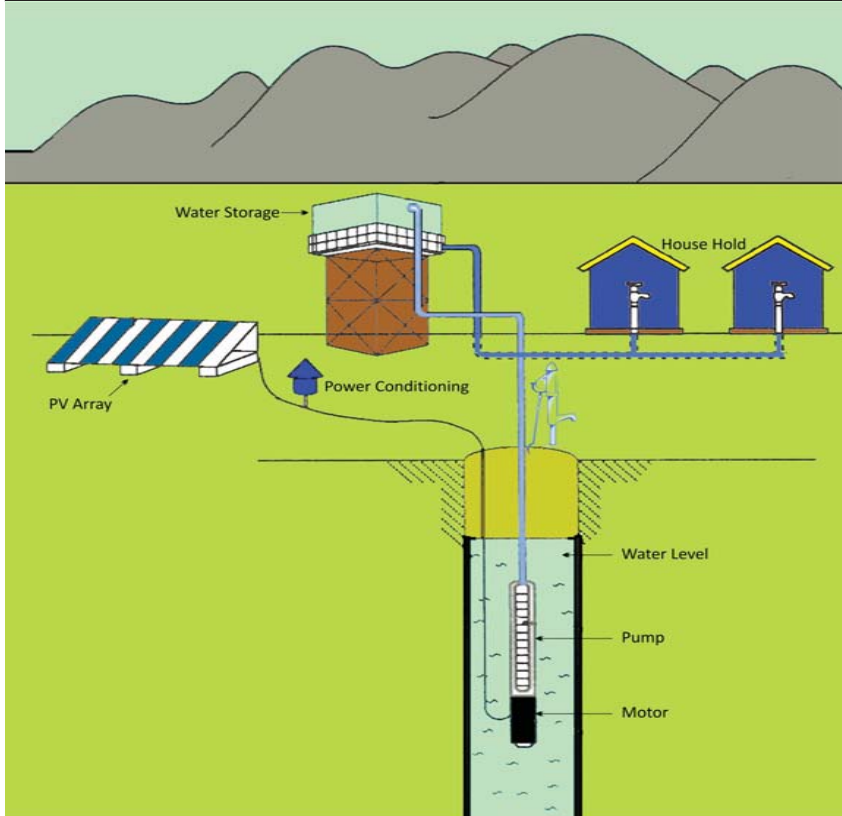




# Training Course on Solar Powered Pumping Systems Sustainable Solution for Public Drinking Water Supply



Focus on Planning, Designing,  
Quality Control and Installation



**Date : 29<sup>th</sup> Sept. to 01<sup>st</sup> Oct. 2014**

**Organized by:**

**Institute of Public Health Engineers, (Bhopal Chapter) - India**

**In Joint Venture with**

**WatsanCAD Solution, Bhopal**

**Last Date for Nomination : 13<sup>th</sup> Sept 2014**

**Sponsored By :**



## Introduction

To provide every person with adequate safe water for drinking, cooking and other domestic basic needs on a sustainable basis. This basic requirement should meet minimum water quality standards and be readily and conveniently accessible at all times and in all situations i.e. in desired quantity of potable water at household level.

Power Supply in India is lagging in terms of desired services and penetration due to non-availability, shortage, frequent disruption of power supply, voltage fluctuations etc besides inaccessibility of the areas emphasize the need for alternative solutions like non-conventional technologies.

Based on the techno-economic feasibility and viability in consideration with life cycle cost the most appropriate solution can be harnessing of solar energy for use of various purposes.

Application of Solar Water Pumping System (SWPS) in drinking water sector is also taking place, in uncoordinated and unplanned manner. The use of solar energy for water supply systems is not a new concept, but only an appropriate design solutions can result in predictable system performance. The focus is required appropriate planning, designing and implementation of solar based pumping systems for drinking water supply is of utmost importance to cater the safe and potable water needs on sustainable basis with emphasis integrated WaSH.

## Objective of Training

The proposed training is intend to develop capacity of the institutions / organizations / individuals through knowledge sharing on the application of solar energy for pumping and water treatment system appropriate for drinking water sector i.e. rural & urban water supply in India. The special focus of the training is to develop relevant technical skills to meet the challenges in planning, designing, implementation, operation and maintenance for use of solar powered drinking water pumping systems.

## Who Should Participate in the Training

Engineers / Managers from rural and urban water supply / Forest / Agriculture / MNRE departments, NGO, Consulting Engineers, state ministry personnels, academic institutions and other organization related to solar water pumping system. Special focus on provisioning of safe and potable drinking water with solar water pumping system.

## Resource Persons

Experts and Senior officials being a sector specialist from Ministry of Drinking Water and Sanitation, Ministry of New & Renewable Energy, water supply departments / NGO's / CGWB / Industry etc.

## The Training Covers

- Introduction to the National Drinking Water Policies - (NRDWP & MNRE)
- Present Scenerio Issues / Challenges in the Drinking Water Sector
- Baseline survey & study of Existing Water Supply Status
- Analysis of existing water supply status / data and identification of gaps
- Need for alternatives source of energy & identification of appropriate option
- Application of Solar Energy in Drinking Water Sector and integrated WaSH
- Technical specification / guidelines for planning and designing of Solar Water Drinking Pumping System w.r.t life span
- An appropriate engineering Planning & Designing of Solar Water Drinking Pumping System with hands on practice
- Studies/Identification of source/s & source finding using hydrogeomorphological maps withthe help of Remote Sensing /Geographical Information System
- Selection of Appropriate Pumps & Tracking System considering Life Cycle Cost Approach
- Development of Cost Estimates
- Development of Tender Specifications for various components involved in drinking water pumping system as per specification and guidelines.
- Development of checklist for onsite Quality control & Monitoring
- Demo of practical installation SWPS through video
- Safety / Precautions in Installations

- Solar based Water Purification System - An appropriate technology for rural small water supply
- Need of Source Security, Safety and Sustainability
- General Requirement for Sustainable Operation & Maintenance
- Role and Responsibilities of various stake holders involved being a public water system
- Solar Powered Pumping System - a viable option for PPP's in small rural piped water supply schemes

**The course is designed to ensure drinking water guidelines in conjunction with MNRE specifications**

### **Methodology**

Methodology includes class room lectures with audio visuals, interactive sessions through group discussions, case studies etc. Emphasis would be laid on sharing of experiences of participants. Active participation is desired from participants. Medium of training is English.

### **Outcome of the Training Programme**

Participants after this training can

- Plan and design Solar Based Drinking Water Pumping Systems with site specific conditions & requirements as per technical guidelines.
- Ensure onsite quality control during installation

### **About the Organizers**

Institution of Public Health Engineers (IPHE) India and it's Bhopal Regional Centre ([www.ipheindia.org](http://www.ipheindia.org)) IPHE is a premier forum statutory registered body of public health and environmental engineers of the country. The institution undertakes a diversified spectrum of activities such as organizing seminars, symposia, workshops and training courses; undertaking research and development projects, consultancy services and publication of quarterly technical journals.

IPHE was involved in conducting the Workshop on Solar Powered Water Pumping Systems sponsored by The International Committee of the Red Cross, (ICRC) New Delhi dated 19-20th June 2014.

### **WatsanCAD Solution, Bhopal**

WatsanCAD Solution premier consultancy organization for, planning and management in the Water, Sanitation & Hygiene, Integrated Water resource management & Green Energy Solutions sectors.

WatsanCAD Solution function in following key areas, being having specialization in

- Development of Feasibility & DPR's Report (WaSH, Watershed & Solar Energy)
- Appraisal & Evaluation (Engineering Projects - WaSH)
- Capacity Building Training's
- Planning, Designing, Computer Aided Modeling of Water Supply & Sewerage Projects
- Preparation of Tender Specifications
- Quality Control & Monitoring
- MIS Development
- IWRM - RS / GIS
- WQM&S - RS / GIS
- Water Security & Sustainability

WatsanCAD Solution is registered organization with IPHE India

### **Programme Dates and Venue**

Date : **29<sup>th</sup> Sept 2014 to 01<sup>st</sup> October 2014**

Timings : On the first day, registration will commence at 0900 Hrs. On all other days the programme timings will be from 0945 to 1700 hrs with breaks in between for tea & lunch / packed lunch.

Venue : RCVN Noronha Academy of Administration & Management, Bhopal which is apex national training institute run by Govt. of Madhya Pradesh.

### **Course Director**

Harish Kumar Hingorani  
Executive Director (Technical)  
WatsanCAD Solution, Bhopal  
[trg.wcs@gmail.com](mailto:trg.wcs@gmail.com)  
Skype : watsanCAD

### **Course Coordinator**

Deepak  
Director  
WatsanCAD Solution, Bhopal  
[cooldeeps76@yahoo.in](mailto:cooldeeps76@yahoo.in)  
<http://www.watsanCADsolution.in>

## Course Fee

Residential course fee is :

| SN | Category   | Amount Per Participant       |
|----|--|------------------------------|
| 01 | Government / NGO / Academic institutions sponsored | Rs. 16854/- i/c S.T. @12.36% |
| 02 | Industry / consulting firm sponsored               | Rs. 20225/- i/c S.T. @12.36% |
| 03 | In-case of per participant other than India        | @ \$565 i/c S.T. @12.36%     |

**Note : Early bird registration till 20th August 2014 : 5% discount shall be allowed only for category 1 only subject to minimum sponsorship of 3 participants.**

Residential course fee includes course material, course kit, and twin-sharing / single AC accommodation as per availability, Breakfast, Lunch, Dinner, Tea / Coffee and snacks during the actual days of training programme. Taxes if subject any change shall be charged as applicable from time to time.

Fees includes accommodation to participants a day prior evening to the commencement of the course and day after the conclusion of the programme till 12:00 hrs.

Note :

- For the convenience of the outstation participants Course co-ordinator will facilitate pickup and drop from Airport / Railway Station / Bus stations, if travel plans are received at least 3 days in advance along with mobile number & e-mail. The charges shall be paid by the participants directly to the cab.
- Overstay will not be allowed.

## Registration

Please download the application form from [www.watsancadsolution.in/traings.htm](http://www.watsancadsolution.in/traings.htm) and send the filled form to the e-mail address given below : [trg.wcs@gmail.com](mailto:trg.wcs@gmail.com), [cooldeeps76@yahoo.in](mailto:cooldeeps76@yahoo.in)

To register, please send your nominations giving details of

1. Name of Participant \_\_\_\_\_
2. Designation \_\_\_\_\_
3. Organization details \_\_\_\_\_
4. Sponsoring authority \_\_\_\_\_
5. Contact address \_\_\_\_\_
6. E-mail address \_\_\_\_\_
7. Mobile no \_\_\_\_\_
8. Telephone & Fax No \_\_\_\_\_

**Please send details by post to below mentioned address.**

To, **WATSANCAD SOLUTION, 68, Amrapali Enclave Chunnabhathi, Kolar Road, Bhopal - 462016**

**Note :** On receipt of the nominations acceptance will be notified by e-mail & mobile and there after participants are requested to send their residential course fees in accordance with following categories.

Government / NGO/ Academic Institutions sponsored per participant Rs. 16854/- i/c service tax @12.36%  
or Industry / Consulting firms sponsored per participant Rs. 20225/- i/c service tax @12.36%  
or In-case of per participant other than India @ \$565 i/c service tax @12.36%  
in favour of **“WATSANCAD SOLUTION, BHOPAL”** in the form of demand draft payable at **BHOPAL**

Alternatively the payment may be made by Electronic Fund Transfer (EFT) to **WATSANCAD SOLUTION – A/c No. 51032940551** with **State Bank of Bikaner and Jaipur**, Kolar Road, Bhopal by RTG's / NEFT / **IFSC Code No: SBBJ0010850 – MICR No: 462003003** Service Tax @ 12.36% (as applicable) is to be paid extra over and above the training fee as training is also brought under the purview of Service Tax in Finance Bill 2010. **PAN Card No. AAGPH6340A; Service Tax Registration No AAGPH6340ASD001.**

Note : Please ensure the registration at earliest, seats are limited to 30.

**Nomination deadline will be accepted 13th September 2014.**

**In Association With**