MEKONG INSTITUTE AMEICC AOTS The Association for Overseas Technical Cooperation and Sustainable Partnerships

MEKONGSUSTAIN
Mekong Sustainable Supply Chains Transformation and Advancement

TERMS OF REFERENCE (TOR)

Consultancy:	**Design and Development of the IT System Platform for Measuring ESG Performance of SMEs towards Decarbonization**
Type:	**Individual and/or Team of Consultancy Services**
Duration	**The consultancy will be carried out over a period of two years from October 1, 2024, to August 31, 2026, with one year technical support till September 30, 2027**
Location:	**Home-based, Mekong Institute and Designated Location**
Project:	**Mekong Sustainable Supply Chains Transformation and Advancement**

1. Background

Japanese companies have been leading in the manufacturing sector in Mekong countries and have developed a regional supply chain to export products to the global market in collaboration with local SMEs. Surveys conducted for developing the ASEAN-Japan Economic Co-creation Vision suggested that the supply chain should be upgraded in a sustainable manner through adopting Environmental, Social, and Governance (ESG) principles and related investment due to global business circumstances, continue business with global firms, improve competitiveness to access markets. However, one of the biggest challenges to implement ESG principle at the supply chain level is the insufficient knowledge of SMEs although some actions such as Kaizen can lead to another benefit such as less business operation cost. Therefore, based on the discussion in West East Corridor Working Group (WEC-WG) under AMEICC in 2023, Japan has decided to develop new co-creation project to accelerate ESG actions among local SMEs through capacity building with a plan of future expansion.

The basic premise of the project is that SME suppliers/component manufactures are provided with the opportunity to improve their ESG performance through an interplay of other stakeholders such as leading companies, technology providers and financing companies. These stakeholders guide SMEs in ESG adoption through technology and financing options, while SMEs identify improvement areas on ESG standards to comply

global regulations and requirements of lead companies through adoption of ESG solutions accessing affordable technologies and financing options.

Based on the premise, the project titled “Mekong Sustainable Supply Chains Transformation and Advancement’ (Mekong Sustain) will (i) develop training catering to the global, regional and local demand after preparatory research and train local lecturers (ii) provide training to selected SMEs and (iii) facilitate matching with solution providers and financial institutions to monitor the decarbonization process of SME suppliers in automotive, textiles and agriculture - food industry and thereby (iv) reduce carbon footprints in the supply chains.

The project aims to understand the opportunities and challenges local SMEs are facing and develop policy proposal to Mekong countries to facilitate the private sector’s transitions leading to accelerate adopting ESG principles and related investments at supply chain level at a later phase. The project focuses on the environment or decarbonization issue as climate change is the most urgent for concrete actions among ESG parameters. In addition, due to the characteristic of industries, the project in the pilot phase will target 150 SMEs in Automotive, textiles and agriculture- food industry.

The two-year pilot project is funded by the Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS), Japan and implemented by Mekong Institute. The pilot phase of the project is from September 2024 to August 2026.

2. Objective of the IT Consultancy

The primary objective of this consultancy is to design and develop an IT system platform for inputting baseline and decarbonization data/information from 150 SME suppliers in the automotive, textile, agriculture, and food industries across the Mekong countries (Cambodia, Lao PDR, Myanmar, Thailand and Viet Nam, and Cambodia). This platform will a tool to monitor and track progress over time, measure the impact of interventions under the project, provide insights areas for improvement, explore motivations for complying with ESG standards and inform decision-making for investments in the decarbonization process.

The consultant (team) will be assisted by the Monitoring, Evaluation and Learning (MEL) team and MekongSustain project team.

3. Target group

The target group consists of 150 SME suppliers in the automotive, textile, agriculture, and food industries across the Mekong countries. These suppliers will register in the IT system with their baseline data on environmental or decarbonization issues to track progress and measure the impact of the project’s interventions.

4. Scope of Work

The IT System Developer or IT Consultant will work closely with the Project Consultant on developing ESG performance indicators for SME suppliers towards decarbonization

and the MI team to design an interactive IT system platform. This platform will enable the SME suppliers in the Mekong countries (Cambodia, Lao PDR, Myanmar, Thailand, and Viet Nam) to input decarbonization-related information. The specific scope of work includes:

Task 1: Design and Develop IT system

- Collaborate with the Project Consultant to develop ESG performance indicators for SME suppliers, using various measurements (indicators, questions, lists, percentages, and/or choices) to track progress and measure the impact of decarbonization data integration.
- Design the system architecture of the web portal within one week of the contract start.
- Generate a System Requirement Specification (SRS) to outline the expected functionalities.
- Design a Content Management System (CMS) platform, including but not limited to WordPress, registration, dashboard, PHP, JS, HTML, MySQL, Curl language, etc.
- Ensure system compatibility with all major browsers (Mozilla Firefox, Internet Explorer, Google Chrome, Opera, Safari, Microsoft Edge, etc.)
- Develop a web-based and/or digital platform to provide comprehensive information about decarbonization compliance requirements.
- Create a system portal to help SME suppliers upload decarbonization-related information.
- Ensure the portal is interactive and capable of generating various reports (Excel, PDF, tabulated data, etc.)
- Design the system to be user-friendly and simplify user management.
- Allow easy administration of all components by Admin, co-Admin, and sub-users (SMEs).
- Applicable with Responsive Web Design technologies.
- Integrate AI platforms into the IT system where applicable.
- Include intelligent recalls and follow-ups that auto-create appointments in the calendar, with optional SMS/email confirmations and reminders for sub-users (SME suppliers).
- Implement functions for Search, Create, Read, Update, Delete (SCRUD) operations and adopt Role-Based Access Control (RBAC) to authorize system resource allocation based on user roles.
- Ensure the solution supports maximum concurrent users.
- Allow input of standard images/photos size for storage and transmission of data.
- Provide user help functionality on major components (e.g., FAQs)

Task 2: Security and Encryption

- Ensure the web-based site is encrypted with a Secure Sockets Layer (SSL) certificate.
- Implement proper security measures, including deploying security plugins like iThemes Security, Bulletproof Security, SiteLock, etc., if using a WordPress framework, or other similar tools for CMS-based sites.
- Prevent SQL injection attacks by using parameterized queries.
- Implement a Content Security Policy (CSP) to prevent cross-site scripting attacks.

- Ensure the website platform and software are up-to-date.
- Implement any other security features to prevent cyberattacks, hacking, and system downtime.
- Establish a password policy:
    - **o** Ensure that usernames and passwords are required to access the system, protecting SME data from unauthorized individuals both internally (other staff) and externally (hackers).
    - **o** Store passwords in an encrypted format in the database, using universally accepted encryption standards to protect against malicious activity by performing real-time encryption and decryption of the database.

Task 3: Technical Support and Maintenance

- Recommend a cloud-based platform for smoother handover to third parties in the future, or suggest an appropriate platform.
- Suggest a hosting plan for the web-portal with provisions for long-term hosting until the project implementing agencies decide to move.
- The hosting platform and plan should include, but not be limited to, Amazon Web Services (AWS), Google App Engine, Microsoft Azure, Heroku, etc., as appropriate to the web framework used to build the web-portal.
- Maintain the web-based database during and after project completion for 1 year, including:
    - o Troubleshooting at both the web-based application level and user level.
    - o Assisting focal project team members/clients in operating the portal.
    - o Fixing bugs and incorporating minor changes.

- Ensure minimal constant downtime of the system operation, especially during updates the system.
- Expand offline mode for users to access information and stored documents while offline.
- Provide administrative and technical support, and quality control for an agreed period.
- Settle all necessary requirements (licensing, registration, fees, and other legal matters) and perform technical operations as needed to keep the system running once launched.
- Provide training on using the web-based platform system to project staff, SME suppliers and key stakeholders.

Task 4: Ownership of Source Code

- The system developer is required to hand over the final product within 15 days after completion of the project on August 31, 2026. The final product includes all source code, intellectual property, documentation, user manual, system manual, and all items specific to the IT system, which will be under the Mekong Institute's exclusive ownership.

Task 5: Design and Develop Data Input Platform

- Coordinate directly with the Project Consultant on developing ESG performance indicators for SME suppliers towards decarbonization, using various measurements as the focal person assigned to create the form for inputting the related information.

- Ensure the following information is designed on a web-based platform, but not limited to.
  - SME suppliers user registration form.
  - Contact details (name of contact person and business profile).
  - Country (Cambodia, Lao PDR, Myanmar, Thailand and Viet Nam).
  - Business sector and services (Automotive, textiles and agriculture- food industry).
  - Input decarbonization information and data for at least 150 SMEs in the system to monitor and track progress over time and measure the impact due to intervention under the project.
  - Ensure the accuracy of content/information specific to the assigned tasks.
  - Generate various reporting forms from the IT system.
- Design and develop a feature/menu for selecting SMEs for training programs. The criteria and contents will be provided by the Project Consultant on the baseline survey of SME suppliers and the assessment of motivations and challenges towards decarbonization, in close coordination with MI project team members and the project steering committee.
  - Design and develop a feature/menu on the platform to upload core project materials such as project briefs, activity reports, training materials, reference sites on core ESG compliance requirements, ESG practices, etc.
  - Design and develop a feature/menu on the platform to upload profiles of technology solution providers, financial institutions for green financing, and potential training centers in the automotive, textiles, and agriculture-food industry goods sectors, with photos of products in Mekong countries, Japan, and beyond.

Task 6: Develop Decarbonization Area Indicators

- Coordinate with the Project Consultant on developing ESG performance indicators for SME suppliers towards decarbonization, using various measurement categories of decarbonization and input information in the forms of indicators, metrics, lists, percentages, choices, Yes/No, open-ended questions, etc. by SME suppliers on the following issues, but not limited to.
  - Decarbonization information/data and carbon emission with its calculation. Key emission scope covers on
    - Scope 1 emissions**:** (greenhouse gas (GHG) emissions that a SME makes directly – such as when running its vehicles, boilers or manufacturing lines).
    - Scope 2 emissions**:** (emissions indirectly such as electricity SME buys for heating, cooling and other operations.)
  - Determine the scopes of emissions SME will target to address and set tentative targets with the SMEs by using 2024 as the base year and determining target year.
  - Set up list of existing carbon footprint measurement of SME suppliers and identify their current efforts towards decarbonization, including renewable energy usage, waste management, sustainable sourcing etc., but not limited to,
    - current greenhouse gas (GHG) emissions from operations, including direct and indirect emissions (Scopes 1, and 2).

- sources of emissions within the organization (e.g., energy use, supply chain activities).
- energy consumption patterns, sources (renewable vs. non-renewable), and efficiency measures in place.
- opportunities for energy efficiency improvements and shifts to renewable energy.
- existing decarbonation strategies and their effectiveness.
- review whether the SME supplier has set measurable, science-based targets for emissions reduction.
- current sustainable practices in production, waste management, transportation, and resource usage.
- any initiatives for technological innovations that could contribute to decarbonation.
- employee awareness regarding decarbonation and sustainability practices.
- involvement of staff in sustainability initiatives and training programs.
- carbon footprint of suppliers and procurement practices.
- strategies for engaging suppliers in sustainability efforts and reducing overall supply chain emissions.
- key challenges and barriers faced by SMEs in their decarbonization efforts, such as financial constraints, lack of information, technological limitations, and workforce skills.
- motivation for local SMEs to pursue decarbonization, including regulatory pressures, market demand, financial incentives, and corporate social responsibility.
- qualitative data on the perceptions and attitudes of SME owners and managers towards decarbonization, including their understanding of its benefits and any misconceptions that may hinder progress.
- 'motivation' for decarbonization, identify criteria and suggest a priority list of the motivated SMEs by using the criteria.

Task 7: Reporting and Recommendations

- The IT system should be capable of presenting a summary of decarbonization data and information from SME suppliers, along with suggestions and recommendations. These outputs should be available in various formats, including Excel, Word, PDF, tables, and graphs.
- The system should save data inputs from SME suppliers on a weekly, monthly, and/or quarterly basis. This data can be used for comparison with previous periods. The output file should include graphs displaying various emission measurements (indicators, metrics, answers, lists, percentages, and/or choices).

5. Deliverables

- **Inception Report**: The report should detail the consultant's understanding of the tasks, approach, timelines, and system architecture of the web-based portal.
- **Progress Report:** The report will cover the design of the web-based platform and its associated functions/features/menu related to ESG performance

indicators for SME suppliers, and platform on calling SME suppliers to the trainings.

- **Interim Report**: The report should summarize findings and progress for each task, including development of decarbonization area indicators with measurements.
- **Training Resource**: The consultant will act as a resource person in training sessions, presenting the web-based platform and the types of data/information to be input into the system by SME suppliers.
- **Technical Assistance**: Provide online technical assistance, advice, and respond to participants' queries. Assist on input data by participants into the web portal during the decarbonization plan implementation period, which lasts until August 31, 2026.
- **Final Report**: Finalize the product mentioned under Task 4 (Ownership of Source Code) and hand over the web portal to Mekong Institute within 15 days upon project completion on August 31, 2026.

6. Duration

The IT system consultancy will be carried out tasks over a two-year period, from October, 2024, to August 31, 2026, with technical support extending until September 30, 2027.

Tasks	Delivery date
Inception Report: outline the consultant's understanding of the tasks, approach, timelines, and system architecture of the web-based portal.	October 11, 2024
Presentation Inception Report to the project team	October 14,2024
Progress Report: design of web-based platform and its associated functions / features/menu related to ESG performance indicators for SME suppliers towards decarbonization and platform for calling SME suppliers to the trainings (Task 1, 2 and 5)	November 22, 2024
Presentation Progress Report to the project team	November 25, 2024
Interim Report: functions/features/menu on development of decarbonization area indicators with its measurements (Task 6)	December 20, 2024
Presentation Interim Report to the project team	December 23, 2024
Training resource on presenting the web-based platform and its functions to SME suppliers and provide online technical assistance. (Task 3)	January 2024 – July 31, 2026
Provide ongoing technical support and maintenance (Task 3)	January 2024-September 30, 2027
Final Report: web-based platform and its associated functions/features/menu concerning	August 16, 2026

ESG performance indicators for SME suppliers towards decarbonization (Task 4 and 7)	
Final Report presentation to the project team (Task 4 and 7)	August 29, 2026

7. Required Qualifications and Experience

The prospective service provider is expected to meet the following minimum requirements:

- At least five to seven years of experience in developing web-based platform and databases and software.
- Professional web programming skills, including web development, configuration, repairing, troubleshooting of database instances, and maintenance.
- Proven experience website/web portal management.
- Familiarity with standard ICT industry best practices, with an emphasis on change control and contemporary system security methodologies.
- Strong web design skills, including proficiency in HTML, PHP Framework, JavaScript, MySQL, CSS, jQuery, etc.
- Experience working with one or more of the following stacks: WAMP, LAPP, MAMP, or XAMPP.
- General knowledge of GIS (Geographic Information System) themes and operations.
- Demonstrated project management experience of varying scope.
- Commitment to accuracy.
- Previous experience with development cooperation projects or a proven track record is a plus.
- Excellent understanding of ESG performance and decarbonization actions.
- Strong communication skills in English

8. Budget

The budget allocated for designing and developing the IT system for inputting the ESG Performance Indicators of SME Suppliers is 50,000 USD. This includes professional fees, all necessary web-based system requirements (licensing, hosting/domain name registration, storage, servers, configuration, bug fixing, maintenance, and legal matters, etc.), and any travel within Mekong countries (travel to Japan is not included).

9. Submission of Proposals

Interested Service providers are requested to submit:

- A technical proposal detailing the approach and methodology for completing the tasks.
- CVs of the consultant(s) demonstrating their qualifications and experience.
- Examples of previous work relevant to the tasks outlined in the scope of work.

- Shortlisted proposals will be required to present the consultancy approach, methodology, team etc. via online meeting.

Proposals should be submitted electronically by **October 7, 2024, to procurement@mekonginstitute.org** and **cc to dutta@mekonginstitute.org**

10. Evaluation Criteria

The proposals will be evaluated based on the following criteria:

- Understanding of the scope of work.
- Proposed methodology and approach.
- Relevant experience and qualifications of the team.
- Experience of conducting similar web based portal.

Only shortlisted service providers will be contacted for the next steps.

11. About Mekong Institute

Mekong Institute (MI) is an intergovernmental organization founded by members of the Greater Mekong Subregion (GMS). MI serves the GMS countries, namely Cambodia, China (Yunnan Province and Guangxi Zhuang Autonomous Region), Lao PDR, Myanmar, Thailand, and Viet Nam by providing, implementing, and facilitating integrated human resource development (HRD), capacity building programs, and development projects related to regional cooperation and integration.

MI aims to foster regional cooperation and connectivity by working with local government authorities, development partners, and local organizations to deliver standardized and customized learning programs, workshops, seminars, policy dialogues and consultations as well as research and development projects. For more details, please visit www.mekonginstitute.org