A Framework for Transition

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A Catalyst for Change
Micronesian Center for Sustainable Transport

- RMI has requested USP establish a Centre of Excellence to support a whole of country strategy to transition to low carbon transport.
- Micronesian Presidents Summit July 2015 communiqué calls for action to transition Micronesia to low carbon transport, with sea transport as a starting point
- Federated States of Micronesia and Palau have endorsed following the lead of RMI. Tuvalu, Kiribati and Solomons have expressed strong interest
- The MCST Framework has been endorsed by the Smaller Island States Leaders Forum in 2016 and the 2017 Regional Transport Ministers Forum in April 2017
Policy and financing—why is sea transport currently invisible in the search for a low carbon future for Pacific Island Countries?

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The role of financing and policy in research and development of renewable energy technologies in the Pacific and beyond is critical. Sea transport is a major contributor to greenhouse gas emissions and the critical role played by agence such as the World Bank in supporting the development of renewable energy technologies in the Pacific. The lack of current policy on marine transport is highlighted in the research. The paper concludes that review of current financing of sea transport and the potential for use of renewable energy in the sector in the Pacific is a priority and current policy needs review.

Keywords: financing, sea transport, Pacific, renewable energy, policy

A review of sustainable sea-transport for Oceania: opportunities and barriers for renewable energy shipping for the Pacific

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ABSTRACT

This paper summarises research and options for sustainable sea-transport for Oceania. It is a major contributor to greenhouse gas emissions and the critical role played by agencies such as the World Bank in supporting the development of renewable energy technologies in the Pacific is highlighted in the research. The paper concludes that review of current financing of sea transport and the potential for use of renewable energy in the sector in the Pacific is a priority and current policy needs review.

Keywords: sea transport, Pacific, renewable energy, sustainable shipping
This module has been prepared to provide background and lessons learnt from the reef of experience for decision and policy makers developing strategies for Small Island Developing States (SIDS), seeking to transition their sea transport to low carbon options. We have focused on the situation as it exists for Pacific Island Countries but the information in this module has direct relevance to all SIDS and many Less Developed Countries (LDCs).

This module contains eight chapters, each covering a separate theme. There are additional resource materials including PowerPoint presentations for each section, fact sheets which summarize key information and provide case examples, a glossary and list of acronyms, a reference list and bibliography, and links to useful websites.

You can access all chapters including additional resource materials by clicking on the chapters below. Alternatively, you can download the full module and the full appendix further down.

1. The International Shipping Context
2a. Sea Transport in the Context of Small Island Developing States
2b. Case Studies of Previous Pacific Trials and Research into Sustainable Sea Transport
3. The Potential for Renewable Energy for Sea Transport for SIDS
4. Options for Improving Energy Efficiency
5. Barriers for Sea Transport for SIDS
7. Conclusion
RMI – 4 strand approach to low carbon shipping transition

• High Ambition Coalition for International Bunkers Emissions
  – All Sectors must bear their ‘fair share’
  – PSIDS unique issues must be accommodated and based on science
  – The MECP72 at the IMO in April 2018 is a critical milestone

• Micronesia Center for Sustainable Transport
  – Whole of sector/whole of country low carbon transition
  – Catalyst for change
  – Endorsed by leaders of PAL, FSM, RMI, TUV, KIR, TOK, PIDF and USP Council

• Re-balance between transport/energy
  – Review NDCs to include transport and electricity emitting sectors

• Climate Financing for Pacific low carbon transition
  – RMI Concept Note to 2nd GCF Council
MICRONESIAN CENTER FOR SUSTAINABLE TRANSPORT

A Catalyst for Change
Marshall Islands **Rebbelib** for Transition to Low Carbon Transport
4. **MCST Structure**

MCST will be established as a small research team at USP-MI campus that coordinates and collaborates with all relevant stakeholders and projects.

- **Governance Board:**
  - Minister Education (Chair)
  - Minister of Transport (co-Chair)
  - Director WAM
  - Attorney General
  - DVC (Research) USP/ Campus Director
  - Director MCST (secretariat)

- **Project Steering Committees**
  - LCSTTP
  - Okeanos Project
  - etc

- **Research Partners:**
  - e.g. USP, UCL, Tyndall, HEL,
  - Southampton/LR, Portsmouth,
  - UNCTAD, UNESCAP, WFP

- **MCST**
  - **MCST Director**
    - Administration/Finance Officer
    - Research Fellow
    - Research Associates (2)
    - Postgraduate Students/Interns

5. **MCST Work Program**

- **Establishment Phase**
  - Establish Advisory Committee.
  - Recruit MCST Director and set up office.
  - Confirm 15-year RMI Transition Strategy (including 1st 5 Years Work Plan and budget and Funding Strategy).
  - Initiate data mapping across all transport sub sectors to establish current and historic baselines.

- **Implement 1st 5 Year Work Plan**

- **Implement additional 5 Year Work Plans**

- **Workstreams**
  1. Partnerships
  2. Training & Capacity Building
  3. Mapping & Data
  4. Heritage and History
  5. Economic Analysis
  6. Policy Analysis
  7. Technology
  8. Monitoring & Evaluation

- Maintain the RMI work program
- Establish Advisory Committees for FSM, Palau, Kiribati and Tuvalu.
- Assist each to prepare and implement country transition roadmaps.
1. Intra and Inter-Island Sailing Multi-Hulls

Historically, Marshallese developed fast, versatile multi-hull sailing vessels for local sea transport within and between its scattered atoll archipelagoes. Using the base built by WAM over the past two decades, this project will develop and trail designs for 2 classes of locally-built multi-hull sailing vessels for intra-lagoon and inter-atoll transport of passengers and cargo.

2. Wing in Ground ‘Wingships’

Working with industry leaders from Korea, this project will undertake a full feasibility study and field trials of ‘Wingships’ capable of carrying 50 passengers or 10 ton of cargo on routes up to 500km as an alternative to small aircraft and high-speed craft. This evaluation phase with include full consideration of training, infrastructure, operations and maintenance requirements necessary to support uptake of this technology in a Micronesian operating environment.

3. MISC 15-Year Fleet Efficiency Strategy

The Marshall Islands Shipping Corporation operates a fleet of 5 vessels providing government services throughout the country. For most outer island communities this is their main source of connectivity. It is essential for Government service delivery, disaster response in particular. Vessels include conventional ships and landing craft aged from 3 to 30 years old. This project will plan how this fleet can be replaced over its operating life cycle with more efficient, low carbon based vessels and what operational and technology retrofits and changes can be effected within the current fleet to substantively reduce fuel use by the MISC fleet over a 15-year period.

4. Flettner Rotors

Flettner rotors offer strong potential for numerous applications including new builds and retrofits of existing vessels. Working with leading German innovators through Green Shipping Niedersachsen (GSN) at the HEL this project will identify and trial the use of Flettner rotors within a RMI context.

5. Wind Powered Interisland Freighter

Copa is an important economic commodity for Micronesian economies and was once traded using small sail-assisted shipping. This project will evaluate the best design option for a small wind powered island trader to support rejuvenation of the outer islands copra trade within RMI and with its neighboring States.

6. RE Options for Electric Vehicle Recharging

Hybrid and all-electric vehicles offer strong potential for cutting land vehicle fuel usage. However, for plug-in vehicles to be of use in atoll situations, the issue of sourcing the electricity has to be resolved. This project will evaluate and trial leading candidates for powering recharging stations using renewables.

7. Marine Based/Sourced Biofuel

Biofuels have often been cited as a potential fossil fuel replacement for transport. Atolls pose the difficulty of a lack of land for source material. Coconut oil processing is one possibility. Recent research indicates that marine biota; especially seaweeds and algae may provide a solution. This