



Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP) - Update CDM Workshop, Suva, Fiji 31st Nov - 3rd Dec 2011



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Background

- The PIGGAREP is a regional greenhouse gas mitigation project funded under GEF-3 (RE)
- It aims to remove barriers to the widespread utilisation of feasible renewable energy technologies in 11 PICs.
- The Project is estimated to reduce CO₂ emissions by at least 30% by 2015 as compared to the BAU scenario (if implemented successfully)
- PICs are among the most vulnerable to the impacts of CC
- PIC are heavily relying (~90%) on the fossil fuel which release the GHG emissions that is responsible for CC phenomena



Background

- PICs are also most vulnerable to the impacts of fossil fuel supply disruptions and price shocks
- But PICs are in the Tropics, in the midst of the largest ocean on earth and along the Pacific Rim of Fire - have the highest RE potential per capita
- Yet only about 10-30% of the people in some bigger PICs have access to electricity
- People must have modern energy / electricity to develop socially and economically
- Renewable energy is the most cost effective option for electrification in a lot of areas in the PICs



Background

- It is more cost effective to save a unit of energy than to generate an additional unit - energy efficiency
- PICs emission is insignificant - .03% (.0003 out of a 100) of the global CO2 emission from fuel consumption
- Moral advantages from voluntarily cutting down emission?
- Mitigate GHG so as to support other sustainable development effort



PIFACC: Mitigation of global greenhouse gas emissions

-Expected Outcomes by 2015

- Enhanced access to safe, secure, clean, efficient, and affordable energy supplies
- Enhanced ability to engage in carbon market mechanisms including REDD+ as measures to reduce greenhouse gas emissions
- Cost effective renewable energy technologies available and local sources sustainable managed
- Clean Development Mechanisms initiatives developed and implemented, where appropriate



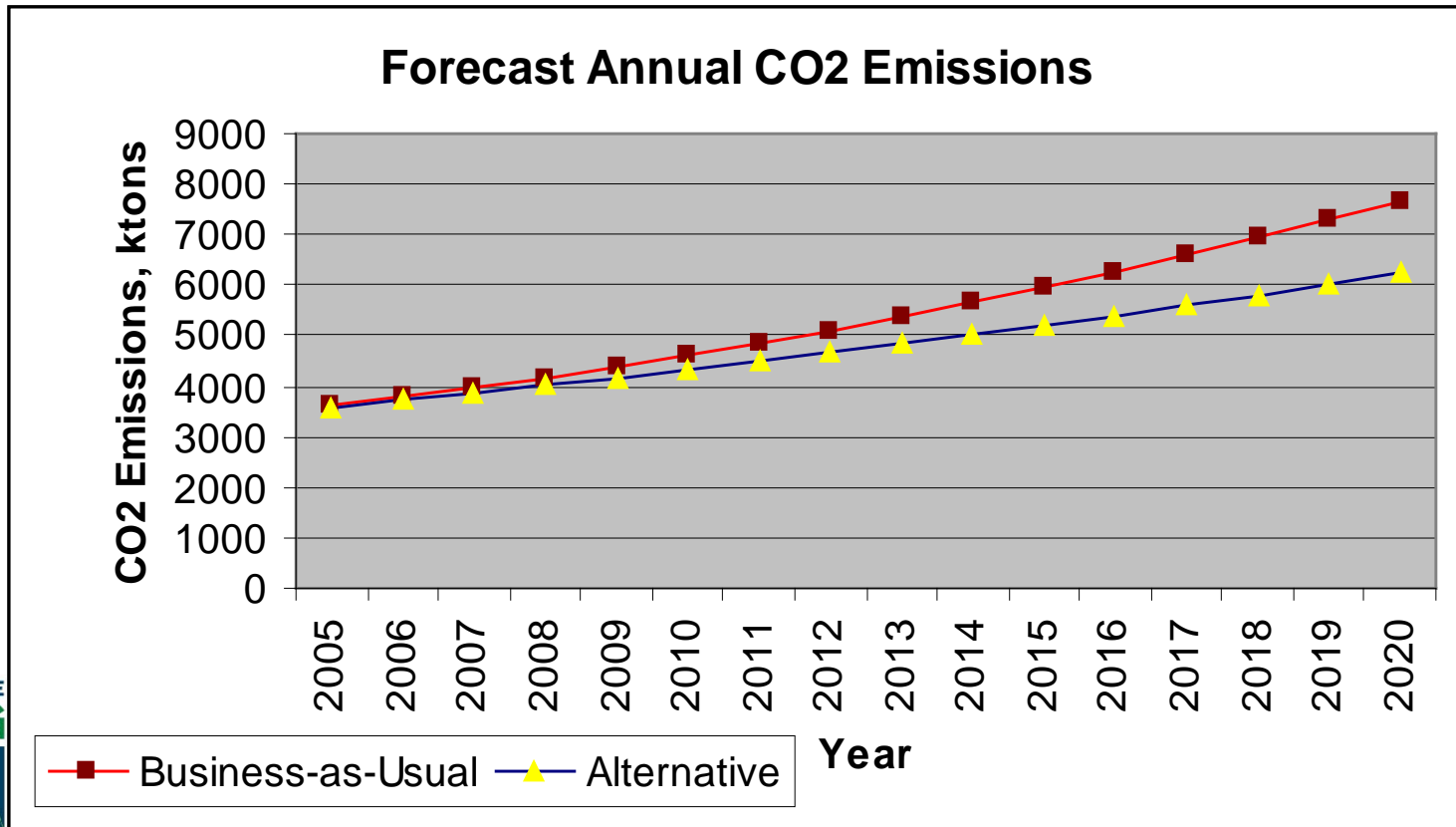
Climate Change Action Plan

Regional/National Actions

- Greater efficiency of utilities
- Adoption of maintenance policies and culture
- Voluntarily adopt national targets and national/regional standards for equipment and installations
- Assessments of potentials for RE and EE
- Build the capacity of local businesses and the private sector to participate in RE & EE
- Develop initiatives to support sustainable biofuels and transport

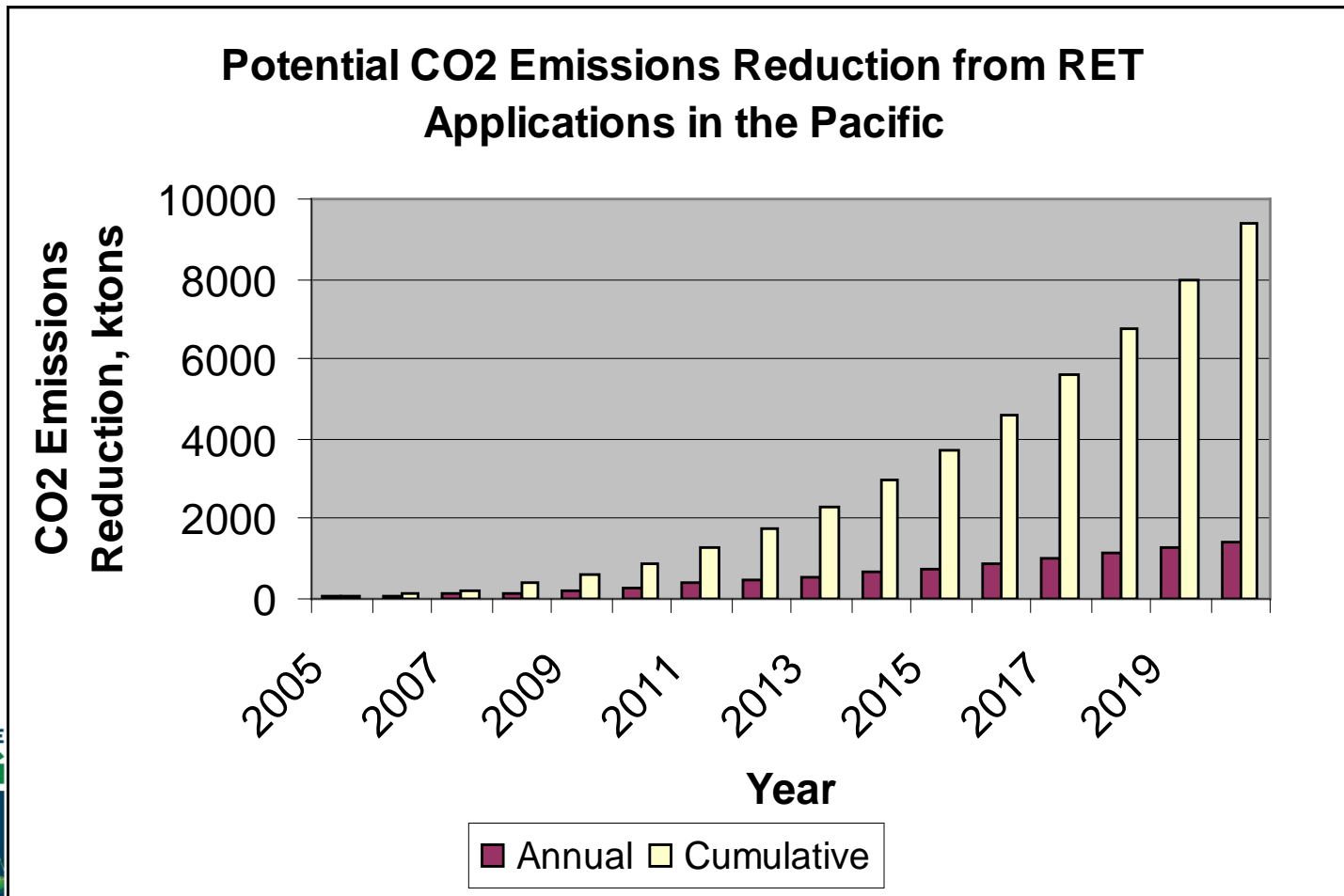


Baselines from the PIREP estimates





Baselines.. (Continues)





Questions

- What is on the ground in relation to the PIFFAC and its Action Plan?
- What are the gaps that need to be addressed?
- What are the opportunities in these gaps?



Varying Impacts of Interventions

- Concentration of GHG emission will be reduced when fossil fuel combustion is reduced and when GHG is being absorbed
- Direct Impacts - installation of new RE and EE hardware and/or the upgrading and rehabilitation of existing installations
- Indirect Impacts - training, awareness



Who is doing what in Mitigation in the PICTs?

Renewable Energy



PICs RE Targets

PIC	Electrification Target to be met via Renewable Energy	Year of achieving the Electrification Target	Mandate
Cook Is	30%	2010	Adopted Energy Policy
Fiji	100% electrification (60% Renewable and 40% Non-renewable)	2016	Ministerial / PM announcement
Kiribati	RE electricity to the 70% of its rural population		Adopted Energy Policy
Marshall Is	20%	2020	Adopted Energy Policy
Nauru	50%	2015	Adopted Energy Policy
Niue	100%	2015?	Announcement by Premier
Samoa	Increase by 20%	2030	Adopted Energy Policy
Solomon Is	50%	2015	Energy Policy and MDG (SI)
Tonga	50%	2012	Tonga Energy Road Map: 2010-2020
Tuvalu	100%	2020	Ministerial / PM announcement
Vanuatu	Contained in the VERM to be release		VERM



PIEPSAP - SOPAC

- Participating PICs - 14 PICs (Cook Is, FSM, Fiji, Kiribati, Nauru, Niue, Palau, PNG, RMI, Samoa, Solomon Is, Tonga, Tuvalu, and Vanuatu)
- Donor - Government of Denmark
- Budget - US\$1.6 million
- Duration - August 2004 to August 2008 (4 years)
- Major Objectives - Improve the capacity of PICs to develop practical national energy policies, and the strategic action plans to implement the policies.



IUCN's EESLI

Energy, Ecosystems and Sustainable Livelihoods Initiative

- **Participating PICs** - 4 PICs (Palau, Samoa, Tonga, Tuvalu and Vanuatu)
Donor - Governments of Italy and Austria
- **Budget** - 4 million Euros
- **Duration** - May 2008 to 2011 (3 years)
- **Major Objectives** - To accelerate the transition to energy systems that are ecologically efficient, sustainable, and socially equitable, by:
 - supporting beneficiary countries in the development and implementation of environmentally sound, sustainable energy policies;
 - implementing a number of renewable energy pilot projects focusing on ecosystem conservation and livelihood enhancement.



REP-5

- **Participating PICs - 5 PICs (FSM, Nauru, Niue, Palau and RMI)**
Donor - European Union
- **Budget - 11.41 million Euros**
- **Duration - July 2007 – July 2009 (2 years)**
- **Major Objectives**
 - Poverty alleviation
 - Sustainable development
 - Environmental sustainability



REP-5

- FSM
 - Two mini grids in Yap with 42 kWp
 - Chuuk public bldgs on 3 islands (Onoun, Satawan & Moch) electrified with 24 kWp total.
 - Pohnpei - schools and dispensaries in 5 islands (Sapwaufik, Nukuoro, Mwoakilloa, Pingalap, Kapimarangi) to electrified with 45 kWp total.
 - 5 grid connected PV system with a peak power of 45 kWp installed on the utility grid
 - 3,000 solar lanterns were provided to Chuuk and Pohnpei used in their outer islands at a cost of 320,000 Euro.



EU EDF 10

- **Participating PICs** - 7 PICs (FSM, Kiribati, Nauru, Niue, Palau, RMI, Tonga)
- **Donor** - EU EDF 10
- **Budget** - 23.89 million Euros
- **Duration** -2008- 2013 (5 years)
- **Major Objectives** - Supply and installation of renewable energy systems thus reducing diesel imports, and/or to improve energy efficiency.



Sustainable Energy Financing Project - World Bank

- Participating PICs - 7 PICs (Fiji, PNG, RMI, Solomon Is and Vanuatu)
- Donor - GEF
- Budget - US\$ 9.48 million
- Duration -2007- 2014 (7 years)
- Major Objectives - To significantly increase the adoption and use of renewable energy technologies and energy efficiency measures in participating Pacific Island states by providing a package of incentives to encourage local financial institutions to participate in sustainable energy financing of equipment purchases.



ADMIRE - RMI

- Participating PICs - RMI
- Donor - GEF
- Budget - US\$ 2.65 million
- Duration -2008- 2013 (5 years)
- Major Objectives - Promotion of the productive use of RE to reduce GHG emission by removing the major barriers to the widespread and cost-effective use of feasible RETs.



Power Expansion Project - ADB/Samoa

- Participating PICs -Samoa
- Donor -ADB
- Budget - US\$ 23 million
- Duration -2008- 2015 (7 years)
- Major Objectives - Providing sustainable and reliable electricity services to all consumers at cost-efficient prices.



Pacific Power Association - e8 RE training

- Participating PICs - All the power utility members in the PICTs
- Donor - e8
- Budget -
- Duration -2005 & 2008
- Major Objectives - Train of utility engineers in the design, installation, monitoring and maintaining RE systems.



PIGGAREP - SPREP

- **Participating PICs** - 11 PICs (Cook Is, Fiji, Kiribati, Nauru, Niue, PNG, Samoa, Solomon Is, Tonga, Tuvalu and Vanuatu)
- **Donor** - GEF
- **Budget** - US\$5.23 million
- **Duration** - July 2007 to Dec 2013 (6.5 years)
- **Major Objectives** - Remove the technical, market, financial, institutional, policy and awareness barriers to the widespread utilisation of feasible RE technologies in the PICs



Who is doing what in mitigation in the PICT

- Energy Efficiency –
 - IUCN (EESLI) Samoa (LT),
 - REP 5 - FSM, Nauru, Niue, Palau and RMI
- Promoting EE in PI
 - Participating PIC – 5 PICs – (Cook Is, Fiji, Samoa, Tonga and Vanuatu)
- Capacity Development Mechanism (CDM)
 - Fiji, Samoa, Vanuatu, Tonga, PNG and Solomon Islands
 - Mainly Biomass, Hydropower, wind and solar



Who is doing what in mitigation in the PICT

- Forestry - REDD/REDD+ - SI, PNG
- Ozone Depleting Substances (ODS)
 - Participating PICs - Signatories to the Montreal Protocol
 - Donor - UNEP
 - Budget - less than US\$ 500,000
 - Duration - 2003-2007
 - Major Objectives - Awareness, training, import regulations, etc.



What are the opportunities in Mitigation in the PICTs





Whilst mitigating, it also address the socio-economic benefits associated with energy produce (PURE)



Solar powered communication system





Solar Home Systems





Solar powered water pumping system





Grid connected Solar PV system





Biofuel Development and expansion





Hydropower development





Wind power development





Commitments

- The Secretariat, through PIGGAREP, commits to support national RE initiatives of the 11 PIC members through its software assistance focus, to contribute to the realisation of their set targets
- Support, through SPREP, regional energy Policy frameworks and decisions such as the Communiqué of the 2009 Forum Leaders Meeting and the recent 2011 Noumea Inaugural Regional Energy Minister's Meeting.
- The Secretariat, through PIGGAREP, is working on recommendation for the MTER to continue the momentum and deliver on its set objectives and services on renewable energy and greenhouse gas mitigation to members, and possible PIGGAREP +