REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

KAZAKHSTAN INTEGRATED GAS PRODUCTION AND PROCESSING

Submission Deadline: **4:00 PM**

LOCAL TIME

November 27, 2012

Submission Place:

Mr. Daniyar Tuleshov
Deputy Director
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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.

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

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US$626,000 to JSC KazTransGas (the "Grantee") in accordance with a grant agreement dated August 16, 2012, (the "Grant Agreement"). This Grant will fund a feasibility study ("Feasibility Study") on the proposed Integrated Gas Production and Processing project ("Project") in Kazakhstan ("Host Country"). 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

KazTransGas has ownership of significant deposits of nitrogen-helium and nitrogen-methane located in southern Kazakhstan. KTG plans to develop an integrated gas project to produce methane, nitrogen, and helium from the deposits. The full KazTransGas Integrated Gas Production and Processing project would entail production and processing of the helium, as well as potential utilization of the methane and significant nitrogen content for development of value added products such as ammonia and fertilizer by off-takers. Using drilling data and other geological investigations, KTG's helium reserves have been estimated at 37.7 million cubic meters. Because helium is a rare and critically important gas for a variety of industries, the price is high worldwide. Depending on purity it may be as high as $150 per thousand cubic feet (by comparison natural gas now costs less than $3 per thousand cubic feet). Helium plays a role in medical imaging devices, welding, fiber optics and computer microchip production, among other technological applications. High tech products that require helium for their production include mobile phone parts, semiconductors, and LCD flat screens. Liquid helium is also used for accumulating and storing electric power, as well as in the manufacture of superconductor cables, high-speed computers, and magnetic-levitated trains. To the extent that the helium is exported, China is the likely market, with helium demand growth there rising 15-20% per year.

The project would involve exploration and production of the gas reserves, as well as processing and transport of the gasses. It would include construction of a field processing unit, a cryogenic gas processing plant to separate out methane, nitrogen and helium, and transport of the purified gasses to off-takers. The infrastructure within the area is well suited to the needs of the project, including: active natural gas production in the area, several fertilizer plants within a hundred kilometers of the site, connection to the national gas pipeline system, and good road and rail infrastructure. A pre-feasibility study of the project indicated that the project is likely to be profitable. KTG needs this feasibility study to further prove the economics of the project sufficient to make investment decisions and potentially obtain debt financing.

In addition, KTG is looking for a U.S. Contractor interested in participating in the project as an investor and/or operator.

Portions of a background Definitional Mission (DM) are provided for reference in Annex 2, and the full DM Report is available upon request.

1.2 OBJECTIVE

The Feasibility Study will assess the technical, economic, and financial feasibility of the exploration, extraction, and processing of helium, methane, and nitrogen from existing gas fields in the Zhambyl region of Kazakhstan. Through the separation of the gas stream, the three gasses would be processed, purified and sold separately. 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$626,000. **The USTDA grant of US$626,000 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$626,000 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called Kazakhstan Integrated Gas Production and Processing Feasibility Study.

2.2 DEFINITIONS

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

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

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. 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$626,000.

2.6 RESPONSIBILITY FOR COSTS

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

2.7 TAXES

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

2.8 CONFIDENTIALITY

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

2.9 ECONOMY OF PROPOSALS

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

2.10 OFFEROR CERTIFICATIONS

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

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

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

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

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English, and only English.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

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

Mr. Daniyar Tuleshov
Deputy Director
Resource Base Management Department
JSC KazTransGas
12/1 Kunayev Street
Astana 010000
Kazakhstan

Phone: +77172552311
Fax: +77172552366
E-Mail: D.tuleshov@kaztransgas.kz

An Original and eight (8) copies of your proposal must be received at the above address no later than 4:00 PM, on November 27, 2012.

Previously submitted proposals will still be reviewed, and Offerors who have already submitted proposals have the option to re-submit their proposal.

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$626,000, 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:

	Points
Technical Proposal	**35**

- Technical approach for developing alternative gas processing and product development options and assessing alternative infrastructure development plans to effectively deliver industrial gases to market (15).
- Description of the approach for developing an Integrated Resource and Product Development Plan for the Project (10).
- Description and approach for establishing the financial and economic viability of the Project and developing a detailed Project Implementation plan. (10)

Personnel and Management Plan	**35**

- Experience and expertise of the Project Manager in designing and supervising the planning, design, and implementation of gas production, processing and value added industrial projects (15).
- Experience and expertise of the Team Personnel in handling the management of complex feasibility projects in developing countries (10).
- Expertise and capabilities of staff to fulfill the various functions of each component of the feasibility study as spelled out in the terms of reference (10).

Firm Technical Capability and Past Performance **30**

- Experience and years of performance in consulting in the area of gas production, processing and value added industrial projects, including the planning, design, and/or construction of such projects (10).
- Experience and years of performance in conducting and/or analyzing detailed resource assessments of gas, particularly of helium, including establishing baseline resource availability as well as forecasting (10).
- Experience working on complex energy sector projects in developing countries, in particular Kazakhstan (10).

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. Daniyar Tuleshov
Deputy Director
Resource Base Management Department
JSC KazTransGas
12/1 Kunayev Street
Astana 010000
Kazakhstan

KAZAKHSTAN INTEGRATED GAS PRODUCTION AND PROCESSING FEASIBILITY STUDY
(USTDA Activity Number 2012-61036A)

POC: Anthony O'Tapi, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009.

The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop a feasibility study to determine the economic, technical and financial feasibility of an integrated production and processing project for helium, nitrogen and natural gas.

The Grantee, JSC KazTransGas, is a subsidiary of KazMunayGas, the state-owned national oil and gas company, which is itself a subsidiary of the state-owned holding company Samruk-Kazyna. KazTransGas' primary lines of business are gas transmission and distribution; however, the company is also involved with gas production.

KazTransGas has ownership of significant deposits of nitrogen-helium and nitrogen-methane located in southern Kazakhstan. KTG plans to develop an integrated gas project to produce methane, nitrogen, and helium from the deposits. The full KazTransGas Integrated Gas Production and Processing project would entail production and processing of the helium, as well as potential utilization of the methane and significant nitrogen content for development of value added products such as ammonia and fertilizer by off-takers.

The project would involve exploration and production of the gas reserves, as well as processing and transport of the gasses. It would include construction of a field processing unit, a cryogenic gas processing plant to separate out methane, nitrogen and helium, and transport of the purified gasses to off-takers. The infrastructure within the area is well suited to the needs of the project, including: active natural gas production in the area, several fertilizer plants within a hundred kilometers of the site, connection to the national gas pipeline system, and good road and rail infrastructure. A pre-feasibility study of the project indicated that the project is likely to be profitable. KTG needs this feasibility study to further prove the economics of the project sufficient to make investment decisions and potentially obtain debt financing.

As such, the purpose of this study is to assess the technical, economic, and financial feasibility of the exploration, extraction, and processing of helium, methane, and nitrogen from existing gas fields in the Zhambyl region of Kazakhstan.

KTG is looking for a firm who is also interested in follow-on involvement as co-investor and/or operator.

The U.S. firm selected will be paid in U.S. dollars from a $626,000 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and portions of a background definitional mission/desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: https://www.ustda.gov/businessopps/rfpform.asp. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

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

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 4:00 PM, November 27, 2012, 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

KAZTRANSGAS INTEGRATED GAS PRODUCTION AND PROCESSING PROJECT

KAZTRANSGAS INTEGRATED GAS PRODUCTION AND PROCESSING PROJECT

A. EXECUTIVE SUMMARY

KazTransGaz (KTG) has a subsoil use contract for nitrogen-helium and nitrogen-methane deposits of the Amangeldy and Usharal group of deposits located in the south of Kazakhstan, where drilling and testing, along with active natural gas production, has shown significant deposits of helium. KTG plans to develop an integrated gas development project to produce methane, nitrogen, and helium from the deposits. The full KazTransGas Integrated Gas Production and Processing Project (Project) would entail production and delivery of the gases for further processing of the helium and utilization of the methane and significant nitrogen content for development of value added products such as ammonia and fertilizer.

KazTransGas requires a feasibility study to assess the technical, economic, and financial feasibility for the exploration, extraction, and processing of methane, nitrogen, and helium from existing gas fields in the Zhambyl region of Kazakhstan. Through the separation of the gas stream it is envisaged that value added products such as ammonia and fertilizer could be produced from the methane and nitrogen and purified helium could be sold separately into a variety of high tech industries.

Helium is a rare and strategic mineral for which there is a strong and growing market, especially in Asia. High tech applications for helium include nuclear magnetic resonance, mass spectroscopy, welding, fiber optics and computer microchip production. As is typical with helium deposits, nitrogen is also found in high concentrations in KTG's proposed fields and the production and delivery of nitrogen for value added production is expected to be critical to the economic viability of the Project. Likewise, the use of methane produced in the fields as feedstock to ammonia and fertilizer production plants is integral to the overall Project. The production of nitrogen and helium from the deposits is intended to increase the financial returns of methane production in high nitrogen content fields sufficient to make production viable.

The Project has strong potential developmental impacts and fits well with the Government of Kazakhstan's ambitions to increase value added production and high tech industry in the country. With an estimated US export potential of $250 million, the Projects holds excellent prospects for US industry, which is already active and competitive in the oil and gas sector in Kazakhstan.

The DM team recommends USTDA funding for the KazTransGas Integrated Gas Production and Processing Project (Project) in Kazakhstan in the amount of $626,000.

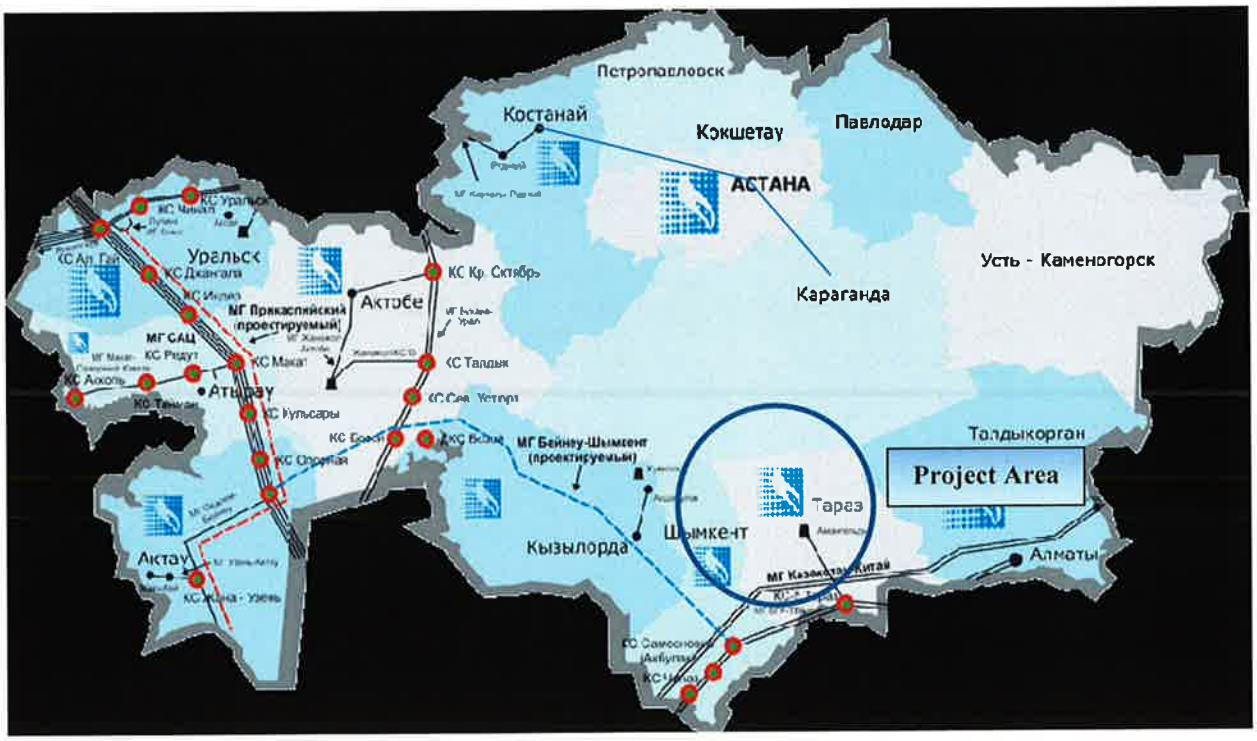
B. PROJECT DESCRIPTION

Overview

KazTransGaz (KTG) has a subsoil use contract for nitrogen-helium and nitrogen-methane deposits of the Amangeldy and Usharal group of deposits located in the south of Kazakhstan, where drilling and testing, along with active natural gas production, has shown significant deposits of helium. KTG plans to develop an integrated gas development project to produce methane, nitrogen, and helium from the deposits. The KazTransGas Integrated Gas Production and Processing Project (Project) would entail production and delivery of the gases for further processing of the helium and utilization of the methane and significant nitrogen content for development of value added products such as ammonia and fertilizer.

The methane-helium-nitrogen gas concentrations in the Amangeldy, Anabay, Ayrakty, and Kumyrly gas fields contain from 8 to 81% nitrogen and from 0.165 to 0.694% helium. The nitrogen-helium deposits at North Ural and Ucharal-Kempirtyube contain 99.2% nitrogen and 0.6% helium. Given the high concentrations of nitrogen in the fields, the production and delivery of nitrogen for value added production is critical to the economic viability of the project. The fields are in the area of Amangeldy, about 140 kms north of Taraz. There is ongoing gas production at Amangeldy and related infrastructure, including roads and utilities. An international pipeline passes through Taraz.

Kazakhstan Natural Gas Pipeline Routes



Source: KazTransGas

Sector Background

Natural Gas

In January 2010, the Oil and Gas Journal estimated Kazakhstan's proven natural gas reserves at 85 trillion cubic feet (Tcf). Natural gas production in Kazakhstan is almost entirely associated gas, with most reserves located in the west of the country - more than half situated in the Karachaganak oil and gas field, which reportedly has proven natural gas reserves of 48 Tcf. However, exploratory drilling in 2001 at the Amangeldy gas field in the south of the country, near Zhambyl, indicated reserves of up to 1.8 Tcf. The field is being developed primarily by KTG and the company expects initial production of roughly 35 Bcf/yr after initial developments and is currently producing approximately 10.6 Bcf/yr.

Until recently, Kazakhstan was a net importer of natural gas. Development of the Amangeldy field was important for Kazakhstan's energy security, as gas output from the field was geared to make the country self-sufficient in gas. The field is being developed as a joint venture of KTG and Spain's Repsol. Kazakhstan shifted from being a net natural gas importer to becoming a net exporter of 134 Bcf in 2009.

Development in the former USSR of integrated infrastructure resulted in construction of transmission networks in Kazakhstan including trunk gas pipelines. Turkmen and Uzbek gas had to be transported northwards through the territory of Kazakhstan. The main pipeline routes were coincidentally designed and laid through the territory of western Kazakhstan in the areas where the major Kazakhstani hydrocarbon fields are located. However, existing and planned infrastructure for transporting gas to and from the Eastern and Southern parts of the country are sufficient to allow for production activity to continue and plans to build a 120-mile pipeline connecting to the rest of the natural gas distribution infrastructure will help lessen the southern region's import dependency.

While some of the fields under development in the Project area are producing natural gas, a number of fields are not considered financially viable due to the high nitrogen content. The Project offers an opportunity to develop an integrated gas production project that can make the natural gas production financially viable. For the proposed project, the natural gas could be sold into the national pipeline system or could serve as a critical feedstock to an ammonia plant, which would most likely feed a fertilizer plant producing ammonium phosphate, ammonium nitrate, and other products.

Geological History of Helium

Although helium is the second most abundant element in the universe, behind hydrogen, it is quite rare on Earth. The helium that makes up nearly a quarter of the known universe is of primordial origin. The helium on Earth, however, is solely the result of millions of years of radioactive decay of three isotopes (Uranium-238, Uranium-235, and Thorium-232). The helium found on Earth is very mobile and accumulates in natural gas reservoirs. Incidences of high helium in natural gas are almost always associated with high percentages of nitrogen as well. For substantial helium gas to develop, three important geological events must be present: First, there must be adequate concentrations of helium-generating isotopes in the basement rock. Second, there must be adequate fractures and fissures so that helium can escape the tight granite lattices of crustal rock. And lastly, there must be a caprock tight enough to hold any helium in appreciable quantities.

Helium

Helium is a rare and critically important gas for a variety of industries. It plays a role in nuclear magnetic resonance, mass spectroscopy, welding, fiber optics and computer microchip production, among other technological applications. High tech products that require helium for their production include mobile phone parts, semiconductors, and LCD flat screens. Liquid helium is also used in medicine (for MRIs), for accumulating and storing electric power, as well as for manufacturing superconductor cables, high-speed computers, and magnetic-levitated trains.

World markets for Helium are strong and growing as strategic reserves in the U.S. are being used up. While the sales price of helium gas from reserves at the US Government owned Cliffside field is about $75 per thousand cubic feet (mcf), the private market price for helium is roughly double that, about $150 per mcf. This compares with less than $5 per mcf for natural gas.

Historically produced as a byproduct of natural gas, the US helium supply is declining, which has caused alarm throughout the industry. Given the market forecasts of declining reserves and rising prices, Helium is expected to become a primary drilling target in the next five years.

The U.S. is not only the largest supplier of helium, but also the largest consumer. The U.S. consumes about 39 percent or 2.45 Bcf/yr of the worldwide helium demand, compared to Asia, which represents about 27 percent.

History of U.S. Helium

The US became interested in helium during World War I as a substitute for highly flammable hydrogen for use in military dirigibles and blimps. The first commercial plant, however, did not come onstream until 1921 -- three years after the war ended. In October 1918, the Linde Company signed a contract to build the first commercial helium plant in Fort Worth to process gas from the Petrolia field near Wichita Falls, TX. After Petrolia's depletion, a larger production plant was constructed in 1929 for the Cliffside field near Amarillo, TX. Since then, Amarillo has been the epicenter of the global helium industry.

Until the early 1950s, helium's primary purpose was for military dirigibles and blimps but it was also playing an increasingly significant role in welding applications. Helium played a very important role in World War II as the non-flammable lifting gas for these vessels that escorted naval ships and identified enemy submarines. Demand increased dramatically through the 1950s after engineers developed more applications for helium, such as arc welding and breathing mixture.

Demand grew so much that Congress passed the Helium Act of 1960, which it designed primarily for the U.S. to buy and store crude helium for future use in the Cliffside field. The Helium Act offered incentives for private natural gas producers to strip helium from natural gas and sell it to the government. The principal purpose was to prevent wastage of valuable helium that would otherwise be vented by private producers.From 1929 to 1960 the federal government was virtually the only domestic producer of helium. However, in 1971 Congress terminated the storage contracts created by the 1960 Act because private producers were processing helium with greater efficiencies.

In the course of funding the reserve, the USG incurred an enormous helium debt. In 1996, President Bill Clinton signed the Helium Privatization Act, which would ultimately remove the U.S. from the helium industry and place it into private hands. Congress designed this Act to sell most of the remaining stored helium reserves out of Cliffside by the year 2015 while paying off the debt incurred by the 1960 Act.

Source (http://rigzone.com)

The Asia-Pacific region is the most lucrative market for helium exporters. Consumption there has been rising by an annual 4 - 5% compared to 2 - 3% in Europe; China's growth is at 15 - 20% per year.[1] China is an important prospective market for helium produced from the Project. Transport of liquefied helium to China by rail from Taraz is a likely scheme.

For large-scale use, helium is extracted by cyrogenic distillation from natural gas. Since helium has a lower boiling point than any other element, low temperature and high pressure are used to liquefy nearly all the other gases, including nitrogen and methane. The resulting crude helium gas is purified by successive exposures to lowering temperatures, in which almost all of the remaining nitrogen and other gases are precipitated out of the gaseous mixture. Activated charcoal is used as a final purification step, usually resulting in 99.995% pure Grade-A helium. In a final production step, most of the helium that is produced is liquefied via a cryogenic process. This is necessary for applications requiring liquid helium and also allows helium suppliers to reduce the cost of long distance transportation, as the largest liquid helium containers have more than five times the capacity of the largest gaseous helium tube trailers.

Nitrogen

Nitrogen is the most abundant gas in the atmosphere: 78% of the Earth's atmosphere is nitrogen. The most common method of producing pure nitrogen for industrial applications is through an air separation unit (cryogenic or membrane). This is the method commonly employed in the fertilizer industry, including in Kazakhstan. However, the production of pure nitrogen through the gas separation and processing facilities required to secure the helium and methane gasses will yield high quality nitrogen, which could be used as feedstock for existing fertilizer facilities or those built through the Project. Depending on the findings of the feasibility study and decisions by KTG related to the development of a fertilizer plant, one option is to sell nitrogen directly to existing and/or future fertilizer plants in the region. It is critical to the project economics that the mined Nitrogen is cheaper than cryogenically stripped atmospheric nitrogen, which is currently being employed for fertilizer production in the region. KTG has indicated that its initial analysis demonstrates that nitrogen could be produced at costs less than the air separation units currently employed in the fertilizer plants.

Up to the year 1992 the complex of phosphoric enterprises located in Zhambyl region was one of the main suppliers of yellow phosphorus, sodium tripolyphosphate, orthophosphoric acid, fertilizers and other phosphoric products to the CIS countries, neighboring foreign countries and Europe.[2] Kazphosphate LLC, a private company, took over the former state owned phosphate mines and complexes producing phosphate products and mineral fertilizers in 1999. The company operates several fertilizer plants in and around Taraz, including mineral fertilizer nitrophosphates requiring ammonia, which requires nitrogen feedstock.

Kazakhstan plans to boost output of fertilizer almost 12-fold through 2014, according to the Government of Kazakhstan. Production will expand to 3 million metric tons in 2014 from 257,000 tons this year, according to the Ministry of Industry and New Technologies. Output

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[1] http://indrus.in/articles/2011/01/13/hi-tech_gas.html

[2] 2003 IFA PRODUCTION AND INTERNATIONAL TRADE CONFERENCE AND REGIONAL CONFERENCE FOR EASTERN EUROPE AND CENTRAL ASIA 22-26 September 2003, St-Petersburg, Russia

is expected to grow from 1 million tons in 2013 to 3 million tons in 2015.[1] As part of Government's push for the development of the fertilizer industry, Kazphosphate and state owned United Chemical Company of Kazakhstan have signed a memorandum for the establishment of a joint venture for the production of fertilizer components at Taraz. The provision of state financing for the project was the primary reason for the joint venture. The cost of this project is $170 million and financing will be fully provided by United Chemical Company.

Project Background

According to KTG, the fields under consideration for development for this Project are comprised of a minimum of 7,000 million cubic meters (MCM) of methane; 4,400 MCM of nitrogen; and 38 MCM of helium. KTG finds that the reserves could be as high as 20,800 MCM methane; 7,700 MCM nitrogen; and 115 MCM helium. Using the minimum reserve numbers and assuming 50% of gas can be produced, the fields will yield about 3,500 MCM of methane; 2,200 MCM of nitrogen; and 19 MCM of helium, as seen in the table below.

KTG Reserve Estimates

Area	Productive Stratum	Geological Reserves of Gas (Million Cubic Meters)				
		Category of Reserves	General Reserves	Components		
				Methane, %	Nitrogen, %	Helium, %
Ayrakty	Upper Viséan	C_1	1,269.00	85.68	14.1	0.22
	Lower Permian	C_1	780	55.54	44.2	0.26
		C_2	2,349.00	55.54	44.2	0.26
	Total Reserves		4,398.00	2825	1561.9	10.9
Ucharal-Kempirtobe	Lower Permian	C_1	2,089.00	-	98.5	0.68
	Total Reserves		2,089.00	-	2057.6	14.2
North Ucharal	Lower Permian	C_1	427	-	99.2	0.46
	Total Reserves		427	-	423.5	1.9
Kumyrly	Tournasian	C_1	1,533.00	75.2	24.1	0.694
	Total Reserves		1,533.00	1152	369.4	10.6
Anabay	Upper Viséan	C_1	3,120.00	97		-
	Total Reserves		3,120.00	3026.4		-

[1]http://www.bloomberg.com/news/2011-03-31/kazakhstan-to-boost-fertilizer-production-12-fold-through-2014.html

TOTAL			11,567.00	7,004.34	4,412.65	37.7

Project Requirements

KazTransGas requires a feasibility study to assess the technical, economic, and financial feasibility for the exploration, extraction, and processing of methane, nitrogen, and helium from existing gas fields in the Zhambyl region of Kazakhstan. Through the separation of the gas stream it is envisaged that value added products such as ammonia and fertilizer could be produced from the methane and nitrogen and purified helium could be sold separately into a variety of high tech industries.

The Project as currently conceived would involve:

- Exploration and production of gas reserves;
- A field processing unit for separation of water and raw gasses (fractionation plant) and extraction of NGLs. Raw natural gas typically contains varying amounts heavier gaseous hydrocarbons (i.e. ethane, propane, normal butane, isobutane, pentanes). Standard practice is to strip off these finished by-products, which are collectively referred to as NGLs (natural gas liquids);
- A gas processing plant for cryogenic distillation to separate out methane, nitrogen, and helium as well as purification and liquefaction of helium and nitrogen;
- The establishment of value added production facilities (e.g. ammonia and fertilizer production) and/or the sale of raw products to existing or new facilities; and
- Transport of purified gasses to offtakers. The Study would determine the best method of transport for different products at different stages (i.e. rail, truck, pipeline). The raw gas would likely be gathered with pipelines to one or more raw gas processing facilities. NGLs would be trucked to oil processing facilities. The remaining gas would be transported by pipeline to a gas processing plant. Final products would be shipped by truck, rail and/or pipeline to end users – helium could be shipped in liquid form by rail; nitrogen could be sent by pipeline to nearby facilities. Methane gas would be transported by pipeline to KTG's existing gas pipeline system or to nearby end users (e.g. ammonia plant).

The infrastructure within the area is well suited to the needs of the Project, including: active natural gas production in the area, several fertilizer plants near Taraz, connection to the national gas pipeline system, and good road and rail infrastructure.

Economic Justification

Preliminary analysis by KTG shows that the Project is financially and economically viable based on the strong demand for helium and the prospects for utilization of nitrogen for the production of ammonia and fertilizer. The methane gas would be sold into the national pipeline system and/or used as feedstock for the ammonia production plant. The economic viability of the overall Project is contingent upon secure offtake agreements for helium and nitrogen. Developing the market analysis and prospective offtake agreements for these gasses will be a key objective of the Feasibility Study.

3,500 MCM of methane at approximately $110 per thousand cubic meters (TCM) will bring $385 million in revenues; 2,200 MCM of nitrogen at an estimated price of $80 per TCM will

generate $187 million in revenues; and 19 MCM of helium at an estimated price of $4,900 per TCM ($140 per 1000 cu.ft.) will generate $93 million. Total estimated revenues from product sales are therefore $665 million. Total estimated capital cost without the ammonia and fertilizer plants is $134 million. With estimated operating costs of $2 million per year, there is a simple return on investment of about 17% over a 10 year period. This is for the minimum reserves so larger reserves will yield higher returns.

C. PROJECT SPONSOR

KazTransGaz (KTG) is part of the group of companies of the national company KazMunaiGaz JSC. The key business lines of KTG are: mainline transportation and storage; regional transportation; gas production and treatment; gas trade operations (export/import/local market sales); and gas commercialization. KTG is entrusted to represent the governmental interests both for the domestic and international gas markets. The company manages the business of transportation of natural gas through the main gas pipelines, performs gas trading on domestic and external markets, carries out development, financing, construction and operates gas pipelines and gas storage facilities.

KTG companies include:

- Amangeldy Gas, LLP - operator for production and processing of natural gas at Amangeldy gas field
- Intergas Central Asia , JSC - operator of main gas pipeline transmission;
- KyrKazGas - a joint venture with KyrgyzGas, JSC, operates and maintains the sections of Bukhara Gas Bearing Region-Tashkent-Bishkek-Almaty main gas pipeline passing through the territory of Kyrgyz Republic;
- KazTransGas Aimak, JSC - regional gas transmission, distribution and sales of natural gas to industrial, residential and corporate clients;
- KazTransGas Almaty, JSC - management of gas and gas distribution companies supplying natural gas to the clients in Almaty city and region;
- KazTransGas Tbilisi, LLC - gas supply of Tbilisi; and
- KazTransGas LNG, LLP - operator for treatment and processing of natural gas from Zhanazhol gas field supplied to clients in Aktobe.

KTG has demonstrated its commitment to the Project through the development of preliminary reports and analysis on the Project and discussions with prospective partners and investors. A letter to USTDA from KTG's General Director regarding the Project is found at the end of this project recommendation. While KTG is experienced in natural gas production and transport, gas processing, helium purification, and ammonia/fertilizer production are new areas for the company. Therefore KTG is seeking strategic partners for the planning, development, and operation of the Project.

Last year, the income of the KazTransGas National Company increased by 13% and equalled 272.7 billion tenge, including 36.5 billion sent to the budget in taxes and other payments. The company increased extraction and transportation of gas through main-gas pipelines by 9% to 110.5 billion cubic metres. The sales of the natural gas equalled 11.354 billion cubic metres. The extraction of gas decreased by 5% to 326.5 million cubic metres. The KazTransGas company is managing assets for exploration, extraction, transportation and distribution of

gas. The group of companies includes structures which extract, transport and sell gas and deliver products as well as rendering services.[1]

In 2010, international rating agencies have confirmed the long-term rating of the Company and the ICA at the level of "BB" and "Baa3» (Standard & Poor's and Moody's), and "BB +" to the ICA (FitchRatings).

Rating Agency	Company	Date of Rating Assignment	Rating	Projection
Standard$Poor's	KTG ICA	24.12.2010 24.12.2010	BB BB	Stable Stable
Fitch Rating	KTG ICA	15.09.2010 15.09.2010	BB BB+	Stable Stable
Moody's	KTG ICA	28.10.2010 28.10.2010	Baa3 Baa3	Stable Stable

The company continues to attracts credit, guided by approved by JSC NC "KazMunaiGaz" medium-term policy of borrowing in the 2110-2013 years, according to a specified maximum allowable level of debt.[2]

Standard and Poors recently revised the outlook on KazTransGas (KTG) to positive from stable, while affirming the long-term issuer credit ratings at 'BB'. The rating actions reflect expectations that the subsidiaries would benefit from a degree of extraordinary government support in the event of stress, due to their "strong", albeit indirect, links with the government of Kazakhstan (BBB+/Stable/A-2). Accordingly, they have switche from a parent-subsidiary methodology to government-related entity methodology.

KTG's revenues and profits have grown steadily from 2007 to 2010, as seen in the following table from KTG's annual report for 2010.

Description	2007	2008	2009	2010
Revenue (million KZT)	▪ 178 986	▪ 207 029	▪ 208 434	▪ 269 726
▪ Expenses	▪ 134 384	▪ 177 169	▪ 154 367	▪ 184 285
▪ Pretax profit	▪ 44 603	▪ 29 096	▪ 56 196	▪ 85 415
▪ Corporate income tax	▪ 15 874	▪ 4 524	▪ 10 926	▪ 21 858
▪ Final profit before minority interest deduction	▪ 28 729	▪ 24 571	▪ 45 270	▪ 63 557
▪ Minority	▪ -3 279	▪ 0	▪ 0	▪ 0

[1] http://caspionet.kz/eng/business/In_2011_consolidated_income_of_KazTransGas_increased_by_13_1329546127.html

[2] KTG 2010 Annual Report

interest				
▪ Final income (loss) for the period	▪ 25 449	▪ 24 571	▪ 45 270	▪ 63 557

KTG has reduced its debt as a share of earnings and net capitalization in recent years, as seen in the table below from it's annual report.

Covenants of KMG	2006	2007	2008	2009	2010
Debt/EBITDA (<=3.5)	2.22	2.28	2.39	1.30	1.19
Net debt/ Net capitalization (<=0.5)	0.51	0.48	0.45	0.27	0.13
Free capacity, thousands USD	**23 329**	**61 874**	**215 878**	**754 136**	**1 310 328**

D. U.S. EXPORT POTENTIAL

The Project holds the potential to generate significant US exports of goods and services. The estimated implementation cost for the Project is $534 million, including the following major components:

- **Gas Exploration, Drilling and Production** – the Project will require exploration, drilling, production, and transport of raw gas to the field processing plant. This phase of the Project will require drilling equipment, compressors, and drilling services.

- **Field Processing Plant** – the Project will require a fractionation plant near the gas fields for raw gas processing in order to strip off NGLs (natural gas liquids).

- **Gas Separation, Processing and Purification Facility** – The Project will require a gas processing and purification plant to produce streams of methane, nitrogen and helium, as well as purification and liquefaction facilities.

- **Ammonia Plant** – An ammonia plant is a likely value added industrial use for methane and nitrogen streams

- **Fertilizer Plant** – A fertilizer plant would utilize the ammonia to produce value added fertilizers such as ammonium phosphate, ammonium nitrate, and/or anhydrated ammonia.

- **Pipelines and Truck Transportation** – The Project will require pipelines and truck transport for raw and pure product streams.

- **Engineering, Design, and EPC contracts** – The Project will require significant engineering, design, and EPC contracts

- **Legal and Financial Services** – All projects of this scale require significant legal and financial services, especially when international and bilateral financial institutions and large commercial banks are involved.

The estimated US export potential is $78 million, as detailed in the following table, which is based on the expected production levels described above in the Project Description.

Project Component	Estimated Implementation Cost	Likelihood of US Exports	Realistic US Export Potential to 2013
Gas Exploration and Production (drilling equipment, compressors, services)	$12 million	Medium to High	$10 million
Field Processing (Raw Gas Processing Fractionation Plant)	$15 million	Medium to High	$10 million
Gas Separation, Processing and Purification Facility	$50 million	High	$35 million
Pipelines and Truck Transportation for raw and pure product streams	$20 million	Medium to High	$15 million
Engineering, Design, and EPC contracts	$9 million	Medium to High	$5 million
Legal and Financial Services	$4 million	High	$3 million
TOTAL	$110 million		$78 million

US companies are highly competitive in many areas of the Project. US companies are world leaders in gas exploration and production services, and a number of companies, such as Schlumberger and Halliburton, are already active in Kazakhstan. Regarding drilling rigs, compressors, and production equipment, US companies such as Baker Hughes, GE, Exterran and Cameron are world leaders. The DM team spoke with GE and Exterran representatives in Kazakhstan and they are actively pursuing projects with KTG. Regarding pipeline development, Fluor is a world leader and is active in Kazakhstan.

In the area of gas processing and purification, US companies are very competitive, including Air Products and Chemicals, Praxair, IACX and Universal Industrial Gases. The DM team spoke with IACX, which has a patented technology for helium separation. They demonstrated an interest in the Project, although it would depend on the scale of production, as their technology is membrane based versus cryogenic and is best suited to smaller producing projects (up to 12 mmcr per day). Chart Energy and Chemicals specializes in cryogenic distillation technology and has a over 50 years of experience in the gas processing and helium liquefaction. In the area of engineering, design, and construction of gas production and processing projects, Bechtel is active in Kazakhstan and has expressed an interest in projects with KTG. BCCK Engineering is a US company that has specific experience in the area of designing helium producing projects. Inter-American Corporation is a US company engaged in the exploration, development, and production of helium.

Both BCCK Engineering and Inter-American (helium-corp.com) have expressed interest in participating in both the feasibility study as well as the development and implementation of the Project, contingent upon further evaluation. Purestream Technologies, a US water and wastewater treatment company active in Kazakhstan, has expressed strong interest in

development and implementation of the Project. Air Products and Chemicals and Praxair are both potential partners in the Project and are active in the region with offices in Russia.

E. FOREIGN COMPETITION AND MARKET ENTRY ISSUES

While U.S. companies are well positioned to sell equipment and services into the Project, European and Asian companies have a strong international presence and are competitive in terms of quality and price of their equipment. The German company, Linde Industrial Gas, is well established in international markets and is active in the helium gas purification industry. Russian and Chinese companies are competitive and active in the region in ammonia and fertilizer production. European and Russian companies are active in the areas of gas processing, pipelines, engineering and design, and other consulting services.

The proposed Feasibility Study would be a good opportunity for US companies to gain a foothold in the development of this Project and to establish relationships and displace or complement foreign suppliers with US goods and services. KTG has a strong interest to engage US companies in the Project, recognizing the reputation of US companies for high quality goods and services.

F. FINANCING

The Project could be financed in a variety of ways. As an integrated gas resource development project with value added downstream production, there would likely be a number of project components which may have independent revenue streams. Therefore the Project could be financed in phases or for independent components (i.e. gas production and processing; ammonia/fertilizer plants). The Project would likely be financed with a combination of KTG, KazMunaiGas, or other state funding; commercial bank loans; export credit and bilateral or international financing agency loans and loan guarantees; vendor financing; and private equity. KTG is able to finance the project in part internally and also through debt financing. KTG is seeking strategic partners for the development of the Project, which could bring private equity financing to the table.

Depending on ownership and US content, the Project would be eligible for Ex-Im Bank support, including direct loans and loan guarantees, that would be available to US and foreign companies, including foreign leasing companies, for US-made equipment, provided that the transaction is guaranteed by the full faith and credit of the host government, or if the private sector buyers of the US goods and services are adequately capitalized to make the transaction sufficiently creditworthy. Below is Ex-Im's country limitation schedule for Kazakhstan, indicating that Ex-Im Bank is open for short, medium, and long term financing to public sector entities such as KTG, as well as with private sector companies.

Export Import Bank Country Limitation Schedule[1]

	PUBLIC SECTOR			PRIVATE SECTOR		
COUNTRY	Up to 1 Year	1 to 7 Years	Over 7 Years	Up to 1 Year	1 to 7 Years	Over 7 Years
Kazakhstan						

The Overseas Private Investment Corporation (OPIC) is open for direct financing and loan guarantees in Kazakhstan as well as for its risk insurance products. This would typically require US companies to hold 25% of the equity in the Project. Recent OPIC activity in Kazakhstan includes the financial sector (i.e. consumer loans, mortgages). OPIC's business development unit indicated some concern about oil and gas development projects generally due to environmental issues and referred the DM team to its environmental guidelines.

Various multilateral funding sources may also be available to support funding requirements. The Asian Development Bank (ADB) is preparing its new country partnership strategy for 2011-2015 to guide its operations in Kazakhstan. The new strategy will build on ADB's past experiences and will be closely aligned to the government's 5-year industrial innovative development program under the government's Development Strategy 2020. Core operational sectors for ADB will be in the energy, transport, urban, and finance sectors. The role of ADB's private sector operations will be enhanced to support opportunities beyond the financial sector.

G. DEVELOPMENT IMPACT

The proposed Project would have significant developmental impacts if fully implemented, including the following:

Infrastructure – With full implementation, the Project would include a range of infrastructure including: gas drilling and production; field processing of raw gas; a gas separation, processing and purification facility; an ammonia plant; a fertilizer plant; and pipelines and truck transportation for raw and pure product streams. The distance of pipelines, number and size of processing facilities, and transportation infrastructure could vary widely depending on whether the feasibility of various options for the Project.

Human Capacity Building – The implementation of this Project will generate an estimated 200 to 300 full time jobs during construction and some 150 full time jobs to maintain and operate the gas production and processing and value added production facilities. Advanced training would be required for the operation and maintenance of all facilities as the value added processing of gasses is new to KTG and there is currently no helium processing in Kazakhstan.

Technology Transfer and Productivity Improvement – As helium and nitrogen processing and value added production utilizing the produced gasses is a new industry in Kazakhstan, the installation, operation and maintenance of the processing and purification and value added facilities will require an extensive transfer of new technologies.

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[1]An "x" would denote a limitation in Export Import Bank's ability to lend. The absence of an "x" indicated there is no limitation.

Other – The Project has the potential for spin off industries that could utilize the produced helium and/or nitrogen. Development of high tech industry is a priority for the Government of Kazakhstan.

H. ENVIRONMENTAL IMPACT

Potential negative environmental impacts from the Project include the impact from drilling and production of gas from the fields, construction of gas processing and value added production (e.g. ammonia) facilities, and emissions and wastewater generated from the various operations and facilities. There is existing gas production in the area as well as pipelines, gas processing facilities, and fertilizer and ammonia production facilities in the region. The environmental issues related to these types of industries is well known and the potential negative environmental impacts would be assessed during the USTDA study in the preliminary environmental impact assessment and through full environmental impact assessments prior to construction as required by Kazakhstan law.

In a urea plant, ammonia and particulate matter are the emissions of concern. Solid wastes are principally spent catalysts that originate in ammonia production and in the nitric acid plant. Ammonia plant effluents may contain ammonia and methanol. The key production and control practices that will lead to compliance with emissions requirements can be summarized as follows:

- Choose natural gas, where possible, as feedstock for the ammonia plant.
- Give preference to high-pressure processes or absorption process in combination with catalytic reduction units.
- Use low-dust-forming processes for solids formation.
- Reuse condensates and other wastewaters.
- Maximize product recovery and minimize air emissions by appropriate maintenance and operation of scrubbers and baghouses.

I. IMPACT ON US LABOR

The Project would not promote the establishment of any business other than for the purpose of serving the local market more efficiently (e.g. local agent/distributor). Based upon DM teams review, this Project does not provide: (a) any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States; (b) assistance for any project or activity that contributes to the violation of internationally recognized workers' rights; or (c) direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity.

In 2010, the US produced 8,290,000 metric tons (t) nitrogen content of ammonia, imported 5,540,000 t, and exported 35,000 t.[1] Neither Kazakhstan or any other former Soviet Union

[1] NITROGEN (FIXED)—AMMONIA STATISTICS1 U.S. GEOLOGICAL SURVEY

countries are listed as major export markets for US suppliers. Most of the fertilizer produced by the Project is expected to be sold for domestic use.

Helium is expected to be in increasingly short supply globally and the Project would therefore not have an negative impact on US exporters of helium. In 2000, About 55% of the U.S. helium exports went to Asia, with Japan receiving about 71% of those exports. About 24% of the exported helium was shipped to Europe. Collectively, Belgium, France, Germany, and the United Kingdom received 94% of the helium exported to Europe. Other exports were as follows: Canada and Mexico, 8%; South America, 5%; Australia-New Zealand, 5%; the Middle East, 2%; Africa, Central America, and the Caribbean, less than 1% each.[1]

Positive impacts on U.S. labor would come from prospective U.S. exports of goods and services, as described in section D above.

US Helium Statistics

Year	Production	Shipments	Imports	Exports	Stocks	Apparent consumption	Unit value ($/t)	Unit value (98$/t)	World production
2009	**13,200**	**20,000**	**0**	**12,000**	**79,100**	**8,000**	**12,900**	**9,800**	**24,900**

[1] U.S. GEOLOGICAL SURVEY MINERALS YEARBOOK—2000. HELIUM, By Norbert Pacheco1. Page 37.3

ANNEX 3

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

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

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

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

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

NATIONALITY:

1) Rule

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

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

2) Application

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

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

3) Definitions

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

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

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

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

SOURCE AND ORIGIN:

1) Rule

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

2) Application

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

3) Definitions

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

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

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

ANNEX 4

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 JSC KazTransGas ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US$626,000 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed Integrated Gas Production and Processing project ("Project") in Kazakhstan ("Host Country").

1. USTDA Funding

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

2. Terms of Reference

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

3. Standards of Conduct

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

4. Grantee Responsibilities

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

5. Contract Matters and USTDA's Rights as Financier

(A) Grantee Competitive Selection Procedures

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

(B) USTDA's Right to Approve Contractor Selection

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

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

(1) Contract

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

(2) Amendments and Assignments

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

(D) USTDA Not a Party to the Contract

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

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

(E) Grant Agreement Controlling

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

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

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

(B) Contractor Invoice Requirements

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

7. Effective Date

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

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is December 31, 2013, is the date by which the parties estimate that the Study will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

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

9. USTDA Mandatory Contract Clauses

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

10. Use of U.S. Carriers

(A) Air

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

(B) Marine

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

11. Nationality, Source and Origin

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

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

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

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

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

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

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

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

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

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

12. Taxes

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

13. USTDA Project Evaluation

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

14. Recordkeeping and Audit

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

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

15. Representation of Parties

For all purposes relevant to this Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by its General Director. 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. Serik Sultangali
General Director
JSC KazTransGas
12/1 Kunayev Street
Astana
Kazakhstan

Phone: +77172552217
Fax: +77172552366
E-Mail: info@kaztransgas.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: grantnotices@ustda.gov and East_Asia_Eurasia@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.:	1111/121001
Activity No.:	2012-61036A
Reservation No.:	2012271
Grant No.:	GH201261271

Appropriation No.:	1112/131001
Activity No.:	2012-61036A
Reservation No.:	2012271
Grant No.:	GH201261271

17. Implementation Letters

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

18. Grant Agreement Amendments

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

19. Termination Clause

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

20. Non-waiver of Rights and Remedies

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

21. U.S. Technology and Equipment

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

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

For the Government of the United States of America

By: _____

Date: 16 AUG 2012

Witnessed:

By: _____

For JSC KazTransGas

By: _____

Date: 16.08.2012 г.

Witnessed:

By: _____

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

Purpose and Objective

The Grantee requires a feasibility study to assess the technical, economic, and financial feasibility for the exploration, extraction, and processing of methane, nitrogen, and helium from existing gas fields in the Zhambyl region of Kazakhstan. Through the separation of the gas stream it is envisaged that value-added products such as fertilizer could be produced from the methane and nitrogen and the helium could be sold separately into a variety of high tech industries. The methane-helium-nitrogen gas concentrations in the Amangeldy, Anabay, Ayrakty, and Kumyrly gas fields contain from 8 to 81% nitrogen and from 0.165 to 0.694% helium. The nitrogen-helium deposits at North Ural and Ucharal-Kempirtyube contain 99.2% nitrogen and 0.6% helium. Currently, the Amangeldy methane gas deposits are explored with an annual production of 330 million m^3.

The main components of the Study are the following:

- Collection, assessment and analysis of previous exploration and drilling programs.
- Determination of technical solutions for the production of feedstock gas.
- Development of a regime for raw processing and delivering high quality feedstock gas for further processing and/or value-added production.
- Selection of technologies and determination of configuration of main processing equipment and facilities to produce high-quality helium.
- Selection of technologies and determination of configuration of main processing equipment and facilities to produce nitrogen-based products.
- Assessment of potential markets and identification of prospective off takers for the final products and development of a framework for off-take contracts.
- Development of engineering solutions for product storage and transportation.
- Assessment of risks and development of a risk mitigation strategy to ensure reliability and safety of facilities for the extraction, processing, and production of gas and value-added products.
- Financial end economic analysis of the Project.
- Development of an Implementation Plan for the Project.

Basic guidelines for the Study:

Perform the Study in accordance with legislative acts, regulatory and other applicable documents of the Republic of Kazakhstan that govern architectural, city-planning and construction activities, including CR RK 1.02-21-207 *Rules for development, coordination, approval and structure of technical and economic substantiation for construction.*

- The Contractor shall select product extraction and processing modes and technologies on the basis of principles of equipment economy, flexibility and accessibility.

- The equipment recommended by the Contractor shall correspond to international industry standards as pertains to reliability; technical and environmental safety and efficiency; and operational properties.
- Architectural, construction, space-planning and structural solutions shall be subject to the norms, regulations, and standards of the Republic of Kazakhstan.

Task 1: Document Review, Kickoff Meeting, Stakeholder Consultations, and Work Plan

Sub-task 1.1: Document Review – The Grantee shall provide the Contractor with all available information related to the Project, including: all relevant data, maps and reports regarding the exploration, development and production of the fields within the Project area; and studies, plans and/or existing operations for extraction, processing, and production of gas and value-added products the produced methane, nitrogen, and helium gas. The Contractor shall review all of the information collected and/or provided by the Grantee and other stakeholders.

Sub-task 1.2: Kickoff Meeting, Stakeholder Consultations, and Work Plan – The Contractor shall conduct a kickoff meeting with the Grantee and other stakeholders at the Grantee's facilities or at another appropriate venue agreed upon by the Contractor and the Grantee. The Grantee shall identify appropriate personnel and other relevant stakeholders to participate in the kickoff meeting. During the kickoff meeting, the Contractor shall gain an understanding of the perspectives and priorities of officials within the Grantee and other relevant agencies and stakeholders for the Project. A work committee will be formed from these key stakeholders with a planned meeting schedule to provide input and perspectives throughout the Study.

The Contractor shall review the tasks to be performed under these Terms of Reference; review the Contractor's existing work plan to perform the tasks under these Terms of Reference; and solicit Grantee requests for changes in the Contractor's work plan for the Study, if any. The Contractor shall obtain Grantee approval for the Contractor's work plan for the Study.

The Contractor shall coordinate the Study with all concerned stakeholders identified by the Grantee, including the controlling authorities of the Republic of Kazakhstan.

Deliverable(s) - The Contractor shall provide the Grantee a comprehensive report of the results of the work in Task 1 including, a summary of the Document Review performed, a copy of the confirmed or revised work plan for the Study, as approved by the Grantee, and a copy of all kickoff meeting records, including the agenda, any handouts and presentation materials, a list of all meeting participants, and the meeting summary.

Task 2. Resource Assessment

Based upon the collection, assessment and analysis of exploration and drilling works from the Project area, the Contractor shall organize and update data related to the resource base.

The Contractor shall prepare a long-term (30-year) forecast for the extraction of gas from the nitrogen-helium and nitrogen-methane deposits/reservoirs. The assessment shall establish a baseline of available nitrogen, helium, and methane as a feedstock for processing and value-added products facilities.

Deliverable(s) – The Contractor shall deliver a comprehensive report of the results of the work in Task 2, including a detailed resource assessment (with updated data), a 30-year forecast for gas extraction, and a plan for further exploration and development.

Task 3. Assessment of Alternative Gas Processing and Product Development Options

The Contractor shall conduct an assessment of the alternative gas processing and value-added product development options for produced nitrogen and helium gas, including, but not limited to:

- Performing a comparative technical and high level economic analysis of at least three variants of high quality helium processing technologies;
- Performing a comparative technical and high level economic analysis of at least three variants of nitrogen-based products processing technologies; and,
- Determining the demand for methane required to produce nitrogen-based products.

The Contractor shall identify and analyze issues related to the transfer of technology for the various product development options. The Contractor shall develop a framework for the required technology transfer agreements.

Deliverable(s): The Contractor shall deliver a comprehensive report of the results of the work in Task 3, including a detailed report for the assessment of alternative gas processing and product development options, an analysis of technology transfer issues, and a framework for the required technology transfer agreements.

Task 4. Market Analysis

The Contractor shall perform a market analysis for produced high-quality feedstock gas and value-added helium and nitrogen-based products. At a minimum, the following shall be performed as part of the market analysis:

- The Contractor shall collect and analyze market prices, taking into account pricing policies, and prepare a 20-year price forecast for high quality gas for feedstock and value-added helium and nitrogen-based products for domestic, regional and international markets;
- The Contractor shall prepare a 20-year demand forecast for high quality gas for feedstock and value-added helium and nitrogen-based products for domestic, regional and international markets; and,
- The Contractor shall establish the prices which the market will support for high quality gas for feedstock and value-added helium and nitrogen-based products produced.

- The Contractor shall identify prospective off-takers for the final products and develop a framework for off-take contracts.

Deliverable(s): The Contractor shall deliver a comprehensive report of the results of the work in Task 4, including a detailed market analysis (with the 20-year price and demand forecasts), a list of prospective off-takers with contact details, summary of discussions, and analysis; and a framework for off-take contracts.

Task 5. Integrated Resource and Product Development Plan

The Contractor shall develop an integrated resource and product development plan, including exploration, extraction, and processing of nitrogen, helium, and methane and production of high quality gas and/or value-added products. The plan shall include, at a minimum, the following:

- A detailed resource development plan for further exploration and development of the nitrogen-helium and nitrogen-methane deposits/reservoirs in the Project area.
- Engineering designs for processing the gas stream comprised of helium, nitrogen, and methane for delivery to advanced processing and/or value-added production facilities.
- A detailed assessment of the infrastructure requirements for the Project, including:
    - electric power - considering external power supply, captive power supply, and a combination of both;
    - water supply and wastewater treatment;
    - transportation infrastructure (pipeline, truck, rail, etc.) for raw, intermediary, and final gas and value-added products; and,
    - storage of gas and products.
- A detailed infrastructure plan based on the resource, technologies, and market assessment performed in the previous tasks, as well as a review of current and planned infrastructure in the Project area.
- A detailed plan for the coordination of main technical and process solutions between the Grantee and Project customers, off-takers, and/or partners, including specifications for provision of connection to infrastructure facilities.

Deliverable(s): The Contractor shall deliver a comprehensive report including the results of all of the work in Task 5, including an integrated resource and product development plan for the exploration, extraction, and processing of nitrogen, helium, and methane and production of high quality gas and/or value-added products.

Task 6. Economic and Financial Analysis

The Contractor shall determine the overall capital and operating costs for the proposed integrated resource and product development plan. Capital and operating costs shall include, at a minimum: gas exploration, drilling and production; field processing plant(s); gas separation, processing and purification facility; ammonia plant; fertilizer plant;

pipelines and truck transportation; engineering, design, and EPC contracts; legal and financial services. The cost estimates shall use a life-cycle costing approach.

The Contractor shall determine the price at which each product can be produced and delivered to market.

The Contractor shall perform an economic analysis of the proposed plan, including an analysis of competing alternative methods of achieving the same or similar objectives for the Project. The analysis shall conform to Grantee and Government of Kazakhstan requirements.

The Contractor shall perform a financial analysis of the proposed systems, including internal rate of return, return on investment, and net present value. The analysis shall conform to Grantee and Government of Kazakhstan requirements.

The Contractor shall conduct a sensitivity analysis for various variables including, but not limited to, output, input prices, gas and product prices, capital costs and operating costs.

The Contractor shall carry out a risk assessment of the Project in terms of main risk factors, including, but not limited to, gas and product sales prices, Project cost appreciation.

The Contractor shall make recommendations regarding financing options, including debt to equity ratio.

The Contractor shall identify and contact potential sources of financing to assess the likelihood of financing. Sources shall include, but not be limited to, bilateral and multilateral financing institutions.

Deliverable(s): The Contractor shall deliver a comprehensive report of the results of the work in Task 6.

Task 7. Business and Operational Models

The Contractor shall assess options for business and operational models for development of the Project. Options shall include various options for Grantee and/or private company ownership and/or operation of the facilities for the exploration, extraction, and processing of methane, nitrogen, and helium and production of high quality gas and value-added products. Various models including, but not limited to, concessions, leases, turnkey contracts, and management contracts shall be considered. Based on the assessment and consultation with the Grantee, a preferred business and operational model will be proposed for the Project.

Deliverable(s): The Contractor shall deliver a comprehensive report of the results of the work in Task 7.

Task 8. Evaluate Developmental Impacts

The Contractor shall report on the potential developmental impact of the Project. The Contractor shall focus on what the economic development outcomes will be if the Project is implemented according to the TA recommendations and conclusions. While specific

focus should be paid to the immediate impact of the Project, the Contractor should include, where appropriate, any additional developmental benefits of the Project, including spin-off and demonstration effects. The analysis of potential benefits of the Project shall be as concrete and detailed as possible. The Contractor shall provide estimates of the Project's potential benefits in the following areas:

Infrastructure: The Contractor shall provide a description of the infrastructure impact in the Project area, specifically addressing new infrastructure that would be developed for the exploration, extraction, and processing of methane, nitrogen, and helium and production of high quality gas and value-added products.

Human Capacity Building: The Contractor shall address the number and type of positions that would be needed to construct and operate the proposed Project as well as the number of people who will receive training and a brief description of the training program.

Technology Transfer and Productivity Enhancement: The Contractor shall provide a description of any advanced technologies that will be implemented as a result of this Project as well as productivity improvements over current practice.

Other: The Contractor shall identify any other developmental benefits to the Project, including any spin-off or demonstration effects

Deliverable(s): The Contractor shall deliver a development impact assessment report with comprehensive results of the work in Task 8.

Task 9. Preliminary Environmental Impact Assessment

The Contractor shall conduct a preliminary review of the Project's anticipated impact on the environment with reference to local requirements and those of multilateral lending agencies (such as the World Bank). This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment if and when the Project moves forward to the implementation stage. This includes the identification of steps that will need to be undertaken by the Project sponsor subsequent to the Study's completion and prior to Project implementation.

The Contractor shall develop preliminary health and safety measures in accordance with normative and technical documentation and regulatory acts of the Republic of Kazakhstan.

Deliverable(s): The Contractor shall deliver a preliminary environmental impact assessment report with comprehensive results of the work in Task 9.

Task 10. Develop a Detailed Implementation Plan

The Contractor shall develop a detailed Implementation Plan with appropriate phasing and sequencing of business priorities and milestones. The Contractor shall:

- Using the analysis performed in Task 6. Economic and Financial Analysis, develop a preliminary budget for the overall cost of implementing the proposed systems over a ten-year period.
- Develop an implementation schedule taking into consideration construction in a stage-by-stage approach
- Develop a capital investment plan and milestone schedule for construction project financing.
- Present a detailed schedule of activities necessary to realize the proposed Implementation Plan. This should include a set of targets, milestones and financial outlays.
- Develop of a risk mitigation strategy to ensure reliability and safety of facilities for the extraction, processing, and production of gas and value-added products.

Deliverable(s): The Contractor shall provide a draft version of the Implementation Plan to the Grantee for review and consideration. The Grantee may require changes in order to more effectively meet its goals. Once the draft has been approved, the Contractor shall provide a final version of the Implementation Plan.

Task 11. US Sources of Supply

The Contractor shall provide an assessment of the availability of potential US services and equipment needed in the implementation of the recommended transmission system modernization Project.

Deliverable(s): The Contractor shall provide a report of an assessment of the availability of prospective US suppliers, list of US companies, and summary of discussions with US companies.

Task 12. Prepare Final Report

The FS 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 be prepared in accordance with Clause J of Annex II of the Grant Agreement in English. The Final Report shall contain an executive summary. In addition to any other required deliverables in accordance with Clause J of Annex II of the Grant Agreement, the Contractor will provide both the Grantee with 6 copies of the Final Report on CD-ROM. The CD-ROM version of the Final Report will include:

- Adobe Acrobat readable copies of all documents;
- Source files for all drawings in AutoCAD or Visio format; and
- Source files for all documents in MS Office 2000 or later formats.

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 JSC KazTransGas ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the Integrated Gas Production and Processing 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 J. In addition, in the event of any inconsistency between the Grant Agreement and the Contract or any subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

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

(2) USTDA Not a Party to the Contract

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

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

C. Nationality, Source and Origin

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

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

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

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

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

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

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

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

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

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

D. Recordkeeping and Audit

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

E. U.S. Carriers

(1) Air

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

(2) Marine

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

F. Workman's Compensation Insurance

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

G. Reporting Requirements

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

H. Disbursement Procedures

(1) USTDA Approval of Contract

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

(2) Payment Schedule Requirements

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

(3) Contractor Invoice Requirements

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

(a) Contractor's Invoice

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

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

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

(ii) For Contract performance milestone payments:

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

(iii) For final payment:

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

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

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

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

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

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

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

(c) USTDA Address for Disbursement Requests

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

I. Termination

(1) Method of Termination

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

(2) Ramifications of Termination

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

(3) Survivability

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

J. USTDA Final Report

(1) Definition

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

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

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

and

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

and

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

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

(3) Final Report Presentation

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

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

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

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

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

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

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

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

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

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

K. Modifications

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

L. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is December 31, 2013, is the date by which the Contract Parties estimate that the Study will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

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

M. Business Practices

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

N. USTDA Address and Fiscal Data

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

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

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

Fiscal Data:

Appropriation No.:	1111/121001
Activity No.:	2012-61036A
Reservation No.:	2012271
Grant No.:	GH201261271

Appropriation No.:	1112/131001
Activity No.:	2012-61036A
Reservation No.:	2012271
Grant No.:	GH201261271

O. Taxes

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

P. Export Licensing

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

Q. Contact Persons

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

Name: Mr. Anatoly Tegisbayev
Title: Deputy General Director
Phone: +7 7172 55 22 17
Fax: +7 7172 55 23 66
E-Mail: a.tegisbayev@kaztransgas.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.

R. Liability

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

S. Arbitration

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

ANNEX 5

Annex I

Terms of Reference

Purpose and Objective

The Grantee requires a feasibility study to assess the technical, economic, and financial feasibility for the exploration, extraction, and processing of methane, nitrogen, and helium from existing gas fields in the Zhambyl region of Kazakhstan. Through the separation of the gas stream it is envisaged that value-added products such as fertilizer could be produced from the methane and nitrogen and the helium could be sold separately into a variety of high tech industries. The methane-helium-nitrogen gas concentrations in the Amangeldy, Anabay, Ayrakty, and Kumyrly gas fields contain from 8 to 81% nitrogen and from 0.165 to 0.694% helium. The nitrogen-helium deposits at North Ural and Ucharal-Kempirtyube contain 99.2% nitrogen and 0.6% helium. Currently, the Amangeldy methane gas deposits are explored with an annual production of 330 million m^3.

The main components of the Study are the following:

- Collection, assessment and analysis of previous exploration and drilling programs.
- Determination of technical solutions for the production of feedstock gas.
- Development of a regime for raw processing and delivering high quality feedstock gas for further processing and/or value-added production.
- Selection of technologies and determination of configuration of main processing equipment and facilities to produce high-quality helium.
- Selection of technologies and determination of configuration of main processing equipment and facilities to produce nitrogen-based products.
- Assessment of potential markets and identification of prospective off takers for the final products and development of a framework for off-take contracts.
- Development of engineering solutions for product storage and transportation.
- Assessment of risks and development of a risk mitigation strategy to ensure reliability and safety of facilities for the extraction, processing, and production of gas and value-added products.
- Financial end economic analysis of the Project.
- Development of an Implementation Plan for the Project.

Basic guidelines for the Study:

Perform the Study in accordance with legislative acts, regulatory and other applicable documents of the Republic of Kazakhstan that govern architectural, city-planning and construction activities, including CR RK 1.02-21-207 *Rules for development, coordination, approval and structure of technical and economic substantiation for construction.*

- The Contractor shall select product extraction and processing modes and technologies on the basis of principles of equipment economy, flexibility and accessibility.

- The equipment recommended by the Contractor shall correspond to international industry standards as pertains to reliability; technical and environmental safety and efficiency; and operational properties.
- Architectural, construction, space-planning and structural solutions shall be subject to the norms, regulations, and standards of the Republic of Kazakhstan.

Task 1: Document Review, Kickoff Meeting, Stakeholder Consultations, and Work Plan

Sub-task 1.1: Document Review – The Grantee shall provide the Contractor with all available information related to the Project, including: all relevant data, maps and reports regarding the exploration, development and production of the fields within the Project area; and studies, plans and/or existing operations for extraction, processing, and production of gas and value-added products the produced methane, nitrogen, and helium gas. The Contractor shall review all of the information collected and/or provided by the Grantee and other stakeholders.

Sub-task 1.2: Kickoff Meeting, Stakeholder Consultations, and Work Plan – The Contractor shall conduct a kickoff meeting with the Grantee and other stakeholders at the Grantee's facilities or at another appropriate venue agreed upon by the Contractor and the Grantee. The Grantee shall identify appropriate personnel and other relevant stakeholders to participate in the kickoff meeting. During the kickoff meeting, the Contractor shall gain an understanding of the perspectives and priorities of officials within the Grantee and other relevant agencies and stakeholders for the Project. A work committee will be formed from these key stakeholders with a planned meeting schedule to provide input and perspectives throughout the Study.

The Contractor shall review the tasks to be performed under these Terms of Reference; review the Contractor's existing work plan to perform the tasks under these Terms of Reference; and solicit Grantee requests for changes in the Contractor's work plan for the Study, if any. The Contractor shall obtain Grantee approval for the Contractor's work plan for the Study.

The Contractor shall coordinate the Study with all concerned stakeholders identified by the Grantee, including the controlling authorities of the Republic of Kazakhstan.

Deliverable(s) - The Contractor shall provide the Grantee a comprehensive report of the results of the work in Task 1 including, a summary of the Document Review performed, a copy of the confirmed or revised work plan for the Study, as approved by the Grantee, and a copy of all kickoff meeting records, including the agenda, any handouts and presentation materials, a list of all meeting participants, and the meeting summary.

Task 2. Resource Assessment

Based upon the collection, assessment and analysis of exploration and drilling works from the Project area, the Contractor shall organize and update data related to the resource base.

The Contractor shall prepare a long-term (30-year) forecast for the extraction of gas from the nitrogen-helium and nitrogen-methane deposits/reservoirs. The assessment shall establish a baseline of available nitrogen, helium, and methane as a feedstock for processing and value-added products facilities.

Deliverable(s) – The Contractor shall deliver a comprehensive report of the results of the work in Task 2, including a detailed resource assessment (with updated data), a 30-year forecast for gas extraction, and a plan for further exploration and development.

Task 3. Assessment of Alternative Gas Processing and Product Development Options

The Contractor shall conduct an assessment of the alternative gas processing and value-added product development options for produced nitrogen and helium gas, including, but not limited to:

- Performing a comparative technical and high level economic analysis of at least three variants of high quality helium processing technologies;
- Performing a comparative technical and high level economic analysis of at least three variants of nitrogen-based products processing technologies; and,
- Determining the demand for methane required to produce nitrogen-based products.

The Contractor shall identify and analyze issues related to the transfer of technology for the various product development options. The Contractor shall develop a framework for the required technology transfer agreements.

Deliverable(s): The Contractor shall deliver a comprehensive report of the results of the work in Task 3, including a detailed report for the assessment of alternative gas processing and product development options, an analysis of technology transfer issues, and a framework for the required technology transfer agreements.

Task 4. Market Analysis

The Contractor shall perform a market analysis for produced high-quality feedstock gas and value-added helium and nitrogen-based products. At a minimum, the following shall be performed as part of the market analysis:

- The Contractor shall collect and analyze market prices, taking into account pricing policies, and prepare a 20-year price forecast for high quality gas for feedstock and value-added helium and nitrogen-based products for domestic, regional and international markets;
- The Contractor shall prepare a 20-year demand forecast for high quality gas for feedstock and value-added helium and nitrogen-based products for domestic, regional and international markets; and,
- The Contractor shall establish the prices which the market will support for high quality gas for feedstock and value-added helium and nitrogen-based products produced.

- The Contractor shall identify prospective off-takers for the final products and develop a framework for off-take contracts.

Deliverable(s): The Contractor shall deliver a comprehensive report of the results of the work in Task 4, including a detailed market analysis (with the 20-year price and demand forecasts), a list of prospective off-takers with contact details, summary of discussions, and analysis; and a framework for off-take contracts.

Task 5. Integrated Resource and Product Development Plan

The Contractor shall develop an integrated resource and product development plan, including exploration, extraction, and processing of nitrogen, helium, and methane and production of high quality gas and/or value-added products. The plan shall include, at a minimum, the following:

- A detailed resource development plan for further exploration and development of the nitrogen-helium and nitrogen-methane deposits/reservoirs in the Project area.
- Engineering designs for processing the gas stream comprised of helium, nitrogen, and methane for delivery to advanced processing and/or value-added production facilities.
- A detailed assessment of the infrastructure requirements for the Project, including:
    - electric power - considering external power supply, captive power supply, and a combination of both;
    - water supply and wastewater treatment;
    - transportation infrastructure (pipeline, truck, rail, etc.) for raw, intermediary, and final gas and value-added products; and,
    - storage of gas and products.
- A detailed infrastructure plan based on the resource, technologies, and market assessment performed in the previous tasks, as well as a review of current and planned infrastructure in the Project area.
- A detailed plan for the coordination of main technical and process solutions between the Grantee and Project customers, off-takers, and/or partners, including specifications for provision of connection to infrastructure facilities.

Deliverable(s): The Contractor shall deliver a comprehensive report including the results of all of the work in Task 5, including an integrated resource and product development plan for the exploration, extraction, and processing of nitrogen, helium, and methane and production of high quality gas and/or value-added products.

Task 6. Economic and Financial Analysis

The Contractor shall determine the overall capital and operating costs for the proposed integrated resource and product development plan. Capital and operating costs shall include, at a minimum: gas exploration, drilling and production; field processing plant(s); gas separation, processing and purification facility; ammonia plant; fertilizer plant;

pipelines and truck transportation; engineering, design, and EPC contracts; legal and financial services. The cost estimates shall use a life-cycle costing approach.

The Contractor shall determine the price at which each product can be produced and delivered to market.

The Contractor shall perform an economic analysis of the proposed plan, including an analysis of competing alternative methods of achieving the same or similar objectives for the Project. The analysis shall conform to Grantee and Government of Kazakhstan requirements.

The Contractor shall perform a financial analysis of the proposed systems, including internal rate of return, return on investment, and net present value. The analysis shall conform to Grantee and Government of Kazakhstan requirements.

The Contractor shall conduct a sensitivity analysis for various variables including, but not limited to, output, input prices, gas and product prices, capital costs and operating costs.

The Contractor shall carry out a risk assessment of the Project in terms of main risk factors, including, but not limited to, gas and product sales prices, Project cost appreciation.

The Contractor shall make recommendations regarding financing options, including debt to equity ratio.

The Contractor shall identify and contact potential sources of financing to assess the likelihood of financing. Sources shall include, but not be limited to, bilateral and multilateral financing institutions.

Deliverable(s): The Contractor shall deliver a comprehensive report of the results of the work in Task 6.

Task 7. Business and Operational Models

The Contractor shall assess options for business and operational models for development of the Project. Options shall include various options for Grantee and/or private company ownership and/or operation of the facilities for the exploration, extraction, and processing of methane, nitrogen, and helium and production of high quality gas and value-added products. Various models including, but not limited to, concessions, leases, turnkey contracts, and management contracts shall be considered. Based on the assessment and consultation with the Grantee, a preferred business and operational model will be proposed for the Project.

Deliverable(s): The Contractor shall deliver a comprehensive report of the results of the work in Task 7.

Task 8. Evaluate Developmental Impacts

The Contractor shall report on the potential developmental impact of the Project. The Contractor shall focus on what the economic development outcomes will be if the Project is implemented according to the TA recommendations and conclusions. While specific

focus should be paid to the immediate impact of the Project, the Contractor should include, where appropriate, any additional developmental benefits of the Project, including spin-off and demonstration effects. The analysis of potential benefits of the Project shall be as concrete and detailed as possible. The Contractor shall provide estimates of the Project's potential benefits in the following areas:

Infrastructure: The Contractor shall provide a description of the infrastructure impact in the Project area, specifically addressing new infrastructure that would be developed for the exploration, extraction, and processing of methane, nitrogen, and helium and production of high quality gas and value-added products.

Human Capacity Building: The Contractor shall address the number and type of positions that would be needed to construct and operate the proposed Project as well as the number of people who will receive training and a brief description of the training program.

Technology Transfer and Productivity Enhancement: The Contractor shall provide a description of any advanced technologies that will be implemented as a result of this Project as well as productivity improvements over current practice.

Other: The Contractor shall identify any other developmental benefits to the Project, including any spin-off or demonstration effects

Deliverable(s): The Contractor shall deliver a development impact assessment report with comprehensive results of the work in Task 8.

Task 9. Preliminary Environmental Impact Assessment

The Contractor shall conduct a preliminary review of the Project's anticipated impact on the environment with reference to local requirements and those of multilateral lending agencies (such as the World Bank). This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment if and when the Project moves forward to the implementation stage. This includes the identification of steps that will need to be undertaken by the Project sponsor subsequent to the Study's completion and prior to Project implementation.

The Contractor shall develop preliminary health and safety measures in accordance with normative and technical documentation and regulatory acts of the Republic of Kazakhstan.

Deliverable(s): The Contractor shall deliver a preliminary environmental impact assessment report with comprehensive results of the work in Task 9.

Task 10. Develop a Detailed Implementation Plan

The Contractor shall develop a detailed Implementation Plan with appropriate phasing and sequencing of business priorities and milestones. The Contractor shall:

- Using the analysis performed in Task 6. Economic and Financial Analysis, develop a preliminary budget for the overall cost of implementing the proposed systems over a ten-year period.
- Develop an implementation schedule taking into consideration construction in a stage-by-stage approach
- Develop a capital investment plan and milestone schedule for construction project financing.
- Present a detailed schedule of activities necessary to realize the proposed Implementation Plan. This should include a set of targets, milestones and financial outlays.
- Develop of a risk mitigation strategy to ensure reliability and safety of facilities for the extraction, processing, and production of gas and value-added products.

Deliverable(s): The Contractor shall provide a draft version of the Implementation Plan to the Grantee for review and consideration. The Grantee may require changes in order to more effectively meet its goals. Once the draft has been approved, the Contractor shall provide a final version of the Implementation Plan.

Task 11. US Sources of Supply

The Contractor shall provide an assessment of the availability of potential US services and equipment needed in the implementation of the recommended transmission system modernization Project.

Deliverable(s): The Contractor shall provide a report of an assessment of the availability of prospective US suppliers, list of US companies, and summary of discussions with US companies.

Task 12. Prepare Final Report

The FS 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 be prepared in accordance with Clause J of Annex II of the Grant Agreement in English. The Final Report shall contain an executive summary. In addition to any other required deliverables in accordance with Clause J of Annex II of the Grant Agreement, the Contractor will provide both the Grantee with 6 copies of the Final Report on CD-ROM. The CD-ROM version of the Final Report will include:

- Adobe Acrobat readable copies of all documents;
- Source files for all drawings in AutoCAD or Visio format; and
- Source files for all documents in MS Office 2000 or later formats.

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*]	2012-61036A					
Activity Type [*To be completed by USTDA*]	✔	Feasibility Study		Technical Assistance		Other (specify)
Activity Title [*To be completed by USTDA*]	Kazakhstan Integrated Gas Production and Processing					
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.						
Please provide a list of directors and principal officers as detailed in Attachment A. Attached?		Yes				
Type of Ownership		Publicly Traded Company				
		Private Company				
		Other (please specify)				
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(s). 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 any explanation as to why any representation cannot be made):
1. U.S. Firm is a *[check one]* ☐ Corporation ☐ LLC ☐ Partnership ☐ Sole Proprietor ☐ Other: ____ duly organized, validly existing and in good standing under the laws of the State of: [insert state] The U.S. Firm has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the USTDA Activity. The U.S. Firm is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.
2. The U.S. Firm has included herewith, a copy of its Articles of Incorporation (or equivalent charter or document issued by a designated authority in accordance with applicable laws that provides information and authentication regarding the legal status of an entity) and a Certificate of Good Standing (or equivalent document) issued within 1 month of the date of signature below by the State of: [insert state] The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change in its status in the state in which it is incorporated. USTDA retains the right to request an updated certificate of good standing.
3. Neither the U.S. Firm nor any of its principal officers have, within the ten-year period preceding the submission of this proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the U.S. Firm, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.
5. There are no federal or state tax liens pending against the assets, property or business of the U.S. Firm. The U.S. Firm, has not, within the three-year period preceding the submission of this proposal, been notified of any delinquent federal or state taxes in an amount that exceeds US$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The U.S. Firm has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself of its debts under any bankruptcy, insolvency or other similar law. The U.S. Firm has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.
7. The U.S. Firm certifies that it complies with USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.
The U.S. Firm shall notify USTDA if any of the representations are no longer true and correct.
U.S. Firm certifies that the information provided in this form is true and correct. U.S. Firm understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the U.S. Firm.

Name		Signature	
Title			
Organization		Date	

ATTACHMENT A

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

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

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

USTDA Activity Number [*To be completed by USTDA*]	2012-61036A
Activity Title [*To be completed by USTDA*]	Kazakhstan Integrated Gas Production and Processing
Full Legal Name of Entity	

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

ATTACHMENT B

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

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

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*]	2012-61036A
Activity Title [*To be completed by USTDA*]	Kazakhstan Integrated Gas Production and Processing
Full Legal Name of U.S. Firm	
Full Legal Name of Shareholder	
Business Address of Shareholder (street address only)	
Telephone number	Fax Number
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	
Country of Shareholder's Principal Place of Business	
Please provide a list of directors and principal officers as detailed in Attachment A. Attached?	✔ Yes
Type of Ownership	☐ Publicly Traded Company ☐ Private Company ☐ Other
If applicable, provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in Shareholder, please complete Attachment B.	
Is the Shareholder a wholly-owned or partially owned subsidiary?	☐ Yes ☐ No
If so, please provide the name of the Shareholder's parent(s). In addition, for any parent identified, please complete Attachment B.	

Shareholder may attach additional sheets, as necessary.

ATTACHMENT C

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

Subcontractor Information Form

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

USTDA Activity Number [*To be completed by USTDA*]	2012-61036A
Activity Title [*To be completed by USTDA*]	Kazakhstan Integrated Gas Production and Processing
Full Legal Name of Prime Contractor U.S. Firm ("U.S. Firm")	
Full Legal Name of Subcontractor	
Business Address of Subcontractor (street address only)	
Telephone Number	
Fax Number	
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	

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

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