



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

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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

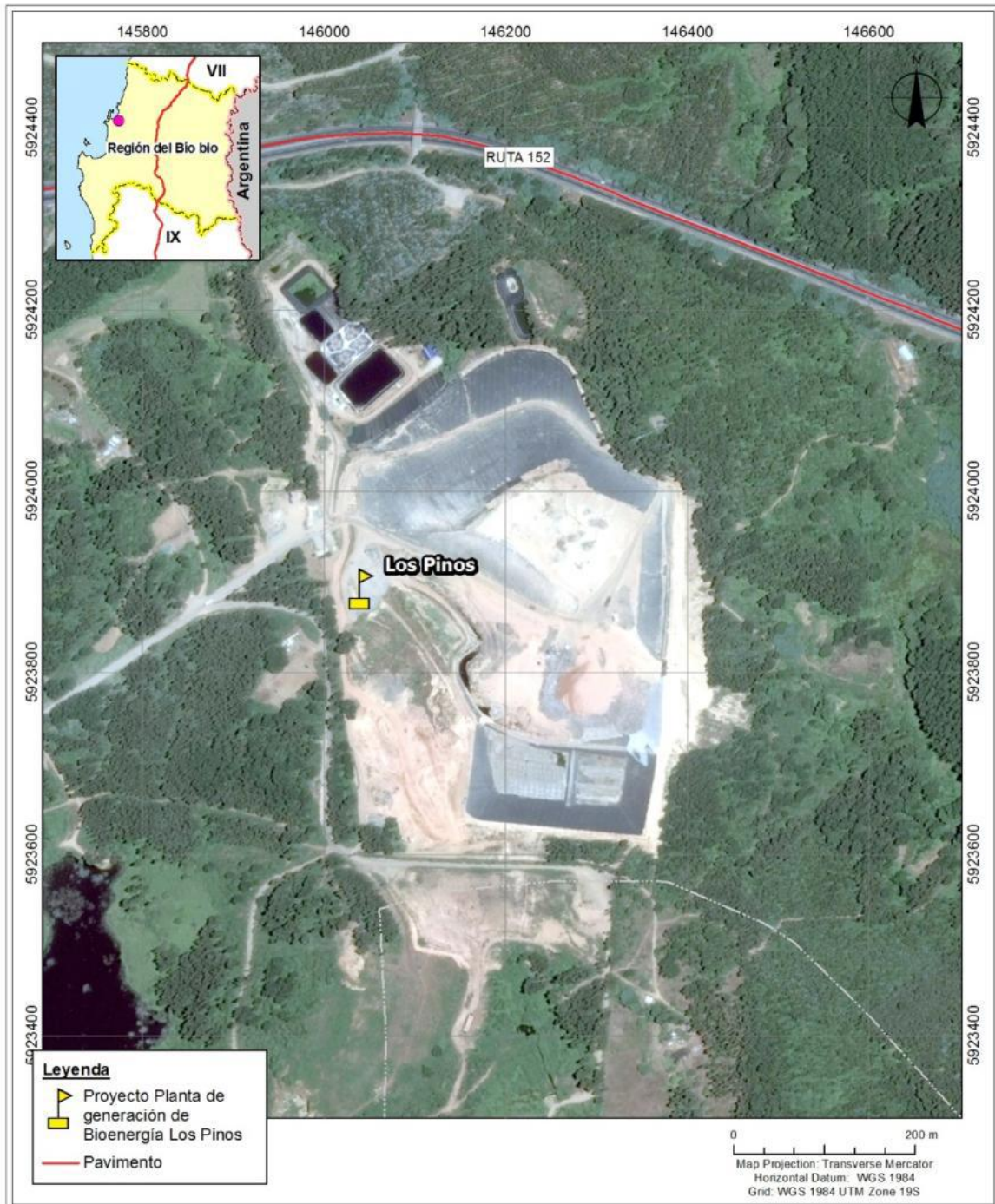
Proposed Investment	Category	Type
Los Pinos Bioenergy Plant	2	Electricity generation from biomass residues

2 RISK CLASSIFICATION AND RATIONALE

The proposed investment is classified as Category B (Medium risk Projects) because it has potential 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 a project located into a landfill in Penco, Concepcion province, VIII region of Chile (see Figure 1 below). The Centro de Manejo de Residuos de Concepcion (CEMARC landfill) has its own Environmental License granted on 2004 (RCA N° 183/2004) where was approved an incineration biogas plant. The project was presented on 2014 through a Letter of project pertinence wanting to optimize the current biogas burning process implementing a more efficient and sustainable process using the biogas to produce electric energy. This process will install and operate 2 power generators with 2,9MW total installed capacity. The energy produced will be injected to the distribution system. From the information reviewed and analyzed, CEMARC is in compliance with the Environmental License granted to operate the landfill.

Figure 1. Project Location



The bioenergy project will not use any space beyond those evaluated and environmentally approved by the RCA N°138/2004. Because of this, the bioenergy project does not require to apply to the Environmental



Impact Assessment System, since it does not constitute a change of consideration and is not listed in article 3 of the D.S. N°40/2012, Regulation of the Environmental Impact Assessment System (SEIA).

Considering that the project is a facility located into a small area at CEMARC landfill, 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, nor affected the biodiversity conservation and natural resources.

3 PROJECT DESCRIPTION

Los Pinos is a 2.9 MW landfill biogas fuelled power plant. The plant is located in Penco, Bío Bío Region, Chile, next to one of the biggest municipal waste landfills in the area, called Centro de Manejo de Residuos Concepción (“CEMARC”). Los Pinos power plant is currently on final commissioning process.

The landfill started operation in 2006 and has been receiving approximately 700 - 800 metric tons per day since its opening. The landfill was design considering biogas and lixiviation management. The current biogas production, approximately 2500 Nm³/h, is burned in a flare.

Los Pinos battery limit starts at gas reception, and the plant consists in a gas reception system, a gas cleaning system, two 1.45 MW engines and the electrical connection to the public distribution grid. The generation sets make and model are GE Jenbacher 420.

During the takeover and after the start up, Los Pinos will fulfil all the social and environmental compliance for an operating project.

Due to the current gas production and the landfill capacity it is technically feasible an expansion project. The project design and the engineering already include an expansion. Once the total expansion capacity would be defined it is considered to present a social and environmental study for the full expansion capacity.

FIGURE 1: CEMARC LANDFILL





4 LOS PINOS CORRECTIVE ACTION PLAN

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



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 their 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	Defined and implemented an organizational structure for managing the E&S impacts and risks of the project, and within the SEMS



	competent institutions.					and the Policy of Human Resources for the operation.
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 for 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 dialogue 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.	The project must 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).	High	Bio E Spv	May 31, 2017	Policy, procedures, defined dialogue and dissemination mechanisms. Communications
1	It is feasible an expansion of the current project due the gas production and landfill capacity, up to 2.9MW an Environmental Impact Study must to be presented to the environmental authorities.	In case of further expansion of the Los Pinos project (capacity > 2,9 MW), a comprehensive Environmental Impact Assessment (EIA) in line with IFC PS and applicable local regulations will be undertaken by a competent E&S third party.	Medium	Bio E Spv	Before beginning of next expansion construction.	An Environmental Impact Study presented to the Environmental Impact Assessment System (SEA) in other to get the



						Environmental License as approval of the expansion capacity of the project.
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.

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