REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

58 MW COMBINED BIOMASS AND HYDROELECTRIC RENEWABLE ENERGY PARK

Submission Deadline: **4:00 PM**

LOCAL TIME

OCTOBER 29, 2013

Submission Place:

Alexandro Levy
Gerente General
Bioenergy S.A.
Hendaya 60, Office 601
Las Condes, Santiago
Chile

Phone: +56 9 8137 3461 (Chile)
904-699 7778 (U.S. number)

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

N.B.: Any and all questions pertaining to the RFP should be sent to:
RFPQuestions@ustda.gov

REQUEST FOR PROPOSALS

Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US$607,000 to Bioenergy S.A. (the "Grantee") in accordance with a grant agreement dated August 27, 2013 (the "Grant Agreement"). This Grant will fund a feasibility study ("Feasibility Study") on a proposed 58 MW Combined Biomass and Hydroelectric Renewable Energy Park project ("Project") in Chile ("Host Country"). The Feasibility Study will conduct an assessment of options for interconnecting to the central grid, carry out conceptual engineering design work, determine construction cost estimates for the biomass and hydropower installations, prepare an implementation plan for the next steps for the Project, and conduct a preliminary environmental and social impact assessment.

The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Feasibility Study.

1.1 BACKGROUND SUMMARY

The Project will use biomass combined heat and power and run-of-river hydropower from various rivers and streams to provide electricity to the central grid (*Sistema Interconectado Central* or SIC). Bioenergy, which has been developing the Project since 2006, will construct, own and operate the renewable energy park. It has obtained and registered water rights and has had environmental, engineering, forest resource and hydrological resource studies completed. It has also had a native forest management plan prepared, which is expected to be approved shortly by the CONAF (Chilean Forestry Corporation), an entity that pertains to the Chilean Ministry of Agriculture and is effectively the equivalent of both the Forest Service and National Park Service in the United States.

The site of the Project is Hacienda Antumalal, a 24,000 acre plot of land near Mulchén (a city of about 30,000 people) in the Bío Bío Region in southern central Chile. The Mayor of Mulchén is fully supportive of the project in light of the anticipated jobs for this somewhat depressed area and has offered to provide any gravel that Bioenergy may need from the city's quarry at no cost to the company. The hacienda (estate) is located 26 kilometers (16 miles) from a transmission line connecting to the Charrúa substation, where the Project would interconnect with the SIC grid. Both the biomass and hydro resources would be used to produce electricity that would be injected into the SIC grid at a competitive cost per kilowatt hour, i.e., lower than the current average long run marginal cost for electricity put on to the SIC grid.

In recent years, the Chilean government has been supporting non-conventional renewable energy (NCRE) through several means. For one, a renewable energy law (Law 20.257, 2008) was passed in March 2009, mandating that NCRE provide 5 percent of electricity sold into the central and northern grids between 2010 and 2014, increasing by 0.5 percent per year to reach 10 percent by 2024. Bills currently under consideration would increase this standard to 20 percent by 2020. As a result, there is considerable demand from the large conventional power generation companies in Chile to purchase unconventional renewable energy to offset their conventional power plants.

Bioenergy hired a well renowned Chilean engineering firm to conduct a pre-feasibility study on the hydro resource as well as analysis on the interconnection options. It also contracted with Dalhousie University's Minerals Engineering Center to assess the biomass resource. Both organizations found that Bioenergy's resources are suitable for the planned installations at Hacienda Antumalal. Bioenergy will use its forest resource as fuel for the biomass plant through silvicultural thinning operations of 30-35 percent annually of the native forest in designated tracts on a rotating basis. Its previous studies demonstrate that the hacienda can sustainably provide 200,000 metric tons of biomass per year. This thinning will leave trees of all sizes behind to ensure a healthy forest that will continue to grow at a significantly faster rate.

Bioenergy has confirmed through outside studies that the chemical composition of the principal tree species in its forest is appropriate for biomass energy projects. The forest at Hacienda Antumalal is comprised primarily of several types of oaks, including 30 percent *rauli* trees, 13 percent *avellano* trees, 12 percent *coigue* trees and 12 percent *lingue* trees. In addition, Bioenergy has the option to purchase additional biomass from paper pulp and lumber operations surrounding its land. Each ton of the biomass material on Hacienda Antumalal can produce three megawatt hours of electricity. Therefore, Bioenergy's annual quantity of biomass is capable of providing 540 gigawatt hours per year, which is the typical output of a plant more than three times the nameplate capacity of the proposed 18 MW biomass CHP plant. Bioenergy is in the process of having further technical assessments completed on the growth rate of the forest, the logistics of harvesting the biomass, and the topography of the site.

As a result of the resource analyses that have been completed, Bioenergy has confirmed that it has more than adequate hydro and biomass resources to operate the proposed biomass CHP plant and pass-through hydro plants. The hydrological resource assessments estimate an optimal size of 33 MW for a plant with a design flow of 17 cubic meters per second and 7 MW for a plant with a design flow of 4.2 cubic meters per second, capturing flows resulting from the Bureo, Pedregoso and Negro rivers. The hydro resource assessments based their estimates on 30 years of average month stream flow data. Bioenergy plans to construct a transmission line that will be able to accommodate all 58 MW of the Project for injection of the electricity onto the SIC grid.

The International Finance Corporation's (IFC) Environmental, Health, and Safety Guidelines for Forest Harvesting Operations provide recommendations on industry-specific practices that mitigate forest harvesting impacts. Based on a thorough review of these guidelines by Bioenergy's forestry manager and agreement by the directors of the company, the Grantee will meet or exceed them. The IFC also has Performance Standards on Environmental and Social Sustainability. Performance Standard No. 1 calls for an environmental and social assessment management system (ESMS), which for the applicable harvesting would be a forest management plan, as is required by the CONAF.

The mission of the CONAF includes the promotion and enforcement of forestry and environmental laws and regulations in the interest of sustainable management of the forest ecosystems and for the mitigation of the effects of climate change. The primary law in Chile governing the use of native forest is Article 19, Law Number 20.283.[1] Article 19 prohibits the

[1] The complete law and the five sets of regulations were codified to enforce the law on native forest can be viewed at: http://www.conaf.cl/wp-content/files_mf/1368741650LibroLey_Bosque_NativoReglamentos.pdf

harvesting, elimination, destruction or the eradication of any native forest species classified in any stage of conservation (in danger of extinction, vulnerable, or rare) as required in Article 37 of Law Number 10.300 and its regulations. This includes the alteration of the habitat of the native species. Nonetheless, Article 19 also indicates that, under the proper exceptions, there can be an intervention and alteration of the habitat of said species under a conservation status with the previous authorization of CONAF for scientific investigations or that are required by specific project development.

Bioenergy's native forest management plan for Hacienda Antumalal does not indicate any forest species that are classified as being in any stage of conservation. As noted above, the main forest species at Hacienda Antumalal are several types of oaks that are not in any stage of conservation. Prior to project implementation, CONAF will review Bioenergy's plan and will conduct between 15 and 20 site visits to ensure that the project complies with applicable law. Further, CONAF views Bioenergy's native forest management plan as an improvement to the native forest that will promote its health and growth and mitigate the risk of forest fires. The Chilean government's native forest law and associated regulations were compiled based on best practices from developed countries around the world, particularly those of western European countries that have stringent forestry regulations and long experience managing their forests.

Edited portions of a background Definitional Mission report is provided for reference in Annex 2.

1.2 OBJECTIVE

The objective of the study is to establish the economic, commercial and environmental feasibility of a 58 MW renewable energy park on a 24,000 acre plot of native forest land near Mulchén, Chile, consisting of an 18 MW biomass energy plant, a 33 MW hydroelectric plant and a 7 MW small hydroelectric plant, and to prepare a conceptual engineering design for the park. The Terms of Reference (TOR) for this Feasibility Study are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US$607,000. **The USTDA grant of $US607,000 is a fixed amount. Accordingly, <u>COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted</u>**. Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US$607,000 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called Chile 58 MW Combined Biomass and Hydroelectric Renewable Energy Park Feasibility Study.

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.

The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. Edited portions of the report are attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Feasibility Study.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Feasibility Study.

2.5 PROJECT FUNDING SOURCE

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed US$607,000.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

2.7 TAXES

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the Host Country.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for

specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

Alexandro Levy
Gerente General
Bioenergy S.A.
Hendaya 60, Office 601
Las Condes, Santiago
Chile

Phone: +56 9 8137 3461
904 699 7778 (U.S. number)

An Original and six (6) copies of your proposal along with a CD-ROM or USB drive containing the proposal must be received at the above address no later than 4:00 PM on OCTOBER 29, 2013.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including the name of the project and designation of "original" or "copy number x." The original and six (6) copies should be collectively wrapped and sealed, and clearly labeled, including the contact name and the name of the project.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

2.15 OFFEROR'S AUTHORIZED NEGOTIATOR

The Offeror must provide the name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

2.16 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.17 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for NINETY (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.18 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.19 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, feasibility study and/or other services similar to those required in the TOR, as applicable.

2.20 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.21 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.22 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received.

2.23 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

2.24 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US$607,000, which is a fixed amount.

Offerors shall submit one (1) original and six (6) copies of the proposal, along with a CD-ROM or USB drive containing the proposal. Proposals received by fax or email cannot be accepted.

Each proposal must include the following:

Transmittal Letter,
Cover/Title Page,
Table of Contents,
Executive Summary,
Firm Background Information,
Completed U.S. Firm Information Form,
Organizational Structure, Management Plan, and Key Personnel,
Technical Approach and Work Plan, and
Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 U.S. FIRM INFORMATION

A U.S. Firm Information Form in .pdf fillable format is attached at the end of this RFP in Annex 6. The Offeror must complete the U.S. Firm Information Form and include the completed U.S. Firm Information Form with its proposal.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Feasibility Study. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Feasibility Study.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Feasibility Study.

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Feasibility Study. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project.

The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to the Feasibility Study as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

<table>
<tr><th></th><th>Evaluation Criteria</th><th>Points</th></tr>
<tr><td>Firm or consortium</td><td>Experience with similar biomass energy projects: 10 points
Experience with similar hydropower projects: 10 points
Experience In Chile: 5 Points
Experience with Environmental and Social Impact Assessment: 5 Points
Experience with Economic and Financial Analysis of Renewable Energy Projects: 5 points</td><td>35/100</td></tr>
<tr><td>Team Leader</td><td rowspan="5">Relevant experience related to the Project: 60 percent of points for each team member
Professional training/academic qualifications: 30 percent of points for each team member
Spanish language ability: 10 percent of points for each team member</td><td>25/100</td></tr>
<tr><td>Local Environmental and Social Specialist</td><td>10/100</td></tr>
<tr><td>Civil Engineer</td><td>10/100</td></tr>
<tr><td>Power Engineer</td><td>10/100</td></tr>
<tr><td>Economic and Financial Specialist</td><td>10/100</td></tr>
<tr><td>Total</td><td></td><td>100/100</td></tr>
</table>

Proposals that do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

ANNEX 1

Alexandro Levy
Gerente General
Bioenergy S.A.
Hendaya 60, Office 601
Las Condes, Santiago
Chile

Phone: +56 9 8137 3461

Chile 58 MW Combined Biomass and Hydroelectric Renewable Energy Park Feasibility Study
USTDA Activity No.: 2013-51028A

POC: Jennifer Van Renterghem, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009, Email: RFPQuestions@ustda.gov.
58 MW Combined Biomass and Hydroelectric Renewable Energy Park. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop a feasibility study to assist Bioenergy S.A. in establishing the economic, commercial and environmental feasibility of a 58 MW renewable energy park on a 24,000 acre plot of native forest land near Mulchén, Chile, consisting of an 18 MW biomass energy plant, a 33 MW hydroelectric plant and a 7 MW small hydroelectric plant, and preparing a conceptual engineering design for the park.

The Feasibility Study will conduct an assessment of options for interconnecting to the central grid, carry out conceptual engineering design work, determine construction cost estimates for the biomass and hydropower installations, prepare an implementation plan for the next steps for the Project, and conduct a preliminary environmental and social impact assessment.

The U.S. firm selected will be paid in U.S. dollars from a $607,000 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and edited portions of a background definitional mission report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: https://www.ustda.gov/businessopps/rfpform.asp. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax

verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 4:00 PM, OCTOBER 29, 2013 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

A N N E X 2

Excerpted Definitional Mission Report

1 Project Recommendation 3: Bioenergy S.A. Hydro/Biomass Plants

We recommend that USTDA support a 58MW power generation project ('the Project'). The Project is being developed in Mulchén, Chile by Bioenergy S.A. ('Bioenergy'). We recommend that USTDA fund a feasibility study aimed at proving the Project's technical, economic and commercial, and environmental feasibility. The Project consists of an 18MW biomass energy plant, a 33MW hydro plant, and a 7MW small hydro plant. The project is likely to have positive development benefits for the host country by generating electricity at a competitive cost, using locally available primary energy sources, and decreasing pollution and greenhouse gas (GHG) emissions from power generation. The Project may also provide positive economic benefits for the U.S. economy, mainly through the export of U.S.-made goods and services.

Following an executive summary of this opportunity from USTDA's perspective, the remainder of this section analyzes the Project in detail as follows:

- The project is at a pre-feasibility stage appropriate for USTDA consideration. Furthermore, the Project is being promoted by a sponsor that has shown to be well-organized, effective, and responsive. The sponsor has local partners with industry experience in Chile, as well as U.S. partners with financial and business expertise in the U.S. The sponsor has also shown great commitment to the project by investing US$6 million in developing the project, and committing to carry out feasibility studies in addition to USTDA-funded studies to reach the feasibility stage
- There are two groups of equity partners, one Chilean and the other U.S. based, and interested potential lenders for the Project. There are also various companies interested in exporting U.S.-made goods and services for developing the Project. However, there is competition from non-U.S. providers of goods and services
- The project is likely to create a positive developmental impact, an acceptably low impact on the environment, and no threat to U.S. labor
- Qualified contractors are needed to prove the Project's viability.

We complete this section by explaining the justification for USTDA to fund a feasibility study for the Project ; present the TORs and budget for the proposed feasibility study—the full TORs are contained in **Error! Reference source not found.**; and summarize our reasoning for recommending that USTDA support the Project.

1.1 Executive Summary

Bioenergy, which has been developing the Project since 2006, will construct a biomass energy plant and two hydro installations. These technologies have been proven to be viable, as shown in Section **Error! Reference source not found.**. Both biomass energy and hydro technologies would be used to produce electricity that would be injected into the SIC grid at a competitive price per kWh.

The Project will be located at the Hacienda Antumalal. The Hacienda consists of 24,000 acres of land located in the eighth region of Chile. The Hacienda is bounded to the north by the Pichibureo River, to the south by the Bureo River, to the east by the Negro river and an unnamed creek, and to the west by the divide of the Cordillera de Pemehue. Hacienda Antumalal is located 26km from a transmission line connecting to the Charrúa substation where the Project would interconnect with the *Sistema Interconectado Central* (SIC) grid.

The Project has good potential to benefit the economy of the host country as well as the economy of the U.S. The Project will lower electricity costs for the host country by generating electricity at a lower cost than the average long run marginal cost of the SIC grid. The project also has the potential to reduce local pollution, reduce global GHG emissions, and improve energy security by reducing dependence on fossil fuels. To achieve these benefits, Bioenergy is very interested in purchasing equipment and services (potentially worth up to between US$68.5 million and $84.5 million) for the Project from the U.S.

The proposed project is likely to be:

- Technically feasible because Bioenergy owns the biomass resource and water rights. It also owns commercially proven technology for both biomass energy and hydropower installations
- Economically and commercially viable, based on a comparison with SIC LRMCs
- Acceptable under the regulatory regime of Chile, including under an environmental perspective according to criteria of potential lenders and the SEA.

Assuming that the Project proves to be technically, economically and commercially, and environmentally viable, lending institutions and equity partners will most likely consider it a good investment. Bioenergy has completed several important steps that would allow it to meet financiers' requirements. However, to fully meet the financiers' requirements, Bioenergy must contract specialized consultants to complete studies that will:

- **Prove technical viability** by conducting a technical assessment of the biomass fuel and logistics for harvesting the fuel (to be funded and completed by Bioenergy prior to receiving USTDA funds for subsequent studies)
- **Prove economic and financial viability** by developing a full financial model for the Project; and developing a commercial strategy for the Project
- **Prepare a preliminary environmental and social impact assessment** that reviews the key requirements of relevant lenders and authorities; analyzes and assesses environmental and social red flags; and provides the basis for Bioenergy to develop an *Evaluación de Impacto Ambiental*
- **Prepare ancillary studies** by conducting an assessment of options for interconnecting to the SIC, conducting conceptual engineering, and providing construction cost estimates for the biomass and hydropower installations.

In addition, the specialized consultants will analyze host country development impacts and assess U.S. export benefits that will result from the USTDA grant. Finally, the specialized consultants will provide an implementation plan for the Project's next steps.

1.2 Project Description

The Project will use biomass CHP/Cogeneration and run-of-river hydro to provide electricity to the SIC electricity grid of Chile. The project will use Bioenergy's forest resource as fuel for the biomass project and river resources to power the hydro installations. The forest resource that Bioenergy will use for biomass generation will come from forest thinning operations undertaken with the explicit purpose of fueling the biomass plant.

Bioenergy manages approximately 24,000 acres of land and estimates that the land can sustainably provide 200,000 Metric Tons (MT) of biomass material per year. Bioenergy can

sustainably provide biomass resources by dividing its land into eight zones and selectively harvesting 30 percent of the biomass in one zone each year. Therefore, Bioenergy will harvest each zone once every eight years, creating an eight year cycle.

Bioenergy's lands are bounded to the north by the Pichibureo River, to the south by the Bureo River, to the east by the Negro river and an unnamed creek, and to the west by the divide of the Cordillera de Pemehue. The Bureo River will provide the resource for the hydro installations.[1]

The Project is likely to be a technically and economically viable project. Bioenergy hired SCL Energía, a Chilean engineering firm specialized in energy, to conduct a pre-feasibility study for using Bioenergy's hydro resource in an electric generation project.[2] Bioenergy also hired Dalhousie University's Minerals Engineering Center to determine if the biomass resource is appropriate for an electric generation project.[3] Both firms found that Bioenergy's resources are appropriate for the planned installations at Hacienda Antumalal. Furthermore, Castalia's economic analysis explained in Section **Error! Reference source not found.** shows that the LRMC of a small biomass cogeneration plant and the hydro installations will be lower than the LRMC of unsubsidized conventional generation options.

With the intention of developing this project, Bioenergy has established a team of experts to develop the Project. In addition, Bioenergy established an incorporated company pursuant to the requirements of Chilean law, which began operations in November 2006. Since conceiving of the Project, Bioenergy has taken steps to move the Project towards implementation, including assessing infrastructure requirements and conducting a preliminary assessment of the biomass and hydro resource. Finally, Bioenergy has taken steps to assess the financial and economic viability of the Project.

1.2.1 Corporate and legal aspects

Bioenergy is an incorporated company pursuant to the requirements of Chilean law. Bioenergy began operations in November 2006. Bioenergy was founded with the sole purpose to develop one or more biomass power plants and/or hydroelectric power plants at the Hacienda Antumalal, in the 8th Region of Chile.

1.2.2 Infrastructure requirements

The infrastructure requirements for the Project are divided into two separate categories: requirements for building the Project, and requirements for transmitting electricity generated by the Project to the SIC. The infrastructure requirements described below are based on pre-feasibility studies[4] that Bioenergy completed. Bioenergy would like to conduct more in-depth studies to operationalize the Project, which will include assessing more accurately the infrastructure requirements and associated costs.

Infrastructure for building the hydropower plants

Access to Hacienda Antumalal is sufficient for transporting the equipment necessary to build the two hydropower plants. However, construction will require new and improved infrastructure within the estate.

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[1] Pablo Isensee Martinez, "Central Bureo 875, Caudales, Potencia y Energía Generable", 2010

[2] Pablo Isensee Martinez, "Central Bureo 875, Caudales, Potencia y Energía Generable", 2010

[3] Analysis of the contents of Bioenergy's biomass resource by Dalhousie University: Mineral Engineering Center conducted on May 4, 2007

[4] SCL Energia, "Estudio de Prefactibilidad Central Hidroeléctrica Hacienda Antumalal VIII Region", 2007; Pablo Isensee Martinez, "Central Bureo 875, Caudales, Potencia y Energia Generable", 2010

An unpaved road reaches the entrance of the Antumalal estate. The road is in good condition and is accessible all year round. The road is sufficient for transporting all equipment needed for constructing the Project.

Inside the Antumalal estate, some access roads exist that will be sufficient for the biomass energy plant, but they require enhancements to construct the two hydroelectric plants. Furthermore, Bioenergy requires additional roads to construct all elements of the Project. For the 33MW hydroelectric plant, there are access roads to the water intake in the system, and to the area where the loading chamber will be constructed—both of which require minor improvements. Access to the rest of the sites for the 33MW plant will require building new access roads. For example, the second water intake and the adduction system cannot be reached without new access roads. Bioenergy still needs to determine further infrastructure requirements for the 7MW small hydro plant; however, they are certain they will require additional access roads to construct it.

Limited water and electricity services exist in the Antumalal estate to serve the house of Bioenergy's forestry manager. However, existing services will not suffice for constructing the Project. Construction will require electricity and potable water which are not available at the site.[1]

Transmission infrastructure

The Project requires constructing transmission infrastructure to inject electricity generated by the Project into the SIC grid. Bioenergy intends to build the transmission infrastructure so that it can accommodate all 58MW of the Project. Bioenergy is likely to stagger construction of the three generation plants; however, Bioenergy plans to construct a transmission line that will be able to transmit all the potential capacity to avoid upgrading the transmission line when all three generation projects are complete.

In 2007, Bioenergy hired SCL Energy to perform a pre-feasibility study, "Estudio de Prefactibilidad Central Hidroeléctrica Hacienda Antumalal" ('the SCL Prefeasibility Study'), for the 33MW hydroelectric plant, which explored the following three options for interconnection:

- Build transmission line to connect to the 220kV Transelec transmission system at the Pangue hydroelectric plant. The Transelec transmission line then connects to SIC at the 220kV Charrúa substation. This option requires a 220 kV step-up substation, a 26km transmission line, and the system to interconnect with the Pangue plant. In addition to the transmission infrastructure, it would require paying annual fees for the use of 100km of the Transelec transmission system
- Connect to one of the two independent Charrúa-Temuco transmission lines (2 x 220kV), south of the city of Mulchén. This option requires a 40km transmission line and a substation to interconnect with the SIC transmission line. At the time of the study, these transmission lines were in construction and have now been completed
- Connect to the 154kV Los Angeles substation, north of the city of Mulchén and South of the city of Los Angeles. The Los Angeles substation is owned by the distribution company Compañía General de Electricidad (CGE) and connects to the SIC grid at the Charrúa substation. This option requires a 220 kV step-up substation, a 65km transmission line, and the interconnection infrastructure.

[1] SCL Energia, "Estudio de Prefactibilidad Central Hidroeléctrica Hacienda Antumalal VIII Region", 2007

The SCL Prefeasibility Study concluded that the first option, connecting to the Pangue plant transmission system, was the most economically and technically feasible. The TORs for the feasibility study requires a more in-depth evaluation of these and other options to ensure the transmission infrastructure can accommodate the power generated from all three plants.

1.2.3 Resources Assessments

Bioenergy has sufficient hydro and biomass resources to operate the proposed biomass energy plant and pass through hydro plants. Bioenergy has hired specialized consultants to conduct preliminary analysis of the potential electrical output that can be generated with the hydro and biomass resources. The findings of the specialized consultants are each explained in detail below.

Hydrologic resource assessment

Bioenergy has completed two hydrologic resource assessments, one for each hydropower plant, which estimate the optimal size of the two plants. The hydrologic resource assessments estimate an optimal size of 33MW for a plant with a design flow of $17m^3/s$ and 7MW for a plant with a design flow of $4.2m^3/s$.[1] Therefore, we do not include an assessment of the hydro resource in our TORs for Bioenergy's feasibility study.

The SCL Prefeasibility Study includes a hydrologic resource assessment by CONIC-BF Ingenieros Civiles Consultores for the 33MW plant. The SCL Prefeasibility Study concludes that the hydrology resources of the Antumalal estate can be exploited by capturing several streams with a single 33MW plant. Specifically, the Bureo river, which is downstream of the Pedregoso river and the Negro river, can be exploited by the 33MW plant.

Furthermore, a hydrologic resource assessment by Pablo Isensee[2] concludes Bioenergy can build a second hydroelectric plant of 7MW that captures the Bureo and Pedregoso rivers upstream the 33MW plant.

Both resource assessments used a drainage-area ratio method, which uses the stream flows of a similar site, and rescales them using the ratio of the drainage areas in both sites to determine the average monthly stream flow of each micro-basin in the Antumalal estate. The studies base their estimates on 30 years of average monthly stream flow data at the Bureo stream gauge station in Mulchén. The station is managed by the Dirección General de Aguas (DGA), the governmental body in charge of promoting sustainable management of hydrology resources.

Biomass resource assessment

A preliminary resource assessment concludes that Bioenergy can provide an adequate amount of biomass fuel for an 18MW biomass energy plant. Bioenergy will fund and carry out a more in-depth biomass resource assessment, which will require 3-4 months to carry out, and will begin at the end of the winter. For this reason, we do not propose including a biomass resource assessment in the Terms of Reference for Bioenergy's feasibility study.

The preliminary assessment estimates that Bioenergy's forests can sustainably provide up to 200,000 Metric Tons (MT) of biomass material per year derived from thinning operations on Bioenergy's land.[3] In addition, Bioenergy has the option to purchase additional biomass from paper pulp and lumber operations surrounding Bioenergy's land. Bioenergy has confirmed that

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[1] Pablo Isensee Martinez, "Central Bureo 875, Caudales, Potencia y Energía Generable", 2010

[2] Pablo Isensee Martinez, "Central Bureo 875, Caudales, Potencia y Energía Generable", 2010

[3] Espinosa Canessa, H. "ESTIMACIÓN DE BIOMASA FORESTAL DE BOSQUE NATIVO EN TIPO FORESTAL ROBLE-RAULI-COIGÜE EN HACIENDA ANTUMALAL." May, 2012

the chemical makeups of the main tree species in its forests are appropriate for biomass energy projects. Bioenergy's forests are composed of 30 percent *rauli* trees, 19 percent *roble* trees, 13 percent *avellano* trees, 12 percent *coigue* trees, and 12 percent *lingue* trees. The remaining 14 percent is composed of assorted other tree species that account for less than 3 percent of the forest each.[1]

Each ton of Bioenergy's biomass material can produce 3MWh of electricity.[2] Therefore, Bioenergy's annual quantity of biomass is capable of providing 540GWh of electricity per year. Assuming a capacity factor of 95 percent, a 65MW biomass energy plant would produce 540GWh per year. 65MW is significantly larger than the 18MW biomass energy plant proposed by Bioenergy. Therefore, Bioenergy's biomass resource is more than adequate for the proposed 18MW power plant.

Bioenergy will ensure a permanent, sustainable flow of biomass material by selectively thinning its forest resource. Under Bioenergy's proposed forestry management plan, Bioenergy will divide its land into eight zones and thin 30 to 35 percent of one zone each year. Therefore, Bioenergy will thin its native forest in designated tracts on a rotating basis every eight years. This thinning will leave trees of all sizes behind to ensure a healthy forest that will continue to grow, but at a much faster rate.

1.2.4 Economic fundamentals

Bioenergy estimates a total CAPEX requirement of between US$134 and US$154 million to construct the biomass energy and hydro plants. In addition, the Project may require between US$0.6 and US$2 million for biomass harvesting equipment. Bioenergy has developed a basic financial model. However, Bioenergy has not yet estimate the length of time that the Project will require to recover the cost of the investment or the IRR of the investment.

Hydropower plants

Bioenergy requires an in-depth financial model to fully estimate the investment required for the Project. The SCL Prefeasibility Study estimated an investment requirement of about US$43.9 million, and a 14.2 percent IRR for the 33MW hydropower plant project. However, Bioenergy states that its financial model requires further development.

Based on preliminary conversations with engineering and development firms, turnkey costs for this type of hydro project are between US$2 and 3 million per MW, which results in an expected investment between US$80 and US$120 million for 40MW of pass through hydro.

The variation is due to the large range of costs for civil works. Civil works are responsible for a large percentage of the Project's cost. However, the cost of civil works is very site specific; as a result, there is a wide range of potential cost for civil works. Furthermore, these estimates do not include the interconnection to the SIC grid, which the SLC Prefeasibility Study estimated would represent 18 percent of the total cost of the hydro projects. **Table 0.1** shows an approximate breakdown of the estimated project costs.

[1] Bioenergy SA. "INVENTARIO FORESTAL DE BOSQUE NATIVO PREDIO ANTUMALAL"

[2] Analysis of the contents of Bioenergy's biomass resource by Dalhousie University: Mineral Engineering Center conducted on May 4, 2007

Table 0.1: Estimated Costs for the 33MW and 7MW Hydroelectric Plants

Item	Cost (US$)
Civil Works	50,000,000-80,000,000
Hydromechanic Equipment	1,000,000
Powerhouse Equipment	24,000,000
Equipment Installation	5,000,000
Engineering and Overhead	5,000,000-10,000,000
Turnkey Cost	**80,000,000-120,000,000**

This hydro component of the Project will result a total gross income of US$17,934,000 per year. Based on the hydrologic resource assessments described in Section 1.2.3, Bioenergy expects the 33MW plant to generate 154GWh[1] of electricity per year and the 7MW to generate 31GWh.[2] The price of electricity on the SIC grid is US$0.11 per kWh,[3] resulting in revenues of US$16,940,000 per year. Furthermore, the SLC Prefeasibility Study estimated that the Project can provide 11.7MW of firm capacity at a price of US$7.3 per kw-month, generating US$994,000 per year in capacity sales.[4]

Biomass power plants

We estimate a CAPEX requirement of US$54 million to construct the biomass energy plant. In addition, Bioenergy intends to subcontract harvesting the biomass to an outside party. The outside party may be required to purchase between US$0.6 and US$2 million of new biomass harvesting equipment, although this figure is uncertain because the outside party may already own sufficient equipment. Bioenergy has developed a basic financial model, but that financial model does not estimate how many years it will take to recover the cost of the investment or the IRR of the investment.

Capital expenditure assumptions

Figure 0.1 shows a curve of the average cost of installed biomass CHP/Cogeneration energy capacity per MW as calculated by the Global Environmental Fund. The costs shown are turnkey costs, defined for the purposes of this report as the sum of all costs required to hand over a completely finished and operational asset.

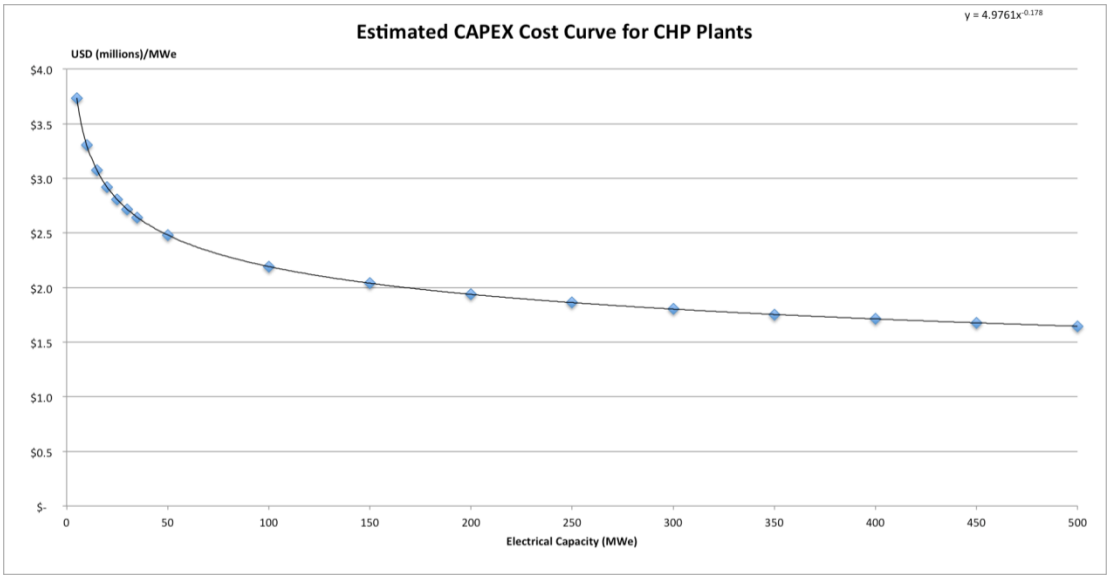
[1] SLC Prefeasibility Study

[2] Pablo Isensee's report

[3] Comisión Nacional de Energía. "SERIE PRECIO MEDIO DE MERCADO SISTEMA INTERCONECTADO CENTRAL (PMM SIC)." Accessed on 25/05/2013 at: http://www.cne.cl/tarificacion/electricidad/precios-de-nudo-de-corto-plazo/466-pmm-sic

[4] SLC Prefeasibility Study

Figure 0.1: Cost Curve Used to Estimate CAPEX for Bioenergy's Biomass Plant



Source: Global Environmental Fund

The curve above shows that the cost per MW of installed capacity falls dramatically between zero and fifty MW and that beyond 100MW, costs decline more slowly. On the curve, the proposed 18MW biomass energy plant would cost approximately US$3 million per MW. The curve above is consistent with estimates from the International Energy Agency, which calculate that installed capacity for biomass gasification or Biomass CHP/Cogeneration projects costs between US$3-4 million per MW.[1]

1.3 Implementation Financing

Bioenergy has proposed a reasonable cost, and a reasonable target capital structure for the Project. There are several potential lenders who are interested in providing debt financing for the Project. Among these lenders, the Ex-Im Bank is among the most likely sources of financing due to its interest in financing the Project and the attractive lending terms it can offer. Finally, Bioenergy has provided initial qualification materials that, if strengthened, will meet the requirements of interested lenders. However, some key items are missing.

1.3.1 The proposed costs are overall reasonable

Bioenergy estimates that the 33MW hydro and the 7MW small hydro installations will require an overall investment of about US$142 million for the Project to be turnkey (or 'installed'). The cost assumes a construction cost of US$80 million, development costs of US$25 million, financing costs of US$9.7 million, development taxes of US$21.6 million, and additional "soft costs" of US$5.6 million. These costs are in line with industry experts' estimated turnkey construction cost of US$2 million to US$3 million per MW of capacity, which totals between US$80 and US$120 million.

Bioenergy estimates that the 18MW biomass energy installation will require an overall investment of about US$51.6 million dollars, for the Project to be turnkey. The cost assumes a construction cost of US$36 million, development costs of US$1.9 million, financing costs of

[1] IEA. "Biomass for Power Generation and CHP." January, 2007

US$1.9 million, development taxes of US$9.2 million, and additional "soft costs" of US$2.5 million. These costs are in line with an estimated cost of US$3 million per MW of capacity which totals US$54 million, produced by GEF for turnkey Biomass energy installations. The GEF's estimate is in line with per MW cost estimates provided by the IEA for Biomass CHP and Biomass Gasification.[1]

1.3.2 There are good options from interested debt financers

Good options for interested debt financers include the Ex-Im Bank, OPIC, IFC and private sector lenders. Bioenergy has had conversations with several private sector banks in Chile about financing the Project. Bioenergy has spoken with Banco de Chile, Itau Bank, Banco Security, Santander Bank, and Bci Bank. Of these banks, the Bci Bank, Santiago has been the most interested. Bci Bank has a power projects team that specializes in funding electric projects. In addition, Bioenergy has contacted PNC Bank about gaining access to Ex-Im bank financing that would be channeled through PNC Bank.

Bioenergy can qualify for debt-financing from all of these institutions. To qualify for OPIC funding, at least 25 percent of the equity should be held by U.S. investors. Given that U.S. investors own 50 percent of Bioenergy, they meet this requirement. To qualify for Ex-Im Bank financing, Bioenergy will be required to source goods and services from the U.S.

Among potential debt financing options, the Ex-Im Bank is the most likely source of implementation funding. It can offer very favorable terms for financing the Project, and it has a policy priority of supporting U.S.-manufactured renewable energy exports. Provided that Bioenergy purchases biomass energy and hydro equipment from a manufacture in the U.S., the Ex-Im Bank could offer financing that:

- Has an interest rate of 2.92 percent
- Has a term of up to 18 years[2]
- Capitalizes interest during construction.[3]

In addition, an Ex-Im Bank staff member expressed a high degree of motivation to finance the Project, provided the Project's viability is backed up by the necessary studies and permits.

All of the potential leaders we contacted are very interested in the project, provided that Bioenergy can meet their lending requirements. Therefore, Bioenergy should further explore their financing options once they have a solid commercial strategy and a detailed financial model.

1.3.3 Capital structure corresponds to the requirements of prospective lenders

The capital structure targeted by Bioenergy meets or exceeds the equity requirements of potential U.S. Government, multilateral, and private sector lenders.

The Ex-Im Bank and OPIC can offer to finance up to 85 percent and 75 percent of the cost of projects that they finance, respectively. Each project is taken on a case-by-case basis; however, OPIC stated that a company borrowing from it for the first time is unlikely to receive the

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[1] IEA. "Biomass for Power Generation and CHP." January, 2007

[2] The Export-Import Bank of the United States. "Commercial Interest Reference Rates." Accessed February 6, 2013 at: http://www.exim.gov/tools/commercialinterestreferencerates/

[3] The Export-Import Bank of the United States. "Environmental Export Financing: Good News for U.S. Exporters." Accessed February 6, 2013 at: http://www.exim.gov/about/whatwedo/specialinitiatives/environment/

maximum percentage possible. The IFC declined to provide a target capital structure, and just noted that the proposed capital structure should contain more equity if the Project does not obtain a PPA.

1.3.4 There are other lending requirements that need to be met

Bioenergy has or will conduct some components of project preparation that, if strengthened, will comply with lender requirements. However, some lender requirements are lacking and some need to be further developed. In particular, a technical feasibility study and an environmental and social impact assessment need to be conducted. Aside from capital structure requirements explained above, all potential lenders that Castalia contacted require that Bioenergy provide:

- A summary of all aspects of the Project, contained in an independently prepared feasibility study—Bioenergy does not have a feasibility study for its complete project
- A detailed financial model—Bioenergy has developed a basic financial model, however it does not have a comprehensive financial model for its whole project
- Existing offtake agreements and supply contracts—Bioenergy does not have existing offtake agreements
- A detailed technical viability study—the SCL study that bioenergy commissioned showed the technical viability of the 33MW hydro installation, but Bioenergy needs to conduct a new feasibility study for the 33MW hydro installations, as well as a technical feasibility study for the 7MW small hydro installation and the 18MW bioenergy energy plant
- An environmental impact assessment in compliance with standards of the International Hydro Association and those for a *Declaración de Impacto Ambiental* required by local law—Bioenergy needs to commission a compliant environmental impact assessment
- A social impact assessment—Bioenergy needs to commission one together with the environmental impact assessment
- Proof of land and water rights and required permits—Bioenergy has satisfactory documentation.

With the exception of the environmental and social impact assessments (ESIA), there are no specific formats or templates to comply with these requirements. Below we explain the requirements for ESIAs for biomass and hydro power generation installations.

The industry standard for environmental and social impact assessments for biomass is the IFC's 'Environmental, Health, and Safety Guidelines: Thermal Power Plants'. These guidelines call for consideration of:

- Environmental factors including:
  - Air Emissions
  - Energy Efficiency and GHG Emissions
  - Water Consumption and Habitat Alteration
  - Effluents

- Solid Wastes
- Hazardous Material and Oil
- Noise

- Occupational health and safety factors including:
  - Non-ionizing radiation
  - Confined Spaces
  - Heat
  - Noise
  - Electrical Hazards
  - Fire and Explosion Hazards
  - Chemical Hazards
  - Dust
- Community Health and Safety Factors including:
  - Water Consumption
  - Traffic Safety.[1]

The industry standard for environmental and social impact assessments for hydro is the International Hydro Association's 'Hydro Power Sustainability Assessment Protocol'. The guidelines were developed with the participation of social and environmental NGOs (Oxfam, The Nature Conservancy, Transparency International, WWF); governments (China, Germany, Iceland, Norway, Zambia); commercial and development banks (Equator Principles Financial Institutions Group, The World Bank); and the hydropower sector.[2] These guidelines call for consideration of the sustainability of:

- Technical elements:

  Siting and design

  Hydrological resource

  Reservoir planning, filling, and management (if applicable)

  Infrastructure safety

  Asset reliability and efficiency

- Environmental considerations

  Downstream flow

  Erosion and sedimentation

[1] IFC. "Envrionmental Health, and Safety Guidelines: Thermal Power Plants." Accessed March 7, 2013 at:http://www1.ifc.org/wps/wcm/connect/dfb6a60048855a21852cd76a6515bb18/FINAL_Thermal%2BPower.pdf?MOD=AJPERES&id=1323162579734

[2] Hydropower Sustainability Assessment Protocol. "Home." Accessed on 30/05/3013 at: http://www.hydrosustainability.org/Home.aspx

Water quality

Biodiversity and invasive species

Waste, noise, and air quality

- Social elements

Project affected communities and livelihoods

Resettlement

Indigenous peoples

Cultural Heritage

Public Health

- Integrative elements

Demonstrated need and strategic fit

Communications and consultation

Governance

Integrated project management

Environmental and social issues management.[1]

1.4 U.S. Export Potential

The U.S. export potential of the Project includes exports of equipment, project development, and engineering services. In total, the Project could lead to the export of between US$68.5 million and $84.5 million of U.S. sourced goods and services. We estimate that the export potential for the hydro component of the Project is US$40 million and the hydro component of the Project is between US$28.5 million and US$44.5 million.

Bioenergy plans to procure goods and services by first competitively selecting U.S. based engineers and environmental consultants with appropriate experience to guide Bioenergy in procuring goods and services for the Project. Bioenergy will then consult with the selected engineers and environmental consultants to design, specify, short list, and procure goods and services, based on both price and quality. Bioenergy is strongly inclined to use U.S. equipment for the project, wherever practical. Bioenergy would like to procure goods and services by assessing offers from various companies, and then selecting the best goods or services provider, based on both price and quality.

Small hydro U.S. export potential

The U.S. export potential for the hydro component of the Project includes exports of equipment, project development services, and engineering services. The potential for exports for the two hydropower plants is expected to be up to US$40 million.

Equipment for hydropower plants

The U.S. export potential for the equipment for the Project is expected to be about US$30 million—between 20 and 30 percent of the total project cost. Components that can be exported

[1]Hydropower Sustainability Assessment Protocol. "Hydropower Sustainability Assessment Protocol." Accessed on 30/05/3013 at: http://www.hydrosustainability.org/Protocol.aspx

from the U.S. include the generator, turbines, the controls and automation equipment, and hydromechanical components. **Table 0.2** shows the components of the Project that represent a U.S. export potential.

Table 0.2: Estimated Value of U.S. Exports for Bioenergy Project

Item	US$
Turbine, generator, controls	24,000,000
Hydromechanical components	1,000,000
Installation	5,000,000
Total	**30,000,000**

Source: VOITH

Bidders seeking to export from the U.S. would probably consist of companies of varying sizes with manufacturing and/or assembly facilities in the U.S. To date, Castalia has contacted three manufacturers of equipment in the U.S.: General Electric, WEIR American Hydro, and VOITH. The list below includes these companies as well as other major hydro equipment manufacturers with production facilities in the U.S.:

- **VOITH**—a company that manufactures large and small hydro turbines, and the controls and automation equipment in York, Pennsylvania.
- **Weir American Hydro (Weir)**—a company that manufactures turbines for small to large power stations in York, Pennsylvania.
- **General Electric Energy (GE)**—a U.S.-headquartered company that manufactures controls and automation equipment in Pensacola, Florida. GE does not produce hydro generators or turbines in the United States
- **Siemens SA**—a conglomerate that provides equipment for a range of industries, including generators, transformers, control and automation equipment at its factories in Fort Madison, Iowa and Hutchinson, Kansas
- **ALSTOM SA**—a conglomerate that provides turbines, generators, transformers, control and automation equipment and has factories in various locations in the U.S.
- **Hyundai Ideal**—a company that manufactures generators and switchgears in Mansfield, Ohio
- **L&S Electric**—a company that manufactures hydro controls in Wisconsin

In conversations with Castalia, VOITH, GE, and Weir all expressed a strong interest in supplying equipment for the Project.

There are many internationally competitive companies, which neither Castalia, nor Bioenergy have contacted directly, that manufacture transformers in the United States including Hyundai Heavy Industries (Montgomery, AL), ABB (South Boston, VA and St. Louis. MO), Waukesha (Waukesha, WI), Mitsubishi (Memphis, TN), and Delta Star (Lynchburg, VA and San Carlos, CA).[1]

[1] U.S. DOE. "Large Power Transformers and the U.S. Electric Grid." June, 2012 Accessed 02/13/2013 at: http://energy.gov/sites/prod/files/Large%20Power%20Transformer%20Study%20-%20June%202012_0.pdf

Project development and engineering

Detail engineering and overhead represent 5 to 10 percent of the Project costs, between US$5 and US$10 million. The U.S. is very competitive in providing these services, therefore this adds to the U.S. export potential. In addition, companies that can provide integrated services may be able to provide construction services competitively. Castalia contacted two U.S. companies with project development, engineering, and/or construction experience in pass through hydro in Chile: AMP Ventures and MWH, which can therefore provide services competitively.

- **AMP Ventures**—a company headquartered in Houston, AMP Ventures has project management, detail engineering, and construction experience in run-of-river hydro plants. In Chile, they supported the development of the 111MW Alto Cachopoal hydro project.
- **MWH**—a U.S.-headquartered company that provides engineering and environmental services. Projects in Chile include, detailed engineering design and services for constructing a 111MW run-of-river hydroelectric project, located in the Alto Cachopoal Valley.

In conversations with Castalia, AMP Ventures and MWH expressed a strong interest in providing project development and/or engineering services for the Project.

Biomass U.S. export potential

The U.S. export potential for the biomass component of the Project could be between US$28.5 million and US$44.7 million. This represents between 50 and 80 percent of the total projected CAPEX of US$54 million. The total CAPEX figure is calculated based on the average of US$3 million per MW shown in **Figure 0.1** multiplied by five for an 18MW system. In addition, biomass harvesting equipment required by the contractor hired by Bioenergy to harvest its biomass could cost approximately US$1.5 million.[1]

Bioenergy has expressed an interest in purchasing biomass CHP/cogeneration equipment from U.S. companies. If Bioenergy chooses to purchase biomass CHP/cogeneration equipment, it is likely that between 50 to 70 percent of the total CAPEX will likely come from the U.S.

Table 0.3 shows the components of the Biomass CHP project, based on percentage of total CAPEX and U.S. export potential.

Table 0.3: Estimated Value of U.S. Exports for Biomass CHP Project

Item	Percentage of CAPEX	U.S. Export Potential
Boilers	30-40	Yes
Conversion Technology	30-40	No
Balance of Plant	15-20	Yes
Biomass Harvesting Equipment	5-10	Yes

U.S. companies capable of supplying components for biomass CHP equipment include:

[1]Ashton, S.; B. Jackson; R. Schroeder. 2007. Cost Factors in Harvesting Woody Biomass. Pages 153–156. In: Hubbard, W.; L. Biles; C. Mayfield; S. Ashton (Eds.). 2007. Sustainable Forestry for Bioenergy and Bio-based Products: Trainers Curriculum Notebook. Athens, GA: Southern Forest Research Partnership, Inc.

- **Indeck Keystone Energy LLC**—a U.S.-based boiler manufacturer with over 150 years of experience that specializes in the design and manufacturing of industrial boilers. Their services include upgrades, modifications, performance studies, design improvements, and system retrofits.
- **Superior Boilerworks**—a boiler systems manufacturer, with approximately 5,000 biomass energy systems operating globally. It provides turnkey biomass CHP systems and recently entered into a partnership with Alternative Energy Systems International to manufacture biomass gasification systems.
- **Hurst Boiler**—one of the U.S. largest boiler manufacturers. It has experience exporting boilers globally—including to Chile. In addition, Hurst has experience exporting boiler equipment for biomass CHP plants of similar size to the plant envisioned by Bioenergy in Latin America.
- **Messersmith Manufacturing**—a boiler manufacturer with 35 years of experience providing boilers for biomass CHP projects in the United States. Messersmith indicated an interest in exporting to Chile, though they have not done so in the past.

Should the contractor hired by Bioenergy to harvest biomass require new biomass harvesting equipment, it could use U.S. companies such as Caterpillar and John Deere, which are global market leaders for providing biomass harvesting equipment. Both companies manufacture the majority of their equipment appropriate for biomass harvesting in the United States. In addition, Caterpillar already has an established network of distributors in Chile.

All of these companies have manufacturing facilities or source their components from the U.S. Although current U.S. export of technology appropriate for biomass energy are limited to some components of the biomass plant—in particular boilers and balance of plant equipment—, all companies contacted expressed interest in exporting. Companies contacted were particularly interested in exporting if the U.S. Government is able to offer support through the Ex-Im Bank financing.

Market Entry Issues and Foreign Competition

Market entry issues and foreign competition are unlikely to prevent U.S. companies from successfully competing in exporting goods and services for the Project. Chile has a commitment to welcoming foreign investment enshrined in its Constitution. As a result of Chile's openness to foreign competition, its market for developing renewable energy projects and for supplying goods and services related to renewable energy is open and highly competitive. Despite the competition, U.S. based manufacturers are well placed to compete in Chile's hydro and bioenergy market.

1.4.1 Market entry of foreign companies in Chile

The Constitution of Chile establishes the main principles for the rules on foreign investment, including equality before the law, economic freedom, and non-discrimination. Non-discrimination guarantees that foreign investors will receive the same treatment from the Government as domestic investors; it also guarantees foreign investors free access to all sectors of the economy. Only in exceptional circumstances can the Government reserve areas for domestic investment.

Chile has adhered to these practices in the energy sector since the 1980s, allowing for a large degree of foreign private investment including from the U.S. For example, AES Gener—a major

player in the Chilean electricity market—is majority owned by AES Corporation, which is based in the U.S. Chile has also allowed for foreign investment in the renewable energy sphere, including by U.S. companies.

Finally, Chile has a good business environment, with a low level of perceived corruption. Chile signed a Free Trade Agreement with the U.S. in 2003, under which trade between the two countries has increased by 400 percent.

1.4.2 Foreign competition in Chile for hydro

Table 0.4 provides an overview of the competitiveness of U.S. companies for providing goods and services for hydro projects in Chile, as described in more detail below.

Table 0.4: Overview of U.S. Competitiveness for Supplying Goods and Services

Item	U.S. Firm Competitiveness	Main Competitors
Turbine and Generator Suppliers	Medium	European companies, Chinese companies, U.S. companies manufacturing outside the U.S.
Control and Automation, and Electromechanical Equipment	Good	European companies, Chinese companies, U.S. companies manufacturing outside the U.S.
Transformers	Good	European Companies, Canadian Companies, Mexican Companies, South Korean Companies
Project Developers	Good	Chilean Companies, Brazilian Companies, European Companies, Chinese Companies
Construction Companies	Low	Chilean Companies, Brazilian Companies, European Companies, Chinese Companies
Engineering Companies	Good	Chilean Companies, Brazilian Companies, European Companies, Chinese Companies

Equipment for the hydropower plants

Companies that provide control and automation equipment, and electromechanical equipment manufactured in the U.S. are competitive in Chile. Suppliers of turbines and generators are competitive with Ex-Im Bank financing. Suppliers such as Voith and Weir can ensure that the equipment meets U.S. content requirements when using Ex-Im financing.

The main competition for U.S. companies would likely come from Chinese and European manufacturing companies. Some of these foreign companies are listed in **Table 0.5**.

Table 0.5: Foreign Competition for Small Hydro Equipment

Company	Country	Equipment
Ansaldo Energia	Italy	Generators
CHPE	China	Turbines, Generators, Control and switching equipment, Transformers
IREM	Italy	Turbines, Transformers, Controls
Orengine International Ltd.	Italy	Turbines, Hydro power units
WKV-Crossflow	Germany	Turbines, Generators, Control and switching equipment, Transformers

Project developers

There is at least one U.S. company that has constructed hydro power plants in Chile: AMP Ventures. The main competition on the project development side is from Brazilian, and European companies, including Spain, and Norway[1]. There are also Chinese companies and local Chilean companies developing hydro energy projects.

Construction companies

Currently, U.S. construction companies are not competitive in the Chilean renewable energy market. Both Chilean and Brazilian construction companies are very competitive in the country, and have ample experience developing hydro projects.

Engineering companies

There are at least two U.S. companies that have engineering services experience and are competitive in Chile: AMP Ventures and MHW. The main competition in engineering services is likely to be from Chilean and Brazilian companies.

Foreign competition in Chile for biomass energy

Table 0.6 provides an overview of the competitiveness of U.S. companies for providing goods and services for biomass projects in Chile, as described in more detail below.

[1] Small and Medium Hydroelectric Plants Association, (accessed 29 May 2013)

Table 0.6: Overview of U.S. Competitiveness for Supplying Goods and Services

Item	U.S. Firm Competitiveness	Main Competitors
Boilers	Good	European companies, Brazilian Companies, Indian Companies, Chinese Companies
Power Conversion Technology	Low	European companies
Balance of Plant Equipment	Good	Indian Companies, Chinese Companies
Transformers	Good	European Companies, Canadian Companies, Mexican Companies, South Korean Companies
Construction Companies	Low	Chilean construction companies
Biomass Harvesting Equipment	Good	Canadian and Japanese Companies

Boilers

Companies that provide boilers manufactured in the U.S. are competitive in Chile, provided they can arrange financing. U.S. manufacturers and European manufacturers have the advantage of making products that are well regarded for their quality. U.S. manufactured boilers are generally less expensive than European manufactured boilers and could therefore be competitive against European boilers if Bioenergy has a greater understanding of the boilers available from U.S. suppliers. In fact, Bioenergy has requested and received a quote from Indeck Keystone Energy LLC for a boiler for its biomass energy project, which demonstrates the competitive pricing of U.S. boilers.[1]

Chinese, Indian, and Brazilian manufacturers cost less than American manufactured boilers; however, companies are often skeptical of the quality of their boilers. In sum, American boiler manufacturers are in the middle of the cost spectrum, but considered higher quality than low end products. As a result, financing is often key for U.S. manufactured boilers to be selected as the preferred bidder.

Power conversion technology

European manufacturers are the clear leaders in manufacturing power conversion technology for biomass combined heat and power plants. Due in part to more stringent renewable energy portfolio standards in Europe, European companies have large amounts of experience delivering biomass power conversion technology. This gives European companies a competitive edge in producing conventional steam driven turbines for biomass applications. As a result, U.S. companies have limited competitiveness in producing power conversion technology for biomass combined heat and power applications.

Balance of plant equipment

The U.S. is competitive in balance of plant equipment, which includes dust collectors, electrostatic precipitators, selective non-catalytic reduction systems, and induced draft fans. Biomass CHP balance of power equipment are common industrial applications. There are many

1 Kevin Lipinski. "150,000 PPH Biomass boiler for 15 MW Turbine Requirement." January 5, 2011

U.S. manufacturers of this equipment that are competitive globally. Some examples of manufacturers of balance of plant equipment include:

- Dust Collector—Cyclone Collectors (Snellville, GA), Dynacom Inc. (Brainbridge Township, OH), and Filter 1 Clean Air Consultants (Garland, TX)
- Electrostatic Precipitator—Dynacom Inc. (Brainbridge Township, OH), Solid Waste Equipment Co (Omaha, NE), and Filter 1 Clean Air Consultants (Garland, TX)
- Selective Non-Catalytic Reduction Systems—Applied Utility Systems (Aliso Viejo, CA) and Epcon Industrial Systems (Conroe, TX)
- Induced Draft Fan—MSC Industrial Supply Co. Melville, NY), Blair Co. (Elk Grove Village, IL), and New York Blower Co. (Willowbrook, IL).

As evidence that U.S. manufactured balance of plant equipment is competitive in Chile, Energía Pacifico (a local biomass energy developer) uses U.S.-made electrostatic precipitators (a type of emissions control equipment) in its biomass plants.

Construction companies

U.S. construction companies are not competitive in the Chilean renewable energy market. Chilean construction companies have the competitive advantage of not having to mobilize labor and materials from overseas (or if they do, in smaller quantities than foreign companies). Therefore, U.S. companies will only be competitive when the construction project requires significant specialized labor and materials that must be imported. For this reason the existing biomass companies that we spoke with, Energía Verde and Energía Pacifico both chose to use Chilean companies to construct their biomass plants.

Biomass Harvesting Equipment

U.S. companies, such as John Deere and Caterpillar, are global market leaders in the forestry equipment market with a strong presence in Chile. Woody biomass harvesting equipment is considered part of their forestry equipment operations; however, the market for woody biomass harvesting equipment is nascent. It is likely that U.S. manufacturers will compete primarily with Canadian and Japanese companies who are their prime competitors for other types of forestry equipment. These competitors include Tigercat from Canada and Hitachi and Komatsu. Of these competitors, only Komatsu manufactures some forestry equipment in the United States.

1.5 Developmental Impact

The Project is expected to have various positive developmental impacts for Chile. These include positive impacts on infrastructure development and human capacity building. To a limited extent, the Project will also have other positive impacts such as improved environmental sustainability, enhanced energy security, and productivity impacts.

Table 0.7 summarizes the expected developmental impacts, which are reviewed below.

Table 0.7: Developmental Impacts of the Project

Category	Expected Developmental Impact
Infrastructure Development	▪ 18MW biomass energy plant 40MW of hydro capacity from two plants Roads for firefighting

Category	Expected Developmental Impact
Market-Oriented Reform	▪ No further market-oriented reforms in Chile; but will help Chile achieve its Renewable Portfolio Standard—mandatory percentage of renewable generation in total generation—and goal to diversify its energy matrix
Human Capacity Building	▪ Temporary positions to construct the power park ▪ 30 permanent jobs, potentially more
Productivity Improvement	▪ Productivity improvements through reduced cost of electricity
Other	▪ Improved energy security through reduced fossil fuel imports ▪ Cost savings, if electricity purchased from Bioenergy at lower cost than conventional generation

1.5.1 Infrastructure impacts

The project will have several infrastructure benefits. The project itself would result in the construction of a biomass plant with an estimated installed capacity of 18MW, generating approximately 150GWh per year. It would also result in the construction of a 33MW and a 7MW pass through hydro plants, which would produce 150GWh and 31GWh of electricity respectively.

In addition, the Project will result in building roads in Hacienda Antumalal for harvesting biomass and operating the energy generation plants. The roads will be useful for fighting forest fires. CONAF calls for all owners of native and cultivated forests to create Forest management and harvest Plans that will lead to building roads useful for firefighting.

1.5.2 Market-oriented reforms

Given the advanced state of the electricity market in Chile, this project is not expected to generate market-oriented reforms in addition to those that have been implemented over the past several years. However it will help Chile achieve its RPS, as well as its goal to diversify its energy matrix. In addition, projects like Bioenergy, whose run of river technology is intermittent, may give further impetus to the efforts to modernize the Chilean electricity grid to better manage intermittent renewable energy resources. This could include importing advanced software from the United States.

1.5.3 Human capacity building

Bioenergy expects the Project to create temporary new jobs during its construction phase. After construction is completed, Bioenergy expects to create 30 positions that will last the lifetime of the Project (24 years). Full-time staff will need to be trained to operate the power park. In addition, the Project may hire qualified maintenance staff (or train staff to become qualified).

1.5.4 Productivity improvement

The Project will lead to productivity improvements in the Chilean economy. As discussed in section **Error! Reference source not found.**, the Project could produce electricity less expensively than several forms of conventional generation in Chile. Since electricity is a key input for most economic activity, lowering its cost would result in a productivity improvement.

1.5.5 Other developmental impacts

To some extent, the Project could also help improve energy security by reducing the amount of fossil fuels that need to be imported to meet demand. It will also help lower electricity costs and

tariffs for customers connected to the SIC, if the price that Bioenergy sells the electricity at is lower than the price paid for conventional generation. However, these potential impacts would be very limited, because the Project would represent a tiny fraction of the SIC's total installed capacity and gross generation.

1.6 Impact on Society and the Environment

The Project is expected to have a minimal impact on the environment according to a preliminary environmental and social analysis conducted by consultants hired by Bioenergy. Bioenergy's consultants base their assessment on the fact that biomass fuel will come from a forest that Bioenergy intends to manage based on a forestry management plan approved by CONAF, and the pass-through hydro installations do not require a reservoir, limiting their impact on the environment. As a result, Bioenergy should be able to gain approval for the Project from the SEA by submitting an *Estudio de Impacto Ambiental* (EIA); any EIA submitted should be also compliant with lending agency standards.

1.6.1 Environmental and social impacts

Bioenergy has hired environmental consultants that have completed a portion of the field work required to submit an EIA to the SEA to obtain environmental permits for the power plants. The environmental consultants did not find any impediments to easily obtain the required environmental permits. In addition, Bioenergy is in the process of developing a forestry management plan to be approved by CONAF.

The field work conducted by the environmental consultants included the study of archeology, endangered species, noise pollution, transportation issues, forestry, human impact, weather, air pollution, water pollution, and waste disposal. The consultants found no indications of red flags—for example, they found no native heritage sites or endangered species. Bioenergy also has the full support for the power plants from the Mayor of the City of Mulchén, a city of 35,000 people located 30 miles away from the Hacienda. As the nearest city from the Hacienda, the Mayor of Mulchén wants Bioenergy to build these power plants as a source of environmentally clean, well-paid jobs for his community.

1.6.2 Compliance with environmental standards

Bioenergy will need to prepare an EIA as all of the proposed energy generation plants are larger than 3MW. This task is critical to developing the Project, as it is not possible to develop the Project without an EIA. As explained in Section 1.3.4, by preparing an EIA for the Project that is compliant with Chilean environmental law, the EIA should also comply with the IFC's performance standards and the Equator Principles for biomass energy and the IHA's standards for hydro power. As a result, the Project would meet the environmental and social due diligence requirements of international finance institutions.

The Project is not expected to have significant impacts on the environment; therefore the cost of preparing a full EIA should be relatively small. To assure that there are no clear environmental or social red flags, we recommend that USTDA provide funding for a preliminary Environmental and Social Impact Assessment (ESIA). The preliminary ESIA will provide confidence that the Project will be able to be completed giving Bioenergy an incentive to invest in the full EIA. The preliminary ESIA will also form the basis for the full EIA.

1.7 Impact on U.S. Labor

The Project is not expected to have any negative impact on U.S. labor, and it is compliant with the legislative prohibitions on the use of Foreign Assistance Funds. In addition, funding for

feasibility studies provided by USTDA would be performed by a U.S. company; therefore, USTDA funding would not be used to fund foreign employment beyond 20 percent of the feasibility study's contract value.

Bioenergy would purchase goods manufactured in a market where there are several competitive U.S.-based manufacturers with a high likelihood of submitting winning bids. Bioenergy does not propose establishing manufacturing facilities in Chile or anywhere else. Therefore, it does not provide any financial incentives to any U.S. goods and services suppliers to establish manufacturing operations outside of the U.S. or replace U.S. employees with foreign ones. The sales opportunities from the Project for U.S. goods and services providers would instead encourage companies to continue manufacturing these products in the U.S. As a result, this project would encourage them to retain workers (or possibly hire new manufacturing or assembly workers).

The project is not expected to contribute to the violation of internationally recognized workers' rights. Bioenergy plans to procure goods and services for the Project from reputable companies with no known workers' rights abuse complaints. In addition, the key goods and services providers considered are located in the U.S., Canada, the European Union, Japan or Chile. All of these countries have ratified fundamental labor conventions, such as those on forced labor, freedom of association, rights to organize, minimum age, and hours of work.[1] Companies located in these countries must adhere to these conventions.

Bioenergy does not plan to provide direct assistance for establishing or expanding production of any commodity that is in surplus.

Justification

USTDA support for the Project is justified because it is necessary to realize an opportunity to increase the export of U.S. goods and services by between US$68.5 million and $84.5 million and help mitigate climate change through reducing carbon dioxide emissions. USTDA funding can enable this opportunity by providing funding to allow the Project to overcome early hurdles often faced by promising renewable energy projects.

The Project is at a the development phase wherein it must rely on development equity to finance the cost of necessary studies and authorizations that will enable the Project to present itself to a lending institution, and reach financial close to finance the construction phase. In the development phase, a project is considered most risky; therefore, development equity is difficult to acquire. For this reason, many renewable energy projects stall in this phase.[2] USTDA grant funding adds value to the Project because it will enable Bioenergy to hire experts to prepare required studies necessary to move the Project forward.

The Project is consistent with the U.S. Government's policy, because enabling the Project to go forward is likely to promote the export of U.S. goods. In addition, energy sector development in low and middle-income countries is a strategic priority for USTDA. This project will result in commercial and developmental outcomes including diversification of energy sources through development of clean, renewable, and alternative fuels. Furthermore, by introducing additional

[1]International Labor Organization. "Ratifications by Country" http://www.ilo.org/dyn/normlex/en/f?p=1000:11001:0::NO:::#G (accessed February 5, 2013)

[2] USDOE. "Developing Large-Scale Renewable Energy Projects at Federal Facilities Using Private Capital." May 2012 Accessed February 13, 2013 at: http://www1.eere.energy.gov/femp/pdfs/largereguide.pdf

clean generation capacity to the Chilean electricity grid, the Project will contribute to mitigating climate change—a goal of USTDA and the U.S. Government more broadly.

Appropriate indicators can assure the USTDA that their investment in the Project will have positive impacts on Chile's economic development, the global environment, and the U.S. economy. The following three indicators are appropriate for this project:

- Value of U.S. goods and services exported to Chile in order to construct and operate the Project
- Economic savings on electricity costs—USTDA can measure the savings realized in the SIC gird for electricity through the use of inexpensive NCRE compared to more expensive conventional generation
- Tons of Carbon Dioxide Emissions Equivalent (tCO_2e) mitigated—using the emissions factor for the Chilean electricity sector, USTDA can measure the GHGs mitigated per megawatt of electricity generated by the Project.

A N N E X 3

U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a “U.S. firm” as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a “U.S. firm” if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

"Source" means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

Chile 2013-S1028A

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Grants

GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and Bioenergy S.A. ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US$607,000 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed 58 MW Combined Biomass and Hydroelectric Renewable Energy Park ("Project") in Chile ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the Study ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the Study ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The Study will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the Study shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, USTDA, the Grantee, and the Contractor shall not directly or indirectly provide, offer or promise to provide money or anything of value to any public official in violation of any United States or Host Country laws relating to corruption or bribery.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

5. Contract Matters and USTDA's Rights as Financier

(A) Grantee Competitive Selection Procedures

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities (www.fedbizopps.gov)*. Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA's Right to Approve Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 16 below upon selection of the Contractor to perform the Study. USTDA then shall notify the Grantee whether or not USTDA approves the Grantee's Contractor selection. Upon USTDA approval of the Grantee's Contractor selection, the Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Study that they were not selected. The Grantee and the Contractor then shall enter into a contract for performance of the Study.

(C) USTDA's Right to Approve Contract Between Grantee and Contractor

(1) Contract

The Grantee and the Contractor shall enter into a contract for performance of the Study. The Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 16 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract. USTDA then shall notify the Grantee and the Contractor whether or not USTDA approves the contract.

(2) Amendments and Assignments

The Grantee or the Contractor may submit any proposed amendment to the contract, including any proposed amendment to any annex thereto, or any proposed assignment of the contract, to USTDA at the address set forth in Article 16 below. USTDA then shall notify the Grantee and the Contractor whether or not USTDA approves the proposed amendment or assignment.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the

Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or any subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and the contract or any subcontract funded by the Grant Agreement, the Grant Agreement shall control.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the Study by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is April 30, 2015, is the date by which the parties estimate that the Study will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (i) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (ii) no USTDA funds may be disbursed more than four (4) years after the Effective Date of the Grant Agreement.

9. USTDA Mandatory Contract Clauses

All contracts funded under this Grant Agreement shall include the USTDA Mandatory Contract Clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA Mandatory Contract Clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under this Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under this Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and professional services funded by USTDA under this Grant Agreement:

(a) the Contractor must be a U.S. firm;

(b) the Contractor may use U.S. subcontractors without limitation;

(c) employees of U.S. Contractor or U.S. subcontractor firms shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the United States, except as provided pursuant to subpart (d) below;

(d) up to twenty percent (20%) of the USTDA Grant amount may be used to pay for services performed by (i) Host Country subcontractors, and/or (ii) Host Country nationals who are employees of the Contractor;

(e) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subcontract;

(f) subcontractors from countries other than the United States or Host Country may not be used;

(g) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and

(h) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions.

USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under this Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for taxes, tariffs, duties, fees or other levies, except for taxes of a de minimis nature referenced above.

13. USTDA Project Evaluation

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report, the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project. Inquiries will include, but not be limited to, whether the Final Report recommendations have been or will be used to implement the Project, anticipated Project implementation timeline, and likely source of financing. In addition, the Grantee agrees to notify USTDA any time the Grantee selects a new primary contact person for this Project during the five-year period referenced above.

14. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the Study and this Grant Agreement adequate to demonstrate implementation of its responsibilities under this Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to

review books, records, and other documents relating to the Study and the Grant Agreement.

15. Representation of Parties

For all purposes relevant to this Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by its General Manager. The parties hereto may, by written notice, designate additional representatives for all purposes under this Grant Agreement.

16. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through an electronic medium that produces a tangible record of the transmission, such as a facsimile or e-mail message, and will be deemed duly given or sent when delivered to such party at the following:

To: Alexandro Levy
Gerente General
Bioenergy S.A.
Hendaya 60, Office 601
Las Condes, Santiago
Chile

Phone: +56 9 8137 3461
E-Mail: BrServ@aol.com

To: Chile Country Manager
U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009
E-Mail: grantnotices@ustda.gov, lac@ustda.gov, and jflewelling@ustda.gov

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial or Economic Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 1113/141001
Activity No.: 2013-51028A
Reservation No.: 2013262
Grant No.: GH201351262

17. Implementation Letters

To assist the Grantee in the implementation of the Study, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by this Grant Agreement. USTDA may also issue implementation letters to (i) extend the estimated completion date set forth in Article 8(A) above, or (ii) change the fiscal data set forth in Article 16 above. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by this Grant Agreement.

18. Grant Agreement Amendments

Either party may submit to the other party at any time a proposed amendment to the Grant Agreement. A Grant Agreement amendment shall be effective only if it has been signed by both parties.

19. Termination Clause

Either party may terminate this Grant Agreement by giving the other party written notice thereof. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the Study, except for payments that may be made pursuant to Clause I of the USTDA Mandatory Contract Clauses set forth in Annex II to this Grant Agreement. This article and Articles 5, 12, 13, 14, and 21 of the Grant Agreement shall survive termination of the Grant Agreement.

20. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

21. U.S. Technology and Equipment

By funding this Study, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

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IN WITNESS WHEREOF, the Government of the United States of America and Bioenergy S.A., each acting through its duly authorized representative, have caused this Grant Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the United States of America

By: _____

Date: 8/27/2013

For Bioenergy S.A.

By: _____
President

Date: 8/26/2013

Witnessed:

By: _____

Witnessed:

By: _____
ALEXANDRO G. LEVY

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this Contract acknowledge that this Contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and Bioenergy S.A. ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the 58 MW Combined Biomass and Hydroelectric Renewable Energy Park project ("Project") in Chile ("Host Country"). The Client and the Contractor are the parties to this Contract, and they hereinafter are referred to collectively as the "Contract Parties." Notwithstanding any other provisions of this Contract, the following USTDA Mandatory Contract Clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA Mandatory Contract Clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and the Contract or any subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

This Contract, and any amendment thereto, including any amendment to any annex thereto, and any proposed assignment of this Contract, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the Contract conforms to modifications required by USTDA during the Contract review process and the Contract has been formally approved by USTDA. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor an English language version of a final negotiated draft Contract or a signed Contract to the attention of the General Counsel's office at USTDA's address listed in Clause N below.

(2) USTDA Not a Party to the Contract

It is understood by the Contract Parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this Contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The Contract Parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval

rights shall be made as a financier in the course of financing the Study and shall not be construed as making USTDA a party to the Contract. The Contract Parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the Contract Parties or the parties to any subcontract, jointly or separately; and in consideration of USTDA's role as financier, the Contract Parties further agree that USTDA's rights may be exercised without thereby incurring any responsibility or liability, in contract, tort, or otherwise, to the Contract Parties or the parties to any subcontract. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and professional services funded by USTDA under the Grant Agreement:

(a) the Contractor must be a U.S. firm;

(b) the Contractor may use U.S. subcontractors without limitation;

(c) employees of U.S. Contractor or U.S. subcontractor firms shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the United States, except as provided pursuant to subpart (d) below;

(d) up to twenty percent (20%) of the USTDA Grant amount may be used to pay for services performed by (i) Host Country subcontractors, and/or (ii) Host Country nationals who are employees of the Contractor;

(e) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subcontract;

(f) subcontractors from countries other than the United States or Host Country may not be used;

(g) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and

(h) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions.

USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the Contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the period of performance of work provided for by this Contract, and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the Study. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, fax number, and e-mail address. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this Contract.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon Contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon approval by USTDA of a Final Report that has been (i) prepared and submitted in accordance with the requirements set forth in Clause I below, and (ii) approved in writing by the Client in the manner provided for by Clause H(3)(b)(iii) below. Invoicing procedures for all payments are described below.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the Contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For Contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its Contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its Contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For Contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted to the attention of the Finance Department at USTDA's address listed in Clause N below, or by e-mail to invoices@ustda.gov.

I. Termination

(1) Method of Termination

Either Contract Party may terminate this Contract upon giving written notice to the other party and USTDA. This notice shall be effective after either 30 days, or any other period set forth elsewhere in this Contract. Furthermore, this Contract shall terminate immediately upon notification of USTDA's termination of the Grant Agreement or the term of availability of any funds thereunder.

(2) Ramifications of Termination

In the event that this Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for payment for the value of the work performed pursuant to the terms of this Contract. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the value of the work performed pursuant to the terms of this Contract.

(3) Survivability

Clauses B, D, G, H, I, and O of the USTDA Mandatory Contract Clauses shall survive the termination of this Contract.

J. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete hard copy of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) hard copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) hard copy of the Public Version of the Final Report to the Commercial or Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, and USTDA's address. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

> "This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's address, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

> "The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution."

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers, and e-mail address shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers, and e-mail address shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

(g) The Client, USTDA, and the Commercial and/or Economic Section(s) of the U.S. Embassy in Host Country shall have irrevocable, worldwide, royalty-free, non-exclusive rights to use and distribute the Final Report.

K. Modifications

All changes, modifications, assignments or amendments to this Contract, including the appendices, shall be made only by written agreement by the Contract Parties hereto, subject to written USTDA approval.

L. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is April 30, 2015, is the date by which the Contract Parties estimate that the Study will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) no USTDA funds may be disbursed more than four (4) years after the Effective Date of the Grant Agreement.

M. Business Practices

The Contract Parties recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, the Contract Parties shall fully comply with all United States and Host Country laws relating to corruption or bribery. For example, the Contractor and its subcontractors shall fully comply with the requirements of the Foreign Corrupt Practices Act, as amended (15 U.S.C. §§ 78dd-1 et seq.). Each Contract Party agrees that it shall require that any agent or representative hired to represent it in connection with the Study will comply with this paragraph and all laws which apply to activities and obligations of that Contract Party, including, but not limited to, those laws and obligations referenced above.

N. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:
Appropriation No.: 1113/141001
Activity No.: 2013-51028A
Reservation No.: 2013262
Grant No.: GH201351262

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. Neither the Client nor the Contractor will seek reimbursement from USTDA for taxes, tariffs, duties, fees or other levies, except for taxes of a de minimis nature referenced above.

P. Export Licensing

The Contractor and all subcontractors are responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

Q. Contact Persons

The Client designates the following person as the contact person for matters concerning this Contract:

Name:
Title:
Phone:
Fax:
E-Mail:

The Contractor designates the following person as the contact person for matters concerning this Contract:

Name:
Title:
Phone:
Fax:
E-Mail:

If anyone designated by a Contract Party as a contact person ceases service as a contact person at any point during the ten-year period following the date of signing of this Contract, the Contract Party that had designated that contact person shall provide USTDA and the other Contract Party with the name and contact information of a replacement contact person.

R. Liability

This Contract may include a clause that limits the liability of the Contract Parties, provided that such a clause does not (i) disclaim liability for special, incidental, general, or punitive damages, or (ii) limit the total amount of damages recoverable to an amount less than the total amount disbursed to the Contractor pursuant to this Contract.

S. Arbitration

If the Contract Parties submit any dispute arising under this Contract for arbitration, the scope of any such arbitration shall be limited to the Contract Parties' rights and/or obligations under this Contract and may not extend to any right or obligation of USTDA. The arbitrator(s) shall not arbitrate issues directly affecting the rights or obligations of USTDA.

ANNEX 5

Annex I

Terms of Reference

Purpose and Background

The purpose of this feasibility study ("Study") is to determine the viability of a 58 megawatt (MW) combined biomass and hydroelectric renewable energy park project ("Project") located in Hacienda Antumalal, a 24,000 acre plot of land near Mulchén in the 8th (Bío Bío) Region of Chile. The Project entails a 33 MW pass-through hydroelectric project, a 7 MW pass-through hydroelectric project, and an 18 MW biomass energy project. The Project developer is Bioenergy S.A. ("Grantee"), a private Chilean company formed by two groups of equity investors, one based in the United States and the other in Chile. The two equity groups are each 50 percent owners of the Project. The Grantee has taken preliminary steps to develop the Project, and now requires more detailed feasibility work to proceed with development and ensure bankability.

Task 1: Preliminary Environmental and Social Impact Analysis

For Task 1, the Contractor shall conduct a preliminary environmental and social impact analysis to: (i) identify any significant negative impacts that may result from the Project; (ii) determine if any of them may represent an impediment to the Project; and (iii) suggest actions on how to mitigate, avoid, or remedy the negative impacts identified. The analysis shall identify and consider potential:

- Conflicts with national parks/biospheres
- Conflicts with social heritage sites
- Impacts on local flora and endemic species
- Impacts of biomass resource harvesting on the Grantee's sustainable forestry plans
- Impacts on applicable waterways
- Impacts of water runoff
- Legal and regulatory conflicts (e.g., land rights issues).

The Contractor shall conduct a desk review of relevant documents provided by the Grantee as well as perform independent research. In addition, the Contractor shall conduct a two-day physical examination of the Grantee's site. Finally, the Contractor shall conduct a meeting with local stakeholders to gather information about any potential social conflicts.

Task 1 Deliverable: The Contractor shall submit a preliminary environmental and social impact analysis in English as detailed in Task 1.

Task 2: Conceptual Engineering for the Small Hydro Plants

The Contractor shall prepare a basic engineering design for the 33 MW and the 7 MW hydropower plants. To enable the Contractor to perform this work, the Grantee will provide the Contractor with all available studies completed by the Grantee, including the pre-feasibility study for the 33 MW hydropower plant, the supporting assessments for this pre-feasibility study such as the hydrologic resource and geologic assessments, and the hydrologic resource assessment for the 7 MW hydropower plant.

The basic project site engineering shall include:

- Validating the existing studies for the two hydropower plants
- Basic engineering design for the layout of the two hydropower plants
- Selection and sizing of mechanical and electric equipment
- Cost estimates for the two hydropower plants.

The Contractor shall validate the existing studies for the two hydropower plants, including validating the design flow, net head, installed capacity, and annual production of the two hydropower plants. Furthermore, the Contractor shall validate the existing conceptual design for the 33 MW hydropower plant.

The basic engineering design for the layout of the two hydropower plants will determine the ideal configuration of each of the two plants. It shall include the design and layout of all elements of the plants including the powerhouses; the canals; and the intake, discharge, sediment removal and control systems.

The Contractor shall select and size the mechanical and electric equipment based on the hydrologic resource and design specifications. The Contractor shall recommend the appropriate mechanical and electric equipment such as the turbines, generators, valves, control and automation, and auxiliary systems. All equipment shall be sized to the respective estimated optimum design flows and net heads. Furthermore, the Contractor shall select and size the power transformers and backup power units.

The Contractor shall seek the most economical balance of efficiency and cost for all equipment and provide cost estimates for all components of the Project recommended by the basic engineering design. In addition, the Contractor shall provide estimates for annual operations and maintenance costs, variable costs, and labor costs based on the equipment recommended by the basic engineering design of the two hydropower plants.

Task 2 Deliverable: The Contractor shall submit conceptual engineering work for the small hydro plants in English as detailed in Task 2.

Task 3: Conceptual Engineering for the Biomass Plant

The Contractor shall conduct a conceptual engineering study for the 18 MW biomass energy plant. To enable the Contractor to perform this work, the Grantee will provide the

Contractor with all available information from the biomass resource assessment completed by the Grantee.

The conceptual engineering design shall include:

- Layout of the entire biomass energy plant
- Conceptual design of the biomass resource processing equipment
- Conceptual design of the power conversion component of the biomass energy plant
- Cost estimates for the biomass energy plant.

The layout of the biomass energy installation will include the ideal configuration of all components of the biomass energy plant. It will include positioning of the biomass fuel processing storage facility (including consideration of outdoor and indoor storage); the mechanism for conveying biomass to the structure containing the boiler and power conversion units; and the water and ash storage facility. In addition, the layout shall include building dimensions, including the height of the cooling towers and stacks.

The conceptual design of the biomass resource processing equipment shall be determined based on the biomass resource assessment. Depending on the biomass resource the Contractor will recommend the appropriate equipment for receiving, chipping (if necessary), screening, weighing, storing, and metering the biomass resource. All equipment shall be sized to the estimated tonnage of biomass material that the Grantee envisions receiving annually. Finally, the Contractor shall design a conveyor system to deliver biomass material to the power conversion component.

The conceptual design of the power conversion component shall be designed to achieve the optimal heat and mass balance based on the biomass resource. Based on the desired heat and mass balance the Contractor will determine the appropriate boiler system (for example, stoker/grate or flue bed), steam turbine, cooling towers, feedwater equipment, condensers, and emissions controls. The recommended emissions controls shall be determined based on projected emissions from the plant and consideration of Chilean emissions and air quality control standards.

The Contractor shall seek the most economical balance of efficiency and cost for all equipment and provide cost estimates for all components of the Project recommended by the conceptual engineering design. In addition, the Contractor shall provide estimates for annual operations and maintenance costs, variable costs, and labor costs based on the equipment recommended by the conceptual design of the biomass power plant.

Task 3 Deliverable: The Contractor shall submit a conceptual engineering design for the biomass plant in English as detailed in Task 3.

Task 4: Interconnection Study

The Contractor shall conduct an Interconnection Study, evaluating the transmission of electricity from the Hacienda Antumalal site to the national grid. In particular, the

Contractor shall study the technical and economic viability of connecting a feeder line large enough to handle the full potential installed capacity of the Project to a grid substation to bring the Project's electricity to market. This study should focus on:

- Proposing potential feeder line routes
- Identifying equipment and material requirements of the proposed routes—including required substations
- Evaluating the technical and economic viability of proposed feeder line routes.

The Contractor shall recommend the interconnection route that is the most technically and economically viable, as well as two alternative routes (in a ranked order) in case easement issues prevent the best route from being developed. The Contractor shall also prepare an Interconnection Report explaining the advantages and disadvantages of the routes considered. This report shall include a course of action for developing the recommended route.

Task 4 Deliverable: The Contractor shall submit an Interconnection Report in English as detailed above in Task 4.

Task 5: Economic and Financial Analysis

The Contractor shall develop a Financial Model that includes investment costs, operating costs, revenues, financial analysis, and profitability analysis. Based on this Financial Model and the Contractor's market analysis, the Contractor shall develop a Commercial Strategy for the Project, including recommending financing terms that the Grantee should seek.

Sub Task 5.1: Financial Model

The Contractor shall prepare a detailed Financial Model (using Microsoft Excel) of the Project based on assumptions from its technical assessment and current market conditions in Chile. The Financial Model should be flexible (allowing a clear and easy modification of key operating and financial assumptions) and allow for the assessment of different scenarios, positive and negative, that can impact project success and profitability. At a minimum, the Financial Model shall include the following components:

- Project development costs
- Primary and auxiliary energy equipment (for example, turbines, transformers, inverters, etc.)
- Site development, preparation, and construction
- Costs of interconnection (transmission line development cost, easement costs, and/or natural gas grid connection or construction of district heating grid)
- Permitting, licensing, legal, and other professional service fees
- Insurance during construction
- Operating costs
- Personnel training
- Biomass fuel harvesting cost

- Recovery of water rights costs
- Social, general, and administrative costs and maintenance
- Insurance during operations
- Financing costs
- Interest during construction
- Contingency reserve
- Cost of letters of credit
- Debt service during operation
- Any refinancing fees
- Revenues
- Projected revenues from selling via a power purchase agreement (PPA)
- Projected revenues from selling on the Spot Market
- Projected revenues from sales of additional wood chips
- Projected revenues under different performance scenarios (for example, in the event of equipment failure)
- All relevant taxes.

The Contractor shall provide sources for all components of the financial model, including sources of financing used to estimate financing costs.

The Financial Model shall calculate the profitability, return on investment, and internal rate of return (IRR) of the Project under different scenarios, including: different capital structures, alternative methods of depreciation, varying plant performance, construction cost overruns, different interest rates, and others. The Contractor shall provide the Financial Model to the Grantee for its ongoing use as a tool during and subsequent to the completion of the Study. The Financial Model should therefore be flexible, clearly structured, and easy to use in order to allow the Grantee to model scenarios that the Project may experience during the course of its operations.

Sub Task 5.2: Commercial Strategy

The Contractor shall conduct profitability analysis under different scenarios using the Financial Model. The Contractor shall also conduct a biomass power and hydro power market analysis covering prevailing commercial arrangements, terms, and conditions; competition by similar projects and by other renewable technologies (in particular, wind and solar); availability of finance; criteria of lenders, as well as providers of equity and quasi-equity through interviews and secondary data; and identification of key barriers to financing.

Based on these analyses, the Contractor shall develop a Commercial Strategy for the Grantee. The commercial strategy should make recommendations to the Grantee on the following issues:

- Debt and equity providers—recommended providers based on the Project's profile

- Power sale strategy—PPA versus spot market or hybrid strategy
- Capital structure—debt to equity ratio, and use of subordinated debt
- Safeguards to mitigate risks to the Project's profitability.

The Commercial Strategy shall be presented in a Commercial Strategy Report to be used alongside the Financial Model.

Task 5 Deliverables: The Contractor shall submit the following materials in English to the Grantee:

- A Financial Model
- A Commercial Strategy Report.

Task 6: Developmental Impact Assessment

The Contractor shall assess the developmental impacts associated with the implementation of the Project. The assessment shall include examples of the expected development impacts if the Project is implemented as outlined in the Final Report. The Contractor shall also develop a methodology for assessing the Project's impact over time. The Contractor shall use the categories below as a guide for evaluating the impacts of the Project, and shall include quantitative estimates where possible:

- Infrastructure—the Contractor shall estimate the expected scale of infrastructure development and improvements needed to carry out the Project
- Human capacity building—the Contractor shall estimate the number and types of jobs created if the Project is implemented, as well as any training and skills development resulting from the Project
- Technology transfer and productivity improvement—the Contractor shall analyze the potential commercial contracts for licensing new technology and their impact in Chile. This could include productivity gains from the technology or more efficient use of resources
- Market oriented reform—the Contractor shall discuss market-oriented reforms that would result from the implementation of the Project. This could include policy and regulatory changes at the local or national level or reduction of market distortions
- Other benefits—the Contractor shall present any other significant developmental benefits of the Project not encompassed in the preceding categories.

Task 7: U.S. Sources of Supply

The Contractor shall identify potential sources of equipment and services that can be procured competitively from U.S. vendors for construction of an 18 MW biomass combined heat and power/cogeneration plant, a 33 MW pass-through hydro plant, and a 7 MW pass-through small hydro plant. The Contractor shall compile a list of such vendors and the equipment and services that they provide, as well as preliminary estimates from the vendors for the cost of their services and products relevant to the Project. This list shall comprise the Sources of Supply Report.

Task 8: Implementation Plan

The Contractor shall recommend an Implementation Plan to the Grantee. At a minimum, the Implementation Plan shall include schedules for:

- Development activities
- Contracts and commercial agreements
- Regulatory consent
- Securing financing
- Key ownership and management decisions.

The Contractor shall also provide a standard interconnection agreement for the Project to connect to the grid (based on the technical assessment from Task 4) as part of the Implementation Plan.

Task 9: Final Report

The Contractor shall deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause J of Annex II of the Grant Agreement.

A N N E X 6

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [*To be completed by USTDA*]	2013-51028A						
Activity Type [*To be completed by USTDA*]	☐	Feasibility Study	✔	Technical Assistance	☐	Other (specify)	
Activity Title [*To be completed by USTDA*]	Chile 58 MW Combined Biomass and Hydroelectric Renewable Energy Park						
Full Legal Name of U.S. Firm							
Business Address (street address only)							
Telephone		Fax		Website			
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.							
Type of Ownership	☐	Publicly Traded Company					
	☐	Private Company					
	☐	Other (please specify)					
Please provide a list of directors and principal officers as detailed in Attachment A. Attached? (Not Applicable for U.S. Publicly Traded Company)	☐	Yes					
If Private Company or Other (if applicable), provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in U.S. Firm, please complete Attachment B.							
Is the U.S. Firm a wholly-owned or partially owned subsidiary?	☐	Yes					
	☐	No					
If so, please provide the name of the U.S. Firm's parent company(ies). In addition, for any parent identified, please complete Attachment B.							
Is the U.S. Firm proposing to subcontract some of the proposed work to another firm?	☐	Yes					
	☐	No					
If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached?	☐	Yes					
	☐	Not applicable					
Project Manager							
Name	Surname						
	Given Name						
Address							
Telephone							
Fax							
Email							
Negotiation Prerequisites							
Discuss any current or anticipated commitments which may impact the ability of the U.S. Firm or its subcontractors to complete the Activity as proposed and reflect such impact within the project schedule.							
Identify any specific information which is needed from the Grantee before commencing negotiations.							

U.S. Firm may attach additional sheets, as necessary.

U.S. Firm's Representations

U.S. Firm shall certify to the following (or provide an explanation as to why any representation cannot be made):

1. U.S. Firm is a *[check one]* ☐ Corporation ☐ LLC ☐ Partnership ☐ Sole Proprietor ☐ Other:

duly organized, validly existing and in good standing under the laws of the State of: *[insert state]* .

The U.S. Firm has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the USTDA Activity. The U.S. Firm is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. The U.S. Firm has included herewith, a copy of its Articles of Incorporation (or equivalent charter or document issued by a designated authority in accordance with applicable laws that provides information and authentication regarding the legal status of an entity) and a Certificate of Good Standing (or equivalent document) issued within 1 month of the date of signature below by the State of: *[insert state]* .

The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change in its status in the state in which it is incorporated. USTDA retains the right to request an updated certificate of good standing. **(U.S. publicly traded companies need not include Articles of Incorporation or Good Standing Certificate)**

3. Neither the U.S. Firm nor any of its principal officers have, within the ten-year period preceding the submission of this proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

4. Neither the U.S. Firm, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.

5. There are no federal or state tax liens pending against the assets, property or business of the U.S. Firm. The U.S. Firm, has not, within the three-year period preceding the submission of this proposal, been notified of any delinquent federal or state taxes in an amount that exceeds US$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

6. The U.S. Firm has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself of its debts under any bankruptcy, insolvency or other similar law. The U.S. Firm has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

7. The U.S. Firm certifies that it complies with USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.

The U.S. Firm shall notify USTDA if any of the representations are no longer true and correct.

U.S. Firm certifies that the information provided in this form is true and correct. U.S. Firm understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the U.S. Firm.

Name		Signature	
Title			
Organization		Date	

ATTACHMENT A

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form – Directors and Principal Officers

(Not Applicable for U.S. Publicly Traded Company)

Provide a list of all directors and principal officers (e.g., President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer). Please provide full names including surname and given name.

USTDA Activity Number [*To be completed by USTDA*]	2013-51028A
Activity Title [*To be completed by USTDA*]	Chile 58 MW Combined Biomass and Hydroelectric Renewable Energy Park
Full Legal Name of Entity	

Title	Name		
(e.g., Director, President, Chief Executive Officer, Vice-President(s), Secretary, Treasurer) ***** *Please place an asterisk (*) next to the names of those principal officers who will be involved in the USTDA-funded activity*	**Surname**	**Given Name**	**Middle Name**

ATTACHMENT B

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form – Shareholder(s) and Parent Company(ies)

If applicable, U.S. Firm provided a list of shareholders and the percentage of their ownership. This form shall be completed for each shareholder that owns 15% or more shares in U.S. Firm, as well as any parent corporation of the U.S. Firm ("Shareholder"). In addition, this form shall be completed for each shareholder identified in Attachment B that owns 15% or more shares in any Shareholder, as well as any parent identified in Attachment B.

USTDA Activity Number [*To be completed by USTDA*]	2013-51028A
Activity Title [*To be completed by USTDA*]	Chile 58 MW Combined Biomass and Hydroelectric Renewable Energy Park
Full Legal Name of U.S. Firm	
Full Legal Name of Shareholder	
Business Address of Shareholder (street address only)	
Telephone number	Fax Number
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	
Country of Shareholder's Principal Place of Business	
Please provide a list of directors and principal officers as detailed in Attachment A. Attached?	☐ Yes
Type of Ownership	☐ Publicly Traded Company ☐ Private Company ☐ Other
If applicable, provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in Shareholder, please complete Attachment B.	
Is the Shareholder a wholly-owned or partially owned subsidiary?	☐ Yes ☐ No
If so, please provide the name of the Shareholder's parent(s). In addition, for any parent identified, please complete Attachment B.	

Shareholder may attach additional sheets, as necessary.

ATTACHMENT C

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

Subcontractor Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [*To be completed by USTDA*]	2013-51028A
Activity Title [*To be completed by USTDA*]	Chile 58 MW Combined Biomass and Hydroelectric Renewable Energy Park
Full Legal Name of Prime Contractor U.S. Firm ("U.S. Firm")	
Full Legal Name of Subcontractor	
Business Address of Subcontractor (street address only)	
Telephone Number	
Fax Number	
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	

Subcontractor Point of Contact		
Name	Surname	
	Given Name	
Address		
Telephone		
Fax		
Email		

Subcontractor's Representations									
Subcontractor shall provide the following (or any explanation as to why any representation cannot be made), made as of the date of the proposal:									
1. Subcontractor is a *[check one]*	☐	Corporation	☐	LLC	☐	Partnership	☐	Sole Proprietor	☐	Other	
duly organized, validly existing and in good standing under the laws of:	*[insert state (if U.S.) or country]*	.									
The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the U.S. Firm is selected, to execute and deliver a subcontract to the U.S. Firm for the performance of the USTDA Activity and to perform the USTDA Activity. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.									
2. Neither the subcontractor nor any of its principal officers have, within the ten-year period preceding the submission of the Offeror's proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.									
3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.									
4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.									
5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.									
6. The Subcontractor certifies that it complies with the USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The Subcontractor commits to notify USTDA, the Contractor, and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.									
The selected Subcontractor shall notify the U.S. Firm, Grantee and USTDA if any of the representations included in its proposal are no longer true and correct.									
Subcontractor certifies that the information provided in this form is true and correct. Subcontractor understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the Subcontractor.									

Name		Signature	
Title			
Organization		Date	