

SIZING HYBRID PV/DIESEL POWER PLANTS



SOL01 ■ Tools/Methodology/Professions

DURATION

4 days

TARGET AUDIENCE

Ministries in charge of energy
Rural electrification agencies
National utilities
Engineering firms
Engineering school and training institutes
Electric systems operators

A FEW REFERENCES

MAMWE (Comores)
CLUB-ER

USED TOOLS

Homer

OBJECTIVES

Thanks to significantly lower prices of solar panels, hybrid PV/diesel power plants make it possible to reduce costs compared to solutions using a diesel generator only. However, costs of storage remain high and issues linked to electronics remain complex.

Therefore, the sizing of hybrid plants, as well as their technical-economical optimization are significantly more complex than in the case of conventional diesel or PV power plants. This course will enable participants not only to acquire fundamental skills in the area of hybrid systems, but also to master technical-economical optimization.



TRAINING PROGRAMME

1. Introduction to hybrid systems

- ◆ Advantages and limitation of hybrid systems for rural electrification
- ◆ Specific technical and economical aspects
- ◆ Basic comparative analysis of investments and production costs

2. Designing sustainable hybrid systems

- ◆ Assessing solar resources
- ◆ Adapting the production system to the characteristics of the load curve
- ◆ Factors increasing system sustainability
- ◆ Principles of technical-economical maximisation

3. Practical session – using the HOMER software

- ◆ Principles of the HOMER software
- ◆ Project creation : data entry/import
- ◆ System behaviour simulation
- ◆ Technical optimization
- ◆ Economical optimization

4. Technical specification of components

- ◆ Range of existing products
- ◆ Recommendations for technical requirements

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