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

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Monitoring & Evaluation of Government Program Solar PV-Cold Storages	Project number/ cost centre: 20.2278.8-001.00

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0. List of abbreviations

AG	Commissioning party
AN	Contractor
AVB	General Terms and Conditions of Contract for supplying services and work
BMZ	*Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung* -German Federal Ministry of Economic Cooperation and Development
ESDM	Indonesian Ministry of Energy and Natural Resources
FK	Expert
FKT	Expert days
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit – German Agency for International Cooperation
Kemenko Marves	Indonesian Coordinating Ministry for Maritime Affairs and Investment
KKP	Indonesian Ministry of Maritime and Fisheries Affairs
O&M	Operation and Maintenance
PV	Solar Photovoltaic
SOCOOL	German-Indonesian Technical Cooperation Project Solar Cold Chains for a Green Economy
KZFK	Short-term expert
ToRs	Terms of reference

1. Context

The GIZ-implemented **Energy Programme Indonesia/ASEAN** supports the Indonesian Government in a partner-based approach in achieving its targets for a sustainable energy transition. These include realizing 23% renewable energy in the power mix by 2025 and 34% by 2030, achieving Net Zero Emissions by 2060 and mainstreaming low-carbon technologies as part of an overall economic transformation.

As one of the measures under the Energy Programme, the "**Solar Cold Chains for a Green Economy in Indonesia**" (SOCOOL) Project shall create suitable technological and market framework conditions to enable a long-term reduction of CO_2 emissions in Indonesia's cooling sector as part of the energy sector. An industry-based, national approach in partnership with the Coordinating Ministry for Maritime Affairs and Investment (Kemenko Marves), the Ministry of Energy and Mineral Resources (ESDM) and the Ministry of Marine Affairs and Fisheries (KKP) shall ensure contributions to Indonesia's Vision 2045 and wider economic transformation towards a green economy. Clear contributions towards Indonesia's Nationally Determined Contributions and renewable energy targets shall be made while achieving socio-economic improvements in related sectors of the economy such as the maritime sector with high demands for cold chain expansion and preservation of valuable goods.

The Project is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) with an overall duration of four years (01/2023-12/2026) and has the following overall objective:" Solar cold chains are rolled out in key sectors of the economy as a contribution to climate-friendly green transformation".

Its main outputs are:

1. Government advice and national planning: Instruments for quantitative and qualitative monitoring support the use of solar technologies in cold chains for national planning processes.
2. Alliances and market development: Technology partnerships have developed adapted technical solutions for solar cold chains.
3. Demonstration: Pilot applications with state actors and the private sector have shown technologically and economically viable examples for the dissemination of solar cold chains.

The present tender will contribute to Output 1 and Output 3 of the SOCOOL Project, which are described below.

Output 1 focuses on providing technical recommendations by conducting monitoring and evaluation on **solar cooling applications,** whether initiated by the national government or other stakeholders/private sectors, with the goal of enhancing the utilization of solar energy for the fisheries sector in Indonesia. Between 2020 and 2021, the Ministry of Energy, Mining, and Resources (ESDM), in collaboration with the Indonesian Directorate General for New and Renewable Energy and Energy Conservation (EBTKE), the Ministry of Maritime Affairs and Fisheries (KKP), and the Coordinating Ministry for Marine Affairs and Investment (Kemenko Marves), implemented a grid-tied solar PV implementation in at least 12 existing cold storage facilities across different categories of fishing ports in 12 locations. This initiative is designed to contribute to Indonesia's renewable energy target of 23% by 2025, aiming to reduce carbon emissions and stimulate the growth of the maritime economy through green recovery.

Output 2 aims to develop technology partnerships between applied research, manufacturers, operators, and trading partners to promote solar PV implementation for cold chains system. The impact assumption is that the strategic alliances will (further) develop technical solutions for solar cold chains that are adapted to Indonesia's specific conditions (e.g. tropical climate, many decentralized, off-grid locations on islands) and that can be produced by Indonesian manufacturers. A technology partnership between applied research, international technology manufacturers and local producers of refrigeration technology has led to a first prototype for an off-grid system for block ice production (solar ice maker) financed by the partners. This technology partnership has been supported by various German TC energy projects since 2017. Initial evaluations of the prototype prove that medium-sized, commercial refrigeration systems without a grid connection can be realized based on fluctuating renewable energy sources in Indonesia. Through the strategic alliances promoted by the Project, these previous initiatives by the private sector and government agencies will be strengthened and further developed with the aim of providing adapted key technologies for the nationwide dissemination of solar cooling (Project objective). It is assumed that cooperation between various representatives of applied research, production, operation, and trade is possible despite possibly conflicting business interests.

Output 3 promotes pilot applications by state actors and the private sector that demonstrate technologically and economically viable examples of the dissemination of solar cold chains. The impact assumption is that public and private actors use the available best practice for the further scaling up of solar cooling and invest in new solar cooling or solar ice production systems or retrofit existing systems. This will leverage investment funds for solar cold chains, particularly through cooperation with the private sector. It is assumed that sufficiently economically viable business and management models can be identified and that growing international demand for products from emission-free, sustainable cooling chains will have a supporting effect here. It is also assumed that it will be possible to replicate the pilots despite deteriorating framework conditions (budget restrictions, economic crises, price increases, etc.). To explore the potential implementation of solar cooling technology and its integration with the government's program, SOCOOL will conducting a field assessment to the new location as part of the new KKP program launch, specifically the Kampung Nelayan Modern.

2. Tasks to be Performed by the Contractor

This consultancy is part of SOCOOL's mobilisation of monitoring and evaluation on 12 solar PV-cold storage from previous government programs in 2021 and to provide recommendations and lessons learned for future replication fits into the expected outcome of the Ministry of Energy, Mining and Resources (ESDM) through the Indonesian Directorate General for New and Renewable Energy and Energy Conservation (EBTKE), KKP and the Coordinating Ministry for Marine Affairs and Investment (Kemenko Marves). This activity should demonstrate the technical, economic, and non-technical improvement of the local fishery value chain through cold storage facilities. Furthermore, apart from conducting monitoring and evaluation in 12 locations, the contractor will also conduct monitoring and evaluation on the portable cold storage facility installed in Kampung Nelayan Modern, Samber Binyeri Village, Biak Numfor, Papua. This initiative is a component of the broader exploration into the viability of integrating solar PV technology with the existing cold storage infrastructure that was installed there.

Under the activities of Outputs 1, 2 and 3, the contractor is responsible for providing the below mentioned services. These tasks shall be performed in close coordination with GIZ and Indonesia-based project stakeholders.

Work Package 1: Assessment Planning and Mobilization Plan

This work package addresses comprehensive planning before conducting field assessments, the contractor is expected to study each site and develop the best methodology of site selection that is representative and considers cost effectiveness. Later, the contractor will develop a research methodology (qualitative and quantitative), target respondents, and detailed tools to deploy during the visit together with the most cost-effective mobilization plan. The contractor could start communication with operators or the representative of fisheries staff before the visit to understand the current operating patterns of the system, and other aspects to improve the research tools.

Subtask 1.0 Initial kick-off with GIZ and government stakeholders. This step is to clarify necessary questions and present the Contractor's overall first concept / plan.

Subtask 1.1 Research methodology and plan (including desk research). This consists of qualitative and or quantitative methods, detailed key questions or a checklist or questionnaire, depending on the need, and a list of target respondents (gender segregated), operator training methodology and modules.

Subtask 1.2 Remote/ phone survey with the local operator or the representative staff as the initial survey to obtain the current situation and operational system of solar PV -cold storage, it could be as the consideration to determine the location then need to visit, as well as detailing the technical scope. After completing a remote survey, the contractor must identify 3 (three) priority sites (including Kampung Nelayan Modern) that must be visited, as well as additional sites with potential up to 3 (three) sites for further analysis and visit. The contractor is allowed to optimize local resources by using a flexible budget with GIZ approval. At this stage, information shall be gathered if technical damage exists that might be able to be repaired during the survey. This is limited to minor repairs (e.g. Maintenance and repair of component connectors, fuses replacement, etc.). Minor parts shall be procured by the contractor and are subject to the pre-defined budget (see Chapter 5).

Subtask 1.3 Inspection tools and instruments. This includes the inspection checklist and tools needed to conduct the inspection.

Subtask 1.4 Mobilization plan including site selection methodology and rationale. The mobilization plan should prioritize the most economical option and consider the risks mitigation.

Additional Services

During the services implementation the contractor is expected able to provide the following optional services:

- Survey of additional sites
- Additional reports
- Additional works / services similar in nature or in addition to the ones listed above.

Exercising the options will depend on specific requests made by the Indonesian government. The decision on continuation is expected to be made in the period August – November 2024.

To execute the mentioned of additional services, the contractor can use flexible remuneration item with requires prior written approval from GIZ.

Work Package 2: Technical Standardization of Solar PV -Cold Storage

This work package will observe and evaluate the standardization of system design, the operational system, and documentation O&M.

GIZ has conducted monitoring and evaluation on solar cold storages. The first initial assessment* was conducted in two locations, namely Pangambengan and Kejawanan, with focus on the following:

1. Technical details of installation, performance of installed solar PV-cold storage.
2. Operations and maintenance (O&M)
3. Challenges in implementing solar PV-cold storage.
4. Potential benefits of solar PV cold storage Potential, e.g. reduction of monthly electricity bill.
5. Evaluation of existing business models and potential new business models

**The detailed report as reference will be shared with the contractor during the initial briefing.*

The following table show the detail of 12 Location of Solar PV Cold Storage Government's Initiative 2020-2021

Port	Detail Location	PV Capacity (kWp)	Cold Storage Capacity (ton)	Remote Monitoring
PPS Bungus	Padang, West Sumatera	150	100	No
ICS Kampar	Kampar, Riau	100	100	No
PPN Kejawanan	Cirebon, West Java	120	200	Yes
ICS Dinas Perikanan	Sumenep, East Java	75	100	No
TPI Paiton	Probolinggo, East Java	25		Yes
PPN Pengambengan	Jembrana, Bali	75	200	Yes
PP Teluk Awang	Lombok, NTB	40	30	Yes
PPN Untia	Makassar, South Sulawesi	100	50/345**	Yes
SKPT Morotai	Morotai, North Maluku	100	200	No
PPN Tual	Maluku	120	200	No
PPN Merauke	Merauke, Papua	100	200	No
PPI Pomako	Mimika, Papua	75		No

To provide recommendations for improvement of these facilities, the contractor is expected to conduct monitoring and evaluation based on the following activities.

It is expected that the Contractor makes a detailed photo documentation of below mentioned aspects (quality of installation) to feed a "Do's and Don'ts" guideline (lessons learned) later on.

Subtask 2.1 Inspection on the Solar PV system

- Analyze the technical standardization of the solar PV system installation, including solar PV, inverter, panel distribution and single line diagram.
- Verify that the system is installed and maintained in compliance with safety standards and regulations.
- Conduct electrical inspection of the PV system and verify the energy load of facilities that are connected to the solar PV system including the single line diagram of the system.
- Examine the mounting and support systems for signs of physical wear or damage, and other issues.
- Evaluate the performance of the PV system and document the impact on the electricity billing.
- Assess the feasibility of integrating solar PV technology into the existing cold storage.
- Identify potential challenges and opportunities for improvement in technical efficiency.
- Calculate the potential CO2 emission offset of solar PV-cold storage.
- Provide on-site technical solutions/ minor fixes or troubleshooting if needed.
- Survey availability of relevant spare part in local hardware store.

Subtask 2.2 Inspection on the cold storage system and its operational

- Evaluate the current state of the facilities, including equipment condition, maintenance, and overall performance and efficiency including inspect the temperature monitoring, humidity control, ventilation, and air circulation.
- Analyze the technical standardization of the cold chain facilities, including refrigeration systems, compressors, condensers, evaporators, and backup refrigerator unit and transportation mechanisms.
- Monitor and document additional elements according to requests made by KKP during Task 1.
- Identify potential challenges and opportunities for improvement in technical efficiency.
- Verify that the facility complies with relevant health and safety standards for food storage.
- Identify any water damage, mold, deterioration, or an overhaul on the system e.g. insulation/ seal, the structural integrity of the cold storage facility, door seals and operation and others.
- Provide technical solutions/ minor fixes or troubleshooting if needed.

<u>Work Package 3: Socio Economic Assessment on Solar PV-Cold Storage</u>

This work package focuses on the impact of the installed solar PV to the value chain of the local fishery sector and the socio-economic and environmental impact of cold storage provision to local fishers (considering gender- segregated). The overarching goals of the cold storage program are:

- Increased awareness of market players along the value chain on the hybrid system for the cold storage
- Reduced fish loss
- Increased income for local players especially fishers

There is a need to assess whether the cold storage facility brings benefit to local fishers at the scale of reduce fish loss, provide jobs and additional income for surrounding fishing communities and small and medium enterprises. The impact is expected to be in gender-segregated data and analysis.

Subtask 3.1 Socio and Economic Impact Assessment

- Gather initial input by GIZ-nominated gender expert.
- Conduct key informant interviews or focus group discussions with nearby communities and small and medium enterprises.
- Conduct discussions with local government to understand their awareness on the cold storage facilities and explore opportunities to support communities.
- Evaluate the economic implications of implementing solar PV-cold storage in the fisheries sector.
- Assess the initial investment required for solar PV-cold storage.
- Analyze the potential cost savings and long-term benefits associated with solar-powered cold storage facilities.

Subtask 3.2 Business Model Development

- Understanding and evaluate the existing value chain and business model, and the potential improvement.
- Develop a new innovative business model to improve the operation of solar PV -Cold storage, incl. innovative financial models (e.g. cooling as a service, digital payment, etc.)
- Conduct discussion with local government, community, fisheries small and medium enterprises to present findings and recommend an innovative business model for improving the operation of solar PV -Cold storage.

Work Package 4: Remote Monitoring System and Technical Training

This work package focuses on observing and evaluating the performance of remote monitoring systems (RMS) both for solar PV systems and cold storage. The contractor is expected to identify additional and important information (especially information related to fisheries and cold storage operational, as well as energy saving) to make improvement to the installed RMS.

In addition, under this activity, the contractor is expected to deliver technical training and O&M guidelines for local operators and/or relevant/ dedicated staff. Activities will be agreed upon start of each sub-activity, including agreement of timelines, deliverables, agreed expert days etc.

Subtask 4.1 RMS system covering solar PV and Cold Storage operation.

- Observe and evaluate the performance of installed RMS and identify the potential and important information about fisheries that can be integrated into the RMS.
- Provide recommendations about the new/ updated RMS for example modify the software, adding the relevant information.

Subtask 4.2 Technical Training on O&M Solar PV-Cold Storage

- Develop a simplified O&M guideline for solar PV -cold storage (to be prepared beforehand).
- Deliver technical training to local operators and/or dedicated staff.

Work Package 5: Documentation, Reporting and Dissemination

Subtask 5.1 A comprehensive final report

A comprehensive final report includes detailing the findings, analyses, and recommendations, but is not limited to:

- Recommendations for future project/s or tender and evaluations - standardization of the systems and operating and maintenance procedure.
- Illustrated Do's & Don't's "PV Cold Storage" guideline (up to 20 pages; mostly graphical using photo documentation from the survey and simply clear instructions)
- Methodology to effective PV design that both considers the penetration of RE and fish capacity (not only limited by PLN meter regulation)
- Standardized model for cold storage including methodology to align cold storage capacity with fish stock.
- Standard cost-benefit calculation – current market penetration and what potential market to penetrate.
- Proposal of an innovative business model.
- Value chain of the main fish commodity on each location together with existing market players (gender-segregated data) and map out small fishing ports
- Social, economic, and environmental impact assessment of the system to the local fishermen and small and medium fish (gender-segregated data)
- Analysis of PV system performance and RMS data (maximum or at least analysis of 12 months of monitoring data)
- Calculate the Levelized Cost of Energy and emission offsets of solar PV -cold storage (representative site locations)

Subtask 5.2 Training Documentation

- Simplified training material or O&M guidelines (dos and don'ts of solar PV cold storage) for local operator and/or dedicated staff
- Photos and videos

Subtask 5.3 Dissemination

- Present the findings to relevant stakeholders, including government officials, fisheries industries/ enterprises representatives, and local communities.
- Engage in discussions to address any concerns and gather additional insights for refining the recommendations.

During the duration of the contract, the tasks carried out will be divided into three phases, which can be seen in the table below.

Time	Task
Phase 1 **April – June 2024**	
April – May 2024	• Preparation of inspection instruments and mobilization plan before conducting onsite survey

Mid of June 2024	• Approval of the assessment and mobilization plan before the onsite survey
Phase 2 **June – August 2024**	
End of June – End of August	• Onsite survey, workshop/FGD dan training execution
Phase 3 **September – November 2024**	
September – October 2024	• Draft report submission • Internal FGD for presenting the report and findings.
November - December 2024	• Dissemination event • Final report submission

for further description in the table above as stated in the table below, must be achieved during the contract period:

Milestones/process steps/partial services		**Deadline/place/person responsible**
Work Package 1: Assessment Planning and Mobilization Plan		**April – May 2024**
1.1	Briefing and joint kick-off	10.04.2024
1.2	Research methodology and plan (including desk research).	31.04.2024
1.3	Remote/ phone survey with local operators/ dedicated staff	15.05.2024
1.4	Inspection tools and instruments.	25.05.2024
1.5	Mobilization plan (site selection, travel and risks mitigation)	10.06.2024
Work Package 2: Technical Standardization of Solar PV -Cold Storage *		**June – September 2024**
2.1	On-site inspection & documentation of solar PV system	30.09.2024
2.2	On-site inspection & documentation of of the cold storage facility	30.09.2024

Work Package 3: Socio-Economic Assessment on Solar PV-Cold Storage		**June – September 2024**
3.1	Assessment document/ survey result	20.09.2024
3.2	Business model proposal	30.09.2024
Work Package 4: Remote Monitoring System and Technical Training		**June – September 2024**
4.1	Concept of updated RMS including the parameter list of relevant data of cold storage management	30.09.2024
4.2	Technical training	30.09.2024
Work Package 5: Documentation, Reporting, and Dissemination		**October 2024 – January 2025**
5.1	Final report and ppt	30.12.2024
5.2	O&M guidelines (dos and don’ts and Documentation	30.10.2024
5.3	Dissemination	15.01.2025

* The site visit is expected to be conducted in period of July – September 2024

Period of assignment: from April 2024 until 31.01.2025

3. Concept

In the tender, the tenderer is required to show *how* the objectives defined in Chapter 2 (Tasks to be performed) are to be achieved, if applicable under consideration of further method-related requirements (technical-methodological concept). In addition, the tenderer must describe the project management system for service provision.

Note: The numbers in parentheses correspond to the lines of the technical assessment grid.

Technical-methodological concept

Strategy (1.1): The tenderer is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1 Context) (1.1.1). Following this, the tenderer presents and justifies the explicit strategy with which it intends to provide the services for which it is responsible (see Chapter 2 Tasks to be performed) (1.1.2).

The tenderer is required to present the actors relevant for the services for which it is responsible and describe the **cooperation (1.2)** with them.

The tenderer is required to describe the key **processes** for the services for which it is responsible and create an **operational plan** or schedule (1.4.1) that describes how the services according to Chapter 2 (Tasks to be performed by the contractor) are to be provided. In particular, the tenderer is required to describe the necessary work steps and, if applicable, take account of the milestones and **contributions** of other actors (partner contributions) in accordance with Chapter 2 (Tasks to be performed) (1.4.2).

The tenderer is required to describe its contribution to knowledge management for the partner (1.5.1) and GIZ and to promote scaling-up effects (1.5.2) under **learning and innovation**.

Project management of the contractor (1.6)

The tenderer is required to explain its approach for coordination with the GIZ project. In particular, the project management requirements specified in Chapter 2 (Tasks to be performed by the contractor) must be explained in detail.

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

The tenderer 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 tender in accordance with Section 3.3.1 of the GIZ AVB:

- Service-delivery control.
- Report writing and quality before submission to GIZ, incl. corrections as needed to ensure high quality.
- Ensuring the flow of information between the tenderer and GIZ
- Managing adaptations to changing conditions
- Assuming personnel responsibility for the contractor’s experts
- Process-oriented steering for implementation of the commission.
- Securing the administrative conclusion of the project
- Mobilisation of experts according to project needs

Further requirements (1.7)

To ensure proposal quality, bidders with a technical assessment score minimum 500 points will be invited to participate in the interview process.

4. Personnel concept

The tenderer is required to have the minimum company/firm/organization requirements to be able to participate in the tender and also provide suitable personnel to fill the positions described, based on their CV (see Chapter 7), the range of tasks involved, and the qualifications required.

Company/Firm/Organization etc Qualification

- Consulting form with legal entity and licensed to operate in Indonesia.
- At least 1 reference project in the technical field of Renewable Energy / Cooling System / Agriculture
- At least 1 reference project in the region South-Eastern Asia with a focus on Indonesia in the last two years
- Excellent verbal and written communication skills in English and Bahasa Indonesia across the team, ensuring all correspondence and reporting are of a published standard.

Personnel Qualifications

Team leader

Tasks of the team leader
- Project management, central point of contact for GIZ
- Overall responsibility for ensuring the deliverables in the advisory packages of the contractor (quality and deadlines)
- Supervise and manage project plans based on deliverables, timeline, budgets, resource allocation, and risk management strategies.
- Quality assurance for technical content (design and engineering), guidelines, knowledge products (for example training module) and all reports
- Coordinating and ensuring communication with GIZ, partners and others involved in the project.
- Personnel management, assignment planning and mobilisation of experts
- Ensure regular reporting in accordance with deadlines.
- Attend meetings with GIZ and ministries and represent the consultant team

Qualifications of the team leader
- Education/training (2.1.1): Master's degree in relevant field
- Language (2.1.2): C1-level language proficiency in English (1-6 out of 10 points) and fluency in Bahasa Indonesia (1-4 out of 10 points).
- General professional experience (2.1.3): 10 years of professional experience in project management in an infrastructure sector
- Specific professional experience (2.1.4): 3 years of professional experience in programme evaluation, project quality assurance and reporting.
- Leadership/management experience (2.1.5): 5 years of management/leadership experience as project team leader or manager in a company
- Regional experience (2.1.6): 10 years of experience in projects in South-East Asia
- Development cooperation (DC) experience (2.1.7): 5 years of experience in DC projects
- Other (2.1.8): not applicable

Expert 1. Cooling and Refrigeration Expert

Tasks of expert 1
- Support the deliverables in the advisory packages of the contractor (quality and deadlines)
- Support tools development including inspection, training, and other research tools relevant to the advisory packages.
- Quality assurance for technical content (design and engineering), guidelines (for example technical tender specification), and knowledge product (for example training module)

- Ensuring communication with GIZ, partners, and others involved in the project.
- Identify areas for improvement in the system and propose optimization strategies.
- Support documentation of the project

Qualifications of expert 1

- Education/training (2.2.1): Certificate, diploma, or associate degree in HVAC or refrigeration technology from a vocational school or community college.
- Language (2.2.2): B2-level language proficiency in English and Bahasa Indonesia
- General professional experience (2.2.3): 5 years of experience in the refrigeration sector
- Specific professional experience (2.2.4): 5 years of practical experience in installing, maintaining, and repairing refrigeration systems.
- Leadership/management experience (2.2.5): not applicable
- Regional experience (2.2.6): 5 years' experience in Indonesia
- Development Cooperation (DC) experience (2.2.7): not applicable
- Other (2.2.8):
    - Experience working with remote communities.
    - Certification in refrigeration.

Expert 2. Fishery Supply Chain Expert

Tasks of expert 2

- Support the deliverables in the advisory packages of the contractor (quality and deadlines)
- Support tools development including inspection, training, and other research tools relevant to the advisory packages.
- Quality assurance for technical content (design and engineering), guidelines (for example technical tender specification), and knowledge product (for example training module)
- Ensuring communication with GIZ, partners, and others involved in the project.
- Support documentation of the project
- Identify areas for improvement in the supply chain and propose optimization strategies.
- Support in developing RMS through Identifying the improvement and relevant parameters of cold storage management.

Qualifications of expert 2

- Education/training (2.3.1): A bachelor's degree in a relevant field such as Fisheries Management, Aquaculture, Supply Chain Management, Logistics or Business Administration.
- Language (2.3.2): B2-level language proficiency in English and Bahasa Indonesia
- General professional experience (2.3.3): 7 years' experience in fisheries, aquaculture, or seafood supply chain management.
- Specific professional experience (2.3.4):
    - 1-4 out of 10 points: Proven understanding of the legislation and standards governing seafood production and distribution. Certifications and standards related to sustainable seafood.
    - 1-4 out of 10 points: Proven knowledge of sustainable fishing practices and experiences in environmentally responsible supply chain management.
    - 1-2 out of 10 points: Experience with technology tools and software used in supply chain management.
- Leadership/management experience (2.3.5): not applicable

- Regional experience (2.3.6): 5 years' experience in Indonesia
- Development Cooperation (DC) experience (2.3.7): not applicable
- Other (2.3.8):
  - Experience in liaising with various stakeholders, including fishermen, suppliers, processors, distributors, and regulatory authorities.
  - Specific training or certifications in supply chain management, logistics, or fisheries management.

Expert 3. Socio-Economic and Environmental Expert

Tasks of Expert 3

- Support the deliverables in the advisory packages of the contractor (quality and deadlines)
- Develop methods and tools for undertaking socio-economic and environmental surveys in the fishermen's community near the cold storage facilities under the government project locations.
- Undertake detailed socio-economic and environmental surveys.
- Conduct a cost-benefit assessment of the cold storage operation including energy-saving aspects from the application of solar PV.
- Develop and conduct an impact assessment of the establishment of the cold storage.
- Undertake a business model study to understand the current business model within the cold storage operation and opportunities to penetrate more markets.
- Contribute to reporting and project documentation.

Qualifications of Expert 3

- Education/training (2.4.1): master's degree in social/economic sciences
- Language (2.4.2): B2-level language proficiency in English and Bahasa Indonesia
- General professional experience (2.4.3): 7 years' experience in economic development and community empowerment programs
- Specific professional experience (2.4.4): 3 years in monitoring and evaluating social and environmental issues in the fishery sector
- Leadership/management experience (2.4.5): not applicable
- Regional experience (2.4.6): 5 years' experience in Indonesia
- Development Cooperation (DC) experience (2.4.7): 3 years of experience in DC projects
- Other (2.4.8):
  - Experience in liaising with various stakeholders, including fishermen, suppliers, processors, distributors, and regulatory authorities.
  - 1 year experience with gender issue or approach

Expert 4. Solar PV Expert

Tasks of Expert 4

- Assessment installation of solar PV system for cooling application according to standard design.
- Conduct electrical inspection of the PV system and verify the energy load of facilities that are connected to the solar PV system including the single line diagram of the system.
- Identify potential challenges and opportunities for improvement in technical efficiency.

- Provide on-site technical solutions/ minor fixes or troubleshooting if needed.
- Developing and delivering training material on operational and maintenance of solar PV rooftop systems for cold storage to operators and relevant partners.
- Contribute to developing guideline dos and don’ts for solar PV cold storage.

Qualifications of Expert 4

- Education/training (2.5.1): Bachelor's degree in electrical engineering or solar engineering
- Language (2.5.2): B2-level language proficiency in English and Bahasa Indonesia
- General professional experience (2.5.3): 5 years of experience in solar energy
- Specific professional experience (2.5.4): 3 years in designing and engineering solar PV systems based on Indonesian solar PV regulations.
- Leadership/management experience (2.5.5): not applicable
- Regional experience (2.5.6): 5 years’ experience in solar PV projects in Indonesia covering also remote island projects.
- Development Cooperation (DC) experience (2.5.7): not applicable
- Other (2.5.8): hold solar PV design and installer professional certificate.

Soft skills of team members

In addition to their specialist qualifications, the following qualifications are required of team members:

- Teamwork and collaboration skills
- Initiative
- Problem solving and analytical skills.
- Effective Communication skills
- Socio-cultural skills
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

Short-term expert pool with minimum 3, maximum 5 members: Local Facilitator

The specialists in this pool are not part of the technical evaluation and therefore no CVs need to be submitted when submitting an offer. The qualifications established for the pool are therefore minimum requirements, the fulfilment of which must be confirmed by the client before the specialists are deployed.

During implementation, the actual number of specialists deployed in the pool may deviate from the number of specialists required in Chapter 4 of the Terms of Reference. For specialists not named in the offer, the equivalence of the qualifications with the qualifications of the expert offered in the offer must be confirmed by the client before deployment.

Tasks of the short-term expert pool

- Assist with data gathering and collection on the ground.
- Liaison with local stakeholders
- Inputs to improvement of tools
- Work closely with technical trainers/ experts, subject matter experts, and other team members to ensure the smooth delivery of training programs.
- Assist in the implementation of relevant discussion and/or knowledge transfer events (e.g. FGD, workshops, etc)

Qualifications of the short-term expert pool (minimum requirements)

- Education/training: all experts with university qualifications
- Language: Proficiency in English and fluency in Bahasa Indonesia for local facilitator and monitoring evaluation,
- General professional experience: all experts with 2 years of experience working with communities (grassroot level) and experience in research methodology.
- Specific professional experience: 1 year of experience working at an implementation organization

The tenderer must provide a clear overview of all proposed short-term experts and their individual qualifications.

5. Costing requirements

Assignment of personnel and travel expenses

Per-diem and overnight accommodation allowances are reimbursed as a lump sum up to the maximum amounts permissible under tax law for each country as set out in the country table in the circular from the German Federal Ministry of Finance on travel expense remuneration (downloadable at https://www.bundesfinanzministerium.de).

Accommodation costs which exceed this up to a reasonable amount and the cost of flights and other main forms of transport can be reimbursed against evidence

All business travel must be agreed in advance by the officer responsible for the project.

Sustainability aspects for travel

GIZ would like to reduce greenhouse gas emissions (CO_2 emissions) caused by travel. When preparing your tender, please incorporate options for reducing emissions, such as selecting the lowest-emission booking class (economy) and using means of transport, airlines and flight routes with a higher CO_2 efficiency. For short distances, travel by train (second class) or e-mobility should be the preferred option.

If they cannot be avoided, CO_2 emissions caused by air travel should be offset. GIZ specifies a budget for this, through which the carbon offsets can be settled against evidence.

There are many different providers in the market for emissions certificates, and they have different climate impact ambitions. The Development and Climate Alliance (German only) has published a list of standards (German only). GIZ recommends using the standards specified there.

Specification of inputs

Fee days	Number of experts	Number of days per expert	Total	Comments
Designation of Team Leader	1	50	**50**	Lump sum based on timesheet/deliverables

				GIZ will not cover perdiem for for this assignment The proposed cost should include allowance fee (perdiem) for site visit
Designation of Expert 1	1	53	**53**	Lump sum based on timesheet/deliverables GIZ will not cover perdiem for for this assignment The proposed cost should include allowance fee (perdiem) for onsite visit
Designation of Expert 2	1	40	**40**	Lump sum based on timesheet/deliverables GIZ will not cover perdiem for for this assignment The proposed cost should include allowance fee (perdiem) for onsite visit
Designation of Expert 3	1	68	**68**	Lump sum based on timesheet/deliverables GIZ will not cover perdiem for for this assignment The proposed cost should include allowance fee (perdiem) for onsite visit
Designation of Expert 4	1	57	**57**	Lump sum based on timesheet/deliverables

				GIZ will not cover perdiem for for this assignment The proposed cost should include allowance fee (perdiem) for onsite visit
Designation of Short – term expert pool	3-5		**112**	Lump sum based on timesheet/deliverables GIZ will not cover perdiem for for this assignment The proposed cost should include allowance fee (perdiem) for onsite visit
Travel expenses	**Quantity**	**Price**	**Total**	**Comments**
Per-diem allowance in country of assignment				N/A GIZ will not cover perdiem for for this assignment
Accommodation, national	80	Rp 600.000	**Rp 48.000.000**	Travel to 3 locations, including Kampung Nelayan Modern (Biak, Papua) The locations will be determined after remote survey assessment Subject to production of evidence, GIZ Travel Regulation applied. 80 = 5 expert * (3 site * 5 days + 1 day additional)
Transport	**Quantity**	**Price**	**Total**	**Comments**
Domestic flights	15	Rp 7.000.000	**Rp 105.000.000**	Travel to 3 locations, including Kampung Nelayan Modern (Biak, Papua)

				The locations will be determined after remote survey assessment Subject to production of evidence, GIZ Travel Regulation applied. 15 = 3 site * 5 expert
Travel expenses (train, car) • Car/Taxi/Boat	30	Rp 1.000.000	**Rp 30.000.000**	Travel to 6 locations, including Kampung Nelayan Modern (Biak, Papua) The locations will be determined after remote survey assessment Including transfer to/from, airport, local transportation etc. Subject to production of evidence, GIZ Travel Regulation applied. 30 = 2 cars * 15 days
Transportation to and from airport, within Indonesia (National)	30	Rp 800.000	**Rp 24.000.000**	Subject to production of evidence, GIZ Travel Regulation applied. 30 = 5 expert * 6 times
Other costs	**Number**	**Price**	**Total**	**Comments**
Flexible remuneration	**1**	Rp 111.020.000	**Rp 111.020.000**	A budget of Rp 111.020.000 is foreseen for flexible remuneration. Please incorporate this budget into the price schedule. Use of the flexible remuneration item requires prior written approval from GIZ.
Workshops & Technical Training	**6**	Rp 3.000.000	**Rp 18.000.000**	Based on evidence performances (report for

				each workshop & technical training) 1 workshop and 1 technical training for every site visit (3)
Subcontracts	**NA**			
Procurement of materials and equipment	**2**	Rp 3.000.,000	**Rp 6.000.000**	The budget contains the following costs: expendables, parts for minor repairs, etc. The utilization of this budget requires prior written approval from GIZ Subject to production of evidence for 2 site
Local contributions	**NA**			
Other costs	**NA**			

Further explanations:

- Procurement of hardware or component that required for minor reparation, once the exact needs and technical requirements for the equipment have been defined with GIZ, it is possible to use the budget for the procurement. Maximum budget for the procurement of this equipment: Rp 18.000.000 The project has the necessary additional budget for the procurement of this type of material goods. GIZ issues written authorisation for this procurement.
- To anticipate possible additional needs, such as for travel, events, a flexible remuneration budget can be utilized. The utilization of this budget requires prior written approval from GIZ.

6. Inputs of GIZ or other actors

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

- Logistics for workshops: up to 6 workshops and 6 technical trainings
- Overall facilitation with government especially KKP during implementation

7. Requirements on the format of the tender

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

The complete tender must not exceed 7 pages (excluding CVs). If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in

The CVs of the personnel proposed in accordance with Chapter 4 of the ToRs. The CVs shall not exceed 4 pages each. They must clearly show the position and job the proposed person held in the reference project and for how long.

Please calculate your financial tender based exactly on the parameters specified in Chapter 5 Quantitative requirements. The contractor is not contractually entitled to use up the days, trips, workshops or budgets in full. The number of days, trips and workshops and the budgets will be contractually agreed as maximum limits. The specifications for pricing are defined in the price schedule.

8. Option

NA

Quantitative requirements for the optional services

NA

Requirements on the format of the tender for the option

NA

9. Outsourced processing of personal data

NA

10. Annexes

NA