



## CALL FOR APPLICATIONS

### **SELECTION OF INSTITUTIONS AS PARTNER TRAINING AND EXAMINATION CENTERS IN THE FRAMEWORK OF THE REGIONAL CERTIFICATION SKILLS FOR PHOTOVOLTAIC MINI-GRIDS AND OFF-GRID SOLAR PHOTOVOLTAIC PROFESSIONALS IN ECOWAS MEMBER STATES**

#### **A. BACKGROUND**

Within the implementation framework of the ECOWAS Renewable Energy Policy and the National Renewable Energy Action Plans (NREAP) of the ECOWAS Member States, the ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE) set up a scheme called the ECOWAS Certification of Sustainable Energy Skills (ECSES) in 2014. Through the support of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the International Renewable Energy Agency (IRENA), and other development partners, thorough Job Task Analyses have been developed. The ECSES aims to promote professional skills and find adequate solutions related to the poor quality of equipment and facilities in the renewable energy and energy efficiency sector.

ECREEE, as the Regional Certification Body, partners with selected institutions to organize certification examinations in the ECOWAS Member States. There are two types of Centers and with which ECREEE intends to establish partnerships going forward:

- **Training Centers**, which run gender-responsive training courses for photovoltaic (PV) installers, women and men, based on the elaborated Job-Task-Analysis (JTA) for PV Mini-Grid and/or Off-Grid Solar Photovoltaic Systems. These trainings will be advertised in a gender-responsive way targeting women and men in the communication campaign to recruit trainers. The training will be provided by a mixed team composed of women and men trainers. The course materials must include references to women in the examples given (oral and pictures representing both women and men in concrete situations). Trainee groups are expected to include women to reach gender equality as much as possible; and
- **Examination Centers** that organize the certification of gender-responsive exams on PV mini-grid and/or SHS installers for eligible candidates. It is expected that the Examination Centers include gender-responsive sensitisation and awareness aspects in the overall communication campaign. Likewise, the examination materials must include references to women in the examples given (text and pictures representing both women and men in concrete situations).

The current certification system is for **off-grid solar photovoltaic system technicians**. ECREEE calls this “**Level 1**” of the system. ECREEE plans to gradually expand the levels of the system that meet the requirements of the International Organization for Standardization’s standard called ISO/IEC 17024:2012. This standard is also known as the “*Conformity assessment*” and it comprises “*the*

general requirements for bodies operating certification of persons”<sup>1</sup>. Certified professionals who meet these requirements will gain international recognition.

**Level 2** of the certification system will be for the **designers, installers, and inspectors of photovoltaic mini-grids**. To operationalize this certification Level, ECREEE is partnering with GIZ and the African Development Bank (AfDB). The interventions through which this is to be realized are the GIZ-funded “Promotion of Climate-friendly Electricity Market in the ECOWAS Region--Phase 2 (ProCEM II)” and the AfDB-funded “Desert-to-Power West Africa Regional Energy Program (WAREP)-Phase 1”.

## **B. PURPOSE OF THIS CALL FOR APPLICATIONS TO PARTNER ECREEE**

While efforts are being made to introduce Level 2, ECREEE intends to continue implementing Level 1 of the certification system and extend the program to other ECOWAS Member States that have not benefited yet. Beyond this, the agency intends to select gender-responsive Training and Examination Centers for the implementation of Level 2 in the ECOWAS Member States.

All institutions interested in becoming gender-responsive Training or Examination Centers are invited to submit applications to ECREEE, **choosing one** of the following options:

- 1. Level 1 only; OR**
- 2. Level 2 only; OR**
- 3. Both Levels 1 and 2.**

Note, however, that a Center **cannot** host both training and examinations for the same level. Tables 1, 2, 3 and 4 present the criteria for the selection of Centers.

## **C. SELECTION CRITERIA**

**Table 1: Criteria for Selecting an Institution as a [Training Center for Level 1](#)**

<b>#</b>	<b>An institution should:</b>	<b>Score (%)</b>
1	Be a public, private, or community educational institution of higher learning (IHL) in an ECOWAS Member State with a minimum of 10 years of experience in developing, implementing, and evaluating training courses in the field of energy.	10
2	Offer gender-responsive solar PV energy courses. Examples are: <ul style="list-style-type: none"> <li>• Solar Energy,</li> <li>• Electrical Engineering,</li> <li>• Energy Economics.</li> </ul>	10
3	Have permanent specialized staff, women, and men, with a minimum of a Master’s Degree in renewable energy, or Electrical Engineering or Economics who would provide training . Specific staff requirements are:	30

<sup>1</sup> The standard ISO / IEC 17024: 2012 contains principles and requirements for a body certifying persons against specific requirements and includes the development and maintenance of a certification scheme for persons. For more information, visit <https://www.iso.org/standard/52993.html>

	<ul style="list-style-type: none"> <li>At least 3 staff with Engineering backgrounds, of which at least 1 woman</li> <li>At least 1 staff with an Economics background, Having female technical staff is a requirement</li> </ul>																															
4	<p>Have, at least <b>four kits of Off-Grid Solar Systems</b> for practical training sessions.</p> <p>The composition of the <b>four kits for Off-Grid Solar Systems</b> is as follows:</p> <table border="1"> <thead> <tr> <th>#</th> <th>Description</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>4A.1</td> <td>Solar PV Modules (12 V)</td> <td>8</td> </tr> <tr> <td>4A.2</td> <td>Solar Batteries, voltage 12V (Minimum capacity: 22Ah)</td> <td>8</td> </tr> <tr> <td>4A.3</td> <td>Inverter DC to AC 12V/230V</td> <td>4</td> </tr> <tr> <td>4A.4</td> <td>Charge Controller PWM 12V/24V – 20A</td> <td>4</td> </tr> <tr> <td>4A.5</td> <td>Circuit breakers (DC and AC)</td> <td>4</td> </tr> <tr> <td>4A.6</td> <td>DC fuse</td> <td>4</td> </tr> <tr> <td>4A.7</td> <td>Cables, connectors, and accessories</td> <td>Several</td> </tr> <tr> <td>4A.8</td> <td>12V DC light</td> <td>4</td> </tr> <tr> <td>4A.9</td> <td>230V AC light</td> <td>14</td> </tr> </tbody> </table>	#	Description	Quantity	4A.1	Solar PV Modules (12 V)	8	4A.2	Solar Batteries, voltage 12V (Minimum capacity: 22Ah)	8	4A.3	Inverter DC to AC 12V/230V	4	4A.4	Charge Controller PWM 12V/24V – 20A	4	4A.5	Circuit breakers (DC and AC)	4	4A.6	DC fuse	4	4A.7	Cables, connectors, and accessories	Several	4A.8	12V DC light	4	4A.9	230V AC light	14	30
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5	<ul style="list-style-type: none"> <li>Have a suitable training room with sufficient lighting and ventilation, a board and a projector for the training sessions,</li> <li>Have separate working toilets for women and men</li> <li>Have a central storage facility for equipment and materials with a closely tracked security system.</li> </ul>	10																														
6	<p>Have a computer room with:</p> <ul style="list-style-type: none"> <li>at least 20 working laptop or desktop computers each having a minimum of dual-core processors<sup>2</sup>,</li> <li>an internet connection with a minimum speed of 50 megabits per second per computer to facilitate access to online courses, and a backup electricity installation.</li> <li>Confirmation that trainers have access to computers and web research.</li> </ul>	10																														
	<b>Total</b>	<b>100</b>																														

<sup>2</sup> The objective is to have computers with processors that are able to multi-task and reduce the time spent waiting for applications to open or updates to occur.

**Table 2: Criteria for Selecting an Institution as a [Training Center for Level 2](#)**

#	An institution should :	Score (%)																								
1	Be a public, private, or community educational institution of higher learning (IHL) in an ECOWAS Member State with a minimum of 10 years of experience in developing, implementing, and evaluating training courses in the field of energy.	10																								
2	Offer gender-responsive solar PV energy courses <b>with, at least, one that addresses mini-grid systems</b> . Examples are: <ul style="list-style-type: none"> <li>• Solar Energy,</li> <li>• Electrical Engineering,</li> <li>• Energy Economics.</li> </ul>	10																								
3	Have permanent specialized staff, women, and men, with a minimum of a Master’s Degree in renewable energy, or Electrical Engineering or Economics who would provide training. Specific staff requirements are: <ul style="list-style-type: none"> <li>• At least 3 staff with Engineering backgrounds, of which at least 1 woman</li> <li>• At least 1 staff with an Economics background,</li> </ul> Having female technical staff is a requirement	30																								
4	Have, at least, one <b>Mini-Grid</b> installed on the premises for practical training sessions. <b>The minimum components of the Mini-Grid are as follows:</b> <table border="1" data-bbox="268 1106 1243 1809"> <thead> <tr> <th>#</th> <th>Description</th> <th>Characteristics</th> </tr> </thead> <tbody> <tr> <td>4B.1</td> <td>Solar PV field on the ground or roof</td> <td>5kWp Minimum</td> </tr> <tr> <td>4B.2</td> <td>Solar batteries pack</td> <td>600 Ah-48V Minimum</td> </tr> <tr> <td>4B.3</td> <td>DC Box</td> <td>Minimum of two</td> </tr> <tr> <td>4B.4</td> <td>AC Box</td> <td>Minimum of two</td> </tr> <tr> <td>4B.5</td> <td>On/Off Grid Inverter</td> <td>5kW - Three-phase 230V/380V</td> </tr> <tr> <td>4B.6</td> <td>Have a separate load (Facility) that can be isolated for testing.</td> <td>There should be a possibility of connecting and disconnecting the load for testing and maintenance. It must also have a monitoring system.</td> </tr> <tr> <td>4B.7</td> <td>Have a genset as a back-up</td> <td>The genset should be able to supply the part of the energy demand.</td> </tr> </tbody> </table>	#	Description	Characteristics	4B.1	Solar PV field on the ground or roof	5kWp Minimum	4B.2	Solar batteries pack	600 Ah-48V Minimum	4B.3	DC Box	Minimum of two	4B.4	AC Box	Minimum of two	4B.5	On/Off Grid Inverter	5kW - Three-phase 230V/380V	4B.6	Have a separate load (Facility) that can be isolated for testing.	There should be a possibility of connecting and disconnecting the load for testing and maintenance. It must also have a monitoring system.	4B.7	Have a genset as a back-up	The genset should be able to supply the part of the energy demand.	30
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5	<ul style="list-style-type: none"> <li>• Have a suitable training room with sufficient lighting and ventilation, a board and a projector for the training sessions,</li> <li>• Have separate working toilets for women and men</li> </ul>	10																								

	<ul style="list-style-type: none"> <li>Have a central storage facility for equipment and materials with a closely tracked security system.</li> </ul>	
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	<b>Total</b>	<b>100</b>

**Table 3: Criteria for Selecting Institutions as Examination Centers for Level 1**

#	An institution should:	Score (%)																								
1	Be a public, private, or community higher-level educational institution in an ECOWAS Member State with at least 10 years of experience in developing, implementing, and evaluating training in the energy sector	10																								
2	<p>Offer gender-responsive solar PV energy courses. Examples of the Courses include:</p> <ul style="list-style-type: none"> <li>Solar Energy,</li> <li>Electrical Engineering, and</li> <li>Energy Economics.</li> </ul>	10																								
3	<p>Have permanent specialized staff with at least a Master’s degree in renewable energy/Electrical Engineering/Economics who would be part of an examination board.</p> <ul style="list-style-type: none"> <li>At least 3 staff with an engineering background of which at least 1 woman,</li> <li>At least 1 staff with an economics background.</li> <li>Having female technical staff is a requirement.</li> </ul>	30																								
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	4A.8	12V DC light	4	
	4A.9	230V AC light	14	
5	<ul style="list-style-type: none"> <li>• Have an examination room with a capacity of at least 50 seats and tables and sufficiently lighted and ventilated, or</li> <li>• Have two or three smaller examination rooms where smaller groups of candidates can take examinations simultaneously.</li> <li>• Have signage and related health and safety notices correctly placed, and established safety practices.</li> <li>• Have separate working toilets for women and men.</li> </ul>			10
6	Have a computer room with: <ul style="list-style-type: none"> <li>• at least 20 working laptop or desktop computers, each having a minimum of dual-core processors,</li> <li>• an internet connection with a minimum speed of 50 megabits per second per computer to facilitate the conduct of examinations, and</li> <li>• an electricity backup installation.</li> </ul>			10
<b>Total</b>				<b>100</b>

**Table 4: Criteria for Selecting Institutions as Examination Centers for Level 2**


#	An institution should:	Score (%)									
1	Be a public, private, or community higher-level educational institution in an ECOWAS Member State with at least 10 years of experience in developing, implementing, and evaluating training in the energy sector	10									
2	Have been offering Solar PV Energy Courses, with at least one that addresses mini-grid systems. Examples of the Courses include: <ul style="list-style-type: none"> <li>• Solar Energy,</li> <li>• Electrical Engineering, and</li> <li>• Energy Economics.</li> </ul>	10									
3	Have permanent specialized staff with at least a master’s degree in renewable energy/Electrical Engineering/Economics who would be part of an examination board. <ul style="list-style-type: none"> <li>• At least 3 staff with an engineering background of which at least 1 woman,</li> <li>• At least 1 staff with an economics background.</li> <li>• Having female technical staff is a requirement.</li> </ul>	30									
4	Have, at least, one <b>Mini-Grid</b> installed on the premises for the practical exam sessions. <b>The minimum components of the <u>Mini-Grid</u> system are as follows:</b> <table border="1" data-bbox="268 1863 1241 2007"> <thead> <tr> <th>#</th> <th>Description</th> <th>Characteristics</th> </tr> </thead> <tbody> <tr> <td>4B.1</td> <td>Solar PV field on the ground or roof</td> <td>5kWp Minimum</td> </tr> <tr> <td>4B.2</td> <td>Solar batteries pack</td> <td>600 Ah-48V Minimum</td> </tr> </tbody> </table>	#	Description	Characteristics	4B.1	Solar PV field on the ground or roof	5kWp Minimum	4B.2	Solar batteries pack	600 Ah-48V Minimum	30
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#	An institution should:			Score (%)
	4B.3	DC Box	Minimum of two	
	4B.4	AC Box	Minimum of two	
	4B.5	On/Off Grid Inverter	5kW - Three-phase 230V/380V	
	4B.6	Have a separate load (Facility) that can be isolated for testing.	There should be a possibility of connecting and disconnecting the load for testing and maintenance. It must also have a monitoring system.	
	4B.7	Have a genset as a back-up	The genset should be able to supply part of the load energy demand.	
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6	Have a computer room with: <ul style="list-style-type: none"> <li>• at least 20 working laptop or desktop computers, each having a minimum of dual-core processors,</li> <li>• an internet connection with a minimum speed of 50 megabits per second per computer to facilitate the conduct of examinations, and</li> <li>• an electricity backup installation.</li> </ul>			10
<b>Total</b>				<b>100</b>

#### D. SHORTLISTING, SELECTION, AND TRAINING

Institutions that obtain a minimum of 70% of the total scores will be shortlisted. ECREEE will arrange visits to the shortlisted institutions in collaboration with a pre-identified National Focal Institution of the Regional Certification System. ECREEE will sign Memoranda of Understanding with the shortlisted institutions whose eligibility is confirmed after due diligence visits. Following this, a regional gender-responsive Training-of-Trainers course will be organized for the staff of the institutions selected as Training and Examination Centers.

## E. APPLICATION INSTRUCTIONS

1. Institutions desiring to be considered as **Training Centers** are invited to submit their applications by completing a form online. [Click here to access the form.](#)
2. Institutions desiring to be considered as **Examination Centers** are also to submit theirs by completing another form online. [Click here to access the form.](#)
3. Before starting, the institution's representatives responsible for completing the form are advised to **ensure that all the required information**/documents are ready.
4. The forms are available in the three official languages of ECOWAS -- **English, French and Portuguese**. To choose your preferred language, click the **Languages** icon. 
5. Click the “**Add record**” button on the left side of your screen to start filling out the form.
6. When done, click the “**Save record**” button to submit your application.
7. In case you want to withdraw an application and re-send another version, you may email a request to the email addresses provided.
8. The application deadline is **November 25, 2024 (23:59 hrs (GMT))**.
9. In line with international standards, an institution **is not permitted** to submit applications for both an Examination Center and a Training Center **for the same level**.
10. **Further information/clarification** can be obtained between 10 hrs. and 16:00 hrs. GMT at the following email addresses: [cmendes@ecreee.org](mailto:cmendes@ecreee.org) and [jdamada@ecreee.org](mailto:jdamada@ecreee.org); keeping in copy [mrosario@ecreee.org](mailto:mrosario@ecreee.org), [mfurtado@ecreee.org](mailto:mfurtado@ecreee.org) and [cosae@ecreee.org](mailto:cosae@ecreee.org)

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