

## **Terms of Reference: “Expert(s) to deliver training on mini-grid system design in South Asia, with an emphasis on RE optimisation, evaluating feasibility studies and solar hybrid mini-grid project proposals”**

### **1. Background information**

**CORE** is an international initiative initiated by the Alliance for Rural Electrification (ARE), International Renewable Energy Agency (IRENA), Sustainable Energy for All (SEforALL), UN Environment Programme (UNEP), United Nations Industrial Development Organization (UNIDO) and International Copper Alliance (ICA). CORE is managed by ARE. CORE’s mission is to enable resilient rural and peri-urban communities by ensuring safety, efficiency and reliability become the cornerstone of decentralised electrification.

**The Tribhuvan University (TU)** of Nepal is an educational institution teaching engineering and social science subjects to students for the educational needs of graduates and the people of Nepal. The centre of energy studies (CES) of the university was established in 1999 with a mandate to play a leading role in human resource development, policy research and capacity building to support unify and grow the decentralised clean and renewable energy sector in Nepal by bringing together diverse stakeholders across the country working to improve energy access for the rural and underprivileged communities and by creating an inspiring model for countries around the world.

**The Independent University of Bangladesh (IUB)** was established in 1993, is a leading private university in Bangladesh with an explicit focus on research and global partnerships. With a current enrolment of more than 10,000 at undergraduate and graduate levels, more than 234 highly qualified full-time faculty members (118 or 50.4% of whom have PhD degrees), and an alumni strength of close to 19,000, IUB strives to ensure education for all to promote the national agenda of sustainable inclusive development. The IUB university aspires to be a leading seat of learning and research for developing technologically competent, environmentally responsible, globally conscious future leaders with a strong liberal arts foundation.

With the joint objective to advance sustainable national electrification in South Asia, **CORE has partnered with the Tribhuvan university of Nepal and the Independent university of Bangladesh to conduct training to university graduates and faculty members on solar hybrid mini-grid system design**, with an emphasis on renewable energy optimisation, feasibility assessment and solar hybrid mini-grid project proposals.

**The envisaged training workshops will be conducted in two stages as follows:**

- Leg 1: Training-of-trainers (ToT) conducted by the selected CORE expert(s) for an estimated 50 students and faculty members of Tribhuvan university of Nepal on 21-23 October 2024. The training



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is envisaged to take place in-person in the Centre of Energy Studies (CES) of TU university in Kathmandu over 3 days.

**Leg 2:** Training of an estimated 50 students and faculty members of the Independent University of Bangladesh (IUB). The training will be conducted in IUB Dhaka in October/November 2024. The selected CORE expert(s) will provide in-person training, also envisaged to take place over 3 days.

The trainings workshops are planned for October and November 2024, the exact dates may be co-defined between the partner institutions in Nepal & Bangladesh and the selected expert(s) from CORE.

## 2.Objectives

**The objective of this activity is to support ARE's mission of assuring affordable and sustainable electrification for rural communities in South Asia.** Specifically, CORE will offer support to the local universities in conducting trainings to graduates and staff members on system design for solar hybrid mini-grids, and in particular optimising renewable energy resources, feasibility assessments and evaluating solar hybrid mini-grid project proposals. The aim is to create institutional capabilities for the appropriate design and sustainability of DRE systems.

## 3. Scope of work

CORE is seeking one expert (Individual or from a firm) to deliver two training workshops to university graduates during October & November 2024 subject to mutual agreement on dates between CORE, the expert and partner universities.

The training will focus on HOMER software based solar mini-grid technical system design, including renewable energy optimisation, feasibility guidelines and evaluating solar hybrid mini-grid project proposals.

The training in Nepal will focus on the HOMER software training for a hybrid mini grid system design of solar and hydropower. The training in Bangladesh is the HOMER software training on solar PV design for irrigation water pumping system for the agriculture sector.

The basic training materials on mini-grid system design will be delivered by CORE and will need to be refined by the selected CORE expert and tailored for the need and expectations in collaboration with partner universities. The development of materials is envisaged to be a collaborative process with partner universities to ensure the most tailored content possible for the decentralised renewable energy sector of South Asia.

The expert selected is expected to deliver an **in-person training of trainers for 3-days in TU Nepal for Leg 1 on 21-23 October 2024.** The expert selected is expected to deliver **in-person training for 3 days in IUB Bangladesh for Leg 2 in October/ November 2024.**

The training will be delivered in **English.**



A **training** report of **up to three pages** is to be submitted by the selected expert to ARE upon completion of the trainings, including the following:

- **Training conducted, key outcomes and lessons learnt**
- **Results of a pre- and post-training survey results**, conducted by the CORE expert(s), which should test pre and post training knowledge on solar and solar hybrid mini-grid system design, feasibility studies and evaluation of mini-grid projects) for both Nepal & Bangladesh
- **Full participant list** from Leg 1 and Leg 2 trainings.

The deadline for submission of the final report is 30 November 2024.

#### **4. Required documents**

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Bidders are required to submit the following documents to Shaukat Ali, the Regional Programme Expert for South Asia at: [s.ali@ruralelec.org](mailto:s.ali@ruralelec.org) with copy to Jens Jæger, Director of Policy & Business Development, ARE & Manager, CORE: [j.jaeger@ruralelec.org](mailto:j.jaeger@ruralelec.org)

- a. **Technical proposal** of maximum three pages on the proposed methodology, timeline for delivery of materials and experience of the expert(s) in delivering similar training.
- b. **Financial proposal** of no more than 1 page (in USD). Financial proposals should only include expert and travel fees for the trainer(s)  
**Note:** logistics for the training will be covered by the partner Universities separately and should not be included in the proposal. The cost of HOMER software license for the partner universities will be decided after review of ARE's internal arrangements.
- c. **CV** of the expert(s) in format of choice.

#### **5. Timeline**

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The deadline for submissions of proposals is **30 September 2024 (23:59 CET)**.

The selected expert(s) will be contacted by **10 October 2024**.

Leg 1: 'Training of trainers' session in Nepal should be delivered in October 2024.

Leg 2: Training of trainers' session in Bangladesh should be delivered in November **2024**.

The deadline for submission of the final report is **30 November 2024**.

#### **6. Fees**

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The selected expert(s) will be paid a service fee for the delivery of the trainings.

The fees quoted in the financial proposal are all-inclusive and not subject to change after contracting.

#### **7. Payment schedule**

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Payments to the selected expert will be made along the following schedule:

- 25% upon signature of contract
- 75% upon submission of final report



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Payments will be payable within 60 days upon receipt and acceptance of deliverables and invoice (electronic version) indicating the contract number and instalment requested.

