Terms of reference (ToRs) for the procurement of services below the EU threshold

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

	Project number
Terms of Reference (ToR) to explore the technical recommendations for the DRE ecosystem by piloting DRE system-based applications during floods.	**17.2166.1-001.00**

1. Context

The Indo-German Energy Programme (IGEN Access - II) is a bilateral cooperation project carried out by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Indian Ministry of New and Renewable Energy. IGEN Access - II aims to improve the energy supply in rural areas of selected federal states.

India has emerged as the fastest growing economy in the world with impressive growth rate of 7.3% for the year 2018-19 and is predicted grow at 7.5% in the following two years. India's current economic and social development is the result of systematic policy driven proactive governance. The government has initiated policies and programmes dedicated towards poor, marginalized strata of the society. Some of the activities initiated by the government for social and economic development are Swachh Bharat Mission (Clean India Mission) for improved quality of life, minimum pension for workers, social security for the common man, universalizing the banking system, rejuvenating the Ganga river, providing 24X7 power to all, connecting India through roads and rail, building affordable housing for the poor, and developing smart cities.

Though India has emerged as the world's fastest growing economy, still a quarter of its population lack access to basic electricity. The Government of India has achieved 100% household electrification by April 2019 and has set out an ambitious agenda to provide 24/7 supply to all households by 2022. In addition, the government has also incorporated renewable energy in its strategy with ambitious targets of 175 GW of renewable energy by 2022 to reduce the fossil fuel dependence and increase the environmental and social benefits.

Besides conventional source of energy, smart and interactive RE systems are an efficient, effective and complementary option for India that paves the way forward to a low carbon economy. To do so, RE planning as well as associated systems and processes should be far more flexible and efficient to balance dynamism of supply and demand. Considering, inefficiencies associated with long distance transmission as well as unmet local energy demand RE can be used in isolation or to compliment the central grid. RE can be quickly deployed and they carry the environmental and social advantage of reducing emissions; improving air quality; spurring local job creation and education and can also facilitate productive uses for economic benefit.

The Government of India faces the challenge of sustaining economic and industrial growth alongside providing affordable and reliable power to its people, at the same time reducing the country's carbon footprint.

This unmet energy demand and global consensus to move towards clean energy presents a huge business opportunity. Renewable energy solutions like decentralized renewable energy (DRE)

systems and grid tied RE systems have a huge potential and an important role to play in providing access to energy to in India and especially the rural population of India.

2. Background:

Every year India is prone to a variety of different natural disasters which include landslides, cyclones and droughts. One of the most common natural disasters in India are floods. They occur all over the country, especially during monsoon time. While floods are a natural phenomenon, climate change has already influenced the monsoon and rainfall patterns. Flooding has been a major natural disaster in the past and it will continue to be in the future. Each year, hundreds of people lose their lives and hundreds of thousands are displaced. Floods cannot be prevented from happening in the immediate term, but it is possible to adapt as well as prepare before they happen. This means that in case of flooding, affected people can be helped quicker and in a more efficient manner.

One of the big challenges in times of flooding is providing with energy. Besides providing energy for lights bulbs for instance, energy is also required to pump out water from homes or flooded fields in rural areas. As floods appear usually during the kharif season, farmers are especially exposed to the risk of losing their crops. Other activities requiring energy include drinking water supply, communication, transport, healthcare, etc.

Diesel-based generators are the main and sometimes the only source of energy during the floods. This has several implications for relief organisations. First, it is difficult to procure as well as transport the diesel to affected areas. Second, diesel-generated technologies are harmful for the environment. Use of diesel not only results in pollution in the local context (emissions, spillage, etc.), which affects the health of the local population, but also contributes to climate change through release greenhouse gas emissions.

A potential solution to those problems might be off grid renewable energy technologies. Given that DRE solutions are modular, they are easily portable and can be brought to places in times of floods and offer relief to people by providing energy. As with diesel generators, DRE solutions are also flexible and can be adapted to power multiple applications as per the requirement on the ground, such as basic lighting, pumping of water, mobile charging, portable light charging (Torch etc), RO systems to provide clean water and communication equipment, etc.

3. The Areas of Activities for IGEN Access-II Programme

IGEN Access-II Programme is geared to specialists and managers at state-run and private energy companies, to providers of financial and other services and to private and public training facilities and networks. Acting through these intermediaries, the module will indirectly reach the rural population who will then benefit from a modern, environment-friendly, high-quality energy supply, irrespective of gender, age, income or ethnicity.

It is expected that implementing the below-mentioned measures will increase the share of RE in rural areas of the partner federal states, and thus boost diversification in the Indian energy matrix

(results hypothesis). In the long term, expanding RE will reduce the need to operate conventional power plants and thus increase their capacities. The upshot: fuel savings and reduced emissions of climate-noxious gases. In this way, the project will make another important contribution to a sustainable and above all eco-friendly energy supply in India, thus contributing directly to the achievement of the programme objective.

The module aims to improve rural energy supply in selected Indian federal states. Therefore, one of its key elements centres on strategic advice for decision-makers (e.g. relevant Ministries, State Nodal Agencies and other departments) regarding the initiation of a cross-sector energy planning process for rural areas. Secondly, the module will work on improving overall sector environment by facilitating access to finance, improving capacities and awareness for demand and supply side stakeholders. In addition, development of concepts to explore role of decentralised renewables in special conditions, like disaster prone areas, livelihood generation etc is also planned. All this will lead of more affordable and reliable access of power in rural areas.

Module objective of IGEN Access-II programme: The energy supply is improved in rural areas of selected federal states.

Module objective indicators:

1. The number of RE systems sold to rural users by module-backed providers has quadrupled.
2. 4 recommendations elaborated by the module for improving the quality of the energy supply under certain specific conditions are implemented.
3. 40% of women-led Village Level Enterprises (VLEs) that disseminate RE confirm that their standard of living has improved by two points on a scale from 1 to 5.
4. Implementation of one component from the energy plans (e.g. remuneration system for integrated decentralised energy systems, subsidy programme for promoting electric mobility) is funded in 2 federal states respectively.

4. Objective

Demonstrate application of Decentralised Renewable energy solutions for reliable energy supply during floods.

5. Break-up of Tasks to be performed

IGEN Access-II intends to demonstrate, ways to provide energy access during the times of disaster like floods. The interventions will be focused and implemented in the sub Himalayan region of India including Uttar Pradesh, Bihar, Assam etc where floods are inevitable and happen

annually. Through this assignment IGEN Access-II would primarily focus on the role of DRE solutions to provide reliable energy supply during floods.

The bidding firm/consortium needs to develop the approach and methodologies for the intended intervention in line with the disaster management cycle suggested by the National Disaster management authority (NDMA), which starts with Prevention, mitigation, preparedness, followed by immediate relief response. It is required that the bidding firm/consortium has relevant experience of working with floods vulnerable communities and on providing DRE related solutions.

A holistic and integrated approach will be evolved towards DRE solutions in the context of floods management with emphasis on building strategic partnerships at a district level and focuses on the following. This is as per NDMA's guidance:

- Consolidation of past initiatives, best practices and gaps.
- Role of the various agencies up to the last mile including community-based organizations.
- Capacity development of all agencies on the policy as well as implementation plans.
- Coordination across the various agencies on the ground, as well as engagement with State, National and International agencies.
- Multi-sectoral strategies and synergies.

The following key activities will need to be performed under this assignment focusing on disasters, mainly floods and Renewable energy solutions to be integrated in specific:

1. As a part of this assignment, the following profiles for DRE systems are suggested to be demonstrated. These profiles will need to be in use beyond disaster (flood) times also for regular use or for other applications during the project duration. The purpose of this demonstration is to show that DRE solutions provide a secure and reliable supply of electricity both during and beyond disasters (floods)
    - Shelter house: Mapping the need of designated shelter houses and provide decentralized electricity to it for essential needs like basic lighting, drinking water, mobile charging
    - Health care centres: Provide electricity to health centres or clinics
    - Pumping/drainage: Provide pumping services to pump out logged water from critical areas. Also addressing better drainage improvement.

At the proposal stage, following information is required:

2. Identification of intervention area
    - Social, economic and demographic: The bidder should propose suggestive profiles of the communities (in at least 2 main districts and 2 additional backup districts) to propose DRE interventions
3. Vulnerability assessment and risk analysis to prepare the plan for the intervention.

- History of vulnerability of the state and identified district for floods.
- Hazard risk assessment and vulnerability mapping.
- A hazard profile of the state/identified district together with maps and details of zonation, if available readily, undertaken. The bidder in their proposal should suggest the measures to be adopted for adopting DRE solutions while assessing the vulnerability in terms of landscape, community/people to be affected and the energy requirements etc.

4. Approach and methodology

   The bidder/consortium in their technical proposal should explain the approach and methodology to be adopted to perform the key activities. Here, in addition to the core activities, the bidder may also include involvement of the relevant stakeholders like national and state resources: government, private, civil society to be on board for implementation.

   Secondly, during the implementation stage, a detailed design of plans developed for immediate response, which would be initiated on a trigger mechanism, basis upon the occurrence of the, floods also needs to be prepared.

   The approach will be to work in floods affected areas and in line with the following guidelines issued by National Disaster management authority for

   i. Community-based disaster risk reduction (CBDRR).
   ii. Management of floods (https://www.ndma.gov.in/images/guidelines/flood.pdf)
   iii. Temporary-Shelters-Disaster-Affected-families (https://www.ndma.gov.in/images/guidelines/Temporary-Shelters-Disaster-Affected-families.pdf)
   iv. Hospital safety (https://www.ndma.gov.in/images/guidelines/Guidelines-Hospital-Safety.pdf)
   v. School Safety (https://www.ndma.gov.in/images/guidelines/School-Safety-Policy.pdf)
   vi. Management of urban flooding (https://www.ndma.gov.in/images/guidelines/management_urban_flooding.pdf)
   vii. Other state disaster management policy and plans of states where the bidder is proposing to intervene.

   The bidder needs to share a detailed plan of action with timeline and milestones to be achieved. This assignment is expected to start by third week of June, and it is assumed that normally floods happen during August/September. The bidder will be expected to prepare for and implement the assignment during floods and conduct monitoring on how the assets are utilised during and post floods times.

   The bidder/consortium is expected to leverage the resources for DRE assets on its own – this plan needs to be clearly detailed out in the proposal. No budgets from this assignment can be used for procurement of DRE assets.

5. Co-ordination and implementation

   The bidder needs to detail out plans and methodology for coordination between various agencies involved in disaster management (like local authorities, SDMA, communities, civil society etc) and ensuring implementation of the tasks entrusted to them, relevant to

this assignment during the proposal stage. Coordination of efforts amongst various government departments and other stakeholders generates synergy and involves the bringing together of agencies and functionaries to ensure effective performance. Constitution of core advisory group (of at least 5 members) having one member each from NDMA (retired), SDMA (retired), Civil society, renewable energy sector, and private players etc. to steer the project is suggested

6. Recommendations
   At the end of the assignment, key recommendations to be shared from the assignment needs to be presented to relevant stakeholders. These may also include the following:
   - Prevention and mitigation plans; short, medium and long term with structural and non-structural measures required to be taken together with identification of nodal department(s) for each activity.
   - Requirements on awareness generation, training, capacity building and other proactive measures.
   - The roles of academic institutions and scientific and technical organisations which have an important function in Disaster Management may be spelt out from early warning to recovery.
   - Literature review of the existing RE model utilise under this assignment, and other potential solutions (Innovative RE solutions) catering the needs of the challenges and opportunities further identified after the implementation of the assignment.
   - A suggestive Supply chain case on how to source, transport and install the applications at sites and how to retrieve, if needed. This should come in the report.

Along with the details above the organization is also required to address the following aspects within their technical proposal.

I. What are the perceived risks in the implementation of the above assignment?
II. What kind of arrangements can be done to monitor the performance of assets utilized during the intervention remotely? Will the bidder propose to opt such arrangements for this assignment?
III. What are the potential Decentralise RE solutions, will the bidding firm envisage to utilise for the demonstration, under this assignment? Innovative solutions proposed at the proposal stage would be considered as an added advantage (Refer technical assessment grid, point 1.7).

6. Timeline and Reporting

The expected duration of the project to be around 135 human-resource days spread over 15 months period from the date of award of the contract. GIZ may also require the organisation to prepare short reports / concept notes / discussion papers / minutes of meeting from time to time.

Payments will be linked to milestones achieved quarterly.

Following are the estimated Human resource requirement envisaged in this assignment

Human Resources	No.	Days
Team Leader	1	25
Sector Expert	1	30
Two (02) Field coordinator	2	80

It is also estimated that the above 04 experts would undertake 10 round trips to the site of the implementation of the different concept they would propose. However, it is encouraged that the organisation should propose detailed travel requirements that is needed to implement the overall project viz. different experts and the numbers of travel to be taken by each.

7. General Deliverables for the Project Management

The organisation is expected to provide the following deliverables

- Inception report, including report on the intervention area (demographic, socio economic, vulnerability assessment framework, etc.); vulnerability assessment report; potential DRE solutions for pre, during and post floods.
- Capacity building and key recommendations (refer section 5, point no 6) for different stakeholders to be adopted for pre, during and post floods.
- Preparedness assessment (drills, etc.) report
- Two (2 numbers) roundtable meetings with the stakeholders to present the findings. Out of the two roundtables, one should be at (1) at state level, and one at national level (preferably at New Delhi) and report on these workshops.
- At least 5 meetings with core advisory group during the project intervention period and minutes of the meeting.
- Final Report (including the end line survey results) with all recommendations mentioned under section 5.6.
- Monthly 1-page updates and a fortnightly update call.
- Logbook of people served through the intervention including details like name, gender, purpose etc.

8. Program Steering and Reporting

- The organisation will report to a Technical Expert (to be nominated) from IGEN Access-II programme of GIZ India.

- The organization is to designate a team lead; who should take all key decision on behalf of firm and should act as a point of contact for all communication.
- During the period of assignment, the organisation is expected to report on a fortnightly basis regarding the progress on the assignment. The organisation is expected to develop a Project Monitoring Sheet (PMS) for regular tracking of progress made on the assignment. The format of PMS will be shared with the organisation.

9. Qualification Criteria of the firm

GIZ through this assignment would like to demonstrate pilots on ground. The assignment requires diverse skill set, experience and the bidders need to ensure and prove that they have all the relevant skills needed for completing the assignment successfully.

An added advantage will be given to a consortium of firms which commits experts under this assignment from Technology provider firm as well as civil society firm/NGO/CSO for the better ground implementation and community involvement. This will be considered as a special condition mentioned in the Technical assessment sheet (Refer technical assessment grid, point 1.7).

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The firm/team should have experience in

The proposed team should have the following experience and expertise:

1. The organisation technology provider should have at least three (03) years of ground presence in implementing their technical solutions.
2. Experience of understanding the disaster/floods related issues particularly on preparedness and resilience.

The bidder needs to demonstrate following ability through adequate references and documents.

- Provide evidence of at least 3 reference projects / assignments in “rural electrification” with at least 3 references “executed in flood prone areas” in the last three years. The commissioning value of the reference project must be a minimum of 10000 euros.
- Average annual turnover for the last three financial years for the firm should be more than 65,000 euros. Demonstrate ability to work in a highly collaborative environment with teams that are subject to time and skill constraints.
- The bidding firm should have at least 10 persons working as their employees.
- The bidding firm should have ground presence in potential states for implementing this assignment preferably in Bihar, Uttar Pradesh, Assam and any other floods-prone states.
- It is also desirable that the firm should have experience of development projects (ODA financed). This will be considered while evaluating the eligibility of the bidding firm for this assignment.

10. Human resource requirement

The organisation is expected to provide a pool of expert to accomplish the overall assignment. The pool of experts should encompass:

a. Project Management specialist/Team Lead
b. Other expert with experience in energy access, social mobilisation and business development
c. Two field coordinators cum research analyst

10.1 Project Management Specialist/Team Leader

Reports to – GIZ (assigned GIZ's Technical expert and GIZ's IGEN Access-II lead)

Core Responsibility	Core Competencies & Requirements
• First point person of contact for the project • Ensure transparency and quality standards • Proof reading of documents • Acts as back stopper for the project on any human resource gap during course of project period • Checks on the fund utilisation and financial planning in consultation with the officer responsible for the commission at GIZ • Develops a detailed action plan for the team members based on the agreed deliverables for the project • Responsible for reports and other reporting compliances as per ToR	• Master's degree in energy or related field and at least ten (10) years of overall experience (refer 2.1.1 and 2.1.3 in the technical assessment gird). At least five (5) years of operational experience in dealing with disaster/floods situation (refer 2.1.4). • Minimum of five (5) years of work experience in programme management (refer 2.1.5) • Possess personal qualities of integrity, credibility, and commitment to execute mandate • Knowledge of spoken Hindi in addition to English (refer 2.1.2) • Should have regional work experience in the mentioned in this TOR. (refer 2.1.6) • Should have at least five (5) years of experience in the project execution of development sector (refer 2.1.7).

10.2 Sector expert

Reports to – Team Leader

Core Responsibility	Core Competencies & Requirements
• Support team in energy related scenario building. • Technical feasibility of the solutions. • Implementation of various technical solution on ground. • Support researcher/analyst in developing documents	• Should have bachelor's degree in energy or development studies or related field (refer 2.2.1) and at least five (5) years of operational experience (refer 2.2.3) • Should have knowledge of local Indian language and fluency in English (speaking and writing) (refer 2.2.2) • Minimum of three (3) years of work experience in related fields including energy access, social mobilisation and business development on the ground (refer 2.2.4) • Minimum 2 years of experience in program management. (refer 2.2.5) • Should have regional work experience as specified in the TOR (refer 2.2.6).

10.3 Field co-ordinator cum research analyst

Reports to – Team Leader

Core responsibility	Core Competencies & Requirements
• Support in the implementation of the project. • Support in the monitoring and evaluation of the assignment. • Focal point for GIZ, to provide field information from the project.	• Bachelor's degree in business administration/Science/Maths or related field (refer 2.3.1/2.4.1) • Knowledge of spoken Hindi and English (refer 2.3.2/2.4.2) • Should have experience of working with rural communities (refer 2.3.3/2.4.3) • Minimum of three (3) years of work experience in implementation of projects related to DRE applications. (refer 2.3.4/2.4.4).

	• Should have regional work experience as specified in the TOR (refer 2.3.6/2.4.6).

11. Quality Assurance and Other Bidding Requirements

To ensure the quality of the outputs the organisation must meet the following requirements:

- GIZ honours intellectual copyrights and strictly prohibits any copyright violations and plagiarism
- GIZ will not be providing any fund to be used to create assets on ground. The bidder must keep this checked while preparing the technical as well as financial proposals.
- Reports or documents pertaining to the project and prepared by the organisation need to be thoroughly verified prior to submission. Sub-quality deliverables would not be accepted
- It is expected that all documents will undergo a final proofread by the team leader
- The organisation ensures that GIZ staff is briefed continuously on the progress of the project and informed immediately on any changes whatsoever (e.g. delays, availability of information etc.)
- All meetings will be documented by the organisation. The minutes of meetings need to be approved by the staff of GIZ
- The organisation is not allowed to replace project staff without prior approval by the staff of GIZ
- All the steps of the scope shall be coherent and complimentary in nature and they should not be considered as individual isolated steps
- GIZ encourages to share the results achieved from the assignment including relevant data with the larger audience for better sectoral learnings.
- The bidder organisation can refer to the parameters mentioned in the Technical assessment grid (attached in the Tender document) to prepare the technical proposal.

12. Structure of the Proposal

- The proposal should contain a very brief company profile followed by a detailed approach and methodology to execute the project. The proposal should also contain the project timeline highlighting milestones and deliverables. Please elaborate the roles and responsibilities of the different team members in the proposal. please also refer to other requirements detailed under section 5,

- The entire proposal including approach and methodology proposed, CVs etc., needs to be in English. Each CVs need to be in uniform format with a maximum of three pages; The length of technical proposal should not exceed 25 pages;

- The template for financial quotes has been attached with the tender documents. The potential bidders are advised to follow the attached budget template;

- The bidder is expected to keep separate detailed budgetary provision for flights, other (local/national) travel costs, per diems and accommodation costs for their team.

- Consideration of local resources should be clearly outlined in the proposal. Local resources could be used for coordination purposes and local logistics.

13. Further Requirements

- All reports, slides, presentations and other media and information material need to be submitted to GIZ in soft copy and in hard copy as required;
- Timelines shall be strictly adhered and delay in any of the deliverable shall be reported and aligned with GIZ in advance.
- The bidder may be required to make technical presentation to GIZ before final selection at GIZ office. In case it is required, the bidder will be informed in advance.

Note

- In order to select a suitable organisation, GIZ may invite shortlisted organisations to present their methodology and approach to a committee which will help GIZ in making final selection.
- It may also be foreseen that GIZ may consider termination of the contract prematurely in case of limited participation or due to any other unforeseen events. All communications through any media (e.g. print, newspaper, journals and any other mass/social media) must be approved by the responsible person of GIZ