

# Terms of Reference for Consultancy Work on Captive PV Solar Market Study, and Support activities for facilitating workshops and Partnership facilitation support in Uganda

## 1. Background on the TEMARIN Project

The TEMARIN project (see [here](#) for more) is a three-year, DANIDA (Danish Development Agency) funded project covering the countries of Kenya and Uganda with the overall aim to support countries in accelerating the transfer, diffusion and uptake of specific climate technologies. The project focus is on strengthening domestic markets for climate technologies, removing bottlenecks for domestic firms operating in these markets and increasing cooperation among private actors, public actors and international actors to build global and national partnerships for upscaling implementation.

The project has three key components

1. Generate market knowledge and explain successful cases of market-led transfer and diffusion of climate technologies including small-scale irrigation, captive solar PV and ICT based agricultural extension services (in Kenya).
2. Generate a better understanding of the role and growth patterns of domestic solar PV companies/SMEs, and their challenges (in Kenya and Uganda), and co-create recommendations to strengthen support for domestic PV firms
3. Provide a platform for partnership facilitation to increase technology transfer and diffusion in select climate mitigation and adaptation technologies (in Uganda)

The TEMARIN project has been running in Kenya throughout 2020 and the current work in Uganda will to a large extent replicate and build on this work (see TEMARIN [webpage](#) on UNEP-DTU website to explore outputs from Kenya).

## 2. Linkages with TNA and NDC Action

The TEMARIN project builds on the Technology Needs Assessment (TNA) project <https://tech-action.unepdtu.org/>, currently being implemented by UNEP-DTU Partnership (UDP) in Uganda. The TNA project, supported by UNEP and UNFCCC, helps developing countries determine their technology priorities for mitigating and adapting to climate change. In Uganda, the national stakeholders have prioritized the energy sector and the solar PV technology within climate mitigation. The TNA project first phase (of technology prioritisation) and the second phase (of barrier analysis) have been completed in Uganda. The TNA consultants are developing concrete action plans to address the barriers and challenges identified. The TNA process is aimed at strengthening countries' ability to analyse and prioritize climate technologies, guiding them towards implementation of the UNFCCC Paris Agreement.

In parallel to this, Uganda has also communicated and committed its Nationally Determined Contributions (NDC) to reduce greenhouse gas (GHG) emissions in support of the Paris Agreement. Uganda has a NDC plan that spells out clearly their priority sectors and mitigation and adaptation actions that supports its low-carbon development pathway. The NDC project <https://unepdtu.org/project/ndc-action/> supports efforts of 10 countries including Uganda, to

translate NDCs into strategies and actions ready for financing and implementation. The NDC Project is coordinated by UNEP and implemented with the UNEP DTU Partnership (UDP) providing technical and expert support. UDP will directly work with National Technical institutions in guiding their work on the identified two priority sectors - Agriculture and Clean Energy - and activities and will provide technical assistance on policies and programme development.

The TEMARIN Project complements and has direct synergies with both the TNA and NDC projects implemented in Uganda. In line with TNA and NDC prioritization in Uganda, the TEMARIN project has a greater focus on the solar PV sector across different market segments and application areas.

### 3. This Assignment

A local consultant, with good knowledge of the solar PV sector, strong research and analytical experience on technology uptake and the application areas, along with strong links to the relevant policy making fora and Ministries is being recruited to support the agenda of advancing technology diffusion and market strengthening in Uganda.

The aim in this assignment is to generate relevant market knowledge and insights in newer solar PV market segments, particularly captive PV but also a scope to extend it to solar water pumps (for irrigation). This will be carried out in consultation with a broad set of stakeholders relevant to the market segments. The market insights are targeted to support the private sector operating in this emerging PV areas but also generate awareness for investors/financiers and policymakers with regard to the different aspects of this market (future potential and existing challenges) and scope for furthering support. Subsequently, this would be supplemented also with an exploration and mapping of potential partnership opportunities.

#### **The assignment will include:**

- 1) an analytical role including data collection, interviews and surveys, critical analyses, report writing, generating new and relevant market knowledge;
- 2) a supporting role on organizing/facilitating workshops to co-create ideas for increasing support to domestic solar PV companies in Uganda;
- 3) a joint lead role on the partnership component including identifying potential opportunities and ways to build on existing partnerships and/or setting up the process for developing new partnerships;

A parallel contract is also being advertised for undertaking additional activities as part of the TEMARIN project. The consultants engaged in the TEMARIN project will be required to coordinate and collaborate on certain activities (see section 6).

### 4. Scope of work

**Activity 1** - Generating Market Insights by undertaking an in-depth study of the Captive PV Market in Uganda

The Consultancy firm will - in line with the existing work done by the UNEP-DTU Partnership in Kenya - work on an in-depth market report on the commercial and industrial (C&I) solar PV sector in Uganda including:

- 1.1. Work plan for undertaking Activity 1 and preliminary ideas for the implementation of partnerships work. Depending on the size of the captive PV market in Uganda, this sub-activity may also include work on the solar water pumps market.

#### Deliverable 1.1: Detailed work plan

- 1.2. Detailed analysis of the captive PV market for the industrial and commercial (C&I) consumers in Uganda including mapping the actors, market drivers, financing models, regulatory challenges and user experiences (*UDP will provide technical and methodology support for this as well as a template for the report.*)

These sub-activities include:

- 1.2.1. Secondary review of the existing market for captive PV, rooftop solar PV projects, along with water pumping market, and document past and existing coverage on this topic in Uganda.
- 1.2.2. Mapping all the key actors (private sector, donors, financiers, NGOs, research institutes) actively supporting or involved in the captive PV market.
- 1.2.3. Primary data collection on the solar PV companies actively operating in the market, their specific roles, the business models or implementation models by which they are operating, the kind of customers they are working with, the financiers supporting this market, and the business case. This will include 10-12 interviews with private sector companies, 5-7 interviews with financiers, 3-4 interviews with government stakeholders including regulatory authorities, the utility, and a few interviews with other expert stakeholders including experts or research-advisory organizations. *UDP will participate and support with the interview guides and taking a lead in the initial interviews.*
- 1.2.4. Mapping and assessing the drivers, the incentives, and the rationale for the uptake of captive solar PV. *(Methodology support will be provided by UDP)*
- 1.2.5. Mapping the key bottlenecks for the uptake of captive PV - policy challenges, specific skills gap within the industry to implement projects, lack of viable business models, financing challenges.
- 1.2.6. Generate a database of C&I projects implemented till date based on primary interviews and secondary data available (and those under construction) including the capacity installed, type of system installed, project category (industrial, horticulture, commercial, residential, institutional), source of finance, EPC company that installed the project. *(Methodology support will be provided by UDP)*
- 1.2.7. Review and analysis of the current and planned national policies and regulatory frameworks, which effect the functioning of the C&I industry.
- 1.2.8. Undertake a structured or semi-structured survey with select C&I consumers to capture the % of energy savings vis-a-vis baseline scenario (costing analysis), and their experiences of installing and maintaining the captive PV project.

**Deliverable 1.2: Report on the growth and market analysis of captive solar PV sector in Uganda. UDP will provide a report template, direct written contributions, as well as methodological and technical support for analytical components and review input.**

1.3. Hi-level insights and recommendations based on the market assessment for captive solar PV (also based on historical trends and future projections) based on the data collected in this activity. At this stage, a small validation workshop may be conducted with a select group of key stakeholders to arrive at a roadmap for this market segment.

**Deliverable 1.3: Policy Brief to indicate key findings and to highlight recommendations for increasing the uptake of captive PV in Uganda. Along with this a Roadmap to summarize the action points, indicate their priority and the responsible organizations for implementing the action points.**

**Activity 2 - Deep Dive Analytical Work - Analysis of the domestic Solar MSMEs, their growth trajectories and challenges in Uganda**

2.1. The consultant will provide a supporting role in implementing a deep dive analytical role conducted by another consultant under a separate consultancy contract (see section 6 for division of roles).

The tasks for this include

2.1.1. The consultant will support with identifying relevant broader set of stakeholders for interviews, organizing and conducting select joint interviews along with and in close coordination with the other project consultant

2.1.2. The consultant will also support with inputs into the report content, undertaking report review at the early stage and providing feedback to policy briefs, roadmaps and other publications as part of this project component.

2.1.3. The consultant will also support with sharing contacts of relevant private sector companies, coordinating and reaching out to the companies, providing broader inputs on the project as it evolves, and finding avenues/possibilities to link up and collaborate with organizations when such an opportunity comes up.

**Deliverable 2.1: Report documenting active partaking in specific sub-activities of the Deep Dive component and supporting in the specific ways as listed under the Activity 2**

**Activity 3 - Supporting role in organizing and facilitating interactive workshops for co-creating ideas and action plans to reduce bottlenecks for the domestic solar MSMEs and to identify ways to enhance support to the domestic industry**

3.1 The Consultant will play a supporting role for organizing and facilitating participatory stakeholder workshops and high-level events, in collaboration and with support from UNEP-DTU Partnership for two (2) stakeholder workshops for the Deep Dive Component and a Hi-level event of the Project

- 3.1.1. The Consultant will support with identifying, inviting, coordinating and following-up with key stakeholders including hi-level government/Ministry representatives, among others.
- 3.1.2. The Consultant will support with workshop preparation including developing the modalities of the workshop setup where inputs from participants can be methodologically collected, for it to be operationalized as actionable recommendations.
- 3.1.3. Practical arrangement of the workshop including but not limited to selection and contracting the venue, practicalities in executing the workshop, inviting attendees and payments. (Cost will be handled by the consultant but payed outside the consultancy contract)
- 3.1.4. The consultant will also provide support after the workshop in helping disseminating the key findings to the right audience, identifying the right channels to plugging it into certain activities or stakeholders or identifying ways to maintaining continuity.

**Deliverable 3.1 - Report documenting acting partaking in the stakeholder workshops especially supporting with stakeholder contacts, additional coordination with Ministry representatives etc.**

**Activity 4 - Partnership Facilitation Support for the Climate Mitigation Technology (Solar PV), building on the market insights generated and opportunities identified in Activity 1 and 2**

- 4.1. Identifying potential partnership opportunities particularly within the solar captive PV market (supporting industrial/commercial development) and solar water pumps market (supporting agriculture/irrigation). Draw on ideas, examples and inspiration on how successful partnerships have been built or enabled among other climate technologies.
  - 4.1.1. Co-jointly identify or map (together with the other project consultant) the type of partnerships that should be pursued and provide a justification for the same. The partnerships could be in the form of investment partnerships (private company-investor), or partnerships within the industry, or technology partnerships (technology supplier-installer-NGO), public-private etc.
  - 4.1.2. Having identified a partnership focus area based on (i), the consultants will identify and prioritize critical actors (private sector, relevant investors, NGOs, research orgs); their roles and interests, identify areas of potential partnerships and demonstrate their alignment, and initiate discussions.

**Deliverable 4.1 - Provide significant input to the report on mapping actors, potential partnerships and a work plan in the context of captive PV and/or solar water pumps.**

- 4.2. Facilitating a partnership process, setting up a platform for enabling partnerships with the ultimate aim of enhancing climate technology diffusion in Uganda in the mitigation sector, and increasing the role of the private sector.
  - 4.2.1. Co-jointly plan (together with another project consultant) to set up a formal platform through a partnership or networking event (depending on how many stakeholders or partners are involved) to facilitate discussions and engagement.
  - 4.2.2. Design the modalities for such an event and for the partnership

4.2.3. Practical arrangements for the event with possibilities for one-on-one matchmaking sessions.

Deliverable 4.2 - Co-jointly contribute to the partnerships Report documenting the UDP experience, the approach, and the process by which facilitation and partnership building was carried out, and the outcomes.

## 5. Deliverables

### **Deliverable 1:**

1.1. Deliverable: Detailed work plan with timelines.

1.2. Deliverable: Report on the growth and market analysis of captive solar PV sector in Uganda

1.3. Deliverable: Policy Brief to indicate key findings and to highlight recommendations for increasing the uptake of captive PV in Uganda. Along with this a Roadmap to summarize the action points, indicate their priority (high-medium-low) and the responsible organizations for implementing the action points.

### **Deliverable 2:**

2.1. Deliverable: Report documenting active partaking in select activities of the Deep Dive component and supporting in the specific ways as listed under the Activity 2

### **Deliverable 3:**

3.1. Deliverable – Report documenting active partaking in the stakeholder workshops especially supporting with stakeholder contacts, additional coordination with Ministry representatives etc.

### **Deliverable 4:**

4.1. Deliverable - Provide input to the report on mapping actors, potential partnerships and a work plan in the context of captive PV and/or solar water pumps.

4.2. Deliverable - Joint Contribution to the Report on partnerships documenting the UDP experience, the approach, the process by which the facilitating and partnership building was carried out, and the outcomes.

## 6. Reporting and Collaboration with other TEMARIN Consultants

The consultant will be reporting to the TEMARIN managers at UNEP-DTU Partnership and will be required to collaborate with other TEMARIN consultants during the project implementation work in Uganda.

	Work Components under the TEMARIN project	Consultancy Contract 1 (this one)	Consultancy Contract 2
1.	Captive PV Market and other PV market segments	Lead role	Supporting role
2.	Deep Dive Work	Supporting role	Lead role
3.	Stakeholder Workshops	Supporting role	Lead role
4.	Partnership Activities	Joint Lead - esp. for enabling partnerships in captive PV market	Joint Lead - for enabling partnerships for other solar PV segments and targeting domestic companies

## 7. Timeline

The contract period is 11 months from 25 January 2021 to 20 December 2021.

## 8. Consultancy fee/ Budget

The consultants or consultancy firm will be retained on a contract with the UNEP DTU Partnership and payments based on satisfactory deliverables. They would be required to be available for the timely delivery of milestones throughout the project. The total budget amounts to USD 12.000 including all activities indicated in this ToR.

The consultant will be paid upon approval by UDP of three main deliverables as noted below and as elaborated above in detail:

Payment Instalments		Deliverables/ Expected Output	Expected completion date
1 <sup>st</sup> instalment	2000	Deliverable 1.1	05 Feb 2020
2 <sup>nd</sup> instalment	5000	Deliverables 1.2, 1.3 , 4.1	15 June 2020
Final instalment	5000	Deliverables 2.1, 3.1, 4.2	30 November 2020

## 9. Qualifications and Skills

The appointed consultants should have the following qualifications/skills:

### Essential

- Degree in renewable energy, environment, climate mitigation, policy or related field
- 7-10 years' experience and knowledge in the clean energy sector in Uganda/East Africa, including conducting market assessments, writing analytical reports, policy recommendations, and developing roadmaps/action plans

- Experience of coordinating and engaging with multiple actors in the solar PV sector
- Experience in conducting detailed interviews and surveys.
- Proficient analytical and writing skills and excellent English communication skills
- Good oratory skills in the local language including Swahili and/or Bantu, or other local dialects

#### **Highly Desirable**

- Postgraduate degree in renewable energy, or climate related fields
- Experience in the areas of market advisory, technology diffusion, market research analysis, understand of the role of private sector
- Knowledge of and experience with donor projects/programs

## 10. Application Procedure

Interested consultants should submit their application to the TEMARIN team - Padmasai Lakshmi B, at [lakpa@dtu.dk](mailto:lakpa@dtu.dk) with copy to Mathilde Brix Pedersen [brix@dtu.dk](mailto:brix@dtu.dk). Please make sure to include the following information:

- A cover letter demonstrating experience and knowledge in the clean energy sector including knowhow of the relevant actors and ongoing initiatives.
- Detailed CV along with summary of relevant projects and initiatives you have been a part of and your specific role within them.
- 1-pager write-up on preliminary ideas, reflections, and thoughts on your approach to this work and activities indicated in this ToR.

**The deadline for submitting proposals is 11 January 2021. Interviews with shortlisted candidates will take place the following week.**