2-DAYS SHORT COURSE : DESIGN AND SIMULATION OF STANDALONE PHOTOVOLTAIC (SAPV) SYSTEM USING PVSYST

Duration: 2 days
Trainer : Dr Ahmad Maliki Bin Omar

SYNOPSIS

PVsyst is a popular software that is used to design, predict and optimize the energy output of a solar photovoltaic (PV) power plant. It allows the user to design, simulate, predict the energy output, analyse shadings, carry out financial analysis, probability reports and generate many types of outputs. This helps the PV designer in predicting the overall performance of the solar PV power plant.

This short course introduces the software and covers key topics from the beginner to intermediate levels.

LEARNING OUTCOMES

- Knowledge and understanding about the software and SAPV system.
- Ability to set-up, design and execute the simulations.
- Generate proper results and understanding of their meanings.

AGENDA

1. Introduction to a SAPV system
   - Types of systems; Direct coupled, PV_battery and hybrid PV system and DC optimiser.
   - Category of SAPV system; DC coupled and AC coupled
   - Connection of genset in SAPV system
2. Setting-up design parameter
   - Setting design parameters in PVsyst based on Malaysia's climate.
3. Setting and Meteo Definitions
   - Create and assign Geographic and meteorological data for a prospective PV site.
4. Orientation
   - Assigning a proper PV module structure condition; types of structure, azimuth and tilt angles.
5. Shading analysis
   - Far shading; input data format.
   - Building 3D scene
   - Near shading; partial shading and shading simulation.
6. Dimensioning
   - Estimate the total PV module installed based on the given 3D scene
   - Estimate total PV modules installed based on Google Maps image
7. Sizing

- Sizing SAPV system using lead-acid batteries
- Sizing SAPV system using lithium-ion batteries
- Sizing SAPV system using PWM charge controller
- Sizing SAPV system using MPPT charge controller
- Sizing SAPV system using generator set

8. Create new components
    - PV module
    - Battery
    - Charge controller
    - Genset
9. Advanced simulation
    - Optimisation using Batch simulation
10. File management.
    - Delete, add and modify user data files.
11. Simulation and Reporting
    - Produce the final report especially on the performance indices.

REQUIREMENTS

- Each participant shall have his/her own PVsyst software V7.0 or the latest installed.
- Each participant shall bring his/her own laptop during the course.

RELEVANCE

- Engineer / Competent Person / Qualified Person
- Technician / Chargeman / Wireman /Installer
- Contractor / Service Provider
- Project Manager / Regulator
- Academia / Researchers

VENUE

TBD

FEE

MYR1500

CONTACT

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