

Second CDM Capacity Building Workshop in Pacific under the EC ACP MEA Project

27-30 June 2011, Holiday Inn Hotel,
Suva, Fiji

CDM Potentials and Plans in
Solomon Islands.

Climate Change Division & Energy Division,
Solomon Islands Government.



Presentation outline

1. High Potential Sectors for CDM in SI
2. Potential Ideas for CDM projects & POA Development
- 3. Preparation of a draft PIN and PDD for TINA Hydro Project**
4. Update on Status of Preparation for CDM and Other Mitigation Mechanisms in SI:

1.High Potential Sectors for CDM in SI

1.1 National GHG Inventory(SNC, 2008-2011)

- Base year: 2000
- Sectors Considered: Energy, LUCF, Agriculture, Waste
- Emission/sink ranking from pre-Key Category Analysis:
 1. LUCF ?GgCO₂e
 2. Energy ?GgCO₂e
 3. Agriculture ?GgCO₂e
 4. Waste ?GgCO₂e
- Activity Data(secondary& primary) availability a major issue.

Emission from Energy Sector

Table 1: Emissions (GgCO₂e) by fuel type and by year

Year	1994	2001	2002	2003	2004	2005	2006	2007
Avgas	1st National Communic ation Report: 1994	0.5389	1.232	1.03	1.503	0.204	0.7355	0.12276
LPG		4.7128	3.7974	3.065	3.819	5.339	5.236	1.943
Diesel Fuel		260.3	279.46	226.2	281.69	287.169	417.87	374.3557
Kerosene		10.721	11.488	9.8669	13.515	14.132	14.327	20.576
Gasoline		78.15	78.04	75.059	59.86	48.617	77.54634	73.19119
Total	322.50	354.4227	374.0174	315.2209	360.387	355.461	515.71484	470.18865

Emission from Energy Sector continue.....

Table 2: Total yearly CO2 emissions

TOTAL CARBON DIOXIDE EMISSIONS (Gg)								
Year	1994	2001	2002	2003	2004	2005	2006	2007
Emissions (Gg of CO2)	322.6	354.4227	374.0174	315.2209	360.387	355.461	515.71484	470.18865

Graph: CO2 emissions trend (1994 -2007)

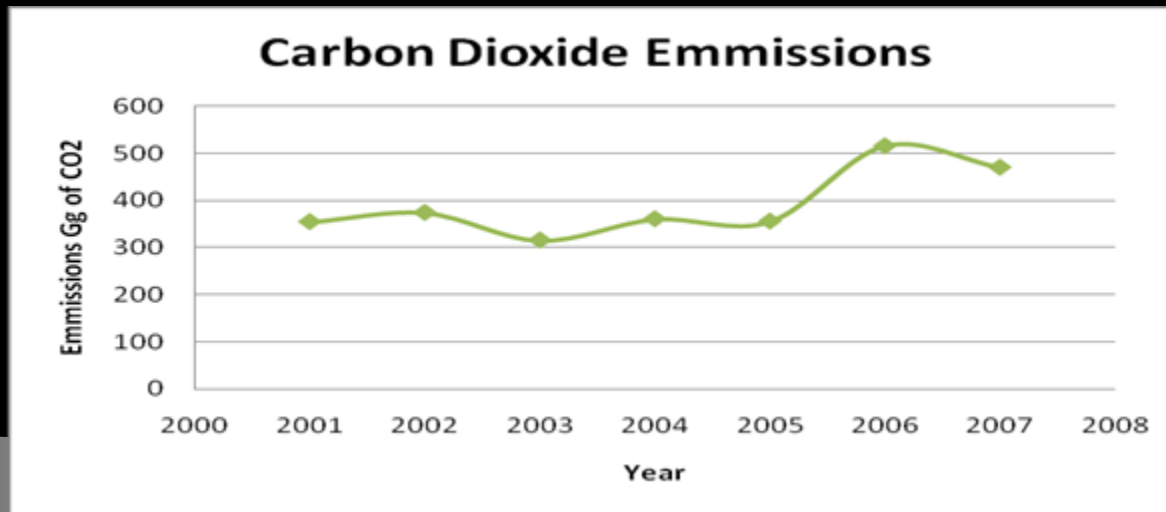


Table 3: Summary of GHG Emissions(GgCO2e) from all Sectors:

YEAR	1994	2000	2001	2002	2003	2004	2005	2006	2007
Energy	322.5	338.5	354.4	374	315.2	360.4	355.5	515.7	470.2
Managed Forests	2,311	2,027	1,995	2,255	2,784	3,568	3,908	3,992	5,110
Plantations	0	0	0	0	0	0	0	0	0
Protected Areas	576	576	576	576	576	576	576	576	576
Cropland	0	0	0	0	0	0	0	0	0
Solid Waste	3.57	6.3	6.72	7.35	7.98	8.4	9.24	9.66	10.5
Domestic waste water	1.89	2.52	2.73	2.73	2.94	2.94	3.15	3.15	3.36
Human Waste	4.2	6.3	6.3	6.3	8.4	8.4	8.4	8.4	8.4
Agriculture	0	0	0	0	0	0	0	0	0
Industrial Processes	0	0	0	0	0	0	0	0	0
Total Emissions(GgCO2e)	3219	2957	2941	3221	3695	4524	4860	5105	6178
Total Emissions without LUCF(GgCO2e)	332	354	370	390	335	380	376	537	492

1.2: Relevant National and Sectoral Plans and Strategies:

- NCRA National Policy(2010-2014): Carbon Trading & Mitigation Activities.
- National Sustainable Development Plan (2011-2020)
- National Climate Change Policy Development(currently developed).
- National Energy Policy(2007 endorsed).
- Solid Waste Management Strategy.
- Others.....

1.3: Mitigation Assessments

Table 4: Summary of the Existing and Planned Mitigation Schemes with their respective capacities.

Renewable Energy Schemes: Small Hydro Schemes			
Existing	Specification/Capacity	Planned	Specification/Capacity
Iri (Kolombangara, Western Province)	10kw	Tina Hydro Development Project. Completion 2012	14 MW(Initially), Expansion planned 28MW
Vavanga (Kolombangara – Western Province)	12kVA(9.6kw)	Huro Hydro power Development Project	340kW
Ghatere (Kolombangara – Western Province)	12kw	Kware'a Hydro site, Malaita	600 kW
Bulelavata(New Georgia, Western Province)	29kw	Rori Hydro Development	300 kW
Manawai Hobour (Malaita Province)	50 kw	Silolo Hydro site, Malaita	2.1 MW
Raeao (Malaita Province)	25kw	Mataopuku1, Hydro site, Guadalcanal	1.6MW
Nariaoa(Malaita Province)	25 kw	Maotapuku 2 Hydro site, Guadalcanal	1.4 MW
Masupa(Malaita Province)	40 kw	Sasa Hydro site, Guadalcanal	280 kW

Continue.....

Renewable Energy Schemes: SOLAR PV

Existing	Specification/Capacity	Planned	Specification/Capacity
Community High Schools	6 kW	MMERE & Rural Electrification program forecast for the next five years	500 kW
Baegu/Asifola Battery charging Stations	5 kW	Proposed Honiara Solar PV Grid Connected Power Plant	3MW
Pockets of rural Solar PV set-up in rural Communities(lumi Solar Development Programs	34.895 kW	Gizo Solar Power generation site	150 kW
California Solar Pumping and Aola Area Health Center	2 kW	On-Going Turkey funded Electrification for Schools and Clinics	100kW
Portable Solar Home systems, 40 X 20 watts units per constituency in Solomon Islands	40 kW	Italy Funded Rural Electrification Project for Boarding Schools	200kW
Italian funded rural Electrification for 5 Schools	18.69 kW		
Turkish funded rural Electrification for Clinics and Schools	7.58kW		
Santa Ana Solar Power Project	3.0 kw		
Nahu Community solar project	1.60kw		
Privately owned standalone solar Home Systems	30 kw		

Continue.....

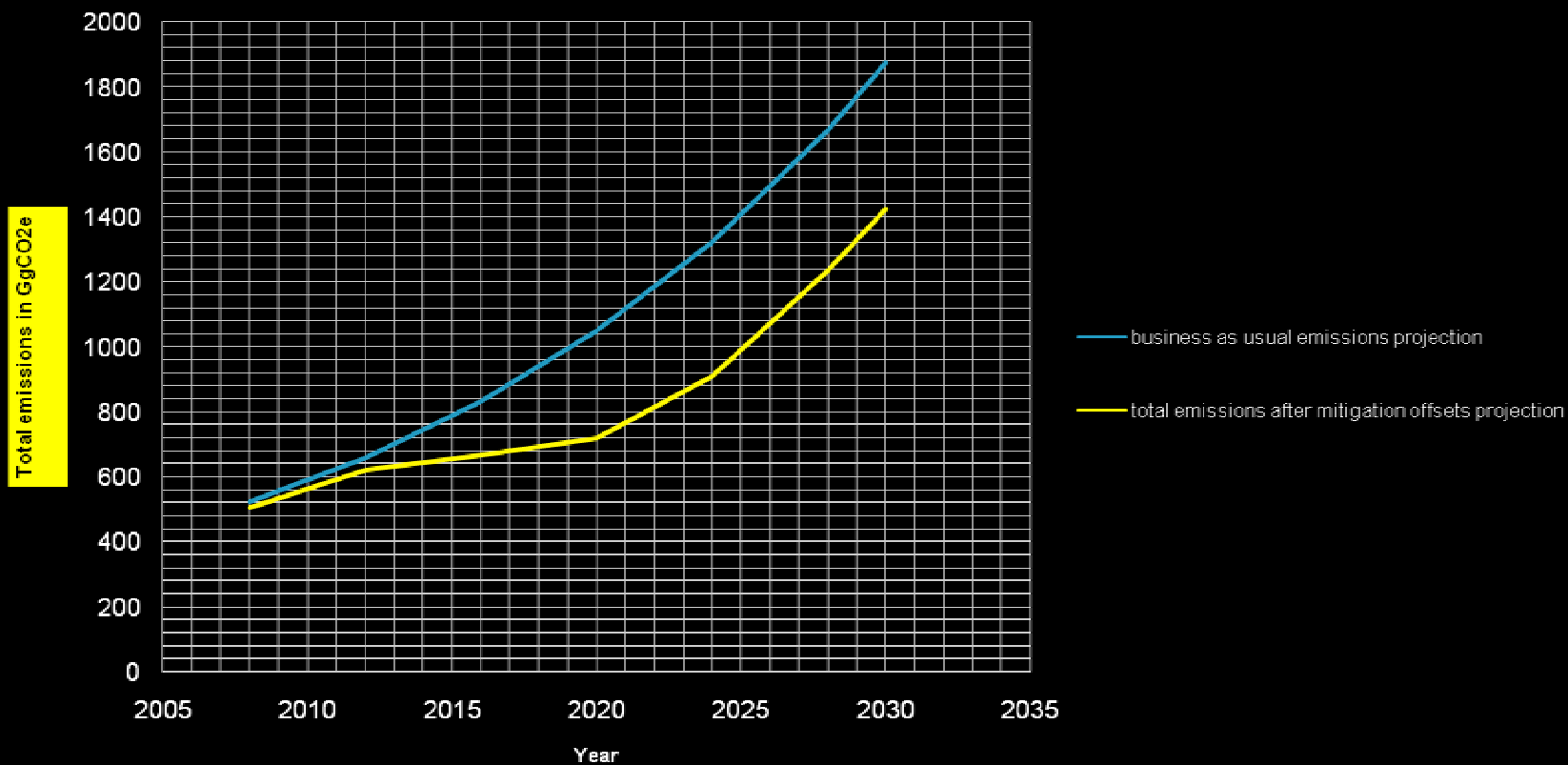
Renewable Energy Schemes			
Existing	Specification/Capacity	Planned	Specification/Capacity
Biomass		Biomass	
Guadalcanal Plantations Palm Oil Ltd (GPPOL)	500kW	GPPOL increased Production plan for the Next 10 yrs	300kW
		Proposed Biomass plant at Noro, Western Province	4 MW
Biofuel			
Solomon Tropical Products Ltd (STPL)	350kva=255kW	Proposed bio-fuel generator for Lata	200 kW
Rokera Provincial Secondary School Genset	10 kVA = 7.27kW	Auki Bio-fuel Generator	135 kW
Lata Hospital Bio-fuel Genset	10 kVA = 7.27kW		
Wind			
None	0kW	Proposed Wind Farm for Honiara	5 MW
		Wind Farms for Provincial Centers 200kW each	1.8 MW
TOTAL(kWh)	39801.71	TOTAL(kWh)	57,000.00

Table 5: CO2 Offsets from Existing & Planned Renewable Energy Schemes:

Renewable Energy Schemes	Existing schemes offsets(GgCO2e)	Planned schemes expected offsets(GgCO2e)
Mini- Hydro power	7.043	343.112
Solar PV	1.043	32.261
Biomass	3.504	30.134
Bio-fuel	1.889	2.348
Wind	0	47.654
Total	13.466	453.161

Graph 2: *Future projections for business as usual emissions compared to emissions after mitigation off-sets .*

Projection of emissions from business as usual case vs emissions after mitigation offsets from 2008 to 2030



2. Potential Ideas for CDM Projects

Several potential project opportunities which may be eligible under the CDM in Solomon Islands Includes but not limited to:

- Tina hydro power project
- Mini hydro and CNO based electricity generation projects under ADB RETA 7329: Promoting Access to Renewable Energy in the Pacific
- Eagon Pacific Plantation Ltd – Biomass based electricity generation
- GPPOL New Britain Palm Oil Limited – Energy & Forestry Sector projects
- JICA – Japan's cooperation on Solid Waste Management in Pacific Region Project
- Forestry sector opportunities under Reducing Emissions of Green House Gases from Deforestation and Forest Degradation (REDD).
- Other Opportunities

2.1: *GPPOL New Britain Palm Oil Limited Energy project*

Guadalcanal Plains Palm Oil Limited (GPPOL), a subsidiary of New Britain Palm Oil Limited in PNG cultivates 6,360 hectares of oil palm, which produces close to 15,000 tonnes of crude palm oil and palm kernel oil. The company has developed a sustainability report which also includes the potential opportunities to mitigate emissions. Although the basic data regarding the emission mitigation aspects were not available, the following project opportunities can qualify under CDM for mitigating emissions:

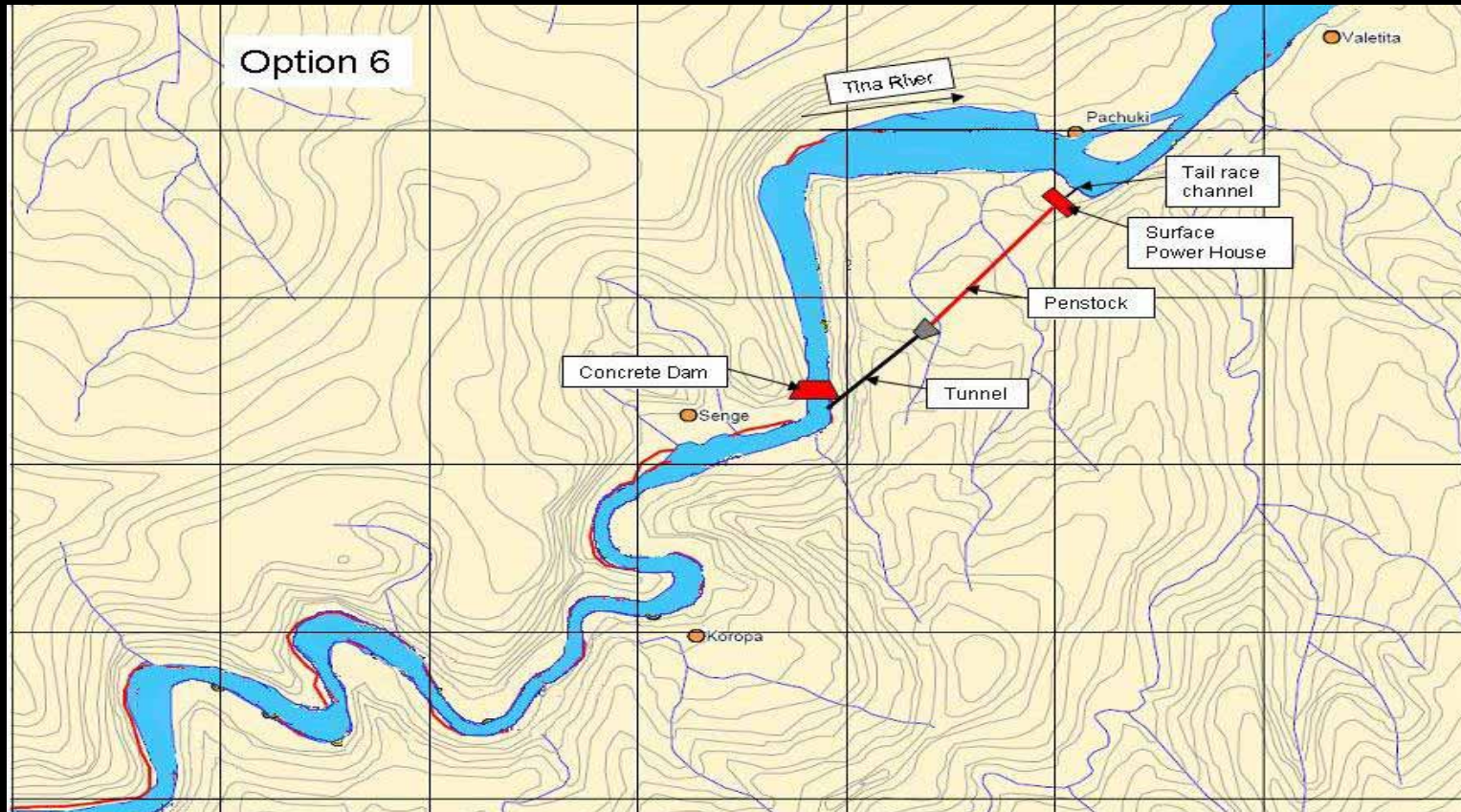
- The wastewater generated from palm oil processing has a high organic content with potential to anaerobically digest the sludge and to capture and utilize the methane. The methane generated can be utilized for both electricity as well as thermal energy requirements. It is understood that similar initiatives has already been taken up in the mills in PNG.
- Reducing emissions from land use change- emissions arising from changes in carbon stocks during the development of new plantations and during the operation of plantations.
- Emissions related to the use of fossil fuels in the mills and for plantation internal transport and machinery
- Emissions related to use of fertilisers (N₂O) and land occupancy

2.2: Forestry sector opportunities under Reducing Emissions of Green House Gases from Deforestation and Forest Degradation (REDD).

Solomon Islands has many opportunities to manage its forest resource in a sustainable manner through forest plantation and timber milling. The climate is suitable for growing high value tropical hardwoods to replace the depleting natural forest resource. **The potential projects under CDM may include:**

- **Forest Conservation/Preservation - Protecting natural forests can prevent emissions of up to 300 tons per hectare.**
- **Forest Rehabilitation and Reforestation - Converting grasslands to forests is another option for sequestering carbon. Restoring degraded forests can increase carbon storage by about 120 tons per hectare.**
- **Improved Forest Management/Reduced Impact Logging - Conventional logging operations can release substantial amounts of carbon. Improved forest management and reduced impact logging techniques such as cable yarding has attracted greater interest as carbon offset options.**
- **Commercial Plantations and Community Forestry –Extensive areas of degraded and low productivity lands can be available for reforestation. Plantations could play a larger role as greenhouse gas emission regulations become more stringent. Even small-scale plantations such as these teak stands may play a role in carbon offset mechanisms.**
- **Biomass Energy/Improved Fuelwood combustion projects**

3. Preparation of a Draft PIN for Tina Hydro Project (*Refer to PIN*)



4. Update on Status of Preparation for CDM and Other Mitigation Mechanisms in SI:

- ◎ DNA established with related Operational Manual Developed.
- ◎ Draft NAMA Concept drawn.
- ◎ REDD Readiness projects/funds for REDD+ activities: UNREDD, GIZ & SPC, FLEGT & ADB REDD activity.

Tenkyu tumas