



PHOTO OF THE STUDENTS OF THE TECHNICAL HIGH

ENERGY TRANSITION, I TRAIN, I LAUNCH.

LEARNER'S PRACTICAL GUIDE

In the context of training future energy leaders in Cameroon (FLEC)

This guide is intended for beneficiary students from secondary and higher education institutions.



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FOREWORD

The Center for Communication and Sustainable Development for All (CECOSDA) is an organization committed to promoting education, social inclusion, and sustainable development in Cameroon. CECOSDA works to strengthen the capacities of youth, women, and vulnerable communities through innovative projects focused on training, empowerment, and eco-citizenship.

Dear young learners, our training project on energy transition in Cameroon represents a crucial step in the commitment of the NGO CECOSDA to train a new generation of enlightened leaders capable of addressing the energy challenges of our country.

Our vision is to promote sustainable, accessible, and environmentally friendly energy to ensure a better future for all Cameroonians. We are convinced that every young person has a role to play in this transformation, and we are here to support you throughout this journey. Together, we can build a Cameroon where renewable energy is at the heart of our development. Be ready to learn, innovate, and take action for a sustainable energy future.

ABOUT THE FLEC PROJECT

The FLEC project (Training Future Leaders in Energy in Cameroon) is an initiative led by CECOSDA and funded by the Schneider Electric Foundation. This project aims to train young people aged 16 to 21 in technical and practical skills in photovoltaic solar energy, while promoting their professional integration into the renewable energy sector. The FLEC project embodies a shared vision of a more inclusive, sustainable energy future driven by Cameroonian youth.

ABOUT THE SCHNEIDER ELECTRIC FOUNDATION

Schneider Electric is a global leader in energy management and automation. Present in over 100 countries, the company is committed to providing digital solutions for energy efficiency and sustainable development. Through its foundation, Schneider Electric supports initiatives aimed at promoting access to energy and training in the fields of electricity and renewable energies. By funding the FLEC project in Cameroon, the Schneider Electric Foundation reaffirms its commitment to the vision of a more sustainable and equitable future through education and empowerment through energy.

« The energy transition is an opportunity, not a constraint. »

Christiana Figueres





ACKNOWLEDGEMENTS

We extend our sincere thanks to the Schneider Electric Foundation, the main sponsor of the FLEC project, for its financial and technical support, as well as for its shared vision in favor of energy transition and renewable energy.

We would also like to express our deep gratitude to the partner sector ministries of the FLEC project, namely: the Ministry of Secondary Education (MINESEC), the Ministry of Higher Education (MINESUP), the Ministry of Water and Energy (MINEE), the Ministry of Vocational Training and Employment (MINEFOP), and the Ministry of Environment, Nature Protection, and Sustainable Development (MINEPDED); as well as to all the beneficiary institutions for their active commitment and constant support in the implementation of this project. Their strategic support and intersectoral collaboration are essential to ensure the relevance, quality, and sustainability of the training actions to be carried out within the framework of the FLEC project.

« Every little gesture counts in the fight against climate change »

Wangari Maathai





CHAPTER 1

THE CHALLENGES OF THE ENERGY TRANSITION AND RENEWABLE ENERGIES.

GOOD TO KNOW

I. What is energy transition ?

It is the gradual or definitive abandonment of the use of fossil fuels (such as coal, oil, and natural gas) in favor of more sustainable and renewable energies (such as solar, wind, hydro, geothermal energy, and biomass) by a state, a community, or an individual with the aim of protecting the environment.

II. What is renewable energy?

A source of energy that regenerates naturally and is considered sustainable and does not deplete over the long term.

II. Renewable energy types:

- ❖ Solar energy
- ❖ Wind energy
- ❖ Hydropower
- ❖ Biomass
- ❖ Geothermal energy
- ❖ Tidal and wave energy



« It's time to take action and make a difference. » -Greta Thunberg





II. Why is the energy transition?

- ❖ Combating climate change by reducing greenhouse gas emissions.
- ❖ The renewable energy sector creates jobs.
- ❖ The energy transition helps preserve resources for future generations.
- ❖ It facilitates access to energy in remote or disadvantaged areas through decentralized solutions, such as home solar systems.



Practical exercises.

1. Give an example of renewable energy and briefly explain how it works and its advantages.
2. Name 4 sources of renewable energy and their raw materials.
3. Name 2 sources of fossil energy and their raw materials.
4. Explain how a hydroelectric power plant works.
5. State the difference between fossil energy and renewable energy.



QUIZZ

1. **What is the energy transition?**
 - a) The use of coal and oil to produce electricity
 - b) The use of all available energy sources
 - c) The shift to renewable energies to protect the environment
2. **Which one is a source of renewable energy?**
 - a) Solar energy
 - b) Coal
 - c) Natural gas
3. **Quel What is one of the advantages of renewable energies?**
 - a) They produce a lot of CO₂
 - b) They create sustainable jobs
 - c) They are difficult to install

« Renewable energy is the key to a sustainable future » -Al Gore



4. **What is one of the reasons to promote the energy transition?**
 - a) Promote the import of oil
 - b) Encourage the use of generators
 - c) Reduce greenhouse gases
5. **What is the approximate percentage of pollution caused by generators?**
 - a) 30%
 - b) 50%
 - c) 10%
6. **What type of installation promotes access to energy in remote areas?**
 - a) Nuclear power plants
 - b) Home solar systems
 - c) Giant hydroelectric dams
7. **Why is solar energy easier to maintain?**
 - a) Because it consumes a lot of water
 - b) Because it uses fuel
 - c) Because it requires little or no maintenance
8. **What is the main objective of the energy transition?**
 - a) Protect the environment and future generations
 - b) Reduce the import of solar equipment
 - c) Increase gasoline consumption

« Climate change is not a matter of choice, but of survival. »
- David Suzuki



CHAPTER 2 SOLAR PANELS AND HOW THEY WORK

GOOD TO KNOW

I. The types of solar panels

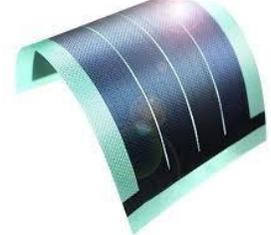
a) Monocrystalline solar panels have a black color.



b) Polycrystalline solar panels have a blue color.



c) Thin-film or amorphous solar panels are either black or blue in color and are very flexible..



I. How solar panels work

a) **Production a) Production of solar energy by photovoltaic panels?**

The photovoltaic effect: Photovoltaic cells absorb photons from sunlight. When light hits the semiconductor material, it transfers its energy to the electrons in the silicon.

The energy from the photons excites certain electrons, allowing them to break free from their atoms and move freely through the material (generating direct current).

« Creativity is intelligence having fun. » -
Albert Einstein



b) How to recognize good and bad solar panels. ?

The measured voltage of the panel should be roughly equivalent to the open-circuit voltage of the panel according to its datasheet. If this is the case, then the panel is good; if not, then it is of poor quality.

c) How to connect solar panels in series and in parallel?

The series connection is made by connecting the "+" terminal of one panel to the "-" terminal of the other panel. The parallel connection is made by connecting the "+" terminals of the panels together and the "-" terminals of the panels together.



d) How to set, choose the orientation and the tilt angle of the panels.

1. The screws or spikes, the rails, and the clamps are used to secure the solar panels on the roof.



Rail



Inner clam



Inner clam

2. In Africa, choose an inclination angle of 15-30° oriented South to install the panels.

e) How to maintain PV solar panels?

Use plain water and a cloth to clean the glass surface of the panels every 3 months if you are in a non-dusty area, and every month otherwise.

« The innovation is the key to addressing energy challenges.»

- Elon Musk



DO NOT DO AND WHY

- ❖ Do not connect the + and - terminals of the panels for an extended period to avoid damaging the panel.
- ❖ Do not connect panels with different characteristics together because the total output will be that of the weakest panel.



Practical exercises.

Exercises1

1. A solar panel is built by connecting 36 photovoltaic cells of 0.5V and 11A in series. What is the peak power of this solar panel?
2. Propose a wiring diagram illustrating a connection of 2 strings (sets) of 3 solar panels connected in series, and all connected in parallel.

Exercises2

1. What is the difference between a series connection and a parallel connection?
2. How to connect two (02) solar panels in series and in parallel?
3. What is the goal of connecting solar panels:
 - In series
 - In parallel
4. What is the order of connection for a series and parallel connection?
5. What is a mixed connection?

Exercises3

Monsieur Mr. Ali, a young solar energy technician, wishes to install four (04) solar panels with a power of 100W each, along with an MPPT charge controller that requires a power of 400W from the solar panels, in order to properly charge his batteries, which are intended to operate his DC fridge.

1. What type of connection should Mr. Ali make for the solar panels? Why?
2. What is the order of connection between the solar panels and the charge controller?
3. What would happen if Mr. Ali did not follow the connection order?
4. Can Mr. Ali install his four (04) solar panels at the base of the tree in his yard for more safety? Why?
5. If Mr. Ali decides to change his 400W charge controller for a 450W one, should he add another solar panel of 50W, 100W, or 150W? Why?
6. Give three (03) tips to Mr. Ali for properly maintaining his solar panels

« Nature does nothing in vain. » - Aristote



QUIZZ

- 1. What is the main material used to make photovoltaic panels?**
 - a) Aluminum
 - b) Silicon
 - c) Copper
- 2. What is the operating principle of a photovoltaic solar panel?**
 - a) Conversion of light into electricity
 - b) Conversion of heat into electricity
 - c) Storage of electricity
- 3. What is the determining factor for the efficiency of a photovoltaic panel?**
 - a) The color of the panel
 - b) The brand of the panel
 - c) The angle of inclination and exposure to the sun
- 4. Which of the following is not a component of a solar panel?**
 - a) Inverter
 - b) Junction box
 - c) Photovoltaic cell
- 5. What type of energy is produced at the output of a solar panel?**
 - a) Alternating energy
 - b) Direct energy
 - c) Renewable energy
- 6. What quantity changes when connecting solar panels in series?**
 - a) Voltage
 - b) Current
 - c) Power
- 7. What is the orientation of solar panels in Africa?**
 - a) Full West
 - b) Full North
 - c) Full South

« We all have a role to play in protecting our planet »
- Leonardo DiCaprio



CHAPTER 3 OTHER COMPONENTS OF A SOLAR SYSTEM

I. Main components of a solar system.

The solar PV panels, the inverter, the charge controller, and the battery.



The regulator



in English is "PV solar panels



the inverter



The battery

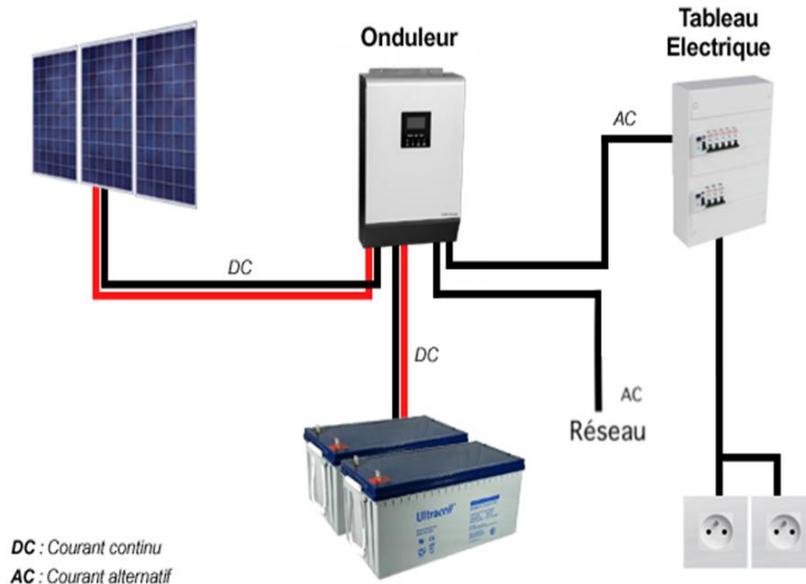
1. **Inverter operation:** Converts alternating current (AC) into direct current (DC) to charge the battery and the direct current from the battery into alternating current to power AC loads.
2. **Charge controller operation:** Regulates the battery charge by protecting it against overcharging and recharging when it is discharged while avoiding deep discharge.
3. **Battery operation:** It stores energy coming from the panels during the day or from the electrical grid through the inverter and releases it when needed.
4. **How to protect your solar installation:**
 - Use a DC circuit breaker and DC surge protector connected to the ground rod to protect the inverter against overvoltage and overcurrent from the solar panels and lightning.
 - Use an AC circuit breaker and differential circuit breaker to protect the inverter against overcurrent and overload at the input and output, respectively.

« Renewable energy is the future, and that future starts now. »

- Richard Branson



II. How to connect the solar components together?



Step 1: Connect the solar panels to the charge controller through the circuit breaker and the DC surge protector.

Step 2: Connect the charge controller to the battery.

Step 3: Connect the grid power (if available) to the inverter through an AC circuit breaker.

Step 4: Connect the inverter to the battery through a DC disconnect switch.

Step 5: Turn on the system by powering up the inverter, ensuring that all protective devices are in place.

DO NOT DO AND WHY

- ❖ Do not use car batteries because they are not designed for solar installations, as they have a low storage capacity suitable for the needs of home solar systems and have a shorter lifespan when used to store energy in solar installations.
- ❖ Do not short-circuit the two terminals of the batteries or pour water on the battery, as this may damage the batteries.
- ❖ Do not connect devices with a power rating higher than that of the inverter, as this may damage the inverter.
- ❖ Use flexible cables instead of rigid cables, as the latter are not efficient and experience too much loss during energy transport for solar installation.

« The solar energy is a source of hope for the future. »- Hermann Scheer



Practicals exercises

1. Describe the bleaching order among the following components: battery, solar panel, inverter, and charge controller.
2. What is the purpose of a battery in a solar system?
3. What is the function of a charge controller in a solar system?
4. What is an inverter and why is it important?
5. Can a solar panel be used without a battery?
6. Name 02 essential components of an autonomous solar system.



QUIZZ

1. **Quel Which element is not part of a solar system?**
 - a) Inverter
 - b) Battery
 - c) Compressor
2. **What are the components that are part of an autonomous solar system?**
 - a) Inverter, battery, charge controller, and solar panels only
 - b) Inverter, battery, charge controller only
 - c) Inverter, battery, charge controller, solar panels only, and generator only
3. **What is the role of a hybrid inverter-charger?**
 - a) Convert the direct current from the panels into alternating current
 - b) Convert the direct current from the panels into alternating current to power devices and convert alternating current into direct current to recharge the batteries
 - c) Convert alternating current into direct current to recharge the batteries
4. **What is the role of a charge controller in a photovoltaic system?** a) **Balance energy production** b) **Protect the battery from overcharging and deep discharge** c) **Convert energy**
5. **Which component is used to store the energy produced by solar panels?**
 - a) Inverter
 - b) Charge controller
 - c) Battery
6. **What is the role of a DC circuit breaker in a solar installation?**
 - a) Protect the installation against current overloads and short circuits
 - b) Protect the installation against lightning
 - c) Protect the installation against thieves

« Change begins with us. » - Wangari Maathai



7. **What is the role of a DC surge protector in a solar installation?**
 - a) Protect the installation against overcurrent by directing it to the ground.
 - b) Protect the installation against electric shock.
 - c) Protect the installation against overvoltage generated by lightning by directing it to the ground.
8. **The 02 types of solar charge controllers available on the market are.**
 - a) TTN & MWP
 - b) MPT & PWM
 - c) MPPT & PWM
9. **Which of the following is not a type of solar battery?**
 - a) Lithium-ion batteries
 - b) Lead-potassium batteries
 - c) Lead-acid batteries



QUIZZ

1. **What is the first step in sizing a solar installation?**
 - Choose solar panels
 - Assess energy needs
 - Install the inverter
2. **How do we determine the operating voltage of our solar installation?**
 - By using the power consumed obtained from the power balance
 - By using the daily energy consumed obtained from the power balance
 - By using solar irradiation
3. **The daily energy consumed allows us to:**
 - Calculate the power of the inverter to be installed
 - Calculate the total capacity of the batteries to be installed
 - Choose the power of the charge controller
4. **What formula is used to calculate the necessary battery capacity?**
 - Capacity (Ah) = (Energy * N) / U
 - Capacity (Ah) = (Energy * N) / (U * Depth of discharge)
 - Capacity (Ah) = (Energy * U) / N
5. **How can we optimize the sizing of solar panels?**
 - By increasing the number of panels without evaluation
 - By taking shading and efficiency losses into account

« The energy transition is a collective adventure. »- Jean-Marc Jancovici



- By installing only high-power panels
6. **What type of battery is most commonly used for residential solar systems?**
- Lead-acid battery
 - Lithium-ion battery
 - Nickel-cadmium batteries
7. **When sizing photovoltaic solar panels, what is the key parameter to consider?**
- The irradiation of the geographical location where the panels will be installed
 - The current season of the geographical location where the panels will be installed
 - The temperature of the geographical location where the panels will be installed
8. **Why take a margin of 20 - 30% when calculating the power of the inverter to be installed?**
- To ensure that the inverter is of good quality
 - To address energy loss issues and the starting current of devices
 - To ensure customer satisfaction with their inverter
9. **What is the component that requires the coupling of panels either in series or in parallel?**
- The inverter
 - The charge controller
 - The battery
10. **What is the equivalent capacity of 2 batteries of 200Ah connected in parallel?**
- 200Ah
 - 300Ah
 - 400Ah

«There is no miracle solution, but every action counts»- Christiana Figueres



CHAPTER 4 SIZING OF COMPONENTS

GOOD TO KNOW

1. To size the system, it is important to perform a power balance of the devices in operation and the daily energy consumed.
2. The power balance will allow you to calculate the power of the photovoltaic field and the number of panels to install.
3. The daily energy consumed will allow you to calculate the number of batteries to install.
4. The total power of the devices will help you choose the inverter to install.
5. Always leave a 25% margin on your equipment.
6. The system voltage must be identical to the voltage of the inverter as well as the battery.
7. Choose the inverter suitable for the power of the photovoltaic field and the battery.



« Youth is the future of our planet » - Kofi Annan



Practicals exercises

☛ Exercises 1

Imagine that you want to install a solar panel to power a 10W LED lamp. If the lamp is to operate for 5 hours a day, how much energy (in Wh) must the solar panel provide?

☛ Exercises 2

A small house needs to power the following devices:

- 4 LED lamps of 10W, used for 4 hours a day
- 1 refrigerator of 150W, operating for 8 hours a day
- 1 television of 100W, used for 3 hours a day

a) Calculate the daily energy consumption.

b) Calculate the daily power consumption.

☛ Exercises 3

You want to design a solar system to cover a monthly consumption of 50kWh. Assume:

- Average daily irradiation: 5 kWh/m²/day
- System loss (including shading, dust, component efficiency): 20%
- Overall system efficiency: 80% (0.8)

a) Calculate the peak power (kWp) of the required panel.

You are using photovoltaic modules of 250Wp each.

b) How many modules are needed to reach the total power calculated previously?

N'hésitez pas à me demander si vous avez besoin d'aide pour résoudre ces exercices !

« Solar energy is a promise of a better future »

- Hermann Scheer





QUIZZ

- 1. Quelle What is the first step in solar sizing?**
 - a) Choose solar panels
 - b) Assess energy needs
 - c) Install the inverter
- 2. How do we determine the operating voltage of our solar installation?**
 - a) By using the power consumed obtained from the power balance
 - b) By using solar irradiation
 - c) By using daily energy consumption obtained from the power balance
- 3. Daily energy consumption allows us to:**
 - a) Calculate the power of the inverter to be installed
 - b) Calculate the total capacity of the batteries to be installed
 - c) Choose the power of the charge controller
- 4. What formula is used to calculate the necessary battery capacity?**
 - a) Capacity (Ah) = (Energy * N) / U
 - b) Capacity (Ah) = (Energy * N) / (U * Depth of discharge)
 - c) Capacity (Ah) = (Energy * U) / N
- 5. How can we optimize the sizing of solar panels?**
 - a) By increasing the number of panels without evaluation
 - b) By considering shading and efficiency losses
 - c) By installing only high-power panels
- 6. What type of battery is most commonly used for residential solar systems?**
 - a) Lead-acid battery
 - b) Lithium-ion battery
 - c) Nickel-cadmium battery
- 7. When sizing photovoltaic solar panels, what is the key parameter to consider?**
 - a) The irradiation of the geographical location where the panels will be installed
 - b) The current season of the geographical location where the panels will be installed
 - c) The temperature of the geographical location where the panels will be installed

« We have the power to change our world. » - Malala Yousafzai



8. **Why take a margin of 20 - 30% when calculating the power of the inverter to be installed?**
 - a) To ensure that the inverter is of good quality
 - b) To address energy loss issues and the starting current of devices
 - c) To ensure customer satisfaction with their inverter
9. **Which component requires us to connect the panels either in series or in parallel?**
 - a) The inverter
 - b) The charge controller
 - c) The battery
10. **What is the equivalent capacity of 2 batteries of 200Ah connected in parallel?**
 - a) 200Ah
 - b) 300Ah
 - c) 400Ah



QUIZZ

1. **Which element does not belong to a solar system?**
 - Inverter
 - Battery
 - Compressor
2. **What are the components that belong to an autonomous solar system?**
 - Inverter, battery, charge controller, and solar panels only
 - Inverter, battery, and charge controller only
 - Inverter, battery, charge controller, solar panels only, and generator only
3. **What is the role of a hybrid inverter-charger?**
 - Convert the direct current from the panels into alternating current
 - Convert the direct current from the panels into alternating current to power devices and convert alternating current into direct current to charge the batteries
 - Convert alternating current into direct current to charge the batteries
4. **What is the role of a charge controller in a photovoltaic system?**
 - Balance energy production
 - Protect the battery from overcharging and deep discharge
 - Convert energy

« The energy transition is an opportunity to create jobs and stimulate the economy » - Barack Obama



5. Which component is used to store the energy produced by solar panels?
- Inverter
 - Charge controller
 - Battery
6. What is the role of a DC circuit breaker in a solar installation?
- Protect the installation against current overloads and short circuits
 - Protect the installation against lightning
 - Protect the installation against thieves
7. What is the role of a DC surge protector in a solar installation?
- Protect the installation against overcurrent by directing it to the ground
 - Protect the installation against electric mass
 - Protect the installation against voltage surges generated by lightning by directing it to the ground
8. The two types of solar charge controllers available on the market are:
- TTN & MWP
 - MPT & PWM
 - MPPT & PWM
9. Which of the following is not a type of solar battery?
- Lithium-ion batteries
 - Potassium lead batteries
 - Lead-acid batteries

« Technology is a tool, not a solution » - Bill Gates





CHAPTER 5

HOW TO GET STARTED IN SOLAR ENTREPRENEURSHIP IN CAMEROON?

GOOD TO KNOW

- ❖ Train in solar energy
- ❖ Know the companies that are hiring or selling electrical components in your area
- ❖ What services can you offer to make money
- ❖ Make your product or skills known to those around you



I. STEPS TO FOLLOW TO SUCCESSFULLY CARRY OUT YOUR PROJECT

Step 1: Choose your project

- The choice of a project should be guided by:
- The technical ability or aptitude to carry out the project,
- The availability or ease of finding materials,
- The time required to complete the project.
- The financial aspect
- The environmental and social impact
- The passion for carrying out the project

« The future belongs to those who believe in the beauty of their dreams.»

- Eleanor Roosevelt





Step 2: Procurement and Logistics of Materials

The learner is encouraged not to spend money to acquire materials on the market necessary for the realization of the project. The materials should be recycled and available for free around oneself, such as:

- Old packaging cardboard from products
- Photovoltaic solar panels from broken solar equipment
- LEDs and switches from broken electronic devices
- Charge controllers and small solar batteries from abandoned or broken UPS inverters
- Cable scraps and plywood
- Scissors and razor blades
- Glue or super glue

Step 3: Project Implementation

The realization of the model of the project must be done according to the following criteria:

- The model must respect a coherent scale to allow for good visualization
- The model must be easy to assemble and disassemble in case of transport for its presentation
- Compliance with the specifications
- The model must be clear, understandable, and attractive to explain the principle of operation
- If the project includes cables, batteries, charge controllers, etc., provide a small technical room and take into account the sizing concepts and wiring standards learned during the training for the assembly
- If the project includes photovoltaic solar panels, consider the tilt, orientation, and actions to avoid when connecting the solar panels learned during the training

Step 4: Project Finishing

Adjust the finishes and proceed to simulate your project by conducting various possible tests. If there are defects, correct them or replace the defective components.

Step 5: Project Presentation

Present your model to the jury members and in front of your classmates.

Step 6: Note-taking

Take notes on the remarks to adjust your final project.

« Nature is our greatest treasure » - David Attenborough





Quiz

- 1. What is the main material used to make photovoltaic panels?**
 - Aluminum
 - Silicon
 - Copper
- 2. What is the principle of operation of a photovoltaic solar panel?**
 - Conversion of light into electricity
 - Conversion of heat into electricity
 - Storage of electricity
- 3. What is the determining factor for the efficiency of a photovoltaic panel?**
 - The color of the panel
 - The brand of the panel
 - The angle of inclination and exposure to the sun
- 4. Which of the following is not a component of a solar panel?**
 - Inverter
 - Junction box
 - Photovoltaic cell
- 5. What type of energy is produced at the output of a solar panel?**
 - Alternative energy
 - Direct current
 - Renewable energy
- 6. What quantity changes when connecting solar panels in series?**
 - Voltage
 - Current
 - Power
- 7. What is the orientation of solar panels in Africa?**
 - Full West
 - Full North
 - Full South

« The energy transition requires young and creative minds. Their education is the key to innovative solutions » - Amory Lovins



OPPORTUNITIES

You are young and wish to venture into green entrepreneurship in the solar energy sector? Here are some opportunities we would like to share with you:

- ❖ Training (CQP in partnership with CecosdaFormation, free training and webinars by CECOSDA on green entrepreneurship in the energy sector, FLEC)
- ❖ Networking: eco-entrepreneurs for energy
- ❖ Research and innovations in renewable energy: join Equitable Energie, the CECOSDA center for local energy innovations, submit your innovations for display on our sites, or obtain a research internship to work with our teams;
- ❖ Green energy commerce and business: become a reseller of solar kits through Equitable Energie and Solar Djangui.

THE INITIATIVES OF CECOSDA.



<https://www.equitable-energie.cm>



<https://www.cecossdaformation.com>



<http://www.solar-djangui.cm>

ECOPRENEURS 237

https://www.cecossda.org/web/centrepro#green_network

« The youth are the architects of the energy transition. Their education is crucial for a sustainable future».- Christiana Figueres





Nous We hope that this guide will be useful to you and that you will acquire new skills.

The **CECOSDA** thanks you for your participation and wishes you all the best for the future!

« The climate change is a challenge that requires a collective response. » -Naomi Klein

