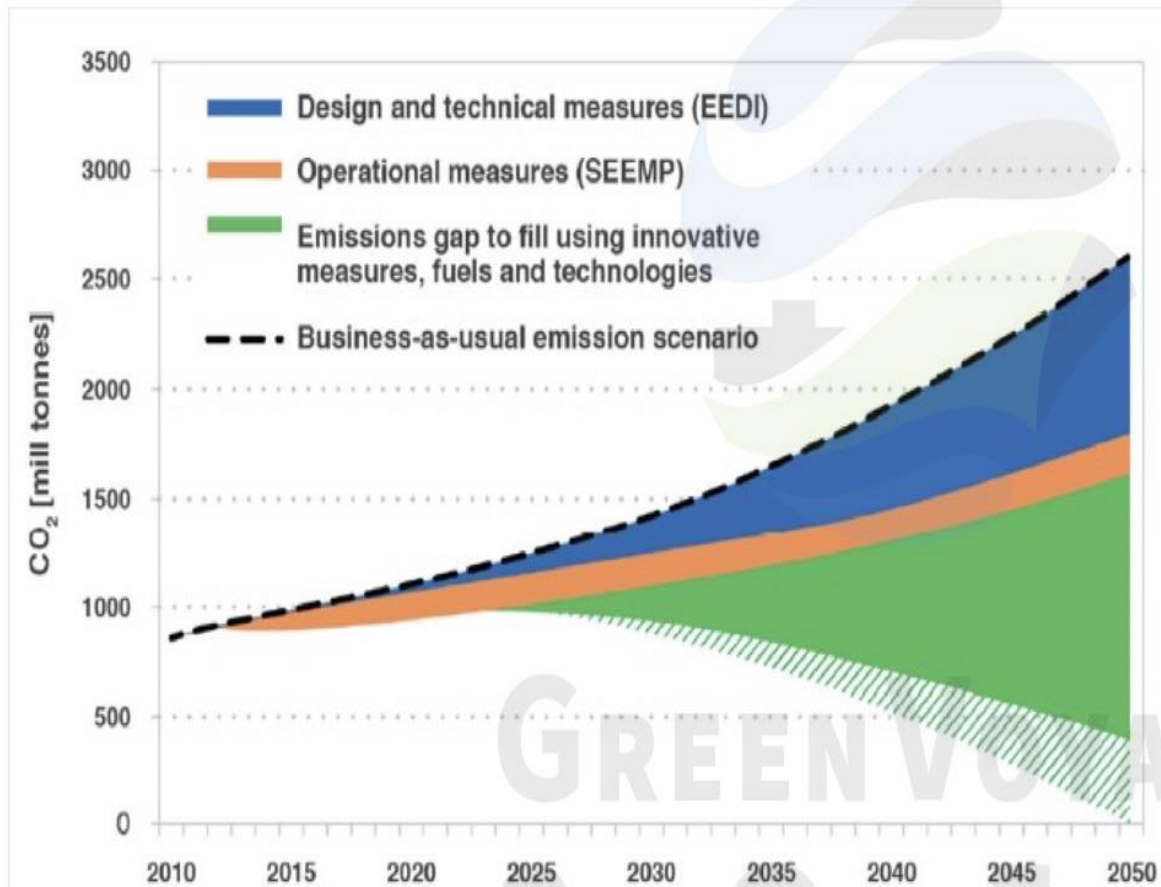
GREEN VOYAGE  
2050

[1] Fourth IMO GHG Study, July 2020. Anthropogenic emissions only. Figure for 2018.

[2] Strategy adopted in 2018 (resolution MEPC.304(72)).



# We need to do more in order to reach the IMO 2050 ambition !



Reduction % are indicative estimate.

This is illustration purpose only and not approved by MEPC.

- Energy efficiency improvements through the current framework (EEDI and SEEMP) are important, but will not be enough to reach the 2050 ambition.
- MEPC 75 (Nov 2020) approved amendments to MARPOL Annex VI introducing new regulations to reduce GHG emissions from existing ships (pending final adoption).



# IAPH is now moving forward to ESI 2.0

**Current  
ESI**

- Ocean-going operation
- NOx, SOx and CO2



**ESI 2.0**

- Mooring at berth operation
- More focus on CO2

**We strongly encourage Chinese Ports to participate in the IAPH activities including ESI Program.**

**Thank you very much for your attention!**