



Recommendation Report on

the CDM DNA Establishment and CDM
Policy
in the Kingdom of Tonga

January 2013



UNEP Risø Centre on Energy, Climate and Sustainable Development
Technical University of Denmark (DTU)
<http://www.uneprisoe.org>

This publication is part of the 'ACP-CD4CDM' project, which is part of a big EU-funded UNEP four-year programme on “Capacity Building related to Multilateral Environmental Agreements (MEAs) in African, Caribbean and Pacific (ACP) Countries”. If you have any comments or suggestions, please contact Dr. Xianli Zhu at xzhu@dtu.dk.
For more information about the project, please visit: <http://www.acp-cd4cdm.org>

Acknowledgement and Disclaimer:

This report is prepared by Dr. Srikanth Subbarao and Ms. Pradeeti Tyagi with funding from the ACP-CD4CDM Project, which is part of the European Commission Programme for Capacity Building related to Multilateral Environmental Agreements (MEAs) in African, Caribbean and Pacific (ACP) Countries. UNEP is the overall coordinator of the ACP MEA programme and the UNEP Risø Centre is responsible for the implementation of the CDM Component and providing technical support. In Tonga, the project activities have been implemented under the guidance and coordination of the Tongan Ministry of Lands, Environment, Climate Change, and Natural Resources, also the national focal point for UNFCCC and Kyoto Protocol. The findings, suggestions and conclusions presented in this paper are entirely those of the authors and should not be attributed in any manner to the European Commission, UNEP and the UNEP Risø Centre.

ABBREVIATIONS

ACP	African, Caribbean and Pacific countries
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO ₂ e	Carbon Dioxide equivalent
DNA	Designated National Authority
EB	CDM Executive Board
EC	European Commission
ER	Emission Reduction
GDP	Gross Domestic Product
GHG	Greenhouse Gas
JNAP	Joint National Action Plan on Climate Change and Disaster Management
LDC	Least Developed Country
LoA	Letter of Approval
LoN	Letter of No-objection
MEAs	Multilateral Environmental Agreements
MW	Megawatt
NAPA	National Action Plan for Adaptation
NECC	National Environment Coordination Committee
PDD	CDM Project Design Document
PIC	Pacific Island Countries
SIDS	Small Island Developing State
TERM	Tonga Energy Road Map
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
URC	UNEP Risoe Centre

Table of Contents

ABBREVIATIONS	2
1. Introduction	5
1.1 About the CDM Component of the ACP MEA Project	5
1.2 The Aim of this Report	5
1.3 CDM and the National CDM DNA	5
1.4 Key Issues Regarding CDM DNA Establishment and Operationalisation	6
2. The Context - Tonga as a Potential Host Country for CDM projects	8
3. Identification of Potential Alternatives	11
3.1 Alternatives for DNA institutional Setup	11
3.1.1 Option 1: DNA under the Cabinet Committee on Climate Change with the Minister for Environment and Climate Change as DNA	11
3.1.2 Option 2: DNA under the Ministry of Environment and Climate Change supported by National Environment Coordinating Committee (NECC)	11
3.1.3 Option 3: Establishing a New and Discrete DNA Office in Tonga	12
3.1.4 The Advantages and Disadvantages of Different Options under the National Context of Tonga	12
3.2 CDM Project Approval Procedures – Different Alternatives	13
3.2.1 Option 1: Single Tier System	13
3.2.2 Option 2: Two-Tier Approval involving an Individual as the Authority supported by a Decision Making Committee	13
3.2.3 Option 3: Approval based on Type of Request (LoN or LoA)	13
3.2.4 The Advantages and Disadvantages of Different Options under the National Context of Tonga	13
3.3 CDM Project Approval Criteria – Different Options and their Advantages and Disadvantages	14
3.3.1 Option 1: SouthSouthNorth (SSN) Sustainable Development Tool Approach	14
3.3.2 Option 2: CDM –SUSAC Approach	15
3.3.2 Option 3: Gold Standard Approach	16
3.3.4 Option 4: Sustainability Assessment Model (SAM) Approach	16
3.3.5 The Advantages and Disadvantages of Different Options under the National Context of Tonga	18
4 Stakeholder Consultations	20
5 The Recommendations on DNA Establishment and Operationalisation in Tonga	21
5.1 Recommended Structure of Designated National Authority (DNA)	21
5.1.1 Choice by the Stakeholders and the relevant considerations	21
5.1.2 Policy recommendation based on the Stakeholders' Choice	21
5.2 Recommended CDM Project Approval Procedure in Tonga	23

5.2.1 Choice by the Stakeholders and the relevant considerations.....	23
5.2.2 CDM Project Approval Procedure based on the Stakeholders' Choice	23
5.3 Recommended Sustainable Development Criteria for Assessment of CDM Projects in Tonga	26
5.3.1 Choice by the Stakeholders and the relevant considerations.....	26
5.3.2 Policy recommendation based on the stakeholders' choice	26
6 Conclusions.....	28
References	29
Annex 1 – List of Stakeholders Met	30

1. Introduction

1.1 About the CDM Component of the ACP MEA Project

Since 2009, the UNEP Risø Centre (URC) has been implementing the Clean Development Mechanism (CDM) component of an umbrella EU- funded UNEP four-year project on “Capacity Building related to Multilateral Environmental Agreements (MEAs) in African, Caribbean and Pacific (ACP) Countries”. The purpose of the CDM Component of the ACP MEA project is to develop capacity for CDM project development in the ACP countries.

In the Pacific, based on discussions at the inception workshop held in May 2009, the CDM component has been designed as a regional program with Fiji and Tonga as focal countries. It also includes some DNA capacity building support in Samoa and Tonga, meanwhile Solomon Islands and PNG representatives are also invited to the regional workshops.

Under the project, a series of capacity building activities have been carried out to support participating countries establishing and operationalizing their DNAs (Designated National Authority), creating business-friendly environment for the development of CDM projects, and developing a portfolio of CDM projects. As part of the project activities, four regional CDM capacity regional building workshops for all the six Pacific countries have been organised. In Tonga, a national CDM workshop for was organized in July 2012.

1.2 The Aim of this Report

This report is being developed with the aim of introducing relevance of establishing Designated National Authority (DNA) and associated policy framework under CDM to stakeholders in Tonga. The objective of the report is to provide a guidance to stakeholders for decision making on establishing the host country DNA including associated institutional and policy framework. This in turn is believed to be benefiting the host country as a whole through carbon revenues and associated sustainable development benefits.

1.3 CDM and the National CDM DNA

CDM allows emission-reduction (or emission removal) projects in developing countries to earn Certified Emission Reduction (CER) credits, each equivalent to one tonne of CO₂. These CERs can be traded. Annex I (developed) countries can buy and use them to meet a part of their emission reduction targets under the Kyoto Protocol. The CDM is aimed at supporting developing countries achieve sustainable development and contribute to global greenhouse gas (GHG) emission reductions, while giving Annex I countries some flexibility in meeting their emission reduction targets in a cost-effective way.

The projects must go through a rigorous and transparent international registration and issuance process designed to ensure real, measurable and verifiable emission reductions that are additional to what would have occurred in the absence of CDM. The mechanism is overseen by the CDM Executive Board (EB), answerable ultimately to the Conference of Parties of the Kyoto Protocol. In order to be considered for registration, a project must first be approved by the Designated National Authorities (DNA) of the countries involved.

The CDM EB has issued many general and specific rules and procedures to be followed in order to obtain international registration of CDM projects, monitoring of achieved reductions of carbon emissions and issuance of CERs. These rules and procedures can be found on the website of the United Nations Framework Convention for Climate Change (UNFCCC)¹.

1.4 Key Issues Regarding CDM DNA Establishment and Operationalisation

A Designated National Authority (DNA) is the body granted responsibility by a Host Country to authorise and approve CDM projects. Establishment of a DNA is one of the preconditions for participation by a Host Party in the CDM. The main task of the host DNA is to assess potential CDM projects to determine whether they will assist the host country in achieving its sustainable development goals. If the DNA considers that a proposed CDM project meets the country's sustainable development criteria, it will issue a Letter of Approval (LoA) to project proponents which submit the proposed CDM projects. This LoA must contain the information requested by the UNFCCC. The LoA is then submitted to CDM EB to support the registration of the project.

To participate as a host country in the CDM under the Kyoto Protocol, a host country needs to meet the following conditions:

1. Having ratified the Kyoto Protocol
2. Having designated a CDM DNA
3. Having inform the CDM Executive Board about the designation of the DNA
4. The DNA can issue a non-conditional Letter of Approval (LoA) for each proposed CDM project approved by the host country, certifying that:
 - 1) The country has ratified the Kyoto Protocol,
 - 2) The said project is entered into voluntarily by the project proponent, and that
 - 3) The project contributes to the sustainable development of the host country.

Generally, a host country establishes the DNA through the following steps:

- Define mission, objectives and structure of the DNA, including the DNA's roles and responsibilities
- Obtain official status (for example, through legislature, presidential or ministerial decision/decreed)
- Establish the national rules and procedures regarding DNA decision making and policies regarding CDM project implementation and CERs ownership and trading. For example, who make the decisions and how the decisions about project approval are made.
- Establish the national sustainable development criteria for CDM project approval.
- Establish national CDM strategy, specific related taxation, subsidy, tariff, as well as foreign exchange regulations on the implementation of CDM projects and transaction of CERs.
- Facilitating CDM capacity building and awareness raising in the country;

¹ www.unfccc.int or <http://cdm.unfccc.int/index.html>

- CDM investment promotion, facilitating CDM investment in the country and support the marketing and implementation of CDM projects.

It is clear expectation that the DNA will act as the focal point for the CDM project approval process. The specific activities that the DNA undertakes often differ from country to country, but in general DNAs function as “one stop shops” for project developers and others interested in developing CDM projects within a Host Country. The core functions of DNA are: (i) issuing Host Country Letters of Approval; and (ii) authorizing private and public entities to participate in the CDM.

DNAs could also assume the role of: (iii) ensuring all stakeholders have a clear point of contact that is familiar with national policies and procedures relating to the CDM; (iv) developing rules and procedures for approval of CDM projects, including national sustainable development criteria or principles; and (v) reporting on national CDM programmes and providing recommendations on changes or additions that should be made to CDM procedures.

2. The Context - Tonga as a Potential Host Country for CDM projects

The Kingdom of Tonga, like other Small Island Developing State (SIDS), is highly susceptible to the impacts of climate change and natural hazards due to its geographical, geological and socioeconomic characteristics.

The relevance of climate change and associated impacts on the Kingdom of Tonga have been exhaustively discussed in the Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010-2015; Pacific Adaptation to Climate Change (PACC) report; the Initial and Second National Communications to UNFCCC, and other related documents.

The historical climatic data records dated from 1971–2007 for Nuku'alofa, Ha'apai, Vava'u and Niuatoputapu, indicate a marked increase of 0.4–0.9°C in annual mean temperature throughout the Tongan island groups since the 1970s. In the last five years, Tonga has experienced heat stress due to increased temperature. Such climatic conditions also reduced soil moisture and fertility and are unfavourable to crop growth.

Changes in temperature and rainfall are likely to affect human health through incidences of vector borne and water-borne diseases. Additionally frequent and high intensity tropical cyclones could affect the economy and the livelihood of the people.

A decrease in rainfall can affect agricultural production and perhaps the most significant impact on agriculture will most likely come from the effects of sea-level rise associated with storm surge and other extremes. It was projected that by 2100 a 1m sea-level rise in Tongatapu would affect the loss of 10.3km² of land or 37.3km² of land with storm surge. This would mean a total loss of 14% of land area of Tongatapu. Increase in sea-level will also affect agricultural production and water resources through salinization of freshwater and land loss.

The effect of climate change and sea-level rise on coastal zones and resources would also be significant. Land loss, shoreline retreat, coastal erosion and wave-overtopping would affect beach vegetation and mangrove forest which act as buffers against such extremes. Much of the infrastructure and socio-economic activities in Tonga are located near or on the coast, which makes them highly vulnerable to effects of climate change and sea-level rise.

Tonga is also highly vulnerable to other extreme climate events including coral bleaching associated with high ocean surface temperatures and/or extremely low tides. The impacts of climate-related events are felt right across the nation's economic, social and environmental systems, thus making future changes in climate, including extreme events, an issue of great concern nationally. Coastal erosion is another critical environmental issue facing Tonga, partially as a result of sea-level rise.

There has been an increasing trend in the occurrences of tropical cyclones in Tonga on a decadal basis with the evidence that the intensity of cyclones has increased since the 1980s in Tonga. All of these cyclone events have caused severe damages to crops and food supply, infrastructure facilities, tourist resorts, the environment, buildings and disrupt

essential services and the wellbeing of the people of affected community for a prolonged period of time.

Tonga is highly dependent on imported fuels to meet its overall energy requirements. In 2000, when the latest energy balance table for Tonga was compiled, imported petroleum products accounted for 75% of Tonga's energy supply, with 25% coming from biomass and off-grid solar PV. All grid-supplied electricity, which accounts for over 98% of electricity used in Tonga, is generated using imported diesel fuel.

The Tongan Government recognises that the full benefits of investing in renewable energy can only be realised when it is a part of an overall plan for the energy sector. This initiative has resulted in development of the "Tonga Energy Road Map 2010-2020 (TERM): Ten Year Road Map to Reduce Tonga's Vulnerability to Oil Price Shocks and Achieve an Increase in Quality Access to Modern Energy Services in an Environmentally Sustainable Manner".

The TERM has also developed least cost programs that will achieve the Government objectives, including 50% renewable energy in power generation by 2013. The recommendations include initiatives in the petroleum sector, off-grid electricity supply and renewable energy development.

The renewable energy and energy efficiency initiatives identified under the TERM have potential to be developed under CDM or other international emission mitigation mechanisms to generate carbon credits.

Tonga has fairly good potential for emission reduction projects to earn carbon credits through CDM. Some of the Potential sectors include:

- Renewable energy (Wind/Solar);
- Energy Efficiency (Supply and Demand Efficiency Improvements);
- Agriculture & Animal Husbandry (Coconut oil based power & energy from livestock waste);
- Waste Management (Biogas/wastewater treatment);
- Transport (alternate fuels/green transport).

According to the Tonga Joint National Action Plan (JNAP) on Climate Change and Disaster Management, the country targets 10% reduction of GHG emissions based on 2000 levels by 2015 through implementing Renewable Energy (RE) and Energy Efficiency (EE) programmes and improve energy security through improved planning and response mechanisms. As mentioned earlier, the Tonga Energy Road Map envisages generating 50% of the power through renewables by 2013. Some of the recommended options under the road map include development of renewable energy, energy efficiency and waste to energy projects.

Under the ACP MEA project, Tonga representatives had been invited to participate in the 5 regional CDM capacity building workshops in the Pacific. The host country in coordination with URC and International consultants successfully organised a two-day national level CDM capacity building workshop during July 2012. The workshop aimed to strengthen the stakeholder capacity on CDM and to identify and promote potential CDM projects in Tonga.

The country has also received support to facilitate the establishment of a CDM DNA, and advising support for the formulation and adaptation of CDM project approval procedures and rules. In addition, three voluntary carbon market projects have been identified. Project Idea Notes (PINs) for these potential CDM projects (Popua 1MW Solar Farm; 500kW Photovoltaic Plant on Vava'u Island; 500+ 500kW Combined Photovoltaic and Wind Power Plant) has been developed. The PDD for Upolu Wind Power project is currently under development. The three PINs and one PDD are developed using the CDM PIN and PDD templates, so that the project proponents and investors have the flexibility to register these projects for CDM after Tonga formally establishes a CDM DNA.

3. Identification of Potential Alternatives

During the process of analysis for identifying the potential alternatives for establishing the DNA in Tonga the following key issues have been considered:

- Identification of model that fits best within the legal and administrative culture and structure of Host Country;
- Potential and expected number of CDM projects in the Host Country;
- How much human resource the DNA requires: one person, a couple of people, or a larger group;
- Availability and potential sources of funding.

Two different and distinct steps have also considered for establishment of DNA which includes Designation of an authority: Decision on the institutional structure and adoption of guidelines and operational procedures for the approval process.

The legal and administrative structure and practice in a country, availability of funding, and the potential of CDM projects are all influencing factors for DNA setup. Although there is no set model on DNA setup, the following potential options could be considered for Tonga.

3.1 Alternatives for DNA institutional Setup

3.1.1 Option 1: DNA under the Cabinet Committee on Climate Change with the Minister for Environment and Climate Change as DNA

The Cabinet approved the establishment of this high level committee on climate change in December 2007. This committee was formed to advice Cabinet on appropriate and effective policy responses to climate change and sea level rise impacts, and to support the Government of Tonga effectively accessing to both internal and external resources (donors and development partners). The committee is chaired by the Minister of Environment and Climate Change and the members includes the ministers of Lands, Survey and Natural resources; Finance; Transport; Works and Justice and Attorney General.

Appointing the Minister of Environment and Climate Change under the Cabinet Committee on Climate Change as DNA could be one of the potential options and this structure requires the least additional administrative costs to establish as it draws upon pre-existing expertise within the government.

3.1.2 Option 2: DNA under the Ministry of Environment and Climate Change supported by National Environment Coordinating Committee (NECC)

In Tonga, the Ministry of Environment and Climate Change (this is understood to be re-aligned soon as Ministry of Lands, Environment, Climate Change and Natural Resources) is the National Executive Agency for climate change activities as approved by the Cabinet in 2004. The Cabinet also has approved the establishment of the National Environment Coordinating Committee (NECC), the Technical Working Group (TWG) and the Management Unit (MU).

According to Joint National Action Plan (JNAP) on Climate Change and Disaster Management, the NECC was established to function as the advisory body for all environmental projects including climate change. It also serves as the mechanism to coordinate climate change related issues at both the policy and technical levels. The committee is chaired by the Minister of Environment and Climate Change. Members are departmental heads from government ministries, non-government organizations and statutory authorities.

Hence one of the options for the DNA establishment can be an extension of existing institutional arrangements including the various committees for environment and climate change, in other words, the DNA is put under Ministry of Environment and Climate Change supported by National Environment Coordinating Committee (NECC).

3.1.3 Option 3: Establishing a New and Discrete DNA Office in Tonga

Under this model, a DNA could be created as a new, discrete, and self-contained public office or authority. The Tongan government could demonstrate the DNA transparency through publishing of the structure, mandate and authority of the office when the DNA is created. It also needs to be considered that if staff members are taken from other departments, the costs to these departments should not outweigh the benefits expected from the CDM.

3.1.4 The Advantages and Disadvantages of Different Options under the National Context of Tonga

The main advantage of having a DNA under the Cabinet Committee on Climate Change with Minister for Environment and Climate Change as DNA is that the model could use pre-existing expertise & structure and benefit in terms of minimising the administrative costs. The disadvantages associated with this model include high level of bureaucracy with only ministers involved in the committee; conflict of interest between the ministries; non transparency and delays in project approvals due to non- availability of members when required.

The key advantage of having DNA under the Ministry of Environment and Climate Change supported by National Environment Coordinating Committee (NECC) is the utilisation of 'Existing Systems and Structures'. During development of the JNAP, one of the key guiding principles which were identified for implementation of the plan was to use 'Existing Systems and Structures'. The guideline emphasised that there must be efforts made to ensure that the existing systems of administrative and financial management, at national and regional level are utilised as these have been designed and tested by Government to ensure transparency and accountability.

In case of having a new and discrete DNA office model the main advantage is that it allows concentration of expertise within the one department, which may increase efficiency. On the other hand, it might require greater capacity to establish than other models and more expensive as it needs new budget creation.

3.2 CDM Project Approval Procedures – Different Alternatives

3.2.1 Option 1: Single Tier System

Under this option, the CDM project approval would happen at a single level within a ministry or a department. With the single tier system, the CDM project proponent would submit a request for issuance of LoN/LoA to the DNA under the cabinet committee on climate change. The DNA secretariat under the Ministry of Environment would assess the request based on the host country approval criteria and regulations. The recommendation in terms of issuance or non-issuance of LoN/LoA with supporting justification is forwarded to the committee and in turn to the DNA (Minister of Environment and Climate Change) for consideration and approval.

3.2.2 Option 2: Two-Tier Approval involving an Individual as the Authority supported by a Decision Making Committee

In this case, the CDM project approval would happen in two different and distinct stages involving the decision making committee at the second level and the signing authority (DNA) at the first level. The National Environment Coordinating Committee (NECC), an interdepartmental committee made up of senior officers from across government and mandated by the Tongan cabinet would be the decision making body on any request for issuance of LoN/LoA from the CDM project proponents.

The recommendations from the NECC meeting on approval of the CDM project activity would be submitted to the DNA under Ministry of Environment and Climate Change supported by National Environment Coordinating Committee (NECC).

3.2.3 Option 3: Approval based on Type of Request (LoN or LoA)

Under this option, the project approval procedures would depend on the type of request by the project proponent, i.e., whether it is request for LoN or a LoA. In case of request for a LoN the approval procedures could be less stringent as it is not required in the UNFCCC CDM registration procedures. However, it can be a very helpful document when it comes to attracting an international buyer of the CERs, which is the main purpose of implementing the project as a CDM project. On the other hand, issuance of LoA could have more rigorous procedures such as cabinet approval along with the host country regulations for CDM project approval.

3.2.4 The Advantages and Disadvantages of Different Options under the National Context of Tonga

The key benefit of considering the single tier project approval option is the possibility of arriving at a consensus in a short time period which could result in quick decision making, in case the committee meets on a timely basis. However, since the committee consists of ministers, most of the times this might result in unnecessary delays and time lags due to non-availability of the members. In addition, the decision making authority may not be conscious or acquainted with various aspects of projects from different sectors.

The option of two-tier approval involving an Individual as the DNA supported by a Decision Making Committee could be advantageous in terms of maintaining the transparency on

decision making as the inter departmental committee deliberates on the project proponents request for LoN/LoA and decides based on the host country approval criteria and regulations. However, there could be uncertainties such as time taken for the committee to meet and assess the request which in turn could affect the CDM project activity.

In case of the project approval depending on the type of request (LoN or LoA) by the project proponent, the main benefit would be in terms of avoiding unnecessary time delays and bureaucratic procedures in case of a request for LoN. The key disadvantage could be the potential fees or administrative levy that the DNA office might want to charge the project proponents for issuance of LoA as it could involve elaborate assessment and approval procedures.

3.3 CDM Project Approval Criteria – Different Options and their Advantages and Disadvantages

3.3.1 Option 1: SouthSouthNorth (SSN) Sustainable Development Tool Approach

The SSN tool provides assessment approach for evaluating the sustainable development benefits for CDM projects including eligibility assessment for CDM projects. The framework consists of 24 indicators including 2 eligibility screens, 4 additionality filters, 10 feasibility indicators and 8 sustainable development indicators. The tool has been used to assess 27 renewable energy projects across four countries (Thorne and Raubenheimer, 2002).

Criteria	Indicator	Measurement
Environmental Criteria		
Climate Change	Contribution to reduce global climate change	Rating avoided CO ₂ emissions Where: <ul style="list-style-type: none"> • 0 = no change in GHGs compared to the baseline • +3 = Total avoidance
Local environment	Contribution to local environmental sustainability	Rating the change (%) in the most significant local pollutants <ul style="list-style-type: none"> • 0 = No change in the level of 'X' pollutant • +3 = total avoidance of local pollutants • -3 = Doubling of local pollutants
Natural resources	Contribution to sustainable use of natural resources	Measuring the projects contribution to sustainable use of natural resources: <ul style="list-style-type: none"> • 0 = No change in fossil fuel usage • +3 = avoidance of all fossil fuels • -3 = Doubling of pollutant 'X'
Social criteria		
Employment generation	Contribution to net employment generation	Measuring number of additional jobs created by the project: <ul style="list-style-type: none"> • 0 = No change in employment level compared to baseline • +3 = double number of jobs • -3 = elimination of all jobs predicted in baseline
Economic criteria		

Balance of payments	Contribution to balance of payments	Measuring the net foreign currency savings: <ul style="list-style-type: none"> • 0 = No change in foreign currency expenditure compared to baseline • +3 = total avoidance of foreign currency expenditure • -3 = doubled net foreign currency expenditure
Macro-economic sustainability	Contribution to macro-economic sustainability	Changing the level of public investment: <ul style="list-style-type: none"> • 0 = No change in public investment • +3 = total avoidance of public investment expenditure • -3 = doubled public investment
Cost effectiveness	Cost reductions implied by the project	Measuring the contribution to increase local micro-economic sustainability <ul style="list-style-type: none"> • 0 = No change compared to baseline • +3 = total avoidance of costs expenditure • -3 = doubled costs
Technological criteria		
Self-reliance	Contribution to technological self-reliance	Measuring the reduction of foreign expenditure <ul style="list-style-type: none"> • 0 = No change in foreign currency expenditure as compared to baseline • +3 = total avoidance of foreign currency expenditure • -3 = doubled foreign currency expenditure

Table 1: SSN Sustainable Development Tool

The SSN tool has been applied in Brazil, Bangladesh, Indonesia and South Africa. It allowed the selection of 10 out of 27 potential CDM activities. The assessment considered both small and large-scale energy projects (Thorne and Raubenheimer 2002).

3.3.2 Option 2: CDM –SUSAC Approach

The CDM-SUSAC approach suggests that experts on the project type should create a list of sustainable development indicators. A comprehensive link between the checklist criteria and the sustainable development indicators is deemed essential.

Step 2: Formulating checklists

The CDM-SUSAC work proposes using scoring methods to formulate the checklist. Answers to the checklist questions could be provided as a precise number or a range, which could be restricted or continuous. Alternatively, YES/NO answers could be applied only if institutional capacity is not available to deal with the ranking methods, recognising that this can compromise the accuracy and validity of the CDM project assessment.

Step 3: Evaluating checklists

The CDM-SUSAC approach then proposes weighting each question of the checklist using expert opinion. It recognises that relying on expert opinion is not always transparent because objectivity and repeatability can be questionable. Answers to questions regarding the

proposed CDM project are scored and then weighted to reflect the significance of each question. The project with the highest weighted scores using the approach should qualify as CDM.

3.3.2 Option 3: Gold Standard Approach

The Gold Standard was developed by a coalition of more than 30 NGOs. It is a methodology that demonstrates additional renewable and energy efficiency projects with the aim of designing premium-quality CDM projects (Schlup 2005). Under this approach any project seeking to achieve the Gold Standard should demonstrate clear benefits in terms of sustainable development.

Criteria	Indicator	Parameter
Local/regional/global environmental sustainability	Water quality and quantity	Quality and quantity
	Air quality	Other emissions than GHGs
	Other pollutants	Including toxicity, radioactivity
	Soil condition	Quality and quantity
	Biodiversity	Species and habitat conservation
Social sustainability and development	Employment	Quality
	Livelihoods of poor	Including poverty alleviation, distributional equity and access to essential services
	Access to energy services	-
	Human and institutional capacity	Including empowerment, education, involvement and gender
Economic and technological development	Employment (Job creation)	-
	Impact on balance of payments	-
	Technological self-reliance	Including project replicability, hard currency, liability, skills development, institutional capacity and technology transfer

Table 2: Gold Standard SD Assessment Approach

The Gold Standard procedure establishes that the performance of the projects must be assessed against the indicators. They are rated from –2 to +2 where -2 represents major negative impacts, -1 very minor negative impacts, 0, negligible impacts, +1 minor positive impacts, +2 major positive impacts. The rates are related to a baseline situation. A CDM project would not be awarded the Gold Standard when a single sustainable development criterion rates negative. In fact, all the sustainable development criteria must be positive, the total score must also be positive and there should not be any single –2 scores.

3.3.4 Option 4: Sustainability Assessment Model (SAM) Approach

This approach was developed as part of a Department for International Development (DfID) funded project focussing on identifying and supporting CDM projects in the energy sector

which can alleviate poverty. The approach applies Multi-Criteria Decision Analysis (MCDA) to assess sustainable development benefits of small-scale projects under a set of criteria based on the Sustainable Livelihood tool (Begg et al. 2003). The approach has been applied to assess 13 energy sector projects in Kenya, Tanzania and Ghana.

The approach consists of four steps, which include identifying a set of criteria, constructing a value tree, scoring each criterion and weighting the criteria. The CDM project assessment, on its strengths and weakness, are identified based on the key assessment steps.

The SAM approach essentially uses a set of 24 criteria, which also forms a part of the five sustainable livelihood aspects that are natural, social, human, financial and physical. A value tree, based on the set of criteria identified (and grouped in terms of the major trade-offs) is developed. The main objective of the approach is to maximise sustainable well-being, which is expressed in terms of two main trade-offs: minimising effects on the natural resource base and maximising personal well-being.

Criteria	Indicator	Measurement
<i>Natural criteria</i>		
Food	Effect of the project on ability of the community to produce food/crops	In terms of volumes changed or qualitatively
Habitats	Effect of the project on flora and fauna	What are the activities and their effects
Forests	Effect of the project on forests as wood and natural products resources	Kg wood conserved Amount of natural products conserved
Land use change	Effect of the project on quality and quantity of land used for project	Amounts of land changed Qualitative evaluation
Air pollution	Effect on air quality	Quantitative analysis
GHG reduction	Effect in terms of GHG reduction as compared to baseline	Kg CO ₂ /cap/year
Water supply	Effect of the project on water (quality), washing, drinking and cooking	Amount in L/day; quality and contaminant sources
<i>Social criteria</i>		
Marginal groups	Effect of the project on women or marginalised groups	Qualitative evaluation
Wider base	Effect in the new network to information on other projects	Qualitative evaluation
Security	Effect on crime prevention	-
Social networks	Effect on social networks of institutions and families in the community	Number of social institutions created
<i>Human Criteria</i>		
Jobs	Effect on the number/diversity of jobs	-
Freed time	Effect on freeing time from drudgery	-
Health	Effect on human health	-

Education	Effect on improvement in literacy	-
Skills	Effect on building more or new skills in the community	-
Physical criteria		
Energy	Effect on energy services, contribution to local energy needs	-
Infrastructure	Effect on transport, water, sanitation and health units	Number and type of new services
Resource depletion	Effect on scarce resources in operating or manufacturing	-
Dwelling	Effect on shelter	Evaluating the number of new houses or improvement in quality of housing
Financial criteria		
Local manufactured equipment	Effect on stimulating local facilities/services for manufacturing	Amount of manufactured equipment versus imported
Local supply chain	Effect on stimulating local facilities/services for spares, services etc.	-
Affordability	Cost to the community of the services provided by the project	-
Income generation	Effect on generating income or trade activities	Number and diversity of jobs

Table 3: Sustainable Assessment Model Approach

3.3.5 The Advantages and Disadvantages of Different Options under the National Context of Tonga

With the limited modularity and reliability, the SSN approach methodology seems to be very transparent and simple. The potential CDM projects from Tonga are mainly small-scale ones and the SSN approach may need major modifications as it is generally targeted at assessing the feasibility and sustainability of large scale CDM projects. Some of the indicators used (balance of payments, macro-economic indicators and so on) are more appropriate for assessing large-scale projects rather than small scale projects.

The CDM SUSAC approach could be comprehensive but lacks clarity in the application of the approach to Least Developed Countries such as Tonga given the nature of potential projects and the capacity to carry out the assessments.

The approach seems to be very complex to be adopted for Tonga situation as it consists of checklist development and ranking evaluation for the decision-making process to assess the sustainability of CDM projects. The use of expert opinion during the validation of the checklist is considered as non-transparent.

There are some successful CDM project examples which have adopted the Gold Standard approach, including some small-scale CDM projects. The approach also includes some of the most important sustainable development indicators such as empowerment, gender and

technological self-reliance and also indicators such as balance of payments which is not relevant to small-scale CDM projects. However, in case of Tonga this might be relevant in terms of contributing towards the host country economy through reduced import of fossil fuel. The rating of the Gold Standard sustainability matrix is very stringent, as projects with negative indicators would not be certified. The approach is considered to be a bit lengthy and cumbersome in terms of practicality of the approach for evaluating sustainable development benefits for small-scale CDM projects. However, it is envisaged that some of the key and appropriate indicators could be used by Tonga to develop and elaborate a framework of sustainable development indicators.

Although SAM provides a simplified approach to carrying out a comprehensive decision-making analysis, the methodology involves a lengthy four step approach. Considerable training and capacity building of the stakeholders would be required to apply this approach in Tonga. The approach proposes a comprehensive set of 24 criteria covering the broad issue of sustainable development with respect to energy projects. These criteria can be adopted or modified appropriately and re-assessed for application in Tonga.

4 Stakeholder Consultations

Several meetings and bilateral consultations with relevant stakeholders and authorities in Tonga have been carried out as part of consultation process to arrive at the recommendation on proposed DNA structure and process including potential policy options for CDM development. The list of stakeholders consulted is provided in Annex 1. At the national capacity building workshop conducted on the 10th and 11th of July 2012, the concept of DNA was explained, including roles and responsibilities; examples from other host countries; beneficial procedures to the stakeholders and beneficial policy interventions for CDM promotion. The workshop involved stakeholders with the most relevance to the CDM project activities in Tonga, and participants included representatives from relevant government ministries, NGOs, power utility companies and private sector and facilitators. Bi-lateral consultations were also held with stakeholders on the stakeholders' opinions and recommendations on existing institutional setup for DNA; policy instruments and/or legislation addressing CDM and climate change mitigation and issues and barriers at the CDM project development level.

5 The Recommendations on DNA Establishment and Operationalisation in Tonga

5.1 Recommended Structure of Designated National Authority (DNA)

5.1.1 Choice by the Stakeholders and the relevant considerations

The various options on DNA structure, CDM project approval procedure and criteria as discussed in previous sections were shared during the discussions and meetings with relevant authorities and stakeholders.

The stakeholders' choice on the structure of CDM DNA in Tonga is Option 2: DNA under Ministry of Environment and Climate Change (this is understood to be re-aligned soon as Ministry of Lands, Environment, Climate Change and Natural Resources) supported by National Environment Coordinating Committee (NECC) as discussed in section 3 of the report.

As per the stakeholders, during development of the JNAP, one of the key guiding principles which were identified for implementation of the plan was to use 'Existing Systems and Structures'. The guideline emphasised that there must be efforts made to ensure that the existing systems of administrative and financial management, at national and regional level are utilised as these have been designed and tested by Government to ensure transparency and accountability.

In line with the above principle to use existing systems and structures, the choice of stakeholders on institutional structure or setup for DNA in Tonga is an extension of existing institutional arrangements including the various committees for environment and climate change.

5.1.2 Policy recommendation based on the Stakeholders' Choice

The recommended institutional structure for DNA in Tonga based on stakeholders choice is provided below.

The Ministry of Environment and Climate Change, is recommended to host the DNA supported by the National Environment Coordinating Committee (NECC), which is an interdepartmental committee made up of senior officers from across government. The organizational structure of the DNA consists of the following:

- The Minister for Environment and Climate Change is suggested to be the DNA for Tonga

The DNA is the person authorized by Tonga to sign LoAs. The letter of authorization relates to an individual and will have to be renewed in case of appointment of another person for the post as DNA.

- The National Environment Coordinating Committee (NECC), which is an interdepartmental committee made up of senior officers from across government is recommended to provide support and direction to the DNA.

The NECC needs to be provided with the authority to issue binding recommendations to the DNA to issue LOA and LoN upon request from project developers. The NECC is envisaged to meet regularly or on a case by case schedule, depending on the amounts of requests received by the Ministry of Environment and Climate Change. The DNA related meetings of the NECC could follow the existing meeting procedure and could also accommodate the procedures for issuing LoA and LoN. The NECC consists of the following members:

- Minister for Environment and Climate Change (Chair)
- Director of Minister for Environment and Climate Change (deputy chair)
- Secretary for Foreign Affairs
- Secretary for Agriculture, Food, Forestry and Fisheries
- Secretary for Finance and National Planning
- Secretary for Labour, Commerce and Industries
- Director of Health
- Solicitor General
- President of Tonga Association of Non-Government Organisation
- Head of Divisions within Environment and Climate Change
- Project Coordinator(s) as secretariat

In the case of any NECC member is unable to attend the meeting, a suitable representative (immediate junior level officer to Director) from the ministry/department/division can be appointed by the respective Director. In case a request for a LoA/LoN is not supported by all members, the Committee reaches a decision based on simple majority by the attending members.

Taking into account that the number of expected requests for LoN or LoAs is expected to be limited, the Committee will be summoned on a case by case basis. If and when a request for LoN/LoA is received, the request should be dealt with in an expedient manner thus providing the best possible facilitation of the CDM process. It should be considered to establish a maximum response time of [tentatively 5] weeks.

- The DNA Secretariat is recommended to be hosted by the Ministry of Environment and Climate Change

The DNA Secretariat is the body charged with the day-to-day management of the tasks of the DNA. The DNA Secretariat is suggested to be incorporated in the Ministry of Environment and Climate Change. The DNA Secretariat is the official point of contact for external entities and individuals wishing to make contact to the DNA, i.e. in order to request a LoA or a LoN. Any liaison with foreign buyers of carbon credits wishing to discuss matters of the operation of the DNA is envisaged also be requested to liaise with the DNA Secretariat, who will then act on behalf of the DNA or involve the DNA and/or the NECC as appropriate. The major part of such inquiries will in nature be informal and could be dealt without the involvement of the NECC other than reporting.

In this context, it might also be important to consider informing DNA Secretariat by the project proponents on any potential carbon credit enquiries or transactions both under the compliance (Kyoto protocol) as well as the voluntary carbon market mechanisms. Upon initiation of such enquiries or transactions, the project proponents could submit the completed Project Idea Notes (PINs) (which includes details regarding technical, financial,

environmental and carbon credit aspects of the proposed project) to the DNA and have it endorsed by the DNA Secretariat.

The DNA Secretariat is envisaged to prepare all necessary documents and undertake necessary preparatory work prior to NECC meetings which include:

- Notice of meeting including date, time venue and agenda
- Short paper describing the request, the project and the recommendation
- Received request for LoN/LoA including attached PIN/PDD
- Recommendation paper referring the case, listing the relevant information and considerations that forms the basis for the proposal for decision on recommendation by the NECC to the DNA
- Draft answering letter to the project proponent
- Draft LoN/LoA which is unsigned and to be signed by the DNA. In case the basis for the request is a PDD pending validation, the draft LoA should be conditional on the provision by the project proponent of the validation report from the DOE
- Any other reports or documents as required.

5.2 Recommended CDM Project Approval Procedure in Tonga

5.2.1 Choice by the Stakeholders and the relevant considerations

The stakeholders understand that the international procedures under the CDM involve strict rules regarding the administration and approval of CDM projects, which the project proponents have to follow.

Bearing this in mind, the stakeholders are of the opinion that the approval procedures for CDM projects in Tonga could seek to make full use of the possibility to establish easily administered procedures for issuing of LoA, with an emphasis on the opportunity to make sure that the proposed CDM projects make a genuine contribution to sustainable development in the country.

It is envisaged that the initial number of CDM projects to be presented for the DNA for approval for issuing of a LoA will be small and therefore it is considered important to avoid unnecessary administrative or economic barriers that will discourage project proponents from seeking much needed additional funding, if the project could qualify under the CDM.

5.2.2 CDM Project Approval Procedure based on the Stakeholders' Choice

The main line of activities to be covered by the DNA Secretariat for approval of CDM projects is described below:

1. The request for issuance of a LoA (or LoN) from the DNA is to be sent from the Project Proponent to the DNA Secretariat (Ministry of Environment and Climate Change) according to the instructions on the DNA homepage using the format and including the required attachment.

2. The DNA Secretariat sends a notice of meeting with attachments including the request for a LoA/LoN, to all members of the NECC, including a proposal for a recommendation by the NECC for issuing or not of the LoA/LoN.
3. The NECC meeting is held and the decision for a recommendation is logged in the Protocol of the NECC and brought in to the DNA Secretariat (Ministry of Environment and Climate Change) for drafting of minutes of meeting to be posted to all NECC members for signing before issuing a response to the request for LoA/LoN.
4. In accordance with DNA Secretariat administrative procedures, the DNA may during or after the NECC meeting sign the LoA/LoN or refusal to issue such document in accordance with the binding recommendation stated by the NECC.
5. In case of LoN, based on the recommendation of the NECC, the DNA Secretariat shall dispatch the signed LoN to the project proponent.
6. In case of LoA, based on the recommendation of the NECC, the DNA Secretariat shall submit the signed LoA for Cabinet endorsement.
7. Upon endorsement by the Council of Ministers, the DNA Secretariat will then post the LoA to the Project Proponent.

As indicated in Figure 1 of the next page, the Project Proponent needs to submit a request for issuance of a LoA (or LoN) to the DNA Secretariat (Ministry of Environment and Climate Change) using the LoA/LoN request template as per the DNA manual guidelines. Upon receipt of the request, the DNA Secretariat will send a notice of meeting with attachments including the request for a LoA/LoN, to all members of the NECC, including a proposal for a recommendation by the NECC for issuing or not of the LoA/LoN.

The NECC is envisaged to meet regularly or on a case by case schedule, depending on the amounts of requests received by the DNA Secretariat. The NECC meeting decision for a recommendation is logged in the Protocol of the NECC and brought in to the DNA Secretariat for drafting of minutes of meeting to be posted to all NECC members for signing before issuing a response to the request for LoA/LoN.

In accordance with DNA Secretariat administrative procedures, the DNA may during or after the NACCC meeting sign the LoA/LoN or refusal to issue such document in accordance with the binding recommendation stated by the NECC.

Based on the recommendation of the NECC, the DNA Secretariat submits the signed LoN/LoA to the DNA for authorisation and onward submission to the project proponent.

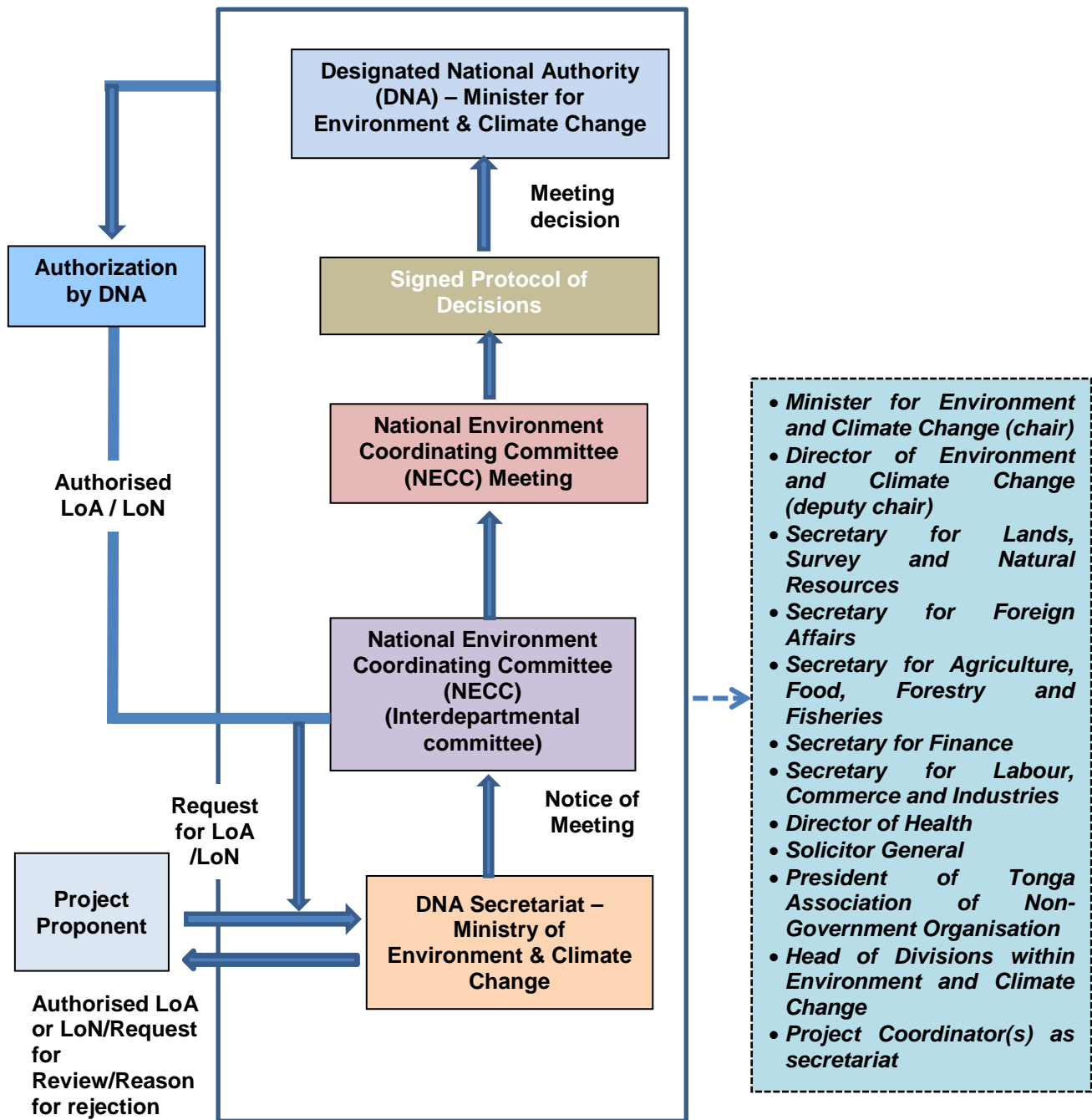


Figure 1: Decision Structure for Issuance of Letter of No Objection (LoN) and Approval (LoA) by the DNA

5.3 Recommended Sustainable Development Criteria for Assessment of CDM Projects in Tonga

5.3.1 Choice by the Stakeholders and the relevant considerations

Based on the approaches and methodologies for sustainable development assessment as discussed in section 3 of this report and also assessing the indicators and criteria adopted by other developing countries as well as SIDS and LDCs around the world, the stakeholders are of the opinion that the sustainable development criteria for Tonga should broadly include the following:

- a) Economic Sustainability - deliver some net contribution to economic development (including the transfer of more efficient and environmentally friendly technologies, improved employment, decreased dependence on energy imports, positive financial flows), or at least not result in net economic loss;
- b) Environmental Sustainability - provide some net environmental benefit to Tonga or the local community in which it is located (reduced GHG emissions, air quality, waste reductions), or at least not result in a net adverse environmental impact;
- c) Social and Cultural Sustainability - contribute to an improvement in social conditions and host country cultural aspects (poverty alleviation, more equitable distribution of benefits), or at least not result in a net adverse social impact.

The stakeholders have also indicated that the sustainable development criteria for assessment of CDM projects in Tonga need to follow the indicators & criteria that are being guided by the National Strategic Planning Framework 2009-2015 including relevant policies, acts and strategic plans under the climate change, energy, forestry, agriculture, infrastructure and other relevant ministries and departments.

5.3.2 Policy recommendation based on the stakeholders' choice

Based on the stakeholder recommendation, the below table provides the sustainable development indicators and criteria for assessment of CDM projects. Whilst assessing the projects for potential contribution to sustainable development of the host country, it is essential to note that no single project would fulfil all the recommended indicators and criteria. For e.g. energy sector project activities could contribute more towards income generation and rural development whilst forestry sector activities might have more impact on biodiversity conservation and ecological sustainability. Hence, while assessing a project, it is recommended that the NECC could use the recommended indicators and criteria as a general guideline to determine the potential sustainable development impact of the project on the host country. As a rule of thumb it can be considered that if a project activity fulfils at least some of the indicator criteria's, the activity could be considered having a net positive effect on the sustainable development of host country. Ultimately, it would be the discretion of NECC to decide on the projects contribution to sustainable development of host country.

Indicator	Criteria
Employment or Job Creation	<ul style="list-style-type: none"> • Improved employment opportunities • Improved job prospects for women, youth and vulnerable people • Improved opportunities for skilled employment • Opportunities for sustainable livelihood opportunities for the community
Income Generation/Development	<ul style="list-style-type: none"> • Improved condition of community/communities to generate more income (combating poverty) • Contribution to potential increase in income generation • Impact on local community development (to the wellbeing society) • Contribution to local and national economy (impact on Gross Domestic Product)
Health Care/Hygiene	<ul style="list-style-type: none"> • Improved community health care/Positive impacts on health care system • Reduced exposure to indoor air pollution • Impact on access to clean water & sanitation facilities
Local Resources	<ul style="list-style-type: none"> • Utilisation of locally available manpower and natural resources
Cultural Values	<ul style="list-style-type: none"> • Respecting the local community cultural values such as sacred land, sacred forest, sacred rivers and other cultural values
Conservation of Bio-diversity	<ul style="list-style-type: none"> • Contribution to improvement of specific or national conservation strategy • Contribution to reducing impact on biodiversity degradation, control of invasive species • Improving habitat or ecosystem quality
Ecological Sustainability	<ul style="list-style-type: none"> • Improved condition for maintaining long term environmental sustainability • Minimising environmental impact to community (Promote polluter pay principle) • Promote inter and intra generational ecological equity
Sustainable/Alternate Energy Development	<ul style="list-style-type: none"> • Promote development of alternative energy technologies • Improved access to electricity/ energy by local people (including poor people) • Promote equitable regional access to energy (rural-urban distribution and access to electricity)

Table 4: Proposed Sustainable Assessment Criteria for Tonga

6 Conclusions

Eventually, the need to obtain approval of the project activity as a CDM project will be one of the initial matters pursued by project developers and investors. It is a totally separate approval from the other project approvals required under national law and the final approvals of the CDM Executive Board. In this respect it is critical from an investor's point of view to have the earliest indication possible as to whether or not the CDM project activity which it is pursuing will be granted Host Country approval.

Keeping this in mind, the Tongan DNA should facilitate: a clear and accessible focal point with authority to issue Host Country Letters of Approval; a clear and transparent process for applying for and obtaining Host Country approval within efficient timeframes; and a process that is distinct from the more general project approvals that will be required.

A well-functioning host country approval system will attract project developers and investors and give the respective host country a comparative advantage in the market.

References

Begg, K, S Parkinson, D vd Horst, R Wilkinson, D Theuri, S Gitonga, M Mathenga, H Amisah-Arthur, S Atugba and S Ackon. 2003. "Encouraging CDM energy projects to aid poverty alleviation: "In Final report of project R8037 under the DFID KAR programme. Surrey: Centre for Environmental Strategy, University of Surrey.

Climate Change Policy – His Majesty’s Government of the Kingdom of Tonga (2006).

Draft Green House Gas Inventory Report for Energy & Waste Sector; Second National Communication – Kingdom of Tonga; GEF/UNDP (2011).

Initial National Communication to the UNFCCC – Kingdom of Tonga; GEF/UNDP (2005).

Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010 – 15 – Kingdom of Tonga; SOPAC (2010).

National Renewable Energy Policy; Energy Planning Unit; His Majesty’s Government of the Kingdom of Tonga (2006).

National Strategic Planning Framework 2009-15; Prime Minister’s Office – His Majesty’s Government of the Kingdom of Tonga (2009).

Pacific Adaptation to Climate Change – Kingdom of Tonga; Report of In-Country Consultations; SPREP (2009).

Schlup, M. 2005. "One goal is not enough. ." In Carbon Finance. Second National Communication to the UNFCCC – Kingdom of Tonga; GEF/UNDP (2012).

Tonga Energy Road Map 2010 - 2020 - His Majesty’s Government of the Kingdom of Tonga (2010).

Thorne, S and S Raubenheimer. 2002. "Sustainable Development Appraisal of CDM projects-Experiences from the SSN Project." In Forum for Economics and Environment.

Thomas, F, S Ulrich and C Schlenzig. 2001. "Ranking Methodologies for Sustainable Development and CDM Project Checklists." Start-up Clean Development Mechanism in ACP Countries (CDM-SUSAC).

Annex 1 – List of Stakeholders Met

Name	Ministry/Organisation
Katherine Baker	Tonga Energy Road Map – Implementation Unit, Ministry of Environment and Climate Change
Yeysset Oliver	Ministry of Environment and Climate Change
Emanuele Mo'ale	Ministry of Agriculture, Forestry, Food and Fisheries
Sione Fulivai	JNAP Secretariat
Feleti Waysu	Tonga Energy Road Map – Implementation Unit, Ministry of Environment and Climate Change
Ofa Sefiana	Department of Energy, Ministry of Lands, Survey and Natural Resources
Ponepate Taunisila	Education & Training
Emily Esau	Tonga Community Development Trust
Asipeli Palaki	Ministry of Environment and Climate Change
Lesili Tuivai	Ministry of Environment and Climate Change
Kelela Tonga	Ministry of Infrastructure
Daisuke Yuantra	Ministry of Environment and Climate Change
O'fa Takai	Department of Energy, Ministry of Lands, Survey and Natural Resources
Siale Ilolahia	Civil Society Forum of Tonga
Lilika Fusimalohi	Ministry of Finance and National Planning
Stuart Craig	Tonga Power
Viliam Hakaumuotu	Ministry of Environment and Climate Change