

**INFORMATION BROCHURE
&
APPLICATION FORM
FOR
INSTALLATION OF SOLAR PUMPS
(Capacity 3 and 5 HP)
FOR
IRRIGATION IN PUNJAB
(F.Y. 2018-19)**

BY



PUNJAB ENERGY DEVELOPMENT AGENCY

Plot no. 1-2, Sector 33D, Chandigarh

Phone:0172-2663328,2663382, Fax: 0172-2662865

Website: www.peda.gov.in

INDEX

S.NO.	Particulars	Page No.
1.	Invitation of applications	3
2.	Introduction to scheme	4
3.	What is Solar Pump?	5
4.	How it works	5
5.	Major Components	5
6.	Benefits and Limitations of Solar Pumps	5
7.	Discharge of Pumps	6
8.	Cost & Farmer Share	6
9.	Allocation Criteria and other Terms & Conditions	7-11

INVITATION OF APPLICATIONS FOR INSTALLATION OF SOLAR PUMPS

Punjab Government provides 80% subsidy on installation of Solar Pumps

Golden opportunity for farmers of Punjab

Limited Offer

(Opening date 01.10.2018 Closing date 15.10.2018)

Applications are invited from the interested farmers of Punjab for installation of Solar Pumps of capacity 3 & 5 HP for irrigation in Agriculture, Floriculture and Horticulture sectors. The scheme details, terms & conditions for allocation of about 2700 solar pumps and application form are given in the brochure, which may be seen and downloaded from www.peda.gov.in.

- i. **For installation of 2700 pumps, a total of 3000 applications shall be received.**
- ii. The complete application along with Demand Draft of farmer share and required documents should be submitted by hand or through Post at PEDA head office Chandigarh latest by 15.10.2018 up to 3:00 PM. **If all 3000 applications are received before the last date then the scheme will close on that date and thereafter no application shall be entertained.**
- iii. Solar Pumps shall be allocated to the eligible farmers on first come first serve basis and preference shall be given to the farmers having micro irrigation system. The complete application accompanied with required farmer share shall be received and allotted seniority number mentioning date and time.

Details of farmer share for different capacity solar pumps

Sr. no	Capacity	Farmer Share (Rs.)	
		AC Pumps	DC Pumps
1.	3HP	48,000/-	51,000/-
2.	5HP	65,000/-	75,000/-



PUNJAB ENERGY DEVELOPMENT AGENCY

Plot no. 1-2, Sector 33D, Chandigarh, Phone:0172-2663328, 2663382,
Fax: 0172-2662865 , Website: www.peda.gov.in

1. INTRODUCTION TO SCHEME:

Punjab Energy Development Agency (PEDA) is the State Nodal Agency for Implementation, Promotion and Development of New and Renewable Sources of Energy and State designated Agency for implementation of Energy Conservation Program in the State of Punjab. Since inception PEDA is continuously working to harness energy from Renewable Sources i.e. Sun, Wind, Biomass and water by installing Solar Power Plants, Solar Street Lights, Solar Water Heating systems, Solar Pumps, Biomass power plants, Co-generation Power plants and Mini Hydel Projects to meet the energy demand of the State. So far solar power plants of capacity 920 MW, Biomass Power Plants of capacity 66.50MW, Co-generation Power Plants of capacity 436 MW, Mini Hydel Projects of capacity 165 MW have been installed. In addition 55,000 Solar Street Lights, 38 Lac LPD Solar Water Heating Systems and 1955 Solar Pumps have been setup in the State.

Ministry of New and Renewable Energy (MNRE), Govt. of India is promoting the use of solar energy for irrigation in Agriculture sector and has planned to install 10 Lacs solar pumps in the country up to F.Y. 2020-21. MNRE, GOI provides 30% subsidy on 1 HP, 25% on 2 & 3 HP and 20% on 5 HP capacity pumps. The scheme is being implemented by different States and about 1.50 lac Solar Pumps have been installed in the country.

Punjab Government has decided to implement the scheme at large scale by providing a total of 80% subsidy on installation of Solar Pumps in Agriculture, Floriculture, Horticulture and fish/shrimp farming sectors. During F.Y 2018-19, 2700 solar pumps of capacity 3 and 5 HP shall be installed under the subsidy scheme of Ministry of New & Renewable Energy, (MNRE) Govt. of India and Punjab Govt. with the funding pattern of (CS:SS:Benf = 22:58:20).

2. WHAT IS SOLAR PUMP?

The water pumping system which operates on solar energy is called solar pump. Solar pump is totally pollution-free as it uses sunlight to draw water. It requires very little maintenance as compared to the diesel pump sets. It comprises of solar photovoltaic modules/panels, motor pump set, inverter/controller, control switch. Interconnecting cables and GI structure/frame etc. Solar pump works during the sunshine hours and is ideal for small and medium farmers whom PSPCL has not provided electricity connection to run the motor pump sets and use diesel pump sets or other means for irrigation purpose.

3. HOW IT WORKS?

Solar Energy in the form of sun rays fall on solar photovoltaic panels and gets converted into electrical energy through silicon cells embedded in the solar photovoltaic panels. This electrical energy passes through the controller/inverter, cables and operates the motor pump set to draw water.

4. MAJOR COMPONENTS :

Solar panels, mounting structure, motor pump set and controller/inverter are the major components of a solar pump. The electronic controller and inverter are respectively used in DC and AC type solar pumps. Module mounting structure is made of hot dipped galvanised mild steel (MS) with seasonal tilt angle adjustment (up-down) three times manual tracking facilities (East-South-West) in morning, noon and afternoon.

5. BENEFITS AND LIMITATIONS OF SOLAR PUMP:

- Solar pump works during day time, hence freedom from working at night.
- No fuel cost as it uses free sun light.
- No requirement of conventional electricity and diesel fuel.
- No requirement of long transmission lines and no transmission losses.
- Easy to operate & maintain and long operating life.
- Highly reliable and environment friendly.
- Solar Pump does not work in cloudy and foggy days.
- Water output varies with the variance of the sun shine.
- Solar panels require regular washing and cleaning as dust reduces the water output.

6. DISCHARGE OF PUMPS

Sr. No.	Depth of Water (Metres)	Capacity of pumps and maximum discharge (Lac Litres per day)			
		3HP		5HP	
		AC	DC	AC	DC
1.	10	2.70	3.00	4.32	4.80
2.	20	1.35	1.65	2.16	2.64
3.	30	0.96	1.05	1.53	1.68
4.	40	0.57	0.63	0.91	1.00

**Water output figures are based on a clear sunny day with three times tracking of SPV panels, under the "Average Daily Solar Radiation" condition of 7.15 KWh/ sqm. on the surface of PV array.*

Note:- Solar pumps are suitable up to maximum 50 metres depth of water and shall not be installed beyond this depth as these pumps may not fulfil the requirement of water.

7. COST & FARMER SHARE:

AC Submersible Pumps

Sr. no	Capacity of solar pump (AC)	Cost (Rs.)	Farmer share (Rs.)
1.	3HP pump with 3000 watt solar panels	2,40,000	48,000
2.	5HP pump with 4800 watt solar panels	3,25,000	65,000

DC Submersible Pumps

Sr. No	Capacity of solar pump (DC)	Cost (Rs.)	Farmer Share (Rs.)
1.	3 HP with 3000 watt solar Panels	2,55,000	51,000
2.	5 HP with 4800 watt solar Panels	3,72,326	75,000

8. ALLOCATION CRITERIA AND OTHER TERMS & CONDITIONS:

- a. About 2700 Solar Pumps of capacity 3 and 5 HP would be installed in Punjab during FY. 2018-19. These numbers may vary depending upon the demand of different capacity pumps. 32% pumps are reserved for scheduled caste category farmers. In case of non availability of required numbers of scheduled caste category farmers, the remaining pumps shall be allocated to the general category farmers. A total of 3000 applications shall be received against the target of 2700 pumps.
- b. **Minimum requirement of Agriculture land, shadow free area and Bore well size:-**

Sr. No.	Capacity of Solar Pump	Minimum Land for irrigation (in Acres)	Shadow free area for installation of pump (sft.)	Bore well size (inches)
1.	3 HP	2	330	4-6
2.	5 HP	3	550	6-8

- c. The applicants should read the terms & conditions of the scheme carefully before submission of applications.
- d. The scheme is open to the farmers / group of farmers / Panchayats of the State who have land in their names in the revenue records. The farmer should not have any electricity connection of PSPCL to run the motor pump set and may be using diesel pump set or any other means for irrigation in the land where solar pump is to be installed. A farmer shall be eligible to purchase only one solar pump, therefore he should only apply for the required capacity pump set and mention the capacity & type (AC or DC) in the application form. Proof of land ownership such as Jamabandi/Fard with a self certified certificate that he has _____ Acres of land in the village and PSPCL has not provided electricity connection for irrigation in this land, shall be produced. (The specimen of certificate is attached at the end of the brochure).

- e. The farmers having land in their joint names are also eligible to apply under the scheme.
- f. The farmer/farmers shall submit the self certified copy of Aadhaar Card with the application.
- g. The scheduled caste category farmers are also required to submit a self certified copy of scheduled caste certificate with the application.
- h. The farmers have to deposit 20% cost of the pump as farmer share through Demand Draft to be issued in the name of **Punjab Energy Development Agency (PEDA) payable at Chandigarh.**
- i. Solar Pumps shall be allocated to the eligible farmers on first come first serve basis and preference shall be given to the farmers having micro irrigation system especially to net / poly houses. Each application shall be marked with a seniority number mentioning date and time of receipt of the application. After closing of the scheme, the applications of both (General and SC) farmers having micro irrigation systems would be placed in a separate seniority lists which will have preference over the farmers without micro irrigation systems. At first the pumps shall be allocated to the farmers having micro irrigation systems and thereafter the remaining pumps shall be allocated to the farmers without micro irrigation systems on first come first serve basis. There shall be 32% reservation for SC category farmers and after allotment of pumps to the SC farmers the remaining spill over shall be allocated to the general category farmers. After allocation of required number of pumps the remaining applications shall be considered in waiting list and allocation of pumps shall be made to them as per seniority subject to withdrawal of application by the selected applicant or rejection of application by PEDA. The applicant who withdraws his application will lose his seniority and further no pump would be allocated to him.

- j. The Farmers have to submit their applications in the prescribed application form complete in all respects at PEDDA Head Office, Chandigarh latest by 15.10.2018 up to 3 PM and if all 3000 applications are received before the last date, then the scheme will close on that date and thereafter no application shall be entertained. The last date for receipt of applications can be further extended if the required number of applications are not received up to the last date. The envelope containing the application should be marked as "**Application for Solar Pump**".
- k. The farmers applying under micro irrigation system shall have to get their applications verified by the Chief Agriculture officer of the district concerned certifying that the farmer has drip/sprinkler system for irrigation.
- l. Allotment of solar pumps shall be subject to the availability of funds from the Government. The applicants cannot make any claim for allotment of solar pumps if required funds are not available/ scheme is withdrawn / cancelled by the Government or the application is rejected by PEDDA.
- m. The farmer shall provide required size bore well complete with lowering and shadow free plain land to the company for installation of solar pump within 15 days from the date of clearance of site by PEDDA District Officer and company representative. If the farmer fails to provide the bore well and plain land within the stipulated period, then pump allocation shall be cancelled and the farmer will not have any claim on Solar Pump and the same shall be allocated to an applicant in waiting as per seniority.
- n. PEDDA has the right to reject any application which shall not be fulfilling the eligibility requirements in general including technical requirements i.e. insufficient land, non providing of bore well & plain land in time, depth of water beyond specified limit and dispute of land if any etc.
- o. The farmer share shall be refunded to the unsuccessful applicants after two months from the date of allotment of pumps to the successful applicants.

- p.** If the successful farmer seeks refund after allocation of solar pump, then 10% of the amount deposited by the applicant shall be forfeited. This term shall not be applicable in case of cancellation of the system by PEDDA.
- q.** If at any time after allocation and before installation of the pump the information provided by the farmer is found wrong then PEDDA may reject the application and forfeit 10% payment deposited for installation of solar pump.
- r.** If at any time after installation of pump it comes to notice of PEDDA that the farmer had provided any wrong information for installation of pump then the farmer shall be liable to payback the full subsidy amount to PEDDA.
- s.** Five years annual maintenance contract of solar pumps shall be with the company, however the farmer shall be responsible for its day to day operation, cleaning, maintenance, insurance and security.
- t.** The farmer has to get the solar pump insured from an insurance company immediately after taking it over from the supplier after installation. PEDDA shall not be responsible for any kind of breakage, damage and theft of Solar Pump.
- u.** PEDDA shall not be responsible for non-functioning / mal-functioning of the system arising out of misuse and alterations/modifications if any made in the system by the farmer.
- v.** In case of non-working of the system, the farmer shall directly lodge the complaint with the company through phone, email or registered post with a copy to PEDDA.
- w.** The farmer shall not sell/transfer/shift the solar pump to any other person/site without permission of PEDDA. If the farmer does so then he would be liable to payback the full cost of the system to PEDDA.
- x.** PEDDA reserves the right to withdraw/amend/annul the implementation process of the scheme at any time in view of the change in the Government

Policy or any other reason what so ever in the interest of PEDDA/Govt./Public without incurring any liability.

- y. Any dispute arising out of implementation of the scheme shall be subject to the jurisdiction of the Courts at Chandigarh.