

Transitioning to a low carbon sea transport future for Oceania



**Regional Research and Education Strategy
Executive Summary**

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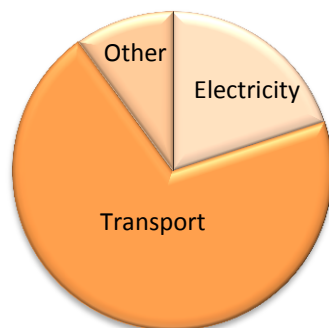
<http://www.iucn.org/oceania>

Rationale for a Regional Research and Education Strategy

The Oceania Centre for Sustainable Transport has prepared this Regional Research and Education Strategy as a means of supporting Pacific Island governments and communities in their efforts to reduce dependency on imported fossil fuels and to transition to a low carbon sea transport future. The sea transport issues facing Oceania, especially at the domestic level, have always presented a particularly difficult issue for PICs to find long-term, sustainable, and cost-viable solutions for, even in periods of relatively low energy costs. The unique characteristics of Pacific shipping (long routes, minute economies, imbalance in inward and outward loadings, financing barriers, high risk, high infrastructural costs, etc) present a greater challenge than for many other countries and regions. Imported fuel prices and the demand for global emissions reduction will continue to rise in the long-term.

There is potential for increasing sustainability in all aspects of the maritime transport sector. Efficiencies are achievable in all sectors of the industry. There are two strategies available to Pacific decision-makers at government, industry and consumer levels: pay increasing penalties and wait until alternative technologies become affordable as 2nd to 5th hand (which will not necessarily be tailored or even appropriate to Oceanic scenarios); or request sufficient domestic and international assistance and investment to develop locally-appropriate low carbon solutions through a coordinated programme. This strategy prioritises the needs of the small-scale local transport users as its initial primary focus.

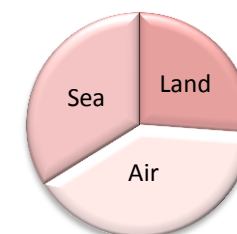
Regional Imported Fuel Use by Sector



The barriers to developing and implementing solutions for sustainable sea transport are complex. This strategy identifies priorities for both research and action across the inter-related fields of policy, economic analysis, technology development and deployment, training and qualifications, regulatory measures and education and research. It requires collaboration of stakeholder and partner interest from international and regional agencies, relevant government departments and ministries, the existing maritime industry of shipping operators, ship builders, maritime insurance, freight forwarders, local communities, researchers, trainers and donor/development partners.

Oceania is the most dependent region in the world on imported fossil fuel. Major investment has been made in reducing fuel dependency for electricity. Transport is currently the 'missing link' in a regional drive to a low carbon energy future. Of the transport sub-sectors, the marine sector should be the first priority, reflecting its critical importance to all aspects of socio-economic development and recognising the growing move toward 'green growth'.

Transport Fuel Use by Sector (Fiji)



Globally there is increasing research and innovation into shipping efficiency. The UN and most development agencies are now calling for reform of transport energy. The seven global Development Banks have mobilised \$175 billion for this sector. However, global initiatives do not currently prioritise the critical importance of sea transport for this region and the unique Pacific operating scenario.

This Strategy is a medium-term work plan. It is complementary to existing regional transport, energy, climate change and economic development strategies. It favours a 'bottom-up' approach by focusing first on the domestic scenario of local transport needs. The lack of profile to date on renewable energy transport allows the region an opportunity to learn from the lessons from introduction of renewable energy electricity generation and to develop a region-wide, coordinated and monitored programme of transition in this critical sector.

Work Programme Overview

The programme for implementing this strategy comprises of four inter-related areas:

- **Partnerships, Networking and Advocacy:** A successful pathway to low carbon shipping for PICs requires a strong country and regional network supported by leading international partners. It requires active collaboration with multiple actors and strong advocacy.
- **Capacity Building and Education:** Empowering today's decision-makers at all levels of Pacific government and industry requires targeted training and exchange, and provision of quality information and analysis. Preparing future decision-makers and embedding in-country expertise through education and internships is also required.
- **Economic Analysis and Technology Development:** Building collaborative programmes with leading international research centres to deliver quality economic and technical analysis and support.
- **Applied Research:** Transition to a low carbon scenario requires proof of concept. This can best be achieved by applying research and development trials in the areas of greatest benefit. A coordinated regional programme allows differing technologies, processes and applications to be tested at differing scales and locations and also monitoring and exchange of knowledge acquired and lessons learnt.

Country Programmes

Developing and supporting country programmes that provide a pathway to low carbon sea transport solutions for individual PICs is the overall objective of this strategy. The Tongan Energy Roadmap is an example of how this approach has been undertaken for the electricity sector. Each country has differing needs and priorities and PICs are at differing stages in policy development and fleet replacement cycles. Country scenarios range from major regional transshipment hubs to atolls without ports. There are also strong regional synergies and similarities. Country programmes require consideration of policy in a number of sectors including energy, transport, climate change, economic development, infrastructure, and disaster management. Work Stream 4 provides a template for developing country programmes with the other work streams providing support, tools, analysis, capacity building and partnerships.

Work Streams

8 primary work streams have been designed to support development of Country Programmes:

WS1 – Regional and International Networks to build long-term partnerships and facilitate exchange with international experts.

WS2 - Capacity Building and Education of current and future decision-makers, planners, industry leaders, operators and regulators.

WS3 – Restart Past Renewable Energy Experiments including retrofits, energy efficient freighters, artisanal fishing and local passenger craft.

WS4 – Country Programmes: Phased development of Sustainable Sea Transport programmes for each PIC.

WS5 – Policy Development: Required across the sector from response to global changes to development and implementation of country policies for transport, energy, climate change and economic development.

WS6 – Economic Analysis: Required across the sector from analysis of the regional implications of IMO regulation compliance to the cost/benefit analysis of individual routes and vessel types.

WS7 – Technology development: Global technology innovation is happening at speed, mostly for large ships. Pacific solutions must target smaller vessels. Renewable energy solutions will play an increasing role.

WS8 – Monitoring & Evaluation: All projects need to be monitored and evaluated so that lessons learnt are available locally, regionally and internationally.

