## ASTRON GROUP

### SOLAR THERMAL
- Hot water for homes, hostels, hotels, hospitals, restaurants, dairies, industries etc.
- Around 60°C-80°C temperature based on solar collector system efficiency
- Easy installation on roof-tops, building terrace and open ground with no shading, south orientation of collectors and overhead tank above SWH system.

### SOLAR POWER
- Turnkey project provider for residential and commercial complexes:
  - Solar On Grid Roof Top
  - Solar Off Grid
  - Use of best material for longer durability and lifetime
  - Supervision from experienced Engineers

### BIOGAS
- Bio waste to cooking gas
- Bio waste to electricity
- Bio waste to CNG for vehicles
- Bio waste solutions, using wastes like cattle dung, green waste, crop and manure
- Carbon neutral solutions
- Cost effective compared to other sources like coal and oil.
- Production of organic manure/tailored fertilizers

### GREENHOUSE
- End to end solutions for high tech Integrated Solar Green Houses.
- Based on self power generation system with the help of high efficiency glass-glass solar panels which also controls the transmittance of daylight in greenhouse.
- Green House Accessories and Equipment for smooth running and easy operation of greenhouse:
  - Green house structure
  - Irrigation system, micro and drip irrigation, manual and automatic
  - Cooling system
  - Heating system
  - Lighting system
  - Automation
  - Hydroponic and Vertical farming
  - Screening and blackout screens
  - Dehumidification and fogging systems
Solar Based Hi-Tech Greenhouse by Astron Solpower Pvt. Ltd
Key issues that India is facing today

**Fragmented Land Holdings**
The net area under cultivation is close to 141 million hectares. However, its immensity diminishes with the fact that a vast number of land holdings are fragmented to an extent of being rendered economically unviable. This is a prime reason that agriculture instruments in India cannot be used effectively.

**Lack of sufficient irrigation facility**
After China, India has the largest cultivated area that has irrigation facility. However, it covers only one-third of the total cultivated area. A major proportion of farming activities still depends on the monsoon. The irregularities of the monsoon can destroy the crops and cause hefty losses to the farmers.

**Over Dependence on traditional crops**
As mentioned before, India produces rice and wheat in abundance. Some regions can easily adapt to facilitate the growth of new crops that can yield a higher quantity of produce. Farmers are resistant or hesitant to give it a try. Endorsing associations of commodity-based farmers and spreading awareness is a very effective way to overcome the over-dependence on traditional crops.
Solution: Solar Based Greenhouse
Solar greenhouses

- Venlo greenhouse
- Integrated Solar panels
- New development based on highly experienced greenhouse know how
- According to International Standards
- Suitable for tropical weather
Technology we provide

Vertical farming

Climate controlled farming, as per nature of crop/plant

Light control with help of grow lights for faster growth
Special Features

Digitally controlled water sprinkling system

Energy generation with help of Dual glass solar panels

Targeting to achieve diffused light and limited shadow effect (patent filed)
Our Solar based Greenhouse project
Highlights of the project

• A Hi-tech Solar based greenhouse laboratory of a total area of 6000 mtr2
• Temperature controlling from -4°C to 24°C
• Automatic water sprinkling system which minimises requirement of water Climate control system
• Light intensity controlling system with the help of grow lights
• The plant is self energy sufficient with the help of high efficiency glass to glass solar panels which will generate 11.5 Lakhs units annually
• Plant has got hi-tech seeding plant for maximising the production of crops
• Plant is completely thermal insulated with help of thermal pads Water storage facility for annual requirement of plant
Next step towards growth of Indian Agriculture Industry...

Starting second solar greenhouse project of 1000 sq. mtr in Roorkee, Uttarakhand
For Enquiries and Support

Astron Solpower Private Limited

Corporate Office-
Unit No. 214, P.P. Trade Centre, Pitam Pura, Netaji Subhash Place, New Delhi - 110034
Cont. +91-8287973467

Regd. Office:
Standards tower, Sahastradhara Road,
Near Times Square Mall, Dehradun - 248001

Info@astronsolpower.com
www.astronsolpower.com

Collaborated partners