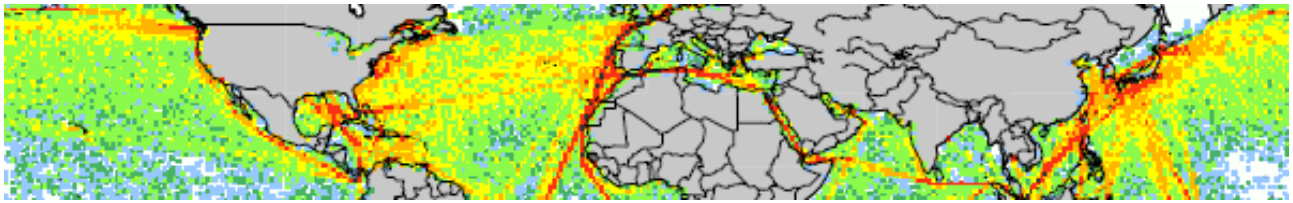
IMERS: International Maritime Emission Reduction Scheme



Differentiated approach with innovative financing for adaptation

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IMERS is based on " Charge-and-cap" (a name I gave to):

A novel hybrid economic instrument based on a harmonized charge:

- **Using a carbon price established** by the large emitting industries
- **Delivering quantity target** through a "clearing house" for a sector or its part (bubble[1])

GHG Policy Options

Highest

Lowest
Cost-effectiveness[2]

1. **Hybrid price-quantity**
2. Tax or charge
3. Hybrid cap-and-trade scheme
4. Cap-and-trade with banking, borrowing, and allocation auctioning
5. Traditional cap-and-trade scheme
6. Non-market regulations and standards

[1] Bubble – a regulatory concept whereby several emitters are treated as if they were a single emission source.
[2] Benefits of a GHG tax could be 1/3 higher than those of cap-and-trade, on national level. Source: US CBO, 2007.

International Maritime Emission Reduction Scheme

New 2007 Initiative and Proposal on the IMO table (IMERS)

IMERS

Ambition and Goals:

- Address **differentiated** priorities in **one cohesive supra-national** scheme
  - **Halve** maritime GHG **emissions** (through near- **and** long-term mitigation)
  - **Reduce the gap** in financing for adaptation (in $bn annually)

Cost:

Adding $1 to price of **$1,000** of imported goods (=0.1%)

Key design details:

- **No allocation** of emissions to countries, **one aggregated emission cap**
- **A fund** established to invest in mitigation of shipping GHG emissions, and to provide contributory funding to climate change adaptation in developing countries
- **Double mitigation:** Reduction of GHG achieved by near-term technical and operational improvements and accelerating long-term breakthroughs
  - Mitigation outside the sector to optimize cost efficiency added
- **A hybrid economic instrument** based on harmonized charges & a quantity target
  - A charge-and-cap approach

Complying with Calls from China, Saudi Arabia & Others
How?

1. Mitigation
   → Halving int. maritime emissions which are #9 WW (when compared with countries)

2. Adaptation
   → Reducing financing gap by $2bn annually, operational BEFORE 2012

3. Technology Transfer & Innovation
   → Breakthroughs Technology Fund, Infrastructure Improvements

4. Adequate & predictable funds
   → Funds from emission charge, set 1 year in advance by a formula; +$4bn/pa

5. Not curtailing growth of developing countries
   → Minute impact on end prices of 0.1%, mostly in developed countries (70%)

→ **Differentiated approach** at the point of distribution rather than collection

Governance, Collections and Investments

Sample details (NOT showing the sub-sector bubbles!)

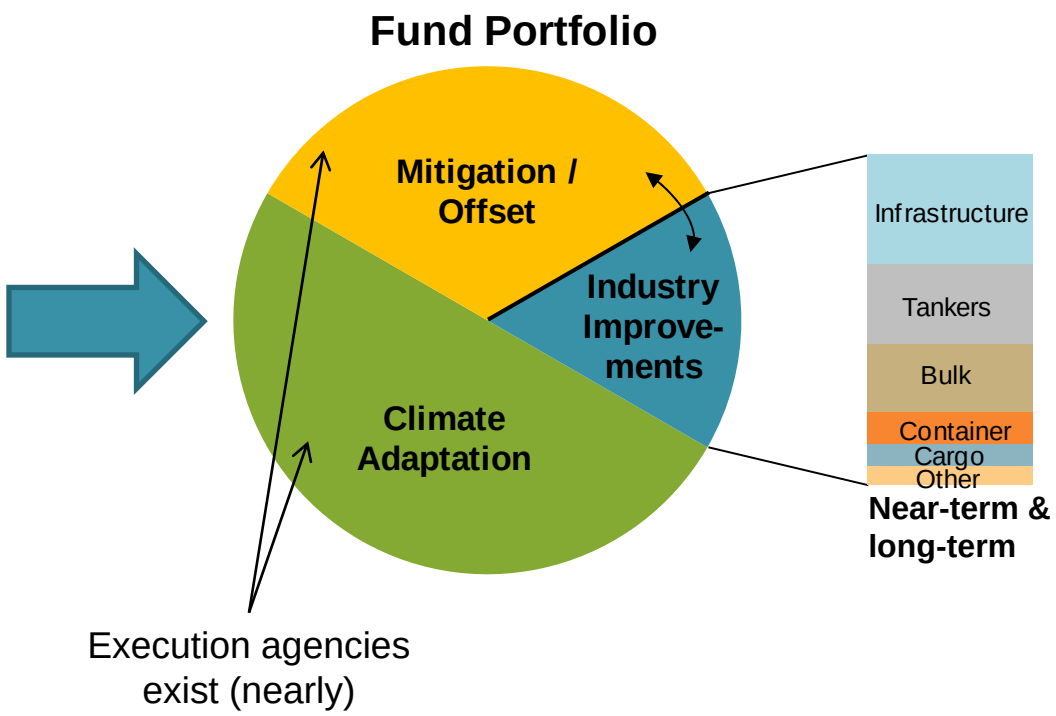
International Governance (UN / IMO)

Portfolio split; Annual level of charges

Data and Charges Collection

1. Fuel data
2. Charge = Emissions x Unit charge
   Example: Unit charge in 2010 = \$10/tCO_2
   International emissions covered ~ 0.4 $GtCO_2$

→ Significant global funds raised



Adding \$1 to price of \$1,000 of imported goods shipped by sea
→ **End customer impact on prices: <u>0.1% only</u>** (transport charges +3%).

Unit charge depends on emissions growth above the cap/goal and the forward market price for CO_2 (assumed as \$25/tCO_2). Unit maritime emissions charge for 2010 is estimated at \$10/tCO2. Recovered through increased transport charges. Total funds raised will exceed \$4bn per annum.

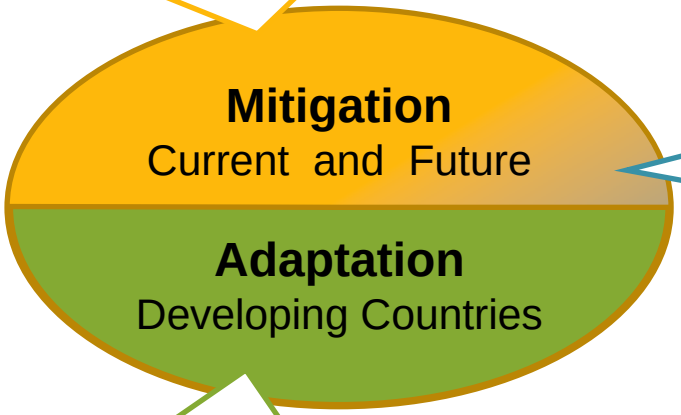
Benefits to Developing Countries

Common but differentiated responsibility principle → delivered in a new way

2. Significantly increased demand for CDM & JI projects

- The oversupply of CDM/JI drives the prices down
- The additional global demand estimated at 40 MtCO2 in 2010 (valued at $1bn)

Differentiated at the point of distribution→

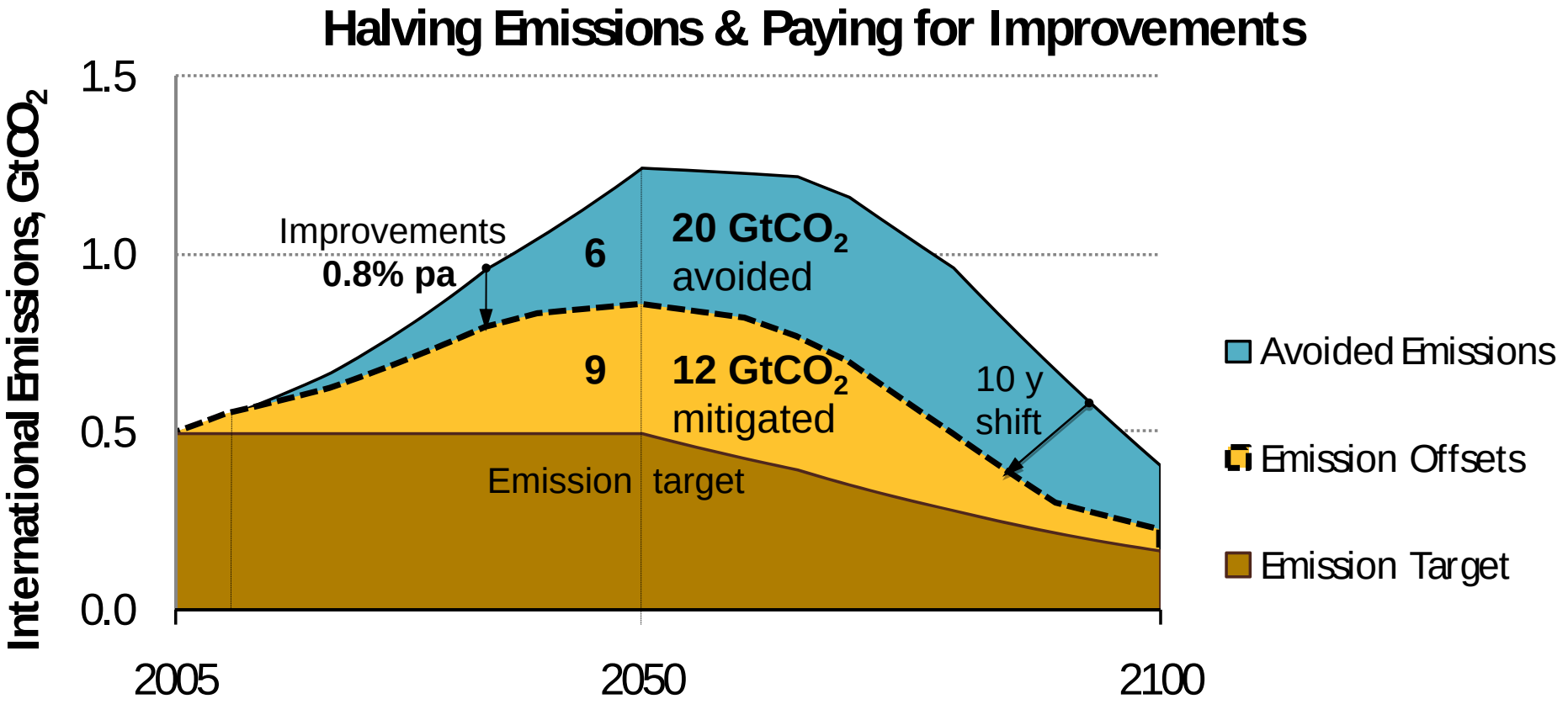


3. Infrastructure improvements, transfer of technologies, and stimulation of innovation

1. Major funding for adaptation to climate change

- Estimated at **$2bn per annum** (assuming equal split of funds & carbon market price of $25/$tCO_2$)
  - Thus far the international community has promised $200m for adaptation measures, but the required funds are estimated at tens of $billions (circa 50:1 gap ratio)

Environmental Benefits



- Achieving 0.8% annual industry improvements and bringing forward the step changes by 10 years will more than halve the total shipping emissions above the emission target
  - Results by 2050*: avoided emission: 6GtCO$_2$, mitigated (offset): 9GtCO$_2$, total: **15 GtCO$_2$**
- **Cost of 3y delay: 0.7GtCO$_2$ = $17bn** by 2050 alone
  - Equivalent nearly to 1.5 years of emissions; see for details slide # 18.

*Note: there is no trade-off with SO$_2$ emissions; they will also be reduced through the increased fuel efficiency.

Low Requirements → High Practicability

Longstanding data **challenges eliminated; ATTRACTIVENESS → slide 19**

SCHEME DESIGN	
1. **Emission allocation**:	-- (**None**; SBSTA option 1 – no allocation)
2. **Allowances distribution**:	-- (**None needed**)
3. Participating entities:	Fuel payers; ship managers and/or suppliers for reporting
4. Reporting, Verification and Compliance:	Direct electronic; compliance enforced in selected ports, both for the provision of data and payment of charges
IMPLEMENTATION FEASIBILITY	
1. Accurate data & availability:	Emission growth: available
2. **Minimum operational data**:	**Fuel data**, used or delivered: **available**
3. Reuse of existing work, and procedures:	Voyage data for validation; CO_2 index from real data once the scheme operates, used as a performance measure for ships, routes etc.
4. Authorities and their roles:	IMO for governance; World Bank, or similar, to manage adaptation funding
SCHEME PARAMETERS	
1. Emission target:	Yes; calculations done for a target at 2005 level, constant till 2050
2. Emission baseline and/or emission growth:	**Baseline not needed** (currently commercially inadequate) **Emission growth only needed** (average 2.1% pa used till 2035)
3. Grouping for equity:	**Bubbles** for containers, bulk, tankers, etc., could further **improve** the scheme **equity and speed up implementation**

Discussed at the **Workshop** on emissions from aviation and maritime transport (**Norway**, Oslo, 4-5 Oct 2007)
Report at: http://www.iisd.ca/YMB/sdosl/ Materials: http://www.eionet.europa.eu/training/bunkerfuelemissions/

Workshop follow-up: come to room **Tidal, GH, Monday, 10 Dec, 18:00 – 19:30h**

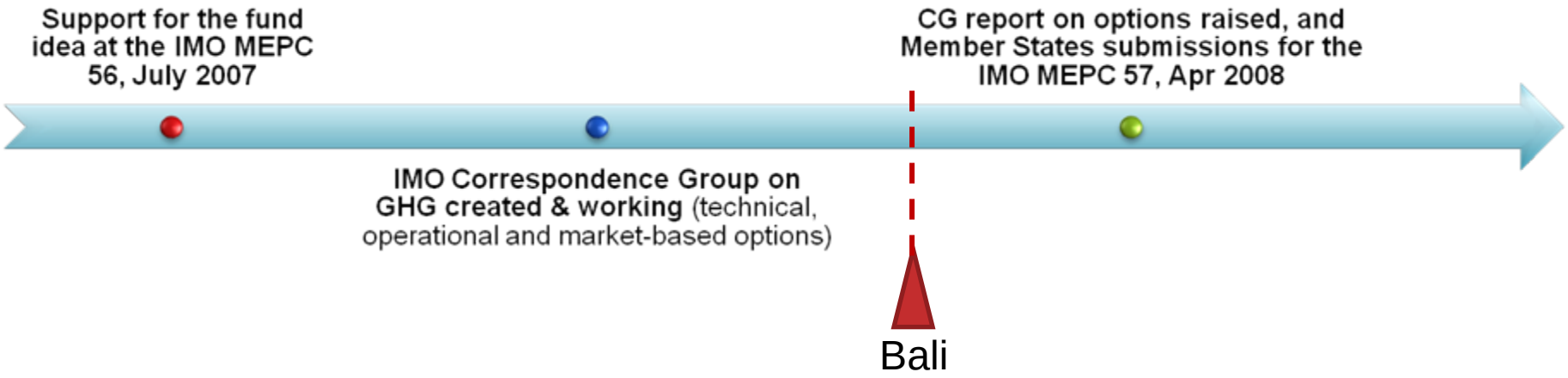
High Attractiveness

SCOPE AND GOALS		
• Geography:	Worldwide	
• Participants:	**All vessels > 400 GT**	
• Emission target:	Global, or per vessel bubbles (containers, bulk, tankers, …)	
• **Additional goal**:	**Adaptation** to climate change in developing countries	
• Emissions:	International, CO_2 only at the beginning	
POLITICAL APPEAL		
• **Common but differentiated responsibility:**	**Through financing policy** for adaptation; differentiation at point of distribution rather than collection	
• **Impact on competitiveness**:	**None** in sector; negligible outside shipping	
• **Benefits to participants**:	A hassle-free long-term solution, increased cash flow, compliance easily verifiable, long term investment clarity, better image of shipping	
• **Legal basis & precedents**:	Could be under MARPOL; IOPCF - a precedent for a direct fund	
COSTS		(for 2010, key assumed prices: fuel $300/tHFO, carbon $25/tCO2)
• **Price impact:**	**Low: 0.1%**, equivalent to **adding $1 to price of $1,000** of imported goods	
• **Participant costs**:	**Negligible**	(20 minutes reporting time for ship managers per month)
• Unit emission charge:	$10/tCO2	(linked to emissions and carbon price)
• Operational costs:	Under 5%	(a centralized solution)
EFFECTIVENESS		(assuming 500 $MtCO_2$ baseline in 2005; for 1$GtCO_2$ – multiply results by 2)
• **Emission mitigation**:	Mitigation of **15 $GtCO_2$ by 2050**	(50% of it is emission avoidance)
• **Improvements**:	**0.8% - 1% annually**, and a technology **breakthroughs fund**	
• **Adaptation**:	**$2bn/pa, for developing countries** (e.g. contribution to the Adaptation Fund)	
• Market linkages:	**Cost-effective** through usage of carbon markets, and a dedicated maritime emission registry	
FLEXIBILITY		
• **Mechanisms used**:	**CDM, CERs** without limits; also **programmatic CDM** for increased quality	
• **New and existing ships; and new entrants**:	Applies to both existing and new ships; **no problems** with including new entrants as scheme is based solely on charges, rather than allowances	
• **Adjusting to new realities**:	Charge **annually**; funding **policy** reviewed and adjusted **periodically by IMO**	
• **Starting small, and learning by doing**:	Can be limited to ship type or size threshold; **easy scaling up** thanks to the harmonized charge that does not vary with the number of participants	

MOST IMPORTANT: Multilateral Status

Very good progress so far → more pull for adaptation is needed!

- **IMO multilateral process is in progress**
  - Concept submission to the IMO MEPC 56 by Norway *(a high level submission)*
  - Significant support for the idea at MEPC, limited reservations *(hard work behind)*
    - » MEPC, the influential Marine Environment Protection Committee



- **To keep momentum**
  - More leadership, coordination and "can do" attitude within countries is needed
    - Especially pull for adaptation from developing countries
    - Policy coordination within developed countries (maritime, climate change, etc.)
  - A dedicated project to build trust and shape the solution?
    - Never time for quality discussions

Wrap-up & Discussion

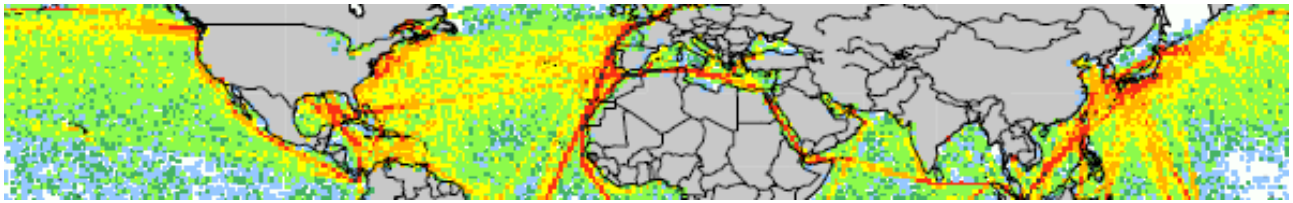
- Combining mitigation with adaptation through a charge-and-cap delivers:
  - Maximum efficiency with minimum rate
  - Near-term emission reductions, AND stimulation of longer term technology innovation & transfer
  - **AND reduces the adaptation financing gap by $2bn/pa WITHOUT constraining economic growth!**

- The challenge and opportunity for the proposal on the IMO table:
  - **Speed-up through quality discussions / consultations:**
    - Perhaps through a project approach?
  - **If a global approach is not found**, complex and expensive solutions are likely to emerge (such as trying to include shipping in a regional trading scheme)
    - Local funds likely to go to priorities different than development, climate change and even shipping improvements

- Q&A
  - How to generate more understanding and trust?

Additional Materials

www.IMERS.org/bali



To discuss how you or your country could contribute please contact Andre during the **COP 13** on local #:

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