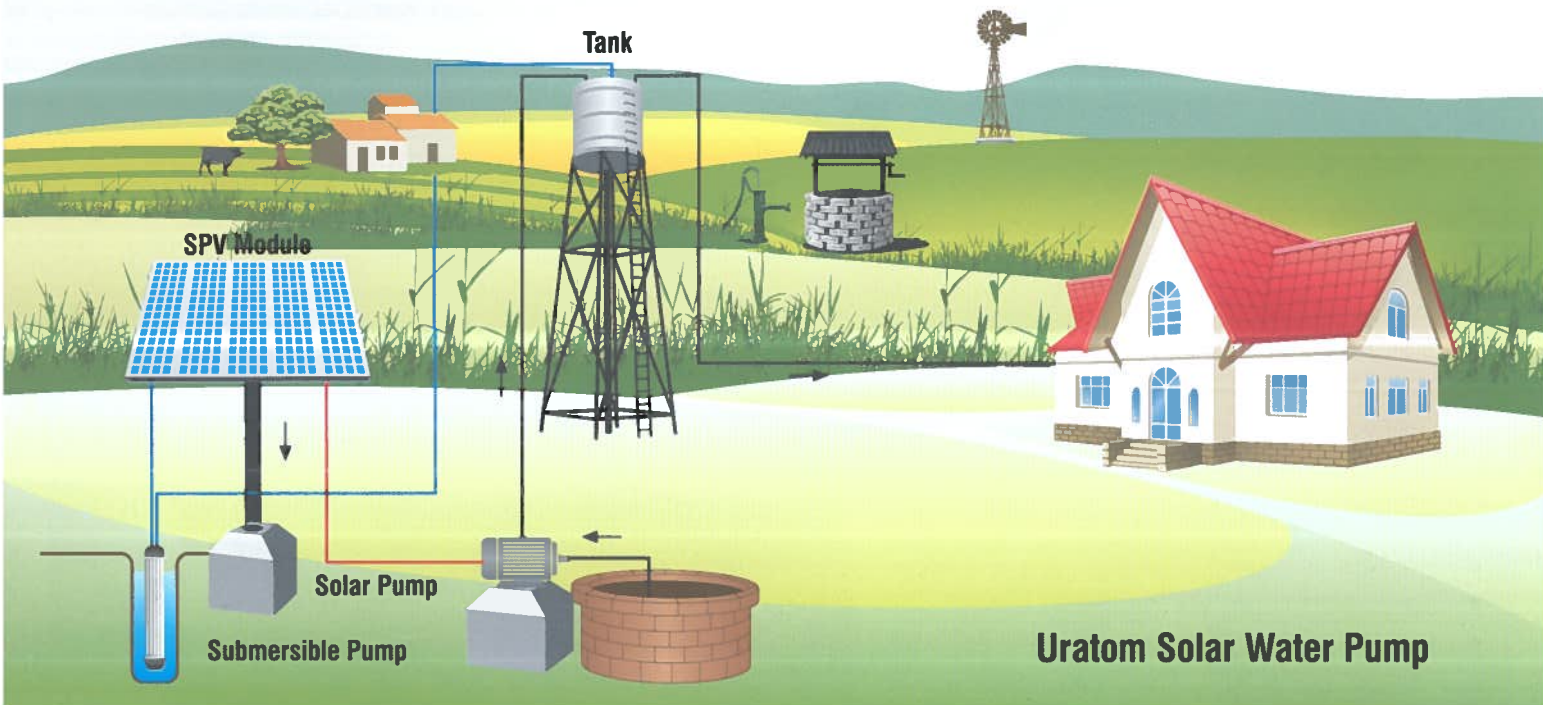


Run your water pump on *Self-produced electricity*



Why Solar Water Pumping?

Irregular electricity in rural India is a major cause that affects agriculture irrigation. On account of that, instead of pumping water at the time of requirement of crop, farmers pump water as and when electricity is available. This irregular irrigation adversely effects on the growth of crop.

Moreover, Indian farmers get electricity for less than 7 to 8 hours, which is not sufficient for large land area. Besides electricity, increasing fuel price, and high operating cost and high maintenance of diesel pump is also a cause of concern for farmers.

In such scenario, Solar Water Pumping System happens to be the most ideal choice because it can result in efficient, organized and regular agricultural irrigation.



Solar Water Pumping System:

Solar Water Pumping System or Solar Water Pump uses power derived from sunlight that is converted into electrical power by Solar Photo Voltaic (SPV) array. Solar Water Pump works on DC or AC. It is surface-mounted and equipped with submersible or floating pump that runs on the power derived from SPV array. A typical SPV Water Pumping System consists of an SPV array of 1200 W to higher capacity, mounted on a tracking/non-tracking type of structure. SPV array is connected to inverter of matching capacity, which is connected to surface-mounted, submersible, or floating type.

Advantages:

- Regular, organised and efficient water pumping
- Easy to install and easy to operate
- Lowest maintenance in comparison of diesel engine or electricity
- No fuel needed
- Relaxation/Freedom to work at night
- Silent and eco-friendly
- Subsidy available
- Tracking leads to maximum utilization of solar energy
- Reliable for long life expectancy
- Grid power mode can be used in case of lack of sunshine

Major Components:

- PV Array
- Mounting Structure for PV Array
- Pump and Motor set
- Hybrid Inverter/Controller
- Interconnecting Cables & Pipes
- Foundation Set (consisting of foundation bolts, structure and civil construction material - cement, sand, stones, etc.)

Notes:

- Pump capacity depends on location (latitude), available solar radiations, water requirements, depth of water source, etc.
- Subsidy available*
- Range starts from 1 HP onwards
- For bigger capacity 3 phase system is available



Competitive Analysis:

Types of Pumps	Initial costing	Operating cost	Maintenance	Power / fuel need	Ease of Use
Electric	Low	Medium	Medium	Yes	Installation has to be done carefully
Diesel	Low	Higher	Higher	Yes	Continuous monitoring of fuel consumption is required
Solar	High	Low	Low	No	Installation has to be done carefully



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