



SUSTAINABLE SHIPPING  
FOR A  
SUSTAINABLE PLANET

# IMO policies driving the global uptake of alternative power solutions for shipping

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# International Maritime Organization (IMO): a global regulator for a global industry



**UN Specialized Agency** mandated to define a **global regulatory framework** to ensure safe, secure and efficient shipping on cleaner oceans



Established in 1948. Headquartered in London



**175 Member States**, 3 associated members, 143 observer organizations (IGOs and NGOs)



**IMO regulates > 50,000 ships trading worldwide**



IMO's instruments contain **binding obligations**, which are **enforced globally by flag and port States**



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

# Implementing the Initial IMO GHG

**Strategy:** complementing IMO's existing energy efficiency requirements for international shipping



# GHG reduction: Over 10-years of mandatory IMO energy-efficiency requirements in MARPOL Annex VI

## Ship Energy Efficiency Management Plan (SEEMP)

Since 2013: **ship-specific SEEMP** on board each ship

## Energy Efficiency Design Index (EEDI)

Since 2015: Gradually **more stringent energy efficiency performance requirements for new build ships**

## IMO's Fuel Consumption Data Collection System

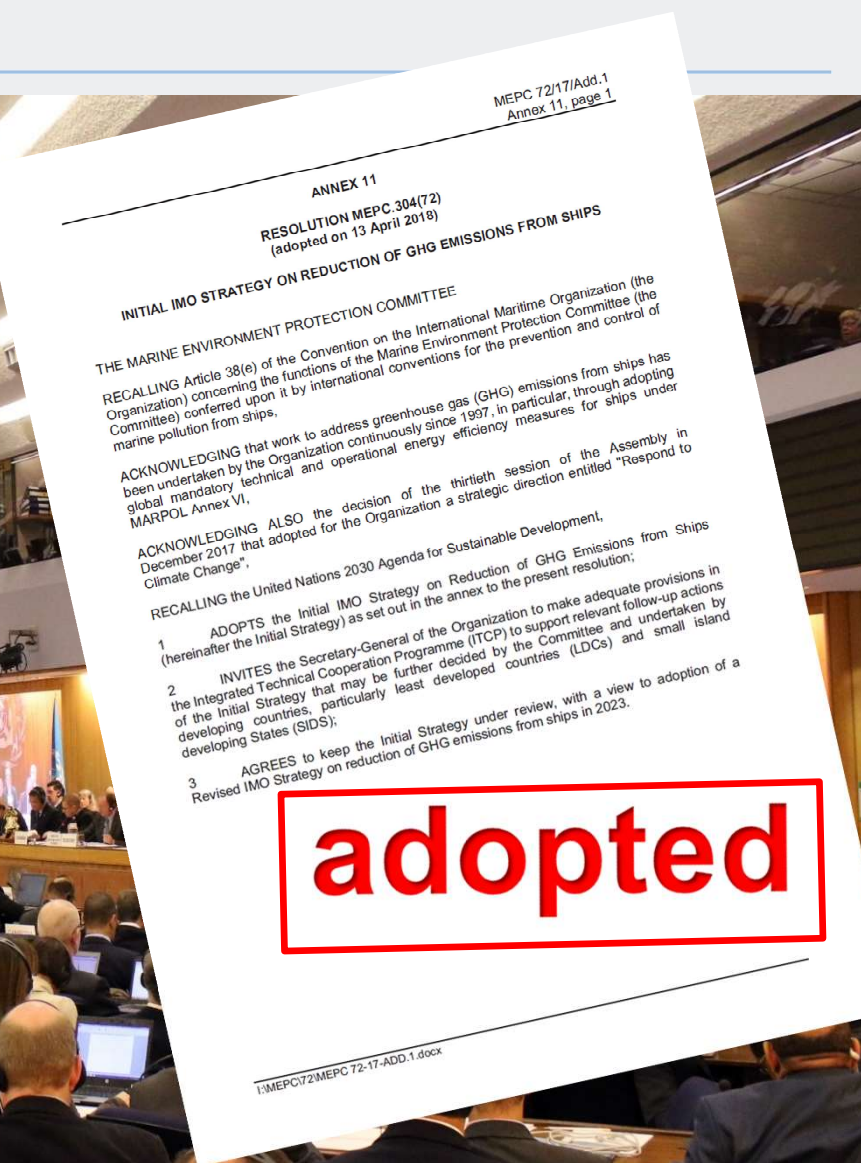
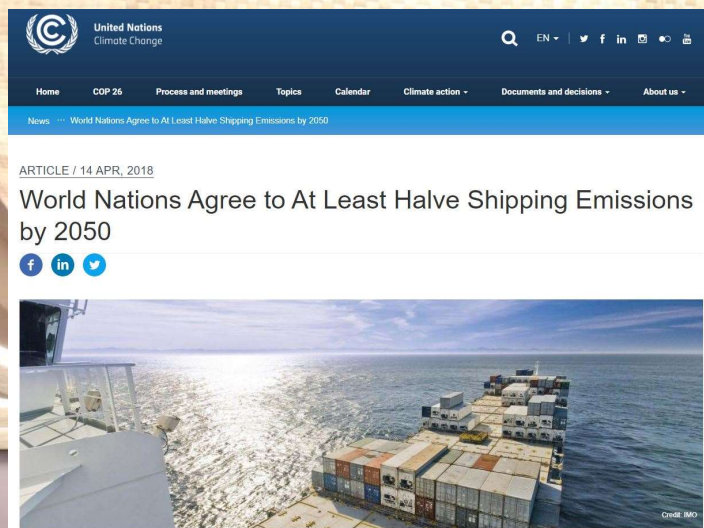
Since 2019: Ships over 5,000 gt to report **annual fuel consumption data** to their Administration; forwarded to IMO

**2021: 139 Administrations  $\geq$  28,000 ships - 212 million tonnes of fuel**

***The existing energy efficiency requirements provide key building blocks for future GHG reduction measures***



# The 2018 IMO Initial GHG Strategy: laying out the decarbonization transition of global shipping



# IMO's commitment to phase out GHG emissions from international shipping: driving innovation around the world

## Vision

- **Phasing out** GHG emissions from international shipping as soon as possible in this century

## Levels of ambitions

- Further **strengthen energy efficiency design requirements** for ships
- 2030: reduce **carbon intensity by at least 40%**, compared to 2008
- **2050: reduce the total annual GHG emissions by at least 50%** compared to 2008

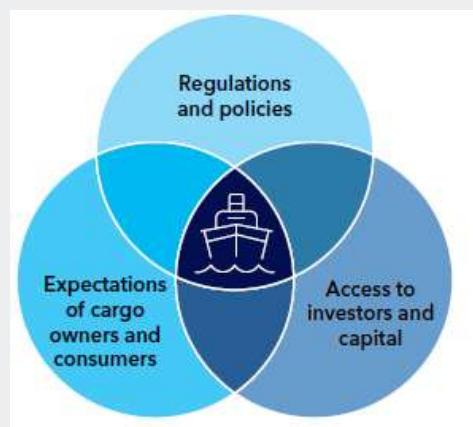
## Other key elements

- **Impacts on States** of candidate GHG reduction measures to be assessed before adoption
- **Initial Strategy to be revised by 2023**

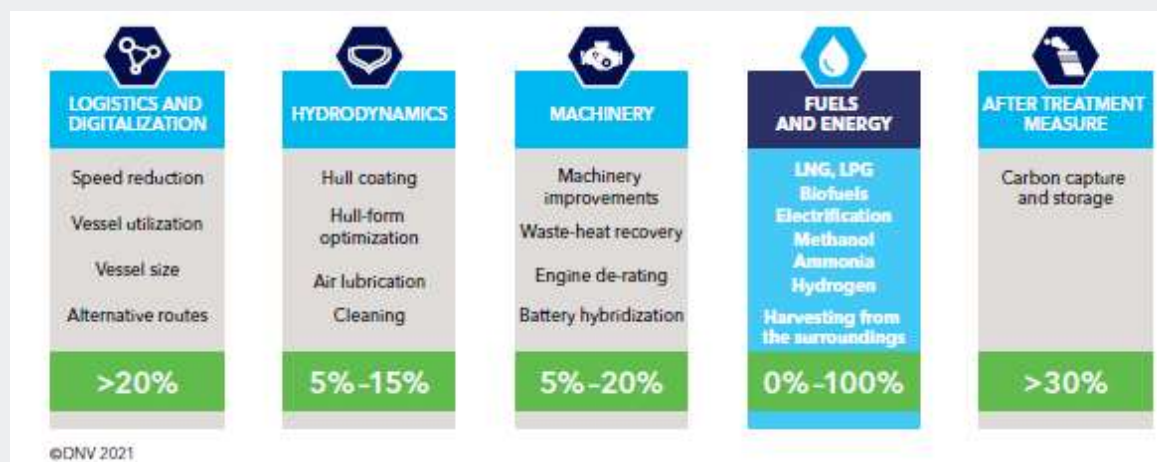
# Implementing the Initial GHG Strategy: IMO regulations drive innovation

## Mandatory IMO short-term GHG reduction measure

- Entry-into-force by **November 2022**; to be reviewed by **2026**
- Aimed to reduce **40% carbon intensity reduction of global fleet** by 2030
- **Mandatory annual goal-based reduction requirements (EEXI/CII/SEEMP)**: leaving **compliance flexibility** to owner/operator
- **Annual CII rating (A – E)** is an important tool for the **maritime value chain** (ports, charterers, financial sector) to **provide incentives and control “Scope – 3” emissions**



Key drivers influencing ship decarbonization  
Source: DNV





# Change is already happening across the maritime value chain



## In a sustainable ecosystem, shipping dances to the tune of the customer

*Agreement between BHP and JX Nippon Mining & Metals to reduce their carbon footprint and create green partnerships essentially means shipowners must align or be overlooked for charters*

12 Aug 2022 | OPINION



## EEXI and CII should drive a 'mindset of continuous benchmarking'

*Bernhard Schulte Shipmanagement's head of fleet performance believes the IMO is calling for a proactive approach towards managing carbon intensity. Crews, shipowners and charterers take responsibility*

27 Jul 2022 | ANALYSIS



Press release

15 June 2022

## Industry giants gain unprecedented insight into the climate impact of their shipping activities



## Assessment of climate alignment

Under the Sea Cargo Charter, Signatories will calculate the climate alignment of their chartering activities relative to established decarbonization trajectories.

[ADM](#) | [AMAGGI Switzerland](#) | [Anglo American](#) | [Bunge](#) | [Cargill Ocean Transportation](#) | [Chevron](#) | [COFCO International](#) | [Copenhagen Commercial Platform \(CCP\)](#) | [Diamond Bulk Carriers](#) | [Dow](#) | [Eagle Bulk](#) | [Enviva](#) | [Equinor](#) | [Global Chartering](#) | [Golden-Agri Maritime](#) | [Gunvor Group](#) | [Holcim Trading](#) | [K+S Minerals and Agriculture GmbH](#) | [Klaveness Combination Carriers](#) | [Louis Dreyfus Company](#) | [Maersk Tankers](#) | [Navig8 Group](#) | [Norden](#) | [Nova Marine Carriers](#) | [NYK Bulkship \(Atlantic\) NV](#) | [Rubis Energie](#) | [Shell](#) | [Signal Maritime Services](#) | [Tata Steel Group](#) | [Torvald Klaveness](#) | [TotalEnergies](#) | [Trafigura](#) | [Viterra Chartering B.V.](#)



CARBON INTENSITY INDICATOR

## Are you ready for CII?



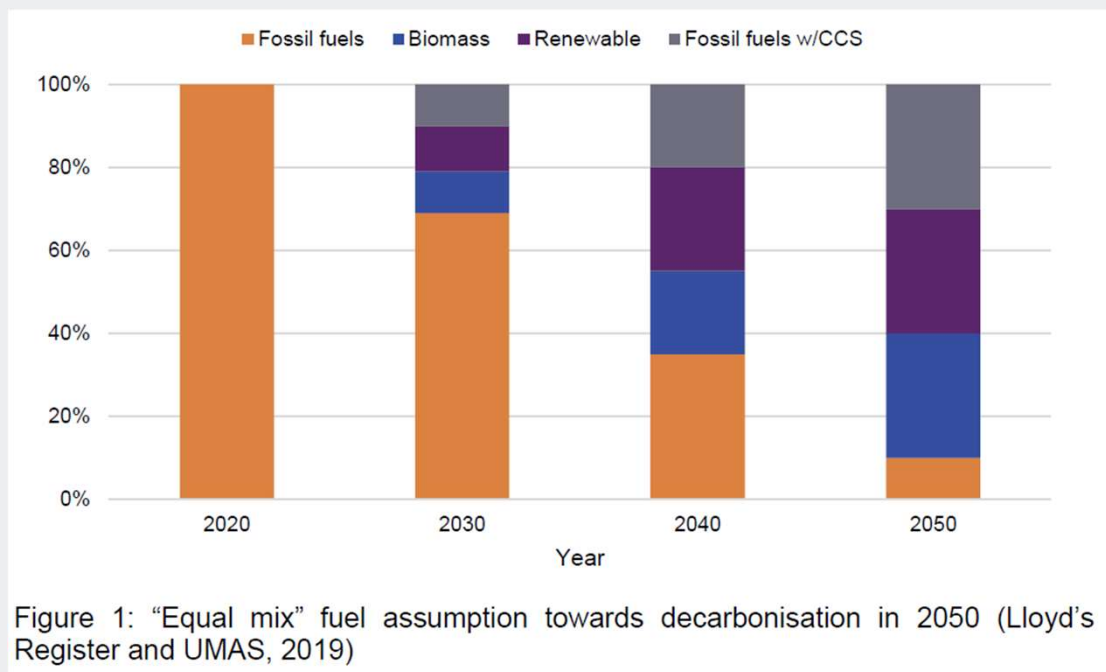
## **Towards 2050:** IMO's next set of measures aimed at phasing out GHG emissions from international shipping



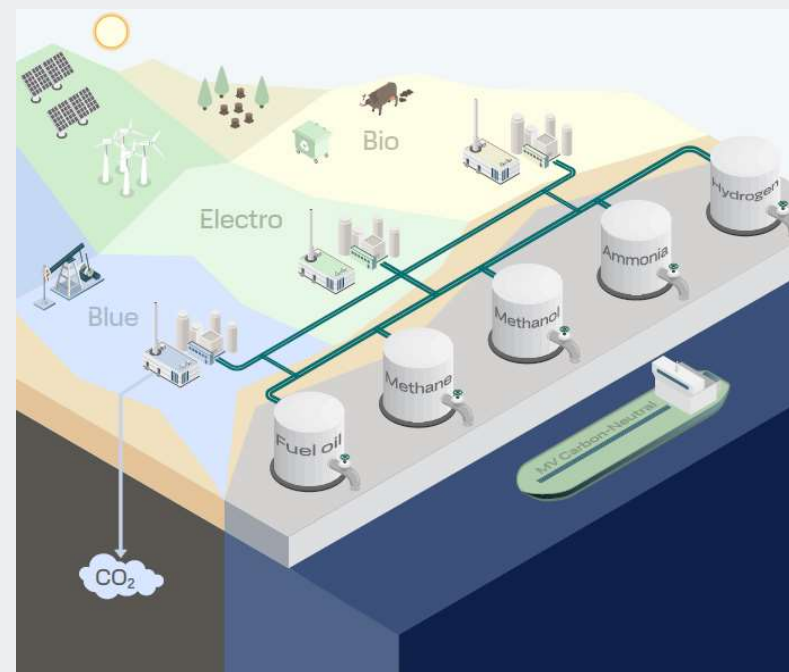
**Enabling the 4<sup>th</sup> propulsion revolution**

# Decarbonizing international shipping in line with a 1.5 degrees Celsius pathway requires a transition to low-and zero carbon fuels

## The future fuel mix?



## The future port?



# Towards 2050: Developing the global regulatory framework that supports the decarbonization transition of international shipping

## IMO's challenge as global regulator of international shipping

**IMO' next set of GHG reduction measures should:**

- Be **technology** and **fuel-neutral**, while based on 'real' climate impact
- Facilitate the **global transition** towards low-carbon shipping: **encourage first-movers** whilst **not over-penalizing** existing fleet
- Bridge **current price gap** between **fossil fuels** and **low-zero carbon alternatives**
- Rapidly put in place a **harmonized global-level-playing field** to **minimize a patchwork** of **regional/national** carbon-pricing measures/double taxation
- Ensure continued global access to **affordable maritime transport services** and **global availability of low-carbon fuels**
- Minimize any **disproportionately negative impacts on States**



# The next set of IMO measures enabling the global uptake of low/zero carbon alternative fuels

## IMO's ongoing work on extending the regulatory framework:

- Creating a global level-playing-field that leaves nobody behind
- Supporting first-movers whilst avoiding stranded assets
- Supporting further confidence among all IMO Member States and industry

**.1** A strengthened **revised IMO GHG Strategy** setting out the revised pathway to decarbonize international shipping

**.2** **Safety framework** to allow for safe use of alternative marine fuels (hydrogen, ammonia, etc.)

**.3** Revision of the **IMO Fuel Consumption Data Collection System** and development of **IMO Lifecycle GHG assessment (LCA) guidelines**

**.4** **Mid-term GHG reduction measures**, incl. possible **MBMs**, to incentivize the uptake of low/zero carbon alternative fuels

## Strategic framework towards 2050: Revision of the Initial IMO GHG Strategy

### Revision initiated in December 2021:

- Following COP 26, and **urgency for all sectors** to accelerate efforts
- A strengthened **revised IMO GHG Strategy** to be agreed in **July 2023**
- Substantial support for **phasing-out/zero/net-zero GHG emissions from international shipping by 2050** and intermediate targets
- Other delegations **not** (yet) in a position to support such targets
- Broad support to expand on “**just and equitable**” **transition**: how to ensure that **developing States** are part of the transition



# Revision of the Initial IMO GHG Strategy

## Other elements of discussion:

- scope of **greenhouse gases** (e.g. methane, ammonia slip, ...)
- introducing **ship-type/size specific (differentiated)** reduction targets
- introducing reduction targets for **maritime corridors to support first-movers**
- possibility of **out-of-sector compensation**: on-board carbon capture – offsetting

### SHIPPINGWATCH

#### Major liner companies must lead smaller carriers in green transition

The many small and mid-sized carriers in Germany ought to wait some years before investing in new, green vessels, instead letting major container carriers do the trailblazing work, says Gaby Bornheim, chair of the German shipowners' association, to ShippingWatch.

### TradeWinds

The Global Shipping News Source

#### Rotterdam and Singapore 'can inspire' with deal for longest green corridor

Port authorities at either end of Asia-Europe trade lanes look to bolster the development and supply of alternative fuels and shared digital services

2 August 2022 12:04 GMT UPDATED 2 August 2022 13:04 GMT



# Revision of the Initial IMO GHG Strategy

## Other elements of discussion:

- linking reduction targets to **introduction of global carbon-pricing** of marine fuels
- operationalizing the **principle of CBDR: 'common-but-differentiated responsibilities'**: e.g. through financial/technical support; access to/deployment of technology; port-infrastructure development for **developing States**



# Towards 2050: Developing the global regulatory framework that enables the decarbonization transition of international shipping

## .2 Safety regulations for low-carbon marine fuels

- Important work underway (MSC, CCC) on development of **IMO safety guidelines** for ships using alternative fuels (fuel cell, hydrogen, ammonia)
- **Safe** onboard use and bunkering is key to take-up of low carbon fuels
- Enhanced **cooperation between MSC-MEPC**

## .3 Further enhancement of the IMO Data Collection System (DCS)

- **IMO's mandatory fuel consumption reporting** has **central role** in the implementation of future mid-term measures, incl. possible economic measures
- Amendments to the IMO DCS on reporting of **EEXI, CII and rating values to be adopted by MEPC 79**
- New **workstream** on **further revisions of the IMO DCS** agreed

# Towards 2050: Developing the global regulatory framework that enables the decarbonization transition of international shipping

## .3 IMO Lifecycle GHG emission guidelines

- **IMO Lifecycle GHG guidelines** covering “**well-to-wake**” **emission values of alternative marine fuel** to be finalized by MEPC 80 (July 2023)
- Aimed at **incentivizing investment** and **uptake** of alternative marine fuels according to their ‘**real**’ **climate impact**
- Ongoing discussions about fuel **types/pathways**, **sustainability criteria**, **verification/certification**, **review of default emissions values**
- Guidelines will be crucial for the development future IMO GHG reduction **technical and economic measures**





# Towards 2050: Developing the global regulatory framework that enables the decarbonization transition of international shipping

## .4 Proposals for mid-term GHG reduction measures

Developing a possible “**basket of mid-term GHG reduction measures**”

### **Technical measures**

(enhancing the CII framework, GHG fuel standard, EEDI Phase IV etc.)

### **Economic measures**

(carbon pricing/MBM, IMRB/F, IMRS&F, ZEV incentive scheme, buy-down programmes, etc.)

### **Assessing**

**impacts** of candidate measures on States

How to ensure a **fair and equitable transition** (disbursement of carbon revenues, phased/differentiated implementation, corridors, alternative methods of compliance, technology cooperation/transfer, etc.)

Including **review** and/or **adjustment mechanisms** in a possible combination/basket of measures

# Towards 2050: Developing the global regulatory framework that enables the decarbonization transition of international shipping

## Next steps and expected progress

- **December 2022:** ISWG-GHG 13 and MEPC 79
- **[March 2023:** ISWG-GHG 14]
- **July 2023:** [ISWG-GHG 15] and MEPC 80
  - **Agreement on the revised IMO GHG Strategy:**
    - revised levels of ambition for 2050
    - possible intermediate targets
    - “just and equitable transition”
  - **Basket of mid-term GHG reduction measures**
    - revised timeline for adoption
    - initiating first stage of comprehensive impact assessment
  - **IMO Life-Cycle GHG Assessment Guidelines**



# Challenges and opportunities in decarbonizing international shipping





# What is a “just and equitable” decarbonization transition of shipping?

## Exploring opportunities in renewable fuel production for shipping in developing States

- Shipping is both a '**customer**' of renewable marine fuels as well as the '**enabler**' of the global energy transition
- IMO is supporting **renewable energy production initiatives in developing countries** to enable a “**Just and Equitable**” transition

S&P Global  
Market Intelligence

### Rich in renewable energy, Chile seeks to become global hydrogen powerhouse

As a net importer of fuels, Chile has never been a significant global energy player. However, with early bets on wind and solar power, it is poised to become a titan in the burgeoning green hydrogen economy.



SUSTAINABLE DEVELOPMENT

### These emerging economies are poised to lead shipping's net-zero transition



Aug 18, 2022

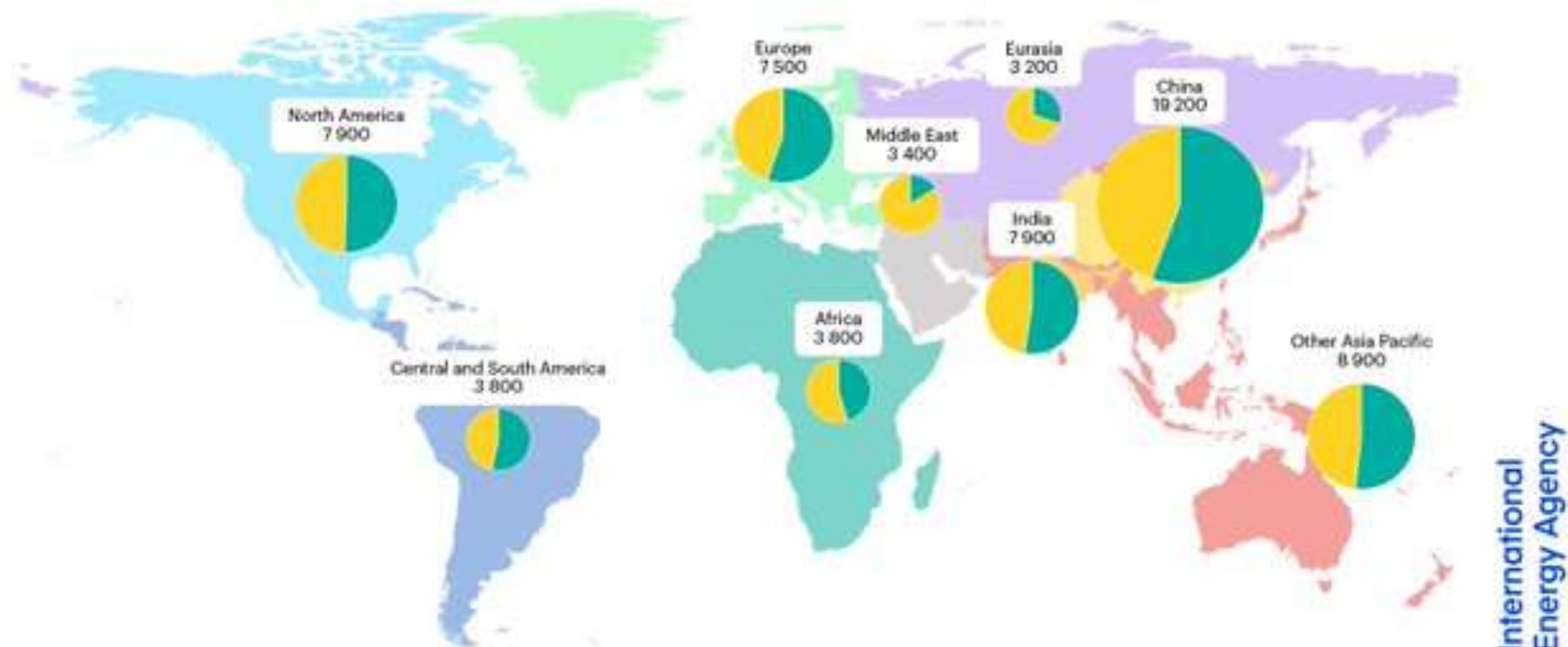
- As the sector transitions, Mexico, South Africa and Indonesia are set to be key leaders and beneficiaries of the shift to sustainable shipping.
- Full sector decarbonization could be worth over \$1 trillion — but it requires international cooperation and supportive regulation.

# Supporting developing States in renewable fuel production for the shipping industry

## Energy employment in fossil fuel and clean energy sectors by region, 2019

World Energy Employment

● Fossil fuels ● Clean energy



Source: International Energy Agency (IEA) – World Energy Employment report

# Exploring opportunities in renewable fuel production for shipping in developing States

## Upcoming IMO events

- **21 October 2022:** Second IMO Symposium on alternative fuels for shipping: **"Ensuring a just and inclusive transition towards low-carbon shipping"**
- **10 November 2022: COP27 (Egypt) – IMO side-event** on Exploring opportunities for developing States in renewable energy production

