

## **PROJECT IDEA NOTE (PIN)**

**Name of Programme: PoA for Solid Waste Management in Solomon Islands**

**Date submitted: 27 June, 2012**

### **Description of size and quality expected of a PIN**

Basically a PIN will consist of approximately 5-10 pages providing indicative information on:

- the type and size of the Programme
- its location
- the anticipated total amount of GHG reduction compared to the “business-as-usual” scenario (which will be elaborated in the baseline later on at PoA DD and CPA DD level)
- Duration of the Programme and crediting period of the CPAs under the Programme
- the estimated CER price in US\$/ton CO<sub>2</sub>e reduced
- the financial structuring (indicating which parties are expected to provide the project’s financing)
- the project’s other socio-economic and environmental effects/benefits

**While every effort should be made to provide as complete and extensive information as possible, it is recognised that full information on every item listed in the template will not be available at all times for every project.**

## A. Programme Description, Type, Boundary and Schedule

<p><b>Objective of the Programme</b> <i>(Describe the policy/measure or stated goal that the PoA seeks to promote)</i></p>	<p>Over the several decades, waste management has become a major concern for small island countries in the Pacific region as poorly managed waste has the potential to cause negative impacts on national development activities, including Tourism and Trade, Food supplies, public health and the environment.</p> <p>The objective of the Programme of Activity (PoA) is to implement effective, manageable and deliverable waste management systems to enable to reduce the amount of waste that is currently generated in the country.</p>
<p><b>Programme Description and Proposed Activities</b> <i>(About ½ page)</i></p>	<p>The Solomon Islands are currently faced with environmental, social and economic risks directly related to unmanaged waste dumping. Therefore, there is an urgent need to develop better ways to manage waste in a more sustainable approach. Honiara and all the urban centres of Solomon Islands do not have proper landfills. There is no control in waste disposal and all sorts of rubbish are dumped everywhere.</p> <p>Under the proposed Solomon Waste Management Programme sanitary landfills will be developed in Honiara and other urban centres of country. Under the Programme first sanitized landfill will be constructed in Honiara .Currently in Honiara there is the Ranadi dumpsite with no proper management.</p> <p><b>Implementation Strategy:</b></p> <ul style="list-style-type: none"> <li>➤ Conduct feasibility study to identify appropriate sites for new landfills, and negotiate with appropriate land owners.</li> <li>➤ Upgrade the operations and management of dumps in the urban areas by fencing, controlled burning using incinerators, regular covering, etc.</li> <li>➤ Consult with relevant stakeholders from the government ministries, NGOs,</li> <li>➤ Private sectors and funding agencies to set up a Technical Working Group (TWG) and engage a consultant/advisor to develop a proposal for the design and construction of a sanitized landfill. TWG and consultant to work under a ToR.</li> <li>➤ TWG &amp; Consultant Inception Meeting convene to develop work plan, budget, and design [with landfill experts] and develop the proposal. After the approval of any proposal, landowners, residents, businesses and industries should be informed and consulted before construction of landfill begins.</li> </ul> <p><b>Time frame:</b></p> <p>Phase 1: Planning 6 months</p>

PIN – PoA for Solid Waste Management in Solomon Islands

	Phase 2: Awareness & Consultation 6 months
	Phase 3: Construction 12 months
<b>Technology to be Employed</b> (Describe in not more than 5 lines)	<p>The landfills will be managed using a Japanese waste scheme known as the Fukuoka method or semi-aerobic landfill. In the semi-aerobic landfill, the leachate is collected in a leachate collection pond through the properly sized perforated pipes embedded in the graded gravel. And the outlet of the main leachate collection pipe is always open to air for natural ventilation.</p> <p>In this system, the fresh air is drawn into the layers thereby introducing an aerobic condition around the pipes. Since the leachate is removed as quickly as it is formed, the internal water layers have lower water content. The differential temperature in the landfill creates the natural ventilation and the supply of air to the landfill. The semi-aerobic system has advantages on the leachate improvement, the reduction of methane gas generation and the rapid stabilization of the site. In addition, the technology is cost- effective and simple to construct and operate, and allows a high degree of freedom in the selection materials for the pipes and the accessories.</p>
<b>Type of Programme</b>	
Greenhouse gases targeted CO <sub>2</sub> /CH <sub>4</sub> /N <sub>2</sub> O/HFCs/PFCs/SF <sub>6</sub> (mention what is applicable)	CH <sub>4</sub>
<b>Boundary of the Programme</b>	
The boundary for the PoA in terms of a geographical area	Pan Solomon Islands
<b>Duration of the Programme</b>	
Starting Date	2013
Duration/Length	28 years
<b>Programme Coordinating/managing Entity</b>	
Name of the Coordinating Entity	Ministry of Environment Climate Change Disaster Management& Meteorology (MECDM)
Confirm that the Programme is a voluntary action by the coordinating/managing entity	Yes, the proposed PoA is a voluntary action by MECDM and is not required by law in the host country.
Organizational category (private entity or public entity)	Government Organization
Summary of the relevant experience and capability of the Coordinating Entity (Describe in not more than 5 lines)	Not Applicable as Government Entity
<b>Operational /management arrangements</b>	
Operational and management arrangements between the coordinating entity and the participating organisations	<p>The Coordinating/Managing Entity (CME) will work closely with project developers and other organizations active in the waste management sector in Solomon Islands to facilitate the development of waste management system and their inclusion in this PoA to avail CDM benefits.</p> <p>The CME will establish and maintain an electronic database that contains information of all the CPA's in the Programme. Details of the operation and management plan are as follows: The CME will maintain a database with the following information per CPA subscribing to the PoA:</p>

## PIN – PoA for Solid Waste Management in Solomon Islands

	<ul style="list-style-type: none"> <li>• Name of the CPA</li> <li>• Implementing entity of the CPA</li> <li>• Technical Specifications of the CPA</li> <li>• Location of the CPA (GPS coordinates)</li> </ul> <p>The roles and responsibilities of the CME and other organizations (including project developers) will be elaborated for each CPA at CPA-DD stage. The CME will enter into contractual arrangement with the CPA implementers with respect to various costs that will be incurred during Programme/project implementation as well CER revenue sharing.</p>
<b>Expected Schedule</b>	
Earliest Programme starting date <i>Month/Year in which PoA will be operational</i>	2013
Expected first year of CER delivery	2016
Lifetime of the CPAs <i>Number of years</i>	30 years
For CPAs: Expected Crediting Period <i>7 years twice renewable or 10 years fixed</i>	7 years twice renewable (crediting period for all CPAs ends after 28 years of PoA registration)

### B. Methodology and Additionality of the Programme of Activities

<p><b>Sector Background</b> Please describe the laws, regulations, policies and strategies of the Host Country that are of central relevance to the proposed project, as well as any other major trends in the relevant sector (e.g. any law/regulation on waste disposal or renewable energy targets)</p>	<p>Solomon Islands amongst other Pacific Island countries are faced with a growing concern of developing an effective solid waste management for the past years. With the drive for economic growth and development, the social, health and environmental aspects are usually threatened or poorly managed.</p> <p>Solid waste management though might be overlooked by the upper authorities in the Government, is a challenging issue for responsible authorities. These includes; poor landfill management, lack of public awareness and poor attitude of people, lack of waste segregation, increasing population growth, poor contractor collection schedules and improper waste receptacles.</p> <p>With the current National Solid Waste Management Strategy and Action Plan 2009-2014 in place has ensured that this key issue of waste management can be addressed. Since there is no waste management legislation, different Government Ministries and other partner agencies address wastes under different existing legislations. This is a gap that currently needs to be addressed amongst the institutional arrangements.</p> <p>The main laws and regulation relevant to the Landfill sector are:</p> <ul style="list-style-type: none"> <li>➤ National Solid Waste Management Strategy 2009-2014</li> <li>➤ Environment Act 1998</li> <li>➤ Honiara City Council (Litter) Ordinance 2009</li> </ul>
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PIN – PoA for Solid Waste Management in Solomon Islands

	<p>(formerly known as Honiara Litter By-Law 1994/ Honiara Refuse Disposal By-Law 1994)</p> <ul style="list-style-type: none"> <li>➤ Provincial Ordinances</li> </ul> <p>The proposed PoA is not required by any regulation in Solomon Islands.</p> <p>The PoA is not intended to run under a public incentive scheme, nor is it required by law.</p>
<p><b>Description of a typical CPA</b> (activities and measures to be covered, e.g. a MSW site or multiple MSW sites in a city)</p>	<p>A typical CPA under the PoA will consist of a MSW site in city in Solomon Islands.</p>
<p><b>Eligibility criteria for CPAs</b> (Define the eligibility criteria for inclusion of a project activity as a CPA under the PoA, which shall include, as appropriate, criteria for demonstration of additionality of the CPA, and the type and/or extent of information that shall be provided by each CPA in order to ensure its eligibility)</p>	<p>The eligibility criteria for inclusion of a project as a CPA under the PoA are :</p> <ul style="list-style-type: none"> <li>• The CPA must be located in the boundaries of the host country(ies) of the PoA as defined in this document</li> <li>• The technology applied in the CPA must conform to the description as set out in this document</li> <li>• The CPA must comply with all the applicability conditions of Methodology specified in the PoA DD</li> <li>• CPA must meet the conditions of Additionality as specified in Additionality Section below.</li> <li>• The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;</li> <li>• Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance;</li> <li>• Each CPA shall not be registered, or be in the process of registration, as an individual CDM project activity.</li> <li>• Each CPA shall not be included in another registered PoA.</li> </ul>
<p><b>Methodology</b> (to be applied by all the CPAs)</p>	<p>The projects under this PoA fall under the scope of following methodology :</p> <p>Approved baseline and monitoring methodology AM0093 ( Version 01.0.1, EB 66) : Avoidance of landfill gas emissions by passive aeration of landfills</p> <p>Sectoral scope 13: “Waste handling and disposal”</p> <p>Reduce methane gas emission from landfill site.</p>
<p><b>Baseline Scenario</b> PoAs must result in GHG emissions being lower than “business-as-usual” in the Host Country. At the PIN stage questions to be answered are at least:</p> <ul style="list-style-type: none"> <li>• Which emissions are being reduced by the proposed PoA?</li> <li>• What would the future look like</li> </ul>	<p>CH<sub>4</sub> is the targeted emission reductions by the project activity.</p> <p>Solomon Islands is located in the Southwest Pacific about 1,900kms northeast of Australia. It comprises of a scattered archipelago of mountainous islands and coral atolls with a total land area of 27, 556 square kilometres. With increase in urban migration in recent years concerns about waste have been recognized in the country, in particular within the city and the provincial centres. Poor solid waste management</p>

PIN – PoA for Solid Waste Management in Solomon Islands

<p>without the proposed PoA? (About ¼ - ½ page)</p>	<p>has been a major concern for Solomon Islands for a very long time. All the major urban centres of Solomon Islands do not have proper landfills. There are no sanitary landfills in the Solomon Islands.</p> <p>At the existing landfills in the country there is no segregation of waste at the dump and all types of wastes are accepted. Often there are controllers on the dumpsite who direct vehicles where to dump their loads. Usually there are also scavengers working at the dump, collecting scrap metal and other goods of value</p> <p>In the absence of this PoA the baseline scenario would be continued usage of landfills with no or partial collection and combustion of LFG from the landfill.</p>
<p><b>Additionality</b> Please demonstrate that in the absence of the CDM either: (i) the proposed voluntary measure would not be implemented, or (ii) the mandatory policy/regulation would be systematically not enforced and that non-compliance with those requirements is widespread in the country/region, or (iii) that the PoA will lead to a greater level of enforcement of the existing mandatory policy /regulation. This shall constitute the demonstration of additionality of the PoA as a whole;</p>	<p>Currently there are no regulations or incentive schemes in place covering the proposed PoA in Solomon Islands. Till date there is no sanitary landfill in Solomon Islands.</p> <p>The additionality of the CPA shall be demonstrated using one of the following :</p> <p>Investment analysis using simple cost analysis as the only revenue source for CPA's under this PoA will be sale of CER's.</p>

**C. Real Case CPA - Description, Type, Boundary and Schedule**

<p><b>Title of the CPA</b></p>	<p>Solid Waste Management at Ranadi Dump, Honiara</p>
<p><b>Description of the CPA</b> (Describe in not more than 5 lines)</p>	<p>Ranadi Dump, located in Honiara is the largest dump in the country is and is used for domestic, commercial and industrial wastes collected by Honiara City Council as well as individual industries and the general public. Ranadi is located on flat reclaimed land adjacent to mangrove swamps, about 6 kilometres from town in the Ranadi industrial area. The dumpsite is partially fenced with a gate but there is no gatehouse. It is an open dump with an area of stagnant, anaerobic water in the middle, and with no provision for daily cover although a limited amount of covering occurs on an ad hoc basis.</p> <p>There is no segregation of waste at the dump and all types of wastes are accepted. There is no leachate treatment or control in place. In addition, the lack of regular soil covering has caused a significant fly problem and emission of unbearable odours. Combustible rubbish is often burnt</p>

PIN – PoA for Solid Waste Management in Solomon Islands

	<p>uncontrollably at the dump to reduce its volume.</p> <p>Under the Programme first sanitized landfill will be constructed in Honiara The landfills will be managed using Fukuoka method which will result in reduction in methane generation. The estimated daily waste disposed in Honiara is 61 tonnes/day</p>
<b>Greenhouse gases targeted</b> CO <sub>2</sub> /CH <sub>4</sub> /N <sub>2</sub> O/HFCs/PFCs/SF <sub>6</sub> (mention what is applicable)	CH <sub>4</sub>
<b>Boundary of the CPA</b>	
The boundary for the CPA in terms of a geographical area	Ranadai Dump, Honiara, Solomon Islands
<b>Crediting Period of the CPA</b>	
Starting Date	2015
Duration/Length	30 years
<b>Entity/individual responsible for the CPA</b>	
Name	Ministry of Environment Climate Change Disaster Management & Meteorology (MECDM)
Role of the Entity/individual	Coordinating and Managing Entity
Organizational category	Government Organization
<b>Eligibility of the CPA</b> (Justify why the CPA is eligible to be covered under the PoA)	<p>The CPA is eligible under the proposed PoA because:</p> <ul style="list-style-type: none"> <li>• The CPA is located in Solomon Islands which is the project boundary of the proposed PoA</li> <li>• The project uses Japanese Fukuoka method as prescribed for this PoA.</li> <li>• The CPA meets all the applicability conditions of the Methodology AM0093 ( Version 01.0.1, EB 66)</li> <li>• The CPA meet the eligibility conditions set out in Additionality Section.</li> <li>• The project shall follow the PoA-specific requirements related to local stakeholder consultations and environmental impact analysis;</li> <li>• Project does not involve any funding from Annex I parties or diversion of official development assistance;</li> <li>• The project activity is not registered, or in the process of registration, as an individual CDM project activity.</li> <li>• Proposed CPA is not part of any registered PoA</li> </ul>
<b>Baseline &amp; Additionality</b> Please demonstrate that in the absence of the CDM, the proposed CPA will not be implemented.	<p>In the absence of this CPA the baseline scenario would be continued usage of Ranadai landfill with no or partial collection and combustion of LFG from the landfill.</p> <p>The project activity will be a First of Its Kind in the country as per 'Guidelines on additionality of First-of-its-kind project activities' version 01.</p> <p>The additionality of the CPA will be demonstrated using simple cost analysis as the only source of revenue for this project is sale of CER's</p>
<b>Expected Schedule</b>	
Earliest CPA starting date Month/Year in which the	2015

PIN – PoA for Solid Waste Management in Solomon Islands

<i>plant/project activity will be operational</i>																			
<b>Estimate of GHG Abated/CO<sub>2</sub> Sequestered</b> <i>In metric tons of CO<sub>2</sub>-equivalent, please attach calculations</i>	Annual (if varies annually, provide schedule): <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Year</th> <th>Emission Reduction (tCO<sub>2e</sub>)</th> </tr> </thead> <tbody> <tr><td>2015</td><td>6,346</td></tr> <tr><td>2016</td><td>6,376</td></tr> <tr><td>2017</td><td>6,394</td></tr> <tr><td>2018</td><td>6,401</td></tr> <tr><td>2019</td><td>6,399</td></tr> <tr><td>2020</td><td>6,386</td></tr> <tr><td>2021</td><td>6,365</td></tr> <tr><td>Total</td><td><b>44,668</b></td></tr> </tbody> </table> <p>Up to and including 2012: NA tCO<sub>2</sub>-equivalent            Up to a period of 10 years: NA tCO<sub>2</sub>-equivalent            Up to a period of 7 years: 44,668 tCO<sub>2</sub>-equivalent</p>	Year	Emission Reduction (tCO <sub>2e</sub> )	2015	6,346	2016	6,376	2017	6,394	2018	6,401	2019	6,399	2020	6,386	2021	6,365	Total	<b>44,668</b>
Year	Emission Reduction (tCO <sub>2e</sub> )																		
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2016	6,376																		
2017	6,394																		
2018	6,401																		
2019	6,399																		
2020	6,386																		
2021	6,365																		
Total	<b>44,668</b>																		
<b>No double-counting</b> Confirm that the CPA is neither included in any other PoA nor registered as a CDM project	At present there is no PoA registered in Solomon Islands. Hence the CPA will not involve double-counting of emission reductions.																		

**D. Finance**

**D1. Finance at PoA Level**

<b>Total Cost Estimate</b>	
Subsidies/incentives to the CPAs (if any)	N/A US\$ million (Feasibility studies, resource studies, etc.)
Total Costs	Annual Estimated Costs: Phase 1: Planning US\$10,000 Phase 2: Awareness & Consultation US \$34,000 Phase 3: Construction US \$720,000 Phase 4: Provinces (dumpsite improvement) US \$430,000 Total costs US \$ 1,194,000 Construction costs to be finalized during proposal preparation
<b>Sources of Finance to Be Sought or Already Identified</b>	
<b>Public Funding and ODA</b> (In case public funding is used a confirmation that official development assistance is not being diverted to the implementation of the PoA)	No ODA is involved in this PoA

**D2. Finance of the Real Case CPA**

<b>Total Estimated Costs : Please note detailed break up at each CPA level is currently under planning stage</b>	
Carbon finance (confirmed or estimated CER sales revenue, price per CER)	USD 357,342 – 446,880 for first crediting period assuming USD 8 – USD 10 per CER (Indicative Price range only)
Public fund (indicate whether public fund is used for the CPA)	No ODA will be involved in the proposed CPA



## PIN – PoA for Solid Waste Management in Solomon Islands

or not. If yes, confirm whether any Official Development Assistance has been diverted for the implementation of this CPA	
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**E. Expected Environmental and Social Benefits** (In Programmes of Activities CDM, Environmental Analysis can be conducted at PoA level or CPA level, subject to decision by the Coordinating/managing entity and the national regulations)

The proposed PoA is in line with National Solid Waste Management Strategy (NSWMS) 2009- 2014. The key objectives of the National Solid Waste Management Strategy are to:

- Develop and implement a national waste management policy
- Review all existing regulations relating to waste management and draft specific legislation on waste management.
- Promote waste minimization in all aspects of development.
- Improve and upgrade existing waste management and disposal systems
- Look at ways of improving waste management awareness and education activities
- Provide relevant documented information for politicians and stakeholders and make them aware of the need for their support in waste management
- Provide a guideline template for rural and community level to practice waste management

All the projects under this PoA are in line with the host country environment strategy and priorities.