The Global MTCC Network (GMN) project is funded by the European Union and implemented by IMO. The views expressed in this presentation can in no way be taken to reflect the views of the European Union.
The International Maritime Organization (IMO)

UN specialized agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships

IMO regulates over 50,000 merchant ships trading worldwide

HQ in London

Assist developing countries improve their ability to comply with international rules and standards

174 Member States & 3 associated members

143 observer organizations (IGOs and NGOs)

IMO stands for safe, secure and efficient shipping on cleaner oceans
The share of shipping emissions in global anthropogenic emissions has increased from 2.76% in 2012 to 2.89% in 2018.

Demand is the key driver for growth in emissions.

**Emission projections**: under Business-as-usual scenarios, 2050 emissions from shipping are expected to represent between 90% and 130% of 2008 emissions.
A decade of IMO regulatory action to reduce GHG emissions from shipping

Addressing climate change

A decade of regulatory action to cut GHG emissions from shipping: towards phasing out GHG emissions from international shipping as soon as possible in this century

Committee outputs:
Adoption and consideration of mandatory measures (amendments to MARPOL Annex VI) and Initial IMO GHG Strategy

1st Energy efficiency regulations for ships: EEDI and SEEMP

Implementation: entry-into-force dates of mandatory measures and data support

2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021

- 2022
- 2023
- 2024
- 2025

- 2030
- 2050

1st Annual fuel consumption reporting

1st EEDI Study

3rd IMO CHC Study

4th IMO GHG Study

EEDI Phase 1

EEDI Phase 2

EEDI Phase 3 for certain ship types

EEDI phase 3 for remaining ship types

Aggregated results of the 2019 fuel consumption data

Collection of carbon intensity data (CII) for existing ships

Data collection and reporting

Initial IMO Strategy on reduction of GHG emissions from ships

Short-term GHG reduction measure: EEXI, CII and rating regulations

Revision of the Initial IMO Strategy

Consideration of GHG Lifecycle assessment guidelines

Consideration of assessment of impacts on States of candidate measures

Mid-term measures workplan: Consideration of possible measures

At least 50% reduction of the total annual GHG

At least 70% reduction of CO₂ per transport work

At least 40% reduction of CO₂ per transport work

See: https://www.imo.org/en/MediaCentre/HotTopics/Pages/Cutting-GHG-emissions.aspx
Supporting implementation: technical assistance and capacity building

Addressing specific challenges of SIDS and LDCs
Promoting Inclusive Innovation Through Demonstration Projects & Knowledge Platforms
The Global MTCC Network (GMN) project

- EU and IMO partnership project launched in 2016

- Focused upon reducing GHG emissions from the shipping sector and supporting IMO’s Initial GHG Reduction Strategy – LDCs & SIDS

- A network of 5 Maritime Technology Cooperation Centre’s (MTCC’s) established in - Africa, Asia, Caribbean, Latin America and Pacific
GMN Concept

- A more sustainable approach
- Institutionalization of capacity building and technology cooperation
- The need to create long term solutions
- Creating centre’s of excellence in-region
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### MTCC Caribbean’s Pilot Project and Action Items

#### Pilot 1

**Uptake of ship energy efficient technologies and operations.**

- Created a baseline of existing technologies and best practices utilized on-board vessels trading in the Caribbean Area between 2017-2018.

#### Pilot 2

**Fuel consumption data collection and reporting in line with IMO regulations.**

- Established a voluntary fuel consumption data reporting system to aid regional administration.
- Provides a baseline of the fuel consumption and estimated GHG emissions for ships trading in the Caribbean region.

- Compile and communicate data to the IMO.

**Highlights the main energy consumers on board and the emissions abatement measures currently used in the region.**

- Facilitates technology uptake based on a cost benefit analysis.
Impact

- A basis for setting targets and ensuring accountability to relevant stakeholders
- Allows informed decision making on investments
- Increased awareness amongst regional stakeholders
- Will assist in the development of a consistent regional approach
Spotlight: MTCC Pacific

Energy-efficient ships
- Rolling out the implementation of Ship Energy Efficiency Management Plans (SEEMPs)
  - Introduced in the national workshops
  - 26 ship operators and 39 vessels in total
  - 39 vessels visited; 36 vessel SEEMPs drafted
  - Integrated with Safe Operational Plan through SPC's Pacific Islands Domestic Ship Safety (PIDS) Programme

Energy-efficient ports
- Conducted 12 port energy audits across 8 countries
- Collection of baseline data
- Advice on energy savings to reduce GHG emissions from port operations

Capacity building activities

<table>
<thead>
<tr>
<th>Country</th>
<th>Dates</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiji</td>
<td>24–26 October '17</td>
<td>24 3</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>13–15 February '18</td>
<td>13 4</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>27–29 March '18</td>
<td>25 8</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>9–11 May '18</td>
<td>18</td>
</tr>
<tr>
<td>Samoa</td>
<td>12–14 June '18</td>
<td>17 2</td>
</tr>
<tr>
<td>Kiribati</td>
<td>18–25 June '18</td>
<td>27 5</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>20–21 August '18</td>
<td>27 6</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>15–17 April '19</td>
<td>13 4</td>
</tr>
</tbody>
</table>
The projects demonstrate the application of maritime solar energy in PICTs vessels with the view of reducing greenhouse gas emissions and progress low-carbon development in the Pacific maritime transport.

**Vessel Name**: Tiwi Trader

<table>
<thead>
<tr>
<th>Vessel Type</th>
<th>Landing craft</th>
</tr>
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<tbody>
<tr>
<td>Year Built</td>
<td>1979</td>
</tr>
<tr>
<td>Overall Length</td>
<td>31m</td>
</tr>
<tr>
<td>Gross Tonnage</td>
<td>172</td>
</tr>
</tbody>
</table>

**Identified Savings solar system**: 32%

| Estimated annual cost savings | 48,000 AUD |
| Greenhouse gas emissions reduction | 101 tonnes annually |
| Payback period | 9 months |
| Additional measures | + Propeller Boss Fin Cap (PBCF) 3% |
|                     | + operational measure (Optimised trim & speed) 5% & 3% |
| Total projected savings | 43% |
The Global MTCC Network (GMN) project is funded by the European Union and is implemented by the IMO. The projects demonstrate the application of maritime solar energy in PICTs vessels with the view of reducing greenhouse gas emissions and progressing low-carbon development in the Pacific maritime transport.

**Vessel Name** | Lady Samoa III
---|---
**Vessel Type** | Ro-Ro Passenger Ferry
**Year Built** | 1998
**Overall Length** | 46.7m
**Gross Tonnage** | 1045

**Identified Savings for solar system** | 17%
---|---
**Estimated annual cost savings** | 25,000 AUD
**Greenhouse gas emissions reduction** | 135 tonnes annually
**Payback period** | 7 years
**Additional measures** | 
+ Propeller Boss Fin Cap (PBCF) | 3%
+ shaft generator | 5%
+ operational measure (Optimised trim & speed) | 5% & 10%
**Total projected savings** | 40%
Port Energy Audits

Resounding success following the audits where improved energy efficiency & reduced GHG emission were observed:

-Solomon islands
Overall energy use in Honiara Port dropped 8%

-Fiji
Suva port reduced its energy consumption by 21%
What next for GMN?

1. Dissemination, capacity building and sustainability
2. Linking to R&D developments
3. Provide a platform for partnerships

GMN.imo.org
Thank You!  We are open for partnerships

https://www.imo.org/en/OurWork/PartnershipsProjects/Pages/default.aspx