

Pacific Regional CDM Capacity Building Workshop

TONGA COUNTRY PRESENTATION

24 -28 January 2011

Suva, Fiji

GHG Emissions

Main Sectors

- Energy
- Agriculture
- LULUCF
- Waste

Diesel Dependency

- y1994 = 73.1 - y2000 = 75%
- 98% Electricity = Diesel Generated

GHG Emissions

Table 2.1: The Kingdom of Tonga's Initial National Greenhouse Gas Inventories of Anthropogenic Emissions by Sources and Removals by Sinks of All Greenhouse Gases not controlled by the Montreal Protocol Year 1994.

Greenhouse Gas Source & Sink Categories	CO ₂ Emissions	CO ₂ Removals	CH ₄	N ₂ O	NO _x	CO	NM VOC
Total (Net) National Emissions (Gigagrams per year)	365.59	-595.24	5.04	0.14	0.49	3.82	0.65
1. ALL ENERGY	79.98		0.01		0.49	3.49	0.65
<i>Fuel Combustion</i>							
<i>Energy and Transformation Industries</i>	22.40				0.07	0.01	
<i>Manufacturing Industries and Construction</i>	2.39				0.01		
<i>Transport</i>	46.28		0.01		0.41	3.48	0.65
<i>Commercial – Institutional</i>	0.15						
<i>Residential</i>	3.60						
<i>Agriculture, Forestry & Fishing</i>	2.52						
<i>Other</i>	2.64						
2. AGRICULTURE			2.35	0.04		0.33	
<i>Enteric Fermentation</i>			2.33				
<i>Leaching from Agricultural Soils</i>				0.02			
<i>Cultivation of Histosols</i>				0.01			
<i>Emissions from Agricultural Fields</i>				0.01			
<i>Prescribed burning of savannas</i>			0.01			0.18	
<i>Field Burning of Agricultural Residues</i>			0.01			0.15	
3. LAND USE CHANGE & FORESTRY	285.61	-595.24					
<i>Changes in Forest and Other woody Biomass</i>		-77.57					
<i>Forest and Grassland Conversion</i>	280.11						
<i>Abandonment of Managed Lands</i>		-517.67					
<i>Carbon Emissions from Agriculturally Impacted Soils</i>	5.50						
4. WASTE			2.68	0.10			
<i>Solid Waste Disposal on Land</i>			0.80				
<i>Liquid</i>							
<i>Industrial Waste Water and Sludge</i>			1.67				
<i>Domestic and Commercial Waste Water</i>			0.21				
<i>Human Sewage</i>				0.10			

Potential CDM Project Types and Limitations

Landfill Methane

- Unknown Gas yield
- No evidence of useable landfills on other islands

Wind

- Limited Data
- Viable sites (Difficult to identify)
- Liable to damage during extreme weather events

Coconut Oil (CNO) Extraction

- Resource data is out-dated
- Ensure adequate supply/Dependent on pricing

Solar

- Insufficient weather records
- Limited integration capacity
- Operational only during daylight hours

Potential CDM Projects cont..

Solar (with storage)

Wind-Hydrogen (Hybrid)

Ocean Tech

Coconut Waste (Gasification)

Other Biomass

Legislation/Policy

- Electricity Act 2007
- National Renewable Energy Act 2008
- Environment Management Act 2010
- EIA Act 2003
- Forests Act 1961
- National Energy Policy 2005
- National Climate Change Policy 2006
- National Forestry Policy 2009

National Strategies

- Tonga Energy Road Map 2010 -2020
- National Strategic Planning Framework 2009 – 2014
- Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010 - 2015