

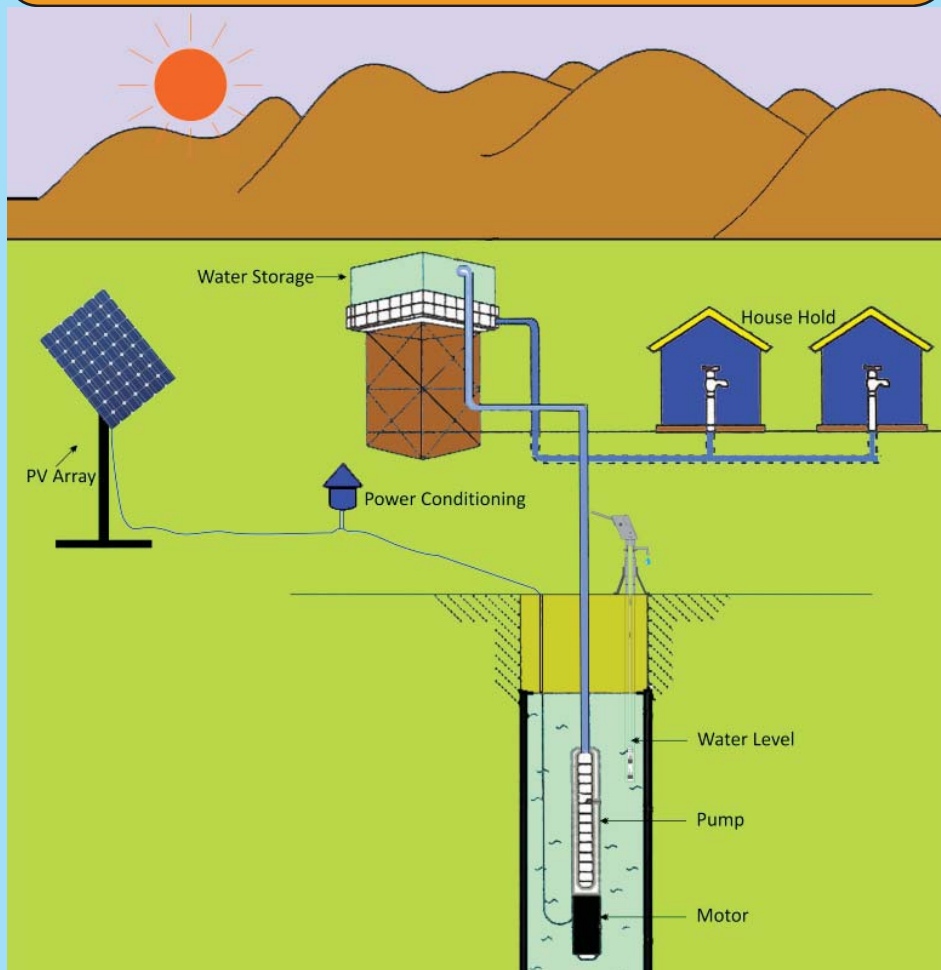


5th Short Term 4 Days Training Course on



Solar Powered Pumping Systems Sustainable Solution for Community Based Drinking Water Supply & Lift Irrigation Systems

**Focus on Planning, Design, Smart Remote
Management & Monitoring, On-site Quality
Control and Installation Practices**



Date : 25th Sept 2017 to 28th Sept 2017

Course Organised By :

**Institute of Public Health Engineers, (Bhopal Chapter) - India
In Joint Venture with WatsanCAD Solution**

**Accredited Channel Partner of Ministry of New and Renewable Energy, GoI
(Training Management Consultant),
Bhopal, Madhya Pradesh (INDIA)**

In Collaboration With :

**Environmental Planning and Coordination Organisation (EPCO)
Paryavaran Parisar, E- 5, Arera Colony, Bhopal 462016
Urban Development and Environment Deptt. Madhya Pradesh**

Last Date for Nomination : 31st August 2017

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.

Apart from this high electric bills dynamic in nature is a biggest challenge for sustainable maintenance

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

Application of Solar Power for 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 & lift irrigation systems is not a new concept, but only an appropriate design solutions can result in predictable system performance. The focus is required an appropriate planning, design in consideration with Life Cycle Cost Approach (LCCA) and online real time remote management and monitoring, on-site third party quality control / 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 & lift irrigation systems in India. To ensure national goal for provisioning of safe and potable water in remotely located habitations and school & food security with special focus of the training is to develop relevant technical skills and know how of the technology to meet the challenges in planning, design, implementation, monitoring, quality control, operation & maintenance for use of solar powered water pumping for drinking & lift irrigation systems.

WHO SHOULD PARTICIPATE IN THE TRAINING

Engineers / Managers from rural and urban water supply / Forest / Agriculture / WRD / 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, AMRUT & MNRE)
- Present Scenario 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 issues & gaps
- Need for alternatives source of energy & identification of appropriate option
- Application of Solar Energy in Drinking Water Sector & with the Integration of WaSH programme.
- Development of planning period, norms / guidelines / standards / specification with service level benchmarks for planning & design of Solar Water Pumping System component w.r.t life span.

- Demographic studies, population projections for various stages of planning stages and accordingly assessment of water demands.
- Studies/Identification of source/s & source finding using hydro-geomorphological maps with the help of Remote Sensing /Geographical Information System to ensure sustainable source.
- Identification of monthly peak sunshine hours and accordingly assessment of source.
- An appropriate engineering site survey, planning & design of Solar Water Pumping System of each component in integrated manner i.e. pumping system, array, conveyance, storage and water distribution network.
- Planning criteria for Solar energy based dedicated water supply system for schools / Aganwadi's.
- Selection of Appropriate Pumps as per requirement & Tracking System considering Life Cycle Cost Approach appropriate for sustainable water system.
- Development of Cost Estimates.
- Selection between off grid (stand alone) or ongrid (grid-tied) pumping system
- Selection between Net metering / Gross Metering
- Presentation on case studies for rural water supply / urban water supply & lift irrigation systems
- Hands on Practice
- Development of Tender Specifications for various components involved in drinking water pumping system as per standards, specification and guidelines.
- Development of checklist for on-site Quality control & Monitoring
- Need of Real Time Remote Management, Monitoring & Control System as a tool in SDWPS for sustainable O&M
- On-site demonstration of SDWPS functioning
- Safety / Precautions in Installations of SDWPS
- Solar based Water Purification System - An appropriate technology for RWSS
- General Requirement for Sustainable Operation & Maintenance
- 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 technical 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

- Take-up baseline survey studies, collection of data for SDWPS
- Plan and design Solar Based Drinking Water Pumping Systems with site specific conditions & requirements as per technical guidelines.
- Can prepare technical specifications for tender
- Ensure on-site quality control during installation

ABOUT THE ORGANIZERS

A. INSTITUTE OF PUBLIC HEALTH ENGINEERS (IPHE) - INDIA

Institution of Public Health Engineers (IPHE) India and it's Bhopal Regional Centre (www.ipheindia.org) IPHE is a premier forum statutory registered body of public health and environmental engineers of the country formed in 1972. 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.

AND

B. WATSANCAD SOLUTION, BHOPAL- (TRAINING MANAGEMENT CONSULTANT)

WatsanCAD Solution premier consultancy organization for, planning and management in the WaSH, Integrated Water resource management, Green Energy Solutions sectors & trainings. **M/s WatsanCAD Solution is Empanelled as Channel partner for Grid Connected Rooftop and Small Solar Power Plants Programme of Ministry of New and Renewable Energy. WatsanCAD Solution is accredited by rating agency as 3D.**

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

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

WatsanCAD Solution is registered organization with IPHE India.

IPHE & WatsanCAD Solution in joint venture has successfully conducted such type of training courses earlier (29th Sept 2014 to 01st Oct 2014, 5th Jan 2015 to 9th Jan 2015, 29th Sept 2015 to 01st Oct 2015, and 29th Sept 2016 to 01st Oct 2016) . Participation from Nepal & various states of the country.

PROGRAMME DATES AND VENUE

Date : **25th Sept 2017 to 28th Sept 2017**

Timings : On the first day, registration will commence at 09:00 Hrs. On all other days the programme timings will be from 9:30 to 17:00 hrs with breaks in between for tea & lunch .

Venue : Environmental Planning and Coordination Organisation (EPCO), Paryavaran Parisar, E- 5, Arera Colony, Bhopal 462016

PS: 01. Training will be concluded on 28nd Sept 2017 at 17:00 hrs. Participants are requested to ensure their return journey accordingly.

COURSE MANAGER

Harish Kumar
Executive Director (Technical)
WatsanCAD Solution, Bhopal
<http://www.watsancadsolution.in>

COURSE CO-ORDINATOR

Deepak
Director, WatsanCAD Solution, Bhopal
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COURSE FEE

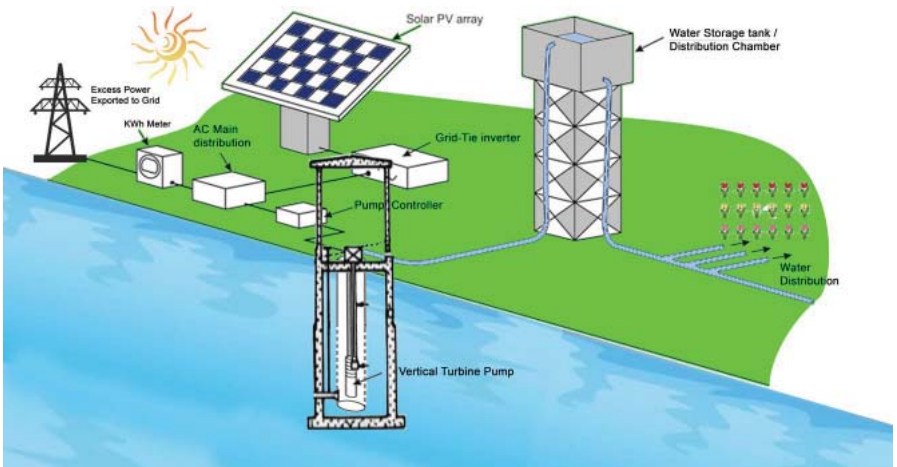
Course Registration fees

SN	Category	Amount Per Participant	Total payable Amount per participant
01	Government / NGO / Academic institutions sponsored	Rs. 16500/- plus GST @18.00%	Rs. 19,470/-
02	Industry / consulting firm sponsored	Rs. 20500/- plus GST @18.00%*	Rs. 24,190/-
03	In-case of participant other than India	@ \$400 USD plus GST @18.00%	\$ 472 USD

ANY CHANGES IN THE TAXES AT THE TIME OF TRAINING SHALL BE LIABLE TO PAYABLE

Note :

1. Registration course fee includes course material, course kit, Lunch, Tea / Coffee and



snacks during the actual days of training programme.

2. **Early bird registration** till 31st July 2017 5% discount shall be allowed on Registration Course fee.
3. **Discount** : A discount of 5% is available for groups of 3 - 5 participants and 10% discount is available for group of more than 6 participants on Registration Course fee.
4. **Event Cancellation** : WatsanCAD Solution reserves the right to cancel or re-schedule the training with a 7 days notice. In the event of such cancellation, participants may opt to have the pre-paid fees refunded in full.
5. **Participant cancellation** : In the event of participant cancellation, only 50% course fees shall be refunded, provided at least 7 days notice is given prior to training commencement. No refunds will be given in respect to participants cancellations recieved less than 7 days prior to commencement of the scheduled training.
6. **Force Majeure** : In case of unavoidable circumstances like administrative reasons (riots, strike, bandh, agitation, curfew, etc.) natural calamities (flood, earthquake, bad whether etc.), unavoidable emergency or circumstances with trainer or training place or insufficient enrolments, M/s WatsanCAD Solution holds the rights to reschedule its training sessions. All participants will be intimated as early as possible & they can join the reschedules sessions against cancelled ones without extra charges. WatsanCAD Solution will not be liable to pay an expenses incurred by the participant's to attend the training program in case if the training is cancelled or rescheduled due to the above circumstances. WatsanCAD holds the right to take final decision on any of the circumstance / scenario not mentioned above. All disputes are subject to Bhopal Jurisdiction.

ACCOMODATION

OPTION - 1 : WatsanCAD Solution have negotiated discounted rate with near by Guest house at Shree Vatika - Smart Rooms, 1,2,3 Soma Vihar, Near Amaltas Phase - 3, Walmi Road, Chunnabhathi, Bhopal - 462016 (AC double bedded rooms) on twin sharing basis from 1.3 km from the institute is available room charges of Rs. 1975/- per participant and for overseas participant \$45 USD per participant shall be payable for per day stay, which includes bed tea, breakfast and dinner and i.e. including all taxes as applicable. Participants are encouraged to book their rooms at earliest as the rooms availability is limited. Overstay will not be allowed. **Families are not allowed.**

OR

OPTION - 2 : Participant can make their own arrangements for his accommodation during the training period.

Note :

1. If participant asks for OPTION - 1 in guest house he/she has to remit required accommodation amount along with REGISTRATION FEES.
2. Reservation of accommodation is subject availability on first cum first basis. Incase either of the accommodation get filled then participant will be provided alternate accommodation in one of the two options.

3. 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.
4. In-case if overseas participants wish to avail airport pickup and drop facility through organizers, \$30 (inclusive of service tax) shall be payable extra in addition to course fees and same shall be remitted along the course fees.
5. Only Indian food will be served.

• **Please see : Overseas participants shall be sole responsible for all necessary required formalities, clearances and approvals as per requirements of Government of India rules for attending this training course. Organizers does not own any the responsibility for the same.**

REGISTRATION

Please download the application form from www.watsancadsolution.in/traings.htm and send the filled form to the e-mail address given below : trg.wcs@gmail.com

Please send details by post to below mentioned address.

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

Note : On receipt of the nominations acceptance will be notified by e-mail & mobile not later than 31st August 2017 and there after participants are requested to send their Registration & Accommodation fees in accordance with following categories

Please find below Bank Account details are as follows :

Account Holder Name	WATSANCAD SOLUTION, BHOPAL
Account Type	Current
Bank Name	State Bank of India (former SBBJ)
Branch	Chunnabhatti, Bhopal
Account Number	51032940551
IFSC Code No	SBIN0031850
MICR No	462002106
Swift Code	SBININBB268
Goods & Service Tax @ 18.00% as applicable. Alternatively payment can be in the form of demand draft payable in favour of WATSANCAD SOLUTION, BHOPAL PAN Card No. AAGPH6340A; Service Tax Registration No AAGPH6340ASD001.	

Note : Please ensure the registration at earliest, seats are limited to 30. Acceptance will be issued on first-cum-first serve basis.

**Nomination deadline will be accepted 31st August 2017
In Association With**