

INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

Report No.: ISDSC13457

Date ISDS Prepared/Updated: 23-Dec-2015

Date ISDS Approved/Disclosed: 06-Jan-2016

I. BASIC INFORMATION

A. Basic Project Data

Country:	Madagascar	Project ID:	P154440
Project Name:	MG ethanol clean cooking climate finance program (P154440)		
Task Team Leader(s):	Giovanni Ruta,Nuyi Tao		
Estimated Board Date:	16-Feb-2016		
Managing Unit:	GEN01		
Sector(s):	Other Renewable Energy (50%), Agro-industry, marketing, and trade (50%)		
Theme(s):	Climate change (60%), Other rural development (20%), Pollution management and environmental health (20%)		
Financing (In USD Million)			
Total Project Cost:	28.20	Total Bank Financing:	0.00
Financing Gap:	0.00		
Financing Source		Amount	
Borrower		16.34	
Carbon Fund		11.86	
Total		28.20	
Environmental Category:	B - Partial Assessment		
Is this a Repeater project?	No		

B. Project Objectives

The proposed project development objective is to reduce greenhouse gas (GHG) emissions and deforestation from unsustainable use of woody biomass by promoting the distribution of ethanol stove and use of ethanol by households in Madagascar, demonstrating good practice of distillery design and operations, and establishing an ethanol production safeguard system for future scale-up.

C. Project Description

The project aims to support the Government of Madagascar : (i) to alleviate environment and health burden of burning unsustainable woody biomass, integrated perspective is needed to address trade-offs among forest management, rural livelihood, agriculture supply chain, and energy consumption; (ii) to adopt Adequate policy and regulatory framework; and (iii) to access to Carbon finance mechanism to be secured with Ci-Dev that can help buy down the initial high cost of ethanol stoves and overcome the barriers to market adoption.

The project components are:

Component 1. Results-based Climate Finance Payment (estimated US\$11.61 million - Ci-Dev Carbon Fund)

The program will make results-based carbon revenue payment against Certified Emission Reductions (CERs) that are to be generated from the 100,000 household adopting the ethanol cooking solution during the five years of the program implementation period. Each household participating in this program expects to consume 220 liter ethanol which replaces two tons of charcoal consumption and reduce five tons of GHG emissions. Green Development AS, a Norwegian company, acting as the Coordinating and Managing Entity (CME) will implement this program in partnership with the Local Program Implementation Partners (LPIPs). Each LPIP will have equal access to the carbon incentive and will sell qualified ethanol stoves in a competitive environment to Malagasy consumers mainly in the country's urban and peri-urban area. Besides making carbon incentive payments to LPIPs to enable buy-down of stove cost, this program will support 1) program management including carbon credit measurement, reporting and verification (MRV), 2) Market development of ethanol cookstoves, a public campaign to raise awareness of ethanol cooking, and promotion of good practice of distillery design and production, 3) Establish a sound ethanol production safeguard system, 4) capacity building to the government to harmonize policy on clean cooking. n.

Carbon Incentive to enhance affordability of ethanol stoves. Carbon incentive for each qualified stove will be paid to the LPIP who distributed the stove over a period of 4 years from the time when a stove is sold to a household. The incentive scheme motivate LPIPs to sell stoves as quickly as possible, and it will give an extra incentive to compensate for the risk associated with an "early mover". The affordability of ethanol stoves are significantly enhanced with carbon revenue payment.

Qualification of ethanol stoves. The program established an open platform that any qualified ethanol stove can receive carbon incentive if it meets the following technical standard:

- Minimum thermal efficiency of 50%
- Minimum heat power of 1.5KWthermal
- Emission of CO and PM2.5 meet Tier-3 stove standard as defined in the International Workshop Agreement 11:2012 Guidelines for evaluating cookstove performance
- The manufacturer provides 3 year product warranty

To confirm that the qualified ethanol stoves meet the performance standard, the task team contracted SeTAR center at the University of Johannesburg to test all the qualified ethanol stoves (three up to date) as well as the baseline and improved charcoal stove to verify independently the stove performance and the claimed emission reductions.

Supply of Ethanol. Uninterrupted availability of ethanol is the key to maintaining ethanol stove

users' confidence and sustaining program success. Ethanol production and distribution is a profitable business on its own once the market demand for ethanol cooking has been established. Therefore ethanol distribution, ethanol production in EMDs and the upstream sugar cane planting will all be indirectly supported by this program and will be happening in a market-oriented competitive environment. At the initial market introduction stage, the LPIPs will diversify source of ethanol. Ethanol will be primarily supplied from the 4 existing EMDs supplemented by potential supply from sugar factories in Madagascar after price confirmation. Meanwhile, the program will pilot two EMDs in cooperation with local partners to test different distillery technologies and equipment in preparation for the future expansion of ethanol production by the LPIPs under decentralized model.

Safeguarding feedstock production. Although LPIP investment in starting and maintaining sugarcane plantation was not financed directly by the Ci-Dev funding, the task team decide to include sugarcane plantation into the program boundary because sugarcane plantation is induced by the program and there is a concern that sugar cane production might potentially cause competition for food production and encroach upon protected forest area. To address this concern, a geospatial bioresource mapping study has been commissioned by the task team. The study took into account data on agro-ecological zones (soil, climate, geology, topography etc.), recent land use changes (including current information on agricultural land use), national and regional land use planning, socio-economic data, protected area network definition and other relevant information and mapped out the zones suitable for sugarcane production. The study also recommended establishing a control and monitoring system to ensure LPIPs' compliance with the guidance recommended by the study.

Proposed contractual arrangements. Green Development as the CME will sign Emission Reductions Purchase Agreement (ERPA) with the Ci-Dev to secure a forward purchase of Certified Emission Reductions (CERs). Green Development will sign sub-agreement with LPIPs covering the following aspect:

- Each qualified stove will be eligible for receiving the annual carbon incentive payment for four years.
- LPIPs will surrender the CER ownership to Green Development.
- LPIPs have the obligation to monitor and report the sales of stoves according to CDM requirements and the sales receipts should specify that the CER ownership belongs to LPIPs and will be further transferred to Green Development.
- The LPIPs that also participate in the ethanol production and distribution business agree to voluntarily subscribe to the Code of Sustainable Practice on Environmental Health and Safety (EHS) aspects of ethanol production and marketing.

Piloting two EMDs. Green Development will set up two micro distilleries in order to build experience on EMD design, equipment procurement, construction and operation. It is proposed one EMD will serve as a training and technical support center and spare parts warehouse for all the future EMDs. The other EMD will be built in partnership with a conservation NGO in an area close to, but not in a protected forest area (to be selected during the preparation) in order to demonstrate tangibly in one single location a multi-win situation of reduced deforestation, improved rural livelihood through enhanced agriculture value chain, and time saving from fuel collection and reduced health risk. This conservation EMD model can be potentially replicated to other areas with suitable conditions. These two EMDs will be operated as "Not for profit" entities. All the cash flow from the operations will be invested back into the program and be used to provide continued financial and technical support to LPIPs after the expiration of the carbon purchase program, and hence providing an exit plan for Green Development, while at the same time securing long term sustainability of the program.

Component B: Technical Assistance (\$250,000)

This small bank-executed TA grant will be used to support setting up the two pilot EMDs. Tasks include feasibility study, feedstock planning, and preliminary engineering design of EMDs.

D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project has a country-wide perspective although the ethanol stove distribution would primarily be implemented in selected urban and peri urban areas while the ethanol micro distilleries and sugarcane plantation will be mainly implemented in the rural area where the feedstock production cost is the lowest. The proposed bioresources study mapped out the low-risk and medium-risk production zone which will guide the selection of micro distillery site and sugarcane plantation .

Table 1. Summary of Feedstock Zoning Study

Category	Definition	Estimated Area (ha)
Zone 1	No-go Zone: No production of biomass allowed because of potential conflicts with protected zones, competition with food production, or potential generation of important environmental impacts.	38,865,758
Zone 2	Medium-risk Zone: Biomass production is feasible and production of biomass is allowed if predefined environmental and social restrictions and standard environmental and social safeguards are put in place.	39,445,371
Zone 3	Low-risk Zone: Biomass production is feasible and production of biomass is allowed if standard environmental and social safeguards are put in place.	19,508,712

All the micro distilleries will be certified by Green Development in order to sell ethanol to the local implementation partners and they have to provide a list of their sugarcane growers. The locations of sugarcane growers can only be within the low-risk and medium risk production zone.

E. Borrowers Institutional Capacity for Safeguard Policies

The program will be implemented by Green Development AS, a Norwegian company, acting as the Coordinating and Managing Entity (CME) in partnership with the Local Program Implementation Partners (LPIPs). These entities didn't have any prior experiences to implement World Bank funded operations. Depending on the size of EMDs and sugarcane companies in the Country and local sugarcane producers, the compliance with the National Environmental Laws is different following the own commitments of those investors. The Malagasy Environmental law mentions that Environmental assessment for both private and public development is regulated under Décret N° 2004-167 (MECIE). This is fairly effective but institutional capacity needs to be developed to ensure more widespread application and improved monitoring. The national environmental law will be reinforced by the world bank safeguard policies for this proposed program.

F. Environmental and Social Safeguards Specialists on the Team

Demba Balde (GSU01)

Paul-Jean Feno (GEN01)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The proposed activities under the component A may lead to some social and environmental impacts that require the establishment of appropriate mitigation measures to set up the way forward. In fact, the potential micro distillery sites and sugarcane companies could involve risks and impacts on: (i) the water quality, soil pollutions and waste management; and (ii) transportation and storage sites of ethanol. At this stage and depending the criteria access to the project, since the exact locations of construction of distilleries and sugarcane production cannot be determined prior to appraisal, the Borrower through Green Development AS will prepare an Environmental and Social Management Framework (ESMF) that. The ESMF document will be publicly disclosed both in – country and at the World Bank Infoshop prior to appraisal.
Natural Habitats OP/BP 4.04	No	This policy is not expected to be triggered by any of the Project activities. The activities under the project are largely existing land and not located within any protected areas or critical habitat, or any area with high biodiversity value. The feedstock mapping study has excluded all the national parks and protected areas for feedstock production.
Forests OP/BP 4.36	No	No investments in forests will be supported under the Project.
Pest Management OP 4.09	Yes	The sugarcane companies in the Country including local sugarcane producers are expected to extensive use some pesticides and fertilizers in their respective parcels to boost agriculture productivity and harvesting. To ensure safe pest and pesticides management, the project will prepare an integrated Pest Management Plan (IPMP) for Sub-project, building on experience gained under the current agriculture project. The IPMP will be a short standalone safeguards instrument, and just like the ESMF and RPF documents, Publicly disclosed both in – country and at the World Bank Infoshop prior to appraisal.
Physical Cultural Resources OP/BP 4.11	No	Proposed activities under the project are not expected to trigger this policy since no excavations, or demolitions are planned.
	No	There are no indigenous peoples in the project area.

Indigenous Peoples OP/BP 4.10		
Involuntary Resettlement OP/BP 4.12	Yes	Activities under Component 1 (i.e. construction of distilleries and sugarcane production) are expected to require land acquisition that could lead to loss of asset and source of livelihood, resulting in possible resettlement of beneficiary rural communities. Since Details of the proposed project area are still unknown, the policy is triggered and the Borrower will prepare a Resettlement Policy Framework (RPF) to set forth the basic principles and prerogatives to be followed by eventual Resettlement Action Plans (RAPs) to be prepared, reviewed, cleared and disclosed, once the details of the project intervention area are known. The RPF will be consulted upon, reviewed and cleared from the World Bank and the Government ONE and ultimately disclose publicly both in-country and at the Infoshop prior to appraisal.
Safety of Dams OP/BP 4.37	No	This policy is not expected to be triggered by any of the Project activities. The project activities do not involve the construction of new or use of existing dams.
Projects on International Waterways OP/BP 7.50	No	This policy is not expected to be triggered by any of the Project activities. The project activities do not involve international waterways.
Projects in Disputed Areas OP/BP 7.60	No	This policy is not expected to be triggered by any of the Project activities. The activities under this project do not involve disputed areas.

III. SAFEGUARD PREPARATION PLAN

A. Tentative target date for preparing the PAD Stage ISDS: 15-Jan-2016

B. Time frame for launching and completing the safeguard-related studies that may be needed.
The specific studies and their timing¹ should be specified in the PAD-stage ISDS:

At this stage, the potential small micro-distillery partners of the project are not identified before implementation following a detailed criteria. The Green Development AS should submit to the Bank for its approval prior to project appraisal the required three standalone social and environmental safeguards instruments, namely ESMF, IPMP and the RPF. These reports will be publicly disclosed both in – country and at the World Bank Infoshop prior to appraisal tentatively targeted on January 20, 2015.

IV. APPROVALS

Task Team Leader(s):	Name: Giovanni Ruta,Nuyi Tao	
<i>Approved By:</i>		
Safeguards Advisor:	Name: Johanna van Tilburg (SA)	Date: 06-Jan-2016

¹ Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.

Practice Manager/ Manager:	Name: Benoit Bosquet (PMGR)	Date: 06-Jan-2016
-------------------------------	-----------------------------	-------------------