Annex 2 – Renewable Energy Action Plan

Strategy 1: ***Phased implementation of large-scale solar up to 8.5 MW***						
Activity	**Organization Responsible (supporting organizations)**	**Activity Importance**	**Time Frame**	**Expected results / outputs**	**Estimated budget / AUD**	**Source of funding**
Activity 1.1 – Prepare Solar Feasibility Study and technical standards and specifications for all phases of solar installations	NUC (with CIE)	Very high	3 months	Determination of location, specifications, grid connections and costs of all solar plants	$80,000	
Activity 1.2 – Undertake survey of roof tops and parking areas to establish locations for solar installations **and** locate land topside for potential large scale solar plants (in parallel with Activity 1)	NUC (with CIE)	Very high	3 months	List of sites (roofs, power poles and parking lots) suitable for grid-connected solar and their characteristics Land available for solar installations	$2,000 (survey only)	NUC in-kind (survey) Nauru Government (land availability)
Activity 1.3 - Develop regulations, standards and payment methods for private generation using renewable energy sources	NUC (with CIE)	Medium	2 to 3 years	Incentives and information to support private investment in solar	$8,000	To be located
Activity 1.4 – Install 600 to 1000 kWp of grid-connected solar without storage "Bottomside" on government	NUC	Very high	1 year	600 to 1000 kWp installed.	$2 to $4 million	To be located

owned buildings, power poles, parking lots, etc.						
Activity 1.5 - Install 2.5 MW solar plant including storage to maintain grid stability and decrease the generation requirement during the day and evening peak	NUC	High	3 years	2.5 MWp installed	$15 million	To be located
Activity 1.6 – Install 2.5 MW solar plant including storage to maintain grid stability and decrease the generation requirement during the day and evening peak	NUC	High	5 years	2.5 MWp installed	$15 million	To be located
Activity 1.7 – Install 2.5 MW solar plant including storage to maintain grid stability and decrease the generation requirement during the day and evening peak	NUC	High	6 years	2.5 MWp installed	$15 million	To be located

Strategy 2: Investigation and implementation of other renewable energy resources for electricity generation						
Activity	**Organization Responsible (supporting organizations)**	**Activity Importance**	**Time Frame**	**Expected results / outputs**	**Estimated budget / AUD**	**Source of funding**
Activity 2.1 – Carry out wind Energy Resource Assessment and Feasibility Study	NUC	High	1 year	Determination of feasibility of wind power and if feasible, proposed wind power	50,000	To be located

				project		
Activity 2.2 – Prepare and implement wind generation project if determined to be economically feasible	NUC	Medium	5 years	Additional renewable energy electricity Diversification of electricity generation sources		
Activity 2.3 – Undertake Consolidated renewable energy options study for other possible sources of generation for the future	CIE (with NUC)	Medium	Completed by 2020	For development of follow-on renewable energy installations after 2020	35,000	To be located

Strategy 3: Investigation into renewable energy options for water supply and other uses						
Activity	**Organization Responsible (supporting organizations)**	**Activity Importance**	**Time Frame**	**Expected results / outputs**	**Estimated budget / AUD**	**Source of funding**
Activity 3.1 – Study the feasibility of back-up solar powered RO units in alternative locations.	NUC (with CIE)	Medium	1 to 2 years	Feasibility determined.		
Activity 3.2 – Investigate the potential for and identify suitable plants that can be used to green the Topside and provide appropriate biomass for future biofuels production		Medium	3 to 5 years	• Level of potential determined and suitable plants identified. •		
Activity 3.3 – Investigate the	CIE	Medium	2 to 3 years	Level of		

potential for biogas from pigs for domestic cooking				potential for biogas cooking identified		

Strategy 4: Build in-country capacity to operate and maintain solar PV systems						
Activity	**Organization Responsible (supporting organizations)**	**Activity Importance**	**Time Frame**	**Expected results / outputs**	**Estimated budget / AUD**	**Source of funding**
Activity 4.1 - Develop and implement installation, operating and maintanance training programmes for the solar installations	CIE (with NUC, Ministry of Education, Nauru College, USP, etc)	Very high	6 months to ongoing	Local persons capable of installing and O&M of solar plants	$30,000	$5000 Nauru College in-kind
Activity 4.2 - Establish in a local college regular training in solar energy and other renewables and energy efficiency in a local training institution	CIE (with NUC, Ministry of Education, Nauru College, USP, etc)	High	2 to 3 years	Course on solar energy available locally		

Annex 3 – Demand Side Energy Efficiency Action Plan

Strategy 1: **Data collection and analysis for preparation for DSM implementation**						
Activity	**Organization Responsible (supporting organizations)**	**Activity Importance**	**Time Frame**	**Expected results / outputs**	**Estimated budget / AUD**	**Source of funding**
Activity 1.1 – Carry out household energy use survey	Statistics Office &CIE (NUC, IUCN and UNDP)	Very high	3 months	Determination of characteristics of energy use in residences	$30,000	IUCN/UNDP
Activity 1.2 – Procure the necessary software and analyse pre-payment meter data to identify customers tampering with meters and to categorize customers as to energy use to allow for targeted EE programmes	NUC	Very high	6 months	Support to identify targeted EE actions and for the identification of customers that appear to be tampering with meters	Budget for purchase of software and analysis	NUC in-kind
Activity 1.3 – Undertake energy surveys/audits of hotels and commercial buildings	CIE (with NUC)	Very high	6 months	Identify measures to reduce electricity use in hotels and commerce	$7,000	$5000 Nauru in-kind
Activity 1.4 – Undertake industrial energy audit of RONPHOS and NRC facilities	CIE (with Ronphos and NRC)	Medium	1 to 2 years	Identify measures to reduce fuel use at RONPHOS and improve competitiveness Reduce fuel imports for	$20,000	RONPHOS

				industrial use		
Activity 1.5 – Develop financing options for end users to make the needed EE investments	CIE	High	6 months to 2 years	Incentives and information to support private investment in energy efficiency	$10,000 + access to soft loan funds for financing activities	To be located
Activity 1.6 – Prepare feasibility study to determine the best approach to appliance testing and labelling for energy performance	CIE	Medium	1 to 2 years	Best approach to appliance testing and labeling determined.	$30,000	

Strategy 2*:* **Implementation of DSM EE**						
Activity	**Organization Responsible (supporting organizations)**	**Activity Importance**	**Time Frame**	**Expected results / outputs**	**Estimated budget / AUD**	**Source of funding**
Activity 2.1 – Prepare and implement energy efficiency campaign (NUC) to communities	NUC	Very high	6 months to ongoing	Communities consider energy efficiency	$5,000	NUC in-kind
Activity 2.2 – Prepare and implement long term energy efficiency for communities campaign including financial incentives for people to exchange less energy efficient appliances for new, more efficient ones	NUC	Very high	6 months to ongoing	Reduction in household electricity consumption		To be located
Activity 2.3 – Prepare and		High	6 months	Better cash flow	N/A	Nauru

enact legislation making energy theft a crime				and lowered non-technical losses for NUC		Government
Activity 2.4 – Establish guidelines and financial incentives to include energy efficiency measures in new construction for the improvement of energy efficiency in existing buildings.		High	1 year		30,000	To be located
Activity 2.5 – Undertake energy efficiency actions in Government Buildings		Medium	3 years			
Activity 2.6 – Replace street lights to EE technologies combined with solar power	NUC	High	2 years	Modest electricity savings/cost saving for NUC		To be located / NUC
Activity 2.7 – Study the feasibility of additional water storage with reticulated water distribution	NUC (with CIE)	Medium	4 years	Reduce need for delivery of water by tankers and reduce fuel use for transport		

Strategy 3*:* **Introduction of energy labeling and minimum energy performance standards**						
Activity	**Organization Responsible (supporting organizations)**	**Activity Importance**	**Time Frame**	**Expected results / outputs**	**Estimated budget / AUD**	**Source of funding**
Activity 3.1 – Introduce energy labelling of high	NUC	High	2 years	Community involved in	$5,000	NUC in-kind

electricity consumptuion appliances such as air conditioners, freezers, refrigerators, etc				considering energy efficiency and cooperating with the household energy survey		
Activity 3.2 - Prepare and enact appropriate legislation for energy labelling and MEPS	NUC	Medium	2 years and ongoing			To be located
Activity 3.3 - Training to customs and other government departments on labelings and MEPS	NUC (with CIE)	Medium	2 years and ongoing			
Activity 3.4 –Carry out awareness raising to communities, businesses and government	CIE	Medium	2 years and ongoing			