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**Indo-German Energy Programme**

**IGEN Access II**

**Project number / cost  
centre:**

17.21661.1-001.00

Terms of Reference (TOR) - To identify a specialised technical firm to develop demand assessment framework and map demand for Decentralised Renewable Energy (DRE) powered livelihood applications in India.

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## **0. List of abbreviations**

AVB	General Terms and Conditions of Contract (AVB) for supplying services and work 2018
BMZ	Federal Ministry for Economic Co-operation and Development, Germany
DRE	Decentralized Renewable Energy
EU	Energy Users
FI	Financial Institutions
FSP	Financial Service Providers
HHs	Households
IGEN Access-II	Indo German Energy Programme – Access to Rural Areas II
MNRE	Ministry of New and Renewable Energy
RE	Renewable Energy
RES	Renewable Energy Sources
ToR	Terms of Reference
WP	Work Package

## **1. Background**

Decentralized Renewable Energy (DRE) systems besides conventional source of energy, have a huge potential and an important role to play in providing access to energy in rural India and promoting livelihood opportunity in India. At national level the Government of India has 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.

The Access to Energy Programme II comes under the Indo-German Energy Programme (IGEN) and is a bilateral technical co-operation measure between the Federal Ministry for Economic Co-operation and Development (BMZ), Germany and the Ministry of New and Renewable Energy (MNRE), Government of India. IGEN Access - II aims to improve the energy supply in rural areas of selected federal states. The module is designed to act in selected partner federal states where it will: advise political decision-makers on the initiation of a cross-sector energy planning process; work with incubators and financial service providers to disseminate models for improving basic household energy supply; and devise basic concepts for enhancing energy quality in rural areas across different geography. Target group for the module are the rural population across India, who will benefit from a modern and environmentally friendly power supply irrespective of their gender, age, income or ethnicity.

## **2. Context**

The draft policy framework circulated by Ministry of New and Renewable Energy (MNRE)<sup>1</sup> highlight the importance, relevance of Decentralised Renewable Energy (DRE) powered livelihood solutions in detail. It is noted that DRE have the potential to reduce and eventually eliminate the reliance of livelihoods on diesel and can supplement the grid supply. DRE livelihood applications can be defined as applications powered by renewable energy - solar, wind, micro-hydro, biomass and their combinations, which are used for earning livelihoods directly such as solar dryer, solar mills, solar or biomass powered cold storage / chiller, solar charkha and looms, small-scale biomass briquette / pellet-making machines, etc. The scope may also include DRE applications operating in hybrid mode with grid as long as the system is capable of running standalone in the off-grid mode as well.

In India, successful pilots of DRE livelihood applications in farm (agriculture, agro-processing, dairy, poultry, fisheries) and non-farm activities (tailoring, flour mill, silk reeling) have been implemented at the field level by central and state government agencies / department and through Non-Government Organisations (NGOs) receiving support from bi/multilateral, donor agencies.

In current scenario, a standard demand assessment framework to understand and estimate demand for DRE powered application across different potential livelihood is absent. Understanding the opportunity, potential of DRE powered livelihood applications across various sectors of the economy and across different regions will help in replication of pilots in wider geography and in designing implementation plan with support of State Nodal Agencies and State Rural Livelihood Missions /other state departments.

Further the demand assessment activity will help in mapping needs of potential end users with appropriate fit to DRE livelihood applications. Identification and mapping of DRE livelihoods applications under farm and non-farm segment become more relevant in current climate change context because of their potential to create sustainable green jobs.

## **3. Task to be performed by the contractor**

GIZ is seeking the services of a specialized firm (hereinafter referred as “the bidder”) to provide technical support to to develop demand assessment framework and mapping demand for Decentralised Renewable Energy (DRE) powered livelihood applications in India.

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<sup>1</sup> F.No.32/18/2020-SPV Division dated 08<sup>th</sup> March 2021

**Work Package 1:** To review, design and develop standard demand assessment framework for Decentralised Renewable Energy (DRE) powered livelihood applications in India.

1. To review existing demand assessment framework available in national and international context with reference to DRE powered livelihood applications.
2. To identify and integrate standard assessment criteria and customise demand assessment framework for Indian context.

Listed below are some of the broad criteria for consideration in developing the framework

- Availability of standard technology with specification, Compatibility of technology with local requirement; Price competitiveness; Ease and convenience of access; comparative economic benefits (cost benefit analysis)
- Awareness and Knowledge of product; profile of potential end user; Investment readiness (interest to buy on their own, subsidy driven),
- Market readiness; Policy guidelines; Capacity of existing support infrastructure.
- End user receptiveness towards environmental and social benefits.

3. To present the developed framework in workshop and finalize the Demand Assessment framework in consultation with relevant stakeholders. It includes Ministry of New and Renewable Energy (MNRE), GIZ, livelihood mission, State nodal agencies, bilateral agencies, technology service provider, implementation agencies and end users

**Work Package 2:** Use the developed assessment framework to estimate demand for potential Decentralised Renewable Energy (DRE) powered livelihood applications across different regions / states of India. Importantly the demand estimation will focus on both perspectives, End User level and technology level.

1. The firm in consultation with Ministry of New and Renewable Energy and GIZ will identify potential livelihood technology / application within different states of India to estimate the demand.
2. For the proposed study at least 12 application / technology that has potential to use in different livelihood activity across different regions of India will be selected.
  - It is expected that more than one technology will be selected from one state with potential of both farm and non-farm based technology.
  - For each technology selected, 50 number of potential end user of the proposed technology will be interviewed using standard questionnaire by the firm to understand the local demand and expectation.
3. To collect primary information with reference to identified technology the firm will propose appropriate methodology in line with proposed sample size for end users.
  - The firm should ensure that the sample selected should represent the potential user population and statistically significant.
  - If any modifications are required based on field scenario, same can be discussed and mutually decided on case to case basis.
  - Develop, share for feedback and finalize standard data collection format in consultation with IGEN Access team.
4. The firm should analyse the primary information collected to map the potential demand for DRE powered product supported adequately with other secondary data.

Note: The demand for technology at enduser level should be analysed and presented at identified technology level and findings aggregated at state and national level.

**Work Package 3:** To assess and prepare a detailed report on supporting ecosystem that is available or required to meet the projected demand of identified technology at cluster, state and at national level.

1. The firm will identify different stakeholders who may play a crucial role in promoting and deploying DRE powered technology in field.
  - It may include financial institution (formal and semi-formal institutions), government departments, technology service provider, installation and maintenance staff, field implementation agency.
  - For each identified technology at least 20 individual stakeholders who will contribute to promotion and deployment of services will be interviewed.
  - The firm should analyse the primary information collected across region to highlight the existing facilities and potential gaps to address.
- Final report should identify the existing gaps (availability of standard technology, product specifications, awareness about technology, availability of service providers and interest of financial institutions to lend for DRE powered applications.
- Provide roadmap for sector level policy guidelines and share expectation from field with Research and Development agencies to develop technical standards for DRE products that are efficient and cost-effective for wide-spread adoption.

**The bidders will be evaluated based on the answers to the following questions. The bidder must answer each of the questions, failing which, it may lead to disqualification.**

1. Based on the understanding of the assignment, we would expect the bidder to provide rationale for adopting the suggested methodology / approach to complete the work package or allowed to suggest an alternative method. The alternative method should include rationale for selection (considering covid restriction in terms of travel and face to face interaction) and effectiveness in terms of overall roll out process.
2. What would be the strategy for selection of potential end users and relevant stakeholders with reference to identified technology.
3. How coordination with different stakeholders is planned and in case of unexpected delays what strategy, what potential organisation strength is proposed to leverage from?
4. Based on your approach suggested for the assignment, can you please highlight the associated risks and its subsequent mitigation process?

#### **4. Deliverables**

- A detailed demand assessment framework for DRE powered livelihood products is developed and submitted as part of the consultancy.
- Detailed report on the demand for DRE powered technology based on primary field information is done further aggregated at state and national level.
- Prepare a detailed report on supporting ecosystem that is available or required to meet the projected demand of identified technology at cluster, state and at national level.
- As required the firm will organise two regional workshops and one national event to share the findings with interested stakeholders.

**NOTE:** The Bidder in their technical proposal should explain the approach and methodology, adopted to perform the key activities explained above. In principle the technical firm should agree and be flexible in its approach to include the expectation and suggestions from MNRE during the assignment period in order to achieve the above deliverables.

#### **Assignment period**

- The assignment will be of total 12 months from the date of signing the contract.

<b>Milestone</b>	<b>Deadline / Place / Person responsible</b>
Induction meeting	Within three weeks of signing of the contract. Face to face or virtual based on Covid regulation

Milestone	Deadline / Place / Person responsible
	GIZ team and bidder will jointly agree upon the tasks, finalize Project Monitoring Sheet (PMS) and timeline.
Review and development of demand assessment framework for DRE powered application	2 months from the date of contract award
Finalisation of framework and identification of technology in consultation with MNRE and GIZ. Development and finalisation of data collection format in consultation with GIZ Team	04 months from the date of contract award
Execute field data collection from end users and relevant stakeholders across identified clusters	8 months from the date of contract award
Data analysis	9 months from the date of contract award
Submission of draft report for feedback along with data sheet and photographs in agreed format	10 months from the date of contract award
Feedback from GIZ for incorporation	11 months from the date of contract award
Finalisation of report and organising events for dissemination if required.	12 months from the date of contract award

Bidder should propose detailed human resource allocation strategy, based on their experience and core expertise, for effective and quality communication particularly with GIZ and with Government officers. The bidder is expected to further detail out expert (or team member) wise the said person days, in their proposal.

During this period, the consultant is expected to report on **monthly basis** regarding the progress on the assignment.

The consultant is also 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 consultant. GIZ may also require the consultant to prepare short reports / concept notes / discussion papers from time to time.

## 5. Concept

In the bid, the bidder is required to show how the objectives defined in Chapter **Error! Reference source not found.** are to be achieved, if applicable under consideration of further specific method-related requirements (technical-methodological concept). In addition, the bidder must describe the project management system for service provision.

### Technical-methodological concept

**Strategy:** The bidder is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 2). Following this, the bidder presents and justifies the strategy with which it intends to provide the services for which it is responsible (see Chapter **Error! Reference source not found.**).

The bidder is required to present the actors relevant for the services for which it is responsible and describe the **cooperation** with them.

The bidder is required to present and explain its approach to **steering** the measures with the project partners and its contribution to the results-based monitoring system.

The bidder is required to describe the key **processes** for the services for which it is responsible and create a schedule that describes how the services according to Chapter **Error! Reference source not found.** are to be provided. In particular, the bidder is required to describe the necessary work steps and, if applicable, take account of the milestones and contributions of other actors in accordance with Chapter **Error! Reference source not found.**

The bidder is required to draw up a **personnel assignment plan** with explanatory notes that lists all the experts proposed in the bid; the plan includes information on assignment dates (duration and expert days) and locations of the individual members of the team complete with the allocation of work steps as set out in the schedule.

### **Project management of the contractor**

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

- The bidders are **encouraged to bid in consortiums** to ensure all required expertise is available for undertaking the assignment and to ensure timely completion.
- GIZ honours intellectual copyrights and strictly prohibits any copyright violations and plagiarism
- Though not applicable as per ToR, note - 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, change in human resource, 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.

## **5.1 Personnel concept**

### **5.1.1 Eligibility Criteria for Firm**

- Successfully completed at least two reference projects (each larger than 40,000 Euro or equivalent) where the organisation **mapped demand for farm and nonfarm based livelihood** at state or region level using standard framework and one reference project in implementing or documenting **renewable energy powered livelihood** activity within last 3 years.

- The bidding organizations require an average annual turnover of 100,000 EURO over the last three financial years and
- Must have employed as on 31.12.2020 at least 10 person's full time.

The Bidder firm (and/or its consortia partner) company must have **Technical experience** of

- About 5 years of experience in undertaking field research to map and identify demand for livelihood covering farm and nonfarm activities.
- Experience of designing implementation plan for livelihood programs through resource, demand and market trend assessment
- Experience of assessing demand potential of renewable energy integration across different livelihood and value chain.
- Fair experience of scanning and engaging (International / national) technology provider to develop demand assessment framework. Preference will be given to DRE sector experiences.
- Have inhouse capacity and long-term partnership with field organisations to execute the field assignment.
- The team should have experience of ODA financed development project

Bidder must submit documentary evidence of above-mentioned requirement along with the bid.

### 5.1.2 Team

The bidder is required to provide personnel who are suited to filling the positions described, on the basis of their CVs, the range of tasks involved and the required qualifications

The below specified qualifications represent the requirements to reach the maximum number of points.

**The bidder should provide relevant documents to demonstrate the below mentioned skill sets**

#### I. Team leader (1 Number)

##### Tasks

- Overall responsibility for the advisory packages of the contractor (leading the team, provide guidance, responsible for the quality of the deliverables and deadlines)
- Coordinating and ensuring communication with GIZ and relevant stakeholders.
- Personnel management as well as planning and steering assignments and supporting the experts in successful completion of assignment.

##### Qualifications of the team leader

Parameter	*Reference	Details
Qualification	2.1.1	Master's in Energy studies / Rural Development / Agriculture / Management studies.
Language	2.1.2	Good business language skills in English, Hindi
General professional experience	2.1.3	10 years of professional experience in executing field research projects covering renewable energy and livelihood.
Leadership / Management experience	2.1.5	10 years of management / leadership experience as project team leader or manager in a company



Other	2.1.8	<ul style="list-style-type: none"> <li>Flexible and able to multitask; can work within an ambiguous, fast-moving environment, while also driving toward clarity and solutions; demonstrated resourcefulness in setting priorities.</li> <li>Experience in renewable energy products especially solar powered systems would be an added advantage.</li> </ul>
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**\*Reference to technical assessment grid**

**II. Lead Researcher (1 Number)**

Tasks

- Review, design and develop demand assessment framework for DRE powered livelihood application.
- Coordinate and identify potential cluster for demand mapping study in consultation with MNRE, GIZ and relevant stakeholders.
- Design and develop appropriate research methodology based on sample proposed in the ToR or suggest an alternative method.
- Coordinate with regional coordinators in-charge of different states.
- Share execution plan to rollout the study considering the associated risks in context of covid scenario.
- Roll out end user data collection across different States, manage field team and mitigate risks, challenges in execution.
- Develop and finalize structured questionnaire to collect information.
- Guide analysis of field information and develop reports as per deliverables.
- In charge of submitting quality final reports as per deliverable
- Organize events if required to disseminate the learnings from the study.

Qualification

Parameter	Reference	Details
Qualification	2.2.1	Post-graduation in management / Energy studies / Rural Development / finance
Language	2.2.2	Good business language skills in Hindi, English and one of the regional languages of the project states.
General professional experience	2.2.3	At least 10 years of professional experience of demand identification, mapping in livelihood activities and executing development projects across region.
Specific professional experience	2.2.4	Atleast 5 years of experience in household survey, stakeholder analysis and documentation for National and international organisation.
Other	2.2.8	Knowledge of renewable energy products and experience of DRE based products (atleast one project) is essential.

**III. Research Coordinator (2 Numbers)**

Tasks

- Assist in review of literature and in finalizing the demand assessment framework for DRE powered products.

- Help in organizing meeting, discussion with stakeholders as per requirement.
- Support in roll out of primary data collection from end users and discussion with relevant stakeholders across identified clusters.
- Help identify and train field data collectors across state to collect field information and verify information collected.
- Help manage field team and mitigate risks, challenges in execution.
- Validate data collected from field through data collectors and help develop reports as per deliverables

#### Qualifications

Parameter	Reference	Details
Qualification	2.3.1	Post - Graduate in energy studies/ rural development / management / finance
Language	2.3.2	Good business language skills in Hindi, English.
General professional experience	2.3.3	3 years of professional experience in rural livelihood and energy sector.
Specific professional experience	2.3.4	3 years' experience in managing and coordinating team in household data collection.
Other	2.3.8	Knowledge of solar products and demand mapping exercise is an added advantage.

#### **IV. Data Analyst (Refer 2.5 in Technical Assessment Grid)**

##### • Task

- Should have experience of analysing quantitative information collected from field by using proper statistical tool.
- Guide research team in designing data collection and data entry format.
- Facilitate interpretation of data collected from across region.

##### • Qualifications

Parameter	*Reference	Details
Qualification	2.5.1	Master's degree in statistic / finance or related field
General professional experience	2.5.3	Minimum 5 years of experience in field data analysis and interpretation of results.
Specific professional experience	2.5.4	Good knowledge of statistical packages and tools

#### **V. Field Data Collector (15 Numbers)**

##### Tasks

- Attend training and understand the purpose of the proposed assignment.
- Help collect information from field using standard formats developed for the study covering end users and relevant stakeholders.
- Provide support in sharing qualitative information from field.

##### Qualifications

Parameter	Details
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Qualification	Any graduation
Language	Good business language skills in Hindi and regional language of the state.
General professional experience	Atleast 5 years of work experience in rural development projects with focus on livelihood and renewable energy.
Specific professional experience	2 years in experience in field data collection process using structured formats.
Other	Exposure to renewable energy products and livelihood activities will be added advantage

**At proposal stage CV of team leader, lead researcher, two research coordinators and data analyst are to be shared. The CVs shall not exceed 3 pages.** The CVs must clearly show the position and job, the proposed person held in the reference project and for how long. The CVs must be submitted in English (language).

**Note: Bidder should share one-page CV of identified 15 field data collectors by end of 8<sup>th</sup> week from signing the contract satisfying all required qualification.**

## 6. Costing requirements

### 6.4. Assignment of personnel

Role	Number	Human Days (Spread across 12 months)
Team leader	1	45
Lead Researcher	1	100
Research Coordinator	2	75 x 2 = 150
Data Analyst	1	25
Field data collector	15	60 x 15 = 900

### 6.5. Travel

The bidder is required to calculate the travel by the specified experts and the experts it has proposed based on the places of performance.

The consultant is required to list the expenses with breakups as per the following estimation:

- Flight/ mostly **train travel** costs (across focus states) up to 35 round trips
- Intercity / inter-district travel expenses up to 200 trips
  - Across study locations within the project states – Mainly villages, tier 2 and 3 cities
- Daily allowance and accommodation as per the envisaged trips above

## 7. Requirements on the format of the bid

### 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

and backstop arrangement available for suggested human resource in the proposal. **No extra fee for backstopping team shall be paid.**

- 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 22 pages excluding CVs.
- If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment.
- 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 train/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.

#### **Further Requirements**

- All reports, slides, presentations and other media and information material need to be submitted to GIZ in soft copy.
- Timelines shall be strictly adhered and delays in any of the deliverable shall be reported and aligned with GIZ in advance.
- In order to select a suitable organisation, GIZ may invite shortlisted organisations to present their technical presentation and approach to a committee which will help GIZ in making final selection.
- In case it is required, the bidder will be informed in advance.
- GIZ reserves the right to cancel or modify this tender. Notice will be provided accordingly.

#### **Annex 01 - Specific Conditions pertain to Covid- 19 Measures**

The specific conditions pertain to Covid- 19 measures are integral part of contract and shall act as binding document under special agreement and interpreted along with GTCC.

In addition to the provisions as detailed in clause 09 of The General Terms of Contract governing the delivery of works and services commissioned by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (local), the Consultant confirms that he/she accepts the Consulting engagement with full knowledge and understanding of the travel and other requirements of the engagement including specifically the need, on the part of the Consultant, to take all required precautions (including prevention and risk mitigation measures) against the risks arising from the ongoing Novel Corona Virus (CoVid - 19) Pandemic.

The Consultant shall provide to the GIZ an RT-PCR Negative Test Report for Novel Corona Virus (CoVid - 19) prior to starting the Consulting Engagement and shall additionally comply with the following at all times in the course of the Consulting Engagement:

1. Obtain Medical and other Insurance Cover in respect of the Novel Corona Virus (CoVid - 19) Infection/Disease and consequences thereof – (GIZ will reimburse the insurance cover up to 5000 Indian Rupees)
2. Strictly follow and comply with the prescribed Mask, Hand Washing / Sanitization and Social Distancing Protocols.
3. Take safe and secure mode of transportation.
4. Observe all local restrictions/precautions as applicable for the specific areas of travel covered by the Consulting Engagement.

5. If eligible, get vaccinated against the Novel Corona Virus (CoVid - 19).
6. Install and maintain as active at all times the Government of India's Arogya Setu App.
7. If exposed to any active case of Novel Corona Virus (CoVid - 19) to take all steps as advised by the Government of India's advisories in such case.
8. If feeling unwell and experiencing any of the symptoms of Novel Corona Virus (CoVid - 19) infection - to take all steps as advised by the Government of India's advisories in such cases including but not limited to getting an RT-PCR Test for Novel Corona Virus (CoVid - 19), selfisolation, notifying the GIZ and also the concerned local Novel Corona Virus (CoVid - 19) isolation/treatment facility.
9. Other compliance as may be notified by the GIZ and the Government of India from time to time in relation to Novel Corona Virus (CoVid - 19) infection/disease.

Furthermore, The Consultant accepts the Consulting Engagement on a best and informed judgement basis with full knowledge of the tasks to be performed, the place of performance and the precautions and safeguards to be reasonably taken by the Consultant to mitigate all types of risks associated with the said Consulting Engagement. The Consultant undertakes the Consulting Engagement at his/her own risk and responsibility and shall not, under any circumstances, and at any time, be entitled to assert any liability or other claims whatsoever against the GIZ, its Management, Officers and Employees for any consequences or risks or harm that may arise to the Consultant in the course of or as a consequence of undertaking the Consulting Engagement or any actions or consequences arising in relation to such Consulting Engagement