Rooftop Solar Project Management Training Course

Professional Development Training Course Outline

Category	Renewable Energy	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Rooftop Solar Project Management Training Course is designed to equip professionals with practical capabilities to plan, execute, monitor, and close solar PV projects from initial site assessment through commissioning and operations & maintenance. With distributed solar becoming a major growth engine in Africa and globally, effective project management increasingly depends on cost control, schedule optimization, procurement, quality assurance, digital project management, risk management, stakeholder coordination, and grid integration. Africa recorded its fastest solar-growth year in 2025, while distributed systems represented a substantial share of new capacity, reinforcing the need for skilled professionals who can manage rooftop and commercial solar deployments efficiently.

The course also incorporates emerging 2026 clean-energy trends, including solar-plus-storage, AI-enabled project workflows, digital twins, predictive maintenance, smart energy management, data-driven performance optimization, and resilient supply chains. Industry outlooks increasingly identify storage integration and digitalization as critical capabilities as solar projects become more sophisticated and grid-responsive. Participants will develop an end-to-end understanding of project development, engineering coordination, financial planning, procurement, construction management, HSE, commissioning, performance monitoring, and lifecycle asset management, supported by realistic case studies and practical project exercises.

Programme Curriculum

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Course Objectives

By the end of the training, participants will be able to:

1. Develop end-to-end rooftop solar PV project plans aligned with scope, schedule, budget, and quality requirements.
2. Conduct site assessment, solar resource evaluation, feasibility analysis, and project due diligence.
3. Apply modern solar PV design coordination principles for rooftop, commercial, and distributed-generation projects.
4. Build effective project schedules, work breakdown structures, milestones, and critical-path plans.
5. Manage solar procurement, vendor evaluation, supply-chain resilience, and equipment logistics.
6. Apply cost estimation, CAPEX control, financial modeling, ROI, payback, and LCOE concepts.
7. Implement robust quality assurance, quality control, HSE, and construction risk-management practices.
8. Coordinate engineering, EPC contractors, installers, consultants, utilities, clients, and other stakeholders.
9. Manage grid interconnection, permitting, compliance, documentation, and commissioning activities.
10. Integrate battery energy storage systems (BESS) and solar-plus-storage considerations into project planning.
11. Use digital project-management tools, data analytics, AI-enabled workflows, drones, and digital-twin concepts to improve project visibility and decision-making.
12. Establish effective O&M, performance monitoring, predictive maintenance, asset-management, and lifecycle optimization strategies.
13. Apply lessons learned, performance KPIs, risk dashboards, and continuous improvement to improve future solar projects.

Target Audience

1. Solar Project Managers and renewable-energy project leads
2. Solar PV Engineers and electrical engineers
3. EPC Managers, Contractors, and Site Supervisors
4. Energy Consultants and Renewable-Energy Developers
5. Facility, Property, and Energy Managers
6. Procurement, Supply-Chain, and Commercial Managers
7. Finance, Investment, and Sustainability Professionals

8. Government, Utility, NGO, and Clean-Energy Program Professionals

Course Modules

Module 1: Rooftop Solar Project Development & Feasibility

- Solar PV project lifecycle
- Site assessment, roof condition, shading, orientation, structural considerations, and solar resource evaluation.
- Technical and commercial feasibility, energy-yield estimation, CAPEX/OPEX, ROI, payback, and LCOE.
- Project scope definition, stakeholder mapping, **business case development**, and go/no-go decisions.
- **Case Study:** Developing a feasibility and project execution plan for a commercial rooftop PV installation.

Module 2: Solar PV Engineering, Design & System Integration

- Fundamentals of **PV modules, inverters, mounting systems, DC/AC systems, protection, metering, and monitoring**.
- Design coordination, system sizing, energy modeling, string configuration, and performance expectations.
- Rooftop structural and electrical-interface considerations.
- Integration of **smart inverters, monitoring platforms, EV charging, and battery energy storage**.
- **Case Study:** Optimizing a commercial rooftop PV design where roof constraints and daytime load patterns affect system sizing.

Module 3: Project Planning, Scheduling & Cost Management

- Developing **WBS, Gantt charts, milestones, resource plans, and critical-path schedules**.
- Managing engineering, permitting, procurement, installation, testing, and handover dependencies.
- CAPEX budgeting, cost tracking, change orders, contingency planning, and earned-value concepts.
- Project KPIs, dashboards, progress reporting, and schedule recovery strategies.
- **Case Study:** Recovering a delayed rooftop solar project affected by permitting and equipment-delivery delays.

Module 4: Procurement, Contracts & Supply-Chain Management

- **Vendor prequalification, technical evaluation, commercial evaluation, and supplier due diligence**
- Procurement strategies for modules, inverters, mounting structures, cables, protection equipment, and BESS.
- Contract structures, EPC responsibilities, warranties, SLAs, liquidated damages, and acceptance criteria.
- Logistics, inventory control, delivery scheduling, quality inspections, and supply-chain resilience.
- **Case Study:** Selecting suppliers for a multi-site rooftop solar program while balancing price, quality, lead time, and warranty risk.

Module 5: Construction Management, HSE & Quality Assurance

- Site mobilization, installation sequencing, work permits, toolbox talks, and construction coordination.
- **HSE management, quality assurance, quality control, inspection and test plans, and non-conformance management**.
- Installation supervision, material verification, workmanship controls, and progress measurement.
- Risk registers, incident prevention, corrective actions, and stakeholder communication.

- **Case Study:** Managing quality and schedule risks during simultaneous rooftop installations across multiple commercial facilities.

Module 6: Grid Connection, Commissioning & Project Handover

- Utility requirements, **grid interconnection, permitting, inspections, testing, and compliance documentation**.
- Commissioning procedures for PV systems, inverters, protection systems, meters, monitoring, and BESS interfaces.
- Punch-list management, as-built documentation, warranties, manuals, training, and acceptance certificates.
- Performance verification, availability, yield, **PR and operational KPIs**.
- **Case Study:** Commissioning a grid-connected rooftop PV system after resolving protection, metering, and documentation issues.

Module 7: Digital Solar Project Management, AI & Smart Energy

- Digital project controls using **cloud collaboration, dashboards, mobile workflows, GIS, drones, and data analytics**.
- Applying **AI-assisted planning, predictive analytics, automated reporting, and intelligent decision support**.
- Digital twins and remote monitoring for asset performance and project lifecycle management.
- Solar-plus-storage optimization, energy-management systems, and data-driven operational strategies.
- **Case Study:** Using digital monitoring and predictive analytics to identify performance issues across a distributed rooftop PV portfolio.

Module 8: O&M, Asset Management & Lifecycle Optimization

- Developing **preventive, predictive, and condition-based maintenance** programs.
- Monitoring energy yield, availability, performance ratio, alarms, degradation, and financial performance.
- Warranty management, spare-parts planning, asset registers, service-level agreements, and contractor management.
- Lifecycle optimization for PV and **solar-plus-storage** assets.
- **Case Study:** Improving the performance of a rooftop solar portfolio through data-driven O&M, fault analysis, and predictive maintenance.

Training Methodology

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
21 Sep 2026	25 Sep 2026	Online	$1,000
21 Sep 2026	25 Sep 2026	Physical	$1,500
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0

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