GMN | The Global MTCC Network
A global network for energy-efficient shipping

MTCC PACIFIC
Maritime Technology Cooperation Centre

MARITIME TECHNOLOGY COOPERATION CENTRE – PACIFIC (MTCC-PACIFIC)

CAPACITY BUILDING FOR CLIMATE MITIGATION IN THE MARITIME SHIPPING INDUSTRY

THE GLOBAL MTCC NETWORK (GMN) PROJECT

MTCC-Pacific Update:
Case studies and opportunities from ship energy efficient technologies

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EUROPEAN UNION

IMO INTERNATIONAL MARITIME ORGANIZATION

Pacific Community
Communauté du Pacifique

HOST INSTITUTIONS OF MTCC-PACIFIC

SPREP
Secretariat of the Pacific Regional Environment Programme

The Global MTCC Network (GMN) project is funded by the European Union and implemented by the IMO.

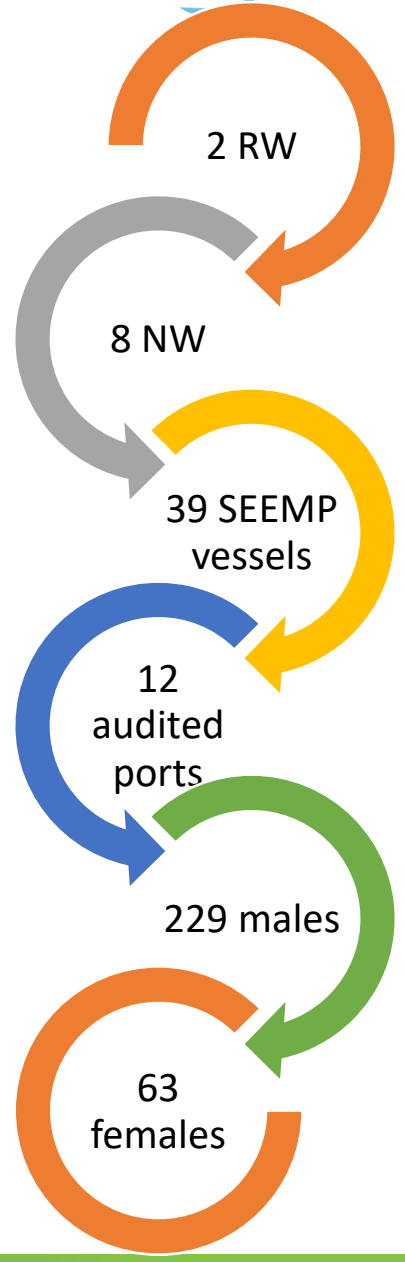
MTCC-Pacific Activities

Pacific low-carbon maritime transport that supports the sustainable development goals of PICTs

Support national approaches to uptake low-carbon technologies and operations within PICTs maritime sectors to reduce GHG emissions and reliance to fossil fuels

Provide capacity-building activities to improve the capacity of PICTs to comply with international instruments and facilitate the implementation of energy efficient measures in the maritime industry

Contribute to international and regional networks of centres of excellence to share information and experiences and promote the uptake of low carbon techn. and operations and energy efficient practises in the maritime industry



MTCC Capacity Building

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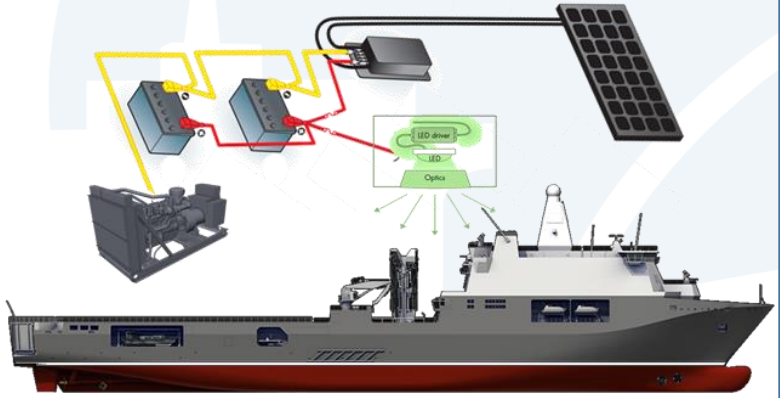
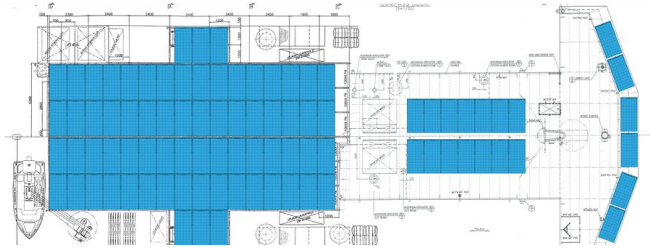
MTCC-PACIFIC Pilot Projects

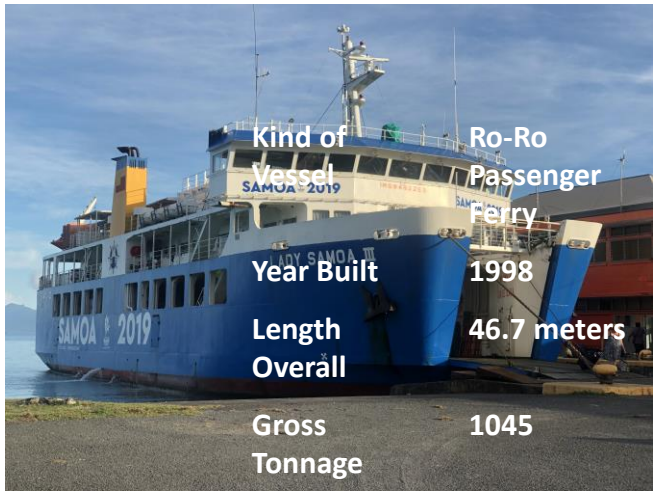
The projects demonstrate the application of maritime solar energy in PICTs vessels with the view of reducing greenhouse gas emissions and progress low-carbon development in the Pacific maritime transport



VANUATU

SAMOA





Identified Savings	**32%**	**10%**
Estimated annual cost savings	60,000 AUD	64,000 AUD
Greenhouse gas emissions reduction	101 tonnes	135 tonnes annually
Payback Period	9 months	7 years

PILOT PROJECT - VANUATU

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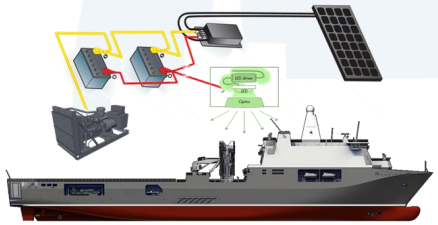

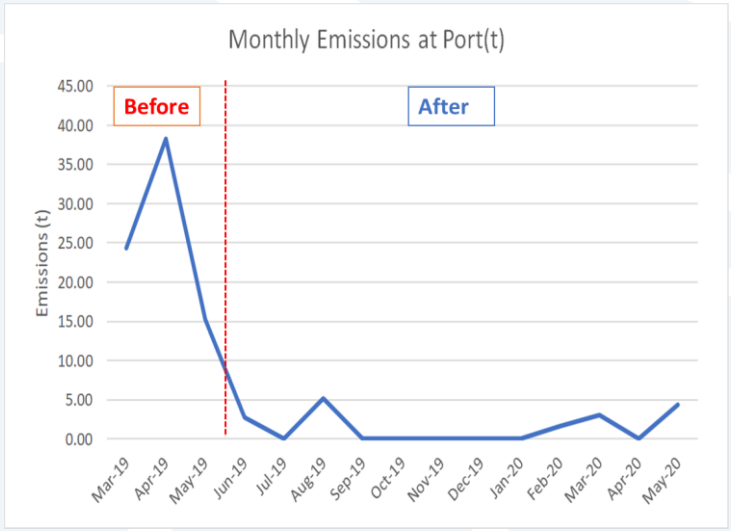

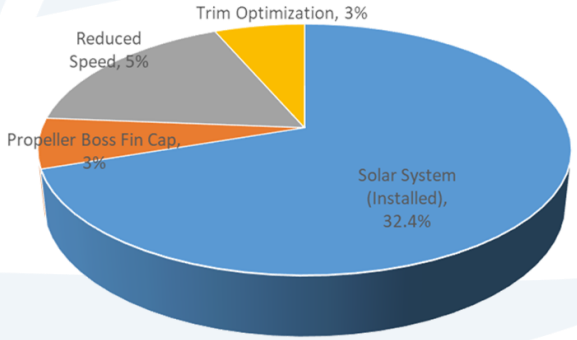

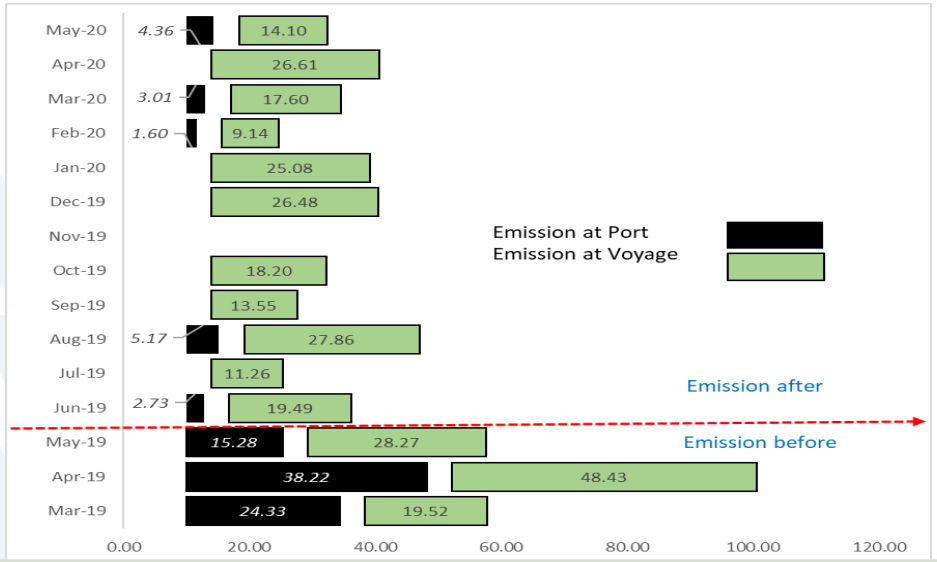

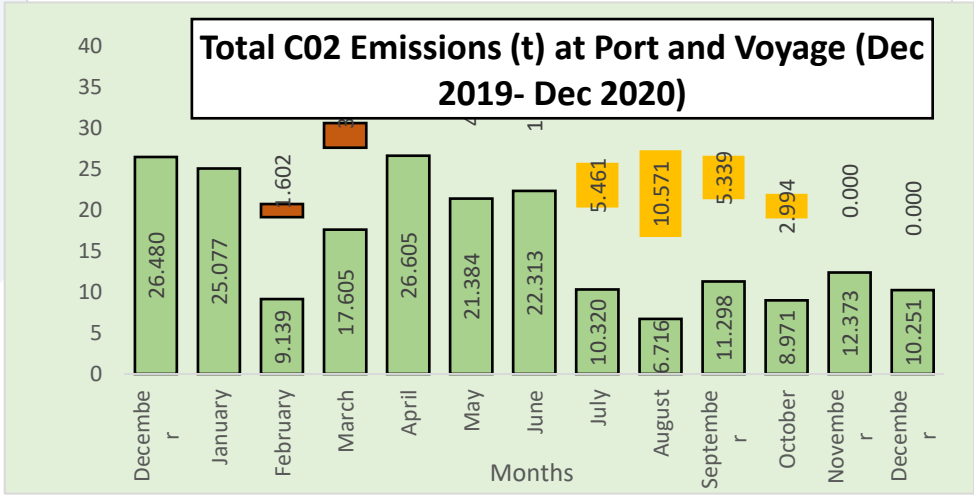

PILOT PROJECT - SAMOA

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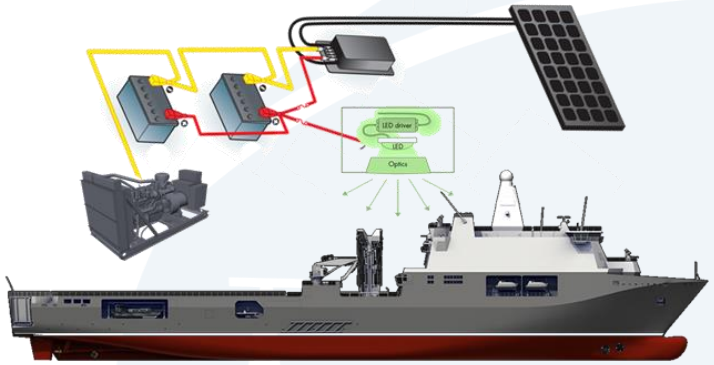
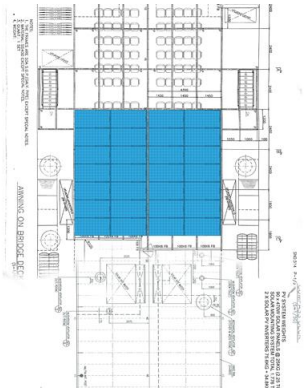
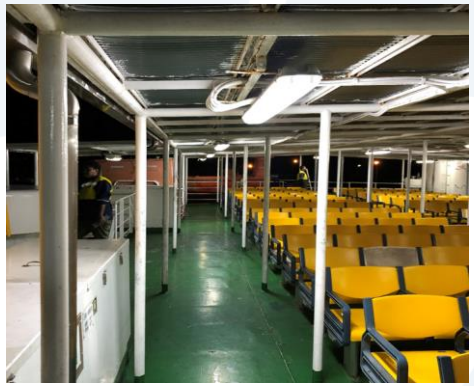


Solar panel

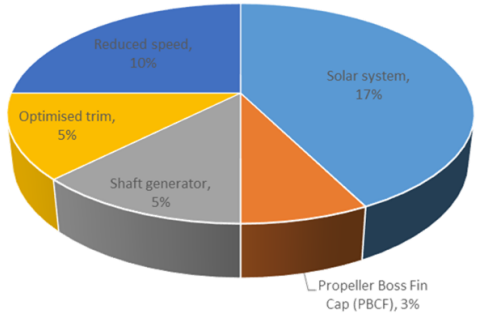


Inverter

LED Lights



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%

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Green Pacific Ports

Green Pacific Ports

Flexibility, Innovation, Adaptation

Operations

Improving port operations efficiency

- Quality Management
- Legal Framework
- Climate Resilience

Energy

Reducing port carbon footprint

- Energy Management
- Energy audits
- Energy Conservation

Environment

Preventing port marine pollution

- Environmental Management
- Waste Management
- Pollution Response

Solomon Islands Ports Authority

- 8 months Savings
  - 27% electricity emissions
  - 13% electricity and fuels.

Fiji Ports Corporation Limited

- 21% of office electricity usage.
- 19,000 FJD reduced as a result of the power factor correction.

Port of Tonga

- 6 months
- 17% electricity emissions
  11% electricity and fuels.

Demonstration project on hybrid outboard electric motor

Demonstrate a solar powered outboard motor on an outboard or a fibre glass boat belonging to a rural maritime community in Fiji.

20HP hybrid outboard electric motor and battery power bank with marine accessories.

Encourage behavioural change to buying fossil fuel powered crafts.

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CHALLENGES

Pilot project of Energy Efficiency

- Vessels drawings and documentations unavailable
- No Maintenance Plan
- Safe Operational Plan & SEEMP not effectively implemented
- Energy efficiency not practiced on board
- Lack of awareness created by the ship operator on safety & efficiency

Pilot project on data collection

- Inconsistent data provided
- Data not supplied as agreed during NW
- Lack of trained crew on board
- Lack of enforcement

Way Forward

- Follow up with the data collection with the same vessels
- On board training of data collection during one voyage
- Conduct onsite trainings on data collections
- Develop partnership to collect fuel oil consumption data from Pacific shipping routes

In Summary

A lot of lessons learned have been gained from the pilot-project that will guide MTCC-Pacific in the future.

Pilot project challenges have been heightened by the COVID19 pandemic. With limited budget and timeframe, MTCC-Pacific engaged primarily with countries that have shown commitment by the operators to implement some ship energy efficiency activities which meant scaling its scope and reach in the region.

Solar systems are applicable to all ages of vessels trading in the Pacific islands areas and is one of the potential immediate technical measure that could be adopted by the aging fleet in the region and significantly contribute to explore targets of 40% GHG emissions reduction by 2030 as discussed in the last events in the region.

The MTCC-Pacific pilot project is also a way of promoting renewable energy on board ships but the crucial need to collect reliable data and information on fuel consumption to ensure informed decision-making by ship operators.

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THANK YOU