SESA

Skills for Energy in Southern Africa

Webinar Title: Designing Off-Grid Solar Energy Systems

Webinar Delivery: Online via Microsoft Teams

Dates: Wednesday 28th September 2022

Time: 14:00hrs to 16:00hrs

Participation Fee: Free

Includes: Certificate of participation for attending the webinar

Sweden Sverige | KAFUE GORGE REGIONAL TRAINING CENTRE | ITC International Training Centre | International Labour Organization

Introduction

The International Labour Organization (ILO), with funding provided by the Government of Sweden, is supporting the Kafue Gorge Regional Training Centre (KGRTC) to implement the Skills for Energy in Southern Africa (SESA) Project. This is a three-and-a-half-year intervention with the overall development objective of increasing the uptake of renewable energy, energy efficiency and regional energy integration through skills development in Zambia and the SADC region. It is expected that the project will strengthen KGRTC's capacity as a Centre of Excellence for energy training in the region and significantly increase the number of power technicians, engineers and managers that are skilled in renewable energy, energy efficiency and regional energy integration. The project will be implemented through a Public Private Public Development Partnership (PPDP) approach.

Webinar Overview

The overall aim of this webinar is to give participants a broad overview of the basic electrical fundamental principles and skills required in designing off-grid solar photovoltaic (PV) systems specifically solar mini-grids.

Webinar Outcomes

At the end of the session, webinar participants shall be able to:
1. Determine available solar energy resource;
2. Explain the process of designing a solar PV mini-grid system for a given community.

Webinar Topics

1. Designing solar PV mini-grid: introduction to solar mini-grids, safety and regulations, total load assessment and load profile, peak load demand, anticipated future energy demand, A.C and D.C load, depth of discharge, system voltage and configuration, sizing and number of solar PV modules, days of autonomy and battery sizing, ratings of major components, inverter, and charge controller.
2. Factors affecting sustainability of a mini-grid – technical (design, installation, maintenance, quality of components), Standards, management (operational and financial), grid encroachment, experience from Zambian solar mini-grids.

Participants' Profile/Target Group

Engineers, technicians, and any suitably qualified personnel requiring a basic understanding of the concepts, principles, and practices of off-grid solar system design.

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