

## FIRST NATIONAL WORKSHOP ON ENERGY EFFICIENT OPERATION OF SHIPS

Funafuti, Tuvalu, 9-11 May 2018

### OUTCOMES

1. The First National Workshop on Energy Efficient Operations of Ships was held in Funafuti, Tuvalu from 9-11 May 2018. The workshop was coordinated and facilitated by the Maritime Technology Cooperation Centre in the Pacific (MTCC-Pacific) and attended by representatives from the Ministry of Communication and Transport (MCT), Office of the Prime Minister, Tuvalu Electrical Corporation (TEC), Pacific Energy SWP Ltd, University of South Pacific (USP), Department of Fisheries, Tuvalu Police Force, Department of Energy, Department of Agriculture, Department of Meteorology Services, Pacific Direct Line (PDL), Tuvalu Maritime Training Institute (TMTI) and Pacific Energy. The list of participants is attached in Annex 1.
2. MTCC-Pacific is hosted by the Pacific Community (SPC) in collaboration with the Secretariat of the Pacific Regional Environment Programme (SPREP) that form part of the Global MTCC Network (GMN), a project implemented by the International Maritime Organization (IMO) and funded by the European Union (EU) with the aim of building capacity of small island developing states (SIDS) and least developed countries (LDC) for climate mitigation in the maritime industry.
3. The welcoming speech was delivered by the Tuvalu's Acting Chief Operating Officer of the Ministry of Communication and Transport, Mr. Falasese Tupau, where he recapped Tuvalu's Prime Minister, Hon. Enele Sopoaga concern for the need of the shipping industry to reduce the greenhouse gas emissions.. *"We need to quantify the emissions from our vessels through MTCC-Pacific's data collection regime and address and further reduce our greenhouse gas emissions from the shipping industry. I hope this workshop will lay the foundation for innovation in the shipping industry to be more environmentally friendly in terms of fuel consumption, energy consumption and uptake of energy efficient technology."*
4. In his opening address, MTCC-Pacific (Maritime) Transport Greenhouse Gas Advisor recapped the commitments from MTCC-Pacific, it's Host Institutions and its partners to assist the Pacific region in climate mitigation in the maritime transport sector and was *"pleased with the commitment shown by leaders in Tuvalu and confident that the knowledge shared during this week will make a positive impact toward greenhouse gas emission targets"*.
5. The purpose of the meeting was to gather the relevant maritime transport sector stakeholders, government and ship operators to agree on measures to improve energy efficiency of shipping in Tuvalu and provide them with technical tools to progress toward ship energy efficient operations (SEEO).

**The participants:**

6. Agreed to take relevant action to mitigate greenhouse gas (GHG) emissions and create awareness amongst the ship operators in Tuvalu on the benefits of ship energy efficient operations (SEEO) toward reduction of fuel oil consumption (FOC) and reduction of GHG emissions;
7. Recognize the drivers, needs, barriers and relevant actions stated in Annex 2 that include:
  - i. Capacity Building (C-B) e.g. HR Development and Awareness of Training opportunities;
  - ii. Carbon based incentives;
  - iii. Costs of fuel;
  - iv. Improve reliability, safety and efficiency of domestic shipping;
  - v. Legislation, Regulations and standards for domestic ships including safety, training, pollution prevention and efficiency;
  - vi. Traditional sustainable transport (canoe); and
  - vii. Insufficient specialized staff.
8. Agreed to participate and be involved in MTCC-Pacific pilot-projects on energy efficient operations of ships and data collection that will assist in implementing immediate actions adapted to domestic ships in Tuvalu and port operations;
9. Agreed to collect and share relevant data on fuel oil consumption (FOC) and request MTCC-Pacific to provide templates and assist in collection and reporting, ensuring confidentiality and accessibility of information;
10. Agreed to continue efforts to implement Safety Management Systems and planned maintenance on board domestic ships in Tuvalu under the PIDSS Programme.

11 May 2018

## Annex 1 – List of participants

#	Name	Job Title	Organisation	Email Address/ Phone Number
1	Taimaitasi Paelate	Deputy CEO/Chief Engineer	Tuvalu Maritime Technical Institute (TMTI)	tpaelate@yahoo.com / 688 20039
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10	Talafou Esekaia	Maritime Commander	Tuvalu Police Service	talaloi@yahoo.com.au / 688 20060
11	Jamie N. Ovia	Climate Mitigation Policy Advisor	CC Policy & Disaster Coordination Unit (PM's Office)	jammin.ovia537@gmail.com / 699 2057
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15	Salolo Tepoga	Marine Engineer	Marine & Port Services	siaositepoga@gmail.com / 688 20744
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17	Jack Mataio	AB Seaman	LCV Taimanino	matiolnln@gmail.com
18	Tuivaituru Evi	Captain	RV Tala Moana	tuievi@gmail.com / 688 20343 / 7005670
<b>ORGANISER</b>				
1	Mark Davis	Transport Green House Gas Adviser	MTCC-Pacific	markd@spc.int
2	Ore Toua	Maritime Training Adviser	MTCC-Pacific/The Pacific Community	oret@spc.int
3	Zullah M. A	Maritime Industry Energy Efficiency Officer	MTCC-Pacific	zullahm@spc.int

## Annex 2 – Matrix of drivers, needs, barriers and relevant actions

Drivers	Needs	Barriers	Relevant action
<i>Tuvalu National Workshop on Energy Efficient Operations of Ships, Funafuti, Tuvalu, 9-11 May 2018</i>			
Capacity Building (C-B) e.g. HR Development and Awareness of Training opportunities	<ul style="list-style-type: none"> <li>• HR development</li> <li>• Tuvalu Maritime Training Institution's (TMTI) management continuity to build into an effective institution.</li> <li>• Continuity of maritime expertise within 'Maritime Department'.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of higher crew qualification</li> <li>• Although training provided under the PIDSS program no participants were aware or could recall attending training.</li> <li>• Limited on-ground inspection resources due to insufficient trained personnel.</li> </ul>	<ul style="list-style-type: none"> <li>• Building an adaptive capacity that will ensure application of PIDSS (SOP) &amp; SEEMP measures on board domestic vessels.</li> <li>• Government are considering the separation maritime roles e.g. port from admin of regulations.</li> <li>• Government support for increasing trained personnel.</li> </ul>
Carbon based incentives	<ul style="list-style-type: none"> <li>• To reduce GHGEs and conserve FO</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of understanding on environmental impacts.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide incentives (time in lieu, bonus, promotions) to crews to improve voyage efficiencies.</li> </ul>
Costs of fuel	<ul style="list-style-type: none"> <li>• Baseline data collection (DC) to show emissions from domestic shipping.</li> <li>• Proper recording of the fuel on-board and fuel discharge on the smaller islands.</li> <li>• Responsible person appointed.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of enforcement by operators on paper work</li> <li>• Lack of knowledge on the benefits and importance of data logging.</li> <li>• Proper voyage* report/log- FOC, weight (cargo, pax &amp; BW), time and distance (nm).</li> <li>*point to point.</li> </ul>	<ul style="list-style-type: none"> <li>• Captain conduct tool box meeting prior to departure of the vessels.</li> <li>• Implement safety &amp; energy management with the support of SPC (PIDSS and MTCC-Pacific)</li> <li>• Improve practices &amp; implement SOP &amp; SEEMP under the PIDSS program.</li> </ul>
Improve reliability, safety and efficiency of domestic shipping	<ul style="list-style-type: none"> <li>• Appropriate/relevant legal, regulatory and technical measures adapted to the size of the vessels and the capacity and resources of Tuvalu (currently undergoing regulatory review by NZ team).</li> <li>• Training on safety, efficiency including SEEMP.</li> <li>• Despite weighing capability (currently not operational?), at the port no weighing is undertaken (as per checklist) and no weight declarations are provided. Weight usually calculated from the draught.</li> </ul>	<ul style="list-style-type: none"> <li>• Under-regulated &amp; not locally adapted</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of measures adapted to the Pacific domestic fleet.</li> <li>• Control domestic fleet tonnage and pre-inspection /limitation based on load lines.</li> <li>• Capacity building of ship operators and crews on SEE measures and practises.</li> <li>• Biosecurity inspection.</li> <li>• Combined enforcement activities e.g. maritime police, especially marine pollution (Marine Resources Department will be formed under new regulation).</li> <li>• PSC/other authorities should be inspecting arriving/embarking vessels in lagoon and enforcing regulations. No port control.</li> </ul>
Legislation, Regulations and standards for domestic ships including safety, training, pollution prevention and efficiency	<ul style="list-style-type: none"> <li>• Awareness of Maritime compliance through 'MSA'.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of support to provide information and technical tools on energy efficiency.</li> </ul>	<ul style="list-style-type: none"> <li>• Technical support and C-B provided by MTCC-Pacific, and SPC to implement adapted measures</li> <li>• Incentives for SEE e.g. bonus.</li> </ul>

Traditional sustainable transport (canoe)	<ul style="list-style-type: none"> <li>• Ensure safety equipment on-board.</li> <li>• Support for traditional sailing skills for the younger generation.</li> <li>• Infuse the traditional sea transport knowledge with modern technology to promote safety</li> </ul>	<ul style="list-style-type: none"> <li>• Cost of safety equipment's.</li> <li>• Younger generation doesn't appreciate old skills etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide training and safety equipment incentive,</li> </ul>
Insufficient specialised staff	<ul style="list-style-type: none"> <li>• Lack of training</li> <li>• Retention of experienced staff</li> </ul>	<ul style="list-style-type: none"> <li>• Tuvalu and International development organisation (IMO, ADB etc.) funding</li> </ul>	<ul style="list-style-type: none"> <li>• PIDSS (2010) &amp; MTCC-Pacific (2017) SEEO working in conjunction has been introduced by SPC in the Pacific.</li> </ul>