

MAURITIUS QUALIFICATIONS AUTHORITY

NATIONAL CERTIFICATE

LEVEL 5

IN

SOLAR ENERGY TECHNOLOGY

National Certificate Level 5 in Solar Energy Technology

- 1. Level: 5
- 2. Credits: 110
- 3. Review Date: March 2026

4. Access to qualification

4.1 Entry Information

School Certificate with pass in Physics and Maths

or

NC Level 4 in either one of:

- 1. Electrical Installation Works
- 2. Communication Electronics
- 3. Industrial Electronics
- 4. Industrial Machine Maintenance

or

An alternative qualification at level 4 of the NQF

4.2 Recognition of Prior Learning [RPL]

Potential candidates holding a qualification at NQF Level 4 and at least 3 years' of working experience in the relevant field may access this qualification through Recognition of Prior Learning (RPL) process.

5. Award of Qualification Requirements

Compulsory

All the unit standards listed are required:

Sn	Unit Standard Title	Level	Credit		
Energy & Society					
1	Follow safety procedures in the working environment	5	2		

Sn	Unit Standard Title	Level	Credit		
2	Produce drawings using CAD software	5	4		
3	Demonstrate knowledge of electrical & electronic quantities	5	3		
4	Demonstrate knowledge in the importance of energy for the society	5	2		
	Sustainable Design Principles				
5	Define and discuss sustainability and how it applies to design	5	2		
6	Outline the business case for sustainable development	5	2		
7	Develop RETScreen energy models to determine energy production and Green House Gases (GHG) emission reductions of renewable energy systems	5	3		
Solar Energy Technologies					
8	Demonstrate knowledge in renewable energy systems and seasonal variations impact	5	3		
9	Distinguish between the different types of solar energy technologies	5	3		
10	Demonstrate knowledge of the economics of renewable power systems and cost of ownership of building technologies	5	3		
11	Demonstrate knowledge of common solar thermal collectors	5	2		
Energy Management Practices					
12	Demonstrate knowledge of energy management and familiarise with existing programs to help reduce the costs of energy efficiency projects	5	3		

13	Analyse existing building systems using construction drawings and on – site inspections	5	2	
14	Interpret energy audit data to identify applicable energy conservation measures	5	2	
15	Simulate energy consumption in buildings using energy modelling software	5	3	
16	Prepare a baseline energy model of a building	5	2	
	Sizing of PV Systems			
17	Use measuring instruments to measure DC and AC quantities	5	2	
18	Perform electrical installations of DC and AC circuits	5	3	
19	Carry out renewable energy site assessments	5	2	
20	Size components of a solar Photovoltaic (PV) system	5	3	
21	Demonstrate Knowledge of the Grid Codes in Mauritius	5	2	
	Alternative renewable energies	S		
22	Demonstrate knowledge in Thermodynamics	5	2	
23	Explain the operating principle of heat pumps	5	2	
24	Demonstrate knowledge in wind power station	5	2	
25	Assist in the Maintenance and operation of power plants using hydro and sugar cane waste	5	3	
	Repair, Maintenance and Testing of Solar PV Systems			
26	Model, install, operate and maintain solar water heaters	5	3	
27	Demonstrate knowledge of maintenance activities and schedules	5	1	

28	Perform maintenance, inspection and testing of solar PV systems	5	2
29	Apply knowledge and skills acquired within an industrial context	5	12
Associated studies			
30	Demonstrate effective communication skills	5	8
31	Demonstrate mathematical skills and knowledge	5	10
32	Apply occupational safety and health regulations in the work environment	5	2
33	Apply entrepreneurial skills	5	2
34	Demonstrate knowledge of information technology	5	6
35	Demonstrate knowledge of physical education	5	2

6. Purpose:

This course prepares trainees for the National Certificate Level 5 in Solar Energy Technology, whereby successful trainees shall acquire extensive knowledge and skills to operate as skilled energy technicians for the domestic/industrial sector and the construction sector.