Flag State’s Best Practices and Incentives

International Workshop on Greenhouse Gas Emissions and Shipping

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Overview

Constructive participation in the global effort

Incentives

Best practices
Constructive participation in the global effort
Incentives
Best practices
IMO DCS Voluntary Experience Building Phase (VEBP)

- Collaboration between MPA, Singapore registered ship owners and Class (RO’s)
- Data Collection and Data Reporting
- 01 January to 31 December 2018
- Monthly reporting using IMO DCS format
- Identify issues, find solutions and ensure smooth implementation of mandatory phase commencing 01 January 2019
Sharing Lessons Learned from the VEBP at MEPC 73

- Clarification required on reporting “other” ship types
- Challenges in ascertaining emission factors for “Other” fuels, ex 0.50% sulphur fuel blends
- Clerical errors in recording and reporting. Consider digitization of recording and reporting
Constructive participation in the global effort

Incentives

Best practices
MPA’s Sustainability Framework towards GHG Emission

To lead in promoting sustainability practices in environmental, economic, social and financial spheres ensuring that the Maritime Industry is Future-Ready
Maritime Singapore Green Initiative

- **Singapore-registered ships**
  - Encourage reduction of CO₂, SOₓ and NOₓ

- **Ocean-going ships calling at port**
  - Encourage reduction of SOₓ and NOₓ

- **Local maritime companies**
  - Encourage adoption of green technologies

- **Maritime industry**
  - Promote adoption of alternative/cleaner marine fuels

- **Maritime industry**
  - Promote awareness of green shipping
Green Ship Programme

Applicable

• Singapore-flagged ships

How to qualify?

• Exceeds IMO’s EEDI requirements
  ✓ 50% reduction of Initial Registration Fees
  ✓ 20% rebate on Annual Tonnage Tax

• Adopts approved SO\textsubscript{X} scrubber technology exceeding IMO’s emission requirements (until 31 Dec 2019)
  ✓ 25% reduction of Initial Registration Fees
  ✓ 20% rebate on Annual Tonnage Tax

• Adopts both energy efficient ship design and approved SO\textsubscript{X} scrubber technology exceeding IMO’s requirements; or adopts use of LNG
  ✓ 75% reduction of Initial Registration Fees
  ✓ 50% rebate on Annual Tonnage Tax

Green Ship Certificate / Green Ship of the Year Award
Green Port Programme

Applicable

- Ocean-going ships calling at the Port of Singapore

How to qualify?

- Burn clean fuels (<0.5% m/m sulphur content) within port limits (until 31 Dec 2019)
- Use of approved abatement technology (until 31 Dec 2019)
- Use of clean fuels (e.g. LNG)
- Applicable to port calls of five days or less, and maintain use throughout entire port stay

Incentives

- 25% reduction in port dues
Green Technology Programme

Applicable

• Local maritime companies

How to qualify?

• Projects on green technological solutions/systems
• Verifiable emissions results
• Not commonly deployed
• System installation done in Singapore

Incentives

• Grants of up to 50% of qualifying costs that can achieve more than 5% emission reduction per technology
• For funding above S$2 million, achievement of more than 20% reduction in emission levels required
Green Awareness Programme

Applicable
- Maritime companies

Available Programmes/Incentives
- Workshops/forums on industry best practices for sustainable shipping
- Maritime Singapore Green Pledge
- Co-funding Initiative for Sustainability Reporting (50% of qualifying costs, up to S$50,000 per company)
Green Energy Programme

Applicable
• Shipping industry

Available Programmes/Incentives
• Aims to promote adoption of alternative/cleaner marine fuels
• Provides support for adoption of such operational measures in the Port of Singapore
Constructive participation in the global effort

Incentives

Best practices
Singapore Ships – Technical Measures

Flettner Rotor Sails

HAZID Study

Flag Approval
Singapore Ships – Technical Measures

Pre-Swirl Duct
Singapore Ships – Alternative Fuel

LNG Fuelled Harbour Tugs

Flag Approval

IGF Code Gap Analysis
Singapore Ships – Electric Power Source

Battery Powered Inland Craft

Solar Flotsam Retrieval Craft
Preparing to be an LNG Bunker Ready Port

**May 2017**
- **LNG BUNKERING DEMONSTRATION**
  - Conducted by Pavilion Gas - First Demo in South East Asia, Truck to Ship supply model

**June 2017**
- **BUNKERING OPERATIONS**
  - Conducted by FueLNG - Bunkering of Cardissa, an LNG bunker vessel

**Sep 2017**
- **BUNKERING OPERATIONS**
  - Conducted by FueLNG – Bunkering of Golar’s Hilli Episeyo FLNG

**Mid-2018**
- **REGULAR BUNKERING OPERATIONS**
  - Regular bunkering of LNG-fuelled harbour craft from mid-2018 onwards
Driving Uptake of LNG As A Marine Fuel

SINGAPORE advances LNG bunkering efforts to meet future demand

TAP ON

$12 million funding for building of LNG-fuelled vessels

up to $2 million per vessel Capped at two successful funding application per company

Visit www.mpa.gov.sg to apply for funding today

Waiver of Harbour Craft Dues for 5 year period

10% Port Dues Discount if serviced by LNG-fuelled Harbour Craft
Planning for the Next Generation Port

- **Energy Efficiency**
  - Targeting >35% energy savings
- **Water Management**
  - Multi-mode transportation
  - Outdoor average wind speed on site to be >0.6 m/s
- **Material & Waste Management**
  - 100% NEWater on-site for non-potable water uses
- **Environmental Planning**
  - Community Green add up to >15% of site area
  - Target reduction of average pedestrianized surface temperatures by 3 degC
- **Green Building & Green Transport**
  - 100% site accessibility through sheltered walkways
  - Proposed 10% regeneration of renewable energy from site
- **Community and Innovation**
  - >60% Native or drought tolerant plant species
To explore possible energy efficient initiatives such as centralised cooling facilities, solar energy harvesting and an Integrated Energy Management System to supply electricity to the Tuas Maritime Hub.
Thank you