Terms of reference (ToRs)

Hiring of Engineering firm for "Managing procurement, supply and commissioning of up -to 40 PV port pilot along with performance monitoring for a period of 1 year and suggest upscaling potential with selected Indian Discoms/Agencies" across India	**Project number/ cost centre:** 16.2080.6-001

0. List of abbreviations

AVB	General Terms and Conditions of Contract (AVB) for supplying services and work 2018
CEA	Central Electricity Authority
GCRT	Grid Connected Solar Rooftop
GW	Giga Watt
MW	Mega Watt
MNRE	Ministry of New and Renewable Energy
PVPSP	PV Port & Store Portal
ToRs	Terms of reference

1. Project description

1.1. About GIZ

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is a German Government enterprise that provides services in the field of international development cooperation worldwide. Under the Indo-German technical cooperation, Government of Germany is cooperating with India and has initiated a project “Indo German Solar Partnership - PV rooftop”. The project is financed by Federal Ministry of Economic Cooperation and Development (Germany) and implemented by GIZ in partnership with Ministry of New and Renewable Energy (MNRE). The project aims to help establish a technically and economically efficient, as well as a socially and environmentally sustainable power supply on a large scale in India.

1.2. About Project

India had set an ambitious target for installation of 100 GW of Solar installation by year 2022. Out of 100 GW, 40 GW need to come from Grid Connected Solar Rooftop (GCRT). At present the installed capacity of GCRT in the country is around 2000 MW and in order to promote the installation of solar rooftop, Government of India through its Nodal Ministry MNRE had come out with the second phase of rooftop scheme to be implemented through Distribution Companies across the country. Out of 2000 MW installed capacity of GCRT, there is less than 500 MW of installed capital in residential household category. The contribution from the residential segment is very small (<25%). To achieve the 40 GW target until 2022 implies close to 8GW installation every year for next five years. Such large capacity addition can occur when the photovoltaic systems are installed through a mass movement—essentially by residential consumers. It has also been observed in many countries across the world that the advantage of solar rooftop is when the installation happened in premises of residential household consumer and when solar is distributed across the network of distribution company. The main reason is stated by the government for the lack of interest amongst the residential consumers is the awareness, cumbersome net metering process, and the lack of confidence in the quality of the system installed by the vendors in the country.

In order to address the concerns for residential consumers across the country, GIZ has also been requested by MNRE to come out with a standardized GCRT solution which will be able to address the concerns of consumer, DISCOMs and other stakeholders in the country.

1.3. About PV Port

To address the challenges with the custom-design rooftop solar power plants, GIZ has developed the concept of a new type of rooftop solar power plant called “PV Port + Store”. PV Port is a standard plug-n-play grid interactive photovoltaic system having a system size of 2 kWp with battery storage designed for 100% self-consumption.

Several prototypes of PV Port & Store have been made in Germany and installed in India for prove of concept. Under this assignment, its intended to manage procurement, field test and evaluate (a mix of all version of PV port) in India to be installed as pilot projects at different locations for a field trial Research & Demonstration pilot projects. The pilot phase intends to validate the technical concept to move to the next phase – upscaling and commercialization. Potential Indian agencies under discussion are: Solar Energy Corporation of India (SECI)/ State Nodal Agencies (SNA)/ Electricity Distribution Companies (DISCOMs) or EESL

The key characteristics of PV Port are as follows:

i. Grid Interaction: PV Port is synchronized (having grid forming capability) with the grid but is not feeding into it – to be used for self-consumption. The operation of PV Port is in parallel to the distribution grid and also it functions in back-up supply mode.

ii. Plug-n-play and portable: The connection is done by plugging/injecting the AC output directly into the socket at household circuit level. Through that and other measures the purchase, connection and installation of those systems can be done by homeowners themselves or with the help of Surya-mitras. The need of involving outside parties to install the system is reduced to technical support. The system can be installed anywhere i.e. roof, parks, malls and public places.

iii. Good quality: Since the PV-Port is developed and manufactured by experienced agencies under expert supervision, each home owner will receive in the form of a PV port – a reliable and quality PV system. PV port is a product meeting global standard and the technical requirement of CEA, MNRE and DISCOMs at the same time.

iv. Low Cost: PV Port systems would be mass produced through central tendering thus benefitting from economies of scale. Further, these could be installed by in mass numbers.

v. Grid support: The PV port is designed in a manner that it has capability to interact with the DISCOMs network and whenever required, it will be able to support the DISCOM by pumping power stored in the batteries back into the grid.

1.4. Product Description

PV Port & Store is a standardized, portable 2 to 2.5 kWp PV system with electrical storage (lead-acid and Li-ion), to be mass produced for residential applications (UPS and AC load). The electrical storage will vary in capacity depending upon the application – ranging from 1 kWh lead-acid to 4.8 kWh Li-ion.

1. **Capacity and components (all available off the shelf except the Rotomoulded bench)**

i. 6 x ingenious PV modules with frame (min total wattage >**2000 Wp**

ii. Lithium Iron Phosphate batteries (max 2 x 48 x 50 = 4.8 kWh), DoD 90-100% OR Lead Acid 1 kWh – 4.8 kWh useful energy (DoD 50%)

iii. 1 x Victron MultiPlus-II 48/3000/35-32 230V inverter (1700 - 6000 Wp)

iv. 1 x Victron BlueSolar MPPT 150/35

v. 1 x Zigbee current sensor

vi. 1 x Venus GX on RaspPi, Zigbee receiver

vii. Cables, plugs, DC cables, MC4 connectors

viii. Galvanized steel pipe 60 mm x 3.65, Hot Dip

ix. TÜV certified Tubeclamps

x. PV module rails, PV module bended cross bars, rain drain, screws

xi. 4 x Rotomoulded Benches – watercooled - UV stabilized resin

xii. Optional accessories - Sprinkler system with DC pump, Lightning arrestor kit, GSM kit for 24/7 wifi

2. Mechanical structure

i. Self - ballasting structure (water); No puncture in the roof

ii. Based on CFD and solar yield simulations, the optimized east-west orientation of the modules has enabled the design to resists wind load conditions defined by Indian Standard Codal requirements (IS875 Part 3) for basic wind speed of 50m/s considering flat terrain for installation on top of buildings with up to 12m height (4 stories). The design also resists to the load at wind speeds of 200 Km/hour including Venturi effects at 1 m from the terrace edge and certified by TUV (India and Germany).

3. Rotomoulded Bench

The benches contain all the electronics, inverter, batteries in a cavity which is surrounded by water mass (except of PV Port & Store version 1 without batteries – all electronics are mounted to a base plate). Benches are delivered pre-assembled from the factory. The empty benches offer room for the installation of batteries with potential capacity increase. The water in both the benches is filled on site, allowing easy transport. The advantages of the water filled benches are two folds:

The weight of the bench is substantially increased with water and thus acts as counter-weight to all the uplift force which may be caused due to wind

The water surrounding the electronics acts as a fluid cooled heat sink and thermal buffer which improves efficiency and keeps batteries within the permitted temperature range for their 10 year warranty conditions. Prototype systems show a delta of 10 degrees Celsius.

4. Functionalities

PV Port & store is a hybrid system that provides the following functionalities

i. In parallel to the grid: All loads are supplied from the PV Port & Store. In case load is more than PV output, the electricity is imported from the grid.

ii. During power outage: The PV Port & Store supplies electricity from the PV modules and the batteries to the critical load during grid outages (similar to a conventional UPS system).

iii. No export to the Grid: PV Port & Store shall not export anything to the grid after the Discom meter. There is no need to change the existing meter.

iv. Peak shaving: A user can participate in the Time of Day tariff, demand side management schemes of the distribution companies to support them in peak shaving and taking the benefits of the schemes.

5. Connection to the house

PV Port & Store has two outputs a) for supplying to the non-critical load and b) for supplying to the critical load. There are several ways to connect PV Port & Store in the house however the recommended connection is to use a dedicated 16A MCB at the distribution box. This eliminates any chances of MCB blinding and thus is safe to be used. For the zero-export functionality, a current sensor is placed at the incoming to the distribution box and which is communicating to the inverter using a wireless zigbee connection. In case zigbee signals are not reliable, an alternative wired communication cable can also be used.

6. Sprinkler system

PV Port & Store comes with a sprinkler system which can be used to sprinkler water. It can be with both automatic / manual modes. The system can also provide alarms to the user every week or so to clean the system.

7. Monitoring and Communication

Monitoring is done via the inverter and wireless communication. An Android/iOS app is currently being developed which will enable the user to download the data from the inverter using the smartphone as a hotspot (no wifi, GSM is optional) and using the network of the mobile phone, the data is communicated to a central server which is populating the data on a web portal (PV Port Portal). GSM connection for the inverter on roofs with lack of wifi signals is being investigated as part of the field test series.

8. Version of PV port

5 (five) versions of PV Port with major difference in the type of battery backup and hours of battery backup is mentioned below

Model Name	Budget PV Port (Version 1)	UPS function PV Port (Version 2) 2 Models with different battery sizes	Night AC Load with Maximum Grid support PV Port (Version 3) 2 Models with different battery sizes
Battery	No Battery backup	2.4 kWh – Lead acid battery	4.8 kWh Li-ion battery
Life of Battery	NA	2-3 Years	7-10 Years

1.5. Objective

The objective is to hire an engineering firm to "Manage *procurement, Supply and Commissioning of up-to 40 PV port pilot along with p*erformance monitoring for a period of 1 year and suggest upscaling potential with selected Indian Discoms/Agencies" across India *to meet the specific conditions and requirements of GIZ.*

To reduce the risk associated with the quality of product manufactured by vendors, transportation and installation, performance evaluation of Indian manufactured in **comparison** with German manufactured counterparts, GIZ is planning to hire an engineering consultant firm for end to end services.

Along with the procurement of PV port, a portal and mobile app is being developed concurrent, and shall only be supported along with the training of 1000 Surya-mitra for installation of solar rooftop system.

1.6. Target group(s) and other stakeholders

The target audience of the assignment consists of the residential household consumers, EPC and manufacturing industries, distribution licensees, state nodal agencies, and state electricity boards. At the national level the engagement shall be with the relevant officials of Ministry of New and Renewable Energy (MNRE), Solar Energy Corporation of India (SECI), Energy Efficiency Service limited (EESL), EPC companies, system integrators, International consultant and other relevant government / private organizations.

2. Terms of Reference

2.1. Tasks to be performed by the consultant

The detailed scope of work shall be carried out under four work packages, task to be performed under each work package and deliverables to be achieved is defined as below.

Work Package 1-

Deployment of *up-to* 40 PV Port – The consultant is responsible for overseeing the manufacturing, and installation of up-to 40 PV port PV port from the GIZ selected manufacturers in India. The work of the consultant includes the validation of design, overlook the process of manufacturing, field test of PV Port, selection of residential consumers who are willing to participate in the pilot, transportation of PV Port to the consumer premises, installation of system and performance monitoring of PV Port under the field condition. The consultant needs to work with the selected DISCOMs in select states and liaison with them for participating in PV port scheme. At least 7-9 DISCOMs to be selected where the demand of 1000 systems can be aggregated in their operating area. The measure for assessing the achievement is the verifiable PV Port interest submitted by the consumers on the PV Port portal.

All the work needs to be coordinated with GIZ.

Task 1- Coordination with 2-3 manufacturers for manufacturing of PV port

The consultant is responsibility to place technical expert to monitor and overlook the manufacturing process for manufacturing of PV port. During the manufacturing, consultant will closely work with the manufacture and handhold/support them so that the complete procurement of material (super -critical and critical) & manufacturing happens as per the standards provided by GIZ. The consultant will closely coordinate with German Expert who had developed the concept PV port.

Task 2- Cost discovery of PV port "Make in India"

The consultant shall discover the true cost of PV port from market survey and in discussion with selected manufacturers to submit a price report consisting of breakdown of categories such as material, shipping and logistics, margins, and potential savings in cost through quantity upscaling.

Task 3- Field Test of 1-2 PV ports from each manufacturer

The consultant responsibility is to coordinate with the manufcaturer for testing of identified amount of installed PV ports and PV port versions in field/ manufacturer premises /testing centre in India. Coordination with German expert and engineering firm is essential.

Task 3- Submission of test report for PV port technical and upscaling concept

The consultant responsibility is to evaluate the test reports for PV port for all the functionality as PV port system and submit the same to GIZ. The test ports need to meet 100% of the technical standards, parameters and performance standards of German made PV port. The consultant needs to do properly documentation of field test

Task 4- Selection of DISCOMs

The consultant is responsible for liaising with implementing agencies like DISCOMs/SNA/other agency for developing the upscaling concept of PV port.

Task 5- Selection of consumer

The consultant is responsible for selection of consumer for deployment of up-to 40 PV ports while aggregating a total demand of 1000 PV port system. GIZ may provide support through its consultants for aggregating the demand of 1000 PV port.

Deliverable:

1. **Deployment of 1-2 PV ports and submission of field test report**
2. **Price report with component wise cost breakdown**
3. **Submission of scaling concept report for PV port with DISCOMs**
4. **Submission of detailed report for installation of up-to 40 PV Port**
5. **Aggregating demand of 1000 PV port registered online through portal**

Remark- The cost for shipment of PV port to the consumer premises, relocation of PV port and any other cost need to be borne by the manufacturers. The consultant needs to closely coordinate with the manufacturer for logistics related arrangement. The consultant needs to make sure that the manufacturer follow the Shipping guidelines as suggested by GIZ.

Assets of the Field Test Series (40 up-to PV Port's) – the usage at the premise of the selected participants / sites are benefiting from the energy savings

Option 1)

Further, the field test systems remain of the property of the Indian Partner (MNRE). MNRE is to receive a comprehensive and detailed listing of chosen locations for the field validation sites, hence, the different participants / sites must acknowledge the transfer to the asset back to MNRE.

Option 2)

The participants / sites in the field test series have the option to purchase the PV Port units at a agreed upon "residual" value. The value will be determined through the course of project but can be as low as 50% below the market price (including 40% subsidies provided by MNRE). The proceedings from the sale of the field test units are to be used for additional procurement of PV Port / or engineering services as part this contract.

Work Package 2

Support in operationalising of PV Port Portal and App- The consultant needs to provide the **know-how for entire value chain for PV port** and knowledge support in operatizing the PV port portal and App designed by the IT consultant. The consultant

required to test the PV port portal and App for its functionality, operationality and suggest the changes to the IT consultant. The consultant is required to work with the IT consultant who is responsible for designing of PV portal and App consist of following functional features

i. Hosting of dynamic website along with the data base on cloud server

ii. Consumer – Creating of consumer profile (Independent, using Google and Facebook account), placing order for PV port, making payment for PV port, availing EMI options, tracking of order, enquire with the manufacturers, submitting feedback on the product received, request for service, etc.

iii. Manufacturer- Creating of manufacturer profile, uploading models of PV port, accepting the orders from consumer, dashboard to see the orders placed by consumers on google maps, dispatching of the PV port, responding to the feedback and request submitted by the consumer

iv. Surya-mitras – Creating Surya-mitra profile (independent, using Google and Facebook account), receiving the installation request placed by the manufacturer, receiving the service request submitted by the consumers, dashboard to see the geographical location of order placed by consumer and manufacturer on google maps. Through the PV Port & Store Portal (PVPSP), Surya-mitra installer are the ONLY certified technician to interconnect each system processed through the PVPSP. The entire commercial and logistic flow of PV Port is done and tracked through the PVPSP.

Deliverable - The consultant is responsible for testing the operational features and submit a report confirming the functionality and at least 3 manufacturer have confirmed functional portal for order processing.50 Surya-mitra have successfully registered and able to us the PV Port portal and at-least 40 consumers were successfully able to use the PV port Portal and App. The consultant will also suggest to GIZ industry best practices on how the whole supply chain of PV port can be more streamlined and made consumer centric for better consumer experience.

Work package 3

Training of 1000 Surya-mitra-

The consultant is responsible for coordination and making necessary arrangement for upgrading the skill for installation of PV port by training of 1000 Surya-mitra in different part of the country. Through the PV Port & Store Portal (PVPSP), Surya-mitra installer are the ONLY certified technician to interconnect each system processed through the PVPSP. The entire commercial and logistic

flow of PV Port is done and tracked through the PVPSP. The German consultant will act as the master trainer who will train the trainer and they will turn act as PV port trainers for imparting the training to 1000 Surya-mitras in the country.

Deliverables: 50 Surya-mitras registered in PV port portal in 5 states of India

Work Package 4

Performance monitoring of system - The consultant is responsible for monitoring the performance of system for a period of one year from the date of installation of system.

Deliverables- Submission of the PV port performance report every quarter for a total duration of 1 year.

Certain milestones, as laid out in the table below, are to be achieved by certain dates during the contract term, and at particular locations:

Milestone	**Deadline/place/person responsible**
Deployment of 3 test PV Port on ground	November, 2019
At least 3 manufacturer have confirmed functional portal for order processing and tracking. 50 Surya-mitra have successfully interconnected PV Port. 40 consumers successfully able to use the PV port Portal and App.	December, 2019
1000 systems to be aggregated from household consumers	March, 2020
Commissioning of up-to 40 PV Port along with the Field test report, performance analysis and technical component evaluation as per the requirement of GIZ.	March, 2020
Submission of the PV port performance report every quarter for a total duration of 1 year	March, 2021

Period of contract: 18 months of the signing of the contract (October 2019 – March 2021). Performance monitoring for the PV port will be addition to

3. Concept

In the bid, the bidder is required to show how the objectives defined in Chapter 2 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 under the work packages 1 to 4 with reference to the objectives of the services put out to tender (see Chapter 1). Following this, the bidder presents and justifies the strategy with which it intends to provide the services for which it is responsible (see Chapter 2).

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

Steering: 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.

Processes: 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 2 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 2.

Learning and Innovation: The bidder is required to describe its contribution to knowledge management for the partner and GIZ and promote scaling-up effects (**learning and innovation**).

Other specific requirements

1. *Engineering firm needs to coordinate with IT Company for developing of PV Port Portal, PV Port App, German consultant and other agency who will also be working on PV Port project for its deployment across the country.*

2. *Engineering firm to need discuss, submit details and take prior written approval of GIZ for each task separately during the whole duration of the project.*

Project management of the contractor

The bidder is required to explain its approach for coordination with the GIZ project.

- The contractor makes available equipment and supplies (consumables) and assumes the associated operating and administrative costs.
- The contractor manages costs and expenditures, accounting processes and invoicing in line with the requirements of GIZ.
  The contractor reports regularly to GIZ in accordance with the AVB of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH from 2018

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.

Details about backstopping

The bidder is required to describe its backstopping concept. The following services are part of the standard backstopping package, which (like ancillary personnel costs) must be factored into the fee schedules of the staff listed in the bid in accordance with section 5.4 of the AVB:

- Service-delivery control
- Managing adaptations to changing conditions
- Ensuring the flow of information between GIZ and field staff
- Contractor’s responsibility for seconded personnel
- Process-oriented technical-conceptual steering of the consultancy inputs
- Securing the administrative conclusion of the project

- Ensuring compliance with reporting requirements
- Providing specialist support for the on-site team by staff at company headquarters
- Sharing the lessons learned by the contractor and leveraging the value of lessons learned on site

4. Company profile

a. The company should be a registered entity in India under the companies act/society act.
b. Average turn-over for the last three years should not be less than **250,000 Euros.**
c. At-least 10 Number of technical experts working in the organization.
d. Minimum 5 number of engineering/engineering consultancy work project in the field of renewable energy with project value of INR 20 lakhs or more during last 3 years in India
e. Minimum 2 engineering consultancy work in the field of solar energy with project value of INR 15 lakhs or more during last 3 year in India
f. Minimum 3 engineering consultancy work in the field of electrical installations
g. The bidder must submit documentary proofs in their bid to prove the eligibility. In case, the proofs aren't provided the bids will get rejected.

5. Personnel concept

The bidder is required to provide personnel who are suited to filling the positions described, on the basis of their CVs (see Chapter 8), the range of tasks involved and the required qualifications.

Team leader

Tasks of the team leader

- Overall responsibility for the advisory packages of the contractor (quality and deadlines)
- Coordinating and ensuring communication with GIZ, partners and others involved in the project
- Personnel management, in particular identifying the need for short-term assignments within the available budget, as well as planning and steering assignments and supporting local and international short-term experts
- Regular reporting in accordance with deadlines

Qualifications of the team leader

- Education/training (2.1.1): University qualification (Master) in Science/Electrical/Business administration and bachelor's in engineering stream
- Language (2.1.2): Good business language skills in English and Hindi, German will be plus
- General professional experience (2.1.3): 10 years of professional experience in the Power sector
- Specific professional experience (2.1.4): 6 years in Renewable Energy Sector, Project Management experience for establishment of RE projects
- Leadership/management experience (2.1.5): 6 years of management/leadership experience as project team leader or manager in a company
- Regional experience (2.1.6): 5 years of experience in implementing projects in the states of Gujarat/HP/Uttarakhand/J&K/DNH/Daman & Diu

- Development Cooperation (DC) experience (2.1.7): 2 years of experience in DC projects

Expert 1 & 2

Tasks of expert 1 (Solar expert)
- Working with the manufacturer and coordinate with GIZ consultants for overall manufacturing and deployment on PV port

Qualifications of expert 1
- Education/training (2.2.1): Bachelor of Engineering
- Language (2.2.2): English & Hindi
- General professional experience (2.2.3): 5+ years of experience in Power sector
- Specific professional experience (2.2.4): Experience of managing solar projects, EPC, technical design of solar project, understanding of supply chain for solar project
- Leadership/management experience (2.2.5): Lead and handled at least 3 solar EPC projects

Task of expert 2 (Market expert)
- Understanding the market of sola rooftop along with the policy and regulatory scenario, developing the upscaling plan of PV port in consultation with nodal agencies, aggregation of demand for PV port, training of surya-mitra for assembling of PV port.

Qualifications of expert 2
- Education/training (2.3.1): Bachelor of Engineering and Masters in Business Management
- Language (2.3.2): English & Hindi
- General professional experience (2.3.3): 5+ years of experience in Power sector
- Specific professional experience (2.3.4): Marketing of solar rooftop system, understanding of solar policy and regulations
- Leadership/management experience (2.3.5): Lead and handled at least 3 solar consultancy projects

6. Costing requirements

Assignment of personnel

Team leader: On-site assignment for 90 expert days

Expert 1(Solar Expert): Assignment in country of assignment for 140 expert days

Expert 2(Market Expert): Assignment in country of assignment for 140 expert days

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 stipulated in Chapter 2 and list the expenses separately by daily allowance, accommodation expenses, flight costs and other travel expenses.

Flexible Renumeration

As a flexible remuneration item, up to EUR 25.000 with *the* aim of enabling the Consultant to make the quantity of services provided for in the contract flexible, depending on the effects of the project, **provided** that this is necessary for the purpose of achievement of the project objective is required. The use *of the flexible remuneration item takes place* ***strictly*** *after consultation* with the GIZ.

7. Inputs of GIZ or other actors

GIZ and/or other actors are expected to make the following available:

- GIZ will provide the list of shortlisted manufacturers for manufacturing of PV port and Store
- GIZ will shipping guidelines to be followed for transportation of system to consumer premises
- GIZ will share the complete technical details of the PV port during the inception meeting
- GIZ will provide the contact details of consultant whose support is required under the project.

8. Requirements on the format of the bid

The structure of the bid must correspond to the structure of the ToRs. In particular, the detailed structure of the concept (Chapter 3) is to be organised in accordance with the positively weighted criteria in the assessment grid (not with zero). It must be legible (font size 11 or larger) and clearly formulated. The bid is drawn up in English (language).

The complete bid shall not exceed 10 pages (excluding CVs and company experience).

The CVs of the personnel proposed in accordance with Chapter 4 of the ToRs must be submitted using the format specified in the terms and conditions for application. The CVs shall not exceed 4 pages. The CVs must clearly show the position and job the proposed person held in the reference project and for how long. The CVs can also be submitted in English (language).

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

9. Further requirements

a) The entire proposal including approach and methodology, CVs etc, needs to be in English. The CVs need to be in uniform format with a maximum of four pages**.**
b) The proposal should clearly line out how the consultants complement each other according to their fields of expertise to give evidence that all relevant work fields are covered appropriately**.**
c) In case the bidder is a consortium, a clear proposal (based on deliverables) is to be submitted along with clear definition of the roles and responsibilities of each member of the consortium.
d) The evaluation of the proposal will follow the attached evaluation matrix.
e) All communication with media (TV, radio, print and other media) must be approved by the responsible person of GIZ
f) Timelines shall be strictly adhered and any delay in any of the deliverable shall be reported and aligned with GIZ in advance.

g) All work results and deliverables must be acceptable to GIZ.
h) The different phases / activities shall be documented in a professional manner to be shared with relevant stakeholders for information dissemination.
i) The Consultant should not be dependent on GIZ or the partner distribution licensee for the supply of documents / data; rather it should gather data and information from already existing resources available wherever possible.
j) All work results, including reports must be in Format, design and layout as specified by GIZ and must follow GIZ design guidelines
k) All phases shall be coherent and complimentary in nature and they should not be considered as individual isolated phases
l) The consultant should at all times of the assignment possess the copyrights (licenses in the case of software packages) of the documents, pictures, technical papers, standards used in the study
m) The software used for simulation, data processing or any other task related to the assignment should be commercial packages available in the market for any person. No proprietary software package is to be used. The bidders should propose the software to be used in their bids and highlight the benefits and limitations related to the assignment.
n) Cost of venue, food etc for organizing round-tables, workshops shall be borne by GIZ separately. All travel, accommodation, food etc for the staff of the Consultant must be borne by them and to be budgeted in their proposal. Expenses incurred can only be reimbursed if sufficient bills / proofs are submitted to GIZ as desired. All costs related to participants shall be borne either by the participants themselves or by GIZ separately

10. Payment schedule

Following shall be the payment schedule for the scope under the tender which has to be performed by the contractor:

S. No.	Deliverables	Payment as percentage of consulting contract fee	Month
	Advance	40%	After signing of the contract
	Commissioning of up-to 40 PV Port along with the Field test report, performance analysis and technical component evaluation as per the requirement of GIZ.	50%	8 months after signing of the contract or March, 2020
	Submission of the PV port performance report every quarter for a total duration of 1 year	10%	18 months after signing of the contract or March,2021
Total		100%	