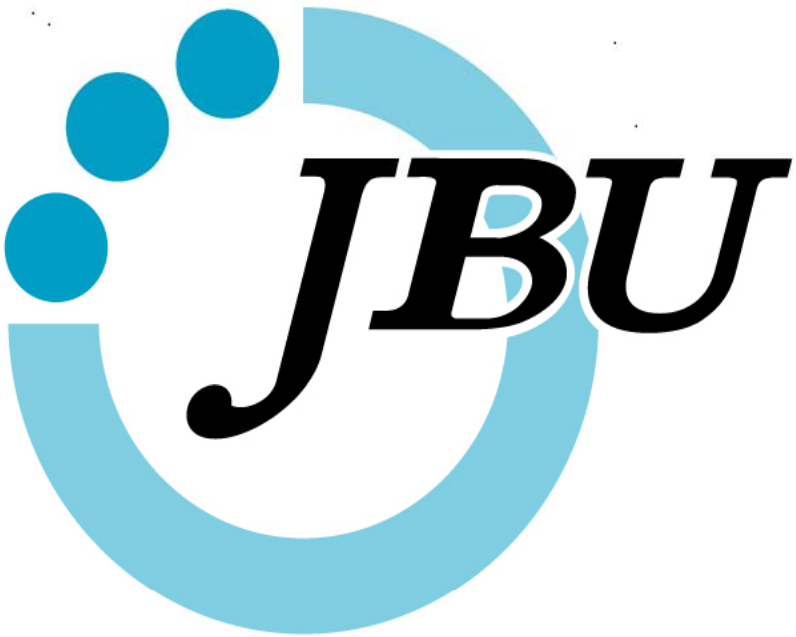
IndustriALL Global Union

Shipbuilding-Shipbreaking Action Group Meeting

Promoting sustainable industry and workplace

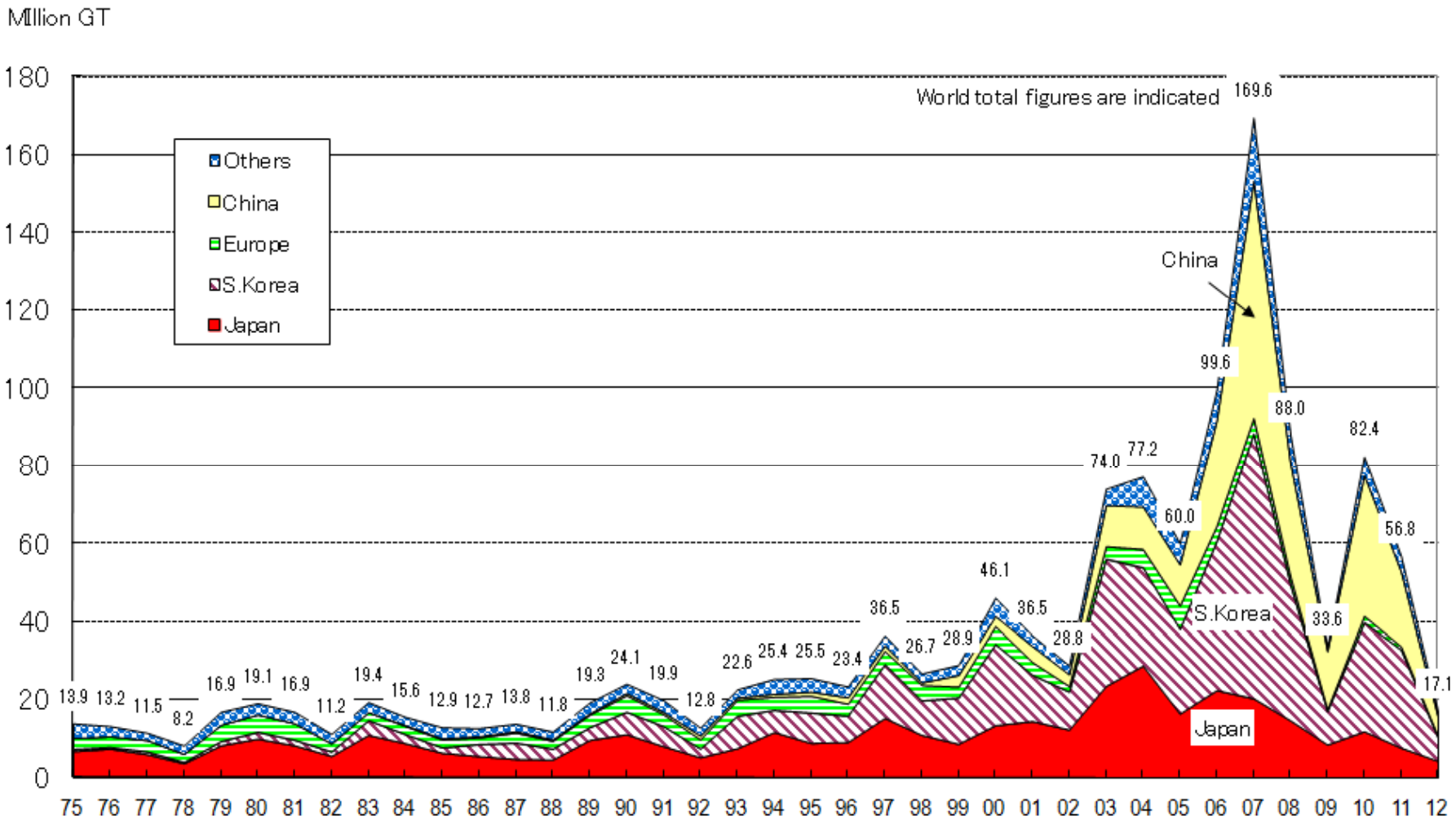


19-20 November 2012
Rio de Janeiro , BRAZIL

Assistant General Secretary

Akira YAKUSUE

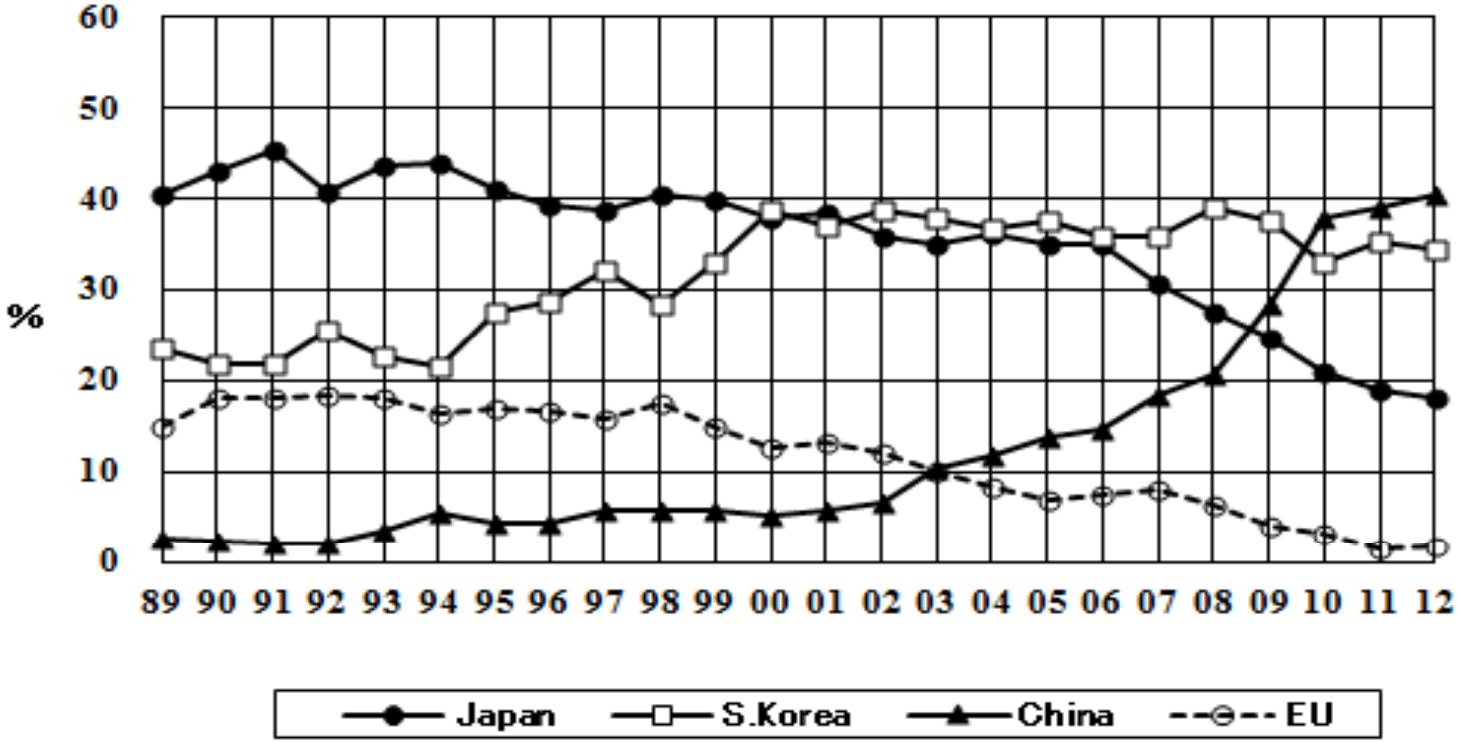
Fig1.WORLD NEW ORDERS



1975~2012 1st Half

Source : The shipbuilders' association of Japan (SAJ)

Fig3.SHARE OF WORLD COMPLETIONS

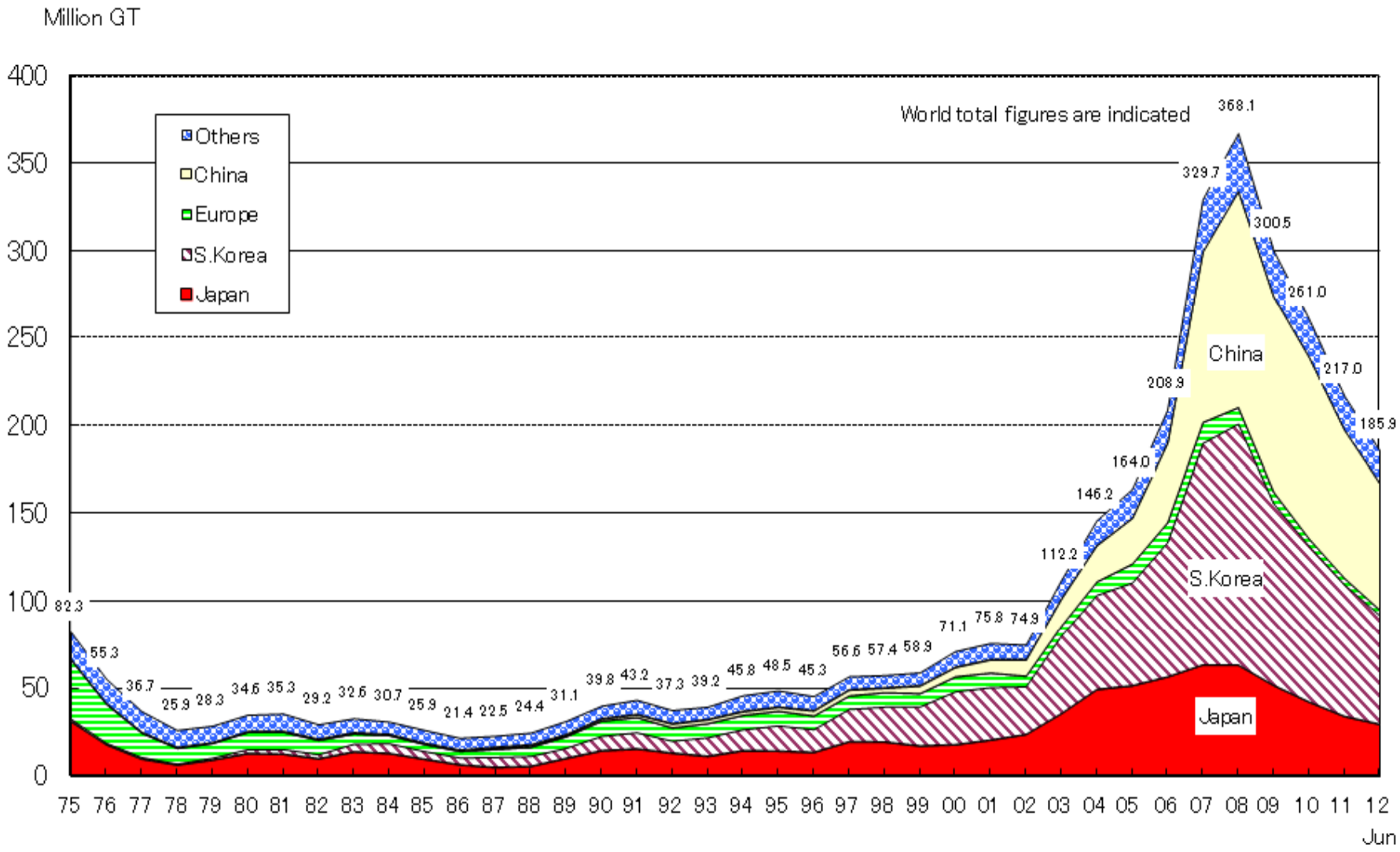


(%)

年	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012.1-6
Japan	37.9	38.4	35.8	35.1	36.1	35.0	34.9	30.6	27.6	24.6	21.0	19.0	18.1
S.Korea	38.6	37.1	38.8	37.9	36.8	37.7	35.9	35.9	39.0	37.4	32.9	35.2	34.6
China	5.2	5.8	6.6	10.4	11.6	13.8	14.7	18.4	20.6	28.5	37.8	38.9	40.4
EU	12.7	13.2	12.1	10.2	8.3	6.9	7.6	7.9	6.3	3.9	3.2	1.3	1.6
Other	5.6	5.5	6.6	6.4	7.2	6.7	6.9	7.2	6.5	5.5	5.1	5.6	5.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

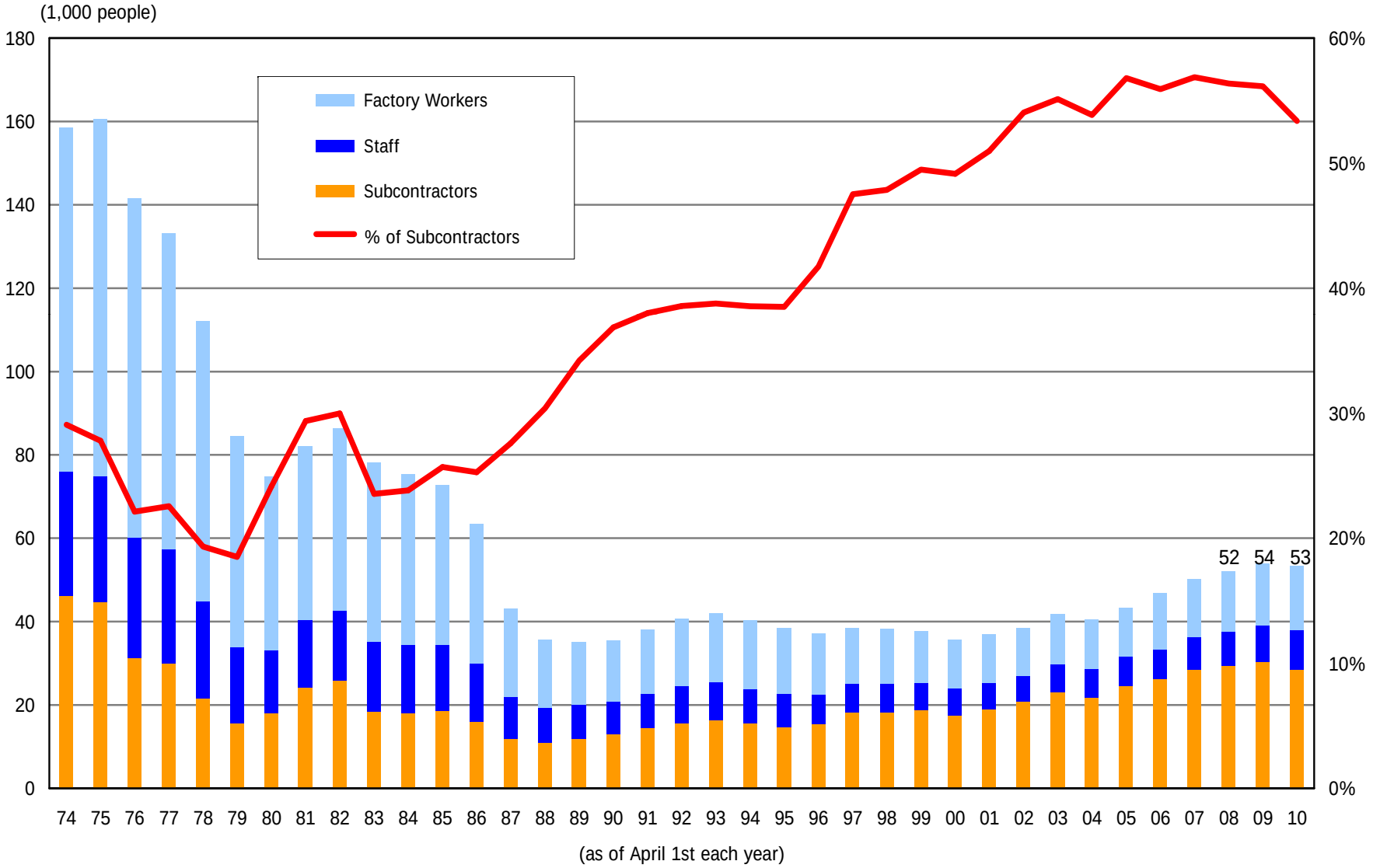
Source : The shipbuilders' association of Japan (SAJ)

Fig4.WORLD ORDERBOOK AT YEAR-END



Source : The shipbuilders' association of Japan (SAJ)

Fig5.Shipbuilding workforce



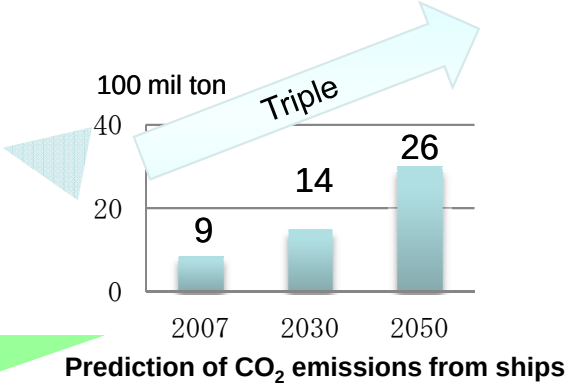
Source : The shipbuilders' association of Japan (SAJ)

1. Japan’s Shipbuilding Technology

Japan's Approach Toward Environmentally Sound Shipping

Impact of Ships on the Environment

- ***CO_2 Emissions*** *(900 mil ton (predicted to triple in 2050))*
- ***Air Pollution*** *(caused by NO_X and SO_X emissions)*
- ***Damage to Ecosystem*** *(caused by ballast water)*



Prediction of CO_2 emissions from ships

Tackling the both fronts at the same time

Establishing International Regulation

Submitting proposals & **Leading discussion** in the **IMO** (International Maritime Organization)

IMO

- *MARPOL Convention*
  - CO_2, NO_X and SO_X regulations
- *Ballast Water Convention*
- *Ship Recycling Convention*

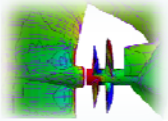
etc

&

R&Ds

Target:

30 % Reduction of CO_2 Emissions From Ships



Achievements

22 Projects has been supported by the Government

→ ***Promoting Environmentally Sound Ships***

Framework to Regulate CO_2 emissions

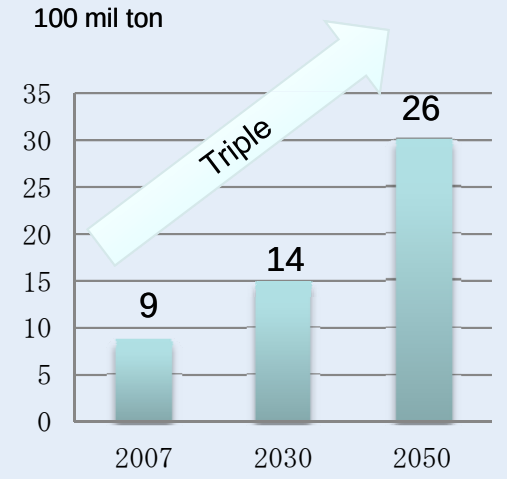
Background

- In order to deal with increasing CO_2 emissions from the shipping, the IMO (International Maritime Organization) established a framework to reduce CO_2 emissions from ships.

IMO NEWS

In July 2011, the IMO established a framework to regulate CO2 emissions from ships, as 1st generation tools to be applied to all IMO members.

**Japan led the discussion in the IMO through submitting 39 proposals.*



Prediction of CO_2 emissions from ships

CO_2 Regulation for New Ships (EEDI Regulation)

✓Certification for each ship is required
✓Baseline will be lowered in phased way

2025～ **30% reduction**
2020～ **20% reduction**
2015～ **10% reduction**
2013～ **Enter in force**

All new ships should satisfy the EEDI regulation

Operational Measures (EEOI Regulation)

✓SEEMP (Ship Energy Efficiency Management Plan) is required to all new and existing ships

Plan → Do → Check (Monitoring) → Act (Evaluation)

Adequate plans based on actual operation of each ship such as:
- Slow-steaming
- Weather routing

Evaluate actual energy efficiency and reform the operation plan in view of reducing more CO_2 emissions

Market-Based Measures For CO_2 Reduction

Background

- As the 2nd generation tool to reduce CO_2 emissions from ships, the IMO is planning to establish Market-Based Measures to be applied to all new and existing ships, that can give economic incentives to low carbon emission ships (e.g. fuel levy, emission trading).

Proposal by Japan

Under discussion in the IMO

- ✓Emission trading scheme may hinder the sound growth of international shipping.
- ✓In order to reduce CO_2 emissions from ships, it would be more effective to give incentives to environmentally sound ships than introducing emission trading scheme.

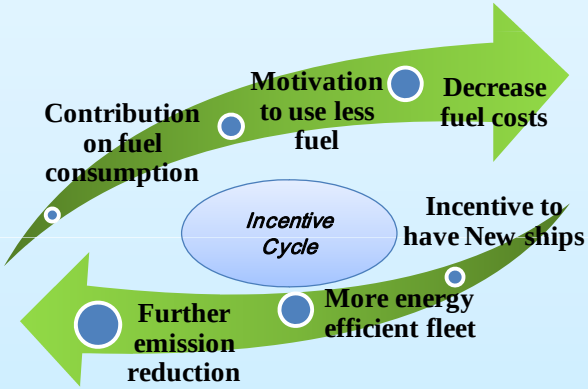
Fuel Levy Payment
(per unit fuel)

→ International GHG Fund →

- ✓ Long-term contribution to in-sector reduction
- ✓ Fund to be established under UNFCCC

Incentive Scheme

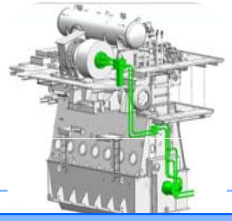
New ships which meet specific EEDI values can avoid the payment contribution



Energy Saving Technology

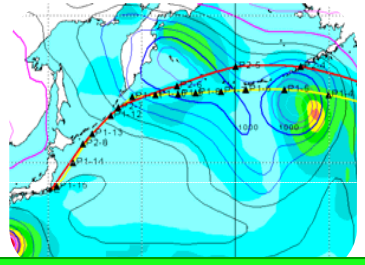
Technology Development

Advanced Diesel Engine and Heat Recovery System



Waste Heat Recovery System

Advanced Operation System



Fuel-Saving Weather-Routing System

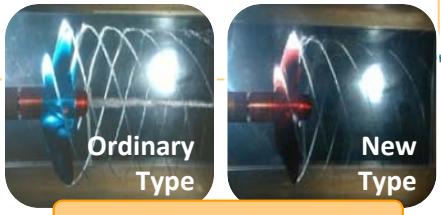
Engine
(Machinery, Electronics, etc)

Operation
(Electronics, IT, etc)

Thrust
(Material, Machinery, etc)

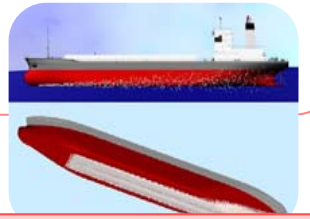
Hull
(Shipbuilding, Material, etc)

Improvement of Fuel Efficiency by New Type Propeller



High-Efficiency Propeller

Frictional Resistance Reduction



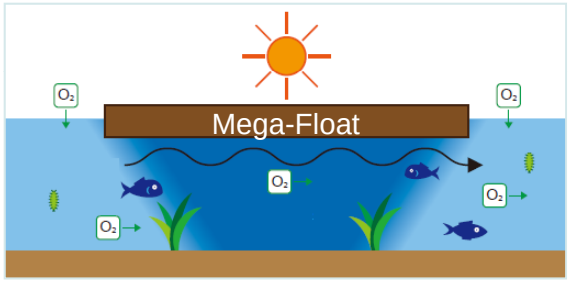
Air Lubrication System

30% Reduction of CO_2 Emissions from Ships

Large-Sized Floating Offshore Structure (Mega Float)

Mega Float…

- is applicable to various sea area, irrelevant to water depth and sea-bed condition.
- has small effect to environment.
- can be installed in short time.
- can be moved and transformed.
- has a large space inside to be utilized.

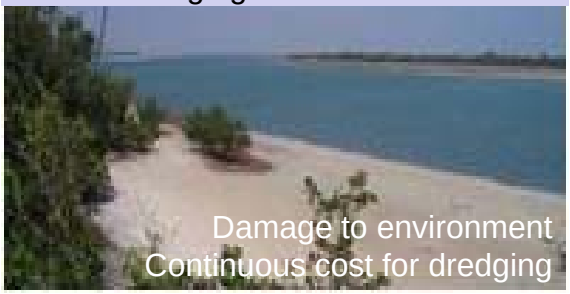


Oil Stockpiling Facility

Airport Demonstration Model

Stockpiling for Emergency

Application of Mega-Float

	Current System	Facility utilizing Mega-Float
Oil Stockpiling Base	Abovegound tank  	Mega-Float oil storage 
Coal Terminal	Ship-to-ship transshipment  	Mega-Float Coal Terminal 
Container Terminal	Dredging & reclamation  	Mega-Float Container Terminal 

In all cases, Mega-Float can be used as steel material when it is scrapped after the use.

Thank you for your attention