Accelerating Investments in Renewable Energy, Energy Efficiency & Smart Mobility in the Pacific Islands

Webinar 3: Enabling Smart Mobility

Date: Tuesday, 29 September

Time: 6PM (New Zealand), 5PM (Fiji), 4PM (Solomon Islands), 3PM (Australia & PNG), 7AM (Central European Summer Time) Duration: 95 minutes





Pacific Islands Development Forum

> Accelerating Investments in Renewable Energy, Energy Efficiency & Smart Mobility in the Pacific Islands

Webinar 3: Enabling Smart Mobility

Delle: Tuesday, 28 September Timer 4/Hi Verw Seasand, SPM IFW, 4PM (Solomon Islands), 3PM (Australia & PMC), 7AM (Canada European Summer Timer Duration: 89 menutes





We are the Pacific platform for Green Growth & the Blue Economy in the context of Agenda 2030.

It is an action-oriented platform mandated to:

- Mainstreaming green growth
- Climate action;
- Adapted solutions for island resilience



A United, Distinctive and Sastainable Pacific Society



PIDF is a space for catalysing, mobilizing and mainstreaming action for sustainable development and poverty eradication in Pacific Island States.

PIDF provides a framework for bringing together the expertise of the private sector, normative leadership of the public sector, & successful delivery mechanisms of civil society.

MOU - PARTNERSHIPS coe Pacific IUCN Community Communauté du Pacifique WWF Vodafone ATH Fiji Foundation **OUSP** MSG Secretariat Secretariat du GFLM THE UNIVERSITY OF THE SOUTH PACIFIC CIVICUS ClimateWorks HUAWEI CIRDAP Global Green Growth OMSAT GREEN Institute FFA France & Territoires UNITED NATIONS FIJI NATIONAL UNIVERSITY JniFi **United Nations** HUMAN RIGHTS Office for South-South Cooperation OFFICE OF THE HIGH COMMISSIONER

MEMBERSHIPS

- Permanent Observer
 - United Nations General Assembly
 - United Nations Framework Convention on Climate Change
- Inter-agency Collaborative Group on Global partnership -SIDS
- Global Island Partnership (GLISPA)
- Sustainable Low Carbon Transport Partnership (SLoCaT)
- International Blue Carbon Partnership











INTERNATIONAL PARTNERSHIP FOR

BLUE CARBON



SIDE-EVENT: The High Ambition Coalition for Shipping Emissions Reduction

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Date: April 27th, 2017

For further information contact:

Mr. Mark Borg Team Loader Programmer Management Malain: (C20) 9802 433 reforg@aaaifcaff.org

anne particul og Tolen er er fanker gingerer Hanne faskerer fanke







The global shipping industry has for the first time agreed to cut its emissions of greenhouse gases.





MAINTAINING A 1.5°C COURSE TO DECARBONIZE PACIFIC SHIPPING

On 8.10 Neverther, Fullit Interspect landers event in loss to latence the investities event to set does the interstellation reades for this action at the intervaliant, regimed and national level. This website by leading experts periods the science found a single of periods latence to support this activation involt collable.

Medenations

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Panetists will debate pre-recorded presentations followed by restorand discussion with will indicat authorse

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Jimmy Nuske, Solomon Islands Government	- Port Village to Global - why is the Poch: in the IMU countries process and what are the rest Date for 10007
frida Tassoef, UNICTAD	Transport Press, SSG - what does an provincing shaping mean for SSS and screaming development?
Michael Value, Hothschule EndoryLoss	 - what are the technologies available takey and what's on the termine (in Pacific scale originary)
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Other Proceeding Measurement Vol. 2023

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Par forther information please corriant: Mr. Nichi Lai Coordinator Programme Management, MDP

MDF Erwall: #Atra Jak@pidt.im Mokille: (\$77) 923 6043

Or, Peter Mailait Salertific & Technical Advisor Microsenian Center for Sustainable Transport, University of the South Pacific Ornal: potat numbel Boas at. N Media: (579) 1977 2077









C & TRANSPOR

6-11 November, 2018

USP Laucala Campus, Suva, Fiji

PACIFIC ISLANDS TRANSPORT FORUM & EXPO Turning the Tide: decarbonizing Pacific transport

Transport is the very idealine of Pacific Islands accircles. Across the region, the need for clean, effordable, oppropriate and safe ar, land and see transport is essential for all socio-economic development and well know, 8 effects even facet of commentation — be it accessible activity, government is invice delivery, distance response, climite strange adaption and integration. Transport is the region's largest head face seer, the largest tents on their sectors and been the greenet door form induced incursion, in a world that must largestly absorbers to contract charge, what are the tabletam, what are the chainings and forw do we get them? The Pacific has agent the world to take segred action or climate thange. Now is the time to agree a plan for here we discubing them.

Noticed by the Generativesky of By and the Marshall Islands and The University of the Smith People, the Ministerial Forum 24-10 fairs) and Equa to 11 Novi seek to:

- Priorities transport docurbomication as key to climate charge adaptation and mitigation
- Showcase the latest adveces and technology evaluate
- Set dear pathways for softward action plans under a coordinatest regional transition programme
- Iming legither stateholders and addes from the uttage to the global, from government, industry, shell society and academies

We invite all these with interved in this critical sector to register your internet in attending and being part of the solution. A full programme and call for pacters and sponsors will follow shares.





The transport sector represents over 60% of Green House Gas annualess analyzed in the Pacific The Pacific has taken the issue very seriously and is actively serify ways to address this important sector by maturing charac alternatives for land, sea and an testsport. However Factly countries' are finding that their anticities, are being invited by unavailability and costs of chores transport technologies. The ade event will double ways the flatific could average technological initiations in pleasing its transport excharts means they contribute to the global effort to best toroperators rise to the 1.5 migrar colour mark. Mediatros for technological trends: will be diagonal and their implementations in the Paulie mathered

Parsel of Speakers.

- All Pringing Mertel, Terretory General of the Parific Infends Development Forum Summable Transport is a major Janua for PDF. How do you see the fluids achieving a substantiable transport future and what are the apprentic that seed to be in place for it to do so?
- Mr Banoo Das, Senior OR Liphon Perturbite or Surpivality Low Carbon To what entert deer SOCAT support surprological stondy is the reasport acces? An three exemples from answed the world their could be replicated etuniwhere, particularly in SDS7 What use as ingether to ensure addature in indetailing another reaches the developing world?
- Dr. Tratten Smith, University College London Energy Institute Challings and apportunity for clear phasing tech manufer in the Pacific
- Adiabates in Austriance to the President and Environment Minister of Marshall Islands Nan. Deald Pend Constituting Marshall Islands' Joins on Systematic Islanguest what are the Instruminghal Symplex opens of MM is most the associate of the Systematic divertagent beginnt.
- Mr Mork Barg, Team (poder Response Alassigement Lours): Declaration and Scientiality attacks
- Ann Parse-Chief of Dagl, Office of the Prime Minister, Cools Islands (PBC) Cool Islands' progress and plans for the future and what may he the technological country or the country to meet the country's state for the containable transport octain
- Mr John Burne, Jamue Director Climate Change, Warld Back Group (7812) four car we mobilize francing to suggest inclinational immeter for rennamely everys personals, isotamatic revealed perturbitly even to usual markets such as these found os the Paugle?





ION US ON 13 MAY Holiday Inn Sava, Banyan Room 1pm-4.30pm

SUSTAINABLE, RESILIENT AND LOW CARBON SEA TRANSPORT FOR PACIFIC ISLAND COUNTRIES

1301 Pacific Islands Development Forum





in line with the therms of this, and Climate Action Partie Patrianishy (CAPP) Conference, "Decadewise and halld realizes ever, the cell from the Pecific", this Talama arms to diature a proposal are financing a large scale transition towards sustainable, resplicit and two certain use transport for Pacific Island countries. There is a significant supportantly for the Pacific to collectively call for a major climate financing investment in the maritime transport sector to drive a transition of significant scale and upend. If action is not taken, there is a serious risk that we will be left tervinal with chanded divisit-powered assets and ever recreating fast and carbon penalters.

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19 May 2019	Holiday Inn Suva, Banyan	Room	Spm-4-30pm
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The Conference of the Pacific Neurois Development Pariah held in Fillion 20.00 May 20.00 declares the contring counce partice Pacific Decade for Sustainable Transport in recognition of the sector for the regim, and the reset to facula on its sustainability.

The resolution on the Faults because to Substrate Transact measures (FDF, together with reduced, regions and the restance substrate, the coordinate and support affarits that anomalies substrates transact. Noticing the anomalies and reproductment of substrates to reduce estimators and baffs compatible. The committee of substrates was becaused through the analysis and improved starget and immediate energy to substrate of general fault meaning for addition, according to a substrate starget and immediate energy to substrate energy to according to additional factors of the electronic transact in meaning the technology, the use of general fault meaning for addition, according to addition of electronic transact and the energy to substrate electric seveness transact, which are transact in the Pacific with the means of teachers survey to the general sector of culture asserts of maritime transact in the Pacific with the means of teachers survey to the electronic transact restrates and another additions targets, in their afforts to reflect the substrate that the reviews of their instrates of the instrate addition and the substrates targets, in their fit that there allower to the reviews of their instrates of their instrates and another additions and marines targets, in their fit the Linux of the department thrateget and in their instrates of the instrument of the instrument of the Linux of the substrates that an articles targets, in their fit the Linux of the substrates through a net instrate in the re-

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The ride event will feature a short video and presentation on the Pacific Decade for Sucteinable Transport followed by a panel class som with Pacific representatives from particulating Pacific Vanid countries and a moderator.



For further information please contact:

Ne Anana Poto Team Leader Member Case to Enviro <u>anana anteo de cital</u> Nelsi e: (575) 19409(3) Website anno 2011 Pri







Coordinate efforts of Governments, Private Sector and Civil Society of Pacific Island Countries and Territories to promote sustainable transport and support implementation of activities that would bring about the greening of the sector.



C1. To advocate and keep pressure at the global level to work towards the target of 1.5 °C temperature increase limit compared to pre-industrial levels, and advocate for all the high ambition clauses in the Suva Declaration.

C2. To support countries with the development and implementation of national and regional renewable energy frameworks, the implementation of Nationally Determined Contributions and implementation of decarbonisation plans for this to be achieved in the years 2030 to 2050 by addressing policy, regulatory and financial obstacles.



C3. To promote sustainable land, sea and air transport, through advocacy and innovative approaches that would serve the development needs of communities in an economic and ecological manner, with a special focus on outlying island communities.

C4. To provide innovative approaches to natural and climate induced disaster preparedness to bridge the gap between development and humanitarian response and promote regional and national policies that safeguard the rights of persons displaced by climate change.

Climate Action (Cluster



Pacific Islands Development Forum

I thank you for your attention VINAKA VAKALEVU



ACCELERATING INVESTMENTS IN RENEWABLE ENERGY, ENERGY EFFICIENCY & SMART MOBILITY IN PACIFIC ISLANDS

Webinar III: Leveraging Technology and Financing to Accelerate Implementation

Setting the Scene: E- Mobility Opportunities in the PICs

Jesse Benjamin

Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)





- Heavy dependence of the region on fossil fuel
- Major fossil fuel users are electricity generation and transportation
- Many PICs have updated their respective NDCs to include transportation
- Indicative targets:
 - Reduced energy sector emissions reductions
 - Increased Renewable Energy target by 2025
 - Increased Energy Efficiency target by 2025







4th PETMM Direction (Samoa, 2019)

- Request SPC/PCREEE, UNIDO and SIDS DOCK to develop a regional policy document with <u>regional e-mobility targets for 2030 & 2050, a</u> regional e-mobility program to <u>address barriers</u> and to promote <u>SIDS-SIDS cooperation</u> and exchange on integrated e-mobility
- Three Reports: Technical Background, Regional Policy & Regional Programme by Dr Andrew Campbell

https://www.pcreee.org/event/online-validation-regional-e-mobilitypolicy-and-program-pacific-islands





UNIDO / PCREEE EV study findings

- The 14 countries and territories are highly diverse in many ways
 [wealth/GDP, urbanization, road infrastructure, vehicle fleet, electricity
 market, etc] challenge to have a one size fits all EV solution or programme
- Promotion of EVs goes hand in hand with the region's RE & EE ambitions
- EV Efforts contribute to the 100% RE vision of the region and extend the 'climate leadership' of PICTs also to the transport sector
- Promotion of EVs must be integrated with each country's power sector developments



EVs AND RE Grid Nexus

- More Battery Charging from RE sources are better
- balancing the provision of peak capacity with the cost to do so.
- "smart meters" or "Time of Use" metering can offer advantageous prices for charging at times that suit the demand profile







\$1.2M Invested Into Four New Buses

Facilie Transport Limited has added another four new fully airconditioned elegance couches to its fleet. These bases were ordered in China last December, and arrived into the country last month. The company now has a total of 20 bases.

Py Louisno Tolmainsis

BAIMBIT











With more than 40 electric vehicle owners on Rarotonga, a forum gave the opportunity for such vehicle owners to discuss challenges and new prospects of owning an electric vehicle on Saturday. – April 2019



Barriers to E-mobility in the Pacific

EVs are new to PICTs and there are many barriers associated with this "newness"" including:

- a lack of mandate to drive EV policy (opportunities in the revisions of NDCs and Energy Roadmaps);
- a lack of supporting institutional and regulatory framework
 - LTAs deal mostly with vehicle registration while Mol/MoT deal with roads and bridges and Police deals with enforcing the traffic laws.
 - In some countries, EVs do not fall into any of the vehicle categories, making it difficult to register them.
 - Duty is based on engine size and no regards to the fuel type
- absence of standards is a safety hazards and could ruin the reputation of the technology
- a lack of charging infrastructure
- a lack of technical support capability and capacity
- a general lack of awareness of EVs (& market access).







The Regional E-mobility Programme

Objective: PICTs are <u>best prepared</u> for their respective sustainable mobility futures, including the uptake of EV technology in a wisely and fit-for-purpose manner and under an inclusive and well-coordinated programme, able to generate its own, stable base of capability and capacity for the region.

Output 1: Policy & Regulation

Output 2: Qualification & certification

Output 3: Knowledge Management

Output 4: investment, entrepreneurship and innovation







PCREEE CONTACTS



Land Line: 20100 (EXT 812)



LOCATION 4th Floor, O.G. Sanft Building

Nukualofa



info@pcreee.org





Te Ipukarea Society

Cook Islands experience with electric vehicles





TE IPUKAREA SOCIETY Caring for our Environment

Cook Islands' Perspective

- Renewable energy targets most outer islands transformed from diesel-based to renewable sourced electricity by 2020; only Rarotonga and Aitutaki still has long way to go. ADB support.
- Transport sector is the second highest source of GHG emissions;
- Duty free entry for electric cars (but pay VAT/GST)
- 2014-2020, from one to currently over 80 BEVs
- most getting a 2nd life after redundancy in Japan

Cook Islands' Perspective

- About NZ\$15000 ex NZ for 2013+ Leaf (+ freight)
- Electric vehicles cost much less to maintain than equivalent fossil-fuelled cars;
- Utility:
 - Never more than 16 km from your recharging station;
 - Only need a dedicated 15 amp power outlet;
 - <u>Full</u> recharge in about 4 to 6 hours.
 - batteries could possibly be used for storage of electricity
 - but current regulations don't allow this.

The Future?

Cook Islands:

- 2030: 400+ ??
- Biggest barriers:
 - 2011-2012 Leafs needing replacement batteries soon;
 - Negative perceptions of EVs; Many misconceptions;
 - Uncertainty re TAU's future policies on net metering;
 - TAU's slow progress with storage;
 - \rightarrow Moratorium on new solar systems;

 \rightarrow Balancing act- benefits of EVs and Seabed Mining

 Increase duties "gas guzzlers"; Incentivise Investment in EV support capacity, eg mechanical workshops

Household solar generation



Break even consumption vs



Solar carport at Magic Reef EV minitruck





Thank you



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SOUTH PACIFIC

A joint collaboration between RMI Government and USP



MCST Framework

- "All willing partners" approach
- Top down & Bottom up •



Internationally



At home



Temperature Goal

- Country-driven, regional asset
- Catalyst for change •
- *Rebbelib* Framework • for transition





Pacific Blue Shipping Partnership

"When it comes to climate change, we are all in the same canoe"







Sea transport infrastructure development and deployment	\$100m (grants + loans)	Business and entrepreneurship finance facility	\$250m (loans)	
 proof of concept phase (5 years) and pilot prophase (5 years) with a holistic 'whole of sectors coordinated portfolio of country-driven projection aligned with national priorities 	oject or' focus ects	 loans, guarantees, and equity investment in S large-scale enterprises located in PICs, for alig commercial activity 	SMEs and gned	
Regional Research Innovation and Capacity Building Hub for Sustainable Sea Transport	\$100m (grants + loans)	Policy incentives, implementation and governance capacity programme	\$30m (grants)	
 locally-relevant research and technology development and delivery of education, train implementation programmes creation of opportunities for women and mangroups 	elopment ing and rginalised	 Review, co-development and implementation of policy frameworks for sustainable and low-carbon sea transport 		
Secretariat Function including staffing, training, and input from intern	ational tech	nnical support group	\$20m (grants)	



Pacific Blue Shipping Partnership <u>mcst-rmiusp.org</u>

MICRONESTAN CENTER FOR SUSTAINABLE TRANSPORT



A joint collaboration between RMI Government and USP



Dr Peter Nuttall



Smart Mobility Project Pipelines in Pacific Island Countries

Vincent Guinaudeau – Senior Green Investment Specialist

29th September 2020



The Pacific NDC Hub supports PICS to enhance & implement their NDCs



as host country. The steering committee supervises the progress of the NDC Hub and provides guidance & directions.



2

NDC Investment Plan & Project Pipeline in land and maritime transport

National or Sectoral Policy / Planning / Regulation



- Presents a strategy and plan for change
- Based on defined barriers
- Suggests financial instruments, funding sources, Technology implementation and capacity building needs and aggregates them
- Uses as much existing best practice as possible
- Defines a governance & institutional structure
- Highlights proposed changings in policy / planning / regulation



Transition to low-carbon and resilient transport

ILLUSTRATION ONLY – NOT APPROVED

Examples of projects included in the project pipeline

Transitioning to Electric Outboard Motors



Torqueedo electric 20HP outboard



Low carbon harbour ferries



E.g. EastbyWest electric harbour ferry Wellington NZ

Low carbon cargo passenger ship



E.g. Neoliner wind-hybrid ship

Whole-of-Lifecycle Vehicle Programme



Vehicle Replacement Programme for Private Cars, Taxis, and Buses





Deep-Dive on the Financing of High Efficiency Buses (1/2)



ILLUSTRATION ONLY -NOT APPROVED

Key project features

- 50% to 70% Credit Guarantee
- Issued by an MDB to enable lenders to lend to bus companies

2) Commercial banks provide loans

- Using the credit guarantee commercial banks provide on-balance sheet loans to bus companies
- The buses can be used as collateral

3) Donor provides grant (if required)

It will increase the incentives of the bus companies to purchase high efficiency buses

Donor provides TA:

- To bus companies to operate and maintain buses
- To train mechanics

May require a tax incentives 5)

Duty reduction



Deep-Dive on the Financing of High Efficiency Buses (2/2)

Financing Facility

ILLUSTRATION ONLY – NOT APPROVED

Key Considerations

1) Significant mitigation impacts

- · Each bus is used extensively every day
- Older buses emit plenty of GHG

2) Significant co-benefits

- Direct pollution
- Safety of the passengers, driver and people on the road avoided injuries and deaths

3) Fiscal incentives may be required

- · Could be through tax or duty reduction
- Would impact governments' budget



Source: Fiji Sun, Pacific Transport Limited





Thank You

For Further Information Please Contact:

Vincent Guinaudeau (vincent.guinaudeau@gggi.org)

The Regional Pacific NDC Hub is Funded by GIZ and the projects presented today are delivered through GGGI

EDF ElectriFI

The EU Electrification Financing Initiative

Accelerating Investment in Renewables, Energy Efficiency & Smart Mobility in the Pacific Islands

Septembre 2020



The EU Electrification Financing Initiative

Investing in early stage private companies and projects offering sustainable energy solutions in emerging markets Focusing on new or improved electricity connections and on generation capacity

Pillars

ADDITIONALITY investing where others can't

Derisking + facilitating Crowding In +

NEUTRALITY

No distortion + Exit strategy + Transparency

IMPACT

Beneficiaries + technologies + capacity + connections + jobs + CO₂ emissions

REIMBURSABILITY

Private sector + Equity to debt + HCY or LCY + EUR 0.5 to 10 M + Long term



Mini-grids



Solar Home Systems



Independent Power Producer



Captive Power Plant, C&I



Energy efficiency,





Amount: EUR 8 millions

Focus: deal with market barriers and attract new investments in the pacific region

Sectors: Off-grid & on-grid generation, Energy Efficiency projects and smart mobility

Smart Mobility as a complement to mini-grids



Building mini-grids is capex intensive and require substantial funding (subsidies, grants, equity and/or debt)

Stimulating the demand is key to generate cash flows:

- Sell appliances to households,
- Support creation of local businesses, or
- Encourage productive use of energy.

Smart Mobility can be part of the solution by using the energy to charge vehicles when demand is low.







Get in touch

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www.electrifi.eu





The Private Financing Advisory Network (PFAN)

Verbal intervention on PFAN project preparation support in the Pacific

Islands

Webinar Series: Accelerating Investments in Renewable Energy, Energy Efficiency and Smart Mobility in the Pacific Islands



