PREQUALIFICATIONDOCUMENT

FOR

EPC contracts for the Pioneer PV Programme in Libya

Renewable Energy Authority of Libya Government of Libya

Issuedon: November 12, 2021 by the Renewable Energy Authority of Libya

Die Ene

State of Libya

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Prequalification Document for Procurement of Works

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Section I. Instructions to Applicants

A. General

1. Scope of Application

1.1 In connection with the Invitation for Prequalification¹ indicated in Section II, Prequalification Data Sheet (PDS), the Renewable Energy Authority of Libya (REAoL) issues this Prequalification Document ("Prequalification Document") to prospective applicants ("Applicants") interested in submitting applications ("Applications") for prequalification to bid for the Works described in Section VII, Scope of Works.

2. Source of Funds

2.1 The Pioneer PV Programme is financed by the Libyan Government through the Renewable Energy Authority of Libya (REAoL).

3. Prohibited categories

- 3.1 The following categories are not allowed to supply goods or render services to, contract work with or submit Tenders for the Pioneer PV Programme:
 - an individual or corporation convicted of criminal offences before or during the time when Tenders are being invited
 - an individual or corporation barred from transacting business unless reinstated
 - an individual or corporation who is bankrupt until his debts have been discharged according to a court decision
 - anybody who is proved to have committed fraud or engaged in dishonest activities when dealing with a Libyan Government body or any other legal entity, and the concerned supervising Government authority has barred transactions with him/it or if a similar decision has been passed by a competent judicial authority.

4. Eligible Applicants

- 4.1 Applicants shall meet the eligibility criteria as per clause 5.1. For the purpose of applying the eligibility criteria listed in this Clause 4 and 5, references to the "Applicant" include all entities involved or intended to be involved with the proposed Works (including all partners and any of their affiliates that directly or indirectly control, or are controlled by or are under common control with the firm), specialized sub-contractors, consultants, manufacturers or suppliers (as mentioned in Form ELI-1.2 Applicant's JV Member's Information Form), and the personnel of each, for any part of the contract including related services.
- 4.2 An Applicant may be a firm that is a private entity, a government-owned entity—subject to

¹ The Invitation for Prequalification (IFP) provided information for potential bidders to decide whether to participate, including the essential items listed in the Standard Prequalification Document and also any important or specialized prequalification requirements requested to qualify for the prequalification.

ITA 4.9 - or a combination of such entities in the form of a joint venture ("JV") under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a JV, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate an authorized representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the prequalification process, bidding (in the event the JV submits a bid) and during contract execution (in the event the JV is awarded the Contract).Unless specified in the **PDS**, there is no limit on the number of members in a JV.

- 4.3 A firm may apply for prequalification both individually, and as part of a joint venture, or as a sub-contractor. If prequalified, it will not be permitted to bid for the same contract both as an individual firm and as a part of the joint venture or as a sub-contractor. However, a firm may participate as a sub-contractor in more than one bid, but only in that capacity. Bids submitted in violation of this procedure will be rejected.
- 4.4 A firm and any of its affiliates (that directly or indirectly control, are controlled by or are under common control with that firm) may submit its application for prequalification either individually, as joint venture or as a sub-contractor among them for the same contract. However, if prequalified only one prequalified applicant will be allowed to bid for the same contract. All bids submitted in violation of this procedure will be rejected.
- 4.5 An Applicant may have the nationality of any country, subject to the restrictions pursuant to ITA 5.1. An Applicant shall be deemed to have the nationality of a country if the Applicant is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed specialized subcontractors or suppliers for any part of the Contract including related Services.
- 4.6 Applicants shall not have a conflict of interest. Applicants shall be considered to have a conflict of interest, if they participated as a consultant in the preparation of the design or technical specifications or have been hired or proposed to be hired by REAoL as Engineer for contract implementation of the works that are the subject of this prequalification.
- 4.7 Government-owned enterprises or institutions in Libya Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of REAoL.

5. Eligibility

5.1 Firms and individuals may be ineligible if they are nationals of ineligible countries as indicated in Section V. The countries, persons or entities are ineligible if as a matter of law or official regulationsprohibits commercial relations with that country.

B. Contents of the Prequalification Document

6. Sections of Prequalification Document

6.1 This Prequalification Document consists of parts 1 and 2 which comprise all the sections indicated below, and which should be read in conjunction with any Addendum issued in accordance with ITA 8.

PART 1 Prequalification Procedures

- Section I. Instructions to Applicants (ITA)
- Section II. Prequalification Data Sheet (PDS)
- Section III Qualification Criteria and Requirements
- Section IV. Application Forms
- Section V. Eligible Countries
- Section VI. Bank Policy Corrupt and Fraudulent practices

PART 2 Works Requirements

- Section VII. Scope of Works
- 6.2 Unless obtained directly from REAoL, REAoL accepts no responsibility for the completeness of the document, responses to requests for clarification, the minutes of the pre-Application meeting (if any), or Addenda to the Prequalification Document in accordance with ITA 8. In case of any discrepancies, documents issued directly by REAoLshall prevail.
- 6.3 The Applicant is expected to examine all instructions, forms, and terms in the Prequalification Document and to furnish with its Application all information or documentation as is required by the Prequalification Document.
- 6.4 If there is any discrepancy or conflict between this document and any other Prequalification document or attachment, this document shall prevail. The Applicants shall bring any discrepancy in the Prequalification Documents to the notice of REAOLs Representative before submitting his Prequalification Documents.

7. Clarification of Prequalification Document and Pre-Application Meeting

7.1 A prospective Applicant requiring any clarification on any aspect of the Prequalification Documents may notify the REAoL in writing, by email. The REAoL's mailing address and co-ordinates are indicated below:

Renewable Energy Authority of Libya (REAOL) Pioneer PV Programme P.O. Box 1304 Tripoli Libya Email: <u>Tender@reaol.ly</u> <u>info@reaol.ly</u>

- 7.2 All requests for clarification must be received by REAoL not later than fourteen (14) days prior to the deadline for the Submission of Tenders. REAoLwill respond in writing to such requests for clarification of the Prequalification Documents.
- 7.3 Copies of the REAoL's response (including a description of the enquiry, but without identifying its source) will be sent to all prospective Applicants who have received the Prequalification Documents.
- 7.4 REAoL or the REAoL's Representative shall not be responsible for any errors or misinterpretation of the Prequalification Documents resulting from a failure of the Applicants to request such explanation or to fully inform himself

8. Amendment of Prequalification Document

- 8.1 At any time prior to the deadline for submission of the Application, REAoLmay amend the Tender Documents by issuing an addendum.
- 8.2 Any addendum thus issued shall be part of the Prequalification Document documents and shall be communicated in writing to all prospective Applicants who have received the Prequalification Document. Prospective Applicants shall immediately acknowledge receipt of any addendum to REAoLand it will be assumed that the information contained therein will have been considered by the Applicants in his Prequalification Document.

9. Cost of Applications

9.1 The Applicants shall bear all costs associated with the preparation and submission of his Prequalification Document., and REAoL will in no case be responsible or liable for these costs

10. Language of Application

10.1 All documents and correspondence relating to the prequalification shall be in English. Supporting documents and printed literature that are part of the Application may be in another language, provided they are accompanied by an accurate translation of the relevant passages in the English language, in which case, for purposes of interpretation of the Application, the translation shall govern.

11. Documents Comprising the Application

- 11.1 The Application shall comprise the following:
 - (a) Application Submission Form, in accordance with ITA 12.1;
 - (b) documentary evidence establishing the Applicant's eligibility, in accordance with ITA 13.1;
 - (c) documentary evidence establishing the Applicant's qualifications, in accordance with ITA 14; and
 - (d) any other document required as specified in the PDS.

11.2 Commissions

The Applicant shall furnish information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Application



C. Preparation of Applications

12. Application Submission Form

12.1 The Applicant shall complete an Application Submission Form as provided in Section IV, Application Forms. This Form must be completed without any alteration to its format.

13. Documents Establishing the Eligibility of the Applicant

13.1 To establish its eligibility in accordance with ITA 4, the Applicant shall complete the eligibility declarations in the Application Submission Form and Forms ELI (eligibility) 1.1 and 1.2, included in Section IV (Application Forms).

14. Documents Establishing the Qualifications of the Applicant

- 14.1 To establish its qualifications to perform the contract(s) in accordance with Section III, Qualification Criteria and Requirements, the Applicant shall provide the information requested in the corresponding Information Sheets included in Section IV, Application Forms.
- 14.1 Wherever an Application Form requires an Applicant to state a monetary amount, Applicants should indicate the USD equivalent using the rate of exchange determined as follows:

For turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.

Value of single contract - Exchange rate prevailing on the date of the contract.

Exchange rates shall be taken from the publicly available source identified in the **PDS**. Any error in determining the exchange rates in the Application may be corrected by the REAoL.

15. Signing of the Application and Number of Copies

- 15.1 The Applicant shall prepare and submit (1) electronic original as PDF and four (4) hardcopies of the documents comprising the Application as described in ITA 11. A person duly authorized to sign on behalf of the Applicant shall sign the original of the Application. In case the Applicant is a JV, the Application shall be signed by an authorized representative of the JV on behalf of the JV and to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized signatories.
- 15.2 In the event of any discrepancy between the original and the copies, the original shall prevail.

D. Submission of Applications

16. Sealing and Identification of Applications

16.1 The Applicant shall enclose the hardcopies of the Application in a sealed envelope that shall:

- (a) bear the name and address of the Applicant;
- (b) be addressed to REAoL, in accordance with ITA 17.1; and
- (c) bear the specific identification of this prequalification process indicated in the PDS 1.1.
- 16.2 REAoL will accept no responsibility for not processing any envelope that was not identified as required in ITA 16.1 above.

17. Deadline for Submission of Applications

- 17.1 Applicants may either submit their Applications by email, mail or by hand. Applications shall be received by REAoL at the address and no later than the deadline indicated in the **PDS**. When so specified in the **PDS**, Applicants have the option of submitting their Applications electronically, in accordance with electronic application submission procedures specified in the **PDS**.
- 17.2 REAoL may, at its discretion, extend the deadline for the submission of Applications by amending the Prequalification Document in accordance with ITA 8, in which case all rights and obligations of REAoL and the Applicants subject to the previous deadline shall thereafter be subject to the deadline as extended.

18. Late Applications

18.1 REAoLreserves the right to accept applications received after the deadline for submission of applications, unless otherwise specified in the **PDS**.

19. Opening of Applications

- **19.1** REAoLshall open all Applications at the date, time and place specified in the **PDS**. Late Applications shall be treated in accordance with ITA 18.1.
- 19.2 Applications submitted electronically (if permitted pursuant to ITA 17.1) shall be opened in accordance with the procedures specified in the **PDS**.
- 19.3 **RE**AoLshall prepare a record of the opening of Applications to include, as a minimum, the name of the Applicants. A copy of the record shall be distributed to all Applicants.

E. Procedures for Evaluation of Applications

20. Confidentiality

- 20.1 Information relating to the Applications, their evaluation and result shall not be disclosed to Applicants or any other persons not officially concerned with the prequalification process until the notification of prequalification results is made to all Applicants in accordance with ITA 28.
- 20.2 From the deadline for submission of Applications to the time of notification of the results of the prequalification in accordance with ITA 28, any Applicant that wishes to contact REAoLon any matter related to the prequalification process (except as specified in 20.1 above), may do so only in writing.

21. Clarification of Applications

- 21.1 To assist in the evaluation of Applications, REAoL may, at its discretion, ask an Applicant for a clarification (including missing documents) of its Application, to be submitted within a stated reasonable period. Any request for clarification from REAoL and all clarifications from the Applicant shall be in writing.
- 21.2 If an Applicant does not provide clarifications and/or documents requested by the date and time set in the REAoL's request for clarification, its Application shall be evaluated based on the information and documents available at the time of evaluation of the Application.

22. Responsiveness of Applications

22.1 REAoL may reject any Application which is not responsive to the requirements of the Prequalification Document. In case the information furnished by the Applicant is incomplete or otherwise requires clarification as per ITA 21.1, and the Applicant fails to provide satisfactory clarification and/or missing information, it may result in disqualification of the Applicant.

23. Domestic Bidder Price Preference

23.1 Unless otherwise specified in the **PDS**, a margin of preference for domestic bidders² shall not apply in the bidding processresulting from this prequalification.

24. Subcontractors

- 24.1 Unless otherwise stated in the PDS, REAoL does not intend to execute any specific elements of the Works by sub-contractors selected in advance by REAoL.
- 24.2 REAoLmay decide to permit subcontracting for certain specialized works as indicated in Section III 4.2, Experience. REAoLmay do so at its own initiative or at the request of the Applicants during the prequalification process (if justified). When subcontracting is permitted by REAoL, the specialized sub-contractors experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.
- 24.3 Applicants may propose subcontracting to the percentage of the total value of the contract or the volume of works mentioned in the PDS and as further described in ITA 25.2.

Evaluation of Applications and Prequalification of Applicants

25. Evaluation of Applications

25.1 REAoL shall use the factors, methods, criteria, and requirements defined in Section III, Qualification Criteria and Requirements, to evaluate the qualifications of the Applicants, and no other methods, criteria, or requirements shall be used. REAoLreserves the right to

²An individual firm is considered a domestic bidder for purposes of the margin of preference if it is registered in the country of the Employer, has more than 50 percent ownership by nationals of the country of the Employer, and if it does not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign contractors. JVs are considered as domestic bidders and eligible for domestic preference only if the individual member firms are registered in the country of the Employer, have more than 50 percent ownership by nationals of the country of the Employer, and the JV shall be registered in the country of the Borrower. The JV shall not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign firms. JVs between foreign and national firms will not be eligible for domestic preference.

waive minor deviations from the qualification criteria if they do not materially affect the technical capability and financial resources of an Applicant to perform the contract.

25.2 Applicants planning to subcontract more than 10% of total volume of work shall specify, in the Application Submission Form, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors and their qualification and experience. The sub-contractors proposed shall be fully qualified for their work proposed, and meet the specified criteria in Section III, failing which such sub-contractors will not be permitted to participate. The qualification and experience of sub-contractors proposed by the Applicant under ITA 24.3 will not be considered for evaluation of the Applicant. The Applicant on its own (without taking into account the qualification and experience of the sub-contractor) should meet the prequalification criteria.

26. REAoL's Right to Accept or Reject Applications

26.1 REAoL reserves the right to accept or reject any Application, and to annul the prequalification process and reject all Applications at any time, without thereby incurring any liability to the Applicants.

27. Prequalification of Applicants

- 27.1 All Applicants whose Applications substantially meet or exceed the specified qualification requirements will be prequalified by REAoL.
- 27.2 An Applicant may be "conditionally prequalified," that is, qualified subject to the Applicant submitting or correcting certain specified nonmaterial documents or deficiencies to the satisfaction of REAoL.
- 27.3 Applicants that are conditionally prequalified will be so informed along with the statement of the condition(s) which must be met to the satisfaction of REAoL before or at the time of submitting their bids.

28. Notification of Prequalification

- 28.1 REAoLshall notify all Applicants in writing of the names of those Applicants who have been prequalified or conditionally prequalified. In addition, those Applicants who have been disqualified will be informed separately.
- 28.2 Any change in the structure or formation of an Applicant after being prequalified in accordance with ITA 27 and invited to bid (including, in the case of a JV, any change in the structure or formation of any member thereto) shall be subject to the written approval from REAoL prior to the deadline for submission of bids.

Section II. Prequalification Data Sheet

	A. General
ITA 1.1	The identification of the Invitation for Prequalification is: 01/2021
	The Employer is
	The Employer is: Renewable Energy Authority of Libya- REAoL
	EPC contracts for the Pioneer PV Programme in Libya
	El C contracts for the Fioneer I V Frogramme in Eloya
ITA 2.1	EPC contracts for the Pioneer PV Programme in Libya
ITA 4.2	Maximum number of members in the JV shall be: 4
11A 4.2	Waximum number of members in the 3 v shan be. 4
12	B. Contents of the Prequalification Document
ITA 7.1	For clarification purposes, the Employer's address is:
1 1	Renewable Energy Authority of Libya (REAOL)
	Project Managert
10	P.O. Box 1304
	Tripoli Libya
	Email: <u>Tender@reaol.ly</u>
	info@reaol.ly
26	Sector Se
N 184	Requests for clarification should be received by REAoL no later than:26/11/21
2	
ITA 7.1 & 8.2	REAoL Website
1111 7.1 & 0.2	
	www.Reaol.ly
ITA 7.2	Pre-Application Meeting will be held:
	Contraction and Sol
	STORW AUT
	Yes – Online
	C. Preparation of Applications
ITA 10.1	This Prequalification document has been issued in the <i>English</i> language.
	All correspondence exchange shall be in <i>English</i> language.
	The Application as well as all correspondence shall be submitted in <i>English</i> .

ITA 11.1 (d)	The Applicant shall submit with its Application, the following additionaldocuments: None
ITA 14.2	The source for determining exchange rates is: Central Bank of Libya
ITA 15.2	In addition to the original, the number of copies to be submitted with the Application is: One (01) Original, (04) Copy of the applicant's document and One (01) Softy Copy of the applicant's document
	D. Submission of Applications
ITA 17.1	The deadline for Application submission is:
1.	Date: 10/12/21 Time: 18:00 Hours (Local Time) Applicants <i>shall</i> submit their Applications electronically.
1 1.	For application submission purposes only, REAoL 's address is:
1 -1	Renewable Energy Authority of Libya (REAOL)
-	Project Manager P.O. Box 1304
	Tripoli Libya
1.12	Inpon Eloya
	Email: <u>Tender@reaol.ly</u>
	info@reaol.ly
ITA 18.1	REAoL reserves the right to accept or reject late applications.
ITA 10.1	
ITA 19.1	The opening of the Applications shall be at
0	Renewable Energy Authority of Libya (REAOL)
	Project Manager P.O. Box 1304
	Tripoli Libya
	Email: Tender@reaol.ly
	info@reaol.ly
	Date: 13/12/21
	Time: 1000 Hours (Local Time)
ITA 19.2	If electronic submission of Applications shall be permitted, electronic Application opening procedures areREAoL on-site witnessing and logging of all applications prior to commencing evaluation.

	E. Procedures for Evaluation of Applications
ITA 23.1	A margin of preference shall not apply for domestic bidders
ITA 24.1	At this time REAoL <i>does not intend</i> to execute certain specific parts of the Project by sub-contractors selected in advance.
ITA 24.3	 Applicants planning to subcontract any works shall specify, in the Application Submission Form, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors. Subcontractors' qualification and experience will not be considered for evaluation of the Applicant. The Applicant on its own (without taking into account the qualification and experience of the sub-contractor) should meet the prequalification criteria.



Section III. Qualification Criteria andRequirements

This Section contains all the methods, criteria, and requirements that REAoL shall use to evaluate Applications. The information to be provided in relation to each requirement and the definitions of the corresponding terms are included in the respective Application Forms.

Contents

1. Eligibility	
2. Historical Contract Non-Performance	
3. Financial Situation and Performance	
4. Experience	



	Eligibility and Q	y and Qualification Criteria Compliance Requirements I					Documentation
N.	Call and	Denter	Joint Venture (existing or intended)				C. h
No.	Subject	Requirement	Single Entity	All Parties Combined	Each Member	One Member	Submission Requirements
1. Eli	gibility						
1.1	Nationality	Nationality in accordance with ITA 4.5	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.2	Conflict of Interest	No conflicts of interest in accordance with ITA 4.6	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Application Submission Form
1.3	United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Applicant's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITA 5.1 and Section V.	requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments



Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Ven All Parties Combined	ture (existing of Each Member	r intended) One Member	Submission Requirements
2. Hi	storical Contract Non-Per	formance	Climber .	5.13			· -
2.1	History of Non- Performing Contracts	Non-performance of a contract ³ did not occur as a result of contractor's default since 1 st January 2017	Must meet requirement4	Must meet requirements	Must meet requirement ⁴	N/A	Form CON-2
2.2	Suspension Based on Execution of BidSecuring Declarationby the Employer	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITA 4.10.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Application Submission Form
2.3	Declaration: Environmental, Social(ES),Health, and Safety (HS) past performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons related to the non- compliance of any environmental, or social or health or safety requirements or safeguard in the past five years ⁵ .	Must make the declaration. Where there are Specialized Sub- contractor/s, the Specialized Sub-contractor/s must also make the declaration	N/A	Each must make the declaration. Where there are Specialized Sub- contractor/s, the Specialized Sub- contractor/s must also make the declaration.	N/A	Form CON-3 ES&HS Performance Declaration

³Non performance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor.Non performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non performance must be based on all information on fully settled disputes or litigation, i.e.dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the applicant have been exhausted.

⁴ This requirement also applies to contracts executed by the Applicant as JV member.

⁵The Employer may use this information to seek further information or clarifications during the bidding stage and the associated due diligence.

Eligibility and Qualification Criteria				Compliance R	Documentation		
No.	Subject	Subject Requirement	Single Entity	Joint Venture (existing or intended)			Submission
110.	Subject	Requirement	Single Entity	All Parties	Each	One Member	Submission
			Martin	Combined	Member		Requirements
3. Fi	nancial Situation and Per	formance					
3.1	Financial Capabilities	 (i) The Applicant Net Worth shall not be less than US\$ 75 Millionor equivalent in any other currency. For this purpose, the Bidder's Net Worth is defined as the average of the net worth reflected in the audited annual accounts of the mostrecent three years of business operations. For this purpose, the most recent year of business operation shall be the most recent financial year defined by the regulatory agency of the respective country of business registration of the Bidder. (ii) The audited balance sheets or, if not required by the laws of the Applicant's country, other financial statements acceptable to the Employer, for the last 03 years shall be submitted. 	Must meet requirement	Must meet requirement	At least 25% of the requirement	At least 40% of the requirement	Form FIN – 3.1, with attachments
	perience						
4.1 (a)	Specific Experience - Developing Projects	(i) A minimum number of similar ⁶ contracts specified below that have been satisfactorily and substantially ⁷ completed as a	Must meet requirement	Must meet requirement ⁹	N/A	N/A	Form EXP 4.2(a)

⁶The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in Section VI, Scope of Works.

Summation of number of small value contracts (less than the value specified under requirement) to meet the overall requirement will not be accepted. ⁷ Substantial completion shall be based on 80% or more works completed under the contract.

Eligibility and Qualification Criteria			a Compliance Requirements				Documentation
N	C 1: 4	D i (Joint Ven	ture (existing or	· intended)	61 · · ·
No.	Subject	Requirement	Single Entity	All Parties	Each	One Member	Submission
				Combined	Member		Requirements
		prime contractor, joint venture		1			
		member ⁸ , management		and the second			
		contractor or sub-contractor ⁸		1.0	0.1		
		between 1st January 2017 and			~ ~		
		application submission deadline:			N. A.		
		(i) cumulative experience of 100			1 J		
		MW solar PV ground					
		mounted with at least one					
		project of 50MW .					



⁹In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

⁸ For contracts under which the Applicant participated as a joint venture member or sub-contractor, only the Applicant's share, by value, shall be considered to meet this requirement.

Section IV. Application Forms

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REAOL

Application Submission Form

Date: [insert day, month, and year] ICB No. and title: [insert ICB number and title]

To: [Renewable Energy Authority of Libya-REAoL]

Pioneer PV Programme: Installation of 1 -3 Solar PV plants on anEngineering, Procurement and Construction (EPC) Basis

We, the undersigned, apply to be prequalified for the referenced ICB and declarethat:

- (a) We have examined and have no reservations to the Prequalification Document, including Addendum(s) No(s)., issued in accordance with Instructions to Applicants (ITA) 8: [insert the number and issuing date of each addendum].
- (b) We have no conflict of interest in accordance with ITA 4.6;
- (c) We meet the eligibility requirements as stated ITA 4.1, we have not been suspended by the Employer based on execution of a Bid Securing Declaration in accordance with ITA 4.10;
- (d) We, in accordance with ITA 24.2, plan to subcontract the following activities and/or parts of the works:

[Insert activities which the Applicant intends to subcontract along with complete details of the sub-contractors]

(e) We declare that the following commissions, gratuities, or fees have been paid or are to be paid with respect to the prequalification process, the corresponding bidding process or execution of the Contract:

Name of Recipient	Address	Reason	<u>Amount</u>
[insert full name for each occurrence]	[insert street/ number/city/country]	[indicate reason]	[specify amount currency, value, exchange rate and US\$equivalent]

[If no payments are made or promised, add the following statement: "No commissions or gratuities have been or are to be paid by us to agents or any third party relating to this Application]

- (d) We understand that you may cancel the prequalification process at any time and that you are neither bound to accept any Application that you may receive nor to invite the prequalified Applicants to bid for the contract subject of this prequalification process, without incurring any liability to the Applicants, in accordance with ITA 26.1.
- (e) All information, statements and description contained in the Application are in all respect true, correct and complete to the best of our knowledge and belief.

Signed [insert signature(s) of an authorized representative(s) of the Applicant]

Name [insert full name of person signing the Application]

In the capacity of [insert capacity of person signing the Application]

Duly authorized to sign the Application for and on behalf of:

Applicant's Name [insert full name of Applicant or the name of the JV]

Address [insert street number/town or city/country address] Dated on [insert day number] day of [insert month], [insert year]

[For a joint venture, either all members shall sign or only the authorized representative, in which case the power of attorney to sign on behalf of all members shall be attached]

Form ELI -1.1 Applicant Information Form

Date: [insert day, month, year] ICB No. and title: [insert ICB number and title] Page[insert page number]of [insert total number]pages

Applicant's name
[insert full name]
In case of Joint Venture (JV), name of each member:
[insert full name of each member in JV]
Applicant's actual or intended country of registration:
[indicate country of Constitution]
Applicant's actual or intended year of incorporation:
[indicate year of Constitution]
Applicant's legal address [in country of registration]:
[insert street/ number/ town or city/ country]
Applicant's authorized representative information
Name: [insert full name]
Address: [insert street/ number/ town or city/ country]
Telephone/Fax numbers: [insert telephone/fax numbers, including country and city codes]
E-mail address: [indicate e-mail address]
1. Attached are copies of original documents of
Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITA 4.5.
□ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITA 4.2.
In case of Government-owned enterprise or institution, in accordance with ITA 4.9 documents establishing:
 Legal and financial autonomy Operation under commercial law Establishing that the Applicant is not dependent agency of the Employer
 Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Form ELI -1.2 Applicant's JV Information Form

[The following form s additional to Form ELI - 1.1., and shall be completed to provide information relating to each JV member (in case the Applicant is a JV) as well as any Specialized Sub-contractor proposed to be used by the Applicant for any part of the Contract resulting from this prequalification]

Date: [insert day, month, year] ICB No. and title: [insert ICB number and title] Page [insert page number]of [insert total number]pages
Applicant name:
[insert full name]
Applicant's JV Member'sname:
[insert full name of Applicant's JV Member]
Applicant's JV Member's country of registration:
[indicate country of registration]
Applicant JV Member's year of constitution:
[indicate year of constitution]
Applicant JV Member's legal address in country of constitution:
[insert street/ number/ town or city/ country]
Applicant JV Member's authorized representative information
Name: [insert full name]
Address: [insert street/ number/ town or city/ country]
Telephone/Fax numbers: [insert telephone/fax numbers, including country and city codes]
E-mail address: [indicate e-mail address]
1. Attached are copies of original documents of
Articles of Incorporation (or equivalent documents of constitution or association), and/orregistration documents of thelegal entity named above, in accordance with ITA 4.5.
□ In case of a Government-owned enterprise or institution, documents establishing legal and financialautonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITA 4.9.

2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Form CON – 2 Historical Contract Non-Performance

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: [insert full name] Date: [insert day, month, year] Joint Venture Member Name:[insertfull name] ICB No. and title: [insert ICB number and title] Page [insert page number] of [insert total number] pages

	Non Deformed C	Page [insert page number] of [insert	total number] pages
	Non-Performed C	Contracts in accordance with Section III, Qualification	Criteria and
	1.2	Requirements	
		nance did not occur since 1 st January <i>[insert year]</i> specif eria and Requirements, Sub-Factor 2.1.	ied in Section
	· · · ·	rmed since 1 st January <i>[insert year]</i> specified in Section and Requirements, requirement 2.1	n III,
Year	r Non- performedpor tion ofcontract	Contract Identification	TotalContractA mount(currentva lue, currency, exchange rate and US\$ equivalent)
[inser year]	t [insert amount and percentage]	Contract Identification: [indicate complete contract name/ number, and any other identification]	[insert amount]
	3	Name of Employer: [insert full name]	~ /
	20	Address of Employer: [insert street/city/country]	\sim /
	10	Reason(s) for nonperformance: [indicate main reason(s)]	
		" Energy Authon"	

Form CON – 3

ES&HSPerformance Declaration

[The following table shall be filled in for the Applicant, each member of a Joint Venture and each Specialized Subcontractor]

> Applicant's Name: [insert full name] Date: [insert day, month, year] Joint Venture Member's or Specialized Subcontractor's Name: [insertfull name] ICB No. and title: [insert ICB number and title] Page [insert page number] of [insert total number] pages

Environmental, Social, Health, and Safety Performance Declaration in accordance with Section III, Qualification Criteria, and Requirements

- No suspension or termination of contract: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, Social, Health, or Safety (ES&HS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5.
- □ Declaration of suspension or termination of contract: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental, Social, Health, or Safety (ES&HS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5. Details are described below:

Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
[insert year]	[insert amount and percentage]	Contract Identification: [indicate complete contract name/ number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Reason(s) for suspension or termination:	[insert amount]
[insert year]	[insert amount and percentage]	Contract Identification: [indicate complete contract name/ number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country]	[insert amount]

	Reason(s) for suspension or termination: [indicate main reason(s)]	
 	[list all applicable contracts]	

Performance Security called by an employer(s) for reasons related to ESHS performance

Year	Contract Identification	Total Contract	
		Amount (current	
		value, currency,	
	allall as	exchange rate and	
	a Valuer Sala	US\$ equivalent)	
[insert	Contract Identification: [indicate complete contract name/ number, and	[insert amount]	
vear]	any other identification]		
	Name of Employer: [insert full name]		
	Address of Employer: [insert street/city/country]		
	Reason(s) for calling of performance security: [indicate main	~~~	
	reason(s)]	An L	



Form FIN – 3.1 Financial Situation and Performance

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: [insert full name] Date: [insert day, month, year] Joint Venture Member Name:[insertfull name] ICB No. and title: [insert ICB number and title] Page [insert page number] of [insert total number] pages

Type of Financial information in (currency)	Historic information for previous [insert number] years, [insert in words] (amount in currency, currency, exchange rate*, USD equivalent)		
N.	Year 1	Year 2	Year 3
Statement of Financial Position	(Information from	Balance Sheet)	42
Equity Share Capital		4 4	4
Reserves		11 11	Ar Le
Revaluation Reserves		7 / /	- L
Intangible Assets	1.50	1	
Miscellaneous Expenditures			
Total Equity/Net Worth (NW)			21

* Refer ITA 14 for the exchange rate

Net worth = Equity share capital Add: Reserves Subtract: Revaluation Reserves Subtract: Intangible Assets Subtract: Miscellaneous Expenditures to the extent not written off and carry forward losses

2. Financial documents

The Applicant and its parties shall provide copies of financial statements for *[number]* years pursuant Section III, Qualifications Criteria and Requirements, Sub-factor 3.1. The financial statements shall:

(a) reflect the financial situation of the Applicant or in case of JV member, and not an affiliated entity (such as parent company or group member).

- (b) be independently audited or certified in accordance with local legislation.
- (c) be complete, including all notes to the financial statements.
- (d) correspond to accounting periods already completed and audited.
- \Box Attached are copies of financial statements¹⁰ for the *[number]* years required above; and complying with the requirements



¹⁰ If the most recent set of financial statements is for a period earlier than 12 months from the date of application, the reason for this should be justified.

Form EXP - 4.1(a) Specific Construction and Contract Management Experience

"Developing Projects" (ground mounted solar energy industry) means successful commissioning of a project and declaring commercial operation, in which the Applicant was an EPC contractor; or The Applicant developed the project on his own balance sheet

[The following table shall be filled in for contracts performed by the Applicant, each member of a Joint Venture, and SpecializedSub-contractors]

Applicant's Name: [insert full name] Date: [insert day, month, year] Joint Venture Member Name:[insertfull name] ICB No. and title: [insert ICB number and title] Page [insert page number] of [insert total number] pages

Similar Contract No. [insert number] of [insertnumber of similar contractsrequired]		Infor	mation
Contract Identification	[insert	contract name c	and number, if applicable]
Award date	[inse	rt day, month, ye	ear, i.e., 15 June, 2015]
Completion date	[inse	rt day, month, ye	ear, i.e., 03 October, 2017]
Role in Contract [check the appropriate box]	Prime Contractor	Member in JV	Management Sub- Contractor Contractor
Total Contract Amount	[insert total c inlocal curre	contract amount ncy]	US\$ [insert Exchange rate and total contract amount in US\$ equivalent]*
If member in a JVor sub-contractor, specify participation in total Contract amount	[insert apercentage amount]	[insert totalcontract amount in local currency]	[insert exchange rate andtotal contract amount in US\$equivalent] *
Employer's Name:	[insert full no	ime]	
Address:			wn or city / country]
Telephone/fax number	[insert teleph city area cod	,	s, including country and

E-mail:	[insert e-mail address, if available]	

* Refer ITA 14 for date and source of exchange rate.



Form EXP - 4.1(a) (cont.) Specific Construction and Contract Management Experience (cont.)

Similar Contract No.	Information
[insert number] of [insert number of	
similar contracts required]	
Description of the similarity in	12 12
accordance with Sub-Factor 4.2(a)	Man (C)
of Section III:	provide the state of the state
1. Amount	[insert amount in local currency, exchange rate, US\$ in words and inFigures]
2. Physical size of required works	[insert physical size of items]
items	
3. Complexity	[insert description of complexity]
4. Methods/Technology	[insert specific aspects of the methods/technology
	involved in the contract]
5. Construction rate for key	[insert rates and items]
activities	
6. Other Characteristics	[insert other characteristics as described in Section
	VII, Scope of Works]

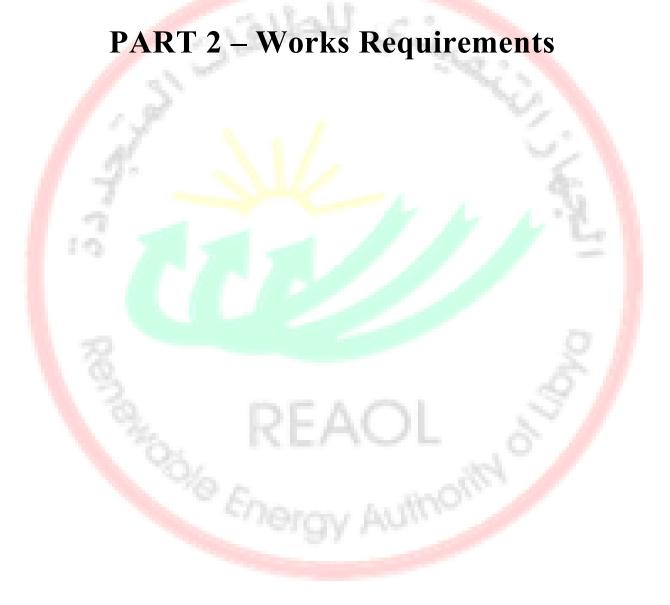
Verav Authority

Section V. Eligible Countries

Eligibility for the Provision of Goods, Works and Services in Bank-Financed Procurement

In reference to ITA 5.1, for the information of the Applicants, at the present time firms and individuals, supply of goods, or contracting of works or services, from the following countries are excluded from this prequalification process:





Section VII. Project Information and Scope

Contents

A. Project Description and Scopeof Works
B. Background Information - Energy Sector in Libya.....
C. Project Location
D. Site Solar Energy Resources



where a

Project Information and Scope

A. Project Description and Scope

The Government of Libya through the Renewable Energy Authority of Libya (REAoL) is developing a Pioneer PV Programme, which in its first stage consists of 4 national grid connected ground mounted Photovoltaic Power Plants in the northeast of Libya. The 4 planned plants and their nominal peak capacity are:

621

- Zlitin 70MWp
- Jadu 70MWp
- Beni Walid 70MWp
- Tawergha 30MWp

REAOL is seeking two companies (or companies) of international standing to render engineering, procurement, and construction (EPC) services required to construct and install all 4 plants. Each company will be awarded a contract for at least one and a maximum of three PV Plants.

Each PV Plant will be connected to the electricity system of the General Electricity Company of Libya (GECOL) through a new 11/66 kV substation ("PV Substation") (or other suitable substation depends on each site), which will be located in the designated project area and will be built by the EPC contractor. The EPC contractor will also build the inter-connection power line – the length of which varies for each PV Plant.

The PV Plant, the Inter-connection and the PV Substation and will be under the responsibility of the EPC contractor. Together, the PV Plant, the Inter-connection and the PV Substation are defined as the "PV Project".

REAoLinvites joint ventures to prequalify for a closed tendering process for all 4 PV Plants.

For each Plant the joint ventures shall provide the following supplies and services on an EPC turnkey basis:

- (I) Engineering, procurement, construction, and commissioning of a 20-50 MW PV Power Plant based on crystalline silicon on fixed mounting structure, including all civil, mechanical, and electrical works, as well as cabling and control, monitoring and security systems.
- (II) Engineering, procurement, construction and commissioning of a 11kV/66kV PV substation, including all civil, mechanical and electrical works, as well as cabling and

control, monitoring and security systems, as well as the connection of the PV substation to the GECOL substation.

- (III) Operation and maintenance for 9 months.
- (IV) Training of REAoL nominated personnel to take on the long term operations and maintenance role.
- (V) Technical oversight and support of the long term O&M team for a further 3 months.

Upon invitation, the prequalified applicants shall submit a full turnkey fixed lump sum price for the full scope of work for each PV Plant.

The prospective Applicant is free to design the PV Plant as he deems appropriate, as long as the design conditions and performance requirements are in compliance with the conditions and requirements of RFP which will be issued later. The prospective Applicant (Later will be the Bidder) is entirely responsible for system design.

The scope of works to be provided by the Company for engineering, procurement, and construction of the Project shall include, but not be limited to the following:

- Site investigations and surveys, as required
- Engineering, design, and detailed engineering
- Procurement
- Construction and erection
- The overall management and control of the works
- Control and supervision of the contractors and sub-contractors
- Provision of all labor, supervision, management, materials, equipment, on Site storage and material handling and control of the complete works
- Testing and, Commissioning, and Performance Tests
- Operation and maintenance of the Project during the Term of the project
- Other services as specified or necessary to complete the Project
- Temporary construction works and facilities, including camp facilities if required
- Provision of documentation

B. Background Information - Energy Sector in Libya

1. Libya, the country with the largest proven oil reserves in Africa, is also endowed with an enormous potential for renewable energies (RE). But despite excellent solar radiation, wind conditions and an abundant availability of undeveloped land, renewable options have never been seriously considered in the past. National energy strategies were primarily marked by efforts to develop the national hydrocarbon sector. Renewable energy sources are now seen as an important asset, in particular for the electricity sector,

which is still entirely driven by fossil fuels.

- 2. Renewable power plants offer an opportunity to reduce the national consumption of domestic fossil fuel resources for electricity generation, thereby saving oil and natural gas for exports that are needed to sustain Libya's fragile economy in the country's ongoing political reconstruction and transition process. Renewable energies for power generation are also expected to alleviate power supply bottlenecks: the electricity consumption in Libya rapidly increases (it more than doubled in the last decade), with power supply shortages becoming more and more frequent.
- 3. Current demand for electricity in Libya is less than 8000 MW, with a shortfall of more than 2000 MW. The main source of peak demand comes from air conditioning and heating load in summer and winter seasons respectively. Supply is available for nearly all hours of the day during spring and fall seasons. However, power cuts of nearly 3-4 hours per day (going up to 10-12 hours) are experienced in summer and winter due to generation shortages as well as outages and network problems. During this period there is a significant use of small diesel generators by ordinary consumers.
- 4. Libya has around 50 trillion cubic feet (tcf) of natural gas reserves, with strong upside potential as only a portion of the territory was explored for hydrocarbons, with limited gas exploration. Pre-conflict marketed gas production levels were around 1.5 billion cubic feet per day (bcf/d), of which 60 % were exported to Italy via the Greenstream gas pipeline, and the remainder used for power generation. About 0.4 bcf/d of gas is being flared. Gas production slightly recovered in 2013 to pre-revolution levels, but continuous unrest and armed conflicts severely hindered production in the past couple of years (circa 400 mcf in 2014).
- 5. Natural gas remains a priority for the National Oil Company, with plans to re-evaluate reserves, including exploring shale gas potential, and monetize further flared gas. Libya was among the first countries to export LNG in 1971 from its Marsa El-Brega plant, using mostly associated gas from the giant Sirte Basin oil and gas fields. However, the plant was shut down in 2011 due to heavy damages and never reopened. Libya has a well-developed gas pipeline network, with a series of pipelines linking the Sirte Basin gas fields to the 655 km coastal trunk line at Marsa El Brega.
- 6. At present, about 65% generation is from gas, 12% without fuel (combined cycle), and the rest is from liquid fuels. Liquid fuels are usually imported and very expensive. They also harm machines and have more maintenance issues. If all power generation were operated using natural gas, Libya would save an estimated amount of LD 2 billion per year. All power plants are connected to the gas pipeline network.

- 7. On the transmission side, there are now practically two main networks in Libya with network in Benghazi and other Eastern parts of the country. There was surplus installed capacity in the eastern part, which however has now deteriorated due to the prevailing war situation. The electricity supply in the eastern part is critically dependent on the Benghazi North power plant, which if affected by war would cause the entire eastern region to plunge into darkness. The transmission network comprises of mostly 220kV lines, with some 400kV lines are present. The system is already connected to Egypt on the east and Tunisia to the west, and there is an opportunity to also connect to Algeria also on the west. However, this "North Africa Power Transmission Corridor" would need to complete the synchronization across the western side connected all the way to Europe (Algeria, Tunisia, Morocco, France, Spain, Italy etc.), and the eastern side connected to the middle-eastern countries (Egypt, Jordan, Syria, Turkey etc.), and thus poses a significant technological and system management challenge. Studies have been conducted by international consultants on interconnection across various North African countries.
- 8. Libya's electricity sector is marked by a single vertically-integrated power utility, which is overseen by the General Electricity Company of Libya (GECOL).
- 9. Renewable Energy Authority of Libya (REAOL) is a governmental institute, established in 2007 to evaluate renewable energy sources in Libya and to develop the necessary plans and implement applications and projects in the field of renewable energy and energy efficiency. The Renewable energy authority of Libya (REAoL) is responsible for:
 - A comprehensive mapping of renewable energy sources in Libya and Implement the studies to determine the current and future market...etc. (Solar & Wind energies)
 - Implement of renewable energy projects in various forms.
 - Encourage and support the industries related to renewable energy.
 - Propose the legislation needed to support renewable energy and waste management activities.
 - Implementation of the Energy Efficiency programs.
 - Implementation of the Waste Management and Biogas programs.
 - Increase the contribution of Energy from Waste in the national energy mix.
 - Implementation of the programs related to the energy efficiency.
 - REAOL, since it's established, tried hard to build its own staff and legal frame of work in addition to invoke the set of tasks and achieve required goals. Yet, REAOL still is in need to expertise and skilled personnel.

C. Project Location – Jadu PV Plant

The proposed site of the PV power plant is close to the city of Jadu. Jadu is a mountainous city in western part of Libya, in Nafusa Mountain. The Project site, with coordinates 32°05'55.27N, 12°04'47.14"E is located approximately 11 km east of the town of Shakshuk, approximately 15 km south of Jadu. The PV plant shall be connected to the grid close to Shakshuk with an existing A220 kV substation.

Figure 1 shows the proposed site with the existing 220 kV overhead transmission line route, while Figure 2 & 3 show a schematic plan for the proposed site, approved from the projects department at Jadu Municipality.



Figure 1: Proposed site and substation close to Jadu (32° 5'55.27"N, 12° 4'47.14"E)

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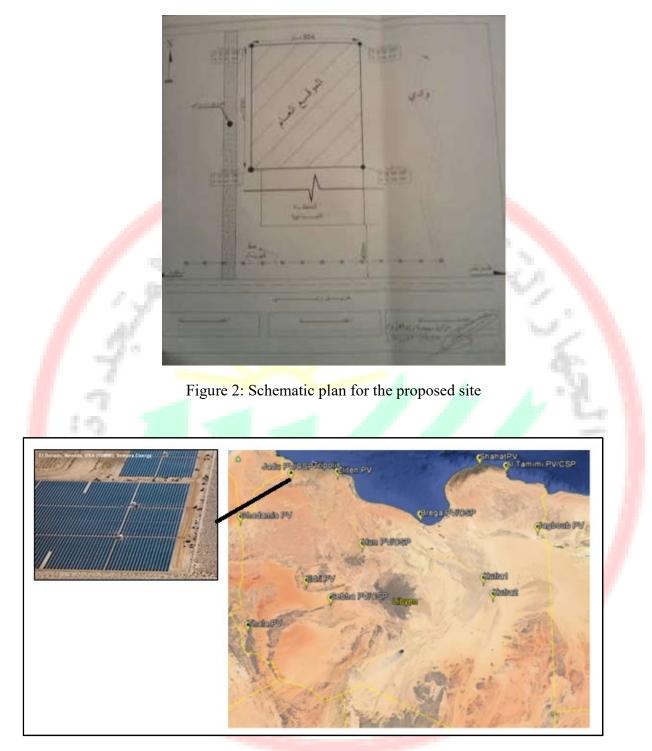
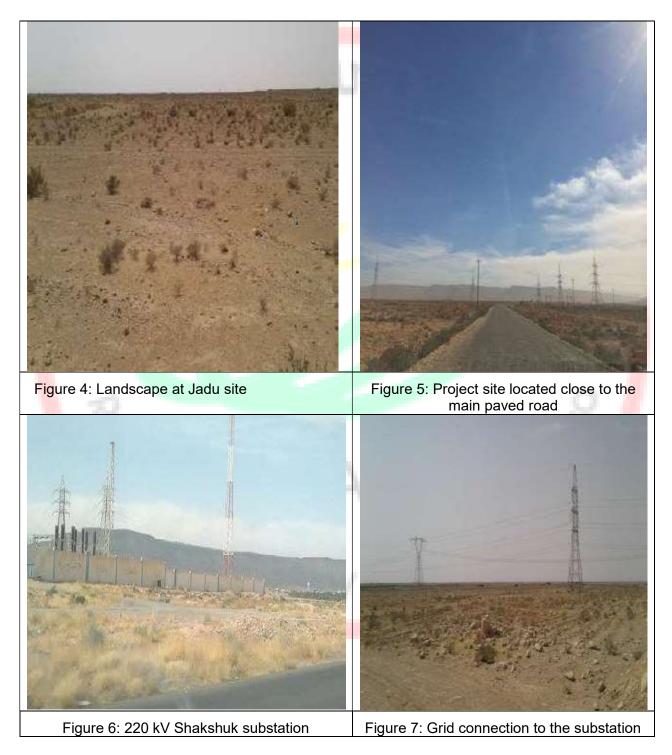


Figure 3: Site Location

Total area approved by the Municipality of Jadu for the PV plant installation is approximately 125 hectares with availability of additional area of nearly 75 hectares. The terrain is not complex and the area is mainly flat, arid, non-arable, highly exposed to the sun with no plant coverage and clear of natural obstacles such as high mountains or buildings that may influence the power

system (see Figure 4).

Site soil conditions are regarded as suitable as it comprises of normal soil. The site is easily accessible, located right next to a paved road (Figure 5). A220 kV substation is situated less than 9 km away from the site (Figure 6). Grid connection to the substation should be possible (Figure 7).

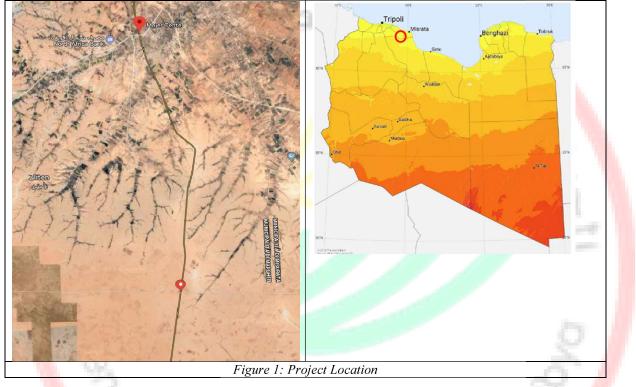




D. Project Location – Zlitin PV Plant

Project area

The area identified for the project is located in Majer area (municipality of Zliten), about 160 km eastward from Tripoli. The site is 18.5 km far away from the center of village of Majer. The distance from Majer to the commercial harbors of Misurata and Khoms is around 70 km.

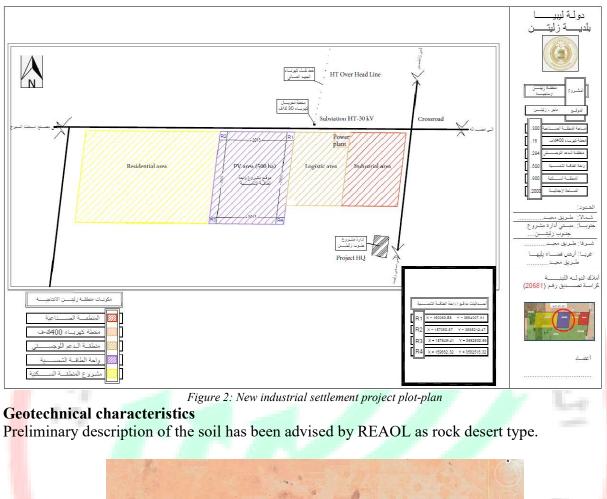


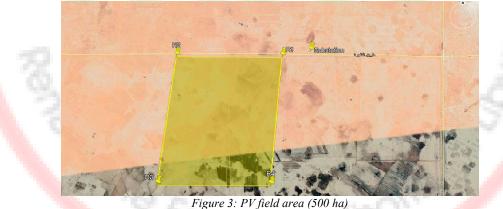
The overall new industrial settlement area covers about 2000 ha, whose 500 ha dedicated to the development of the PV plant.

It is assumed that the PV plant will be connected to the national transmission grid through a HV sub-station. It is assumed that the PV plant will provide power at High Voltage level through a dedicated step-up transformer to be connected to the national transmission grid through an adequate new, or existing, HV sub-station. A proper power grid study is mandatory to confirm the feasibility to inject the 50 MW produced by the PV plant.

R1	X=159963.58	Y=3564997.11
R2	X=157950.67	Y=3565012.47
R3	X=157649.41	Y=3562530.69
R4	X=159662.32	Y=3562515.32

The coordinates the PV area are reported in Table 3:





Land use

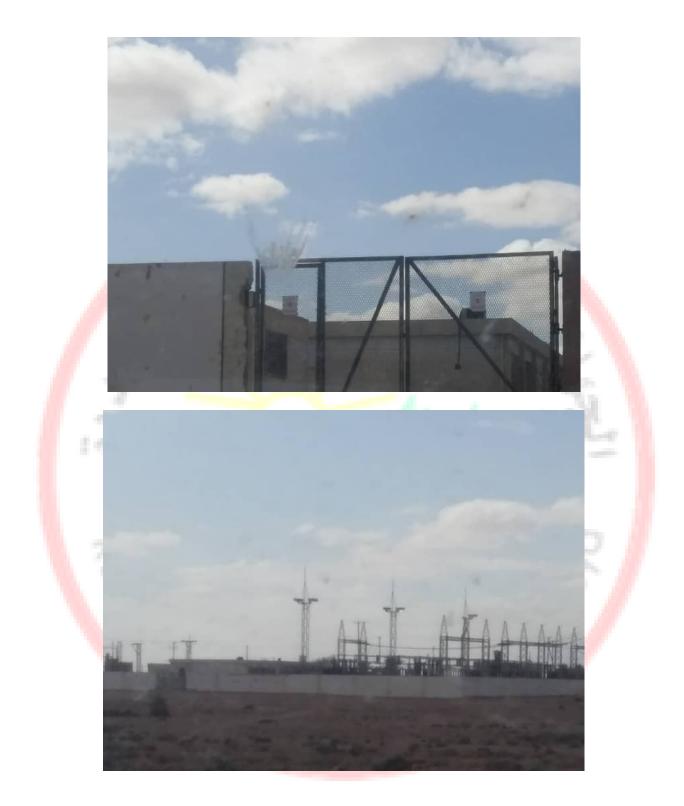
The key aspects are that this location will be a new industrial settlement area quite far from urban areas, and that there is lack of water, even if some sparse agricultural farms are settled. A MV overhead transmission line reaches the site.

E. Project Location Beni Walid PV Plant

Project area

The area identified for the project is located in Beni Walid area (municipality of Beni Walid), about 60 km southward from Beni Walid city. The distance from site area to the commercial harbors of Misurata and Khoms is around 120 km.

Iongitude: 13433648 E elevation: - m a.s.l.	latitude:	31241008	N
elevation: - m a.s.l	longitude:	13433648	E S S
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	And the second se		
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			and the second second
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Geotechnical characteristics Preliminary description of the soil has been advised by REAOL as rock desert type.



Project area

The area identified for the project is located in Tawergha(municipality of Tawergha), about 40 km eastward from Misurata city. The distance from site area to the commercial harbors of Misurata is around 30 km.

Geotechnical characteristics

Preliminary description of the soil has been advised by REAOL as rock desert type.