1. Introduction
2. IMO Strategy for GHG emissions
3. Structures for strategy delivery
4. Follow up actions
5. Concluding observations

CURRENT STATE OF PLAY OF THE IMO GHG STRATEGY

ALDO CHIRCOP
CANADA RESEARCH CHAIR IN MARITIME LAW AND POLICY, SCHULICH SCHOOL OF LAW
DALHOUSIE UNIVERSITY, CANADA

ROADMAP FOR DEVELOPING A COMPREHENSIVE IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS (MEPC 70)

October 2016 (MEPC 70)	Approval of Roadmap Data Collection System (DCS); voluntary collection starts
May 2017 (MEPC 71)	Development of IMO strategy
Spring 2018 (MEPC 72)	Adoption of initial strategy
January 2019	Start of Phase 1: Mandatory data collection (5kGT ships to collect data)
Spring 2019 (MEPC 74)	Initiation of Fourth IMO GHG Study using data from 2012-2018
Summer 2020	Data for 2019 to be reported to IMO
Autumn 2020 (MEPC 76)	Start of Phase 2: data analysis Fourth IMO GHG Study
Spring 2021 (MEPC 77)	Adjustments to Initial IMO Strategy based on DCS data
Spring 2022 (MEPC 78)	Phase 3: Decision step
Spring 2023 (MEPC 80)	Adoption of Revised IMO Strategy

THE INITIAL STRATEGY (MEPC 72)

1. INTRODUCTION
2. VISION
3. LEVELS OF AMBITION AND GUIDING PRINCIPLES
4. LIST OF CANDIDATE SHORT-, MID- AND LONG-TERM FURTHER MEASURES WITH POSSIBLE TIMELINES AND THEIR IMPACTS ON STATES
5. BARRIERS AND SUPPORTIVE MEASURES; CAPACITY BUILDING AND TECHNICAL COOPERATION; R&D
6. FOLLOW-UP ACTIONS TOWARDS THE DEVELOPMENT OF THE REVISED STRATEGY
7. PERIODIC REVIEW OF THE STRATEGY

PRELIMINARIES

- **Context:**
  - LOS & climate regimes
  - IMO as the competent international organization
  - Assembly Strategic Direction for climate
  - UN Agenda for Sustainable Development
- **Emission scenarios:**
  - Based on IMO 3rd GHG Study (2014)(2.2% in 2012, but could grow by 50-250% by 2050)
- **Objectives:**
  - Enhancing IMO's contribution
  - Identify actions, measures and impacts
- **Vision:**
  - 'IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible in this century.'

INITIAL AMBITIONS AND PRINCIPLES

- **Ambitions (subject to reviews, new estimates, options, IPCC reports):**
  - Carbon intensity of per ship type to decline through implementation of phases of the EEDI
  - Carbon intensity of international shipping to decline, per transport work across the industry, by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008
  - GHG emissions from shipping to peak ASAP and decline by at least 50% by 2050 while pursuing continuing efforts

- **Principles:**
  - Non-discrimination
  - No more favourable treatment
  - CBDR and respective capabilities, in the light of different national circumstances
  - Full and complete effect by all ships regardless of flag
  - Consideration of impacts on states, including developing countries, in particular, LDCs/SIDS
  - Evidence-based decision-making balanced with the precautionary approach

TIMELINE AND MEASURES (1)

Short-term: 2018-2023

- Further improvement of EEDI and SEEMP
- Technical/operational energy efficiency measures/indicators for new/existing ships
- Existing Fleet Improvement Programme
- Speed optimization and speed reduction
- Measures to address emissions of methane and VOCs
- National action plans/policies/strategies
- Technical cooperation/capacity-building
- Encourage port development/activities
- R&D and establishment of International Maritime Research Board
- Incentives for first movers
- Lifecycle GHG/carbon intensity guidelines for all fuels
- Additional GHG emission studies

TIMELINE AND MEASURES (2)

Medium-term: 2023-2030

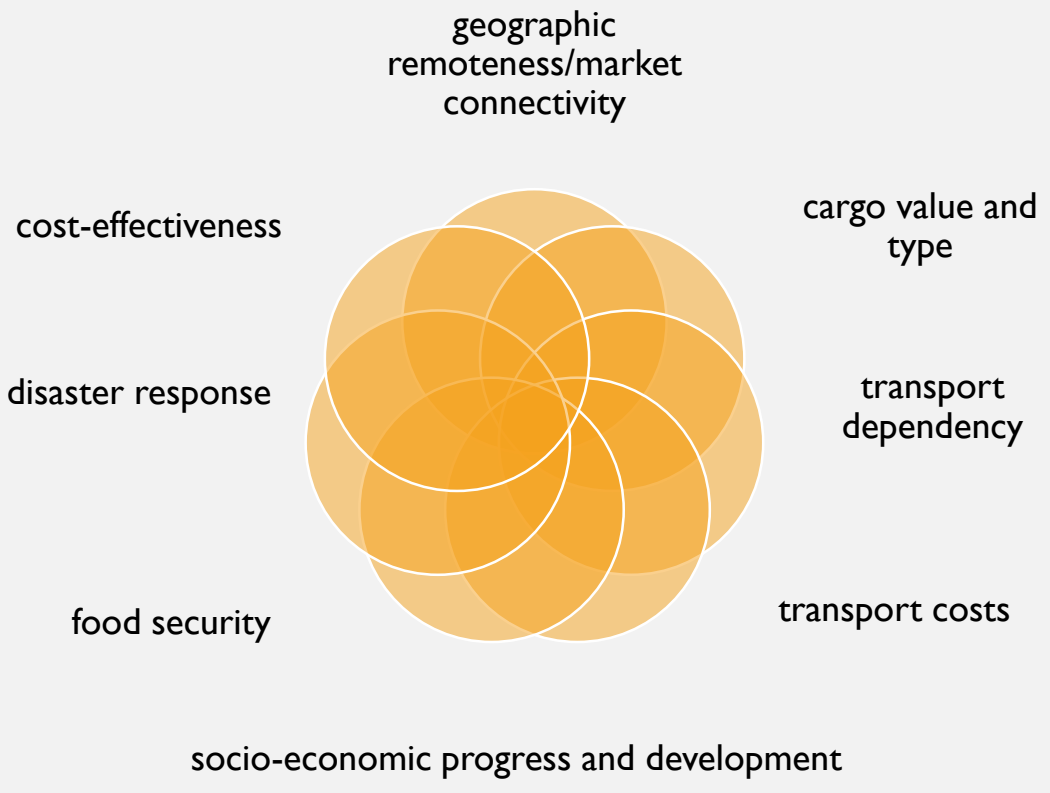
- Programme for uptake of alternative low and zero-carbon fuels
- Update national actions plans
- Operational energy efficiency measures for new/existing ships
- New mechanism(s), e.g., MBMs
- Enhance tech cooperation/capacity-building
- Mechanism for best practices

Long-term: 2023-2030

- Development and provision of zero-carbon or fossil-free fuels to enable/assess decarbonization in 2050-2100
- Encourage and facilitate the general adoption of other possible new/innovative emission reduction mechanism(s)

IMPACTS

'The impacts … should be assessed and taken into account as appropriate before adoption of the measure. Particular attention should be paid to the needs of developing countries, especially small island developing States (SIDS) and least developed countries (LDCs).'



BARRIERS & SUPPORTIVE MEASURES

- Developing countries (especially LDCs and SIDS) have special capacity building and technical cooperation needs
- New energy sources safe for ships could be a barrier to the implementation of possible measures
- Facilitating public-private partnerships and information exchange on low-carbon technologies
- Facilitating information sharing, technology transfer, capacity-building and technical cooperation
- IMO to assess financial/technological resources and capacity-building to implement the Strategy

3. STRUCTURES FOR STRATEGY DELIVERY

Instruments:: MARPOL ANNEX VI + codes, guidelines, recommendations

MEASURES

Technical
- EEDI for new ships + retrofits
- Ship type specific

Operational
- SEEMP for existing ships
- Course/speed management
- Fuel reporting by ships of 5,000 GRT+

Technology cooperation and transfer on energy efficiency
- TCP
- GloMEEP
- Global MTCC Network

Market-based measures
In sector?

Instruments:

MARPOL?

New IMO instrument?

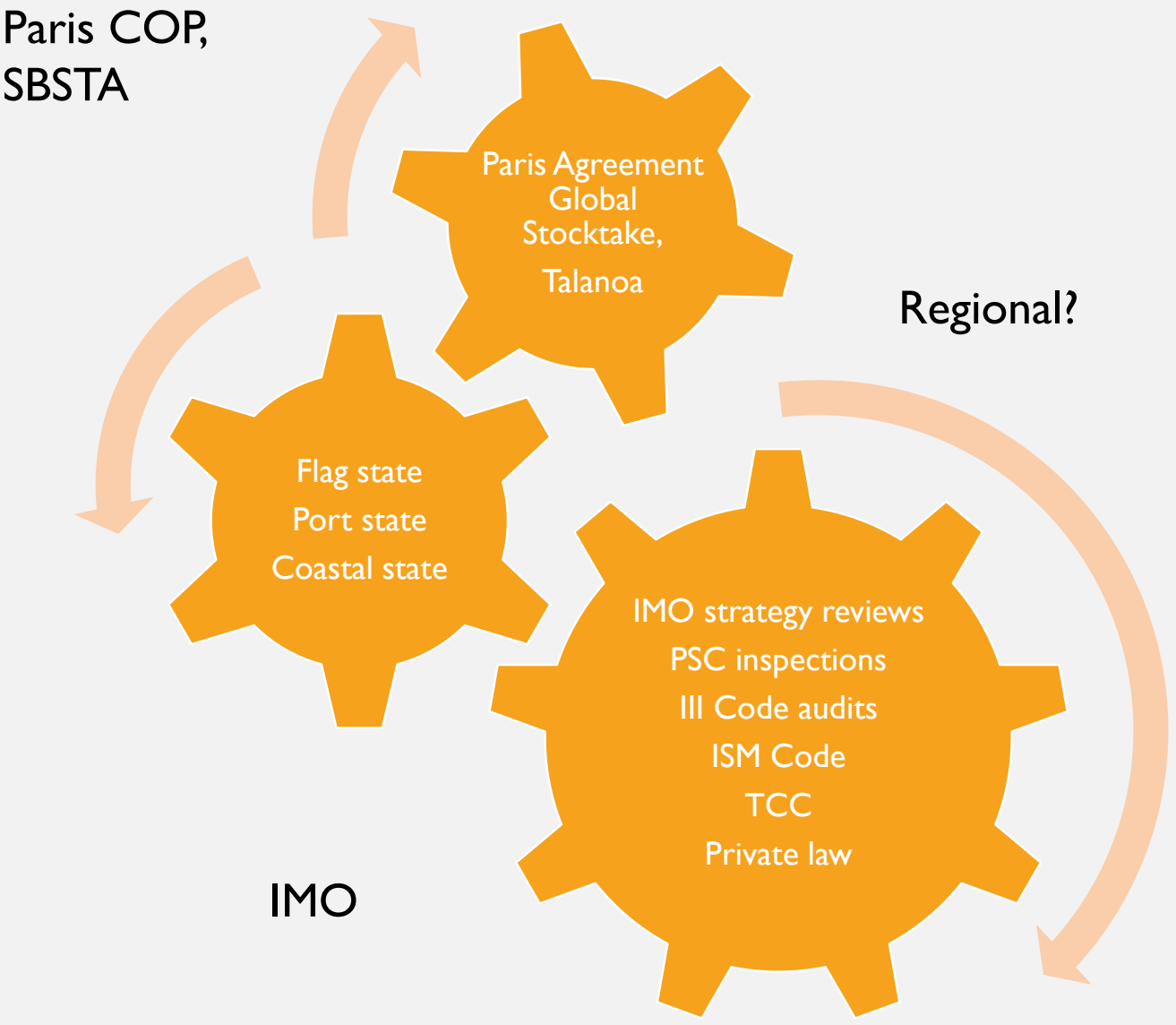
Use Paris Agreement structure?

Other measures
- National Action Plans
- Port infrastructure
- Etc.

ACTORS

- IMO (MEPC, MSC, LEG, FAL, TCC)
- IACS/Recognized Organizations?
- ISO TC 8
- Others?
- PSC MoUs

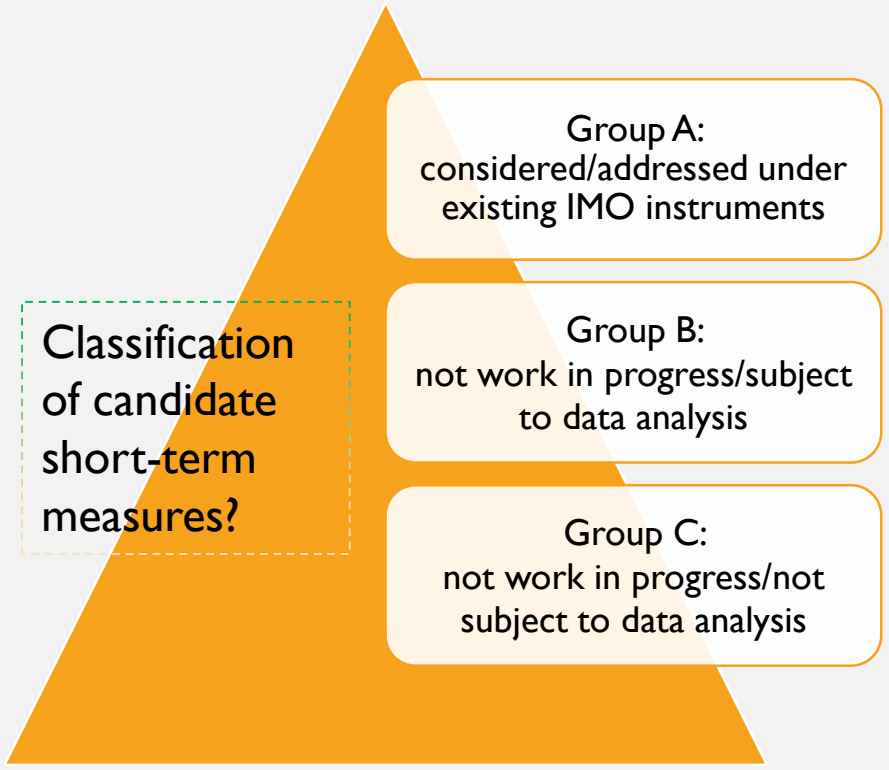
REVIEW, MONITORING & COMPLIANCE



4. FOLLOW UP ACTIONS
(ISWG-GHG 4 TO 5, MEPC 73 TO 74 AND BEYOND)

Actions:

- Candidate short-term measures
- Candidate mid-/long-term measures/action to address identified barriers
- Impacts on States (ISWG to consider proposals to assess impacts; need for a procedure)
- Fourth IMO GHG Study (TOR developed by ISWG-GHG; steering committee; expert workshop; final by 2020)
- Capacity-building, technical cooperation, R&D
- Follow-up actions to develop revised Strategy for adoption at MEPC 80



POSSIBLE SHORT-TERM MEASURES?

Defined as actually helping to reduce emissions by 2023

Mandatory and voluntary (best practices) measures

A	• Early implementation of Phase III of EEDI • Extend EEDI to more ships • Strengthen SEEMP to mandatory audit (place in the Ship Safety Management System) • VOC controls
B	• Route, speed optimization/reduction • Alternative fuels
C	• National Action Plans • Port measures/incentives • R & D incentives • First movers' incentives

Who will assess the impact of each measure?

- Proponent?
- IMO?
- Affected state?
- Or an independent expert panel?

Criteria?

‘THE DEVIL IS IN THE DETAIL’

In theory, speed reduction can significantly reduce emissions (e.g., by one-third for container, bulkers and tankers)

In practice, issues arise:

Slow speed is not necessarily optimum speed

Safety and maintenance

Possible modal shifts (to road, etc.)

Prolongation of voyage for perishable products

Energy efficient ships may be penalized

Spread of exotic species fouling hull/sea chest

Difficult to enforce?

THE PORT-SHIP INTERFACE

- Ports can assist ships reduce emissions; IMO conventions are about ships
- Technically, ports are captured by the NDCs rather than the IMO strategy
- Optimizing the port visit (speed, berthing/deberthing, etc.)
- Shore-sourced power, as long as it is from renewables or low-carbon
- Bunkering: diverse low and zero carbon fuels; need to avoid methane slips
- Role of ports in providing environmental incentives (e.g., green ships)
- Technical support and capacity-building for ports (e.g., GloMEEP toolkit)

5. CONCLUDING OBSERVATIONS

- Should there be greater urgency to decarbonize after the IPCC's report on 1.5° and recent science re ocean thermal storage?
- Tension between the evidence-based approach and precaution?
- Weighing prescriptive and goal-based approaches to GHG regulation, given the urgency
- Impact of the sulphur rule on the IMO Strategy
- Need to start planning for an MBM early?
- Weighing impacts, costs and the cost of not acting urgently and effectively
- Compensatory mechanism/offsets for SIDS and need for a substantial Trust Fund?