

Terms of reference (ToRs) for engaging specialized IT expert for advisory support in designing and managing web portals for PM KUSUM



IGEN-PSWP **Project number/
cost centre:**

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1. Context

The Promoting Solar Water Pumps (PSWP) component of the Indo-German Energy Programme (IGEN) 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. BMZ has commissioned Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), a federal enterprise based in Eschborn and Bonn in Germany, with the implementation of the project.

The PSWP module aims to improve, expand and speed-up the roll-out of sustainable solar water pumps in view of the Water Energy Food nexus. It is being implemented pan-India with focus to the East and North-East of India (specifically the federal states of Assam, Bihar, Jharkhand, and West Bengal), over a period of three years (October 2018–September 2021).

The objective is to ensure that solar pumps for productive use are rolled out more rapidly through a multi-level and multi-actor approach. The project provides advisory services to the central government (such as MNRE) at national level. In the selected federal states, it actively involves relevant government agencies (such as state nodal agencies), agricultural extension services and financial service providers. The project also accounts for the key role played by the private sector (companies and associations) by entering in specific cooperation arrangements.

The project will engage in four specific fields of activity: (i) adapting promotion policy, (ii) implementing successful business, operator and service models, (iii) facilitating access to finance and (iv) disseminating information and upscaling.

Solar water pumps (SWPs) are slowing but steadily gaining ground in response to the subsidy support being provided under various central and state government schemes. The objective is not only to provide farmers with assured irrigation, but also to reduce the electricity subsidy burden for agriculture supply, mitigate negative environmental impact of diesel pumps, and increase farmer income through substitution of diesel cost. New grid connected SWP models are also being promoted to enable additional farmer income through sale of surplus solar power generated by these pumps.

So far, about 250,000 pumps have been installed in the country. The deployment is expected to increase multi-fold with the roll-out of MNRE's Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan (PM KUSUM). Through these three components, the scheme aims to add a solar capacity of 25,750 MW by 2022 with a central financial support of about Rs 34,422 crore. A similar amount of financial assistance is expected to be contributed by state governments for the project.

Given the importance of the scheme in all three aspects of the food-water-energy nexus as well as the massive amount of central and state funding assistance flowing towards it, it is imperative that a robust mechanisms be put in place to monitor the project implementation across all participating states as well as to monitor the performance of assets installed on ground to maximize impact.

With this objective, the MNRE is in the process of developing a dedicated and comprehensive national portal that undertakes the massive task of monitoring implementation of PM KUSUM and the performance of pumps installed under the scheme. Simultaneously, the states are also developing state portals for the scheme implementation and monitoring with relevant customizations and integrating the same with the national portal. This either entails creation of new web-platforms or upgrading existing ones already available with respective states.

A key output for the PSWP module is to support development of a monitoring system that supplies MNRE and other stakeholders with information on the effectiveness of the promotion programmes and possible environmental impacts especially focusing on groundwater. Thus, the PSWP team is providing technical support to the MNRE in developing the PM KUSUM national and state portals.

With this ToR, PSWP seeks services of an information technology (IT) expert who can provide technical assistance to the team in rolling out the project aimed at effectively designing, developing, implementing and managing the national and state portals for PM KUSUM.

2. Tasks to be performed by the contractor

Given the background, the specific tasks of the IT expert/advisor engaged through this ToR are categorised as follows:

- Advisory support for designing and managing the project for development, implementation and integration of national and state portals for PM KUSUM, providing necessary value adds in terms of data protection and improvement of user experience
- Advisory support to PSWP project on IT-related tasks and concerns.

Certain milestones, as laid out in the table below, are to be achieved by the given dates during the contract term:

	Milestone	Deadline
Work Package 1	Evaluation report on existing national portal and state portals for PM KUSUM implementation	December 2020
	Detailed comments on ToRs for engaging specialized firm for developing, implementing, updating and integrating national and state portals	January 2021
	Assessment report on effectiveness of the e-learning capacity building materials	September 2021
	Assessment report on at least four physical trainings	November 2021
	Survey report on the user's feedback and ease of using state portals	December 2021
Work Package 2	Approach for improving outreach of knowledge products developed by the project team following the EU's GDPR	March 2021
	Assistance in developing at least 5 digital infographics and advanced data visualizations	December 2021

Period of assignment: From November 2020 until June 2022.

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 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).

As a part of the **strategy** description, the bidder is expected to provide concise answers to the following questions:

- What are the key considerations while designing a multi-state, multi-user portal for a mega government scheme like PM KUSUM? What are the important features for an ideal portal? Please identify a well-designed portal as an example and identify the reasons for considering it ideal.
- What would be the approach of conducting user-survey of the website and how the user interface can be enhanced?
- Why is data visualization important in development sector? What are the key considerations in undertaking such works?
- How can effectiveness of e-learning be measured?

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 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.

Project management of the contractor: The bidder is required to explain its approach for coordination with the GIZ project.

Scope of work

The activities and tasks expected from the bidder under this ToR are listed in detail as follows:

Work Package 1: Advisory support for designing and managing the project for development, implementation and integration of national and state portals for PM KUSUM, providing necessary value adds in terms of data protection and improvement of user experience

GIZ plans to undertake a comprehensive project that targets development of state and national portals for efficient implementation and monitoring of MNRE's PM KUSUM scheme. This project would include multiple elements, such as updating of existing national portal, development of new state-portals, upgrading existing state portal, integration of state and national portals, etc.

The bidder is expected to provide technical and strategic inputs and feedback to the project team to support designing of this project as well as to support effective management of the project throughout the implementation period. This would include strategic inputs on data protection and improvement of user experience.

Task 1: Input support at project designing stage:

- a. Study the existing national portal and state portals for PM KUSUM implementation (already developed during the first phase) to understand and assess the existing website and dashboard design, user interface, integration, configuration and other technical details as well as user manuals to identify areas of improvement and provide feedback on improving user experience (from perspective of all major stakeholders). Also, identify specifications and requirements crucial for designing the project so as to ensure successful implementation. This phase of building preliminary understanding, needs assessment and specification identification will include both secondary and primary research.
- b. Address all IT related queries of the project team during the project design stage. These queries would broadly and tentatively cover the following aspects:
 - Portal and dashboard design elements including user interface and back-end, integration requirements and challenges, etc.
 - Technical requirements for data input, storage, safety, protection, transmission, display and disposal
 - Technical requirements for executing the project, including time, costs and capability of the executing vendor
 - Technical details regarding server requirements, including infrastructure options integration and capacity
 - Etc.

The consultant may be invited to be a part of specific meetings with central and state government to provide strategic feedback.

- c. Review the ToR drafted by the project team for engaging a specialized IT firm for developing and implementing the PM KUSUM portal, ensuring that the requirements

and expectations are clearly reflected in the document from the perspective and language of IT sector.

- d. Support PSWP team as and when required in any other area not listed above.

Task 2: Input support at project implementation stage:

- a. Evaluation and review initial project deliverables, including portals, dashboards, manuals, e-learning materials, training material etc.
 - For assessment and feedback on e-learning material, the bidder will be required to design a mechanism to evaluate the effectiveness of the e-capacity building materials.
 - For evaluating trainings, the bidder will be required to travel to at least four physical trainings for.
- b. Provide critical feedback and inputs on major issues and queries that may emerge from time to time during the project implementation.
- c. Undertake a survey with select users (state implementing agencies, vendors, progressive farmers and civil society organizations) to understand bottlenecks and suggest suitable means for improved user's experience. All survey details, including sample, questionnaire, mode etc. will be decided in consultation with GIZ.

Work Package 2: Advisory support on general IT-related tasks and concerns

In addition to the dedicated work associated with the PM KUSUM portal project design and management, the bidder will support the PSWP module team with general IT-related tasks and concerns. These will be assigned to the bidder as and when the requirement emerges. The tasks under this work package would include the following:

- a. Support with search engine optimization of PSWP website, communication materials and other relevant knowledge products such that the website is included in basic and advance searches of common search engines
- b. Suggest ways to increase outreach of the knowledge products developed by PSWP team while following the General Data Protection Regulations (GDPR) of European Union (EU).
- c. Support PSWP team in development of e-learning materials under other projects. This may entail input support in development of virtual training and communication materials, chatbot for addressing FAQs, dashboards for data visualizations of reports etc.
- d. Address IT related queries of the team, on an as and when basis.

Deliverables

Given the above listed work packages, the specific deliverables of the IT expert bidder as follows:

- Evaluation report on existing national portal and state portals for PM KUSUM implementation, including assessment of technical requirements for designing future portals
- Detailed comments on ToRs for engaging specialized firm for developing, implementing, updating and integrating national and state portals.
- Assessment report on at least four physical trainings
- Assessment report on effectiveness of the e-learning capacity building materials
- Survey report on the user's feedback and ease of using state portals development under the project and providing recommendations for suitable improvements.
- Approach for improving outreach of knowledge products developed by the project team following the EU's GDPR.
- Assistance in developing at least 5 digital infographics and advanced data visualizations on topics decided in consultation with GIZ

4. Personnel concept

The bidder must demonstrate through evidence (documents / references) the following qualifications and skill sets:

- **Education/training (2.1.1):** Bachelor's degrees in computer application, computer engineering, computer science or any other related field. Masters in these related field would be an added advantage
- **Language (2.1.2):** Basic business language skills in English
- **General professional experience (2.1.3):** 5 to 7 years of professional experience in the IT sector
- **Specific professional experience (2.1.4):** Experience of at least 2 projects of in development and maintenance of complex multi-user web-based portals, dashboards or online application systems
- **Other (2.1.8):**
 - Proven experience of managing at least 2 IT-related projects with central and/or state governments, preferably for major schemes with co-ordination between multi-stakeholders etc.
 - Proven experience of at least two projects with civil society organizations

Sub-contracting any component of the assignment is not allowed.

Assignment of personnel

The assessment of the required human days for the listed tasks is as follows:

Work package	Number of human resource days
Advisory support for designing and managing PM KUSUM portals	90
Advisory support to PSWP project on IT-related tasks and concerns	30

Note: Estimated human days requirement includes travel 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.

5. 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 (Section 3) is to be organised in accordance with the positively weighted criteria in the Technical Assessment Grid (not with zero). It must be legible and clearly formulated in English language.

The bidder must submit a technical proposal and a financial proposal separately as per the information detailed in Bidding Conditions.

The contractor also must submit a detailed CV demonstrating qualifications and skills mentioned in the Personnel Concept (Section 4) and provide adequate proof of the same wherever necessary. The CV should be aligned with mentioned requirements.

The complete bid should not exceed 15 pages (excluding a CV and other documents). If the maximum page length exceeds this, the content appearing after the cut-off point will not be included in the assessment.

The shortlisted candidates may be invited for a presentation in GIZ Delhi Office within 40 days of the submission of the proposal.