



COURSE OVERVIEW (PV-TDHV-4002)

COURSE TITLE

Solar Photovoltaic's systems; Philosophy, design, installation, operation & maintenance.

COURSE REFERENCE

PV-TDH-4002

CERTIFICATION

ECO4002 certificates will be issued to all attendees after successful completion and attendance. Also includes ERS Certification from UKAS (United Kingdom Accreditation Service) accredited certification body to offer accreditation with internationally agreed standards.

COURSE DURATION

4 Days including theory, practical and assessment.

COURSE OBJECTIVES AND OVERVIEW

The aim of this course is to provide the participants with a complete and up-to-date overview of domains concerning Photovoltaic's (PV) with emphases on design, installation, operation & maintenance. The course covers assessment examination as well as the necessary testing requirements. Code requirements from design through start-up of new systems are identified, for instance, the 17th Edition IET Wiring Regulations and the micro-generation standards as well as standards for inspection and maintenance of solar power systems that have been in service.

This course provides an operational understanding of standards, unique purposes of different solar power systems and the basis for requirements comprising both design as well as selection aspects. It grants a foundation of knowledge necessary for those responsible for assuring the electrical and mechanical integrity of existing PV systems, as well as for those responsible to design and construct themes of new solar power systems.

Upon the successful completion of this course, the participant will gain an understanding of the physical phenomena which affect the design of systems and methods by which these phenomena can be analyzed as well as the additional requirements which need to be considered in formal specifications to ensure adequate and proper installations.

In brief, the course furnishes a confidence to plan, design, install and maintain a solar PV system and takes into consideration the majority of systems investigating different system configurations, components and operating characteristics. The course targets the aspects which are particular to solar PV systems giving operatives the buoyancy to select, install and maintain systems.

WHO SHOULD ATTEND

It will be most beneficial for those who are involved in the design, analysis, installation, maintenance or ownership of Solar PV systems. Engineers, Procurement specialists, electrical power designers, maintenance technicians, electrical installation specialists, quality assurance and manufacturing personnel involved in Power Generation & Distribution Industries will find it a time-saving means to broaden and update their knowledge. Those who must comply with Code requirements will benefit from the practical approach presented in this course.

COURSE SYLLABUS:

- The solar resource
- Overview of solar technologies
- Photovoltaic basics; cells, modules and arrays
- Module types and construction, energy payback
- Electrical characteristics (practical measurements)
- Effects of all parameters
- Series/parallel connection
- Component ratings



- Array combiners, AC and DC isolators
- PV module warranties and guarantees
- Grid-connected systems
- Module fixing; on-roof, roof-integrated, flat-roof and facade
- Grid connected inverters characteristics
- Electrical Standards
- Inverter design concepts; central, single and multi-string and module
- Planning and sizing grid-connected systems; arrays, inverters and cables
- System configurations
- Solar system design
- Solar modules
- Solar module mounting structures & arrays
- Electrical wiring of the solar system and associated components
- Grid-connected solar systems
- Charge controllers
- Stand-alone system typology
- Modules for stand-alone systems
- Battery systems and their characteristics
- Stand-alone inverters
- Hybrid systems and inverters; AC- and DC-coupled systems
- Planning and manually sizing stand-alone systems
- Computerized sizing simulation
- Planning and sizing exercise
- Manufacturers sizing tools
- Earthing and lightning protection
- Metering
- Practical sessions
- System testing & commissioning

To present this course properly a minimum number of computer simulations and practical exercise are essential. Small and light specialized equipment will be available at training venue e.g. testers, pyranometers, cable tools and connectors and some data communication sensors.

The attendees will be given a copy of the complete course presentation and this will be backed up with additional useful documents on each DVD disc. We will retain copyright on the course content and structure.

CERTIFICATES AWARD:

- Trainees successfully completing the course will be awarded completion certificates.
- Trainees partially attending the sessions will be given letters of attendance only for the sessions attended.

COURSE CONTACT :

Consultant Trainer: enviro@tdhvisions.com Telephone: +44 (0)1753 701056

COURSE BOOKING:

trainings@tdhvisions.com
Please fill the booking form and send to this email to trainings@tdhvisions.com
or by post to: TDH VISIONS. The Nova Building. Herschel Street. Slough SL1 1XS. UK

TIME: 9:00 a.m. to 4:30 p.m.

COURSE VENUE: TDH VISIONS. The Nova Building. Herschel Street. Slough SL1 1XS. UK
Please confirm at the time of booking and enrolment.