



Aga Khan Agency for Habitat  
*Afghanistan*

## Tender Notice for Solar System Design and Installation in AKAH OFFICES

Aga Khan Agency for Habitat (AKAH), Afghanistan invites tenders from authorized suppliers for the following specifications for AKAH Offices in Bamyan Center and Faizabad. The quantities mentioned in this tender announcement are tentative.

<b>Solar Power PV System -AKAH Faizabad Office</b>			
<b>Faizabad, Badakhshan</b>			
<b>S/Nr</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>
1	Solar Panel-polycrystalline Astronergy (275 watts)	78	PCS
2	Battery- Lead Acid Non VRLA Hoppicke (2V, 1000 Amp Hours)	40	PCS
3	Off-Grid Invertor- SMA with battery storage system and remote	3	PCS
4	Battery Rack	1	Set
5	DC Cable (MT), Connector Set	250	LM
6	Cable Trays 10cmx5xmx2mm	1	LS
7	MC4 Connector, male and female, waterproof	250	M
8	Combiner Conjunction box	200	PCS
9	Battery Circuit breaker	1	PCS
10	Complete Installation in Project site in Faizabad (Supply, installation and testing)	1	PCS
<b>Grand Total including taxes</b>			

<b>Solar Power PV System -AKAH Bamian Office</b>			
<b>Bamian Center, Bamian</b>			
<b>S/Nr</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>
1	Solar Panel-polycrystalline Astronergy (275 watts)	58	PCS
2	Battery- Lead Acid Non VRLA Hoppicke (2V, 1000 Amp Hours)	30	PCS
3	Off-Grid Invertor- SMA WITH battery storage system and remote	2	PCS
4	Battery Rack	1	Set
5	DC Cable (MT), Connector Set	250	LM



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7	Cable Trays 10cmx5xmx2mm	250	M
8	MC4 Connector, male and female, waterproof	200	PCS
9	Combiner Conjunction box	1	PCS
10	Battery Circuit breaker	1	PCS
			PCS
11	Complete Installation in Project site in Bamiyan (Supply, installation and testing)	1	
<b>Grand Total including taxes</b>			

**Criteria for Bidding**

1. Bidders should respect the procurement rules/regulations and procedure of the organization.
2. Bidders are bound to supply the Solar System as per the specifications provided above and in the bid document.
3. Tax will be deducted from the total invoice amount as per the income tax law of Afghanistan, and all items must include the government tax.
4. Bidders have to deposit 2% of the total bid amount to AKAH's bank account as a "Bid Security", through a direct bank transfer or provide a Bank Guarantee Letter before submission of the bid.
5. The competitive bid must be submitted in sealed envelope as per the specifications in vendor's official letterhead with price, signature, stamped and delivery timeline:
  - a. Failure to submit the bid in vendor official document, logo, stamp and delivery timeline will be disqualified from bidding process
  - b. Bids submitted beyond the closing date of the tender, will not be accepted.
  - c. **Modification may be required for Solar System specifications, based requirement.**

Interested applicants are expected to provide the following document along with the bids:

1. Brief history of the firm and its experience, qualifications and copy of the business license,
2. Proposed timeline for delivery of Solar System and delivery location and Installation (Bamiyan and Faizabad, Afghanistan). The timeline for this project is **1 month** after completion of the bid process and issue of LoI by November 20, 2019. In no circumstance the project should be extended beyond **December 20, 2019**.
3. Bid must be in Afghani currency.
4. Provide the following documents without any missing for the AKAH solar expert review in Canada for approval:
  - a. Review of the load profile (annexure of this announcement) and development of design simulation to exactly quantify different element of solar system. The design simulation should clearly define the assumption (Peak Sunshine hours, Days of autonomy 1 day, Safety factor, etc.)
  - b. Electrical single line diagram



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- c. Detailed schedule of work for each office separately to meet the deadline 20 December 2019;
- d. Detailed procurement management plan for each office separately;
- e. Detailed risk and health & safety management plan for each office separately;
- f. Data sheet for each material specified in above tables and components of the solar system;
- g. Resource Mapping (Human, equipment, machinery, etc.) for each office work separately;
- h. complete quality control management plan for each office separately;
- i. Warranty for different components of the solar system;
- j. The price/financial proposal for each office separately;

Envelop, duly marking as given below:

<p>Aga Khan Agency for Habitat (AKAH)</p> <p>Attention: Admin &amp; Logistic Department</p> <p><b>Bid for Solar System</b></p> <p>&lt;Name of Your Company Address&gt;</p> <p>&lt;Company Stamp&gt;</p> <p>&lt;Date&gt;, &lt;Mobile Number, email address&gt;</p>
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**How to Apply:**

Applicants must submit bids in sealed envelope to AKAH, Afghanistan office from 10<sup>th</sup> November 2019 to 17<sup>th</sup> November 2019 from 8:00am to 4:00pm to the following addresses.

**Address:**

Aga Khan Agency for Habitat, Afghanistan  
House# 372, Qala e Fatullah, Street 10, District 10, Kabul  
Contact number: 0799806108

Note:

1. All required information must be provided in most specific way as requested. Avoid non-requested information or general information in submission of tender documents, failure to provide any of the above mentioned documents will result in automatic disqualification of the company;
2. The cost breakdown and data sheets response is mandatory, failure to provide the mentioned documents will result in automatic disqualification of the company;
3. The price of the projects should be realistic and with respect to specification of the material requested;
4. The price of the project should be provided for highest quality material, if not identified/specified in the BoQ;
5. Each contractor must demonstrate how they intend to meet the date for completion of work. Should any prospective bidder not be able to meet the date noted, an explanation should be provided, together with a date that is considered by



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feasible.

Once awarded, the contractor must meet the schedule for completion agreed to with the Client. Any delays, other than those related to Force Majeure. Will be subject to penalties enforceable by the Client at the Client's discretion. The details of penalty provisions will be provided in the final contract with the successful bidder.

6. The logistical, procurement, transportation, and security constraint must be considered;
7. It is the responsibility of each Contractor to bring to the attention of the client any omissions or inconsistencies.
8. This letter is not an offer and shall under no circumstance be construed as an offer;
9. AKAH reserves the right to reject and not consider any or all the proposals that do not meet the requirements of this invitation letter, including but not limited to: incomplete tender document response and/or proposals offering alternate or non-requested services;
10. In no event shall any obligations of any kind be enforceable against AKAHA unless and until a written contract is execute;
11. Each respondent agrees to bear all costs and expenses related to the proposal and its submission, and there shall be no reimbursement of any costs and expenses relating to the preparation of proposal submitted hereunder or for any costs or expenses incurred during negotiations;
12. All proposals received will become the property of AKAH and will not be returned to respondents;
13. The Proposer shall assume full responsibility for timely delivery at the location designated for receipt of Proposals.

**LOAD ANALYSIS**

Project: Faizabad

Month:

AC LOADS								AM											PM												
Load Description	Qty	Power Rating (W)	Operating Time (hrs/day)	Energy Consumption (Wh/day)	LF	season	Total Hourly Load	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
Downlights	127	24	8	24384	3.048	0.65	sw	1.9812	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Halogen Light	160	12	4	7680	1.92	0.65	sw	1.248	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
Scanner	0	0	0	0	0	0	sw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Printer	0	0	0	0	0	0	sw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Computer Laptop	25	90	8	18000	2.25	0.65	sw	1.4625	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Computer Desktop	1	100	24	2400	0.1	0.65	sw	0.065	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Internet Server	1	700	24	16800	0.7	0.65	sw	0.455						0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
UPS	1	500	24	12000	0.5	0.65	sw	0.325						0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Heater	0	0	0	0	0	0	sw	0												0	0	0	0	0	0	0	0	0	0	0	
Fan	10	120	7	8400	1.2	0.65	sw	0.78												0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
Ventilation Blower	9	30	24	6480	0.27	0.65	sw	0.1755												0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Boiler	0	0	0	0	0	0	sw	0												0	0	0	0	0	0	0	0	0	0	0	
Refrigerator	1	600	24	14400	0.6	0.65	sw	0.39												0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
Water cooler	0	0	0	0	0	0	sw	0												0	0	0	0	0	0	0	0	0	0	0	
Livpure	1	400	8	3200	0.4	0.65	sw	0.26												0.3	0.3	0.3	0.3	0.3	0.3						
Samsung LED (TV)-32"	3	48	24	3456	0.144	0.65	sw	0.0936												0.1	0.1	0.1	0.1	0.1							
DVR	0	0	0	0	0	0		0													0	0									
Samsung LED (TV)-58"	0	0	0	0	0	0		0																							
Samsung LED (TV)-42"	1	100	4	400	0.1	0.65		0.065																							
Air Condation 9000 BTU	0	0	0	0	0	0		0																							
Air Condation 18000 BTU	0	0	0	0	0	0		0																							
Clothes Wash Machien	2	400	1	800	0.8	0.65		0.52																							
Copier	0	0	0	0	0	0		0																							
Vacuum Cleaner	0	0	0	0	0	0		0																							
Projector	0	0	0	0	0	0		0																							
Grass Cutter Machiene	0	0	0	0	0	0		0																							
Water Pump	0	0	0	0	0	0		0																							
								7.8208	4.8	4.8	4.8	4.8	4.8	5.2	5.5	5.5	5.6	6.9	7.1	7.2	7.8	7.2	7.2	7.1	6.9	5.5	5.2	4.8	4.8	4.8	4.8

137.71 kW Hr Total

DC LOADS				AM											PM													
Load Description	Qty	Power Rating (W)	Operating Time (hrs/day)	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	
				0	4.8	4.8	4.8	4.8	4.8	5.2																		
				0																								
				0																								
				0																								
				0																								
				0																								

79.72 kW Hr Day  
57.99 kW Hr Night

Total AC Power 3,124 W  
 Total DC Power W  
 Total AC Energy Consumption 118,400 Wh  
 Total DC Energy Consumption Wh  
 Inverter Efficiency 0.94  
 Weighted Operating Time 184.00 hr/day  
 Average Daily AC Energy Consumption 125,957 Wh/day  
 Annual Energy Consumption 45,974,468 Wh/year

**Assumptions**  
 Day Time Load Factor 0.65 76,960.00  
 Night Time Load Factor 0.25 29,600.00  
 Days of Autonomy 1.1  
 Minimum Operating Temp -15.00  
 System Efficiency 0.67

Inverter Load Size  
 ## Wh/day  
 ## Wh/day

**LOAD ANALYSIS**

Project: Bamyan

Month:

AC LOADS										AM											PM												
Load Description	Qty	Power Rating (W)	Operating Time (hrs/day)	Energy Consumption (Wh/day)	kW	LF	season	Total Hourly Load	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	
Internet Server	1	700	24	16800	0.7	0.65	sw	0.455	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Ventilation Blower	1	30	24	720	0.03	0.65	sw	0.0195	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Refrigerator	1	600	24	14400	0.6	0.65	sw	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
DVR	1	40	24	960	0.04	0.65	sw	0.026	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Samsung LED (TV)-58"	0	0	0	0	0	0	sw	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Samsung LED (TV)-42"	3	100	24	7200	0.3	0.65	sw	0.195	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
Livpure	1	400	14	5600	0.4	0.65	sw	0.26							0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	
Boiler	0	0	0	0	0	0	sw	0							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Medium Printer	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Scanner	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Printer	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Computer Laptop	10	90	8	7200	0.9	0.65	sw	0.585										0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	
Water cooler	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Copier	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Downlights	62	24	6	8928	1.488	0.65	sw	0.9672										0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Fan	3	120	4	1440	0.36	0.65	sw	0.234										0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	
Vacuum Cleaner	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Iron	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Clothes Wash Machine	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Projector	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Water Pump	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Microwave	0	0	0	0	0	0	sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
							sw	0										0.00															