

REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

BATYS-TRANSIT POWER SUPPLY PROJECT IN KAZAKHSTAN

Submission Deadline: **4:00 PM**
LOCAL TIME
SEPTEMBER 30, 2014

Submission Place: Mr. Kurmangazy Ibragimov
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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.

REQUEST FOR PROPOSALS

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$744,450 to "Batys transit" Joint Stock Company (the "Grantee") in accordance with a grant agreement dated June 30, 2014 (the "Grant Agreement") to fund a feasibility study ("Feasibility Study") for the Batys-Transit Power Supply Project ("Project"). This Feasibility Study will allow the Grantee to determine the technical, economic and financial feasibility of a gas-fired power plant to provide for increased power supply and to review options for producing renewable energy. 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 Aktobe province in northwestern Kazakhstan continues to lack enough power generation within its borders to meet demand. In order to partially address this lack of electricity, in 2005 the Grantee was established to build a transmission line to bring power from other provinces to Aktobe. The Grantee owns over 500 kilometers of 220 kilovolt (kV) and 500kV transmission lines in the province. Due to industrial growth, electric power demand in the province, which is home to a substantial number of industrial customers, is expected to rise significantly. The Grantee primarily provides transmission services between power production and large consumers (primarily industrial) in the region.

The Grantee desires to reduce or ideally eliminate the costs of replacing power due to line losses. In order to avoid purchasing the power from the grid, the Grantee needs 25-50 megawatts (MW) of power generation capacity available. To achieve this goal BTTR is planning to build and operate a gas-fired power plant (using pipeline gas, industrial off-gases or biogas from landfills).

The Grantee is also considering securing an option that provides more than the required 25-50 MW, which would provide the possibility of selling additional power to the grid. Therefore, a size of up to 100 MW would be studied under the Feasibility Study. In addition to the gas-fired power plant, the Grantee is considering options for producing additional renewable energy through wind, solar or waste-to-energy.

Portions of a background Definitional Mission are provided for reference in Annex 2.

1.2 OBJECTIVE

The objective of the Batys-Transit Power Supply Feasibility Study is to determine the technical, economic and financial feasibility of a 25-100 MW gas-fired power plant to provide for increased power supply and to review options for producing renewable energy.

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\$744,450. **The USTDA grant of \$US744,450 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.** 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\$744,450 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 the “Batys-Transit Power Supply Project.

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. 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\$744,450.

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 and Russian.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

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

Mr. Kurmangazy Ibragimov
CEO
“Batys transit” Joint Stock Company
050008, Shevchenko Street, 162-ZH, Almaty City, Kazakhstan
Phone: +7 (727) 375-65-14 (EXT. 121)
Fax: +7 (727) 375-70-70
E-mail: secretary@bttr.kz

An Original and eight (8) copies of your proposal must be received at the above address no later than 4:00 PM LOCAL TIME, on September 30, 2014.

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 eight (8) 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\$744,450, which is a fixed amount.

Offerors shall submit one (1) original and eight (8) copies of the proposal. Proposals received by fax 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:

Professional Experience (40%) – Each bidder will propose a project team that will be fully qualified to execute the entire study scope of work. The proposed staff should have qualifications and experience in engineering, technical analysis, operations planning and modeling, environmental assessments, as well as excellent technical knowledge of modern gas-fired power plant technology (including handling varying qualities and sources of gas), substations, and appropriate software and hardware. Bidders shall demonstrate knowledge and experience with the engineering and analysis of renewable power plants (including particularly, wind and solar). Experience with utility or independent power producer clients would be beneficial. Qualified bidder will provide evidence of satisfactorily executing at least two similar projects in the last 10 years. Reference projects should have similar or larger size and complexity as the proposed one.

Proposed Work Plan (25%) – Each bidder shall demonstrate understanding of all project tasks. Proposal efforts should be responsive to requirements outlined in the Scope of Work. The proposed Work Plan should be detailed, realistic, and manageable. Clear objectives should be achieved at the end of all tasks.

International Experience (20%) – Each bidder shall exhibit international experience and capability to perform similar feasibility studies in the region, preferably in the former Soviet Union or Eastern Europe. Qualified bidder will provide evidence of satisfactory executing at least one similar international project in the last 10 years. Reference international project should have similar or larger size and complexity as the proposed one.

Speed of Completion (15%) – Timely completion of the project is vital to “Batys Transit” Joint Stock Company; therefore, each bidder shall present a timeframe for completion that is supported by the bidder's schedule and level of effort. Proposals supporting an earlier completion date will score higher on this criterion.

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

Price will not be a factor in contractor selection.

ANNEX 1

Mr. Kurmangazy Ibragimov
CEO
“Batys transit” Joint Stock Company
050008, Shevchenko Street, 162-ZH, Almaty City, Kazakhstan
Phone: +7 (727) 375-65-14 (EXT. 121)
Fax: +7 (727) 375-70-70
E-mail: secretary@bttr.kz

Kazakhstan: Batys-Transit Power Supply Project

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. Kazakhstan: Batys-Transit Power Supply Project. 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 for Batys-Transit Power Supply Project in Kazakhstan.

The objective of the Feasibility Study is to make a recommendation on a 25-100 megawatt (MW) gas-fired power plant, including the preferred size of the plant (taking into account the demand for electricity sales to the grid), type and source of gas and preliminary design. Using the preliminary design of the gas-fired power plant, the Feasibility Study will provide an economic analysis, a preliminary environmental impact study, financial reviews and tender documentation (using performance specifications) for the recommended solution. Finally, the Feasibility Study would perform a screening analysis and make a recommendation on a potential additional renewable power plant. The Feasibility Study results would be used by the Grantee to make investment decisions and obtain financing for the project.

The U.S. firm selected will be paid in U.S. dollars from a \$744,450 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 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 and Russian directly to the Grantee by **4:00 PM, September 30, 2014 local time** 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.

ANNEX 2



2. Project 1 – Batys-Transit Resource Assessment Study

2.1 Executive Summary

This proposed project was identified by the Batys-Transit (BTTR or Grantee), an independent private-public partnership transmission company formed by KEGOC and Mekhenergostroy LLP¹ in 2005 in Aktubinsk (Aktobe) Region.

The BTTR current business model includes the ownership of over 500 km of 220 and 500 kV high-voltage lines and two major substations at Zhitikara and Ulke. BTTR is generating revenues by providing electricity transmission service between generators and large customers.

The Aktobe regional demand in 2012 reached almost 4 TWh. Batys-Transit has supplied over 1.2 TWh (30%) of the region's demand. Kazchrome (ENRC subsidiary) industrial enterprises consume significant share of BTTR transmitted energy (over 800 GWh in 2012). With planned expansion of Kazchrome Aktobe Alloy Plant (AZF) the consumption in 2014 is expected to grow to 2,800 GWh.

BTTR is charging customers a fee for transmitting power to Aktobe customers. BTTR is responsible for own transmission losses. Currently, BTTR buys loss allowance from generators or monthly market auctions. Current (2012) losses are estimated at about 5.6%. BTTR actual 2012 losses were about 70 GWh, costing company about \$4 million. BTTR has estimated 2014 losses about 150 GWh (or 35-45 MW). BTTR also interested in exploring increased customer base by signing more industrial clients to transmit power to and serving regional (residential and commercial) demand (acting not just as transmission entity but also as a generator). BTTR estimates a need of about 25-100 MW of self-generated power to cover increased losses and sales to new clients.

Major tasks of the proposed study include:

- Local and regional requirement assessment;
- Regulatory analysis impacting local delivery and generation;
- Existing and new supply assessment;
- Own generation preliminary design;
- Cost estimating;
- Economic assessment;

¹ The LLP is a T&D design organization with ISO9001 certification. Mekhenergostroy is a private organization. Mr. Iskakov, on the Board of BTTR Directors, is representing Mekhenergostroy ownership in this PPP.



- Financing alternatives analysis;
- Environmental and social impact assessments; and
- Preparation of tender documents.

BTTR is interested in investigating the mix of the following fuels/technologies for the proposed 25-100 MW power generation project:

- Synthetic gas that is a byproduct of several major industrial enterprises in Aktobe;
- City municipal solid waste for biogas generation and/or incineration;
- Natural gas; and
- Supplemented by renewable energy sources (if feasible).

The overall estimated project cost for 100 MW is about \$80 million for the cheapest generation option. The U.S. exports could reach \$31 million (~40%) for that option. The proposed study cost is estimated at \$744,450.00 and should be completed within nine months.

2.2 Project Background and Description

2.2.1 General Sector Background²

The electricity sector of Kazakhstan is one of the most important sectors of the national economy. In 20 years' independence this sector has changed significantly: The country has carried out restructuring and privatization of energy enterprises. The reforms included energy companies unbundling by types of activities, establishment of wholesale and retail electricity markets. Development of competition in the electricity sector caused an increase in tariffs and the establishment of local monopolies.

The unified power system (UPS) of Kazakhstan operates in parallel with the Unified Power System of Russia and Central Asia. The UPS of Kazakhstan is conditionally divided into three zones:

- Northern Zone (Akmola, Aktobe, Kostanay, Pavlodar, North Kazakhstan, East Kazakhstan, Karaganda regions);
- Southern Zone (Almaty, Zhambyl, Kyzylorda, south Kazakhstan regions);
- Western Zone (Atyrau, west Kazakhstan, Mangystau regions).

² Draws heavy on Investment Climate and Market Structure Review in the Energy Sector of Kazakhstan, EU Energy Charter Secretariat, 2013.



The electricity sector of Kazakhstan includes the following subsectors: Electricity generation, transmission, supply and consumption and other activities in the electricity sector.

The peak level of electricity consumption in Kazakhstan was recorded in 1990 (104.7 billion kWh [kilowatt-hours]). Subsequently the level of electricity consumption was reduced to 50.7 billion kWh in 1999. During 2000–2008, electricity consumption steadily increased by about 5% per year on average. In 2011, electricity consumption in Kazakhstan totaled 88.11 billion kWh; electricity generation – 86.20 billion kWh (6% increase compared to 2010). According to forecasts, in 2015 generation of electricity will amount to 103.4 billion kWh, consumption – to 100.5 billion kWh.

A considerable part of the electricity sector's assets is in need of modernization due to natural wear (service life from 40 to 60 years), which requires significant investment. Service life in relation to electricity generation is close to expiration (75% – TPP and 90% – HPP), resulting in a gap between the installed (19,800 MW [mega watt]) and the available (15,700 MW) capacity of existing power plants.

The State undertakes proactive measures to avoid the deficiency of electricity by putting into operation new capacities and carrying out reconstruction and modernization of the existing power plants and grids. In October 2010, the government adopted a new Program of the National Electricity Sector Development for 2010–2014 (the Electricity Sector Development Program), which provides for an increase in electricity generation in 2014 to 97.9 billion kWh, with forecasted consumption at 96.8 billion kWh.

Generation of electricity

As of 1 January 2011, electricity generation in Kazakhstan was provided by 46 generation companies in various forms of ownership at 65 power plants, and at the total installed capacity of about 19.8 GW [gigawatt] and an available capacity of about 15.7 GW.

Over 85% of all electricity is produced by thermal power plants (TPP), with about 38% of generation capacities (6,700 MW) attributed to heat and power plants (CHP). A total of 70% of TPPs use coal and only 15% use gas/mazut.

In 2011, electricity generation reached the record level of over 86 billion kWh, that is, comparable with electricity generation in the early 1990s.



Power plants are grouped in the following categories: National, industrial and regional power plants. National power plants include the following major thermal power plants which generate and sell electricity to consumers in the wholesale electricity market of Kazakhstan:

- Ekibastuz SDPP-1;
- Ekibastuz SDPP-2;
- Euroasian Energy Corporation (Aksu SDPP);
- SDPP Corporation Kazakhmys;
- Zhambyl SDPP.

In addition, there are high-capacity hydro power plants, which provide additional generation capacities and balancing for the load schedule of Kazakh UPS:

- Bukhtarma HPP of JSC Kazzinc;
- Ust-Kamenogorsk HPP;
- Shulbinsk HPP.

Industrial power plants include gas-turbine power plants (GTPP) of the oil and gas sector enterprises; these plants are adapted to covering their own demand for electricity. They are also involved in the combined generation of electricity and useful heat - cogeneration plants (CHP), which supply these forms of energy to major industrial enterprises and neighboring communities:

- GTPP TengizChevroil LLP;
- GTPP Kumkol - JSC PetroKazakhstan Kumkol Resources;
- GTPP Karachaganak Petroleum Operating B.V.;
- CHP-3 Karaganda Zhilu LLC;
- CHP - steam-air blow plant;
- CHP-2 ArcelorMittal Temirtau JSC;
- Rudnenskaya CHP (JSC SSGPO);
- Balkhash CHP;
- Dhezkazgan CHP - Kazakhmys Corporation LLC;
- Pavlodar CHP-1 Alumini Kazahstana JSC;
- Shymkent CHP-3 and others.

Regional power plants are CHP-integrated with territories, which sell electricity through networks of regional power grid companies and electricity transmission companies; they also supply heat to neighboring towns.



Currently, within the framework of the State Program for Accelerated Industrial and Innovative Development of RK for 2010–2014, KEGOC, Samruk Energy, Eurasian Energy Corporation, JSC Transnational Company Kazchrom, Pavlodarenergo and other companies with involvement of their own and loan funds implement 13 projects in the electricity sector to a total cost of KZT 753.2 billion. The following projects were completed: The extension of Atyrau CHP of 75 MW capacity, the construction of four substations in Almaty and Almaty Region, the restoration of power unit No. 2 at Aksu SDPP, and the construction of Uralskaya GTPP with a capacity of 54 MW.

In 2011, Uralskaya GTPP was put into operation in west Kazakhstan with three gas-turbine units of total capacity 54 MW. In Pavlodar Region, Euroasian Energy Corporation put into operation (after modernization) a power unit at Aksu SDPP with capacity of 325 MW.

Implementation of Ekibastuz SDPP-2 Expansion and Rehabilitation Project with assembly of power unit No. 3 was started. The project included the construction of a new power unit of 600–630 MW. At the same time financing issues were reviewed for Balkhash TPP Construction Project. Construction costs are estimated at about USD 4.5 billion. The project will be implemented in two stages; each stage comprising two power units of 660 MW.

The following projects are being implemented now or recently completed:

- Construction of GTPP at Akshabulak field, capacity – 87 MW;
- Construction of Balkhash TPP, capacity of module I – 1,320 MW;
- Restoration of power unit No.8 at Ekibastuz SDPP-1;
- Construction of Alma substation of 500 kV[kilo volts] with connection to the National Power Grid of Kazakhstan by 500 kV and 220 kV lines;
- Schedule of power output at Moynak HPP;
- Modernization of the National Power Grid, Stage II (replacement of power equipment at 55 substations).

Power grids and power transmission

Power grids of Kazakhstan include substations, distribution facilities and connecting lines of voltage in the range 10–1,150 kV, designed for transmission and/or distribution of electricity.

The National Power Grid is the mainstay of the UPS of Kazakhstan and provides the electrical connection between Kazakhstan’s regions and the power grids of



neighboring states (the Russian Federation, the Kyrgyz Republic and the Republic of Uzbekistan), as well as the transmission of electricity from power plants to wholesale consumers. Substations, distribution facilities, interregional and/or interstate transmission lines and lines providing release of electricity by power plants (220 kV and more) included in the National Power Grid are part of the financial statement of Kazakhstan's company for power grid operation, JSC KEGOC.

A total of 21 regional power grid companies operate regional grids below 220 kV and provide dispatching services and transmission of electricity to retail consumers. Transmission companies relay electricity on the basis of contracts through their own or thirdparty power grids (rent, leasing, trust management and other types of use) to consumers in the wholesale and retail markets or to power supply companies.

JSC KEGOC is a system operator of the UPS of Kazakhstan and provides services of electricity transmission and dispatching. As of 1 January 2010, JSC KEGOC had 310 power transmission lines of 0.4–1,150 kV on their balance sheet. Total length of transmission lines exceeds 24,000 km. In 2011, electricity transmission services by JSC KEGOC increased by 18.3%, compared to 2010 and totaled 41.04 billion kWh.

The National Power Grid of Kazakhstan faces certain operational difficulties such as the limited throughput capacity of grids at north–south and north–east directions, the lack of connection between the UPS and west Kazakhstan, and insufficient technical equipment levels. Therefore, it is necessary to construct a number of major interconnection lines of the third chain of north– east–south and west–south, and carry out a comprehensive modernization of the National Power Grid. In 2009, JSC KEGOC completed the first stage of the program of modernization of the National Power Grid and started the second stage, expected to be completed by 2016. In 2008, for the purposes of its implementation, the national company signed a loan agreement with EBRD for EUR 255 million.

Electricity sector legislation

The basic law regulating the electricity sector in the RK is the Law of the RK, 9 July 2004 No. 588-II On Electricity (as amended, 22 July 2011).

In July 2012, the Law on Amendments and Changes to Certain Legislative Acts of the Republic of Kazakhstan on Electricity was approved, as was Agreement on the Investment Activities of Natural Monopoly Entities and Regulated Market, which puts generating companies under obligation of reducing tariffs or returning unused funds in the event of non-fulfillment by them of their investment commitments or no-purpose investment.



The law provides for amendments to the Code of Administrative Violations, and the Laws on Natural Monopolies and Regulated Markets on Electricity. The law is intended to “strengthen the responsibility of generation companies, natural monopoly entities and regulated market for fulfillment of investment obligations, improve the quality of services provided, the transparency of investment activity of generating companies, as well as to meet Kazakhstan’s economy demand for electricity and capacity through introduction of electrical capacity market”.

Amendments have been made to the Law on Electricity, which provides for transparency of power plants’ investment activity, including obligatory publishing of all information on investment programs in the media, and strengthening the mechanism for control of power plants’ investment obligations. In addition, for the purposes of ensuring the performance of investment obligations and targeted investments, provisions are introduced on the compliance of power plants’ investment obligations with investment income or income from capital; power plants also have the responsibility to reduce prices or return unused funds to consumers, and the obligation to ensure the effective use of resources in the country.

The electricity sector is also regulated by government resolutions in relation to the functioning of that market and the rules of electricity consumption. In addition, Kazakh legislation on Natural Monopolies as related to tariff setting and freedom of access plays an important role in the legal regulation of the electricity sector.

Currently, the Committee for State Power Supervision and Control of the Ministry of Industry and New Technologies of the RK has developed basic regulatory acts: Rules of power unit installation, rules for technical operation of power plants and grids, safety rules for working with the equipment of power plants and power units of consumers and certain regulatory acts.

Electricity market structure

In 1996, Kazakhstan started the privatization and restructuring of the electricity sector with the aim of transition to market economy. Within the framework of implementation of these measures, the electricity sector was divided into competitive and monopoly segments.

The Kazakhstan Agency for Regulation of Natural Monopolies effects management in the natural monopoly segment and on the state regulation of sale prices for consumers in the retail market The transmission and distribution of electricity has been attributed to the State’s monopoly segment. Electricity transmission services



were included in the natural monopoly activities and are provided at charges established by the regulator. Generation of electricity and services provided by specialized enterprises were attributed to the competitive segment.

The electricity sector structure is as follows:

- Systematically important (interstate and intersystem) 220–500–1,150 kV power grids, power grids supplying electricity to major consumers and transmission lines connected to TPPs and HPPs which comprise the National Electricity network that belongs to the National Company JSC KEGOC;
- Regional electricity grid companies were established on the basis of power grids with voltage of below 110 kV, supplying and distributing electricity at regional level; the major part of these companies was privatized;
- Large power plants in the country were either privatized or transferred to strategic investors under concessionary agreements;
- Over 9,500 MW of generation capacity is ran by state-owned Samruk-Energo³;
- Power plants with combined generation of electricity and heat, which provide regional consumers with heat, were transferred into communal property or privatized.

Electricity supply to the Kazakh electricity market is provided by supplying companies, which purchase electricity from generating companies; or during centralized auctions sell it to retail consumers in the end-use sector. A total of 45 electricity supplying companies operate in the Republic.

To date Kazakhstan has established an open two-tier competitive market of electricity, which includes:

- The wholesale market of electrical capacity and energy;
- The retail electricity market.

Participants of the wholesale market of electricity include:

- Sellers: generation companies (all power plants, which transmit electricity to their consumers though grids of JSC KEGOC);
- Buyers:
 - Consumers buying electricity in excess of the established minimum;
 - Regional power grid companies;
 - Energy supplying companies;
 - System operators;

³ Based in http://samruk-energy.kz/index.php?option=com_content&view=article&id=52&lang=en&Itemid



- Operators of centralized trade in electricity.

Participants of the retail market of electricity include:

- Sellers: Generation companies (regional power plants not working on the wholesale market) selling electricity on a competitive basis.
- Buyers:
 - Consumers not entitled to buy electricity on the wholesale market (consumers of electricity with connected capacity up to 1 MW);
 - Energy supplying companies;
 - Regional power grid companies.

The wholesale electricity market includes the following:

- The market for decentralized purchase and sale of electricity, where electricity market players, through negotiations or tenders, independently enter into direct bilateral contracts for purchase and sale of electricity. These contracts determine the capacity of electricity supplies, contract validity terms, contractual price and the payment terms for electricity. The share of the decentralized market is 88%.
- The market for centralized trade in electricity provides non-discriminatory access of participants to the market, where electricity purchase and sale transactions are concluded on a short-term (spot trade), medium-term (week, month) and long-term basis (quarter, year) basis. The centralized electricity market operator is JSC KOREM. The share of the centralized market is about 12%.
- The real-time balancing market, which functions for the purpose of physical and subsequent financial adjustment of hourly imbalances; these are inequalities that emerge during the operation time between actual and contractual values of electricity generation and consumption in the UPS of the Kazakhstan Republic (launched, 1 January 2008).
- The ancillary services (market) that functions on the basis of electricity purchase from members of the wholesale electricity market and that uses the relevant electrical services of the wholesale market. By the coordination of the UPS of the Kazakhstan Republic and on the basis of the quality of electric energy established by state standards, these ancillary services participate in the market.

The daily schedule of electricity purchase and sale by participants of Kazakh's wholesale market is prepared, based on results of the trade in electricity on



decentralized and centralized markets. Dispatching of day-ahead electricity load management is performed according to this schedule.

Renewable energy sources (RES)

Kazakhstan has the potential of wind, solar, hydrothermal power and the hydro power of small rivers. The great RES potential of Kazakhstan exceeds 1 trillion kWh per year (about 10 times the energy consumption in the country). However, the share of RES in energy mix is below 0.5% (with 90% provided by small HPPs). Wind, solar and biogas cover only 0.02–0.03% of energy consumption in the country. Apart from partial use of hydro power, the potential for RES is not used sufficiently in Kazakhstan. However, wind and solar power resources in the country are stable and acceptable for the economic, viable generation of electricity. The main goal is to increase the share of these sources in the energy mix of the country.

Kazakhstan plans to promote RES development in the following key directions:

- Creation of favorable conditions for construction and operation of RES capacities;
- Promotion of electricity and heat generation from RES and creation of favorable conditions for efficient integration of RES capacities in the Unified Power System;
- Allocation for investment incentives.

Kazakhstan's Government is reviewing the National Program of Wind Power Sector Development until 2015 with extension until 2024 (prepared under the joint project of the Kazakhstan Government and the UN Development Kazakhstan Program – Wind Power Market Development Initiative). The goal of the program is to use the wind power potential of Kazakhstan for generation of 900 million kWh of electricity per year by 2015 and 5 billion kWh – by 2024, within the framework of the Concept of Kazakhstan's transfer to sustainable development for 2007–2024, and the strategy of industrial and innovative development of Kazakhstan for 2003–2015, where the aim is the preservation of natural resources and the environment. Under the implementation of the State Program for accelerated industrial and innovative development of the RK for 2010–2014 with the aim of extending strategic areas of activities, the National Atomic Company Kazatomprom JSC established a number of independent subsidiaries responsible for implementing projects in the RES sector.

These enterprises include: Ecoenergomash LLP (wind power), Mashzavod LLP and Legmash LLP (heat pumps), KAZ PV Project (solar power), including four independent but interrelated legal entities: Kvarts LLP (Ushtobe) – quartz mining,



KazSilicon LLP (Ushtobe) – processing of quartz and production of metallurgical silicon, Kaz Solar Silicon LLP (Ust-Kamenogorsk) – high level processing of silicon and production of photovoltaic panels, AsSolar LLP (Astana) – production of photovoltaic modules.

AO “Samruk-Energo” executes the order of the President and the development Strategy of Kazakhstan. The company has started developing RES. In order to realize RES Projects, the subsidiary company TOO “Samruk-Green Energy” was established under registration number 42317-1901-TOO, 25 January 2012.

TOO “Samruk-Green Energy” is a dynamically developing company that conducts its activities in the area of electricity production by using renewable energy technologies. The company has the following strategic objectives and activities:

- Designing and construction of projects to use for RES, technical devices and associated facilities to produce electricity and heat energy;
- Producing and selling of electricity produced from RES;
- Providing maintenance of transmission systems to transport electricity from place of production to distribution networks;
- Organizing and providing consulting services, participating in research and design activities in the area of RES.

2.2.2 Project

Joint-stock company Batys-Transit was established in November 2005, in accordance with the Resolution of the Government of the Republic of Kazakhstan No.1,008 as of October 7, 2005, in order to implement the project “Construction of interregional power transmission line Northern Kazakhstan-Aktyubinsk (or Aktobe) Region”.

Aktyubinsk Region, due to its geography, was always energy deficient. Batys-Transit interconnection project was designed to relieve some of the local congestion and increase energy flow into the region. While the goal was temporary achieved, the load growth in the region, primarily due to the industrial development, makes delivery of more energy difficult, therefore creating a barrier for the economic development.

Batys-Transit owns significant transmission infrastructure in Aktyubinsk Region, including:

- 486 km of 500 kV HV lines;



- 76 km of 220 kV HV lines;
- 60 kV Zhitikara Substation; and
- 500 kV Ulke Substation.

Regional Energy Balance

<This section is business confidential>

Proposed Project

BTTR is a currently acts as transmission entity charging customers a fee for transmitting power from certain points and/or generators to Aktobe customers. The agreement with each customer individually sets the tariff. In simple terms, BTTR is responsible for its own transmission losses. Currently, BTTR buys loss allowances from generators or monthly market auctions. Current (2012) losses are estimated at about 5.6%.

It should be noted that even now, BTTR has a difficult time sourcing energy to cover its own losses due to a limited supply situation. With increased commitments, the Company will be in an even more difficult position.

BTTR's actual 2012 losses were about 70 GWh, costing the company about \$4 million. BTTR has estimated 2014 losses about 150 GWh (or 35-45 MW). BTTR is also interested in exploring an increased customer base by signing more industrial clients to transmit power to and serving regional (residential and commercial) demand (acting not just as transmission entity but also as a generator). **BTTR estimates the need for about 25-100 MW of power to cover anticipated increased losses and sales to new clients.**

The Company is interested in a comprehensive study that will analyze the economics of doing business as usual, proposed increases in both transmission and distribution, and various supply alternatives to cover its own commitments and potential regional sales. Exhibit 1-2 below provides the framework for the study.



Exhibit 1-2 -- BTTR Areas Study of Interest

Timeframe	2013	2014-16	2017-on
Scenario	Transmission Only	Entity and Generation Entity	Transmission, Distribution, and Generation Entity
Estimated Needs	Fairly limited transmission obligations ~ 1,200 GWh,	Increased transmission obligations ~ 2,800 GWh and own generation for losses coverage.	Increased transmission obligations, local distribution responsibility, own generation for losses and supply.

Major tasks of the proposed project include:

- Local and regional requirement assessment;
- Regulatory analysis impacting local delivery and generation;
- Existing and new supply assessment;
- Own generation preliminary design;
- Cost estimating;
- Economic assessment;
- Financing alternatives analysis;
- Environmental and social impact assessments; and
- Preparation of tender documents.

BTTR is interested in investigating the following fuels/technologies for the proposed 25-100 MW project:

- Synthetic gas that is a byproduct of several major industrial enterprises in Aktobe;
- City municipal solid waste for biogas generation and/or incineration;
- Natural gas (closest interconnection point is about 100 km south of load location);
- Solar; and
- Wind.



2.3 Project Sponsor's Capabilities and Commitment

2.3.1 Batys-Transit⁴

Joint-stock company Batys-Transit (www.bttr.kz) was established in November 2005, in accordance with the Resolution of the Government of the Republic of Kazakhstan No.1,008 as of October 7, 2005, in order to implement the project "Construction of interregional power transmission line Northern Kazakhstan-Aktyubinsk region".

<This section is business confidential>

BTTR implementing the project on the basis of the Concession agreement, concluded on December 28, 2005 with the Government of the Republic of Kazakhstan, represented by the Ministry of Energy and Mineral Resources of the Republic of Kazakhstan, approved by the Resolution of the Government of the Republic of Kazakhstan No.1,217 as of December 9, 2005.

BTTR is one of the first examples of public-private partnerships in the implementation of projects of national importance, implemented on the basis of the concession agreement and funded through infrastructure bonds placement. The project "Construction and operation of interregional 500 kV power transmission line "Northern Kazakhstan-Aktyubinsk region" is pointed out in the President's Address to the People of Kazakhstan as of February 6, 2008 "Improving the well-being of the citizens of Kazakhstan is the main goal of the national policy", as one of the breakthrough projects, included in the state program "30 corporate leaders of Kazakhstan".

Some of the key company milestones include:

- 2005 - Foundation of the company;
- 2007-2008 - Implementation of the construction of 500 kV power transmission lines;
- 2009 - Start of commercial operation of 500 kV power transmission lines; and
- 2012-2013 - Implementation of the construction of two single-circuit 220 kV power transmission lines.

⁴ Based on 2012 Annual Report and data provided by BTTR



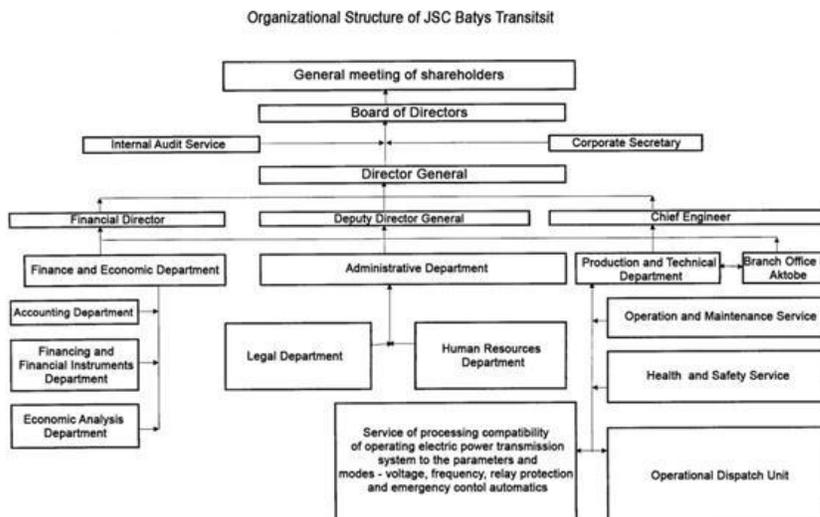
The company’s mission concentrates around promoting the development of electric power industry of Kazakhstan through participating in the improvement of the structure of the unified energy system of the Republic of Kazakhstan.

Strategic targets are set as:

- Development of power generating facilities in the Northern region of Kazakhstan;
- Ensuring energy independence and security of the Republic of Kazakhstan;
- Improving the structure of the unified energy system of the country, increasing its reliability;
- Creation of the energy basis for economic development of the Western part of Kazakhstan;
- Reduction of dependence of users in Aktyubinsk region on electricity supplies from the Russian Federation, in order to reduce dependence on fluctuations of electricity prices on the Russian market, as well as to improve the reliability of electricity supply and reduce the risk of losses due to undersupply of electricity from Russian energy sources; and
- Improving the reliability of electricity supply for users.

As of the end of 2012, BTTR had 49 full-time employees. The organization chart is presented in Exhibit 1-3 below.

Exhibit 1-3 -- BTTR Organization



Source: BTTR website

<This section is business confidential>



2.4 Implementation Financing

<This section is business confidential>

CG is of the opinion that BTTR will be able to fund the proposed clean energy generation project using a combination of its operational budget and required borrowings.

2.5 Export Potential

The United States has recently had significant amount of power-related exports into Kazakhstan. Exhibit 1-8 below provides the details of U.S. exports to Kazakhstan by category. In the last few years, the volume was stable at about \$220 million per year.



Exhibit 1-8 -- U.S. Exports to Kazakhstan (\$M)

Item	2005	2006	2007	2008	2009	2010	2011	2012
Internal Combustion Engines	0	0	0	2	10	41	53	62
Generators	0	0	0	2	2	4	13	41
Valves	15	7	14	18	19	13	17	39
Compressors	3	6	10	39	20	96	77	24
Electrical Switches	1	1	1	4	2	5	7	15
Pumps	3	7	13	9	7	14	13	14
Generator Parts	0	0	0	3	3	3	7	8
Filters	5	2	3	12	5	6	5	6
Wires	0	2	3	4	4	4	7	4
Bearings and Gears	0	0	1	2	2	2	3	3
Gas Turbines	0	2	2	2	6	42	4	1
Heat Pumps	0	0	0	0	1	0	0	1
Furnaces	1	-	3	0	0	0	1	0
Boilers	0	1	0	-	0	1	0	-
TOTAL	30	28	50	95	79	232	210	217

Source: ITC data and CG Estimate

BTTR indicated strong preference toward a balanced mix of generating resources for the project. The nature of the desired energy requirement is base-loaded. The 50 MW facility is expected to cost in \$25-120 million range in overnight cost. Exhibit 1-9 below provides indicative cost for various technologies.

Exhibit 1-9 -- Capital Cost by Technology

<u>Technology</u>	<u>Fuel</u>	<u>Estimated Cost per kW</u>	<u>Requirement, MW</u>	<u>Capital Cost Estimate, \$M</u>
Combined Cycle	Synthetic Gas	\$ 900	50	\$ 45
Combined Cycle	Natural Gas	\$ 700	50	\$ 35
Combined Cycle	Biogas	\$ 800	50	\$ 40
Simple Cycle	Synthetic Gas	\$ 630	50	\$ 32
Simple Cycle	Natural Gas	\$ 490	50	\$ 25
Simple Cycle	Biogas	\$ 560	50	\$ 28
Internal Combustion Engine	Synthetic Gas	\$ 1,500	50	\$ 75
Internal Combustion Engine	Natural Gas	\$ 1,500	50	\$ 75
Internal Combustion Engine	Biogas	\$ 1,500	50	\$ 75
Incineration	Municipal Waste	\$ 2,400	50	\$ 120
Solar		\$ 1,700	50	\$ 85
Wind		\$ 1,200	50	\$ 60

Source: CG Estimate



The following estimate provides details of 50 MW and 100 MW options based on mid-point of gas-fired combined cycle technology cost (~\$800/kW). The overall estimated project cost (with contingency) is about \$40 million for 50 MW or \$80 million for 100 MW. This estimate is based on the design details above. U.S. exports could reach the \$16-32 million (~40%) level. Exhibit 1-10 below shows the approximate breakdown of major equipment costs and the potential share of the U.S. exports.

Exhibit 1-10 (a) -- Sample Project Budget Estimate and Share of U.S. Exports for 50 MW Plant

		Estimated Cost, \$M	U.S. Competitiveness	Estimated U.S. Exports, \$M
<u>Major Equipment</u>				
<u>for 50 MW plant</u>	Gas Turbine	\$ 8.6	excellent	\$ 8.6
	Steam Turbine	\$ 3.1	excellent	\$ 3.1
	HRSG/SCR	\$ 4.0	poor	\$ -
	Condenser	\$ 0.5	poor	\$ -
	Other	\$ 0.5	poor	\$ -
<u>Construction</u>				
	All	\$ 13.0	poor	\$ -
<u>Balance of Plant</u>				
	All	\$ 1.6	good	\$ 0.8
<u>Startup and Testing</u>				
	All	\$ 0.6	excellent	\$ 0.6
<u>Engineering and Design</u>				
	All	\$ 2.7	excellent	\$ 2.7
<u>EPC Fee</u>				
	All	\$ 1.6		\$ -
<u>Contingency</u>				
	All	\$ 3.7		\$ -
TOTAL 50 MW Plant				
		\$ 40.0		\$ 15.9

Source: CG Estimate



Exhibit 1-10 (b) -- Sample Project Budget Estimate and Share of U.S. Exports for 100 MW Plant

		Estimated Cost, \$M	U.S. Competitiveness	Estimated U.S. Exports, \$M
<u>Major Equipment</u>				
<u>for 100 MW plant</u>	Gas Turbine	\$ 17.2	excellent	\$ 17.2
	Steam Turbine	\$ 6.2	excellent	\$ 6.2
	HRSG/SCR	\$ 7.9	poor	\$ -
	Condenser	\$ 0.9	poor	\$ -
	Other	\$ 1.0	poor	\$ -
<u>Construction</u>				
	All	\$ 26.1	poor	\$ -
<u>Balance of Plant</u>				
	All	\$ 3.2	good	\$ 1.6
<u>Startup and Testing</u>				
	All	\$ 1.3	excellent	\$ 1.3
<u>Engineering and Design</u>				
	All	\$ 5.4	excellent	\$ 5.4
<u>EPC Fee</u>				
	All	\$ 3.3		\$ -
<u>Contingency</u>				
	All	\$ 7.4		\$ -
TOTAL 100 MW Plant		\$ 80.0		\$ 31.8

Source: CG Estimate

Exhibit 1-11 below lists a number of U.S. firms that have suitable credentials for the proposed project follow-up procurement.



Exhibit 1-11 – U.S. Equipment and Services Suppliers

<u>Gas Turbines/ICE:</u>	<u>Waste Utilization/ Regular Boilers:</u>	<u>Controls:</u>	<u>Solar:</u>
<ul style="list-style-type: none"> ▪ GE ▪ Solar ▪ CAT ▪ Elliot 	<ul style="list-style-type: none"> ▪ Foster Wheeler ▪ EPI (Outotech) ▪ Babcock and Wilcox ▪ Chinook Energy ▪ Indeck 	<ul style="list-style-type: none"> ▪ Emerson ▪ Honeywell ▪ GE ▪ Johnson Controls ▪ Schweitzer Engineering Laboratories 	<ul style="list-style-type: none"> ▪ First Solar ▪ Sunpower ▪ Suniva

Source: CG Research

The Consultant discussed U.S. content with GE, Solar, Emerson, Honeywell, and Schweitzer and received favorable feedback on company interest and ability to source significant share of major equipment from the U.S.

<This section is business confidential>

2.6 Foreign Competition and Market Entry Issues

Foreign companies have been very active in Kazakhstan. CG is aware of past country-wide purchases of electric power equipment from LG (Korea), ABB (Switzerland), Siemens (Germany), and Multiple Vendors from China, Russia, Ukraine, and Belarus.

The strongest foreign competition is likely to come from Russian and Chinese firms, closely followed by completion form EU (France, Germany, and Switzerland).

Following are the international providers of major equipment that are competitive in Central Asia:

- Saturn Gas Turbines, Russia;
- Yaroslavl Russian Gas Turbines, Russia (JV with GE for 6FA turbines);
- Power Machines, Russia (JV with Siemens and Toshiba);
- Perm Gas Turbine Engines, Russia
- Nanjing Turbine & Electric Machinery, China
- ABB, Germany;
- Siemens, Germany;
- Mitsubishi, Japan.



These companies have an extensive track record of supplying power solutions to Central Asia, especially to gas and oil industry.

2.7 Developmental Impact

This project is supportive of national government objectives to improve grid stability and reliability and minimize electricity costs. According to USTDA criteria, the project's potential development impacts include the following:

Infrastructure -- The Project will be used to provide clean power at competitive prices and reduce the grid's dependence on older dirty coal-based generation. The project is expected to be about 100 MW. The project will be able to provide power to roughly equivalent of 100,000 households or a mix of residential and industrial users. While in the past BTTR mostly supplied to industrial users, the proposed project will help the company to supply to residential users as well. The Aktubinsk (Aktobe) Region population is over 275,000. The region is energy deficient and the proposed project can assist in stabilizing electricity supply to existing users and providing electricity to new users due to the population growth.

Human Capacity Building -- The proposed power plant will have significant job creation impacts as well. The construction of the plant will require temporary manpower, both skilled and unskilled estimated at over 200 staff. Employment opportunities will be available for technical, administrative, and security people during the commercial operation phase. The operation staff of over 40 is expected after commissioning.

Technology Transfer and Efficiency and Productivity Improvement - The modern combined-cycle or renewable energy technology is very efficient. It is expected that the efficiency will be almost double of the existing older kWh per ton of coal. The technology is very new to Kazakhstan, so significant technology transfer aspects are expected as well as possibility of the scale-up.

Other - Emission are virtually zero from the renewable (solar/wind) solution. The 100 MW gas-fired combined cycle power plant (@~60% capacity factor) is expected to annually emit about 20 tons of NOx and about 2 tons of SOx. The 100 MW modern coal-fired power plant burning average quality coal (@~60% capacity factor) is expected to annually emit about 150 tons of NOx and about 200 tons of Sox, plus over 25 lbs of Hg. Gas fired generation provides significantly lower emissions in NOx and SOx and no particularly harmful Hg emissions.



2.8 Environmental Impact

Environmental impact issues related to a plant of this type and size include: emissions to air (SO_x, NO_x, particulates), discharges to water (chemical residues and reject heat), impingement/entrainment of aquatic life in power plant cooling systems, disposal of solid wastes, and management of power plant related hazardous chemicals and wastes.

Best international technology to minimize environmental impact and maximize efficiency will be used at the proposed power plant. Equipment to be installed will need to meet local standards, as well as World Bank Group standards.

In case of renewable solution, no meaningful air water, or solid waste discharges are foreseen.

In case of gas-fired combined cycle technology is selected, the project is expected to have a positive incremental effect on the environment.

Among the anticipated positive impacts are the following:

- Air emission reductions due decommissioning of older units and more efficient controls on the new unit;
- Ability to optimize power generation within the company and country leading to more efficient power generation profile;
- Training on environmental issues will be provided to locals;
- Life quality improvement for local communities due to new income; and
- Social commitment regarding education, health and production of goods.

Potential negative impacts include the following:

- Potential environmental issues with old equipment removal ;
- Old equipment disposal;
- Sound pollution during installations; and
- Equipment transit during construction.

2.9 Impact on U.S. Labor





There is no reason for concern regarding the possibility of negative impacts on U.S. employment due to this project. The project would generate electricity and not products that could be imported into the U.S. On the other hand, positive impacts will result in the event U.S. exporters succeed in obtaining contracts for equipment and services when the project goes forward and even serve as a catalyst for further projects in the region.

No adverse impact is expected from the execution of the proposed project. Its significant export potential would assure the bulk of the production of major goods in the U.S. and their export to the host country. No significant permanent new job creation impacting U.S. jobs is expected outside the U.S.

2.10 Qualifications and Evaluation Strategy

In the event that USTDA provides grant funds for technical assistance, the selection of a contractor to perform the study should be based on competitive bidding. The selection criteria to be used in ranking the bids received from the qualified bidders is as follows:

Professional Experience (40%) – Each bidder will propose a project team that will be fully qualified to execute the entire study scope of work. The proposed staff should have qualifications and experience in engineering, technical analysis, operations planning and modeling, environmental assessments, as well as excellent technical knowledge of modern coal-fired technology, substations, and appropriate software and hardware. Experience with utility or independent power producer clients would be beneficial. Qualified bidder will provide evidence of satisfactory executing at least two similar projects in the last 10 years. Reference projects should have similar or larger size and complexity as the proposed one.

International Experience (30%) – Each bidder shall exhibit international experience and capability to perform similar feasibility studies in the region, preferably in Western Europe, Eastern Europe or NIS. Qualified bidder will provide evidence of satisfactory executing at least one similar international project in the last 10 years. Reference international project should have similar or larger size and complexity as the proposed one.

Proposed Work Plan (30%) – Each bidder shall demonstrate understanding of all project tasks. Proposal efforts should be responsive to requirements outlined in the Scope of Work. The proposed Work Plan should be detailed, realistic, and manageable. Clear objectives should be achieved at the end of all tasks.



Evaluation Strategy

Project Implementation Timeline – The Consultant expects the preparation activities and approvals to take 15-24 months (including 9 month for the USDТА-sponsored study). Other preparation activities typically include: State Feasibility Study expertise, financing arrangements, PPAs signing, EPC tender, selection of EPC Contractor, contract award, permitting.

Depending in the technology mix selection, construction can take as much as 9-30 months. Renewable sources tend to have shorter construction period and conventional sources much longer one. Commissioning and acceptance testing is expected to take 2-4 months.

Overall, the project preparation and implementation can take 26-58 months.

Development – The proposed project will most likely be developed on the EPC basis by a consortium of developers and major equipment manufacturers.

Difficulties in Development – Typical difficulties may include:

- (a) Financial Arrangements – The project Grantee may experience delays in obtaining/arranging financing. Sound feasibility study and optimistic economic evaluation should help Grantee in securing financing needed.
- (b) PPA – The Grantee may experience delay in arranging PPA-type revenue stream. The Grantee can use market-based mechanisms to sell excess energy and capacity.
- (c) EPC Contractor Execution – The Grantee may experience problems with EPC Contractor performance. The Grantee should obtain services of independent Owner’s Engineer to monitor EPC Contractor performance.
- (d) Project Outcome – Project electricity and capacity may not correspond to project requirements. The Grantee is expected to have a set of liquidated damages for non-performance and performance guarantees in the EPC Contract to mitigate this risk.

Regulation Requirements – To the best of our knowledge, all required regulations for this project to move ahead are already in place. There are numerous independent projects implemented in Kazakhstan under the existing regulatory framework.

Other Entities Approval – The Project will need to receive multiple approvals, some of which include the following:



- (a) State Expertise/ Approval of Feasibility Study
- (b) Environmental Permitting
- (c) Construction Permitting
- (d) PPA signature
- (e) Financing Arrangement/Close
- (f) Receipt of the Generation License.

None of the approvals are required before USTDA-funded activities commence and concluded.

Overall, the proposed Project implementation is not jeopardized, at this time, by any of the risks outlined above. The Grantee is experienced in handling large construction projects and is capable in arranging their financing.

The measure of success for the proposed project shall include:

- Grantee ability to economically source required energy and capacity;
- Increase Grantee own reliability;
- Increase regional power supply reliability/optimization;
- Increase Grantee profit margin by developing generation business segment; and
- Add social and developmental responsibility to Grantee portfolio.

2.11 Justification

The proposed generation project will have the following major benefits:

- Produce clean energy for supply to the region;
- Offset locally generated power by older coal power plants and imports from Russia;
- Ensure supply certainty in the electricity deficient region;
- Eliminate price uncertainty and volatility for power purchases;
- Expand exiting company business model from transmission to distribution and generation;
- Provide assistance in electricity generation optimization in the region.

The proposed project clearly satisfies USTDA funding criteria:



- The Project Sponsor is willing to provide “equal access” to U.S. firms in procurement resulting from this project;
- The amount of post-project procurement should be significantly higher than study funding. The estimate for U.S. exports is in \$16-32 million range. The U.S. companies have expressed interest in the project;
- The project is clearly a priority for the country and will be viewed favorably by the U.S. Embassy; and
- The proposed project shall assist U.S. companies facing significant competition from Russia, China, and EU competitors.

<This section is business confidential>

2.12 Terms of Reference

The purpose of this Study is to support the Grantee in determining the most practical and economically beneficial method of producing 25-100 megawatt (MW) of electric power. Therefore, the Study will establish the size, conceptual design and technical and economic feasibility of a gas-fired power plant to produce 25-100 MW of power. The Study will also investigate options for additional renewable power generation in the Project, reviewing multiple renewable energy technologies. The power generated by the Project will compensate for transmission losses experienced by the Grantee as part of its primary business of electric power transmission and meet some of the deficit in local electric power supply in Aktobe province.

Task 1 - Requirement Assessment

The Contractor shall evaluate the current electricity procurement practices of the Grantee. The evaluation shall include a review of historical procurement, including sources, procedures, volumes, and costs. The evaluation shall analyze past issues with delivery, availability, and reliability (if any). It shall also evaluate past penalties and fees that might have resulted from delivery deficiency or delays.

After establishing the historical baseline, the Contractor shall forecast the increase of Grantee transmission loss coverage resulting from the addition of the Kazchrome Aktobe Alloy Plant 4 load and other forecasted increases to the amount of power transmitted. The Contractor shall prepare a 25-year forecast, including high and low demand sensitivity analyses. Special attention shall be paid to the breakdown in differences in peak and off-peak requirements and the annual load shape and duration.



The Contractor shall evaluate external supply availability to cover the need in the electricity. These may include market supply, as well as direct contracts with independent generators. The available amount and cost of external electric power supply shall be forecasted for a 25 year period based on regional development plans. The Contractor shall develop an independent supply scenario, including high and low sensitivity analyses. Local long-term load forecast for the region shall be used by the Contractor to prepare supply/demand balance and estimate generation surplus or deficit and the purchased energy cost.

The Contractor shall develop a high-level investigation that takes into account information regarding major potential generation and transmission projects in the Aktobe province. The Contractor shall form a qualified opinion regarding uncertain and unknown items and clearly state these assumptions prepared under this Task.

The Contractor shall utilize the following available information for the analysis:

- Kazakhstan Electricity Grid Operating Company (KEGOC) Country-wide energy plan;
- Aktobe Region Economic Development Plan;
- Announced power plant additions/retirements and major developments; and,
- Other available information.

Deliverable: The Contractor shall prepare a detailed report presenting the results of this Task. The results shall include the energy requirement assessment, including the base supply demand scenario, as well as high and low demand sensitivity analyses, and system supply cost.

Task 2 – Regulatory Analysis

The Contractor shall analyze the current market structure to determine the Grantee’s ability to source the required energy for its own operations. The analysis shall include at a minimum, the following:

- Existing market sourcing mechanisms;
- Review of the regulatory framework for power generation for the Grantee’s own needs;
- Review of regulatory framework for generation for regional supply (in addition to the Grantee’s own needs); and,



- Other market possibilities (may include participation in auxiliary markets and reliability products).

Deliverable: The Contractor shall prepare a detailed report presenting the results of this Task.

Task 3 - Evaluation of the Optimum Type and Source of Gas

The Contractor shall evaluate the following gas-fired options for a 25-100 MW gas-fired power plant to determine the ability to source the required amount of fuel gas and thus supply enough electric power energy as identified in Task 1. This analysis shall include determinations of the gas availability, heat content, and price, as well as the cost and description of the infrastructure needed to transport the gas to the power plant site. In this evaluation, the Contractor shall evaluate the following types and sources of gas:

- **Natural gas** – potential sources including gas coming from Alibekmola and Kozhasai fields, which was flared in the past (reductions in flaring by KazakhOil Aktobe are expected to enable supply of up to 400 million cubic meters of associated gas a year). In addition the Contractor shall consider other gas currently being flared, including gas at dispersed locations around the Zhanazhol field where CNPC-Aktobemunaygaz (owned by CNPC and KazMunaiGas) is the major operator. The largest flare volume has been identified in the Zhanazhol area, but another 0.6 billion cubic meters (BCM) of gas is flared from some 19-20 medium and smaller sized flares. Some of the flares are located up to 90 kilometers (km) from existing gas pipelines.
- **Synthetic gas** - potential sources include JSC “TNC Kazchrome with the waste gas utilization at the Aktobe Ferroalloy Plant. The Contractor shall consider competition for the gas from alternate uses of the waste gas, including drying chrome ore or coke.
- **Biogas** – potential sources include the Aktobe municipal waste landfill. The Contractor shall also evaluate the volume and composition of gas at large agricultural waste dumps in the region.

The Contractor shall determine the most economically and technically viable sources of gas for each of the three main types above (natural gas, synthetic gas, and biogas). Using the recommended sources, the Contractor shall prepare assumptions for capital investment, variable and fixed operations and maintenance, fuel cost, land



costs, taxes, and other costs for each of the three gas supply options. Special attention shall be paid to the location of the plant relative to the gas source. Any additional gas delivery and/or electricity interconnection requirements shall be evaluated and priced. A 25-year levelized cost screening model shall be prepared to compare individual gas supply options, as well as relevant combinations of these options.

The Contractor shall prepare a recommendation on the most economic gas supply option. The Contractor shall arrange a meeting with Grantee to discuss the progress of this Project and detailed recommendations of this Task. The progress presentation shall be prepared in both English and Russian languages.

Deliverable: The Contractor shall prepare a detailed report presenting the results of this Task.

Task 4 - Site Evaluation and Preliminary Design Preparation

Based on the most economic gas-fired supply option identified in Task 3, the Contractor shall evaluate the availability of physical plant sites, taking into account: 1) distance to transmission line interconnection, 2) distance from gas source, 3) suitability of the land to host a gas-fired power plant, and 4) land ownership and permitting issues. The Contractor shall discuss the evaluation and select the site with Grantee concurrence. The Contractor shall provide Grantee with a plan and timeline to secure the agreed site.

The Contractor shall prepare a preliminary design for the Project based on the conclusions of Task 3 and the site selection analysis in this Task 4. The preliminary design shall include all necessary Project components and facilities. The Contractor shall provide drawings depicting structural dimensions and equipment sizes, specifications and layout. The Contractor will not provide detailed engineering and design.

The Contractor shall:

- Recommend optimum power plant capacity and equipment configuration with heat-mass balance diagrams ;
- Recommend design parameters for major power and auxiliary equipment and the civil structures;
- Prepare concept designs and drawings of the turbine/generator, boiler, instrumentation and controls system, water treatment,



environmental back-end technology, electrical substation, civil structures, and other key elements of the proposed plant (as appropriate);

- Conduct a transmission line/interconnection assessment using the analysis and Project information collected and provided. Determine the feasibility of injecting the Project's output to the grid through the interconnection point or substation;
- Identify and list prospective U.S. sources of supply in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall summarize the capabilities, provide the contact information, and principal points of contact for each of the suppliers; and
- Describe operation and maintenance requirements, projecting downtimes due to maintenance works, annual degradation and up-rating after overhauls.

Deliverable: The Contractor shall provide a report outlining site selection and Project Preliminary Design to the Grantee.

Task 5 - Detailed Cost Estimate

The Contractor shall prepare an Engineering, Procurement and Construction (EPC) turn-key-type lifecycle cost estimate for the preliminary design prepared in Task 4. As a minimum, the estimate shall include the detailed breakdown of time and materials for all major components, balance of plant, instrumentation and controls, water treatment, and electrical interconnection and major outage equipment replacement/repair costs.

Deliverable: The Contractor shall provide a detailed cost estimate for the Project.

Task 6 - Economic Evaluation of the Selected Alternative

The Contractor shall conduct economic and sensitivity analyses of the project based on the Task 4 design and the Task 5 detailed cost estimate. The analysis will take into account possible changes in all major external factors, including at a minimum fuel cost (+/- 25%), electricity cost (+/- 40%), interest rates (+/- 2%), investment costs (+/- 20%), and any other factors, as appropriate. The Contractor shall calculate net present value, pay-back time, and Internal Rate of Return for all alternatives.



The Contractor shall arrange a meeting with Grantee to discuss the progress of this Project and detailed findings of Tasks 4-6. The progress presentation shall be prepared in both English and Russian languages.

Deliverable: The Contractor shall provide project economic and sensitivity analyses conducted under this Task.

Task 7 - Preliminary Environmental Impact Assessment and Social/Development Impact Assessment

The Contractor shall perform a preliminary environmental impact assessment of the Project. In particular, the Contractor shall identify, and propose remedies or mitigation strategies for, any potential air, water, or noise pollution increases that might result from the Project. The primary objective of this task is to ensure that the proposed Project will comply with all relevant Kazakhstan environmental regulations and with the criteria of the Export-Import Bank of the United States (or multilateral development banks, such as the World Bank and Asian Development Bank) covering power projects financed with credits or guarantees provided by the bank.

The Contractor shall also provide a report on the potential social and development impact of the project in the host country. In the report, the Contractor shall focus on what the economic development outcomes will be if the project is implemented according to the Study recommendations. While specific focus should be paid to the immediate impact of the Project, the Contractor shall include, where appropriate, any additional developmental benefits of the Project, including spin-off and demonstration effects. The analysis of potential benefits of the Study should be as concrete and detailed as possible. The social and development impact factors are intended to provide the Project's decision-makers and interested parties with a broader view of the potential effects on the Host Country. The Contractor shall provide estimates of the project's potential benefits in the following areas:

- **Infrastructure:** a statement on the infrastructure impact giving a brief synopsis (e.g., new installed capacity built, additional power generated in gigawatt hours per year, and number of persons with additional electric power);
- **Market-Oriented Reform:** a description of any regulations, laws, or institutional changes that are recommended and the effect they would have if implemented, including the amount of financing secured from multilateral development banks facilitated by the Study;



- **Human Capacity Building:** a description of the number and type of temporary and permanent positions that would be needed to construct and operate the Project, number of people that will be needed to process construction materials, as well as the number of people who will receive training and a brief description of the training program;
- **Technology Transfer and Productivity Enhancement:** a description of any advanced technologies that will be implemented as a result of the Project. A description of any efficiency that will be gained (e.g. savings in generation costs or lower production costs per KWh);
- **Environmental:** a description of positive environmental impacts, if any, including the number of tons per year of greenhouse gas emissions reduced or avoided; and,
- **Other:** any other developmental benefits to the Project, including spin-off or demonstration effects.

Deliverable: The Contractor shall provide a report on all work conducted under this Task.

Task 8 - Financing Options Review

The Contractor shall assist the Grantee in developing sound financing plans and determining an optimal financing structure for the Project, and shall assist in finding sources suitable to the Grantee for funding all components of the Project. In this regard, the Contractor shall prepare a preliminary Project Information Memorandum (PIM), which shall contain project description, project cost, and project economic analysis, and present the PIM to potential donors/lenders and selected credit agencies with the goal of obtaining written expressions of interest. In addition, the Contractor shall verify the availability of sovereign funding guaranteed by the Kazakhstan Ministry of Finance.

Deliverable: The Contractor shall provide a report, which shall include the preliminary PIM and all work conducted under this Task.

Task 9 - Tender Documents Preparation

The Contractor shall prepare a set of bidding tender documents for the alternative selected in Task 6. The tender documents shall include: (a) Project Background and Information, (b) Technical Specifications; and (c) Draft Contract clauses that would include all appropriate commercial terms for Project execution.



Tender documents shall be prepared with the assistance of the Grantee's staff. All international tenders related to the major equipment should include provisions for the local component of the works (in particular as related to erection, installation, commissioning and testing).

Deliverable: The Contractor shall provide a report on all work conducted under this Task.

Task 10 - Evaluation of Green Opportunities and Preparation of Renewable Roadmap

The Contractor shall evaluate options for the Grantee to add renewable power generation to the Project. The Contractor shall review background information including evaluating the renewable power potential in Aktobe region. The Contractor shall evaluate the opportunity for Grantee participation in existing and announced wind and solar projects, including but not limited to:

- Announced 300 MW Kargala Wind Project in Aktobe Region;
- Announced 24 MW Solar Project;
- UNDP/GEF Kazakhstan Wind Development Assessment;
- GEF Lessons learnt from the UNDP-GEF project;
- Kazakhstan Wind Project Rules for Developers;
- IRENA Case Study Kazakhstan 2013;
- PB Wind Energy Development, 2011.

The Contractor shall review the existing meteorological, wind, and solar data including, but not limited to:

- Kazakhstan Wind Atlas (<http://atlas.windenergy.kz/>)
- Regional Prognosis (<http://rp5.co.za/>)
- Wind and Solar Information from Kazakhstan Electricity Association
- Meteorological Data

Based on reviews, the Contractor shall develop a Green Roadmap for the Grantee. The Green Roadmap shall include:

- New renewable energy development recommendations for Grantee;
- Evaluation of costs and benefits for developing renewable projects as a stand-alone entity, joint-venture, senior/junior partner, etc.;



- Priority development areas by size and technology;
- High level analysis of wind and solar technology developments;
- Screening economic analysis based on existing Kazakhstan Feed-in tariffs (as of the end of 2013) and generic technology costs; and
- Comparative analysis of wind and solar projects and the selected alternative gas power plant outlined in Task 6.

Deliverable: The Contractor shall provide a report on all work conducted under this Task.

Task 11 - Draft Final Report and Final Report Preparation and Presentation

The Contractor shall prepare a Draft Final Report that includes all analyses and findings performed under Tasks 1-10 above. The Contractor shall provide the Draft Final Report to the Grantee for review and discussion. The Contractor shall arrange a meeting with Grantee to discuss the Project completion findings. The presentation shall be prepared in both the English and Russian languages.

Once the Grantee has provided comments and revisions on the Draft Final Report, the Contractor shall prepare and 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 incorporate all of the findings, recommendations, and conclusions of the Study and shall incorporate all other documents and/or reports provided pursuant to Tasks 1 through 10 above. It is the Contractor’s responsibility to identify prospective U.S. Sources of Supply (equipment and services) in the Final Report to be submitted to USTDA and the Grantee in accordance with Clause I of Annex II of the Grant Agreement. The U.S. Suppliers list shall identify the capabilities, addresses, and principal points of contact for each of the suppliers.

The Final Report shall be prepared in both the English and Russian languages.

2.13 Budget and Schedule

The proposed project implementation schedule is presented in Exhibit 1-13 below. The duration of the total effort is estimated at 9 months with most of the tasks being accomplished sequentially. The Final Report issuance is expected in 9 months since notice to proceed.



Exhibit 1-13 -- Project Schedule

No.	Task Name	Duration (days)	Months									
			1	2	3	4	5	6	7	8	9	
1	Requirement Assessment	40	█	█								
2	Regulatory Analysis	10		█								
3	Evaluation of Base Load Gas Generation Supply Option	45		█	█	█						
4	Site Evaluation and Preliminary Design Preparation	30				█	█					
5	Detailed Cost Estimate	20					█	█				
6	Economic Evaluation of the Selected Alternative	20						█	█			
7	Preliminary Environmental Impact Assessment and Social/Development	25							█	█		
8	Financing Options Review	10								█		
9	Tender Documents Preparation	25									█	█
10	Evaluation of Green Opportunities and Preparation of Renewable Roadmap	25					█	█				
11	Draft Final and Final Report Preparation and Presentation	20										█

The recommended feasibility study budget is provided below. A detailed breakdown by task and discipline is provided for labor. The total budget for this project is estimated to be \$744,450.00



Exhibit 1-14 -- Feasibility Study Budget

DIRECT LABOR COSTS:

TOR Task	TOR Task Name (per Section L of application)	Contractor Labor			
		Total Person Days	x Daily Rate*	= TOTAL COST	
1	Requirement Assessment	Project Manager	10.00	\$ 1,575.00	\$ 15,750.00
		Senior Power Specialist(s)	10.00	\$ 1,390.00	\$ 13,900.00
		Senior Discipline Engineer(s)	10.00	\$ 1,390.00	\$ 13,900.00
		Economics/Finance Specialist	5.00	\$ 1,100.00	\$ 5,500.00
		Legal/Development Specialist	2.00	\$ 1,390.00	\$ 2,780.00
		Estimating/Planning Specialist(s)	7.00	\$ 1,100.00	\$ 7,700.00
		Junior Engineer/Specialist	15.00	\$ 700.00	\$ 10,500.00
		Administrative	2.00	\$ 465.00	\$ 930.00
		TOTALS	61.00		\$ 70,960.00
		2	Regulatory Analysis	Project Manager	2.00
Senior Power Specialist(s)	2.00			\$ 1,390.00	\$ 2,780.00
Senior Discipline Engineer(s)	2.00			\$ 1,390.00	\$ 2,780.00
Economics/Finance Specialist	2.00			\$ 1,100.00	\$ 2,200.00
Legal/Development Specialist	4.00			\$ 1,390.00	\$ 5,560.00
Estimating/Planning Specialist(s)	1.00			\$ 1,100.00	\$ 1,100.00
Junior Engineer/Specialist	1.00			\$ 700.00	\$ 700.00
Administrative	1.00			\$ 465.00	\$ 465.00
TOTALS	15.00				\$ 18,735.00
3	Evaluation of Base Load Gas Generation Supply Option			Project Manager	10.00
		Senior Power Specialist(s)	20.00	\$ 1,390.00	\$ 27,800.00
		Senior Discipline Engineer(s)	25.00	\$ 1,390.00	\$ 34,750.00
		Economics/Finance Specialist	10.00	\$ 1,100.00	\$ 11,000.00
		Legal/Development Specialist	2.00	\$ 1,390.00	\$ 2,780.00
		Estimating/Planning Specialist(s)	10.00	\$ 1,100.00	\$ 11,000.00
		Junior Engineer/Specialist	15.00	\$ 700.00	\$ 10,500.00
		Administrative	2.00	\$ 465.00	\$ 930.00
		TOTALS	94.00		\$ 114,510.00
		4	Site Evaluation and Preliminary Design Preparation	Project Manager	10.00
Senior Power Specialist(s)	20.00			\$ 1,390.00	\$ 27,800.00
Senior Discipline Engineer(s)	25.00			\$ 1,390.00	\$ 34,750.00
Economics/Finance Specialist	2.00			\$ 1,100.00	\$ 2,200.00
Legal/Development Specialist	5.00			\$ 1,390.00	\$ 6,950.00
Estimating/Planning Specialist(s)	5.00			\$ 1,100.00	\$ 5,500.00
Junior Engineer/Specialist	20.00			\$ 700.00	\$ 14,000.00
Administrative	3.00			\$ 465.00	\$ 1,395.00
TOTALS	90.00				\$ 108,345.00
5	Detailed Cost Estimate			Project Manager	3.00
		Senior Power Specialist(s)	6.00	\$ 1,390.00	\$ 8,340.00
		Senior Discipline Engineer(s)	10.00	\$ 1,390.00	\$ 13,900.00
		Economics/Finance Specialist	4.00	\$ 1,100.00	\$ 4,400.00
		Legal/Development Specialist	0.00	\$ 1,390.00	\$ -
		Estimating/Planning Specialist(s)	12.00	\$ 1,100.00	\$ 13,200.00
		Junior Engineer/Specialist	7.00	\$ 700.00	\$ 4,900.00
		Administrative	2.00	\$ 465.00	\$ 930.00
		TOTALS	44.00		\$ 50,395.00
		6	Economic Evaluation of the Selected Alternative	Project Manager	5.00
Senior Power Specialist(s)	4.00			\$ 1,390.00	\$ 5,560.00
Senior Discipline Engineer(s)	4.00			\$ 1,390.00	\$ 5,560.00
Economics/Finance Specialist	12.00			\$ 1,100.00	\$ 13,200.00
Legal/Development Specialist	1.00			\$ 1,390.00	\$ 1,390.00
Estimating/Planning Specialist(s)	2.00			\$ 1,100.00	\$ 2,200.00
Junior Engineer/Specialist	10.00			\$ 700.00	\$ 7,000.00
Administrative	1.00			\$ 465.00	\$ 465.00
TOTALS	39.00				\$ 43,250.00
7	Preliminary Environmental Impact Assessment and Social/Development Impact Assessment			Project Manager	1.00
		Senior Power Specialist(s)	2.00	\$ 1,390.00	\$ 2,780.00
		Senior Discipline Engineer(s)	2.00	\$ 1,390.00	\$ 2,780.00
		Economics/Finance Specialist	0.00	\$ 1,100.00	\$ -
		Legal/Development Specialist	7.00	\$ 1,390.00	\$ 9,730.00
		Estimating/Planning Specialist(s)	0.00	\$ 1,100.00	\$ -
		Junior Engineer/Specialist	5.00	\$ 700.00	\$ 3,500.00
		Administrative	1.00	\$ 465.00	\$ 465.00
		TOTALS	18.00		\$ 20,830.00
		8	Financing Options Review	Project Manager	2.00
Senior Power Specialist(s)	0.00			\$ 1,390.00	\$ -
Senior Discipline Engineer(s)	0.00			\$ 1,390.00	\$ -
Economics/Finance Specialist	5.00			\$ 1,100.00	\$ 5,500.00
Legal/Development Specialist	1.00			\$ 1,390.00	\$ 1,390.00
Estimating/Planning Specialist(s)	0.00			\$ 1,100.00	\$ -
Junior Engineer/Specialist	5.00			\$ 700.00	\$ 3,500.00
Administrative	1.00			\$ 465.00	\$ 465.00
TOTALS	14.00				\$ 14,005.00



Exhibit 1-14 -- Feasibility Study Budget (Continued)

9	Tender Documents Preparation	Project Manager	3.00	\$	1,575.00	\$	4,725.00	
		Senior Power Specialist(s)	10.00	\$	1,390.00	\$	13,900.00	
		Senior Discipline Engineer(s)	10.00	\$	1,390.00	\$	13,900.00	
		Economics/Finance Specialist	0.00	\$	1,100.00	\$	-	
		Legal/Development Specialist	3.00	\$	1,390.00	\$	4,170.00	
		Estimating/Planning Specialist(s)	0.00	\$	1,100.00	\$	-	
		Junior Engineer/Specialist	10.00	\$	700.00	\$	7,000.00	
		Administrative	1.00	\$	465.00	\$	465.00	
		TOTALS		37.00				\$ 44,160.00
		10	Evaluation of Green Opportunities and Preparation of Renewable Roadmap	Project Manager	10.00	\$	1,575.00	\$
Senior Power Specialist(s)	12.00			\$	1,390.00	\$	16,680.00	
Senior Discipline Engineer(s)	18.00			\$	1,390.00	\$	25,020.00	
Economics/Finance Specialist	7.00			\$	1,100.00	\$	7,700.00	
Legal/Development Specialist	3.00			\$	1,390.00	\$	4,170.00	
Estimating/Planning Specialist(s)	8.00			\$	1,100.00	\$	8,800.00	
Junior Engineer/Specialist	15.00			\$	700.00	\$	10,500.00	
Administrative	2.00			\$	465.00	\$	930.00	
TOTALS				75.00				\$ 89,550.00
11	Draft Final and Final Report Preparation and Presentation			Project Manager	5.00	\$	1,575.00	\$
		Senior Power Specialist(s)	5.00	\$	1,390.00	\$	6,950.00	
		Senior Discipline Engineer(s)	5.00	\$	1,390.00	\$	6,950.00	
		Economics/Finance Specialist	1.00	\$	1,100.00	\$	1,100.00	
		Legal/Development Specialist	1.00	\$	1,390.00	\$	1,390.00	
		Estimating/Planning Specialist(s)	1.00	\$	1,100.00	\$	1,100.00	
		Junior Engineer/Specialist	15.00	\$	700.00	\$	10,500.00	
		Administrative	5.00	\$	465.00	\$	2,325.00	
		TOTALS		38.00				\$ 38,190.00
		TOTAL CONTRACTOR LABOR			525.00			\$ 612,930.00
TOR Task	TOR Task Name	Non-Employee Labor		TOTAL COST				
		Total Person Days x	Daily Rate**	=				
1	Requirement Assessment	Local Specialists	20	\$	350.00	\$ 7,000.00		
2	Regulatory Analysis	Local Specialists	5	\$	350.00	\$ 1,750.00		
3	Evaluation of Base Load Gas Generation Supply Option	Local Specialists	30	\$	350.00	\$ 10,500.00		
4	Site Evaluation and Preliminary Design Preparation	Local Specialists	25	\$	350.00	\$ 8,750.00		
5	Detailed Cost Estimate	Local Specialists	15	\$	350.00	\$ 5,250.00		
6	Economic Evaluation of the Selected Alternative	Local Specialists	5	\$	350.00	\$ 1,750.00		
7	Preliminary Environmental Impact Assessment and Social/Development Impact Assessment	Local Specialists	15	\$	350.00	\$ 5,250.00		
8	Financing Options Review	Local Specialists	5	\$	350.00	\$ 1,750.00		
9	Tender Documents Preparation	Local Specialists	5	\$	350.00	\$ 1,750.00		
10	Evaluation of Green Opportunities and Preparation of Renewable Roadmap	Local Specialists	15	\$	350.00	\$ 5,250.00		
11	Draft Final and Final Report Preparation and Presentation	Local Specialists	-	\$	350.00	\$ -		
TOTAL HOST COUNTRY LABOR			140.00			\$ 49,000.00		
TOTAL DIRECT LABOR COSTS						\$ 661,930.00		
OTHER DIRECT COSTS:								
Purchased Services/Contracts***		Tasks				TOTAL COST		
Travel								
			Trips		Trip Cost	Total Cost		
	International Air Travel		12	\$	2,500.00	\$ 30,000.00		
	Domestic Travel		12	\$	500.00	\$ 6,000.00		
			Trip Days		Per Diem Rate			
	Per Diem - Almaty		36	\$	316.00	\$ 11,376.00		
	Per Diem - Aktube		24	\$	236.00	\$ 5,664.00		
	Other (travel, etc.)					\$ 1,759.00		
Other								
	Reproduction and Binding					\$ 2,521.00		
	Translations					\$ 19,800.00		
	Communication					\$ 1,000.00		
	Courier Services					\$ 2,000.00		
	Insurance					\$ 2,400.00		
TOTAL OTHER DIRECT COSTS						\$ 82,520.00		
TOTAL COSTS (DIRECT LABOR COSTS + OTHER DIRECT COSTS)						\$ 744,450.00		
Total Cost Share								
PROPOSED USTDA GRANT			Draft @	0%		\$ -		
						\$ 744,450.00		

* Primary Contractor (Employee) Labor Costs = Salary + Overhead + Benefits (No Fee or Profit)

** Non-Employee Labor Cost = Salary + Overhead + Benefits + Reasonable Fee or Profit

*** Purchased Services/Contracts may include engineering drawings, lab work, surveys, translation, etc. which would not be included in Non-Employee Labor Cost above



2.14 Recommendations

Constant Group has reviewed the data and analytics that were provided for this project. **Constant Group recommends USTDA to further support this project by providing funding for the feasibility study.** The following items represent the positive features of the project:

- Grantee has the capabilities to implement the project subject to positive findings of the feasibility study task.
- A considerable amount of related preparatory work has been performed under the USTDA-funded DM and the Grantee planning activities.
- The project is very consistent with government objectives related to regional supply and Grantee mission.
- Project has significant positive impacts on the development side, including technology transfer, human development, increased employment, pollution reduction, and others.
- Technology and services providers will be interested in providing exports from the U.S. for this project.
- BTTR under KEGOC guidelines conducts full international competitive tenders for the equipment and services purchases.

Following are the risks of the proposed project:

- The proposed study task may uncover issues that are inconsistent with current major assumptions.
- As with any development project, there are no guarantees concerning the project implementation, commencement and/or completion.
- U.S. technology and services providers may not be successful in obtaining procurement contracts.
- The ability to finance this project depends on the results of the feasibility project and company financial planning and resource allocation.

Overall, Constant Group is of the opinion that the potential benefits of this project outweigh the risks.



2.15 Contacts

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First Deputy Chairman of Management Board
"Batys Transit" JSC
kibragimov@gmail.com
Tel.: +7 (727) 375-65-14, 375-66-14
Mob.: +7-777-777-97-89

Galina Zhakina
VP, Finance
"Batys Transit" JSC
Tel.: +7 (727) 375-65-14
gzhakina@bttr.kz

<This section is business confidential>

ANNEX 3



U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-3901

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS
[As of January 17, 2014]

The purpose of USTDA's nationality, source, and origin requirements is to ensure 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, 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, non-U.S. citizens lawfully admitted for permanent residence in the United States or non-U.S. citizens lawfully admitted to work 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.

NATIONALITY:

1) Application

A U.S. firm that submits a proposal must meet USTDA's nationality requirements as of the date of submission of the proposal and, if selected, must continue to meet such requirements throughout the duration of the USTDA-funded activity. These nationality provisions apply to all portions of the Terms of Reference that are funded with the USTDA grant.

2) Definitions

A "U.S. firm" is a privately owned firm that 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. citizens and/or non-U.S. citizens lawfully admitted for permanent residence in the United States, 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 that is organized in the U.S., has its principal place of business in the U.S., and is more than 50% owned by U.S. citizens and/or permanent residents, qualifies as a "U.S. firm".

A nonprofit organization, such as an educational institution, foundation, or association, also qualifies as a "U.S. firm" if it is incorporated in the U.S. and managed by a governing body, a majority of whose members are U.S. citizens and/or permanent residents.

SOURCE AND ORIGIN:

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.

Version 01.17.2014

ANNEX 4

DIR (CLZ)
 KAZ 2014-21014A
 RECEIVED
 JUN 30 2014
 PF
 Reg Dir (CK)
 Ctr Mng (SG)
 Reg Int (JC)
 Deputy CRO (MB)
 Fin. Spc (EB)
 PIMS Spc (MAJ)
 Grant Adm (PD)
 Grant Spc (SW)
 Ex. Asst (SU)
 GC (EE)
 COS (CJ)

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 “Batys transit” Joint Stock Company (“Grantee”). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$744,450 (“USTDA Grant”) to fund the cost of goods and services required for a feasibility study (“Study”) on the proposed Batys-Transit Power Supply Project (“Project”) in Kazakhstan (“Host Country”).

1. USTDA Funding

The USTDA Grant 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 incorporated by reference into 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 U.S. 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 USTDA 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 Contract 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. In the event that only one signature is dated, such date shall constitute the Effective Date.

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is September 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 S.

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 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, non-U.S. citizens lawfully admitted for permanent residence in the United States or non-U.S. citizens lawfully admitted to work 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 Chief Executive Officer. 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: Mr. Kurmangazy Ibragimov
CEO
"Batys transit" joint stock company
Address: Almaty City, Shevchenko Street, 162-ZH
Phone: +7 (727) 375-64-14 (ext. 104)
Fax: +7 (727) 375-70-70
E-Mail: kibragimov@bttr.kz

To: 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: MENA_EE@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.: 11 14/15 1001
Activity No.: 2014-21014A
Reservation No.: 2014192
Grant No.: GH201421192

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 H 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.

22. Governing Law

This Grant Agreement shall be governed by, and construed in accordance with, the applicable laws of the United States of America. In the absence of federal law, the laws of the State of New York shall apply.

23. Counterparts

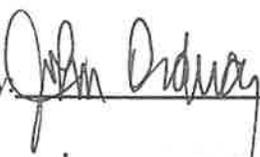
This Grant Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same agreement. Counterparts may be delivered via electronic mail or other transmission method and any counterpart so delivered shall be deemed to be valid and effective for all purposes.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Government of the United States of America and the “Batys transit” joint stock company, 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

For the “Batys transit” joint stock company

By: 

By: 

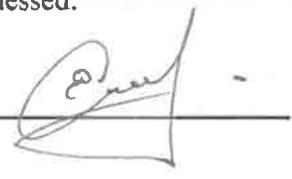
Date: June 30, 2014

Date: June 30, 2014

Witnessed:

Witnessed:

By: 

By: 

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Contract 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 "Batys transit" joint stock company ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the Batys-Transit Power Supply project ("Project") in Kazakhstan ("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 S. 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 M 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, non-U.S. citizens lawfully admitted for permanent residence in the United States or non-U.S. citizens lawfully admitted to work 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. 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 G(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 M below, or by e-mail to invoices@ustda.gov.

H. 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, N and S of the USTDA Mandatory Contract Clauses shall survive the termination of this Contract.

I. 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.

J. 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.

K. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is September 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.

L. 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.

M. 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.:	11 14/15 1001
Activity No.:	2014-21014A
Reservation No.:	2014192
Grant No.:	GH201421192

N. 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.

O. 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.

P. Contact Persons

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

Name: Mr. Kurmangazy Ibragimov
Title: CEO
Phone: +7 (727) 375-64-14 (ext. 104)
Fax: +7 (727) 375-70-70
E-Mail: kibragimov@btr.kz

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.

Q. 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.

R. 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.

S. 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.

ANNEX 5

Annex I

Terms of Reference

Objective: The purpose of this Study is to support the Grantee in determining the most practical and economically beneficial method of producing 25-100 megawatt (MW) of electric power. Therefore, the Study will establish the size, conceptual design and technical and economic feasibility of a gas-fired power plant to produce 25-100 MW of power. The Study will also investigate options for additional renewable power generation in the Project, reviewing multiple renewable energy technologies. The power generated by the Project will compensate for transmission losses experienced by the Grantee as part of its primary business of electric power transmission and meet some of the deficit in local electric power supply in Aktobe province.

Task 1 – Requirement Assessment

The Contractor shall evaluate the current electricity procurement practices of the Grantee. The evaluation shall include a review of historical procurement, including sources, procedures, volumes, and costs. The evaluation shall analyze past issues with delivery, availability, and reliability (if any). It shall also evaluate past penalties and fees that might have resulted from delivery deficiency or delays.

After establishing the historical baseline, the Contractor shall forecast the increase of Grantee transmission loss coverage resulting from the addition of the Kazchrome Aktobe Alloy Plant 4 load and other forecasted increases to the amount of power transmitted. The Contractor shall prepare a 25-year forecast, including high and low demand sensitivity analyses. Special attention shall be paid to the breakdown in differences in peak and off-peak requirements and the annual load shape and duration.

The Contractor shall evaluate external supply availability to cover the need in the electricity. These may include market supply, as well as direct contracts with independent generators. The available amount and cost of external electric power supply shall be forecasted for a 25 year period based on regional development plans. The Contractor shall develop an independent supply scenario, including high and low sensitivity analyses. Local long-term load forecast for the region shall be used by the Contractor to prepare supply/demand balance and estimate generation surplus or deficit and the purchased energy cost.

The Contractor shall develop a high-level investigation that takes into account information regarding major potential generation and transmission projects in the Aktobe province. The Contractor shall form a qualified opinion regarding uncertain and unknown items and clearly state these assumptions prepared under this Task.

The Contractor shall utilize the following available information for the analysis:

- Kazakhstan Electricity Grid Operating Company (KEGOC) Country-wide energy plan;
- Aktobe Region Economic Development Plan;
- Announced power plant additions/retirements and major developments; and,
- Other available information.

Deliverable: The Contractor shall prepare a detailed report presenting the results of this Task. The results shall include the energy requirement assessment, including the base supply demand scenario, as well as high and low demand sensitivity analyses, and system supply cost.

Task 2 – Regulatory Analysis

The Contractor shall analyze the current market structure to determine the Grantee's ability to source the required energy for its own operations. The analysis shall include at a minimum, the following:

- Existing market sourcing mechanisms;
- Review of the regulatory framework for power generation for the Grantee's own needs;
- Review of regulatory framework for generation for regional supply (in addition to the Grantee's own needs); and,
- Other market possibilities (may include participation in auxiliary markets and reliability products).

Deliverable: The Contractor shall prepare a detailed report presenting the results of this Task.

Task 3 – Evaluation of the Optimum Type and Source of Gas

The Contractor shall evaluate the following gas-fired options for a 25-100 MW gas-fired power plant to determine the ability to source the required amount of fuel gas and thus supply enough electric power energy as identified in Task 1. This analysis shall include determinations of the gas availability, heat content, and price, as well as the cost and description of the infrastructure needed to transport the gas to the power plant site. In this evaluation, the Contractor shall evaluate the following types and sources of gas:

- *Natural gas* – potential sources including gas coming from Alibekmola and Kozhasai fields, which was flared in the past (reductions in flaring by KazakhOil Aktobe are expected to enable supply of up to 400 million cubic meters of associated gas a year). In addition the Contractor shall consider other gas currently being flared, including gas at dispersed locations around the Zhanazhol

field where CNPC-Aktobemunaygaz (owned by CNPC and KazMunaiGas) is the major operator. The largest flare volume has been identified in the Zhanazhol area, but another 0.6 billion cubic meters (BCM) of gas is flared from some 19-20 medium and smaller sized flares. Some of the flares are located up to 90 kilometers (km) from existing gas pipelines.

- **Synthetic gas** - potential sources include JSC “TNC Kazchrome with the waste gas utilization at the Aktobe Ferroalloy Plant. The Contractor shall consider competition for the gas from alternate uses of the waste gas, including drying chrome ore or coke.
- **Biogas** – potential sources include the Aktobe municipal waste landfill. The Contractor shall also evaluate the volume and composition of gas at large agricultural waste dumps in the region.

The Contractor shall determine the most economically and technically viable sources of gas for each of the three main types above (natural gas, synthetic gas, and biogas). Using the recommended sources, the Contractor shall prepare assumptions for capital investment, variable and fixed operations and maintenance, fuel cost, land costs, taxes, and other costs for each of the three gas supply options. Special attention shall be paid to the location of the plant relative to the gas source. Any additional gas delivery and/or electricity interconnection requirements shall be evaluated and priced. A 25-year levelized cost screening model shall be prepared to compare individual gas supply options, as well as relevant combinations of these options.

The Contractor shall prepare a recommendation on the most economic gas supply option. The Contractor shall arrange a meeting with Grantee to discuss the progress of this Project and detailed recommendations of this Task. The progress presentation shall be prepared in both English and Russian languages.

Deliverable: The Contractor shall prepare a detailed report presenting the results of this Task.

Task 4 – Site Evaluation and Preliminary Design Preparation

Based on the most economic gas-fired supply option identified in Task 3, the Contractor shall evaluate the availability of physical plant sites, taking into account: 1) distance to transmission line interconnection, 2) distance from gas source, 3) suitability of the land to host a gas-fired power plant, and 4) land ownership and permitting issues. The Contractor shall discuss the evaluation and select the site with Grantee concurrence. The Contractor shall provide Grantee with a plan and timeline to secure the agreed site.

The Contractor shall prepare a preliminary design for the Project based on the conclusions of Task 3 and the site selection analysis in this Task 4. The preliminary design shall include all necessary Project components and facilities. The Contractor shall

provide drawings depicting structural dimensions and equipment sizes, specifications and layout. The Contractor will not provide detailed engineering and design.

The Contractor shall:

- Recommend optimum power plant capacity and equipment configuration with heat-mass balance diagrams ;
- Recommend design parameters for major power and auxiliary equipment and the civil structures;
- Prepare concept designs and drawings of the turbine/generator, boiler, instrumentation and controls system, water treatment, environmental back-end technology, electrical substation, civil structures, and other key elements of the proposed plant (as appropriate);
- Conduct a transmission line/interconnection assessment using the analysis and Project information collected and provided. Determine the feasibility of injecting the Project's output to the grid through the interconnection point or substation;
- Identify and list prospective U.S. sources of supply in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall summarize the capabilities, provide the contact information, and principal points of contact for each of the suppliers; and
- Describe operation and maintenance requirements, projecting downtimes due to maintenance works, annual degradation and up-rating after overhauls.

Deliverable: The Contractor shall provide a report outlining site selection and Project Preliminary Design to the Grantee.

Task 5 - Detailed Cost Estimate

The Contractor shall prepare an Engineering, Procurement and Construction (EPC) turn-key-type lifecycle cost estimate for the preliminary design prepared in Task 4. As a minimum, the estimate shall include the detailed breakdown of time and materials for all major components, balance of plant, instrumentation and controls, water treatment, and electrical interconnection and major outage equipment replacement/repair costs.

Deliverable: The Contractor shall provide a detailed cost estimate for the Project.

Task 6 - Economic Evaluation of the Selected Alternative

The Contractor shall conduct economic and sensitivity analyses of the project based on the Task 4 design and the Task 5 detailed cost estimate. The analysis will take into account possible changes in all major external factors, including at a minimum fuel cost (+/- 25%), electricity cost (+/- 40%), interest rates (+/- 2%), investment costs (+/- 20%),

and any other factors, as appropriate. The Contractor shall calculate net present value, pay-back time, and Internal Rate of Return for all alternatives.

The Contractor shall arrange a meeting with Grantee to discuss the progress of this Project and detailed findings of Tasks 4-6. The progress presentation shall be prepared in both English and Russian languages.

Deliverable: The Contractor shall provide project economic and sensitivity analyses conducted under this Task.

Task 7 – Preliminary Environmental Impact Assessment and Social/Development Impact Assessment

The Contractor shall perform a preliminary environmental impact assessment of the Project. In particular, the Contractor shall identify, and propose remedies or mitigation strategies for, any potential air, water, or noise pollution increases that might result from the Project. The primary objective of this task is to ensure that the proposed Project will comply with all relevant Kazakhstan environmental regulations and with the criteria of the Export-Import Bank of the United States (or multilateral development banks, such as the World Bank and Asian Development Bank) covering power projects financed with credits or guarantees provided by the bank.

The Contractor shall also provide a report on the potential social and development impact of the project in the host country. In the report, the Contractor shall focus on what the economic development outcomes will be if the project is implemented according to the Study recommendations. While specific focus should be paid to the immediate impact of the Project, the Contractor shall include, where appropriate, any additional developmental benefits of the Project, including spin-off and demonstration effects. The analysis of potential benefits of the Study should be as concrete and detailed as possible. The social and development impact factors are intended to provide the Project's decision-makers and interested parties with a broader view of the potential effects on the Host Country. The Contractor shall provide estimates of the project's potential benefits in the following areas:

- **Infrastructure:** a statement on the infrastructure impact giving a brief synopsis (e.g., new installed capacity built, additional power generated in gigawatt hours per year, and number of persons with additional electric power);
- **Market-Oriented Reform:** a description of any regulations, laws, or institutional changes that are recommended and the effect they would have if implemented, including the amount of financing secured from multilateral development banks facilitated by the Study;
- **Human Capacity Building:** a description of the number and type of temporary and permanent positions that would be needed to construct and operate the Project, number of people that will be needed to process construction materials,

as well as the number of people who will receive training and a brief description of the training program;

- **Technology Transfer and Productivity Enhancement:** a description of any advanced technologies that will be implemented as a result of the Project. A description of any efficiency that will be gained (e.g. savings in generation costs or lower production costs per KWh);
- **Environmental:** a description of positive environmental impacts, if any, including the number of tons per year of greenhouse gas emissions reduced or avoided; and,
- **Other:** any other developmental benefits to the Project, including spin-off or demonstration effects.

Deliverable: The Contractor shall provide a report on all work conducted under this Task.

Task 8 - Financing Options Review

The Contractor shall assist the Grantee in developing sound financing plans and determining an optimal financing structure for the Project, and shall assist in finding sources suitable to the Grantee for funding all components of the Project. In this regard, the Contractor shall prepare a preliminary Project Information Memorandum (PIM), which shall contain project description, project cost, and project economic analysis, and present the PIM to potential donors/lenders and selected credit agencies with the goal of obtaining written expressions of interest. In addition, the Contractor shall verify the availability of sovereign funding guaranteed by the Kazakhstan Ministry of Finance.

Deliverable: The Contractor shall provide a report, which shall include the preliminary PIM and all work conducted under this Task.

Task 9 - Tender Documents Preparation

The Contractor shall prepare a set of bidding tender documents for the alternative selected in Task 6. The tender documents shall include: (a) Project Background and Information, (b) Technical Specifications; and (c) Draft Contract clauses that would include all appropriate commercial terms for Project execution.

Tender documents shall be prepared with the assistance of the Grantee's staff. All international tenders related to the major equipment should include provisions for the local component of the works (in particular as related to erection, installation, commissioning and testing).

Deliverable: The Contractor shall provide a report on all work conducted under this Task.

Task 10 – Evaluation of Green Opportunities and Preparation of Renewable Roadmap

The Contractor shall evaluate options for the Grantee to add renewable power generation to the Project. The Contractor shall review background information including evaluating the renewable power potential in Aktobe region. The Contractor shall evaluate the opportunity for Grantee participation in existing and announced wind and solar projects, including but not limited to:

- Announced 300 MW Kargala Wind Project in Aktobe Region;
- Announced 24 MW Solar Project;
- UNDP/GEF Kazakhstan Wind Development Assessment;
- GEF Lessons learnt from the UNDP-GEF project;
- Kazakhstan Wind Project Rules for Developers;
- IRENA Case Study Kazakhstan 2013;
- PB Wind Energy Development, 2011.

The Contractor shall review the existing meteorological, wind, and solar data including, but not limited to:

- Kazakhstan Wind Atlas (<http://atlas.windenergy.kz/>)
- Regional Prognosis (<http://rps.co.za/>)
- Wind and Solar Information from Kazakhstan Electricity Association
- Meteorological Data

Based on reviews, the Contractor shall develop a Green Roadmap for the Grantee. The Green Roadmap shall include:

- New renewable energy development recommendations for Grantee;
- Evaluation of costs and benefits for developing renewable projects as a stand-alone entity, joint-venture, senior/junior partner, etc.;
- Priority development areas by size and technology;
- High level analysis of wind and solar technology developments;
- Screening economic analysis based on existing Kazakhstan Feed-in tariffs (as of the end of 2013) and generic technology costs; and
- Comparative analysis of wind and solar projects and the selected alternative gas power plant outlined in Task 6.

Deliverable: The Contractor shall provide a report on all work conducted under this Task.

Task 11 – Draft Final Report and Final Report Preparation and Presentation

The Contractor shall prepare a Draft Final Report that includes all analyses and findings performed under Tasks 1-10 above. The Contractor shall provide the Draft Final Report to the Grantee for review and discussion. The Contractor shall arrange a meeting with Grantee to discuss the Project completion findings. The presentation shall be prepared in both the English and Russian languages.

Once the Grantee has provided comments and revisions on the Draft Final Report, the Contractor shall prepare and 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 incorporate all of the findings, recommendations, and conclusions of the Study and shall incorporate all other documents and/or reports provided pursuant to Tasks 1 through 10 above. It is the Contractor’s responsibility to identify prospective U.S. Sources of Supply (equipment and services) in the Final Report to be submitted to USTDA and the Grantee in accordance with Clause I of Annex II of the Grant Agreement. The U.S. Suppliers list shall identify the capabilities, addresses, and principal points of contact for each of the suppliers.

The Final Report shall be prepared in both the English and Russian languages.

ANNEX 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]

Activity Type [To be completed by USTDA]	Feasibility Study	Technical Assistance	Other (specify)
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Activity Title [To be completed by USTDA]

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: .

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: .

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 directors and 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 directors and 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			
Full Legal Name of U.S. Firm		Date	



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]	
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Activity Title [To be completed by USTDA]	
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Full Legal Name of U.S. Firm	
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Full Legal Name of Shareholder	
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Business Address of Shareholder (street address only)	
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Telephone number		Fax Number	
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Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	
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Country of Shareholder’s Principal Place of Business	
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Please provide a list of directors and principal officers as detailed in Attachment A. Attached?	Yes
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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.	
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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.	
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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*]

Activity Title [*To be completed by USTDA*]

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 <i>[check one]</i>	<input type="checkbox"/> Corporation	<input type="checkbox"/> LLC	<input type="checkbox"/> Partnership	<input type="checkbox"/> Sole Proprietor	<input type="checkbox"/> Other
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duly organized, validly existing and in good standing under the laws of: .

2. 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.

3. Neither the subcontractor nor any of its directors and 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.

4. Neither the subcontractor, nor any of its directors and principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

5. 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.

6. 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.

7. 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	<input type="text"/>	Signature	<input type="text"/>
Title	<input type="text"/>		
Full Legal Name of Subcontractor	<input type="text"/>	Date	<input type="text"/>