**Terms of Reference**

**Provision of consultancy services for implementation of the "Accelerating Climate Technology Transition (ACTT)” project**

**Introduction**

The United Nations Office for Project Services (UNOPS) is an operational arm of the United Nations, supporting the successful implementation of its partners' peacebuilding, humanitarian, and development projects around the world. Mandated as a central resource of the United Nations, UNOPS provides sustainable project management, procurement, and infrastructure services to a wide range of governments, donors, and United Nations organizations. With over 8,000 personnel spread across 80 countries, UNOPS offers its partners the logistical, technical and management knowledge they need, where they need it. By implementing around 1,000 projects for our partners at any given time, UNOPS makes significant contributions to results on the ground, often in the most challenging environments.

UNOPS provides operational support to UNEP Copenhagen Climate Centre (UNEP-CCC). UNEP-CCC is a leading international advisory institution on energy, climate, and sustainable development. Its work focuses on assisting developing countries and emerging economies transition towards more low carbon development paths and supports integration of climate-resilience in national development. UNEP-CCC is actively engaged in implementing the UN Environment's Climate Change Strategy and Energy Programme.

UNOPS and UNEP-CCC are now looking for suitably qualified and experienced suppliers to provide consultancy services as input for the implementation of the "Accelerating Climate Technology Transition (ACTT)” project.

**Background**

The Accelerating Climate Technology Transition (ACTT) project aims to foster diffusion of nationally prioritized technologies for climate mitigation (such as energy for productive use) by connecting technology providers with end-users and investors, and to generate market assessments, concepts, and financing models relevant for increasing uptake and investment into specific ‘ready to market’ climate technology solutions. Knowledge, recommendations, and models generated in the project will be fed into policy and investment mobilisation processes through facilitation, partnerships and network linkages established and/or supported by the project and specific replication opportunities will be pursued across technologies and countries. The project seeks to address two key challenges 1) the low level of linkage between technology suppliers, potential off-takers and investors; and 2) the inadequate evidence on the progress/viability of climate technologies in meeting NDC targets.

The ACTT project in Uganda builds on the previous [TEMARIN project](https://unepccc.org/project/strengthening-value-chains-and-capacities-for-expanding-clean-energy-markets-in-kenya-and-uganda/) on market strengthening for climate technologies. The ACTT project will have a specific focus on solar irrigation pump (SIP) technologies for smallholder agriculture. The ACTT project is implemented by the United Nations Environment Programme Copenhagen Climate Centre (UNEP-CCC), supported by UNOPS, on behalf of the Ministry of Foreign Affairs of Denmark (DANIDA).

**Context**

Agriculture is the lifeblood of Uganda’s economy as it employs over 70% of the population (mostly smallholder farming), contributes about 25% to the country’s gross domestic product (GDP), and 33% of export earnings. Of the 80% of Uganda’s arable land area, only about 35% is cultivated to produce a variety of crops. Uganda is also reputed to be among the leading producers of coffee, bananas, oil seed crops, nuts, fresh fruit and vegetables, and essential oils. However, commercial productivity is limited by reliance on conventional methods, the changing climatic conditions, and the limited use of inputs including quality seedlings, fertilizer, pesticides, and irrigation systems. According to the World Bank, the long rainy season hitherto enjoyed by rainfed agriculture has now shortened by three months on average from nine to six months, and the dry spells within the rainy season may be further worsened. At present, only about 2% of the irrigation potential (covering 77,000 hectares of irrigated land) is utilized.

Uganda’s [National Irrigation Policy however,](https://faolex.fao.org/docs/pdf/uga177747.pdf) sets an ambitious target to irrigate a total of 1.5 million hectares of land by 2040 with half of the irrigation potential close to surface water resources that reduce unit cost and major infrastructure requirements. While Uganda possesses abundant freshwater resources close to the surface suitable for a more affordable micro-irrigation solutions, previous interventions have mostly focused on much larger and costly irrigation schemes connected to the grid for large commercial farmers, and only limited intervention exists for smallholder farmers who dominate the agriculture sector and are equally facing the challenges of drought. Small-scale irrigation systems offer several benefits including flexibility, modularity, technology sharing, affordability, water efficiency and rapid returns. Business models exist for small-scale irrigation solutions capable of serving 1 – 2 hectares of land and where investment costs can be recouped in less than 3 years.

Despite the obvious benefits, only 1% of farmers in Uganda adopt irrigation technologies that mostly rely on diesel power which offers lower upfront cost compared to its solar counterpart which offers a relatively lower maintenance cost. Also, the smallholder agriculture market (which includes a significant proportion of women farmers) is often overlooked due to their limited ability to meet the high upfront costs of solar irrigation pumps. On the other hand, the International Water Management Institute (IWMI) estimated that over 100 million solar water pumps could be installed in Africa without causing groundwater scarcity, including for example 700,000 in Kenya alone. Irrigation can lead to improved agricultural yields over twice those of rainfed agriculture, allowing for quicker return on investment in irrigation systems. According to the World Bank, rainfed agriculture supplies more than 60% of the world's food supply on 80% of land, whereas irrigated land provides 40% of the world’s food supply on only 20% of cultivated land. In Africa, only 6% of cultivated land is equipped for irrigation – a figure that is far below the global average of 20%.

**Aim of the consultancy**

This consultancy focuses on expanding the market for small-scale irrigation systems in Uganda in the form of solar irrigation pumps (SIP). Solar irrigation is a productive-use technology that plays an important role in the clean energy transition and/or climate mitigation in the AFOLU[[1]](#footnote-1) sector. It is also a priority technology identified by the government for its Nationally Determined Contribution. However, the challenges of securing affordable finance both for end users and for technology solution providers as well as the lack of knowledge of market potential and barriers for uptake are hindering the technology adoption at the scale required for substantial contribution to the country’s NDC ambition.

On this background, this contractual service aims to undertake a market assessment of innovative technologies and business models for solar irrigation solutions in Uganda, to facilitate new investments by building capacity with solution providers, linking to relevant investors and to promote partnership for policy uptake and continuation. This will be achieved by:

* **Assessing the market including site identification and project pipeline:** identifying the current and potential market/demand for SIP in Uganda with a focus on smallholder agriculture and identifying the landscape of SIP technology innovations, innovators, typical financing terms for agro-productive use sector, and type of innovative business models in the market. Identifying feasible sites and developing a pipeline of SIP projects that potential investor(s) could target for implementation. Site identification for SIP project pipeline development should consider drought vulnerability, willingness for adoption, customer size, financing need, gender inclusion, potential returns on investment, etc.
* **Facilitating finance links and linking up work to policy processes:** Identifying, preparing, and linking local solar irrigation solution providers (companies) with potential financiers. This includes identifying specific investment criteria and supporting solution providers in preparing high-quality financial presentation material. Identifying policy interventions needed for SIP and engaging with stakeholders on the inclusion of GHG emissions reduction potential of solar irrigation in NDC review.

**Envisioned outcome of the work**

1. Better informed investors and solution providers regarding the market size and market potential of solar irrigation solutions for small scale farmers.
2. Enhanced ability for local solar irrigation solution providers (companies) to engage with financiers, including enhanced capacity to generate and present high quality information to investors and better-informed investors regarding investment ready projects and companies (increased investment flows).
3. Better informed policymakers regarding the emission reduction potential of solar irrigation technologies and implications for the NDC revision process as well as the needed framework conditions to support uptake and diffusion of solar irrigation technologies through private markets.

**Target beneficiaries**

* Local solar irrigation solution providers (companies)
* Financiers
* Policymakers

**Scope of work**

**Output 1: Solar irrigation pump market assessment in the context of smallholder agriculture**

**Activities 1:**

1. Collect, analyze, and synthesize information and data to assess the markets size and market potential for SIP technologies using qualitative and quantitative data collection methods. This includes but is not limited to:

* A compilation of existing solar irrigation pump (SIP) technologies and their characteristics,
* A mapping of existing solar water pump distributors in Uganda including their market share, business models, and the capacity to absorb scale-up investment.
* Assessing willingness for adoption (relevance to technology solution providers and financiers)
* Quantify the GHG emission reduction potential (relevance to policymakers)
* Map feasible sites for project pipeline (relevance to technology solution providers and financiers)

1. Conduct stakeholder mapping and engagement (including with policy makers, private companies, farmers organisations and financiers for the purpose of identifying data gaps and needs, co-generation of recommendations).
2. Organize and conduct validation, feedback and/ co-creation sessions with (selected) stakeholders. These can include but are not limited to webinars for knowledge dissemination, capacity building sessions for specific stakeholder groups on specific topics, targeted data collection sessions, targeted policy feedback sessions, targeted training sessions, etc.

**Deliverables 1:**

* 1.A) Work plan specifying the detailed implementation plan (both for output 1 and 2) for the project’s duration.
* 1.B) Stakeholder consultation report including specification of arranged working relationships with stakeholders and organizations established for the project's design and implementation.
* 1.C) Market assessment report (1st draft version)
* 1.D) Market assessment report (final version)\*
* 1.E) validation/co-creation workshop report

**Output 2: Finance Facilitation and Policy linking.**

**Activities 2:**

1. Map existing solar irrigation financiers – their instruments and terms, and conduct bilateral meetings with potential financiers to identify specific matchmaking potential as well as to identify specific demands for data and information for investor decisions (investment criteria).
2. Develop selection criteria and identify and profile a minimum of 8 local companies who have a proven business model and who are looking to scale their business. Clarify (e.g. through interview/survey) their finance and support need and collect data and information for investment screening (qualitative assessment).
3. Develop training materials and conduct group session(s) to support companies in generating high quality data and investor pitches to link companies to specific potential financier(s).
4. Engage/influence stakeholders on the inclusion of GHG emissions reduction potential of solar irrigation in NDC review (UNEP-CCC will support on this).

**Deliverables 2:**

2.A) Mapping report on existing solar irrigation solution providers (companies) as well as financiers and their instruments and terms.

2.B) Report/profiles on Ugandan Solar Irrigation companies and Solar Irrigation financiers including profiles of local SIP companies who have proven business models and who are looking to scale their business. This includes pipeline of planned SIP projects for investment and companies’ finance and support needs (qualitative assessment)\*

2.C) Presentations and guidance material for engagement with companies and financiers. 2.D) Documentation of targeted business development support sessions with group of companies to enhance ability to pitch to SIP financiers.

*\*Note: potential overlap of activities feeding into separate deliverables.*

**Inputs:**

The service provider will have access to and use the following inputs to be provided by UNEP-CCC:

* Scoping report including stakeholder mapping, and links to reports on solar irrigation pump.
* Mapping of energy transition programmes in Uganda including on PUE[[2]](#footnote-2) and solar irrigation programmes.
* The consultant will work with UNEP-CCC project staff who will provide input and review support to the design and execution phases and participate as relevant in data collection and/or analysis.
* Organisational support for webinars will be provided by UNEP-CCC

**Qualifications of the successful supplier:**

* Minimum 3 years in operation working on the water-energy-food nexus and climate mitigation in the energy and/or AFOLU sectors in Uganda as well as in engaging with financial institutions or investors, public, and private sectors on climate-resilient agribusiness financing, influencing government, partnership building.
* Minimum 3 years of providing business development support to climate technology businesses.
* Minimum 3 years of supporting climate technology businesses in accessing capital/linking to investors
* The firm should be able to assign a focal point who can communicate in English.
* The firm should be located or have legal presence in Uganda.

The consulting firm shall assign personnel that can cover the following expertise:

* **Technical experts**: 8 years of experience in a field of relevance to this assignment and specific exposure to the SIP landscape. Possess a master degree with a background in engineering, agricultural economics, climate-smart agriculture, business/finance, environmental sciences, or other climate-related fields. 5 years of experience is in data collection, analysis, report writing, stakeholder engagement, market assessment on climate technologies. Quantitative skills in data and business analytics, data query in excel or R are required.
* **Business/finance experts**: 8 years of experience in business and finance, field working experience in engagement with businesses and finance stakeholders; provision of business development training; convening of business/finance stakeholders. 5 years of Experience in data collection through surveys, site visits, etc. and the analysis of data to inform policy or decisions.
* **Coordination support: 3 years of experience in organizing** and executing workshops, roundtables, training sessions as well as demonstrated skills in stakeholder engagement and management.

All the experts assigned should have in-country presence in Uganda.

In response to this RFQ, in Returnable Technical Quotation Form, the applicant should elaborate on how they will conduct data collection (methods) which aspect they will include in the market assessment, how they will connect and facilitate uptake of findings in regard to the different target groups (companies, customers groups, financiers, policy makers) as well as how they envision working with companies and financiers in regards to reaching the aim of facilitating investments.

**Timing and contract duration:**

The duration of the contract is 1 year, starting from May 2024.

**Expected workload in person days (NB: estimate only):**

The estimated expert days within the contract duration should be 110-120.

**Reporting requirements:**

All reports and other deliverables must be submitted in English.

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| --- | --- | --- |
| **Name of report/deliverable** | **Format, length** | **Quality standard** |
| 1.A) Work plan | Excel sheet | Internal working document |
| 1.B) Stakeholder consultation report | Word document, summaries, and reflections on stakeholder engagement as well as specification of arranged working relationships with stakeholders and organizations established for the project's design and implementation. Project work shall be aligned with the activity plan of the [National Road Map on Scaling Up Productive Use of Renewable Energy](https://www.gogla.org/wp-content/uploads/2023/07/Gogla_PURE-Roadmap-Report-Uganda.pdf) As well with the National Climate Finance Strategy. Maximum 10 pages | Internal working document |
| 1.C) Draft Market Assessment report | TBD | Draft version |
| 1.D) Market Assessment report | Report on the solar irrigation market including market size and potential, emissions reduction potential, actors and business model overview, site identification and feasibility cases. Presentation style layout, visuals, graphics, and shorter text.  Main report: approx. 30 pages + annexes. [Refer to ALLON report for guide on format](https://www.all-on.com/media/publications/_jcr_content/par/textimage_284420566.stream/1513077569229/633c8eee26fd508ff930708bba6fbd9c3d1bc594/2017-needs-assessment2.pdf). | For external publication – content should meet excellent research standards in terms of referencing, methods declaration, data analyses, language,  data protection, etc. |
| 1.E) Minimum 1 Validation / co-creation workshop report | Summary of workshop including list of attendees | Internal document |
| 2.A) Mapping report on solutions providers and financiers | Excel sheet | Internal working document |
| 2.B) Report/profiles on Ugandan Solar Irrigation companies and Solar Irrigation financiers | Report on solar irrigation companies’ business models, financiers, pipelines, finance, and support needs and  Financiers’ requirements, criteria, risk appetite, etc.  Minimum 8 1-page company profiles (non-confidential information) which can be incorporated in the market assessment report. | Report internal working document (consisting confidential of information)  Profiles for publication (non-confidential information). |
| 2.C) Presentations and guidance/training material for engagement with companies and financiers. | Presentations (PPT) and guidance material for engagement with companies and financiers (max 10 pages) | Documents to be share with project stakeholders |
| 2.D) Documentation of minimum two targeted group sessions to build capacities of businesses | Word document, max 10 pages. | Internal document |

Background analyses, secondary reviews, primary data sheets, analytical tools, excel sheets etc. shall be shared with UNEP CCC via a sharing platform (e.g. teams, google drive or other).

**Proposed Schedule of Payments:**

The contract price is a fixed output-based price, regardless of extension of the herein specific duration of the contract. Payments are tied to deliverables according to the schedule below.

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| --- | --- | --- |
| **Deliverables** | **Deadline** | **Payment** |
| Deliverables 1.A, 1.B and 2.A | June 2024 | 20% |
| Deliverables 1.C, 2.B, 2.C, 1.E | Nov 2024 | 50% |
| Deliverables 1.D, 2.D | April 2025 (latest) | 30% |

As part of its economic offer, the provider must indicate the number of expert-hours that it expects to dedicate to the consultancy, and the CVs of the personnel to be involved.

**Contract type to be used:**

Contract for small services.

**Sustainability requirements:**

Bidder shall provide documentation with details on how issues of Sexual Exploitation, Abuse, and Harassment are addressed in the organisation – including policies, procedures, and programmes or initiatives implemented to address the issue.

1. Agriculture, Forestry and Other Land Use (AFOLU) [↑](#footnote-ref-1)
2. Productive Use of Energy (PUE) [↑](#footnote-ref-2)