

REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

TAQA CONCENTRATED SOLAR POWER PLANT

Submission Deadline: **4:00 PM**

LOCAL TIME

AUGUST 19, 2010

Submission Place: Mr. Akmal Zaghoul
Business Development General Manager
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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 Nina Patel, USTDA,
1000 Wilson Blvd, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357,
Fax: (703) 875-4009, npatel@ustda.gov**

REQUEST FOR PROPOSALS

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US \$603,790 to TAQA Arabia (the “Grantee”) in accordance with a grant agreement dated May 26, 2010 (the “Grant Agreement”). USTDA has provided a grant to the Grantee to perform the TAQA Concentrated Solar Power Plant Feasibility Study. 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

To meet rising energy demand, Egypt plans to expand electricity capacity by 32,000 MW over the next 12 years. In 2005, nearly 75% of Egypt's electric generating capacity was powered by natural gas, some 14% by petroleum products, and the remaining 12% by hydroelectric. While Egypt is a large producer of oil (650,000 barrels/day in 2007) and natural gas (1.9 trillion ft³ in 2006) and this domestic production largely meets Egypt's demand for electricity generation fuels, reserves are declining and subsidies are being reduced. Accordingly, there is significant potential for the development of renewable energy projects in Egypt. As of 2008, Egypt had 3,152 MW of installed capacity of renewable energy, consisting mainly of hydropower. The non-hydropower renewable installed capacity was 365 MW. Wind and solar resources in Egypt remain largely unexploited.

The conditions for renewable energy in Egypt are growing more open to investment. Facilitating this trend is the Egyptian New and Renewable Energy Agency (NREA), the principal agency for expanding efforts to introduce and develop renewable energy technologies to Egypt on a commercial scale. NREA works to establish codes, standards, certifications and testing for new renewable energy technologies. In addition, a new unified electricity law is pending in the Egyptian parliament that would pave the way for the establishment of an open electricity market and carry forward the liberalization process. Lastly, in January 2010, Dr. Hassan Younes, Minister of Electricity and Energy, stated that Egypt has become a promising market for investors in the renewable energy sector after providing several governmental guarantees in 2009, such as the commitment to buy the produced renewable energy and providing the necessary land at no cost for project developers under the build-operate-own system.

The Feasibility Study (FS) is aimed at assessing the applicability of a CSP tower system with molten salt storage technology for implementation in Upper Egypt. The Grantee plans to construct a 250-MW CSP plant that is expected to catalyze the development of other CSP projects in Egypt and contribute to Egypt's renewable energy targets, while servicing the expected surge in future demand of electricity from new specialized industrial zones (estimated to be 2,500 MW over the next five years). The development of Upper Egypt is a priority for the Government of Egypt. This project will help to ensure the availability of clean and renewable electricity in the region. The study will rely in part on commitments by the Grantee to provide information and data collection and at least three solar irradiation measurement devices to conduct a solar measurement campaign.

The goal of the TAQA CSP Plant is to develop, construct, operate and maintain a 250-MW CSP plant as a renewable energy solution in an area of Egypt where electricity demand is expected to

increase significantly. The Grantee requires an FS to determine the economic viability of CSP technology in Egypt. Specifically, the FS will evaluate the viability of using a CSP tower system with molten salt storage technology, as well as alternative CSP technologies. Upon successful implementation of the TAQA CSP plant, the Grantee plans to develop three additional CSP plants in two implementation phases, with a total capacity of 1,000 MW. They are to be connected to the Egyptian grid and operated under a proposed feed-in tariff regime. Total implementation cost of the project is \$1.23 billion with an estimated \$478 million in potential U.S. exports.

The FS will provide the Grantee a bankable study that gives financial justification for implementing a CSP plant project in Egypt. Lacking demonstrated commercial viability of CSP technology, and in particular without knowing the true construction, operation and maintenance costs of a CSP plant in Egypt, TAQA Arabia remains unable to build and put into operation a CSP plant. Implementation of this project will help achieve the expressed Egyptian goal of increasing the use of clean and renewable sources of energy. Key aspects of the proposed FS will include the determination of costs of local labor and materials sourced in Egypt; an analysis of unique financial structuring aspects such as sovereign guarantees, accelerated depreciation, carbon financing, and feed-in tariff rates; selection of the most appropriate CSP technology for Egypt; and quantification of the social and local economic benefits of CSP for Egypt.

A background Definitional Mission is provided for reference in Annex 2.

1.2 OBJECTIVE

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 \$603,790. **The USTDA grant of US \$603,790 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 \$603,790 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.

The project will be competitively bid but the Grantee will be providing in-kind cost share. The in-kind cost share from the Grantee will be in addition to that commonly provided by Grantees, i.e., reasonable support to the Contractor for local transportation, office space, and secretarial support. The Grantee's in-kind cost share will consist of the installation of three solar irradiation measurement devices for use in completing the feasibility study. The Grantee will install these devices within a 60 day period, associated with Task Three in the TOR, and the Contractor will work with the Grantee to develop the necessary data from the campaign.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called TAQA Concentrated Solar Power Plant 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. A copy of the report is 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\$603,790.

In addition to this amount, the Grantee will be providing in-kind cost share. The Grantee's in-kind cost share will consist of the installation of three solar irradiation measurement devices for use in completing the feasibility study.

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. Akmal Zaghloul
Business Development General Manager
TAQA Arabia
2, Simon Bolivar sq., Garden City
P.O.Box: 40 Magless El-Shaab
Cairo, Egypt

Tel.: +202 27956882 +202 2796 1494 +202 27954671

Fax.: +202 27956237 +202 2796 2821

An Original and eight (8) copies of your proposal in addition to a softcopy must be received at the above address no later than 4:00 PM Local Time, on August 19, 2010.

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 "original" or "copy number x"; the original and eight (8) copies plus a softcopy should be collectively wrapped and sealed, and clearly labeled.

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

2.15 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.

2.16 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.

2.17 EXCEPTIONS

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

2.18 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.

2.19 RIGHT TO REJECT PROPOSALS

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

2.20 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.

2.21 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 and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

2.22 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.

2.23 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\$603,790, 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,
- Company Information,
- 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 COMPANY INFORMATION

For convenience, the information required in this Section 3.2 may be submitted in the form attached in Annex 6 hereto.

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information requested in sections 3.2.5 and 3.2.6 below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers.
2. Year established (include predecessor companies and year(s) established, if appropriate).
3. Type of ownership (e.g. public, private or closely held).
4. If private or closely held company, provide list of shareholders and the percentage of their ownership.
5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Feasibility Study.
6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).
7. Project Manager's name, address, telephone number, e-mail address and fax number.

3.2.2 Offeror's Authorized Negotiator

Provide 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.

3.2.3 Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.
2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.2.4 Offeror's Representations

If any of the following representations cannot be made, or if there are exceptions, the Offeror must provide an explanation.

1. Offeror is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror 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 Feasibility Study. The Offeror 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 Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of _____. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.
3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, 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 Offeror, 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 Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The Offeror 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 Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

3.2.5 Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.
2. Year established (include predecessor companies and year(s) established, if appropriate).

3.2.6 Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the Subcontractor must provide an explanation.

1. Subcontractor is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of _____. 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 Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Feasibility Study and to perform the Feasibility Study. 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 three-year period preceding this RFP, 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.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

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 or larger in scope than 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:

1. Firms' specific experience related to the assignment: 25 points maximum
 - Firms' overall experience: 15 points
 - Firms' overseas experience: 10 points
2. Adequacy of proposed work plan and methodology in response to the TOR: 25 points maximum
 - Knowledge of proposed work and understanding of service: 10 points

- Appropriateness of proposed methodology and workplan: 15 points
3. Qualifications and competence of the key staff for the assignment: 25 points maximum
- Team Leader's experience in similar projects: 5 points
 - Project Engineer's experience in similar projects: 5 points
 - Mechanical Engineer's experience in similar projects: 5 points
 - Electrical Engineer's experience in similar projects: 5 points
 - Economist / Financial Analyst's experience in similar projects: 5 points
4. Past performance: 25 points maximum
- Six relevant and verifiable projects: 25 points
 - Five relevant and verifiable projects: 20 points
 - Four relevant and verifiable projects: 15 points
 - Three relevant and verifiable projects: 10 points
 - Two relevant and verifiable projects: 5 points

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. AKMAL ZAGHLOUL, BUSINESS DEVELOPMENT GENERAL MANAGER,
TAQA ARABIA, 2 SIMON BOLIVAR SQ., GARDEN CITY, P.O. BOX 40: MAGLESS
EL-SHAAB, CAIRO, EGYPT, Tel.: +202 27956882 +202 27961494 +202 27954671, Fax.:
+202 27956237 +202 27962821

TAQA CONCENTRATED SOLAR POWER PLANT FEASIBILITY STUDY

POC: Nina Patel, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. TAQA Concentrated Solar Power Plant Feasibility Study. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop a feasibility study for the TAQA Concentrated Solar Power Plant.

The Feasibility Study (FS) is aimed at assessing the applicability of a Concentrated Solar Power (CSP) tower system with molten salt storage technology for implementation in Upper Egypt. The Grantee plans to construct a 250-MW CSP plant that is expected to catalyze the development of other CSP projects in Egypt and contribute to Egypt's renewable energy targets, while servicing the expected surge in future demand of electricity from new specialized industrial zones (estimated to be 2,500 MW over the next five years). The development of Upper Egypt is a priority for the Government of Egypt. This project will help to ensure the availability of clean and renewable electricity in the region. The study will rely in part on commitments by the Grantee to provide information and data collection, and an in-kind cost share that will consist of the installation of three solar irradiation measurement devices for use in completing the feasibility study.

The goal of the TAQA CSP Plant is to develop, construct, operate and maintain a 250-MW CSP plant as a renewable energy solution in an area of Egypt where electricity demand is expected to increase significantly. The Grantee requires an FS to determine the economic viability of CSP technology in Egypt. Specifically, the FS will evaluate the viability of using a CSP tower system with molten salt storage technology, as well as alternative CSP technologies. Upon successful implementation of the TAQA CSP plant, the Grantee plans to develop three additional CSP plants in two implementation phases, with a total capacity of 1,000 MW. They are to be connected to the Egyptian grid and operated under a proposed feed-in tariff regime. Total implementation cost of the project is \$1.23 billion with an estimated \$478 million in potential U.S. exports.

The FS will provide the Grantee a bankable study that gives financial justification for implementing a CSP plant project in Egypt. Lacking demonstrated commercial viability of CSP technology, and in particular without knowing the true construction, operation and maintenance costs of a CSP plant in Egypt, TAQA Arabia remains unable to build and put into operation a CSP plant. Implementation of this project will help achieve the expressed Egyptian goal of increasing the use of clean and renewable sources of energy. Key aspects of the FS will include the determination of costs of local labor and materials sourced in Egypt; an analysis of unique financial structuring aspects such as sovereign guarantees, accelerated depreciation, carbon financing, and feed-in tariff rates; selection of the most

appropriate CSP technology for Egypt; and quantification of the social and local economic benefits of CSP for Egypt.

The U.S. firm selected will be paid in U.S. dollars from a \$603,790 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 a background definitional mission report is 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 Local Time, August 19, 2010**, 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

IMPLEMENTATION

The project sponsor is "TAQA Arabia", an Egyptian private sector company, established in March 2006 by Citadel Capital, the Middle East's leading private equity fund with \$8.3 billion in investment under management. TAQA acts as an energy distribution platform for capitalizing on the vast energy resources of the MENA region, in order to meet the needs of underserved markets.

Today, TAQA Arabia, as a full-service energy solutions group, is operating in six countries in the region, with activities ranging from energy engineering and contracting to gas distribution, power generation and distribution, and fuel marketing. The company is active in Egypt, Sudan, Qatar, the United Arab Emirates (UAE), Libya, Syria and Jordan and it is supplying energy to approximately 750,000 customers.

TAQA has three business lines: Gas, Power, and Oil Marketing.

Regarding TAQA's *Power Group*: it finances, designs, constructs, operates, and maintains low, medium, and high voltage power plants and distribution networks to meet customers' power generation and distribution needs. It offers specially tailored packages for financing, designing, constructing, managing, operating, and maintaining power generation plants of up to 750 megawatts.

The TAQA Arabia greenfield CSP project aims to develop, construct, operate and maintain a pilot 250MW CSP plant as a renewable energy solution in a remote area of Egypt. Although TAQA is not yet an experienced CSP developer and operator, TAQA has an excellent reputation with the Electricity Regulatory Agency and the Egyptian Ministry of Electricity. This was confirmed by GreenMax during our meeting in TAQA's headquarter.

TAQA has total development plans for several CSP power plants in two implementation phases totalling approximately 1GW to be connected to the Egyptian grid and operated under the future, not yet implemented feed-in tariff for renewable energy. Currently the Board of TAQA requires a feasibility study to determine the economic viability of CSP in Egypt.

Phase I:	Phase II:
1 Plant	3 Plants
5 Towers	15 Towers
250 MW	750 MW
8,000 Acres (31.25 Km ²)	23,000 Acres (94 Km ²)
2,500 GWh/y	7,500 GWh/y

Without knowing if CSP is commercially viable, it is difficult for TAQA's Board to approve investments in the development phases of the project. Therefore a key aspect of the Technical Assistance will be a "localization exercise" to determine the local costs of labor and materials sourced in Egypt, and their ability to significantly reduce the CAPEX of the power plant. In addition, it is important to understand how such a large and unique project would be financially structured in Egypt, including aspects such as sovereign guarantees, accelerated depreciation and carbon financing.

In summary, the task of the Technical Assistance is to ascertain what tariff level is needed for a CSP plant to operate as a commercially viable investment in Egypt. Preliminary estimates are that it would be necessary to produce electricity at prices around EUR 0.12-0.14/kWh, In Spain, an operational CSP trough power plant is selling power at EUR 0.25/kWh fixed feed-in tariff. The Egyptian government will not support a feed-in tariff at that level, and thus the CAPEX of the power plant must be reduced significantly (e.g. by 50%) through local production of commoditized components (e.g. heliostats, concrete, steel, piping, cabling) and through local labor costs. Additional cost reductions could be achieved through incentives such as accelerated depreciation, the provision of free land or carbon

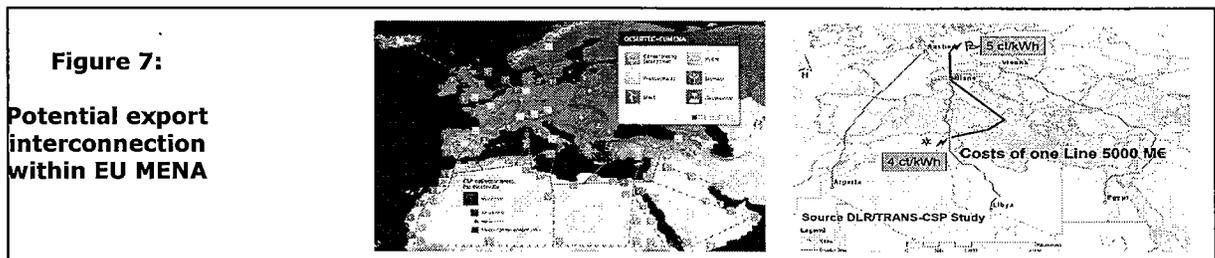
credits. Discussions with developers of a CSP project in Morocco who are undergoing similar localization analyses there, suggests that cost reductions in this magnitude may be achievable in North Africa.

While at first glance encouraging local manufacturing might appear counterintuitive to achieve increased U.S. exports, the sheer scale of a 250MW CSP plant should allow for U.S. exports of levels greater than \$475 million even with only roughly 40% share of US content. The potential for CSP in Egypt and for that matter throughout North Africa is so enormous that the size of potential US exports that could be derived from a successful localization of costs approach is truly immense. Assuming TAQA is successful in implementing its 1GW goal the US export potential, assuming only a 40% share of US content would be nearly \$ 2 billion. If other developers also achieve their targets for CSP development then the US export potential could be several times that amount.

1.1 Market Liberalization Steps

Below is a list of recent developments in Egypt's Electricity Industry:

1. *Liberalization of Prices: (Details included under regulatory framework section)*
 - Most of the government's subsidy bill was consumed in subsidizing upstream industries.
 - As such, the government started to increase electricity prices paid by industrial players, and divided them into 2 brackets, high electricity consuming industries and other industries.
2. *New Electricity Law (Details included under regulatory framework section)*
 - A new electricity law has been developed and is currently under approval by Parliament to create a competitive electricity market where electricity activities are fully unbundled.
 - The draft electricity law entails the following:
 - Eligible consumers have the right to undertake direct bilateral contracts with generation companies;
 - Establishment of Transmission System Operator ("TSO"), to fulfil the above mentioned bilateral contracts;
 - Ensuring third party access ("TPA");
 - Supporting energy efficiency and demand side management; and
 - Supporting renewable energies, cogeneration and power generated from secondary resources.
3. *Interconnect Project – Export Potential*
 - Egypt exports and imports electricity through the following interconnection grids:
 - Arab Electrical Interconnection, which currently connects Egypt, Jordan, Syria, Lebanon. Going forward there are plans to connect to Europe through Turkey or through the Desertec or Transgreen Network. (Figure 7)



- African Electrical Interconnection, which currently connects Libya. Going forward there are plans to connect Tunisia, Algeria, Morocco and Europe through Spain.

- Gulf Electrical Interconnection, which is expected to be connected through Saudi Arabia (currently under construction by a Canadian company).

Securing energy supply on a continuous basis is a vital element for sustaining Egypt's development plans. In view of Egypt's limited fossil fuel reserves, the depleted nature of fossil fuels globally, and growing concerns about pollution from conventional power plants and their negative impacts on the environment, Egypt has given due consideration to the promotion of its indigenous renewable energy resources mainly Wind, Solar and Biomass.

Regarding renewable energy developments, Egypt's plan is that by the year 2020, renewable energy should comprise 20% of generated electricity (approximately 7,200 MW). According to the plan, the Ministry of Electricity is expecting to meet this target primarily from wind farms, having allocated land for 7,500 MW. In 2009, Egypt began promoting private sector development of wind farms issuing a prequalification tender for the first 250 MW on a Build Own Operate (BOO). Ten companies were shortlisted in December 2009. It is expected that subsequent tenders for private sector wind will be in blocks of 250 MW.

1.2 Concentrated Solar Power in the Energy Mix

In looking longer term, there is a scenario for reaching the goal of renewable energy generating 55% of Egypt's electricity by 2050 (Figure 8). This scenario constitutes a 40-year plan forecasted in blocks of ten year periods.

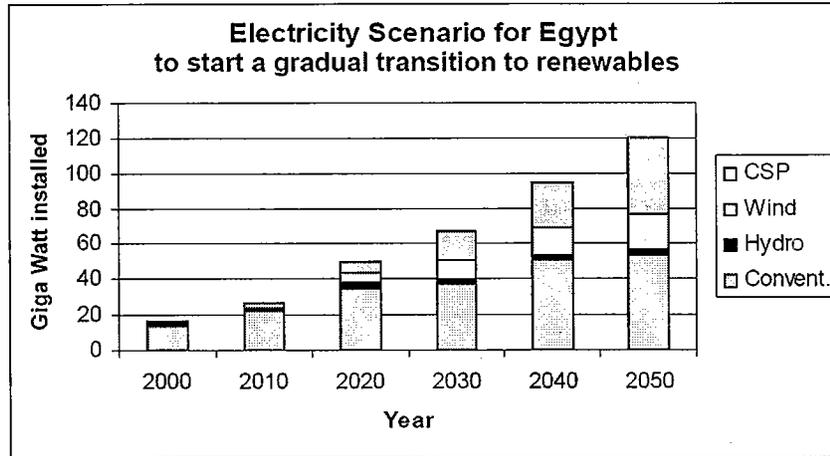
From 2000 to 2010 hydro power was used to its maximum availability. Additionally during this period wind power was developed by the government at the Zarafana site (currently 420MW and expected to be 850MW by 2010). From 2010 to 2020 installed wind power capacity shall be accelerated by involving the private sector, so that wind power can become 15-20% of installed capacity in the Egyptian grid.

In the following decades CSP plants shall be brought online, on a large scale, to replace thermal power stations that are to be taken out of service. CSP is also expected to cover the growth in domestic demand, particularly the growing demand for desalination and to generate a surplus for export to Europe as part of the "Mediterranean Renewable Energy Partnership".

There are some concerns that a high percentage of wind energy may destabilize the grid and thus the government is considering limiting the share of wind power to 15-20% of the total energy mix. Balancing will be achieved by installing compensating capacity of conventional gas-fired power stations and CSP with thermal storage enabling night operation and supply on demand.

After 2050 the share of conventional power stations shall be reduced by replacing them successively with CSP power stations that will, by that time, produce electricity at considerably lower costs comparable to power generation from oil and gas.

Figure 8: Egyptian Scenario for Transition to Renewables



Based on Egypt's location in the African sun-belt and on the results of Egypt's Solar Atlas, there are sufficient resources to justify large scale deployment of CSP power plants. TAQA is targeting CSP locations with Direct Natural Irradiation (DNI) resources between 2,400 and 2,600 (note that Spanish CSP plants are in locations with approximately 2,000 DNI).

Below are some future scenarios of Egypt's power mix in 2050:

Figure 9: Power Generation on the Peak Load Day in Egypt (2050)

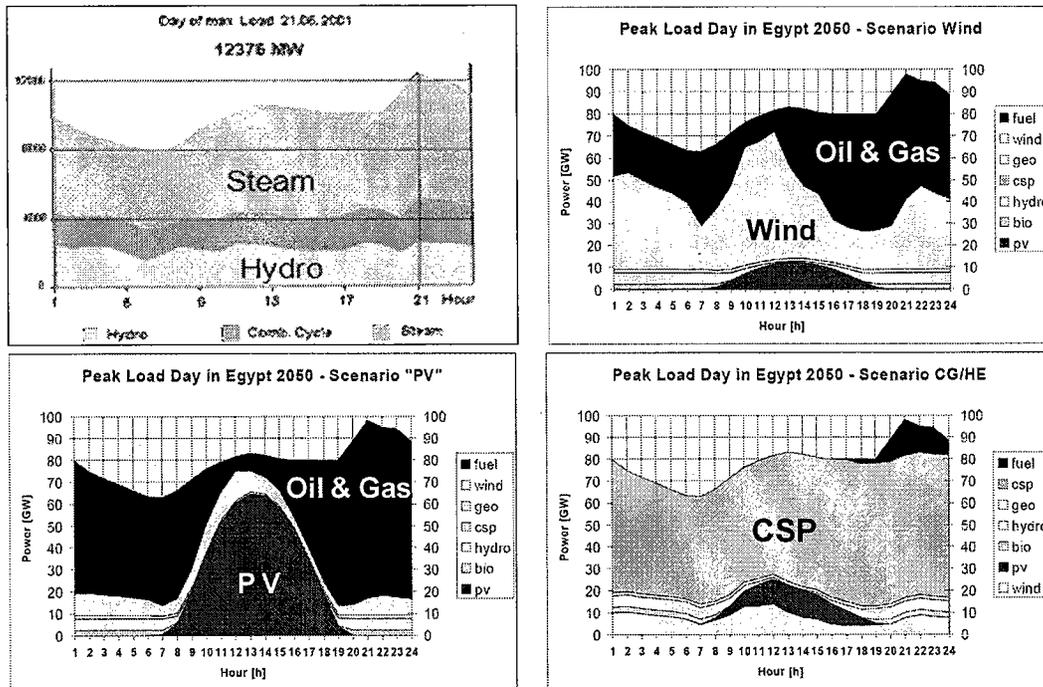
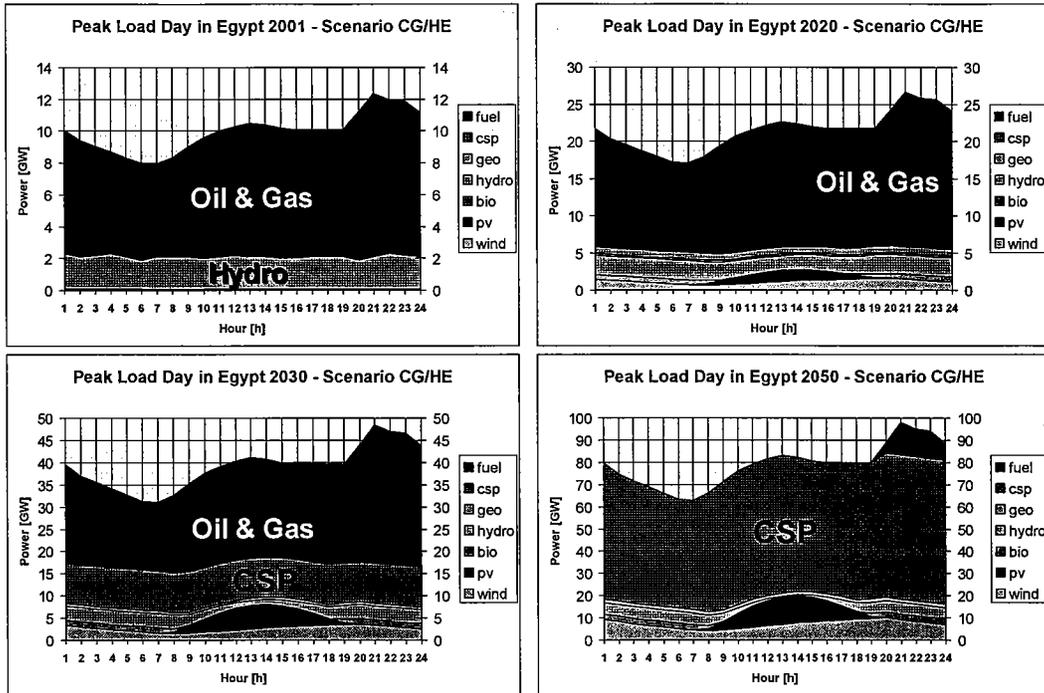


Figure 10: Power Generation on the Peak Load Day in Egypt (2001-50)



When comparing alternative strategies for Egypt’s electricity generation, TAQA Arabia has reached the following conclusions:

Table 1: Strategic comparison between nuclear vs. renewable energy production

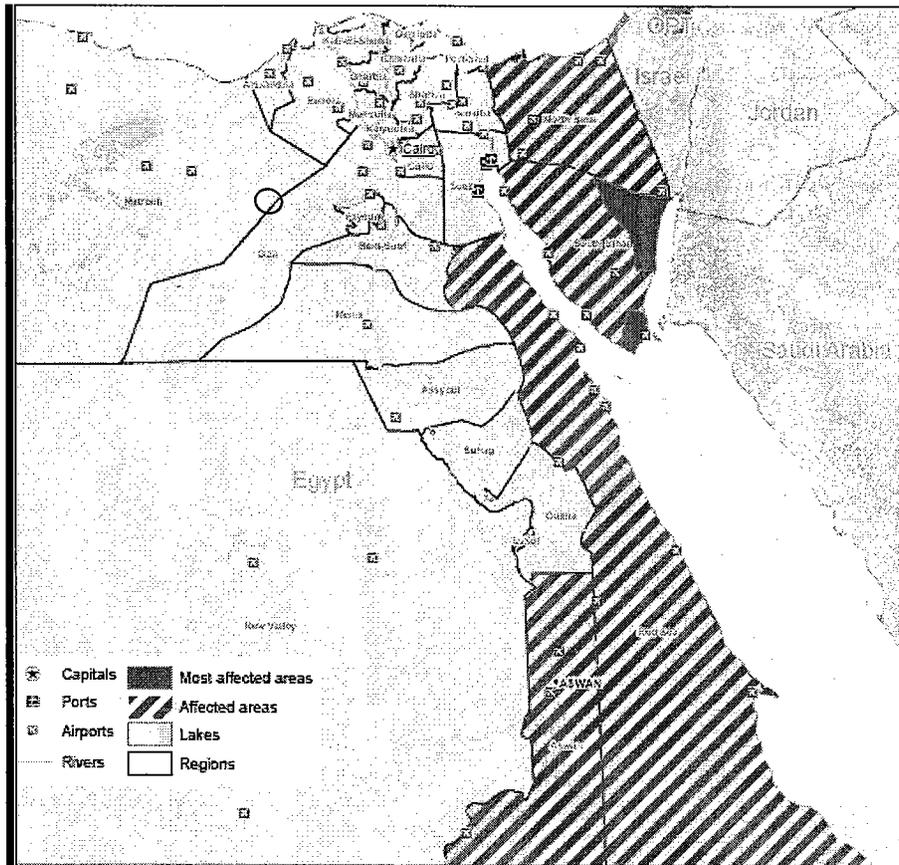
	<i>Nuclear</i>	<i>Renewable</i>
Geopolitical	<ul style="list-style-type: none"> • Seen with skepticism from the world • More likely to prevent political inclusiveness • Energy poor countries more likely to use nuclear energy for economic development • High “terrorism appeal” 	<ul style="list-style-type: none"> • Would be welcomed • Nuclear lobby would oppose it • In North Africa: “Guinea Pig” feeling • Strong potential for regional cooperation • Low “terrorism appeal”
Economic	<ul style="list-style-type: none"> • No evidence that nuclear energy drives socioeconomic development • Unlikely to have local forward and backward linkages • “Leapfrogging” • No ownership • Unlikely to be exportable 	<ul style="list-style-type: none"> • Possibly strong positive balance of payments effects, especially if Europe priced in social costs associated with alternative sources of energy • More forward and backward linkages (closer to natural development) • Strong ownership potential

2. Technical Issues

In a notable development for the Concentrated Solar Power industry in the MENA region to date, insurance companies have required that the design of CSP parks take into account the installation of 195 meter solar towers capable of withstanding Egypt's seasonal sandstorm (Khamaseen) with speeds of up to 140 km/h.

Egypt also endures occasional flash floods that primarily affect the Sinai Peninsula and the Red Sea region and recently Upper Egypt as well. However, the TAQA Gabal El-Geer pilot project is not located within the affected areas (Figure 18).

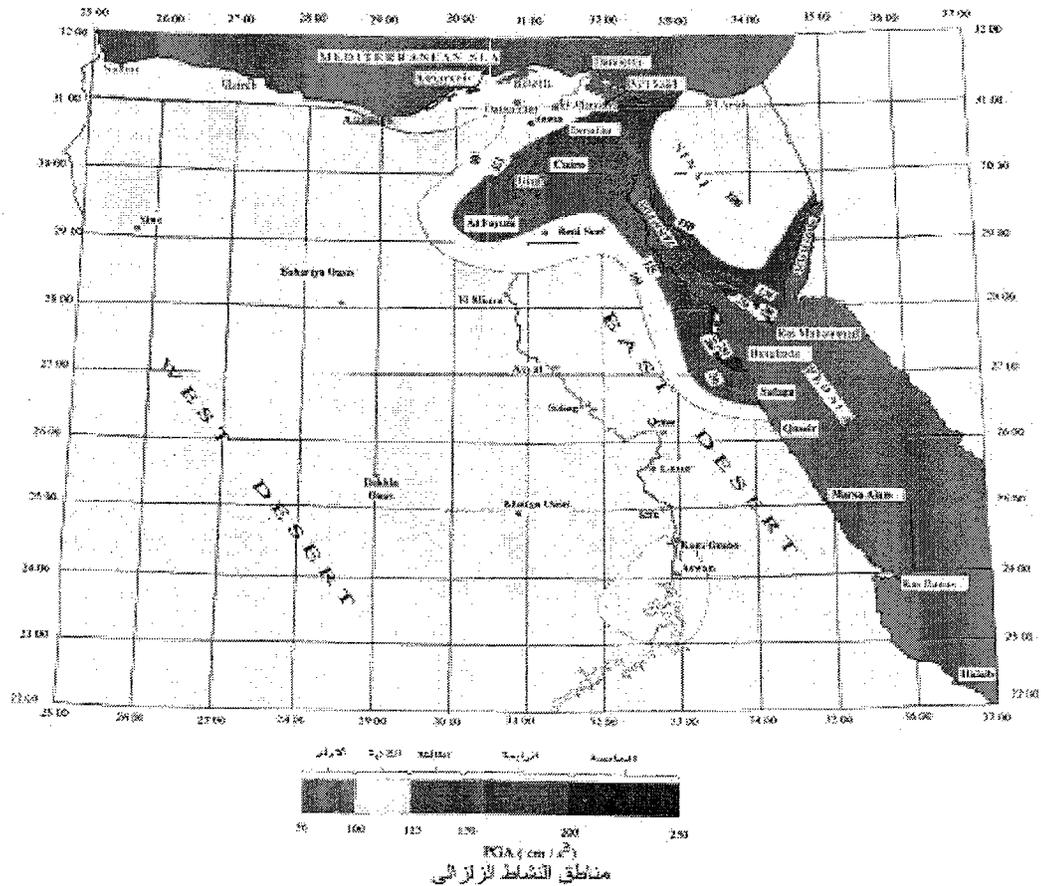
Figure 18: Flood zones in Arab Republic of Egypt



Source: The International Federation of the Red Cross and Red Crescent Societies, 2010

The TAQA CSP power plant will be located near seismic Zone-II (Figure 19).

Figure 19: Seismic zones in the Arab Republic of Egypt

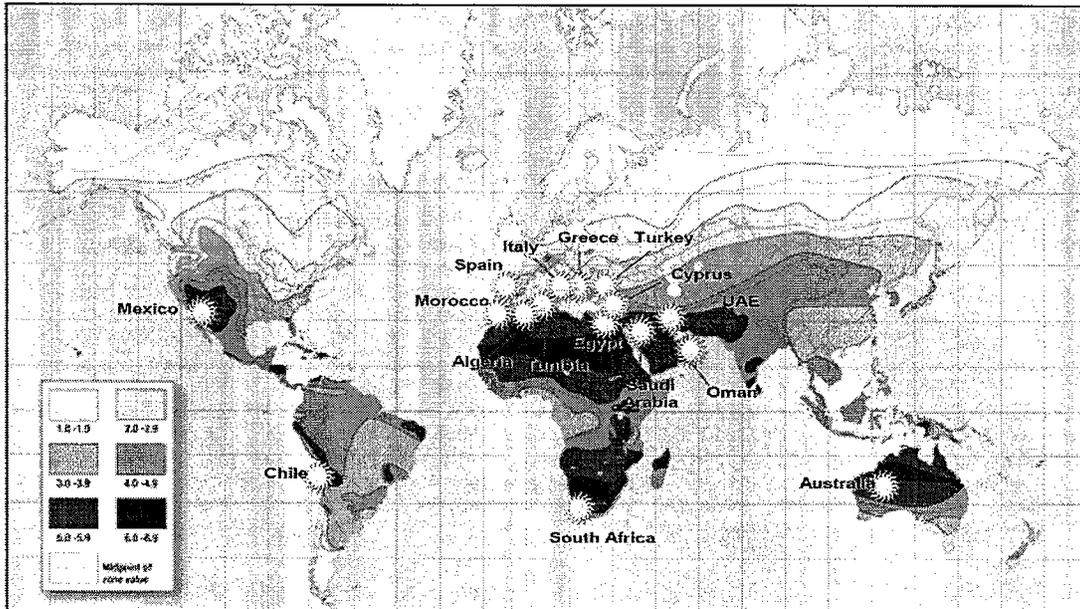


Source: The Egyptian codes for design and construction of buildings

GreenMax recommends that TAQA provides a non binding proposal from a reputable international insurer as a pre-requisite for USTDA grant approval. The proposal should include a price quotation and written acknowledgement that the considered area has an extremely low probability of flooding and earthquakes and that the insurer will cover damage to the tower, heliostats and mirrors from sandstorms, in order to demonstrate that the project is viable.

Based on preliminary data and satellite images, map below depicts the potential locations for CSP power plants based on average irradiation of between 2,000-2,600 DNI (Figure 20)

Figure 20: World's Solar Energy Resource Assessment



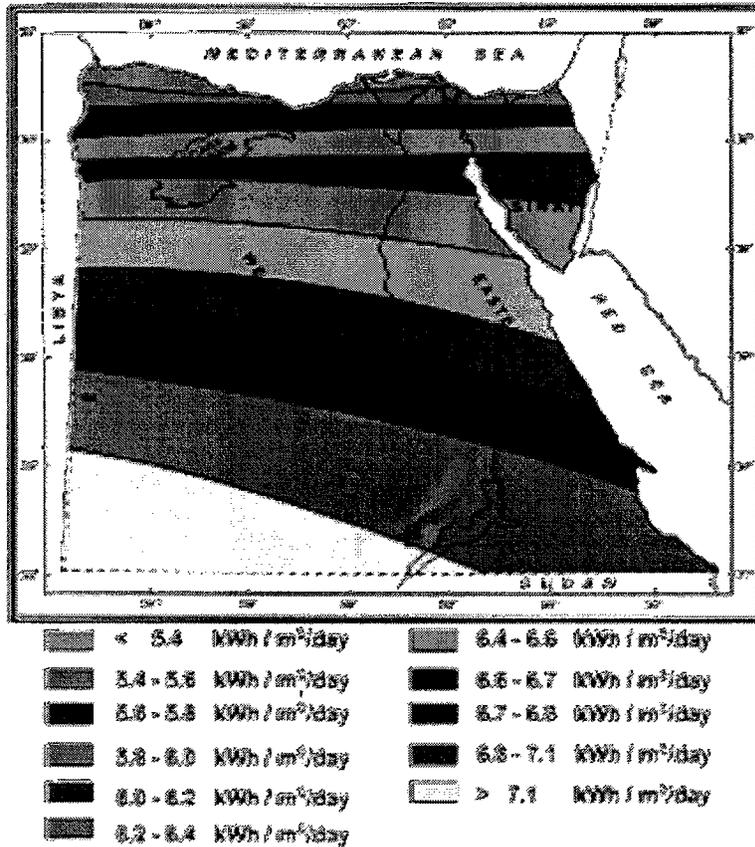
Egypt is ranked with Morocco and Jordan as one of the best locations for CSP power plants based on expected electricity yield and project costs (utilizing local labor and materials). Other factors that influence the cost of a CSP plant include solar irradiance, plane area, distance to demand centres, and availability of skilled personnel.

Initial assessments of Egypt's solar resources, based on several studies and research audits, indicated that Egypt enjoys excellent solar availability. The solar radiation is between 2,000-2,600 kWh/m². The resource assessment led to the preparation of the Egyptian Solar Atlas in 1991, which includes typical meteorological year data and maps.

The Solar Atlas for Egypt shows that Direct Normal Irradiation (DNI) ranges between 2,000 kWh/m²/yr in the North and 3,000 kWh/m²/yr in the South. Moreover, sunshine duration ranges between 9-11 h/day from North to South, with approximately 311 days of full sun and less than 50 cloudy days.

The Gabal El-Geer site has 6.7-6.8 kWh/m²/day according to the Egyptian Solar Atlas (Figure 22).

Figure 22: Egypt Solar Atlas map showing solar energy potential in Egypt, 1991



TAQA is considering most of Upper Egypt for CSP plant locations, since the area has a high resource potential (between 6.6 and 7.1 kWh/m²/day) and access to the grid.

Due to particularly good solar conditions within the MENA region, several institutions such as the Trans-Mediterranean Renewable Energy Corporation and DESERTEC Industrial Initiative, a consortium of blue-chip companies (including ABB, Deutsche Bank, E.ON, Munich Re, RWE, and SIEMENS) aim to build CSP plants and to develop the HVDC super grid. They have forecasted the following potential for CSP projects within the region. (Figure 23)

Figure 23: Potential for CSP Power Production in MENA Countries

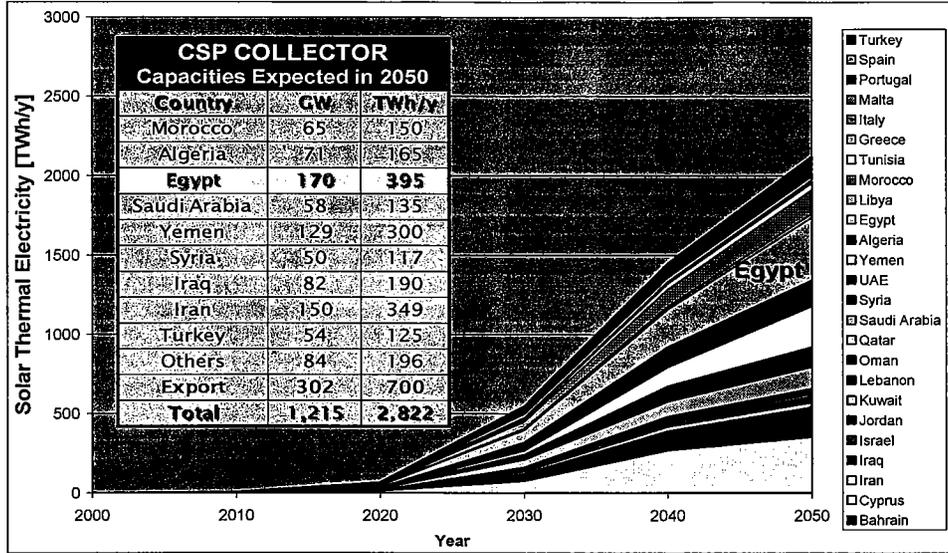


Table 4: Electricity generated by CSP Plants (TWh/year)

Year	2000	2010	2020	2030	2040	2050
Bahrain	0.0	0.0	0.4	1.8	2.7	3.6
Cyprus	0.0	0.0	0.1	0.3	0.8	0.9
Iran	0.0	0.4	9.8	75.0	266.4	348.9
Iraq	0.0	0.1	2.5	43.9	122.0	189.5
Israel	0.0	0.1	2.2	16.1	27.8	29.0
Jordan	0.0	0.0	0.8	9.9	26.2	40.0
Kuwait	0.0	0.1	1.4	4.0	8.0	13.0
Lebanon	0.0	0.0	0.4	4.9	9.0	12.0
Oman	0.0	0.0	0.9	8.3	18.2	22.1
Qatar	0.0	0.0	0.3	1.3	2.2	2.8
Saudi Arabia	0.0	0.6	7.0	45.0	95.0	135.0
Syria	0.0	0.1	2.4	3.3	8.7	16.6
UAE	0.0	0.1	1.3	4.0	8.0	10.0
Yemen	0.0	0.0	1.4	21.0	118.0	256.0
Algeria	0.0	0.2	5.3	55.0	129.1	164.8
Egypt	0.0	0.1	1.4	10.8	19.0	21.9
Libya	0.0	0.1	1.4	10.8	19.0	21.9
Morocco	0.0	0.1	3.5	43.8	110.0	150.0
Tunisia	0.0	0.1	1.4	14.5	33.6	43.3
Greece	0.0	0.1	1.2	2.0	2.5	3.5
Italy	0.0	1.1	1.5	4.5	6.0	5.0
Malta	0.0	0.0	0.0	0.1	0.3	0.4
Portugal	0.0	0.1	1.0	3.5	7.0	10.0
Spain	0.0	0.5	4.6	25.0	25.0	25.0
Turkey	0.0	0.4	9.1	50.0	90.0	125.0
Total	0.00	4.63	68.1	551	1450	2122

Even with such high solar insolation, Egypt is not yet considered a market for solar thermal applications for power generation or heating (see Table 4). This is due to the heavily subsidized electricity sector resulting in low energy prices for residents and industry (approx USD \$0.06 kWh) residential and USD \$0.09/kWh commercial). However the new electricity law that sits before Parliament, when enacted, will accelerate the liberalization of the Egyptian energy market and initiate support mechanisms for renewable energy. To date, no indicative feed-in-tariff levels have been stated, however, solar thermal technologies were identified to be among the main renewable energy technology options that would help Egypt achieve their energy strategy targets.

Regulation Framework

A variety of institutions operate in the Egyptian energy sector. Some of these have direct influence on its governance while others indirectly influence activities and decisions. In this section a brief overview of the majority of the institutions present in the energy sector and their responsibilities are provided.

The legislation governing the energy and electricity sector in Egypt:

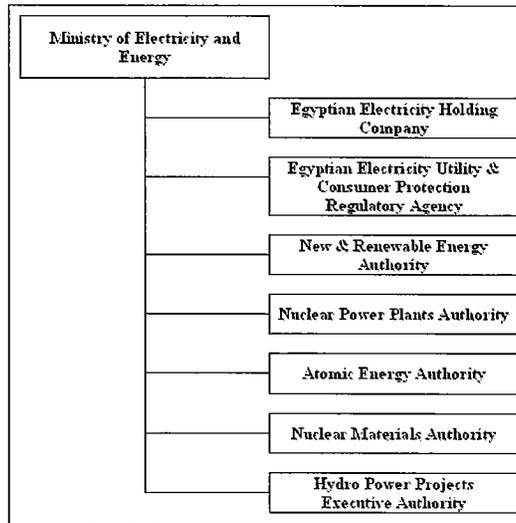
Table 5: Overview of Regulatory Regime in Egypt

COUNTRY	TYPE OF CURRENT REGULATION	GOAL: TYPE OF REGULATORY DIRECTION IS UNCLEAR	PRIVATE/ FOREIGN OWNERSHIP	CONCENTRATION OF GENERATION /TYPE OF UNBUNDLING	ELECTRICITY PRICES
EGYPT	STATE OWNED MONOPOLY	FUTURE DIRECTION IS UNCLEAR	BOT (NO NEW BOT PROJECTS LIKELY IN THE NEAR FUTURE		PARTIALLY SUBSIDIZED

The Energy Sector is a mainstay of socio-economic development processes in Egypt and it is regulated by the Ministry of Electricity and Energy (MOEE).

MOEE is organized in accordance with the provisions of Presidential Decree No. 1103 of 1974, which was amended by Presidential Decrees Nos. 360 of 1976, 14 of 1978 and 131 of 1981. The MOEE is responsible for planning, generating, transmitting and distribution of electricity. However, this role is being conducted through the hereafter listed authorities or organizations that directly generate their policies based on the general policy of MOEE. There are currently six authorities and a company which are affiliated to MOEE as the following diagram indicates (Figure 24):

Figure 24: Ministry of Electricity and Energy (MEE) affiliates



The Egyptian Electricity Holding Company (EEHC) established & organized by virtue of Law No. 164 of 2000. It is mainly responsible for system studies and planning, power plants projects, HV/ UHV transmission, network projects and operation and maintenance.

Egyptian Electricity Transmission Company (EETC) is the only company permitted to be licensed for electricity transmission in Egypt. It owns and operates the Egyptian transmission network, which includes EHV and HV networks. Currently it is the single buyer to all

generation suppliers. It has been established according to the corporate law as an affiliated company to the Egyptian Electricity Holding Company EEHC, which is a state owned company. According to the new electricity law under review, the EETC ownership will be unbundled from the EEHC and it will become an independent state owned company.

Electric Utility and Consumer Protection Regulatory Agency established and organized as part of the privatization process on the basis of Law No. 326 of 1997, which was later cancelled by Law 339 of 2000, reorganizing the Electric Utility and Consumer Protection Regulatory Agency and which began operation in 2001. The purpose of Agency is to oversee all issues related to the electricity sector in the field of production, transmission, distribution and consumption and it is chaired by the Minister of Electricity and Energy.

The Agency's objectives are to:

- Regulate and supervise all electricity generation, transmission, distribution and sales activities;
- Ensure availability of supply to users at the most equitable prices and considers environmental issues;
- Ensure fair competition in the field of electricity including generation, distribution and sales;
- Consumer protection.

New and Renewable Energy Authority (NREA) appeared in the national energy plan in 1980, but NREA activity began through the Law No. 102 of 1986 to provide a focal point for expanding efforts to develop and introduce renewable energy technologies to Egypt on a commercial scale together with implementation of related energy conservation programs, with a focus on solar, wind and biomass resources.

Its aim is to identify and evaluate new and renewable energy sources and to plan for their development. NREA has the right to certify and provide guarantees for renewable energy (RE) products and to implement RE projects, either alone or in cooperation with others, including overseas governments and authorities.

Its mandate includes:

- Renewable energy resources assessment, survey, evaluation and planning for utilization;
- Provision of studies necessary for the development of renewable resources with concentration on wind, solar and biomass energies;
- Execution of renewable energy projects;
- Provision of consultations for renewable energy projects;
- Enhancement of local manufacturing of renewable energy equipments by technology transfer and development;
- Development of technical expertise in Renewable Energy;
- Education, training and information dissemination;
- Establishment of testing and certification facilities and development of local standards and codes.

Rural Electrification Authority (REA) is responsible for planning and construction of the HV transmission, medium voltage and low voltage networks in rural towns and villages.

Hydropower Project Authority is responsible for studies, design and construction of hydropower plants projects.

Nuclear Power Plants Authority is responsible for all aspects of the projects of nuclear power plants. So far the authority has been concerned with studies of sites, appropriate types of plants, preparing tender documents for the first nuclear power plant, as well as bidding and negotiations.

Nuclear Materials Authority is responsible for studies to determine the potential of nuclear fuel materials in the country, in addition to the processing of nuclear materials.

Atomic Energy Authority is responsible for conducting research on various peaceful applications of nuclear material to fields of interest, such as medicine, agriculture, radiation technology, control of radiation levels, regulatory procedures and training of personnel.

Other authorities involved in Electricity market regulations include:

Supreme Council of Energy (SCE). The SCE was established by a Prime Minister's decree in 1979 as the highest policy making authority in the energy sector in Egypt. The decree defines SCE responsibility as short and long-term energy planning, with direct reporting to President. It was first chaired by Deputy Prime Minister and Minister of Petroleum, then later by the Deputy Prime Minister and Minister of Planning since 1985. Membership of the council includes ministers of petroleum, electricity, industry, water supply, transportation and housing.

Energy Efficiency Council (EEC) is a voluntary consortium of public and private sector organizations associated with the generation, distribution, and use of energy resources in Egypt. The council currently includes 12 organizations representing seven ministries (electricity and energy, petroleum, environment, industry, transportation, water resources, and planning) and two organizations representing the views and interests of the private sector. These two organizations are the federation of Egyptian industries: a forum representing most Egyptian industries, and the Egyptian energy service business association: a non government organization representing providers of energy efficiency products and services.

The main vision of the council is to create an enabling framework that allows a wide adoption of energy efficiency in Egypt. Its aim is to oversee the development of a national energy efficiency strategy that will be used as a roadmap to increase Egypt's efficient use of its natural resources.

There is also Law #100 for the Year 1996, which main objectives include:

- Allowing the transmission company to purchase electricity from licensed generation facilities, which are developed by local or foreign investors;
- Allowing for concessions to build, own and operate power generation facilities;
- These concessions should be based on a public competitive bidding process.

The current Egyptian electricity market structure (Figures 25 & 26) can be described as follows:

- A restructuring process has been initiated to unbundle and increase competition within the Egyptian Electricity sector;
- Egyptian Electricity Holding Company (EEHC) owns:
 - About 90% of generation;
 - 100% of transmission;
 - Over 99% of distribution.
- Private sector participation is manifested in three long term (20 years) BOOT contracts with the Egyptian Electricity Transmission Company (all are fossil fuel power plants);
- Eight private electricity producers are licensed; and
- Twelve private electricity distributors are licensed.

Figure 25: Overview of the Egyptian Electricity Market

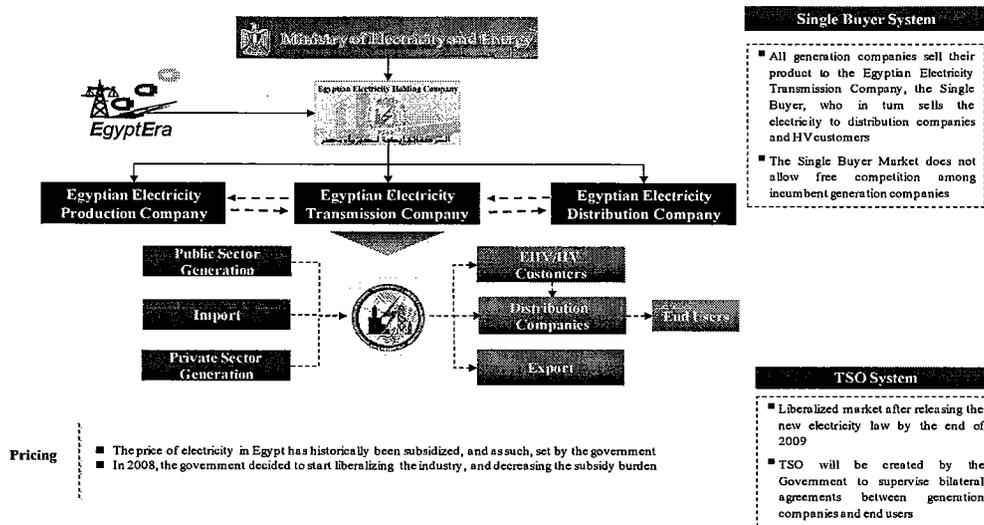
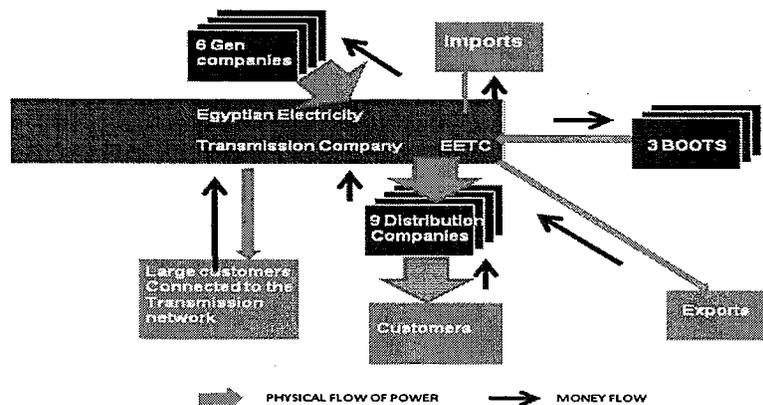


Figure 26: Current Electricity Market Structure in Egypt



A new unified electricity law has been prepared and sent to the parliament. The law is paving the way for the establishment of an open electricity market and to carry forward the liberalization process. The law has not yet been ratified and most estimates feel that it will not be enacted until after Parliamentary and Presidential elections (2011 & 2012 respectively).

The new law is concerned about:

- Establishment of an electricity market which is based on free competition and transparency;
- Ownership unbundling of the transmission system and establishment of the transmission system operator;
- Third party access;
- Strengthening the regulatory authority;
- Adoption of an end user subsidy, rather than an industry subsidy, for low income and lifeline customers;
- Support power generation from renewable sources through the adoption of several mechanisms such as competitive bids and feed-in tariff;
- Support distributed generation, cogeneration and power generation from secondary energies;
- Support energy efficiency and demand side management through several measures including: DSM bids, mandatory energy officers and energy directory for facilities with contracting load above 500 kW, voluntary energy efficiency and renewable energy programs by the distribution companies and phasing out programs for inefficient equipment.

The new draft law has the following components:

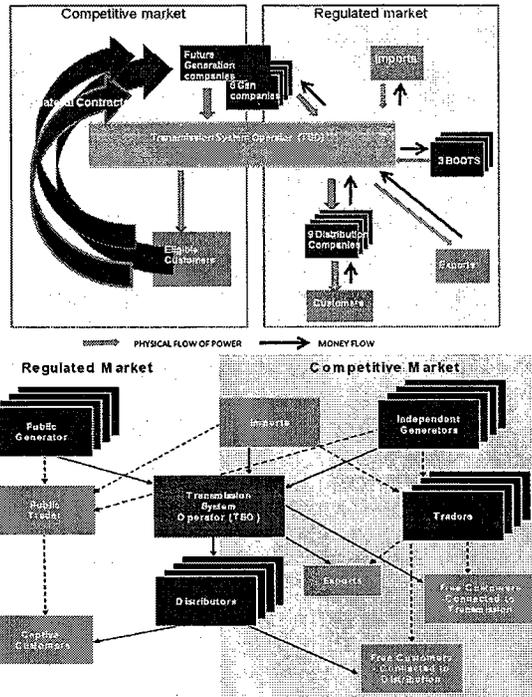
- The new law consists of 86 articles divided into 8 sections;
- A new agency to be created called the Power Utility Institution and Consumer Protection Agency (article 2);
- The new law states that the Cabinet of Ministers has the sole authority in dictating the electricity tariffs for consumers. The new law also obliges the cabinet to pay compensation to power companies in case the government declares a new retail tariff less than that of the power utility institution and consumer protection agency (Article 70);
- The new law draft states penalties, up to cancelation of the license, if the approved prices are violated (article 21);
- The new law permits the acquisition of a service from any governmental or non-governmental institution. It also prohibits monopoly by any of these bodies. It also permits renting the networks of others in return of fees paid to the network's owner (article 30);
- The new law agreed on the separation of ownership and management of the Electricity Transmission Company and that of the holding company in order to ensure non-discrimination between companies producing and to manage the electricity market with transparency and independence (article 25);
- The law only mentioned nuclear power plants in one article and it linked the operation of such plants with pre-approval from the agency responsible for nuclear safety (article 18);
- The new law puts a new package of penalties, notably on the theft of electricity. It stated imprisonment ranging between 6 months and up to 2 years for offenders in addition to a 10 thousand pounds fine (article 81);
- The new law establishes two mechanisms for investment in establishing and operating new and renewable power plants:
 - Competitive tendering between companies and the winner is entity which sells electricity to the state with the lowest prices;
 - To provide a feed-in-tariff for companies willing to create power plants through the agency.

Summary of the objectives & phases of the new law: (Figure 27)

- Through the new law, the Egyptian market reform plan will depend on gradual reform;
- It is based on operating two parallel markets side by side:
 - (i) *Regulated market*: is a continuation of the present single buyer market
 - Consumers purchase their electricity needs against a regulated tariff;
 - Government owned companies are the ones responsible for satisfying the needs of this customer class;
 - It is allowed to satisfy a part of the market needs from private generation entities;
 - TSO provides the required system services to guarantee safe operations of the System.
 - (ii) *Competitive market*: is a wholesale competitive market where, eligible generators and customers conclude direct bilateral contracts:
 - EETC (The Transmission System Operator) will have to function as the system operator, market operator and owner and manager of the transmission grid assets;
 - Generally, a TSO with transmission asset management responsibilities as well as system and market operations responsibilities, such as proposed for Egypt;
 - Eligible consumers have the right to conclude direct bilateral contracts with present/future generation companies;
 - The Transmission System Operator (TSO) is responsible for fulfilling those contracts;
 - TSO purchases the required balancing energy to the account of consumers or generators in the case of any deviation from the quantities specified in the concluded contracts;
 - TSO negotiates contracts (regulated) with Generation Companies for the procurement of Ancillary services based on international benchmarking;
 - TSO provide the required system services to guarantee safe operations of the System;

- The TSO receives transmission fees differentiated by voltage level, MW and MWh components.

Figure 27: The Proposed Electricity Market Structure



Proposed transitional market stages

- To start the first stage, the following steps are required:
 - The present tariff for consumers shall reach an economic level;
 - Performance enhancement for electricity companies;
 - Revisit the subsidies question;
 - Issuance of necessary rules, codes, etc...
- First stage:
 - The TSO is established;
 - Consumers are phased into the competitive market;
 - Eligible consumers contract their energy needs either by themselves or through energy traders. TSO is informed with necessary information and data;
 - Balancing energy and ancillary services are purchased from government owned entities at regulated contracts concluded among the TSO and those companies;
 - TSO shall carry out the following duties as long as there exists non-eligible consumers in the market:
 - Furnish the energy needs for distribution companies from government/private owned entities;
 - Conclude power purchase agreements with generation companies and sell the energy to distribution companies;
 - Concluded contracts cash management.
- Subsequent Stages
 - TSO is fully operational with a state of the art infrastructure;
 - Gradual transformation of non-eligible consumers to eligible consumers;
 - Privately owned companies are allowed into the competitive balancing system.

Restructuring is in progress:

A. Energy Tariff Reform

- In preparation for the free energy market, a plan has been set to lift the energy subsidy to the energy intensive industries over three years;
- The energy intensive industries have been defined as those industries which consume above 50 MWh per year electrical energy or more than 60 MMm³ of natural gas (NG) per year;

- Five year plan is in place to reduce subsidy to the residential sector and medium and small industries.

B. Subsidy Reform Policy

- In July 2008, fuel prices necessary to generate electricity supplied to energy intensive industries has been valued at their cost of supply;
- Three phase plan is being implemented since July 2008 to lift the fuel subsidy for other large and medium size industries (textile, food, engineering, etc);
- Since 2004 an annual increase in electricity prices by 5% has been adopted and implemented. In 2007 an additional 2.5% increase was also considered to account for the change in fuel prices (equivalent to 9% increase in fuel prices for power generation);
- The new electricity law is adopting the concept of "end consumer subsidy" rather than and upstream subsidy (power industry subsidy);
- As the electricity market starts in 2011, the market will be ready to operate on a competitive pricing approach for eligible customers, the regulated market tariff will be developed based on economic considerations.

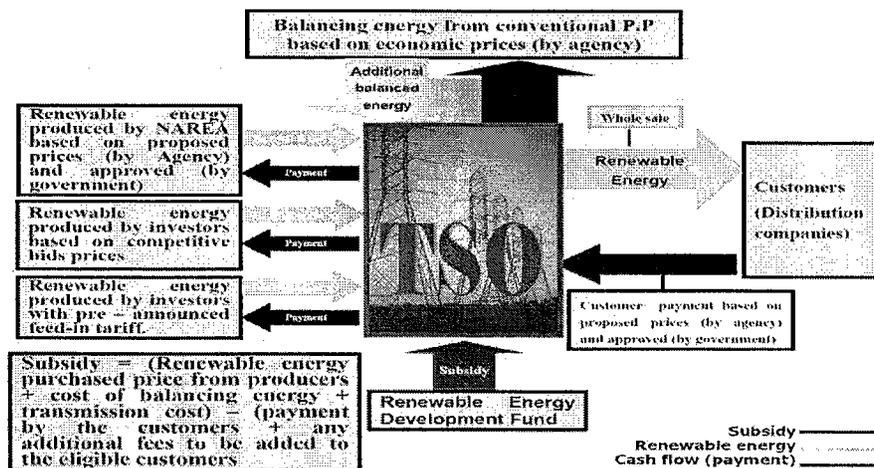
As previously stated, the Supreme Council of Energy in Egypt has adopted a resolution regarding Renewable Energy in Egypt, this resolution requests:

- To have 20% of the installed electricity capacity from renewable energies, not including the existing large hydropower by the year 2020;
- To provide state support to RE.

The New Law and its effects on Egypt's Renewable Energy market (Figure 28)

- The law is targeting to integrate renewables into the electricity market reform plan;
- New electricity law "under ratification" has adopted three mechanisms for power generation from renewable sources:
 - a) Plants built by the NREA;
 - b) Plants built through a competitive bidding process; and
 - c) Plants built through the Feed-in Tariff.
- The grid will be the off-taker for all the aforementioned mechanisms on non discriminatory bases;
- Contracts are based on take or pay principles;
- Priority of dispatching;
- Establishment of a Renewable Energy Fund.

Figure 28: Renewable Energy implementation through the new electricity law



Renewable Energy Fund

In the Egyptian power generation sector, renewable energy technologies require support mechanisms. The government needs to consider a feed-in-tariff that motivates private sector partnerships. Increasing partnerships with the private sector will allow the government to avoid the burden of investment in adding new power capacities via Thermal Power Plants. However, the implementation of renewable energy will reduce the consumption of fossil fuels, lower emission levels and generate hard currency on a national scale, based on the opportunity to export the saved fossil fuels.

In this context, the quantity of savings and the corresponding costs over the period 2006-2022 are listed below for different scenarios. The anticipated cost savings due to export opportunities are calculated based on 6.5 US\$/million Btu of fuel saved in case of total exporting. Moreover, the avoided costs of subsidies are computed based on the difference between the existing applied fuel costs, year 2006 base, and the corresponding international fuel prices. The two presented values for avoided subsidies are subject to a business as usual case and in the case of liberating the fuel prices as presented in Table 6. However, the business as usual case is defined as no change to the existing applied fuel prices in power generation while the international prices are changing. The tabulated figures of avoided subsidies show that the liberation of fuel prices will reduce the subsidy level and get closer to the feed-in-tariff level required to support renewable energy.

Table 6: Fuels saving scenarios

	Technology of Power Generation	Anticipated Savings		Anticipated Cost Savings (million US\$)		Anticipated Avoided Subsidy (million US\$)		Generated Energy via RET (million kWh)
		TOE (million)	CO ₂ (million tons)	Opportunity Cost for Export	Certified Emission Reduction	*Business as Usual	**Fuel Prices Liberation to close the Gap	
High Scenario	Wind	67	179	17,299	1,789	13,311	5,292	293,608
	CSP	10	27	2,656	275	2,043	751	45,070
	PV	1	3	258	27	199	62	4,380
	Total	78	209	20,213	2,090	15,553	6,105	343,059
Medium Scenario	Wind	46	122	11,830	1,223	9,103	3,648	200,776
	CSP	7	17	1,680	174	1,293	485	28,514
	PV	0.6	1.5	142	15	109	34	2,409
	Total	53	141	13,652	1,412	10,505	4,167	231,699
Low Scenario	Wind	22	59	5,728	592	4,408	1,840	97,222
	CSP	4	10	975	101	751	283	16,556
	PV	-	-	-	-	-	-	-
	Total	26	69	6,704	693	5,158	2,123	113,778

The government is considering initiating a special renewable energy fund which could be capitalized from fuel savings. The fund could cover the gap between the renewable energy (RE) feed-in-tariff and the average price of electricity generated by thermal power plants. Moreover, the RE fund could finance R&D for RET systems and component design for local manufacturing activities. In addition to this fund, the costs savings generated from power produced via hydropower plants compared to thermal power plants could also finance the deficit for the RE feed-in-tariff, if any.

The Industrial Modernization Centre (IMC) has produced guideline figures for a RE feed-in-tariff. Estimates for the level of feed-in tariffs required to deliver an internal rate of return (IRR) of 15% are shown below in (US\$/kWh).

Table 7: Estimated RE feed-in-tariff

Technology	2006	2010	2015	2020	2022
WT	0.0475	0.0408	0.0374	0.0332	0.0298
CSP	0.1883	0.1818	0.1736	0.1621	0.1391
PV	0.3259	0.2990	0.2718	0.2295	0.2135

C. Development Impact

The proposed project, when fully implemented, would have a significant development impact on the energy sector in the Egypt by facilitating the implementation of one of the first major CSP energy projects in the country. Additionally it would have a significant contribution to local industry and job creation. In order to have CSP produce competitively priced electricity, the Egyptian content of the power plant is expected to be greater than 50%.

The development of indigenous renewable energy options for the Arab Republic of Egypt and the MENA region is critical for ending the Middle East's unhealthy dependence on petroleum based power generation. This dependence is a crushing burden on the country's economic development because of the enormous government subsidies given to the sector, in order to provide cheap power to citizens and industry. Renewable energy will reduce these uncertainties by eliminating fuel adjustment costs and once subsidies are removed, renewable will be competitive with fossil fuels. The reduction in dependency on imported oil will also improve macro-economic conditions. The 250MW project will lead to the annual saving of 1.25 million ton of oil equivalents and a value of \$50 million in carbon credits from saving 1.8 MM tons of CO2 emissions on every GW produced.

In order to reduce Capex costs, it is expected that the plant will use locally produced heliostats, mirrors, concrete, steel and labor. Note that each solar tower requires 1 million square metres of mirrors which can be produced in Egypt leading to significant job creation.

- 1) Infrastructure/Industry. The project will add substantially to the energy sector infrastructure of Egypt by facilitating the construction of the first commercial CSP plant.
- 2) Human Capacity Building. The project will help to develop skills necessary to manage further renewable energy development for the country. In addition, the employment generated from this project is a crucial factor to weigh alongside the other costs and benefits. High unemployment rates are a drain on the Egyptian economy. Thus, any project that requires a significant level of skilled and unskilled labor is of economic importance.

A number of assessments regarding the employment effect of solar power have been carried out in Germany, Spain, and the USA. The assumption is that for every megawatt of new capacity, CSP would create 10 jobs through manufacturing, component supply, solar farm development, installation, and indirect employment. However, when production processes are optimized, the level of employment will decrease. Yet, employment in regular operations and maintenance work at solar farms will contribute an additional one job for every megawatt of cumulative capacity.

Figure 29: Social Benefits of the MSP-STE: Job Creation

Solar Mediterranean Plan – Solar Thermal Electricity - Employment Projections (*)							
Year	Installed Capacity (MW)	Manufacturing Jobs in Europe man/year	Manufacturing Jobs in NA man/year	Construction Jobs man/year	O&M man/year		Total man /year
					New	Accumulated	
2011	200	400	400	1,200	120	120	2,120
2012	300	600	600	1,800	180	300	3,300
2013	500	1,000	1,000	3,000	300	600	5,600
2014	700	1,400	1,400	4,200	420	1,020	8,020
2015	1,000	2,000	2,000	6,000	600	1,620	11,620
2016	1,400	2,800	2,800	8,400	840	2,460	16,460
2017	2,000	4,000	4,000	12,000	1,200	3,660	23,660
2018	2,900	5,800	5,800	17,400	1,740	5,400	34,400
2019	4,500	9,000	9,000	27,000	2,700	8,100	53,100
2020	6,500	13,000	13,000	39,000	3,900	12,000	77,000
Total	20,000	40,000	40,000	120,000	-	35,280	235,280

(*) In this table only the period from 2011 to 2020 is taken into account, however the jobs will last during the entire 50 year life of the operating life of the power plant. As mentioned before, job creation after 2020 would be even more impressive, as additional CSP plants would be built under full market conditions.

- 3) Technology Transfer and Productivity Enhancement. CSP generation technology needs to be imported. The project will pave the way for installation of state of the art CSP power generation technology in the Arab Republic of Egypt. Additionally it will require importing and implementing new grid management systems in order to increase CSP power plant reliability and to manage the national transmission system.

For the proposed Gabal El-Geer project local manufacturing and assembly is assumed to be between 40-50%. However, over a ten year period, a major industrial effort will be carried out to increase volumes of key components to further drive down costs in order to make CSP power more affordable.

It is the opinion of GreenMax that the Solar Receiver, Turbine, Generator and Transmission equipment would be exported from the United States.

In summary, the TAQA CSP plant will achieve sustainable development through a:

- CSP Facility that can produce more than 500 GWh annually, displacing the equivalent of 200,000 tons of fossil fuel generation carbon emissions.
- A power plant that requires no fossil fuels and minimal water (as it uses dry cooling).
- A significant portion of the materials, labor, and equipment being locally sourced (over 300 million Euro value).
- Project financed by IFI's, donor agencies and commercial lenders.
- CDM Qualified Facility generating carbon credits.
- Facility that can operate as a peaking plant or as baseload, supplying power to the local grid or for export to Europe.
- Create thousands of new jobs in manufacturing, construction, operations.
- Ripple effect of over 10,000 jobs per power plant (Abengoa estimate).

E. Implementation Financing

Since the total project Capex for the TAQA project will not be known until the completion of a 'localization exercise', GreenMax is assuming a total capital cost of \$1,230/250MW power plant. Based on conversations with financial institutions in Cairo, the project would be financed with a combination of equity (30%) and debt (70%). This leverage ratio reflects the current reality in the debt markets, the terms and conditions being offered by lenders to other renewable energy projects under consideration in the region as well as conversations with multilateral financing institutions, such as IFC, African Development Bank, OPIC and EXIM Bank.

CSP is poised for market take-off, driven primarily to-date by strong potential growth in Spain and the U.S. The World Bank's Clean Technology Fund (CTF) is considering a CSP co-financing program to develop an expansion pathway in developing countries. In the absence of significant concessional financing such as from the CTF, large scale deployment outside of the U.S. and Spain is unlikely to occur for another 5-10 years. With CTF support, the cost reduction curve would be steeper and the adoption rate would be substantially accelerated.

The World Bank Group made an informal presentation on Concentrated Solar Power (CSP) scale-up in the Middle East and North Africa (MENA) region during the January 2009 CTF Trust Fund Committee meeting. In their feedback, committee members requested that the Multilateral Development Banks prepare a concept note for a MENA regional investment plan. It should also be noted that previous country specific CTF investment plans prepared or those under preparation (Egypt and Morocco) have not included CSP as it was thought more appropriate to consider this technology under a regional program.

Initial estimates suggest that total financing in the range of US\$ 6-8 billion will be needed to achieve a GW order scale-up. It is proposed that CTF co-financing constitute about 10% of the total resources required. Therefore, a regional CTF investment plan in the range of US\$ 750 million in CTF co-financing could be prepared. Other sources of financing would include public and private debt and equity; EU neighborhood funds; bilateral financing from within the MENA region and from external donors; CDM and green electricity sales revenues; MDB financing; fiscal incentives offered by national governments (including feed-in tariffs).

A more detailed analysis of the capital cost buy-down needed and appropriate financing products to leverage private capital will be included in the regional investment plan. The World Bank Group will work with the African Development Bank, Arab and Islamic Funds, European Investment Bank, AFD, KfW, and other donors to mobilize public and private sector financing on the scale required to achieve the program's transformational objectives.

Both the IFC and the African Development Bank expressed interest in financing renewable energy projects in Egypt. The IFC can provide up to 25% of the financing, while the African Development Bank up to 35% of the financing. Therefore a local Egyptian bank or Islamic Funds would be required to provide 10% of the project financing package.

In order to better understand the appetite for finance or the provision of loan guarantees for a generic 250MW CSP with a total capital cost of approximately US\$1,230million in the Arab Republic of Egypt, involving 30% to 35% of equity, GreenMax conducted a number of interviews with donors and multilateral institutions that provide risk mitigation instruments. Our conclusions from these interviews are summarized below.

F. US Export Potential

There is a direct US export potential for the construction of the 250MW CSP plant and for the associated electrical infrastructures. The solar receiver, turbines and transmission sub-sectors all represent high export potential. United States firms are capable and interested in MENA power projects. Areas considered high for export potential for a plant with a 250MW turbine are summarized below. The direct US export potential from the pilot plant is estimated to amount to \$475 million. The indirect impact for the total TAQA CSP investment program of 1GW would be four times that amount or nearly \$ 2 billion. Considering that there are at least two other developers working on CSP technology projects in Egypt the total indirect US export potential could be several times that amount.

Component	Capex	US content
	\$mil	\$mil
Steam Cycle	189	\$87
Collector Field	473	\$85
Molten Salt System	430	\$202
Balance of Plant	137	\$104
Grand total	\$1,229	\$478

Steam Cycle
Steam Turbine Generator
Air Cooled Condenser
Collector Field
Heliostats
Heliostats Control System
Foundations & Cabling
Molten Salt System
Receiver
Tower
Salt & Processing
Salt Tanks
Valves
Salt Pumps
Steam Generation, Steam & Feedwater Equipment
Control System
Program Management/ Engineering
Piping & Insulation/Electrical & Instrumentation
Balance of Plant
Electrical
Master Control System
Startup & Commissioning

Turbines:

- Steam Turbine supply
- Steam Turbine installation, commissioning and start up

Electrical Transmission Equipments, Controls and Auxiliary Equipment:

- Circuit Breakers (Power systems)
- Power Transformers
- Conductors
- Control Panels
- Electrical controls
- SCADA (Supervisory Control and Data Acquisition)

Other Direct Exports:

- Planning
- Conceptual design, Design
- Construction management
- Project Sponsor's Engineer and Independent Engineering roles

There could also be an indirect US export potential for the construction and equipment supply for the future substation. Moreover, by promoting US technology in one of the first large-scale CSP projects in the country, US companies should be well positioned to grab a significant market share of future CSP plants constructed in Egypt.

1. Steam Turbine Supply

Steam turbine supply provides a large export potential for the US to Egypt.

GE has an office in Egypt and is actively seeking opportunities.

2. Electrical Transmission Equipments, Controls and Auxiliary Equipment

US providers that could offer Transmission Equipment, Control and Auxiliary Equipment include:

- Eaton Electrical (Cutler-Hammer)
- Square D Co. (Schneider Electric)
- Cooper Power Systems
- GE Industrial

3. Other Direct Potential Exports

In addition to equipment suppliers, U.S. engineering companies may be interested in EPC or design contracts. Services suppliers could include:

- Bechtel
- Black and Veatch
- Washington Group
- Barr Engineering

CSP energy engineering services will be needed from foreign sources as there is only one engineering firm in Egypt with any significant experience in EPC of CSP energy contracts. Orascom (OCI) is working with Mitsui on the construction of the integrated CSP-Gas power plant in Kuraymat (using Trough technology).

4. Direct US Exports Potential for TAQA's CSP plant (250MW)

US Supplier	Product/Service
UTC (though Pratt & Whitney Rocketdyne and Pratt & Whitney Power Systems)	Receiver Program management Engineering Startup & Commissioning
GE	Steam Cycle, Air cooled condenser
CB&I	Salt tanks
Emerson	Control systems

It should be emphasized that US potential exports are not only turbines, condensers and salt tanks, but also there is potential for exports of transmission, control, auxiliary equipments and general contracting services that could be expanded to other Egyptian CSP energy projects. It could be also the case that even using turbines that are not manufactured in US, the turn key installation company could be a US firm.

In addition to the aforementioned providers, Table 12 below shows other possible US suppliers:

US Supplier	Address	Product/Service
Solar Reserve	2425 Olympic Blvd. Suite 500 East Santa Monica, CA 90404 Phone: (310) 315-2200 Fax: (310) 315-2201 info@solarreserve.com	CSP Molten Salt technology supplier
eSolar Inc.	130 West Union Street Pasadena, CA 91103 877-ESOLAR7	CSP technology supplier
BrightSource Energy	1999 Harrison Street Suite 2150 Oakland, CA 94612	Whole implementation of CSP Solar Tower type plant
GE	6130 Stoneridge Mall Road Pleasanton, CA 94588 925-750-6100	Air Cooled Condenser, Steam Cycle
Utility Scale Solar, Inc.	Suite 300 228 Hamilton Avenue Palo Alto, CA 94301 Phone: 650-798-5152 FAX: 650-798-5001 info@utilityscalesolar.com	Heliostats, trackers, drivers supplier
Inspired Solar Technologies	8417 Washington Blvd., Suite 185 Roseville, CA 95678 Office Phone: 916-772-0151 info@inspiredtech-usa.com	Solar tracking systems
USDigital	1400 NE 136th Avenue Vancouver, Washington 98684, USA 800.736.0194	Heliostats Control Systems Inclinometers
Solutia Inc.	7710-T Cherry Park Drive, #126 Houston, Texas 77095 Tel: 281-213-3472	Heat Transfer Fluids
Bosch Rexroth Corporation	2315 City Line Road Bethlehem, PA 18017-2131 Tel: +1 (610) 694-8300	Solar Tracking Systems
UTC (though Pratt & Whitney Rocketdyne and Pratt & Whitney Power Systems)	Pratt & Whitney 400 Main Street East Hartford, CT 06108 860-565-4321	Receiver Program management & Engineering, Startup & Commissioning
Chicago Bridge & Iron Company N.V.	One CB&I Plaza 2103 Research Forest Drive The Woodlands, TX 77380 +1 832 513 1000	Salt tanks
Skinner Power Systems	8214 Edinboro Road • Erie • Pennsylvania 16509 Telephone Fax 814-868-5299	Steam Turbine Generator
Ausra, Inc.	303 Ravendale Drive Mountain View, CA 94043 phone: 650.424.9300	Steam generation, Steam & Feedwater Equipment
Emerson	Emerson U.S. and World Headquarters Emerson Electric Co. 8000 West Florissant Avenue, P.O. Box 4100 St. Louis MO 63136	Control systems/Scada
American BOA, Inc.	P.O. Box 1301, Cumming GA 30028 1420 Redi Road, Cumming, GA 30040 Phone: 800-856-4580	Metal Bellows, metal hoses, expansion joints
Bechtel Inc.	Glendale, Arizona Tel: (602) 368-1500	EPC Contractors

Lauren, Inc.	Corporate Headquarters 901 South First Street Abilene, TX 79602 Phone: (325)670-9660	EPC Contractors
Fluor Enterprises, Inc.	1500 Hughes Way Pod B Long Beach, CA 90810 U.S.A. Tel: +1.949.349.2000	EPC Contractors
GE Energy	6130 Stoneridge Mall Road Pleasanton, CA 94588 925-750-6100	Transformers, switches, breakers, automated controls
ABB	16250 W. Glendale Drive New Berlin, WI 262-780-8301	Breakers, transformers, switchgear
Basler Electric	Box 269 Highland, IL 62249 618-654-2341	Protection, metering, controls
Waukesha Electric Systems	400 S. Prairie Avenue Waukesha, WI 53186 800-835-2732	Power transformers, circuit breakers
Electronic Specialists	75 Middlesex Avenue Natick, MA 97160 508-655-1532	Protection equipment
Beckwith Electric	6190 118 Ave N Largo, FL 33733 727-544-2326	Controls
Joslyn Hi Voltage	4000 E. 116 St. Cleveland, OH 44105 216-271-6600	Reclosers, sectionalizers, switches
Virginia Transformer	220 Glade View Dr. Roanoke, VA 24012 540-345-9892	Transformers
Black & Veatch	11401 Lamar Ave. Overland Park, KS 66211 913-458-2000	Consulting Services
Flowserve Corporation	Flowserve World Headquarters 5215 N. O'Connor Blvd., Suite 2300 Irving, TX 75039 Telephone: +1 937 890 5839	CSP Tower molten salt pumps, valves, seals, heat transfer fluid pumps

TABLE 12: Potential US Suppliers for Power Transmission System in Egypt

US Supplier	Product/Service
ABB	Breakers, transformers, switchgear
Barr Engineering Company	Engineering, Environmental and IT services
Basler Electric	Protection, metering, controls
Beckwith Electric	Controls
Black & Veatch	Consulting Services
Eaton Electrical	Power Systems and services
Emerson Process Control	SCADA
Enercorp LLC	Project development, Project management, Project financing
Enxco	Design, Development, Construction, Operations and Consulting services
GE Energy	Steam Turbine manufacturer
GE Industrial	Transformers, switches, breakers, automated controls
Joslyn Hi Voltage	Reclosers, sectionalizers, switches
Hammond Power Solutions	Dry-type transformers and reactors
Square D Co. (Schneider Electric)	Power and Control Solutions
Stoel Rives LLP	Renewable Energy Attorneys

Virginia Transformer	Transformers
Wanzek Construction, Inc.	Construction Services
Wasatchwind	Installation systems, Towers, Feasibility studies
Waukesha Electric Systems	Power transformers, circuit breakers

G. Foreign Competition

In general, U.S. manufacturers are considered to be highly competitive in the design, manufacture and implementation of Concentrated Solar Power (CSP) projects.

Trough Systems have the largest number of foreign competitors against U.S. trough system technology leader FPL Energy. The U.S. is a leader in Tower Systems with only one primary competitor, Abengoa Solar from Spain. In addition to Solar Reserve, other U.S. companies with Tower Systems are eSolar and BrightSource.

The U.S. dominates in two CSP technology spaces: Linear Fresnel Reflector (LFR) and Dish systems. U.S. companies Ausra and Sky Fuel are leaders in the LFR space and Stirling Energy Systems and Infinia are leaders in dish systems. French energy company Areva announced plans to acquire Ausra in February.

However, Egypt's Mediterranean geographical location and historical ties to Europe (France & UK) could pose competition to U.S. companies especially in turbines, controls, communications, and automation, also particularly in energy engineering services.

The UfM (Union for Mediterranean Partners) created the Mediterranean Solar Plan (MSP). The current UfM joint presidency of France-Egypt (Sarkozy-Mubarek) comes to an end in July. Both sides are keen to make an announcement before the presidency is passed on.

Germany, together with the European Union, has a well funded initiative to bring large scale solar to the entire MENA region.

The Egyptian government is 'friendly' to governments that have previously provided grants or soft loans for Egypt's wind energy sector. Denmark, Germany, Spain and Japan have all been providing a variety of technical assistance to Egypt to promote their wind technologies.

Spanish wind turbine manufacturer Gamesa was awarded a large contract by the Egyptian government for the Zarafana wind farm. Mitsui was awarded a construction contract for the Kuraymat Integrated Solar Combined Cycle (ISCC) solar trough/gas power project (using Flagsol technology from Germany).

Tower Technology	Abengoa (Spain)
Trough Technology	Acciona (Spain) - they operate Nevada Solar One
Trough Technology	Solar Millennium (Germany) - targeted by MAN Ferrostaal
Trough Technology	Solel (Israel) - acquired by Siemens in Oct 2009
Trough Technology	Flagsol (Germany) - acquired by MAN Ferrostaal
Linear Fresnel Lense	HelioDynamics (UK)

H. Social and Environmental Impact

Fulfilment of the region's growing energy needs is a key development impact of the project.

The proposed project is expected to reduce greenhouse gas emissions by replacing fossil fuel generated electricity with solar generated electricity, subsequently reducing CO2 emissions.

This is the most important environmental benefit from solar power generation. We estimate that CSP plants contribute to the reduction of greenhouse (CO2) gas emissions by 1.8 million tons for every 1GW produced annually (up to 335 kgs per 1 MWH of electricity produced).

According to a European survey, for every 100MW installed 400 full-time equivalent manufacturing jobs will be created, 600 contractor and installation jobs will be created and 30 annual jobs in operations and maintenance will be created. It is widely accepted that for each construction job created four service jobs are created.

TAQA will develop several initiatives to understand the opinion and comments of local stakeholders on the project, including periodic meetings with land Project Sponsors and local authorities.

TAQA will follow the Law 4/1994 of Environment and Natural Resources that regulates the environmental permission process.

The Project's negative environmental impact is expected to be minimal or insignificant as the project is in the Sahara desert. As for fauna impact, some reptile species could be disrupted during the construction phase. These species will be identified as part of the Environmental Impact Assessment (EIA).

Landscape alteration within the boundaries of the project could be important from the point of view of tourist activities. Therefore TAQA will ask for a letter of no objection to the project from the State Secretary of Tourism. The project could in fact become a site seeing destination since the project is not far from the temple of Kom and Luxor on the Nile.

TAQA will also implement an Environmental Management System (EMS) in accordance with ISO 14000 and will store any objects uncovered during the construction of the solar farm if an archaeological site is discovered.

Additionally, the EIA usually includes preventive and mitigation measures to reduce environmental impacts that would occur during the construction and the operation phases.

I. Impact on US Labor

The project has the potential to generate more than \$475 million in direct US exports, thereby generating substantial US employment opportunities.

None of the following factors are present in this proposed project:

A. Financial incentive to any 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 the purpose of establishing or developing in a foreign country any export processing zone or designated area in which the tax, tariff, labor, environment, and safety laws of that country do not apply, in part or in whole, to activities carried out within that zone or area.

C. Assistance for any project or activity that contributes to the violation of internationally recognized workers rights.

D. 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.

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 TAQA Arabia ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US\$603,790 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed TAQA Concentrated Solar Power Plant ("Project") in Egypt ("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. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study.

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. In addition to the USTDA funding provided under this Agreement, the Grantee shall incur the cost of and shall be responsible for installing three solar irradiation measurement devices towards the completion of the Terms of Reference (the "In-Kind Cost Share"). The Grantee shall provide the In-Kind Cost Share to the Contractor in accordance with the provisions set forth in the Contract between the Grantee and the Contractor.

5. USTDA as Financier

(A) USTDA Approval of 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 Approval of Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the Study. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the Study. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Study that they were not selected.

(C) USTDA Approval of Contract Between Grantee and Contractor

The Grantee and the Contractor shall enter into a contract for performance of the Study. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

(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 subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

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 February 24, 2012, 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, (a) 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 (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

9. USTDA Mandatory Clauses

All contracts funded under this Grant Agreement shall include the USTDA mandatory 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 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 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.

(B) 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.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the 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 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 (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 provisions upon request.

12. 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. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

13. Cooperation Between Parties and Follow-Up

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 (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. 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 the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the Study and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the 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.

16. Representation of Parties

For all purposes relevant to the 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 the Chairman. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

17. 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 a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Mr. Akmal Zaghoul
Business Development General Manager
TAQA Arabia
2, Simon Bolivar Sq.
Garden City
Cairo, Egypt

Phone:

Fax:

Email: a.zaghoul@taqa.com.eg

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

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

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

Appropriation No.: 11 10/11 1001
Activity No.: 2010-21028A
Reservation No.: 2010 210026
Grant No.: GH 2010 210780

18. Termination Clause

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. 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 which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

19. 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.

20. 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 TAQA Arabia each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the
United States of America

For TAQA Arabia

By: *Leocadio J. Jr*

By: *Khaled Alsubal*

Date: 05/26/10

Date: _____

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and TAQA Arabia("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the TAQA Concentrated Solar Power Plant Project ("Project") in Egypt ("Host Country"). 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 any contract or subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, 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 has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

(2) 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 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 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 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 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 services funded by USTDA under the 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 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 (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 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 contract term 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, and fax number. 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. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(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 receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I 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 provisions 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 provisions 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 provisions 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 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 by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. 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 reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. USTDA Final Report

(1) Definition

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

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete version 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) 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) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the 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, USTDA's mailing and delivery addresses. 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 mailing and delivery addresses, 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 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 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.

J. Modifications

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

K. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is February 24, 2012, is the date by which the 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) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the Study will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

M. USTDA Address and Fiscal Data

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

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

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

Fiscal Data:

Appropriation No.: 11 10/11 1001
Activity No.: 2010-21028A
Reservation No.: 2010 210026
Grant No.: GH 2010 210780

N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

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. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

ANNEX 5

Annex I

Terms of Reference

Background and Objectives

The purpose of this Study is to assist the Grantee in determining the feasibility of developing and implementing a Concentrated Solar Power (CSP) plant of 100 – 250MW capacity with inherent storage capabilities in Egypt. The goal of the Study will be to determine the true costs of delivering CSP plants in this size range in Egypt and advise the government on the tariff levels necessary to make such developments feasible.

A localization analysis needs to be undertaken to determine the true cost of a CSP plant in Egypt. Additionally, an economic and financial structuring analysis is required to determine the necessary tariff level and how best to finance a large scale CSP plant in Egypt today. The selected Contractor shall address all issues related to confirming the feasibility of developing and implementing a CSP plant as specified in these Terms of Reference.

The Grantee shall be responsible for forming a Steering Committee ("Steering Committee"), composed of two representatives appointed by TAQA Arabia. The Grantee shall also provide a Project Grant Coordinator for the duration of the work in Egypt.

The purpose of the Steering Committee will be to coordinate the Study, provide feedback to the Contractor's work, and take a pro-active role in assisting the Contractor's activities. It is expected that the members of the Steering Committee shall convene, at their own cost (remotely by tele-conference as necessary), for the Project Kick-Off meeting, and shall provide feedback to the Contractor in an expedited manner, responding within 2 weeks of each request. The Grantee shall oversee the Steering Committee and be responsible for its inputs into the Study.

Task 1 - Review of Available Data and Current System Configuration

The Contractor shall travel to Egypt within 6 weeks of USTDA's approval of the Contract with the Grantee for the Project kick-off meeting with the Grantee and the Steering Committee. During the trip, the Contractor shall also meet with representatives of the Egyptian Industrial Development Authority (IDA), the Ministry of Electricity and Energy, the Electricity Regulatory Agency, the Ministry of Industry and the New and Renewable Energy Agency (NREA). Prior to or during this trip, the Grantee shall deliver to the Contractor the following information:

- Energy Sector Plans for Egypt;
- Detailed information on the proposed molten salt inherent storage technology CSP system;
- Details of cost estimations and schedule for the proposed PProject;
- Egyptian and Multilateral Regulatory and Environmental standards and policies;

- Detailed information on the Egyptian transmission network and grid connection conditions;
- Existing and applied for interconnection agreements, wheeling charges agreements, tariff schemes;
- List of approvals and permissions obtained to date;
- Historical solar irradiation data collected either from the proposed site if it is already available. If not, then data from the nearest airport or industry accepted satellite data will suffice. This data shall serve as acceptable proxy during all initial analyses for the on-site measurements of solar irradiation to be taken pursuant to Task 3; and
- All relevant information required by the Contractor to undertake the solar measurement device location recommendations in Task 3, including access routes, panoramic photographs, etc.

The Grantee reserves the right to mark any and all of the information provided pursuant to this Project as Confidential. The studies and raw data provided shall not be disclosed by the Contractor to any other parties outside of the Contractor's own staff and consultants. The information may be used only as reference documentation for the Contractor to complete all analyses required pursuant to this TOR. The citation of any confidential data or documents provided by the Grantee in the Contractor's interim or final reports shall cause the Contractor to mark such sections of the reports as "Confidential" so that they will not be included in the public version made available by USTDA.

The preceding paragraph does not limit in any way (i) the Contractor's obligation to provide to USTDA and the U.S. Embassy in Egypt the Final Report as described in Clause I of the USTDA Mandatory Contract Clauses set forth in Annex II of this Grant Agreement, or (ii) the rights of USTDA and the U.S. Embassy in Egypt to use, and make available copies of, the Final Report as described in Clause I. As noted in Task 11 of these Terms of Reference, USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report. As noted in Clause I, (i) it is the responsibility of the Contractor to ensure that confidential information, if any, contained in the complete version of the Final Report is clearly marked, and (ii) USTDA will maintain the confidentiality of such information in accordance with applicable law. As also noted in Clause I, the only version of the Final Report that the Contractor should provide to the U.S. Embassy in Egypt is the version of the Final Report that is suitable for public distribution.

The Contractor shall prepare a detailed work plan during the Project kick-off meetings. This plan will become the basic project management tool and will contain specific deadlines and the overall implementation schedule.

During the same visit, the Contractor shall visit the proposed site of the 100 - 250MW CSP plant near Gabal El-Geer. The Contractor shall evaluate the physical and site constraints, including but not to be limited to:

- Flatness of the terrain and degree of levelling required
- Flood risks, flood management/drainage required
- Access to the transmission grid (will the lines need to cross roads, rivers, private lands, etc).
- Logistical access for equipment supply (will roads need to be built, modified, etc)

During the visit the Contractor shall make a recommendation on the overall suitability of the Gabal El-Geer site and if the recommendation is negative, provide a detailed rationale and suggestions for the characteristics necessary for an alternate site.

Deliverable: The Contractor shall provide a report describing the work performed under Task 1, including the overall suitability of the Gabal El-Geer site and the identification of any changes to the Project work plan necessitated by information gathered during the Project kick-off meeting visit.

Task 2 - Legal, Regulatory, and Institutional Review

The Contractor shall review the existing Egyptian energy law, permitting requirements, electricity production license requirements, construction regulations and other constraints (right-of-way, zoning ordinances, etc.) that may need to be taken into account before the Project moves into the implementation stage. The contractor shall prepare an excel spreadsheet listing all the regulations and permits required to construct a CSP power plant. In particular, the regulatory and permitting process description shall focus on construction regulations, IPP rules and regulations, interconnection conditions, environmental regulations, land and water use, and regulations and procedures governing power purchase agreements. The Contractor shall also examine the impact of the new energy law under consideration by the Parliament on the Project.

The Contractor shall review any issues that may arise related to U.S. companies' participation in the Project, including the certification of U.S. turbine suppliers by the Egyptian grid operator.

Deliverable: The Contractor shall provide a report describing the work performed under Task 2, including an excel spreadsheet describing the regulations and permits required. The Contractor shall include a description of any issues that may hinder U.S. companies' participation.

Task 3 – Solar Irradiation Study

In order to validate production and energy yields, a solar measurement campaign shall be undertaken by the Grantee to measure and analyze the solar irradiation at the selected site. The Contractor shall use the information provided by the solar measurement campaign as a basis for its solar resource assessment. The solar measurement campaign shall be conducted by the Grantee to provide at least 6 months of quality data.

To guarantee the quality of the solar measurement campaign the Contractor shall prepare the following parameters for the solar irradiation study:

- provide specific good practices and recommendations to the Grantee on the best locations for installation of solar radiation measuring devices;
- provide accurate monitoring guidelines to the Grantee based on industry best practices for solar resource analysis; and
- propose the solar measurement device locations.

The Contractor shall provide the above parameters for the solar measurement campaign within 30 days of completion of the Task 1. It will be the sole responsibility of the Grantee to obtain and install at its own cost, within 60 days of receiving the parameters from the Contractor, at least 3 solar irradiation measurement devices in accordance with the above parameters. During the first week of the solar measurement campaign, the Contractor shall visit every solar measuring device after installation to ensure that the monitoring systems correspond to all the parameters.

During the 6 month solar measurement campaign the Contractor shall prepare a monthly report on the measurement's quality and data availability. The Contractor shall also provide correlation analysis between the available reference data and the actual local measurements during the monitoring term in order to provide information about the long term consistency of the local measurements to be used for the conceptual design required pursuant to Task 6 of this TOR.

The Grantee will be required to provide the Contractor periodic access to the measurements and maintenance registers to protect measurement quality from any relevant error. Additionally, the Grantee will be required, at its own cost, to provide the Contractor a copy of the monitoring software and the communications data.

The Contractor shall perform a solar resource assessment based on the solar measurement campaign. The Contractor shall ensure that either the Contractor itself or its subcontractor is accredited as an acceptable provider of solar resource assessments with at least one of the main international financial institutions such as IFC, African Development Bank, World Bank, European Investment Bank.

The Solar Resource Assessment shall include at minimum the following information:

- Description of the sites and monitoring equipment
- Selection of a reference meteorological station
- Solar data measurements recorded at the sites
- Data analysis procedures
- Equipment calibration (including certificates)
- Functional specifications for the measurement devices
- Wind shear analysis
- Site wind speed variations
- Projected energy production

- Conclusions and recommendations

Deliverable: The Contractor shall prepare a solar resource assessment report.

Task 4 – Grid Impact Study and Interconnection Assessment

The Contractor shall analyze the proposed grid connection point and connection conditions required by the Ministry of Electricity, NREA and the regulatory authorities. Additionally the Contractor shall work with the Ministry of Electricity and Energy to conduct a grid impact assessment to ascertain whether the grid can accept 100-250MW at the proposed connection point.

The Contractor shall also estimate all costs associated with the grid connection including connection fees, grid enhancements, new transformers/substations to be built, installation of new lines, etc. If grid upgrades and improvements are required, the Contractor shall determine the scope and cost of the necessary upgrades. The Grantee shall provide a set of negotiation points for determining who shall bear the costs of any necessary grid and transformers/substations upgrades.

Deliverable: The Contractor shall prepare a grid impact and connection conditions report.

Task 5 – Technical Risk Analysis

The Contractor shall conduct a technical risk analysis, outlining the specific natural risks of the selected site, such as seismic loads, geological study samples, flood risk and sand storms, to ensure structural stability. The technical risk study shall consider input from turbine manufacturers, heliostats manufacturers, receiver manufacturers, insurance companies and the opinions of at least two independent CSP structural design consultants.

Deliverable: The Contractor shall prepare a technical risk analysis report.

Task 6 - Preparation of CSP Conceptual Design and Cost Estimates

The objective of this task is to prepare a CSP plant conceptual design and cost estimate. The Contractor shall review all existing design specifications and cost estimates from the Grantee regarding a CSP tower system with molten salt storage technology. The Contractor shall explore alternative technical solutions, and prepare detailed line item cost estimates for each solution.

A critical component of the cost estimate is a sourcing exercise in order to determine the local Egyptian cost of labor and materials. This data will provide critical inputs for the economic analysis to be conducted by Contractor pursuant to Task 7, which shall determine the tariff level necessary to make the CSP tower system with molten salt

storage technology solution financially viable in Egypt. The Contractor shall conduct an assessment of the ability to locally source and install standard components. The Contractor shall focus primarily on mirrors, support structures for the heliostats in the collection system, the receiver tower and tanks, piping, cables and other balance of plant items (together the "local components"). The analysis shall not include the primary plant equipment for the receiver, thermal storage and steam turbine generator systems as well as pumps and controls which are not intended to be sourced in Egypt.

The Contractor shall conduct a sourcing exercise that shall result in, at a minimum, the following outputs:

- Detailed description of all local components
- Sourcing options for each local component
- Breakdown of costs for sourcing of each local component (i.e. raw material, labor, production costs, transportation etc.)

The Contractor shall delineate the costs of materials and labor sourced in Egypt, compared with the materials and labor that must be imported.

The Contractor shall conduct a comparable sensitivity economic analysis of the alternative technical solutions to determine its recommendation of the conceptual design. Sensitivity analysis shall include the following, but not be limited to: tariffs, interest rates, capital cost estimate variations, exchange rates, accelerated depreciation, carbon financing (CDM) and technical issues such as operating hours, irradiation and any others as requested by the Grantee.

The Contractor shall present the results of the sensitivity analysis findings to the Grantee. The Grantee shall review the recommendations of the conceptual design, consider possible adjustments and shall select the Preliminary Design and budget within 45 days of receiving the sensitivity analysis findings from the Contractor.

Deliverable: The Contractor shall prepare a report describing the work performed under Task 6, that shall include the conceptual design for the CSP Plant, sourcing exercise, sensitivity analysis and the cost estimate.

Task 7 – Economic Model

The purpose of this task is to provide an economic and financial analysis that will evaluate the tariff level required to make the proposed CSP plant economically viable. The Contractor will also consider different potential financing structures for implementation of the Project.

The Contractor shall use data from the analyses conducted pursuant to this Terms of Reference to form the energy production projection, capital costs and operating expenses. The Contractor shall begin to build the economic model using the proxy data for solar irradiation provided by the Grantee in Task 1. The final model shall be updated to use

the input data from the solar resource assessment to be completed by the Contractor in Task 3.

The Contractor shall develop their assumptions for macro economic data and financing terms based on:

- Research and discussions with the International Monetary Fund, the National Bank of Egypt and the Egyptian Ministry of Finance concerning macro-economic assumptions.
- Discussions on concessional debt and grant funding with the World Bank and other International Financial Institutions, including the Global Environment Facility ("GEF"), the Clean Technology Fund ("CTF"), donors and regional development banks such as the Export-Import Bank of the United States ("Ex-Im"), African Development Bank, the International Finance Corporation ("IFC"), the European Investment Bank ("EIB"), the United Nations Industrial Development Organization ("UNIDO"), the German Development Bank KfW, the French AFD, the Japanese JICA and other appropriate agencies.
- Discussions on carbon credits and the Clean Development Mechanism (CDM) with carbon finance institutions including Natsource, EcoSecurities, Syndicatum, Cantor CO2e and other appropriate institutions.
- Reviewing with credit rating agencies' ratings of the off takers.
- Contacts with loan guarantee agencies to check the availability of this instrument in order to reduce off-taker default risk.
- Discussions with potential private investors.
- Discussions with commercial lenders.

The Contractor shall perform sensitivity analyses on the CAPEX, OPEX, energy production projections, financing inputs and macro-economic data. The sensitivity analysis shall model changes to these key input variables as well as a series of events that could impact the financial return of the Project such as PPA payment risks, weather conditions and technical breakdowns.

The Contractor shall also take into account in the economic analysis the potential impact of financial and tax incentives such as accelerated depreciation, income tax free solar energy production zones, import duty or VAT exemptions on CSP related equipment etc. which could reduce the tariff level while providing attractive investment returns.

The primary output of the economic model shall be a determination of the tariff levels necessary to make CSP plants using CSP Tower System with Molten Salt Storage technology economically viable in Egypt under different conditions. The Contractor shall not only consider the data for the subject CSP facility at Gabal El-Geer (or alternate

location) but shall also analyze different sensitivities for key data points such as solar radiation levels, grid interconnection and logistical cost variables which might be found in other regions of Egypt. The Contractor shall consult with the Grantee and the Steering Committee to make best estimates of these input variables.

It is important that the economic evaluation performed meets all standard requirements typically imposed by international lending institutions on such a Project. The Contractor shall provide standard economic indicators for all configurations and sensitivities, such as economic and financial internal rates of return, return on capital employed, benefit/cost ratio, payback period. The Contractor shall provide an economic model prepared in MS Excel showing all assumptions and calculations for the economic and sensitivity analysis, including an income statement, balance sheet, and a cash flow statement accompanied by commentary.

Deliverable: The Contractor shall prepare a report describing the work performed under Task 7, including the sensitivity analysis and the economic model.

Task 8: Tariff and Incentives Recommendations

The Contractor shall prepare recommendations to the Steering Committee on policy options related to tariffs and financial incentives that the Egyptian government may consider to facilitate investment in CSP plants in Egypt. The Contractor shall prepare policy recommendations necessary for ensuring the bankability of CSP plants in Egypt while also ensuring that power pricing is affordable for Egyptian industrial customers. These policy options shall be supported by the economic analysis prepared by Contractor in Task 7 and by concrete examples provided from policies implemented in other countries.

The Contractor shall examine the following policies, but shall not be limited to:

- Feed In Tariff
- Solar Energy production income tax free zones
- Value Added Taxes (VAT) and import duty exemptions on CSP related equipment
- Accelerated depreciation

For each recommendation the Contractor shall provide a cost – benefit analysis and a detailed proposal on how the mechanism shall be structured and administered.

Deliverable: The Contractor shall prepare a report describing the policy recommendations necessary to facilitate investment in CSP plants in Egypt.

Task 9: Preliminary Environmental Impact Assessment

The Contractor shall prepare a preliminary Environmental Impact Assessment for the Project in accordance with current World Bank standards. The Contractor shall assess the pertinent laws, ordinances, and directives that apply to the construction of CSP plants in Egypt. The Contractor shall describe the applicable codes and standards that apply (both international and locally). The Contractor shall address at a minimum the following: land use, water use, noise, visibility, archaeology, endangered species and sand storms.

Task 10: Development Impacts

The Contractor shall report on the potential development impact of the Project. The Contractor shall focus on the local economic development outcomes produced if the Project is implemented. While specific focus shall be paid to the immediate impact of the Project, the Contractor shall include, where appropriate, any additional development and social benefits of the Project, including spin-off and demonstration effects. The Contractor's analysis of potential benefits shall be as concrete and detailed as possible.

The Contractor shall provide estimates of the Project's potential benefits in the following areas:

- 1) Infrastructure: The Contractor shall provide a statement on the infrastructure realized as a result of Project implementation.
- 2) Market-Oriented Reforms: The Contractor shall provide a description of any regulation, law or institutional changes that are recommended and the effect they would have if implemented.
- 3) 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.
- 4) Technology Transfer and Productivity Enhancement: The Contractor shall provide a description of any advanced technologies that will be implemented as a result of the Project. The Contractor shall prepare a quantitative description of any efficiency that will be gained.
- 5) Other: The Contractor shall identify any other development benefits of the Project, including any spin-off or demonstration effects.

Task 11: Draft and Final Reports

The Contractor shall meet with the Grantee to present and review the Draft Report findings and agree on required report revisions.

The Contractor shall submit a Final Report in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be a substantive and comprehensive report of work performed to carry out all of the tasks set forth in the Terms of Reference and shall include, among other things, an Executive Summary and all deliverables. Each task of the Terms of Reference shall form a separate chapter of the Final Report. In addition, the Contractor shall provide six (6) copies of the public version of the Final Report and six (6) copies of the Confidential Version and all of their annexes to the Grantee.

Notes:

- (1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.**
- (2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.**
- (3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.**

ANNEX 6

COMPANY INFORMATION

A. Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers:

2. Year established (include predecessor companies and year(s) established, if appropriate).

3. Type of ownership (e.g. public, private or closely held).

4. If private or closely held company, provide list of shareholders and the percentage of their ownership.

5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Feasibility Study.

6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number .

B. Offeror's Authorized Negotiator

Provide 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.

C. Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.
2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

D. Offeror's Representations

Please provide exceptions and/or explanations in the event that any of the following representations cannot be made:

1. Offeror is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror 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 Feasibility Study. The Offeror 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 Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date

of its proposal by the State of _____. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.

3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, 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 Offeror, 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 Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The Offeror 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 Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____

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.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____