

## Kangra, Himachal Pradesh

In Himachal Pradesh, agriculture land is distributed over hilly terrains. In most of the cases, irrigation is being done through lifting water from canal or reservoir. Irrigation and public health department in Himachal Pradesh operates & maintains lift irrigation pumping stations across the state. All these pumping stations are situated in lower level than the farms. Jain Irrigation Systems Ltd. solarised the pumping station without changing or disturbing existing infrastructure. In particular pumping station, there were no space available for installation of solar plant, so plant was installed on canal top.

### Requirement

- 1) Solarise lift irrigation pumping stations
- 2) Operate Pumping System in case of grid failure and load shedding
- 3) Utilize Renewable Energy and to save natural resources
- 4) Install plant on canal top

### Technical specifications

Sr.	Particular	Value
1	Total Pumping capacity	78 kW (105 hp)
2	Individual Pump capacity (max)	22 kW (30 hp)
3	Pump type	Surface pump
4	Type of solar plant	Off grid solar power generation plant
5	Type of Controller	Solar off grid Inverter, VFD Synchronns and automation panel
6	Solar Plant capacity	100 kWp
7	Battery capacity / Type	240 V, 1000 Ah / VRLA
8	Battery Backup	2 hours
9	Structure Type	Fixed type Canal Top
10	Energy saved = Energy Generated (units / year)	4,92,750

### Features

- Canal top solar power plant
- Plant can work in grid sharing mode
- Utilisation of solar resource to the maximum
- Full proof inbuilt electrical protections
- 25 years of solar module life
- Easy to operate and maintain

### Benefits

- Pumps can be operated during power cuts
- Utilisation of canal top - Land / Open area saved
- Socio-economic benefit on farmers prosperity
- Cost Saving
- Dual purpose system - Drinking water cum irrigation

**Green Energy Solution offered for irrigation and drinking water by Jain irrigation in hilly region of Himachal Pradesh. This innovative solution includes installation of solar panels on canal top and energy availability for 14 hours during summer, including 2 hours of battery backup.**

# Solarisation of Lift Irrigation Pumping Station



Canal Top Structure



Pump House



VRLA Battery Bank



Canal Top Solar Power Plant for Lift Irrigation Pumping Station