

Current IMO regulatory developments with regard to shipbuilding industry

2011.12

**THE KOREA
SHIPBUILDERS' ASSOCIATION**

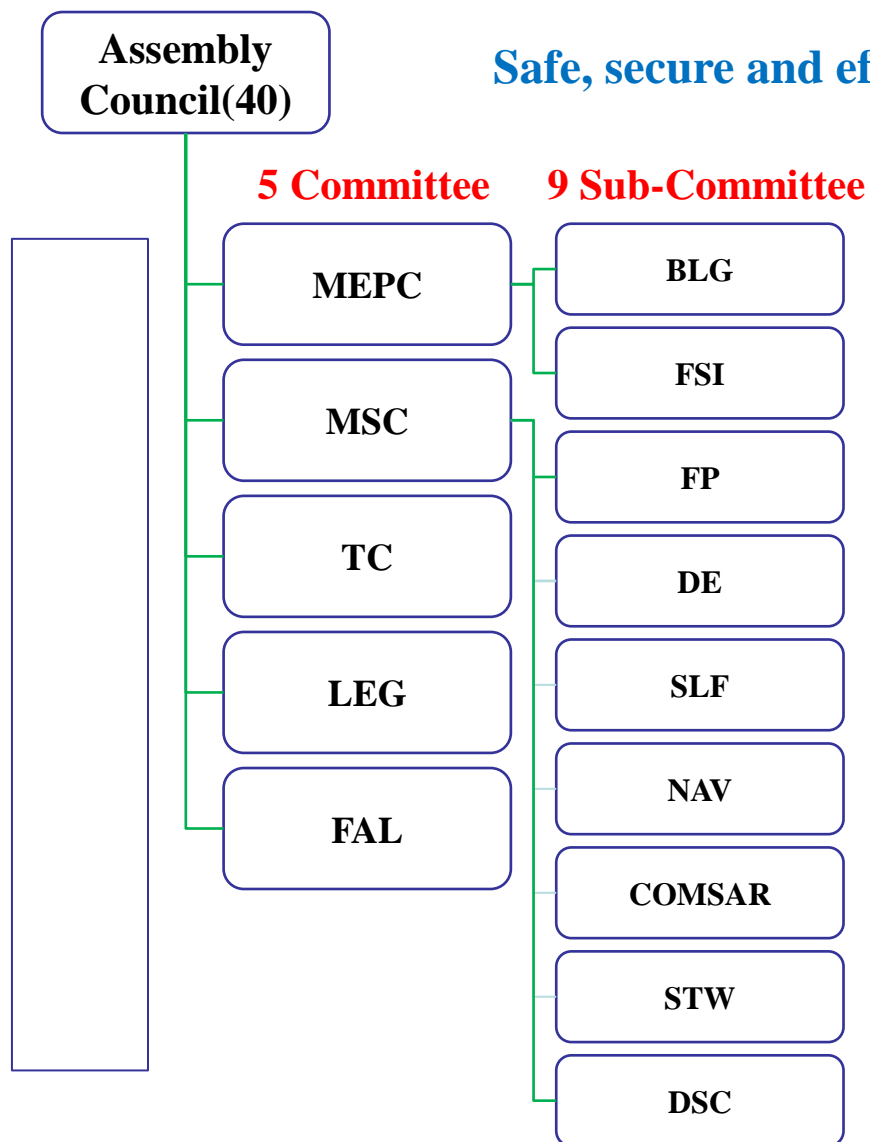


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Safe, secure and efficient shipping on clean oceans



12th UN(1948), IMO(1982)

170 + 3 (2011.10) , Korea(1962)

61(IGOs) + 80(NGOs)

59 IMO Convention

80 IMO Technical Code

Council Members for the 2010-2011 biennium

Category(a) : 10 States with the largest interest in providing international shipping services

A	<u>China</u>	Greece	Italy	<u>Japan</u>
	Norway	Panama	<u>Republic of Korea</u>	Russian Federation
	United Kingdom	United states		

Category(b) : 10 other States with the largest interest in international seaborne trade

B	Argentina	<u>Bangladesh</u>	Brazil	Canada
	France	Germany	<u>India</u>	Netherlands
	Spain	Sweden		

Category(c) : 20 States which have special interests in maritime transport or navigation, and the representation of all major geographic areas of the world

C	Australia	Bahamas	Belgium	Chile
	Cyprus	Denmark	Egypt	<u>Indonesia</u>
	Jamaica	Kenya	<u>Malaysia</u>	Malta
	Mexico	Nigeria	<u>Philippines</u>	Saudi Arabia
	<u>Singapore</u>	South Africa	<u>Thailand</u>	Turkey

Summary of strategic plan for the IMO for the six-year period(2010-2015)

Mission Statement : To promote safe, secure, environmentally sound, efficient & sustainable shipping through cooperation

Trends	Developments & Challenge
Globalization	In identifying trends & developments affecting shipping
Highlighted Maritime safety concerns	Enhance technical, operational & safety management standards
Highlighted Maritime security concerns	Promote the effective implementation of the security measures
Highlighted Environmental consciousness	Make new ships more environmentally friendly “cradle to grave”
Promoting the efficiency of shipping	Further promote & develop measures to facilitate shipping
Shifting emphasis onto people	Place increased emphasis on the contribution of the human elements

Strategic Directions	Contents
Enhancing the status & effectiveness of IMO	SD2. Global compliance
	SD4. A risk management framework
Developing & maintaining a comprehensive framework for the mission statement	SD5. The safety of human life at sea
	SD7. Adverse impact by shipping on the environment
	SD10. Goal-based standards for maritime safety
Enhancing the profile of shipping, quality & environmental conscience	SD11. In partnership with other stakeholders
	SD12. In enhancing the quality of shipping

Adopted on 26th Nov 2009, Assembly 1012(26)



The trend-changes of IMO policy

	1948	1959	2002
Goal	Safety	+ Environmental protection	
Structure	● IMCO ('48/'58)	★ 1 st Assembly('59.1) ● MSC('59) ● MEPC('73) ● LEG('69) ● TC('75) ● FAL('72)	● IMO ('75/'82)
Policy / Convention	● FSC ● SOLAS ('14) ● OILPOL ('54)	● PSC ('81) ● LL 66 ● SOLAS 74 / 81 / 83 / 89 / 90 /..... ● TONNAGE 69 ● STCW 78 ● CORLEG 72 ● MARPOL 73/78 ● AFS 91 ○ Paris MOU('82) ○ OPA 90 ○ UNCLOS ('82)	● MAS ('03) ● ISM('94) ● FSA('99) ● GBS I('10) ● PSPC ('06) ● e-Navigation(?) ● Ship Recycling ('09) ● BWMS ('04) ● EEDI ('11) ● ISPS ('02)
Marine Accidents	● Titanic('12)	● Torrey Canyon('67) ● Herald of the Enterprise('87) ● Scandinavian Star('90) ● Piper alpha('88) ● Exxon Valdez('89) ● Prestige('02) ● Erika('99) ● 911('01)	● Deepwater Horizon('10)

Main regulatory developments

International Organizations for Maritime Regulations

IMO - International Maritime Organization

IACS - International Association of Classification Societies

Recent Major Maritime Regulations for Shipbuilding Industry

FSA - Decision Making Tools for the regulations

GBS - Goal Based Standards for Ship Design

- IACS Common Structural Rules and its Harmonized Version

Intact stability – Dynamic Stability Issues

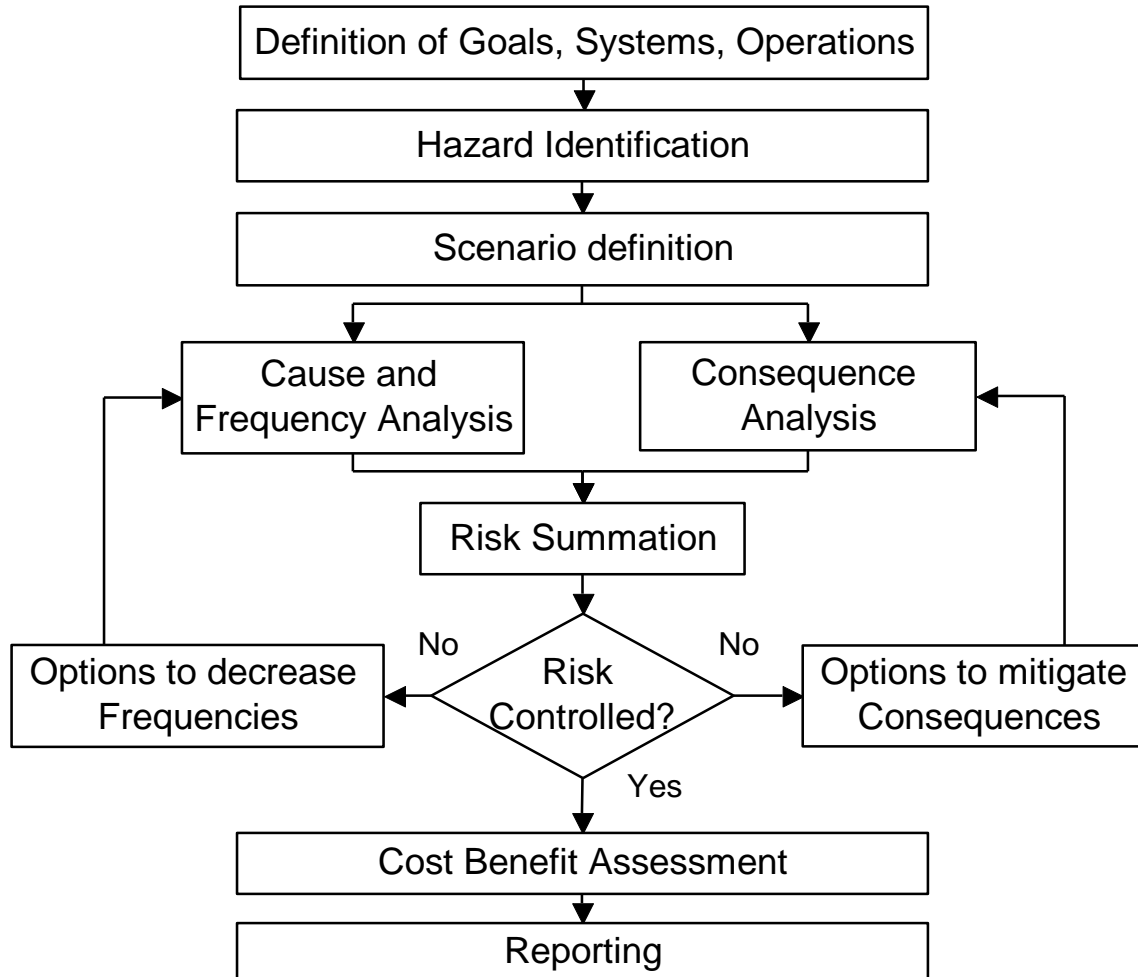
Polar code

IGF code

GHG - EEDI



FSA(Formal Safety Assessment) - Rule Making Process



Preparatory Step

Step1. Hazard Identification

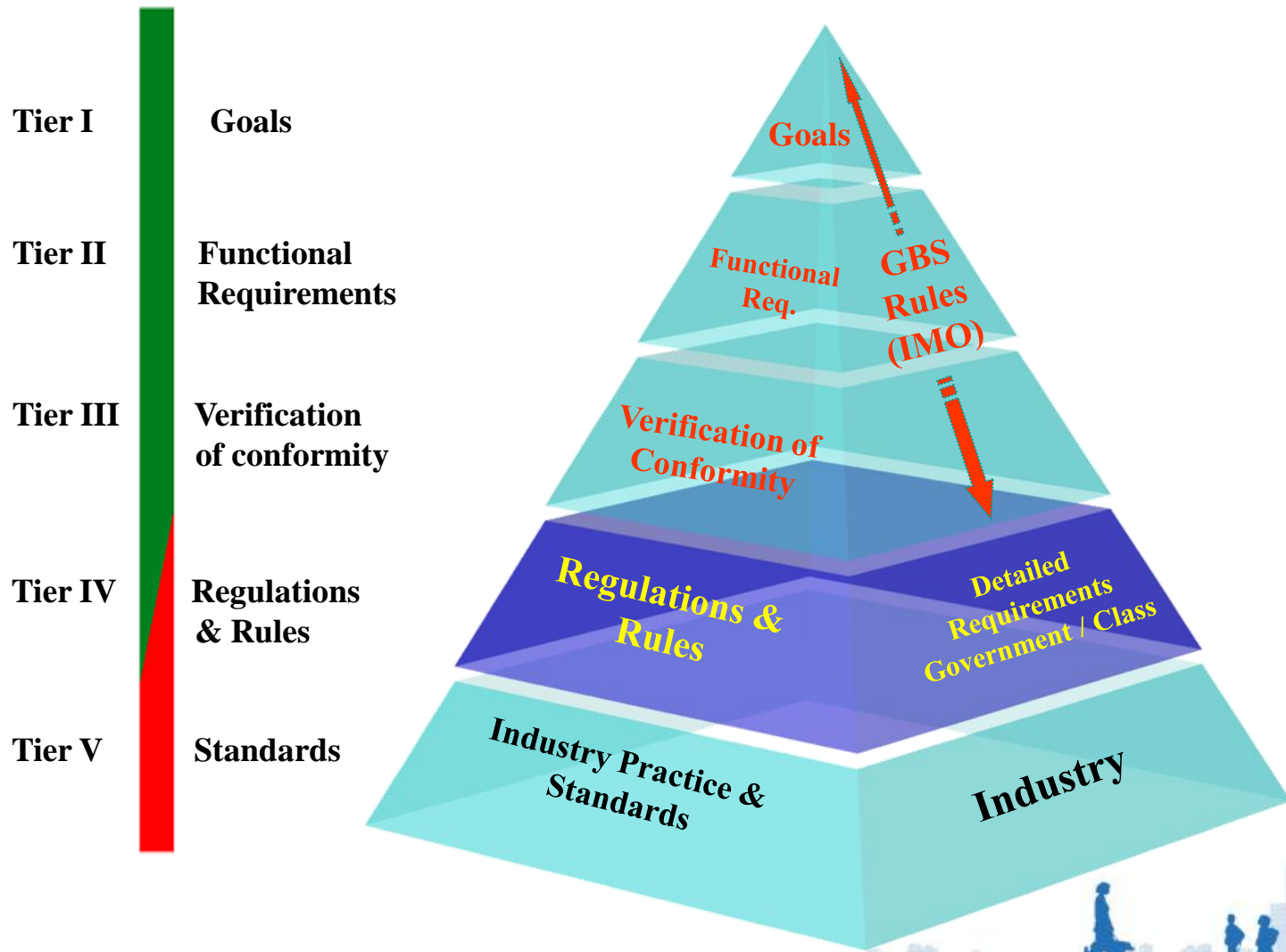
Step2. Risk Analysis

Step3. Risk Control Options

Step4. Cost Benefit Assessment

Step5. Decision Making

GBS(Goal Based Standards) - A rule for rules



IACS Harmonized Common Structural Rules – Realization of GBS

SOLAS Amendments **Adopt** (MSC Resolution): Chapter II -1/3-10
: IACS harmonized CSR for bulkers and Tankers (**HCSR**)

o Target

- **Oil Tankers** (over 150m L.O.A)
- **Bulk Carriers** with Single deck, top-side tanks, hopper side tanks (over 150m L.O.A)
exclusive of Ore carrier/Combination Carrier

o SOLAS Application Dates

- 2016. 7. 1 The ship constructed after 1 July 2016
- 2017. 7. 1 The ship laid down the keel or had equivalent stage of
construction after 1 July 2017
- 2020. 7. 1 The ship delivered after 1 July 2020
on 2014 , the above dates will be discussed and rearranged



Polar Code – Development compulsory code for the ship navigated at polar area

Background : Accidents and Incidents due to increase of navigating ships

- IMO
 - IMO Guidelines for Ships Operating in Arctic Ice-covered Waters (2002)
 - MSC/Circ.1056 and MEPC/Circ.399 – Refer to IMO Guidelines
 - Res.A.1024(26) Guidelines for Ships operating in Polar waters (2009.12.)
 - **IMO Polar code (Mandatory from 2012)**
- IACS
 - The IACS Unified Requirements for Polar Ships apply to ships constructed of steel and intended for navigation in ice-infested polar waters, except ice breakers (IACS UR I, 2006)
- Arctic Council
 - PAME (Protection of the Arctic Marine Environment) – Sub-group of Arctic council consisting with specialists in terms of Arctic(185 members).
 - Arctic Marine Shipping Assessment 2009 Report – 4years report (Arctic problems and conclusion)
- ATCM (Antarctic Treaty Consultative meeting)



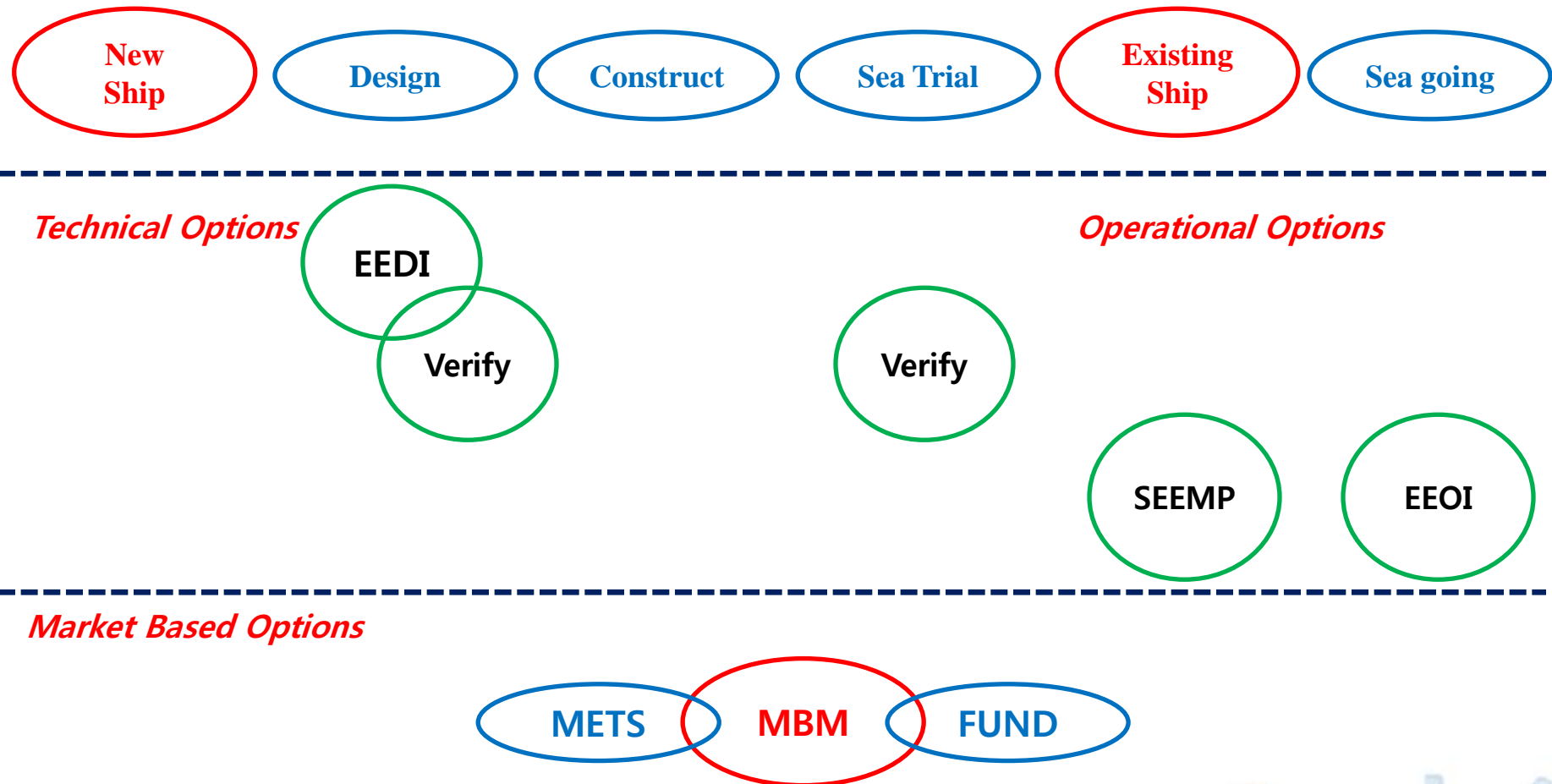
IGF Code – Development of Code for Gas fuelled ship

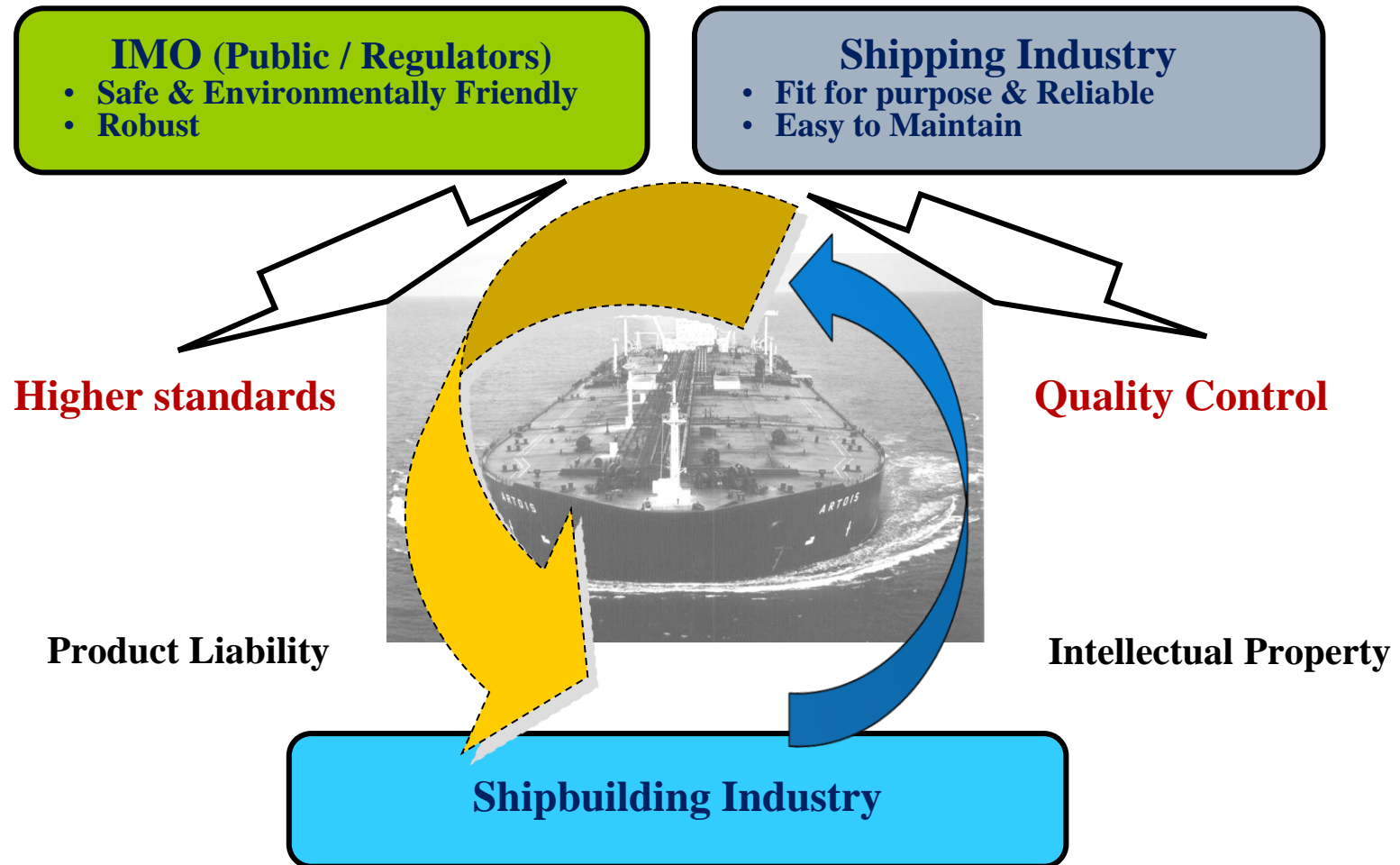
Need for decreasing Green house gas, NO_x & SO_x and Cost effect of fuelled gas due to Oil price increase and followings ;

- Already put in service in North sea area
 - Development of Engine using Gas Fuel (Dual Fuel Engine)
 - Need infrastructure such as Gas bunkering (Ship to Ship)
 - Development of Gas Fuel Containment system (cost effective)
1. International Code on Safety for Natural Gas-Fuelled Engine Installations in Ships (IGF Code)
 - Include low flammable liquid fuel
 - Methanol, Ethanol, Propane, Hydrogen compound
 - ※ The Interim Guidelines are not mandatory
 2. International Code for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code, under revision)
 3. IACS Requirements
 - UR 59 revision
 - Include low pressure Gas Engine

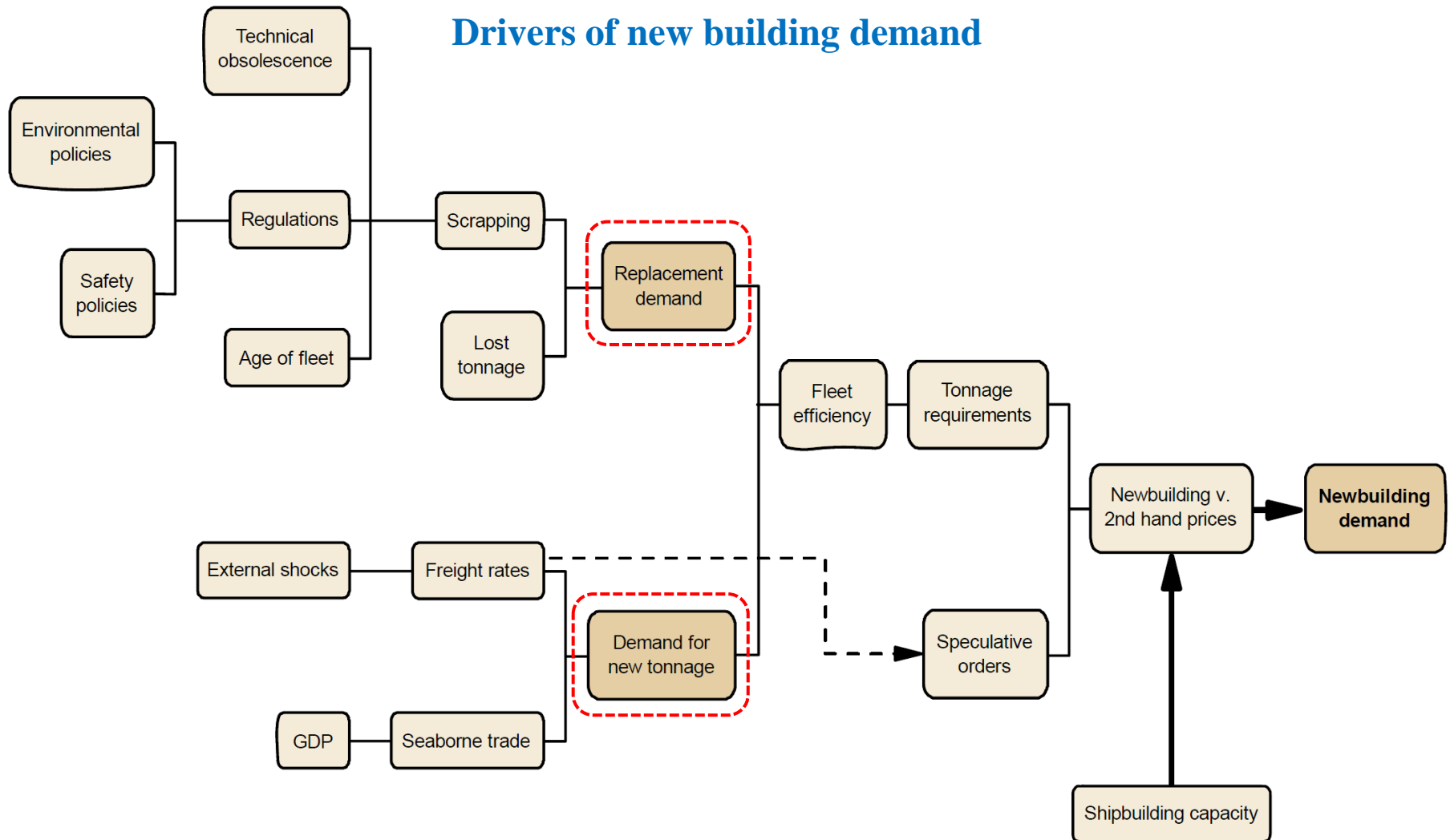


GHG EEDI – Energy efficiency for new ships





Drivers of new building demand



New shipbuilding Market

Demolition occurs for a particular ship will vary & is generally dependant on a below

- ✓ The age of the ships in the fleet – key determinant of their physical condition
- ✓ Freight market conditions – weak markets tend to stimulate demolition
- ✓ Technological or legislative changes – these may make ships obsolete before age or condition does

< The analysis of new orders over the most high peak period (2003-2008) >

Drivers of demand	Item	Quantity of new orders
New tonnage demand	Seaborne trade	284 mil.GT(53.0%)
	New type vessel *	88 mil.GT(16.4%)
Replacement demand	Over 25years vessel	113 mil.GT(21.1%)
	Single hull TK phased-out	50 mil.GT(9.5%)
Total		535 mil.GT

New type vessel mainly means large sized containership (over 8,000TEU) & gas carriers

Technical issues being covered at the ASEF so far

Contents	1 st ASEF (07.11, Tokyo)	2 nd ASEF (08.11, Changwon)	3 rd ASEF (09.12, Shanghai)	4 th ASEF (10.11, Kyoto)	5 th ASEF (11.12, Busan)
GBS	○	○	○	○	○
PSPC	○	○	○	○	
Ship Recycling	○	○	○	○	CG
Air pollution		○	○		○
BWMS		○	○		○
Noise on board				○	○
Tank testing				○	○
FSA(oil tanker)				○	
IACS CSR-H				○	○
EEDI					○
Anti-Piracy					○

In parallel, the CG for NGO granted consultative status with IMO was established at 4th ASEF

The status of participants from Asian countries

Host	Participants	Nationality		Ratio
		Korea-China-Japan	Other Asian Countries	
1 st ASEF	138 persons from 9 countries	123 persons	15 persons	89:11
2 nd ASEF	181 persons from 12 countries	158 persons	23 persons	87:13
3 rd ASEF	320 persons from 12 countries	293 persons	27 persons	92:8
4 th ASEF	132 persons from 10 countries	113 persons	19 persons	86:14
5 th ASEF	121 persons from 9 countries	101 persons	20 persons	83:17

The status of documents submitted to IMO from three countries(2008-2010)

year	Korea		China		Japan		Total
	Committee	Sub-committee	Committee	Sub-committee	Committee	Sub-committee	
2008	15	10	7	15	32	47	126
2009	14	15	3	7	17	34	90
2010	24	25	12	17	39	36	153



International Cooperation

- **Cooperation Agreement** between the **KOICA**(Korea International Cooperation Agency) and **IMO** on the Funding of the Project on Building Capacity in East Asian Countries to Address GHG Emissions from Ship (21 April 2011)
- **Details**
 - Development of training package on fuel efficient ship design & operation
 - Consultant of sub-regional(3) & national workshop(3) organized by IMO (Nov.2011)
 - 2 years program(2011.5-2013.4) with funding USD 700,000 by KOICA



Nine Star Stories of Korean Shipbuilding Industry

- Ulsan Hyundai Heavy Industries
- Geoje Daewoo Shipbuilding & Marine Engineering
- Geoje Samsung Heavy Industries
- Mokpo Hyundai Samho Heavy Industries
- Busan Hanjin Heavy Industries & Construction
- Jinhae STX Offshore & Shipbuilding
- Ulsan Hyundai Mipo Dockyard
- Tongyeong SLS Shipbuilding
- Busan Dae Sun Shipbuilding & Engineering





Challenging, Changing, Creating

Korean shipbuilders are at the forefront of the campaign to turn crisis into opportunity under the spirit of creative innovation, challenge and paradigm change.

