Bioenergia Molina Project
Americas Clean Energy Fund II (AEF II):
Proposed Investment

January 2017
Prepared by SCLEA

1 INTRODUCTION

As required by the guidelines for investing of Americas Energy Fund II Clean Energy ("AEF II CE"), the investments categorized by the General Partner within guidelines categories 1 through 7 the General Partner may determine to make the Investment in accordance with the Partnership Agreement and such Investment will be deemed an "Eligible Clean Energy Investment".

The following information is presented to the Committee to analyze and provide a recommendation regarding the eligibility of the Proposed Investment as Eligible Clean Energy Investment.

The Proposed Investment described in this report is:

TABLE 1: PROPOSED INVESTMENTS

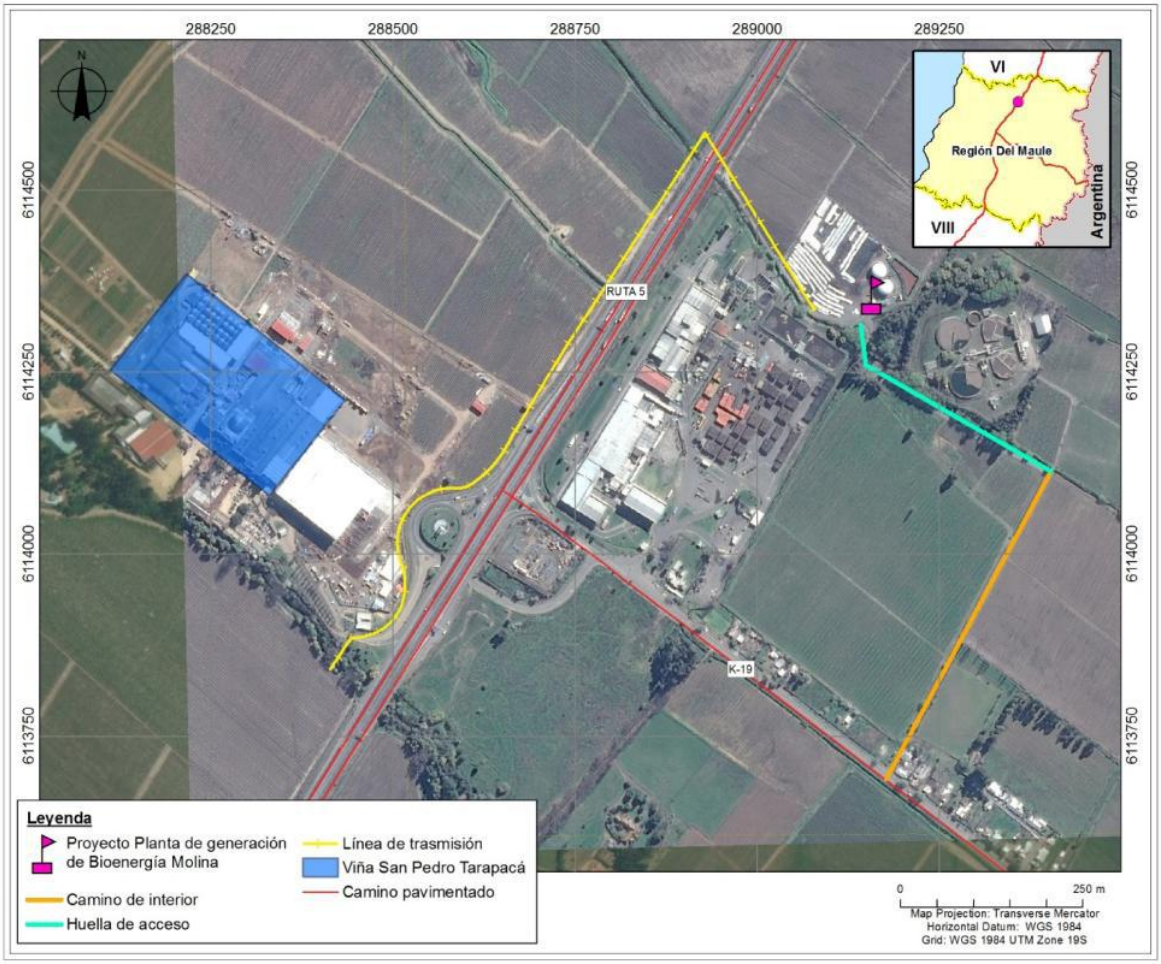
Proposed Investment	Category	Type
Molina Bioenergy Plant	2	Electricity generation from biomass residues

2 RISK CLASSIFICATION AND RATIONALE

The proposed investment is classified as Category B (Medium risk Projects) because it has potencial limited adverse environmental or social risks and its impacts are few in number, site specific and most likely reversible and easily addressed through mitigation measures.

The proposed investment is an operating project located next to a big wine company and agricultural facilities, located in Molina, VII region of Chile (see Figure 1 below). This project was presented to the Environmental Impact Assessment System (SEIA) through an EIS and approved by its Environmental License on 2014 (RCA N° 015/2014). The project produces electric energy from a 1MW generation plant through the biogas taken from 2 biodigesters installed. The biogas is produced from the winery residues (marc and stalks) provided by the wine company. The energy provides 1MW to San Pedro Wine Company (VSPT), and in case the wine company does not use all energy provided then is injected to the distribution system. It is expected to expand the use of biomass taking advantage of other organic residues from the intensive agro-industry present in the surroundings areas.

Figure 1. Project Location



Considering the project is a facility located into an intensive agricultural developed area, it does not require land acquisition or involuntary resettlement nor does affect the surrounding communities and their health, safety and security. There is no indigenous community identified and no cultural heritage could be affected, not even affect the biodiversity conservation and natural resources.

3 PROJECT DESCRIPTION

Bioenergía Molina ("BEM") is a combined heat and power plant fuelled by biogas produced by anaerobic digestion of agriculture organic residues. BEM is currently on start up process.

The plant is located in Molina, Maule Region, Chile. The location was selected close to Viña San Pedro de Tarapacá ("VSPT"), with the objective of providing an agriculture wastes solution to this winery while supplying heat and power to VSPT processes.

The plant is intended to process organic residues such as grape marc from VSPT, and expansion is expected receiving agricultural wastes from other wineries and different tomato and apple processing industries in

the area. The year round consumption of the plant is approximately 33,000 metric tons of residues. The marc grape is stored in silo bags during the wine harvest season and fed to the digesters continuously during the year together with other agriculture industry organic residues.

Two 2500 m3 above ground steel anaerobic digesters are utilized in the process of biogas production with a total capacity of 12000 Nm3/d of biogas production. The biogas is cleaned using filters, dried in chillers and desulphurized using activated carbon before is combusted in a reciprocating engine. The digestate product of the anaerobic digestion is separated in a liquid and a solid stream at the digester exit. The solid stream (approx 18 metric tons per day) is utilized as fertilizer and the water stream (approx. 30 – 60 cubic meters per day) used for watering by VSPT.

The engine make and model is a GE Jenbacher 320 designed for biogas applications. The engine is coupled with an electric generator with a capacity of 1 MW electrical power. The plant includes an electrical connection to supply VSPT loads. Additionally, 1 MW thermal is recovered from the engine residual heat for purposes of maintaining the biogas digesters temperature and heating the hot water circuit which provides heat to VSPT.

FIGURE 1: BIOENERGÍA MOLINA

4 MOLINA CORRECTIVE ACTION PLAN

Considering the SEDD results/conclusions and the corrective action plan suggested by the consultant GHD, the Project considers the following actions to be implemented:

Applicable Performance Standards	Gap / Risk	Recommendations	Priority	Responsible	Project cycle phase / Deadline	Completion Indicator
1, 3	There is no evidence of environmental, social and safety regulations compliance	Identify all environmental, social and safety regulations applicable to the project and manage for compliance	High	Bio E Spv	May 31, 2017	Document with environmental, social and safety regulations applicable to the project and their compliance.
1, 3	Missing identification, verification and evaluation of risks and environmental and social impacts for the project, including possible emergency situations, and that the measures for the management of such risks and situations are appropriate, based on the IFC standards and requirements within the framework of the Chilean environmental legislation	An SEMS must be established according to characteristics of the company, incorporating the following elements: (i) policy; (ii) risks and impacts identification; (iii) management programs; (iv) organizational capacity and competence; (v) preparedness and response to emergencies; (vi) participation of social actors, and (vii) monitoring and evaluation. Develop a policy on social, environmental and risk management, which should be part of SEMS. Occupational Health and Safety management system as well as incident tracking and follow up, among others, will be included in the SEMS.	High	Bio E Spv	Sept 30, 2017	Established SEMS with defined structure and related documents for its implementation.
1, 3	The absence of an organizational scheme for monitoring to the environmental and social aspects of the operation represents risks to the proper implementation and monitoring of environmental management measures. It can lead to further sanctions by the	A staff structure for manage the E&S risks and impacts, and SEMS must be defined as soon as possible.	High	Bio E Spv	April 30, 2017	Organizational structure for managing the E&S impacts and risks of the project defined and implemented, within the SEMS and the Policy of

	competent institutions.					Human Resources for the operation.
1	Due the biomass to produce electric energy is provided by third parties, it is required to have a policy and procedures for supply chain and guarantee their biomass is managed according to national regulations and IFC's E&S guidelines. Also favor no child labor, no forced labour and prevent or correct the practices that endanger the lives of their workers	A policy and procedures for supply chain is required	Medium	Bio E Spv	Sept 30, 2017	A formal document with the Supply Chain policy and procedures
2	Not having policies and human resources procedures can become an obstacle to build and maintain long-term good relationships between workers and the company.	Formulate the guidelines to implement a human resources policy with procedures to define aspects such as selection criteria, recruitment mechanisms and procedures, induction, manual of functions, training, safety practices and occupational health, etc. Also, within the human resources procedures and requirements, considering the labour conditions and terms of employment according to PS2 of the IFC, as well as the structure of personnel required by the company with the description of job profiles, requirements and hiring records. Additionally, the policy should explicitly describe the guidelines pointing out to non-discrimination, no forced labour, no child labour, and no hinder or prevent the associations and labour organizations.	Medium	Bio E Spv	June 30, 2017	Formulated Human Resources Policy Procedures and related documents to implementation of the Policy
1, 3, 4	Not having a definition of a Social Management Plan, dialogue	A Social Management Plan for the project is required. The project must	High	Bio E Spv	May 31, 2017	Social Management Plan established

	mechanisms and communication with stakeholders identified for the project, jeopardize the company's image and therefore the acceptance of the project and relations with the communities.	have a policy and explicit information procedures and dialogue mechanisms through which stakeholders may be informed of the project and can present concerns, questions, complaints or claims (Grievance Mechanism).				including Policy, procedures, defined dialogue and dissemination mechanisms. Communications
3	It is required to record and calculate the GHG emissions on Annual Report to the Fund.	Develop an annually calculation of greenhouse gas (GHG) for direct and indirect emissions of GHG.	Medium	Bio E Spv	Annually reported during first quarter	GHG emissions included on Annual Report to the Fund.

_____

Eduardo Vicuña B.
S&E Officer
Americas Energy Fund II Clean Energy L.P.