

Terms of reference (ToR's) for the procurement of services

Terms of Reference (ToR) for engaging a consultant to develop Multi Sectoral State Energy Plan and RE Roadmap for the state of Uttarakhand

Project number
17.2166.1-001.00

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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 is envisaged to play a key role in the global energy scenario as India is likely to account for 25% of the rise in global energy demand by 2040 (International Energy Agency). India's energy sector is set for a sea change with recent developmental ambitions of the Government of India. India plans to achieve 450 gigawatts (GW) of renewable energy installations, by 2030, 24X7 Power for all by 2022, 10% reduction of oil and gas import dependence by 2022 (from 2014-15 levels). Provision for ensuring of clean, reliable and affordable energy for all sectors such as transport, cooking, agriculture, industry, MSME etc will certainly make India's energy sector development friendly and secure.

To make energy sector more resilience, demand driven and proactive several policies and market driven initiatives were undertaken to ensure large scale adoption of clean, renewable, efficient, and climate friendly energy technologies across various states.

2. Background to State Energy Plan and Renewable Energy Roadmap

State being part of the energy system of the entire country it shares all the threats and risks that India is currently facing in its energy sector. It needs to be prepared to protect its own sectoral development through various mitigation and adaptive measures.

The aim of developing State Energy Plan and RE Roadmap is to design an appropriate strategy and to assist the state to take a cleaner and greener trajectory to bring in GHG reduction and climate related benefits, while achieving other development goals.

To deal with such issues and challenges, several advance planning processes have been developed, adopted and mainstreamed at both National and State Governments.

State of Uttarakhand has shown their interest and willingness to develop and adopt data-driven approach to develop holistic state energy plan and also to develop a long-term RE roadmap the state.

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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.

IGEN Access-II 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. IGEN Access-II 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.

The overall module objective of IGEN Access-II programme: The energy supply is improved in rural areas of selected federal states. The achievement of the module objective can be measured using the following indicators:

1. 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.
2. The number of RE systems sold to rural users by module-backed providers has quadrupled.
3. 4 recommendations elaborated by the module for improving the quality of the energy supply under certain specific conditions are implemented.
4. 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. Objective of the Developing State Energy Plan and RE Roadmap for Uttarakhand

The proposed assignment aimed to:

- a. Develop an Energy Vision for Uttarakhand in sync with its Vision 2030; SAPCC as well as other economic and environmental plans and policies
- b. Develop a RE roadmap along with detailed sectoral energy action plan to achieve its Energy Vision

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- c. Boost capacity of concern Government officers to adopt and mainstream advance planning process

5. Break-up of Tasks to be Performed

IGEN Access-II intends to co-ordinate with all key state departments / agencies / institutions and its national counterparts (as / if required) to understand the current energy eco-system; policies/trends and to envisage strategic plans / policies / strategies / opportunities / challenges which are necessary to incorporate while developing multi-sectoral and long-term state energy plan as well as RE roadmap.

On behalf of IGEN Access-II and Government of Uttarakhand, the selected consulting firm should complete the following work packages (WP)

Work Package-I: Assessing (existing and potential) energy supply and demand profile to prepare state energy database

In this preparatory phase, the consultant should initiate dialog with already nominated representatives of various departments / agencies / boards etc (will be called as PMU members hereafter) to sensitize them towards the objective, process and benefit of developing state energy plan as well as their likely role in developing Renewable Energy roadmap and to adopt Energy Efficiency measures. In consultation with UREDA, the consulting firm should come out with a list of additional stakeholders, who might be the primary participant and/or beneficiary of the EP process, so that UREDA (on behalf of Uttarakhand) can include them as a member of PMU. The bidder must assist UREDA to communicate clearly the likely roles and responsibilities of stakeholders to ensure their ownership.

The consulting firm is expected to review all the existing policies/regulations pertaining to energy in the state of Uttarakhand (and similar other states) and should assist all partners departments (including all energy verticals) to establish link with SDG targets of the State and likely pathways to achieve them by 2030. The consulting firm should pro-actively provide necessary guidance / ideas / market information to stakeholders, so that they can take necessary measures or alternative route to achieve energy related targets/approaches.

While carrying out series of discussion, the consulting firm also need to develop a training calendar, through an informal training need assessment of PMU members/sectoral officers. The firm, thereafter, should build capacity of the respective stakeholders to boost their capacity to own and adopt the proposed planning process. To ensure sustainable adoption, the consulting firm is

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expected to develop a detailed reporting, monitoring & evaluation process, in consultation with different department.

Besides setting the tune, the main purpose of this work package is to develop an appropriate state energy database which should contain all major sectoral energy data and historic information as well as likely future trend in consultation with stakeholders and GIZ.

The database should be built in such a way so that it can work as standalone system and can be updated in a regular manner. The database should also contain cost information which can help to build the cost optimization model in the later stage.

The main activities of this WP are as follows:

- Developing the password protected multi-sectoral energy database framework
- Data collection and (collective / sectoral) validation
- Developing the historic trend of the energy systems related indicators (resources, primary energy, secondary energy, capacity, use of energy etc.)
- Converting the energy data into energy model readable information and generating the parametric values essentially required for building energy systems model.

In the process of developing the State energy database, utmost importance should be given to the data conversion (assumption, process and formula); data validation and acceptance of the all data / data-sets (i.e. primary/secondary/assumed and processed) by the respective State department/agencies. **The consulting firm is expected to conduct thorough consultation and meetings with the relevant key stakeholders to validate the input and processed data.**

Deliverables (D1)

- **D 1.1 A state energy database along with a report** containing
 - o Agreement of base year and related testimony
 - o Method of data collection, processing, validation and validation testimony
 - o Sector wise data-gap and recommended gap-mitigation measures
- **D 1.2.** Web-hosting state energy database, reference documents/ report in designated Government website or in cloud-based server, as suggested by State
- **D1.3**
 - o Agreed reporting, monitoring and evaluation process during/after the project
 - o A detailed training calendar and training assessment protocol
 - o Delivering 4 training and submitting training assessment report

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Work Package-II: Baseline Assessment

The main purpose of this work package would be to assess the existing situation of the State in terms of its energy supply, demand and consumption pattern along with its energy resource availability. This step outlines the critical data sets that will lay the foundation for the state energy plan.

The bidder, in consultation with state departments (especially with UREDA) need to carry out the techno-commercial study of all major types of RE projects (at least one installed project of each type such as solar, micro hydel, co-generation, biomass(pine-needle/waste) to power need to assess through site visit as well as stakeholders' discussion). The bidder needs to use these experiences to assist UREDA in developing internal strategy to scale up viable projects/programs in partnership of other partner departments/stakeholders. Besides using project data to develop baseline, the bidder needs to re-consider these experiences in developing state energy Action plan (Work Package V) to formulate sector-wise generation goal / strategies.

Analysis of this information will allow to consider options within realistic parameters and set benchmarks for measuring progress. The main activities under this work package are as follows:

- What other energy-related plans and policies state need to be incorporated by the state energy plan? This also includes review of the relevant sections defined in SDGs and SAPCCs of the state of Uttarakhand.
- What is the current profile of the state's energy resources, demand and supply and institutional capacity?
- Mapping of inter departmental linkages in terms of energy flow and generating energy flow diagram at base year.

Considering licencing cost and recurring maintenance cost related issues, it is advisable to use **free, authentic and time-tested standard energy modelling platform** and all associated / supporting software and tools. However, preference will be given to **MESSAGEix platform** (considering synchronizing possibility of state energy database with that of IESS 2047, which were developed/used by NITI Aayog).

The consultant needs to list down details of energy modelling and associated software / tool / platform they would like to use, including price of the same (if applicable). Bidder should explain the key reason/advantage of using any other modelling platform other than MESSAGEix.

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Deliverables (D2):

- **D 2.1. Baseline report** containing (at least) the following
 - Base year state energy balance sheet with both supply and demand sector(s)
 - Detailed note on Reference Energy System (RES) of the state to map 05 level of energy conversion (i.e. at resource, primary, secondary, final and useful level)
 - Detailed notes on Energy System Model, calibration/optimization process
 - Comparison of key baseline results with that of national / international best practice, supported by reference document(s)., to help the state to set an indicative target.

Work Package III: Developing Long Term Energy Scenario(s)

The main activities of this work package are related to development of an energy cost optimization model which will help the state to identify an optimal energy supply mix under various boundary conditions and thereafter generating various policy scenarios. During the course of study if any substantive changes to existing policies or introduction of new policies are made by the government of Uttarakhand and if these are considered to have a substantive bearing on the modelling results then these changes should be reflected in the baseline assumptions.

During the course of the modelling / analysis, if Government of Uttarakhand / India change any policy / assumption / market trend, which can have a substantive bearing on the modelling results then those changes should be incorporated in the modelling process.

The modelling process should also link EP with economic outcome, livelihood generation potential, income generation potential, expenditure saving potential, likely energy mix for low carbon growth path and impact on other SDG indicators

All major components of Work Package III should be developed through detailed consultation with key stakeholders.

The consultant is expected to propose a detailed approach for the following sub-activities

(A) Capacity Building of stakeholders: This task is to ensure that the concerned stakeholders should get adequate exposure/understanding of modeling modelling assumptions, approaches, overall process and hands on training on data entry sheets, how to use modelling software, how to create scenarios, how to read and articulate modelled outputs etc. Moreover, all key stakeholders should realise the need/benefit of inter-sectoral planning approach to accept/adopt the same. It is envisaged that enhanced capacity should also be measured through the complementary nature of inputs suggested by appropriate sectors, to develop/implement longer term sustainable development plans.

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(B) Baseline Projection: The consultant should spend adequate amount of time to build the baseline with intense communication with the State officials. Clear definition and methodology of the baseline analysis should be articulated/communicated with concern officers. All existing/ upcoming policies should be included in the baseline. The consultant should incorporate target setting and reporting parameters, used by state departments/agencies, on day-to-day basis, while analysing baseline report.

(C) Scenario Building: Scenario building exercise should be started only after the baseline is confirmed, validated and communicated back to concerned authorities. The main objectives of the scenario building exercise would be to simulate the State objectives of developing the Energy Plan at state level as well as at the sectoral level. Therefore, consultation with key stakeholder / beneficiary are highly recommended

To develop RE Scenario, the consultant is expected to carry out a time series analysis through a power system as well as load flow modelling process. The consulting firm should also incorporate necessary cost optimization models, to develop a (close to) practical scenario. The consulting firm should consider all possible / likely grid connected and off-grid RE (and clean technology) intervention / application, which otherwise might create additional demand on grid supply (e.g. cooking, pumping energy demand for irrigation, thermal energy demand at household /SME sector etc).

The modelling process should result in an analytical outcome, especially with focus on the following

- **Economic Outcome:** Financial implication of adoption of enhance RE mix across different sectors
- **Energy Mix Outcome:** Developing scenarios for increasing integration of RE (generated from within the state or purchased from other state/nation), including potential/disruptive technologies which are yet to be adopted by state
- **Assets management:** Technical transformation of power plants
- **Environment:** Positive contribution towards reduction in CO2 emission
- **Low Carbon Growth:** Integration of inter and intra state low-carbon clean energy generation while achieving high RE scenario
- **Meeting other development indicators:** Impact on other social and environmental standards/indicators, human development index and other parameters as highlighted in Uttarakhand's SDG Vision document.
- **Jobs and livelihoods:** Impact of enhancing RE penetration on creation of jobs and livelihood creation in the state.

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Besides, the consulting firm is also expected to propose suitable methodology for data validation and other technical/policy assumption. RE scenario building exercise should be started only after the assumptions and methodologies are approved.

The consulting firm must suggest a detailed approach and steps to develop a RE scenario using which state can enhance its RE mix in a cost optimize manner and by harnessing its renewable potentials. However, the bidder needs to consider at least a) hourly load curves b) hourly RE generation potential c) approved RE generation potential (of biomass, hydro, solar, waste to energy etc.) d) sectoral and seasonal demand etc

Deliverables (D3)

D3.1: Handing over an **energy database and modelling software** linked and web-based modelling platform along with detailed operation guide, which will allow Government of Uttarakhand to develop different other optimized energy scenarios, if/as required.

D3.2: A **detailed report** on various energy scenarios containing

- The major outcomes of Baseline Scenario Assessment
- Assumptions and outcomes of different other scenarios created
- Outcome of RE scenario along with detailed assumptions/preconditions
- Sectoral roadmaps to fulfil RE scenario targets
- Description of web-based modelling platform and scenario developer
- Testimony of consultation and inter-sectoral communication

D3.3: A **report on the modelling training** /capacity building activities

D3.4: At-least **2 case studies** to show synergic inputs provided by complementing-departments/sector using scenario outcome, to develop action plan or to set common target

Work Package IV: Developing Decision Support Tool on Energy Plan

The focus of this WP should be to create a web-platform for policy makers to carry out scientific system planning process without going through complex and multi-parameter calculation. DST is therefore, required to capture the fundamental information like baseline scenario, gap between baseline effort and required effort, pathways to follow to achieve the required target and additional effort required to meet the development gap.

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The consultant should develop a dynamic and modelling software linked, menu-driven, web-based energy planning decision support tool (DST) which can capture the results of different scenario simulations against pre-selected indicators. The decision-making indicators should be selected in consultation with key decision makers.

Adequate capacity building measure need to be taken in order to enable PMU members handling the DST in the future independently. A user guide in this regard needs to be prepared.

Deliverables (D4)

D 4.1: Operation web-based DST

D 4.2: A detailed users' manual on the developed DST

D 4.3: A report on capacity building measures taken for training PMU members

Work Package V: Developing State Energy Action Plan

This work package will ensure delivery of energy plan and energy action plans. To ensure adoption of energy action plan (EAP) by the respective state departments/agencies a wider consultation is utmost necessary. The consultant is expected to submit the plan to the appropriate authority at the highest level of the state for approval through the proposed (by Anchor department of Government of Uttarakhand) through the appropriate channel. The consultant will further respond to any final questions; rectify the mistake (if any) and defend the plan if/as needed / requested by any stakeholders directly and/or through IGEN Access-II programme of GIZ.

The consultant is also expected to include the following

(A) **Time step wise – sector/sub sector wise goals and strategies**

(B) **Detailed recommended action to meet each goal.** These recommended actions should be classified as per a) **Nature of action** (i.e. regulatory / policy, institutional, financial, technical, implementation etc) b) **Time horizon** (i.e. short, medium, long term) c) **Lead and partner department / agencies** (in case more than one departments need to involve) d) **financial requirement**

Deliverables (D5)

D 5.1: A detailed State Energy Action Plan in sync with Uttarakhand's vision document as well as other sectoral strategic plan and policies

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D 5.2: Structure of multi-sectoral institutional mechanisms to be ensure sustained use of the energy modelling & planning process (with role & responsibility)

D 5.3: Data-gaps in state energy database and frequency of periodic updation

NOTE: The Bidder in their technical proposal should explain the approach and methodology, adopted to perform the key activities explained above.

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

- I. Overall Approach in undertaking this assignment including specifically the approach adopted towards identifying and including new development opportunity and challenges for the State.
- II. Specific activities to be provided/undertaken by State Government or by any specific department/agency as a precondition or project enabler
- III. What are the perceived risks in the implementation of the above assignment? And their respective mitigation strategy.

6. Timeline and Reporting

The expected duration of the project to be around **250 human-resource days** spread between date of signing contract and **31st March 2022**.

Please note that, the duration of IGEN Access-II program is until 31 March 2022. However, there is possibility that the project will get extended. In that likely project extension period, **GIZ may provide a no-cost extension to this assignment till 31 July 2022 to deal with unforeseen challenges.**

GIZ may also require the organisation to prepare short reports / concept notes / discussion papers / minutes of meeting from time to time.

Work packages (as mentioned above), are to be achieved by certain periods during the contract term are indicated in the table below:

Milestone	Deadline/place/person responsible
WP-I: Assessing energy supply/demand and to prepare state energy database	Within first three (03) months from the start of the contact
WP-II: Baseline assessment	4-5 month from the start of the contract

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WP-III: Developing long term energy scenarios, including RE scenario	6-7 month from the start of the contract
WP-IV: Developing the Decision Support Tool	5-7 month from the start of the contract
WP-V: Development of the Draft Energy Action Plan	31 st March 2022

A likely estimation of work package wise, allocation of **maximum** human resource (in person days) is as given below.

	Scope of Work (including necessary training and Capacity Building inputs)	Allocation of Human Resource (in person days)
I	Assessing energy supply/demand and to prepare state energy database	60
II	Baseline assessment	40
III	Developing long term energy scenarios, including RE scenario	75
IV	Developing the Decision Support Tool	40
V	Development of the Draft Energy Action Plan	35
Total Human Resource (in Person Days) #		250

Total person days excludes travel days/time. GIZ assumes approx. 20 train/air travel to/from Uttarakhand for 3 experts (i.e. approx. 60 round trips with same numbers of over-night stay) besides approx. 90 numbers of local travel, during the assignment period.

Bidder can do a minor change in work-package wise human resource allocation, if as they feel appropriate, without changing the total person days.

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 a fortnightly 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

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

7. General Deliverables for the Project Management

The firm of consultants is expected to provide the following deliverables

- Updates (conference call or one to one meeting) on a fortnightly basis on project progress. Since GIZ is supporting the Government of Uttarakhand in the development of energy plan and action plan, therefore, it is expected of the consultant to also update and attend meetings called by any key department and agency of Government of Uttarakhand during the period of assignment;
- Inception report within the first two weeks of the project
- Project monitoring sheet (template to be provided by IGEN-Access-II) within the first two weeks of the project
- Please refer to the respective description of the specific deliverables under each of the work packages mentioned before in the terms of reference
- All reports and documents as defined in the terms above
- Reference documents (preferably in soft version) and links which were used to develop State Energy Action Plan as well as to implement certain specific action plan

Program Steering and Reporting

- The firm of consultant will report to a Technical Expert (to be nominated) from the GIZ – IGEN Access-II programme. The firm of consultant is to designate a team lead.
- The firm of consultant will be required to closely work with the established PMU and attend meetings called by Government of Uttarakhand apart from regular update meetings with GIZ.
- During the period of assignment, the consultant is expected to report on a fortnightly basis regarding the progress on the assignment. The consultant 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 consultant. GIZ may also require the consultant to prepare short reports/concept notes/discussion papers from time to time.
- The selected Bidder will develop necessary factsheet(s) on project, process, and products (interim and final). The parameters and template will be developed in consultation with GIZ.
- The bidder is expected to develop a detailed monitoring mechanism to explain how the bidder will achieve the desired impact sustainably. The suggestive monitoring mechanism needs to be shared at the proposal stage, along with milestones (including number of end users) to be reached with time schedule and key deliverables.

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- The bidder is also expected to propose a detailed knowledge dissemination plan. Besides regular, individual, department level meetings GIZ assumes 5 major idea/knowledge sharing (one-day) workshops. The consultant may assume around 25 participants/workshop for coating purpose.

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 technical as well as financial decisions 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.

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9. Eligibility of firm

. The consulting firm **must fulfil all criteria**

- Average annual turnover of the last 03 financial year should be at least 110,000 euro per annum
- At least 10 number of employees as at 31 Dec of previous year
- The technical assessment is only based on reference projects with a minimum commissioning value of at least 15,000 euros
- Provide evidence of at least 5 reference projects / assignments in the technical long term, strategic and multi-sectoral energy planning
- At least 3 reference projects adopted /rolled out at national /state level in last 3 years

The consulting firm will be further assessed as per the following weighted parameters.

Criteria
At least 5 reference projects / assignments of strategic Energy Planning at least 2 similar projects in Asia
Experience in developing long term and strategic energy plan/policy at state and/or national level.
Training/capacity building experience for Government. officials particularly on new energy planning and associated tools
Energy Modelling experience at national/ state level, which is adopted/used for designing policy / program /schemes
Core team of Energy Modeller and Energy System Planner
Regional experience (in Uttarakhand)
Experience of development projects (ODA financed)

- **Further Requirement:** Considering energy eco-system and development need of Uttarakhand, the consulting firm may include some additional planning dimension or value-added activity or deliverables, which can ensure the adoption / mainstreaming /sustainability of EAP process, within the given human resource boundary. The firm should include strategy, process, and outcome for the same.

10. Personnel concept

The organisation is expected to provide a pool of expert to accomplish the overall assignment.

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Based on the proposed methodology, approaches and knowledge/skill sets of experts, the consulting firm is expected to provide likely human resource engagement plan (in person-days) for the following experts for undertaking the assignment.

I. **Team Leader** (Refer 2.1 in Technical Assessment Grid)

• **Task**

- 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, all concerned Government Officers and other key stakeholders, decision makers
- Quality assurance, personnel management, planning and steering assignments and supporting other experts and input providers

• **Qualifications of the team leader**

Parameter	*Reference	Details
Qualification	2.1.1	At least Master of Engineering or Energy Economics or Energy Planning
General professional experience	2.1.3	minimum 8 years of professional experience on integrated planning, energy/environment modelling and policy development
Specific professional experience	2.1.4	minimum of 5 years of management experience of developing multi sectoral strategic plans at international / national / state level
Leadership management experience /	2.1.5	<ul style="list-style-type: none"> • Regional experience of working at Asian region, India as well as at state level • Experience of developing India's energy scenarios and dynamics of global power eco-system • In-depth understanding and experience of blending macro-economic with micro/sectoral plan • 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
Regional Experience	2.1.6	4 years of management/leadership experience as project team leader/ advisor/manager

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Development co-operation experience	2.1.7	Experience of managing ODA financed project and quality protocol of international development agencies (preferably with GIZ)
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II. **Expert 1** (Refer 2.2 in Technical Assessment Grid)

- **Task**

- **Expert 1** (co-leader) should take charge of energy modelling and macro/micro-economics, communication with key stakeholders, mentoring internal team and key Government. officers/ decision-makers
- As a senior expert, Expert 1 should take care of quality of energy planning and strategic decision making on quality assurance and coordinating with other subject experts and decision makers

- **Qualifications of Expert**

Parameter	*Reference	Details
Qualification	2.2.1	Degree in Engineering or Energy Economics or Energy Planning and Post- graduate in energy related topics
General professional experience	2.2.3	minimum 5 years of professional experience on energy planning, modelling and strategic planning
Specific professional experience	2.2.4	minimum of 3 years of experience of developing strategic energy and carrying out sectoral assessment specially on developing <ul style="list-style-type: none"> • National/state renewable / clean energy technologies and roadmap for state / national • Assisting state to develop/implement med to long term operation plans
Regional Experience	2.2.6	Working experience in North Indian states especially with Uttarakhand. Experience with renewable / power / environment department of Uttarakhand will preferred

Expert 2 (Refer 2.3 in Technical Assessment Grid)

- **Task**

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- Expert 2 should act as an **expert on energy policy and climate change related issues/policies**. He/she should coordinate with concern experts of key Government. officers and GIZ
- Expert 2 should understand international, national and state policies and should be able to communicate these with state authorities to ensure maximum possible strategic inputs from them

- **Qualifications of Expert 2**

Parameter	*Reference	Details
Qualification	2.3.1	Degree in Engineering or Energy or Environment Science
Language	2.3.2	Well versed with English, Hindi for effective communication with Government. officers. Working knowledge of Uttarakhand's local languages is an added advantage
Specific professional experience	2.3.4	minimum 7 years of experience on energy and climate policies; Experience of developing energy plans, climate action plans is desirables
Regional Experience	2.3.6	Working experience in Himalayan eco-system especially with Uttarakhand on renewable energy, energy access issues will be preferred

III. **Expert 3** (Refer 2.4 in Technical Assessment Grid)

- **Task**

- Expert 3 should act as an **expert of renewable energy (RE) and energy efficient (EE) technologies and practices** and should coordinate with concern experts of key Government. officers and GIZ
- Expert 3 should understand on how to assess RE / EE potential and how to incorporate/address various issues to adopt RE/EE technologies across various conditions in a strategic manner

- **Qualifications of Expert 3**

Parameter	*Reference	Details
Qualification	2.4.1	Degree in engineering. Certifies energy auditors will be preferred

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Specific professional experience	2.4.4	<ul style="list-style-type: none"> Minimum 5 years of hands on experience on implementing various renewable energy and energy efficient technologies Experience of assisting central / state Government in developing RE/ EE plans and programmes
Regional Experience	2.4.6	Working experience in North Indian states especially in Uttarakhand will be preferred.

IV. Expert 4 (Refer 2.5 in Technical Assessment Grid)

- **Task**

- Expert 4 should act as a **local co-ordinator cum renewable energy expert.** Expert 4 should have exposure and experience of working and following up higher level Government. officers and should be capable enough to communicate effectively with Government officers and GIZ
- Expert 4 should have in-depth understanding of renewable energy technologies, energy efficient technologies and should be capable enough to contextualize them in the local context

The bidder must share a detailed CV of Expert-4 along with his/her specific role/responsibility during the entire assignment. GIZ may take personal interview of this expert, to check its suitability. The bidder must ensure that the expert will have to work from Dehradun.

- **Qualifications of Expert 4**

Parameter	*Reference	Details
Qualification	2.5.1	Post-graduate on energy management or energy auditing
General professional experience	2.2.3	Minimum 10 years of experience in/with/for Government program design/implementation/M&E
Specific professional experience	2.5.4	Minimum 5 years of liaising experience with central and state Government (especially with Uttarakhand Government) on RE/EE related projects/program
Regional Experience	2.5.6	Working experience in Uttarakhand especially with RE/EE stakeholders (especially with Government department)

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Other	2.5.8	Local resident, well versed with different socio-economic issues
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Pool of short-term technical experts: Beside the above key technical experts, bidder must share detailed role, responsibility, and degree of involvement (in person-days) of pool of short-term technical experts, along with their detailed resume. Bidder may keep aside **not more than 10% person days** for pool of expert(s) and appropriate budget for the same. **However, these resumes won't be considered for technical bid assessment.**

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.

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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;
- 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 35 pages including CVs;
- 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.

13. 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.
- 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.
- GIZ reserves the right to cancel or modify this tender. Notice will be provided accordingly.