



Terms of Reference: ESCO Policy & Market Assessment and On-Bill Financing Readiness Study

Deadline: 15 January 2025

1. Project Name

Asia Low Carbon Buildings Transition Project

2. Post Title

Consultant on ESCO Policy & Market Assessment and On-Bill Financing Readiness Study

3. Background

The ASEAN Centre for Energy (ACE) is an intergovernmental organisation that independently represents the 10 ASEAN Member States' (AMS) interests in the energy sector. The Centre serves as a catalyst for the economic growth and integration of the ASEAN region by initiating and facilitating multilateral collaborations as well as joint and collective activities on energy. It is guided by a Governing Council composed of Senior Officials on Energy from each AMS and a representative from the ASEAN Secretariat as an ex-officio member. Hosted by the Ministry of Energy and Mineral Resources of Indonesia, ACE office is located in Jakarta.

Part of the efforts to fulfil its function as a regional centre of excellence that builds a coherent, coordinated, focused and robust energy policy agenda and strategy for ASEAN, ACE conducts joint studies, policy dialogues and capacity buildings for ASEAN Member States to



support the implementation of the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2025.

APAEC 2016 – 2025 is the energy cooperation blueprint for enhancing energy connectivity and market integration in ASEAN to achieve energy security, accessibility, affordability, and sustainability for all AMS. The regional blueprint aims to reduce the energy intensity of the region by 32% by 2025 compared to 2005 level as one of key targets. One of its programme areas is Energy Efficiency and Conservation (EE&C), which has an outcome-based strategy (OBS) 3 - Strengthen Sustainability of Energy Efficiency in Buildings. The OBS focuses on sustainable EE policies and technologies in the building sector through developing EE building and cooling roadmaps and sharing information on EE buildings initiatives.

The Asia Low Carbon Buildings Transition (ALCBT) project is a five-year initiative, running from July 2023 to June 2028, funded by the International Climate Initiative (IKI) of the German Federal Ministry for Economic Affairs and Climate Action (BMWK). The project is led by the Global Green Growth Institute (GGGI) in consortium with the ASEAN Centre for Energy (ACE), Energy Efficiency Services Limited (EESL) of India, and HEAT International of Germany. Focusing on Cambodia, India, Indonesia, Thailand, and Vietnam, the ALCBT project aims to catalyze nationwide transitions towards low carbon buildings.

In line with these objectives, ACE is undertaking an assessment of the Energy Service Company (ESCO) and on-bill financing market readiness in ASEAN. This assessment aims to provide a comprehensive understanding of the current landscape, identify barriers and opportunities, and inform policy recommendations to accelerate the adoption of energy efficiency measures in buildings.

To effectively conduct this study, ACE seeks to engage a qualified consultant with expertise in energy efficiency financing, ESCO business models, and on-bill financing mechanisms. The consultant will be responsible for conducting in-depth research, stakeholder consultations, and analysis to deliver a comprehensive report that will guide future interventions and policy decisions in the ASEAN region.

4. Duration of Engagement

The consultant awarded with the assignment will be hired from February - September 2025, obliged to work within the required deadlines, and available for calls or meetings, virtually and in person, as needed. The consultant will undertake this project in line with the Scope of



Work (in clause 6), which can be continuous or intermittent due to further discussion between ACE and the consultant.

The consultant should allocate sufficient time for reviewing and incorporating feedback from government partners. This may include an additional 2-3 weeks after submitting each major deliverable for consultation and revision.

5. Objectives

The overall objective of this consultancy is to conduct an **in-depth assessment of the ESCO market and on-bill financing readiness in the ASEAN region**, with a further focus on **Cambodia, Indonesia, Thailand, and Vietnam**. The expected output will be a **full report of ESCO Market Assessment in ASEAN, with dedicated chapters for Cambodia, Indonesia, Thailand, and Vietnam**.

Specific objectives include:

- To review existing policies, regulations, incentives, and market conditions related to energy efficiency financing and ESCO business models for energy-efficient and low-carbon building in 10 ASEAN countries.
- To conduct a comprehensive and detailed assessment of the current ESCO market landscape in Cambodia, Indonesia, Thailand, and Vietnam.
- To identify enabling factors and barriers for ESCO financing uptake and market development in Cambodia, Indonesia, Thailand, and Vietnam.
- To evaluate the readiness of key stakeholders, including government agencies, financial institutions, and building owners, to engage with and support ESCO projects in Cambodia, Indonesia, Thailand, and Vietnam.
- To assess international best practices, experiences, and case studies relevant to in Cambodia, Indonesia, Thailand, and Vietnam on the feasibility of the ESCO business model in government, commercial, and residential buildings.
- To conduct a readiness assessment for On-bill Financing (OBF) implementation in Cambodia, Indonesia, Thailand, and Vietnam, identifying potential opportunities and challenges.
- To develop recommendations for enhancing ESCO operations and market growth in the ASEAN region, with tailored strategies to identify potential EE pilot project pipelines in the building sector for Cambodia, Indonesia, Thailand, and Vietnam.



6. Scope of Work

The consultant shall undertake the following tasks:

a. Policy and Regulatory Framework Review

- Conduct a review of existing policies, regulations, and incentives related to the ESCO business model across 10 ASEAN Member States.
- Provide detailed policy analysis specifically for Cambodia, Indonesia, Thailand, and Vietnam, including:
 - Policy effectiveness assessment
 - Regulatory framework analysis
 - Incentive mechanism evaluation
 - Policy alignment with national energy efficiency goals

b. ESCO Market Assessment

- Provide a brief regional overview of the ESCO market in 10 ASEAN Member States, including general market trends and regional challenges and opportunities
- Conduct detailed market assessment, including through interviews, survey/questionnaires, or focus groups with key stakeholders, for Cambodia, Indonesia, Thailand, and Vietnam, including:
 - Market Analysis
 - Analyze the size, growth trajectory, and key characteristics of the ESCO market in each focus country
 - Identify and evaluate major market players, including ESCOs, their clients, and financial institutions
 - Assess market penetration and potential across different building sectors
 - Evaluate competitive landscape and market dynamics
 - Technical and Economic Analysis
 - Assess investment requirements and returns for different types of ESCO projects
 - Evaluate typical payback periods and life-cycle costs
 - Analyze market-wide energy savings potential by sector (commercial, industrial, public buildings); and measurement methodologies
 - Review commonly used technologies and their effectiveness
 - Project Implementation Assessment



- Examine types of energy efficiency projects being implemented
- Review of business models and contractual arrangements
- Evaluate project delivery mechanisms and success rates
- Assess quality assurance and performance verification approaches

c. Barrier and Gap Analysis

- Identify and analyze technical, financial, regulatory, and awareness barriers for ESCO market growth in four focus countries.
- Assess capacity gaps among key stakeholders, including ESCOs, building owners, and financial institutions.
- Examine market barriers specific to different building sectors (e.g., government, commercial, industrial).
- Evaluate the impact of these barriers on ESCO project implementation and market expansion.
- Develop risk assessment frameworks covering, including:
 - Technical risks (technology performance, implementation quality)
 - Financial risks (payment defaults, cost overruns)
 - Market risks (demand fluctuations, competition)
 - Policy risks (regulatory changes, incentive programs)
 - Operational risks (maintenance, user behavior)

d. Stakeholder Assessment and Engagement

- Conduct a stakeholder mapping to identify key stakeholders in the ESCO market in ASEAN.
- Evaluate the readiness and capacity of key stakeholders to engage in ESCO projects in each focus country.

e. Case Study and Best Practices Assessment

- Review and analyse successful international ESCO business models and implementations, including detailed case studies highlighting best practices and lessons learned regionally and globally.
- Draw insights from these case studies to develop recommendations for future ESCO market development in target countries.

f. On-Bill Financing (OBF) Readiness Assessment



- Define On-Bill Financing, its mechanisms, benefits, and potential challenges in the context of ASEAN countries.
- Present brief case studies of successful On-Bill Financing programs from other parts of the world, such as the United States, Europe, or other relevant regions, highlighting key success factors and lessons learned.
- Conduct an initial assessment of the readiness for on-bill financing implementation in the four focus countries (Cambodia, Indonesia, Thailand, and Vietnam).
- Identify potential synergies between ESCO models and on-bill financing mechanisms in the ASEAN context.
- Evaluate the existing utility billing systems, regulatory frameworks, and consumer protection laws in the four focus countries to determine their compatibility with OBF.
- Outline key considerations and challenges for introducing on-bill financing in the region, including regulatory and technical factors.
- Identify key stakeholders (e.g., utilities, regulators, financial institutions) for successful OBF implementation.
- Suggest areas for further study or potential pilot projects related to on-bill financing in the ASEAN region.
- Provide preliminary recommendations on OBF adoption and implementation in the four focus countries, considering their specific contexts and challenges.

g. Recommendations and Strategy Development

- Develop regional recommendations for enhancing ESCO operations, with tailored and specific recommendations for Cambodia, Indonesia, Thailand, and Vietnam.
- Propose strategies for overcoming identified barriers and leveraging opportunities for market growth for key stakeholders (Government, Financial Institutions, ESCOs).
- Suggest potential policy reforms, capacity-building initiatives, awareness campaigns, or financial mechanisms to support ESCO development.
- Outline potential pilot projects or initiatives that could effectively demonstrate the viability and benefits of ESCO models in different segments, e.g., public, commercial, industry in Cambodia, Indonesia, Thailand, and Vietnam.
- Provide a roadmap for ESCO market development in Cambodia, Indonesia, Thailand, and Vietnam, considering respective policy and market landscape.

h. Workshops for Capacity Building and Dissemination



- Design and conduct workshops to build capacity among key stakeholders on ESCO market development and on-bill financing mechanisms in Cambodia, Indonesia, Thailand, and Vietnam.
- Develop training materials and presentations
- Facilitate interactive sessions to encourage knowledge-sharing and discussion
- Collect feedback from workshop participants to refine recommendations and implementation strategies.
- Provide a summary report for each workshop, including key outcomes and action points.

7. Work Mechanism

The implementation of the project is arranged as below:

- Led by the Energy Efficiency and Conservation Department, ACE is responsible for the project's full implementation. It will manage and facilitate the work and communication with government officials, including ASEAN Energy Efficiency and Conservation Sub-Sector Network (EE&C-SSN) focal points, and ALCBT Technical Advisory Committee.
- External Consultant to provide technical expertise and support as described in this TOR. The consultant is responsible for communicating with external parties required under this project, particularly private sectors, or companies. During the work period, the consultant must have a regular conference call meeting with ACE to discuss progress in every work step. Any interaction with the external parties to support the project by the consultant must be approved by ACE.
- The consultant shall work with ACE to establish a clear process for engaging with government partners, including timelines for review and feedback on key deliverables.

8. Deliverables

Table 1. Timeline of the deliverables

DELIVERABLES	DESCRIPTION	DEADLINE
Inception Report	<ul style="list-style-type: none">• A detailed work plan, methodology, and timeline for the study.	2 Weeks after



	<ul style="list-style-type: none"> • Initial findings from preliminary research. • Indicate the data requirements and collection methods. 	contract signing
Policy and Regulatory Review Report	<ul style="list-style-type: none"> • Review of existing policies, regulations, and incentives related to ESCO operations in ASEAN 	15 March 2025
Market Assessment Report, including International Practices, Case Studies, and Experience on ESCO Business Model	<ul style="list-style-type: none"> • Brief regional overview of ESCO market across ASEAN • Comprehensive market analysis for the four focus countries (Cambodia, Indonesia, Thailand, and Vietnam), covering: <ul style="list-style-type: none"> • Market analysis (size, players, sectors, competition) • Technical and economic analysis (investments, returns, payback periods) • Market-wide energy savings potential by sector and measurement methodologies • Include detailed assessment of stakeholder readiness and capacity, such as through interviews, survey/questionnaires, or focus group with key stakeholders. • Market analysis must include perspectives on barriers and opportunities from key market players including ESCOs, financial institutions, building owners, and utilities • Technology assessment and feasibility studies 	15 April 2025



	<ul style="list-style-type: none"> • Project implementation practices and success rates • Barrier and risk analysis (technical, financial, regulatory, operational) • Analysis of international best practices and case studies relevant to ASEAN context <p>All data to be provided in standardised excel format with explanatory notes</p>	
<p>On-Bill Financing Readiness Assessment Report</p>	<p>Initial assessment of on-bill financing potential in the four focus countries, including case studies from other regions and recommendations for ASEAN, including:</p> <ul style="list-style-type: none"> • Detailed evaluation of utility billing systems and operational capacities • Assessment of financial institutions' readiness and capacity for implementation • Analysis of current payment collection mechanisms and default rates • Regulatory and consumer protection framework analysis 	<p>15 May 2025</p>
<p>Draft Full Report</p>	<ul style="list-style-type: none"> • Policy Brief on ASEAN's ESCO Market. • Draft a full report on ESCO Market Assessment and on-bill financing readiness in ASEAN, with a dedicated chapter on Cambodia, Indonesia, Thailand, and Vietnam. 	<p>15 June 2025</p>



<p>Bilateral Workshops</p>	<ul style="list-style-type: none"> • Conduct one bilateral workshop each in Cambodia, Indonesia, Thailand, and Vietnam (four bilateral workshops) to present and discuss draft findings. • Workshop report for each bilateral workshop. 	<p>June-July 2025</p>
<p>Final Report</p>	<ul style="list-style-type: none"> • Final version of the report, incorporating feedback from bilateral workshops and stakeholders. • The Final report should be structured as a single comprehensive document that includes: <ul style="list-style-type: none"> ○ Executive Summary ○ Regional Overview and Analysis • Dedicated chapters for each focus country (Cambodia, Indonesia, Thailand, and Vietnam) • Supporting annexes and technical data 	<p>August 2025</p>
<p>One (1) Regional Dissemination Workshop</p>	<ul style="list-style-type: none"> • Regional workshop report to disseminate the final findings and recommendations. 	<p>September 2025</p>

The deliverables mentioned above should be a narrative report (word format) and a presentation (PowerPoint format). The Workshops can be virtual/ in person, but the arrangement will be covered by ACE, including the logistics, venue, and invitation for participants. Please include the travel cost for the consultant's travel costs in the financial proposal. The number of mandatory in-person workshops for consultants to attend is five (5) workshops (four (4) bilateral workshops and one (1) regional workshop).



9. Required Qualifications and Expertise

ACE requires an international/regional consulting service provider or technical experts with proven experience and capacity to provide the necessary tasks, outputs/deliverables as described above. The following qualifications and expertise are required:

a. Educational Background:

- Advanced degrees (master's or PhD) in a relevant field such as Energy Economics, Environmental Engineering, Sustainable Development, or Business Administration with a focus on Energy Management.

b. Professional Experience:

- Minimum of 10 years of experience in energy efficiency, ESCO markets, and/or sustainable building sectors.
- Demonstrated experience in conducting market assessments and policy analyses in the energy sector, preferably in Southeast Asia.
- Proven track record of working on ESCO-related projects or with ESCO companies.
- Experience in financial analysis of energy efficiency projects and understanding various financing mechanisms including on-bill financing.
- Demonstrated experience in:
 - Economic modeling and financial analysis
 - Energy measurement and verification protocols
 - Risk assessment methodologies
 - Market penetration modeling
 - Technology assessment and benchmarking
- Proficiency in relevant modeling software and analytical tools
- Experience with international M&V protocols and standards

c. Regional Expertise:

- In-depth knowledge of the energy sector, specifically on energy efficiency in ASEAN countries, with particular expertise in Cambodia, Indonesia, Thailand, and Vietnam.
- Previous experience working with government agencies, international organizations, or private sector entities in the ASEAN region.



d. Technical Skills:

- Strong analytical skills with the ability to collect, analyze, and interpret complex data.
- Proficiency in energy modeling and financial analysis tools relevant to ESCO projects.
- Excellent report writing and presentation skills in English.

e. Stakeholder Engagement:

- Demonstrated ability to engage with diverse stakeholders, including government officials, private sector representatives, and international organizations.
- Experience in facilitating workshops and presenting findings to high-level stakeholders.

f. Language Skills:

- Excellent command of English and the capacity to write high-quality reports in the language
- Proficiency in one or more languages of the four focus countries (Khmer, Bahasa Indonesia, Thai, or Vietnamese) would be a significant advantage.

g. Additional requirements:

- Expertise of the firm/organisation: The consulting service provider or technical experts should demonstrate proven records of delivery for similar tasks/products over the most recent five years. Bidders are to attest their expertise by submitting, e.g., reports, studies, analyses, consultancy products, research analyses, and data management related to energy efficiency and ESCO projects and business in the ASEAN region.
- The team must consist of at least one (1) regional (ASEAN) expert with experience in the ASEAN energy landscape and policy-related work in at least four (4) ASEAN countries, especially in Cambodia, Indonesia, Thailand, and Vietnam.

10. Service fee

- The compensation for the entire performance is arranged according to the project budget. For the assignment's satisfactory performance, the consultant will be paid a fixed fee of a maximum of USD 81.000 (Eighty-One Thousand US Dollars). Payment will be made to the consultant's nominated bank account.
- ACE is an intergovernmental organisation and is not liable for any taxes. The consultant shall file and settle any payment for income tax arising from the income from ACE. ACE



shall not be responsible for any consequences of the failure to fulfil obligations relating to the income tax laws of the respective country.

- The consultant shall propose the milestone-based disbursement timeline under the proposal, and the mechanism will be agreed upon between ACE and the consultant during the contract signing process.
- The consultant must submit a report on the person-days usage and timesheet to ACE for each disbursement.

11. Language

All reports and studies are to be submitted in British English language. The documents are required to be submitted using the layout and design provided by ACE. The reports will be made feasible to be uploaded on the ACE website.

12. Submission Requirements and award criteria

Interested Consultants or Technical Experts are invited to submit a proposal in response to these Terms of Reference (Max 10 pages, excluding CVs).

1) The Technical component should present the following information (70% weight):

Expertise of the Firm/Organization

- Provide a brief description of the organisation/firm submitting the Proposal, its legal mandates/authorised business activities, the year and country of incorporation, types of activities undertaken, and approximate annual budget. Include reference to reputation or any history of litigation and arbitration in which the organisation/firm has been involved that could adversely affect or impact the performance of services, indicating the status/result of such litigation/arbitration.
- Demonstrate that the consultant has completed at least five (5) projects with similar topics (such as ESCO market assessment, energy efficiency policy analysis, or on-bill financing studies). At least three (3) of these projects should have been conducted in Southeast Asian countries.
- Track record and experiences: Provide the following information regarding corporate **experience within the last five (5) years**, which are related or relevant to those required for this Contract.



Approach and Implementation Plan

- Provide a detailed description of the **methodology** for how the organisation/firm will achieve the Project's Terms of Reference, considering the appropriateness to local conditions and the project environment, including detailed methodology for:
 - Economic modeling and analysis
 - Energy savings measurement
 - Risk assessment
 - Market penetration analysis
 - Technology assessment
 - Proposed tools and software to be used
 - Quality assurance procedures for technical analysis
 - Data validation methods
 - Documentation standards
 - Provide the Proposer's internal technical and quality assurance review of mechanisms.
- Submit a **Gantt chart or Project schedule** indicating the detailed sequence of activities undertaken and their corresponding timing.
- Describe the **potential risks** for implementing this Project that may impact on the achievement and timely completion of expected results and their quality. Describe measures that will be put in place to mitigate these risks.
- Provide a brief description of the mechanisms proposed for this project for **reporting to ACE, including a reporting schedule**.
- A discussion on how measures to ensure the **future sustainability** of the project outcomes will be addressed.

Personnel

- Provide a **spreadsheet** to show the activities of each staff member and the time allocated for their involvement. (Note: This spreadsheet is crucial, and no substitution of personnel will be tolerated once the contract has been awarded except in extreme circumstances. Any substitution shall be made only with ACE's approval of the justification for the substitution and with ACE's approval of the replacement, who shall be of either equal or superior credentials to the one being replaced, and which shall not involve any additional cost to ACE. No cost increase will be considered as a result of any substitution.)
- Provide the **CVs for key personnel** (team leader, managerial and general staff) that will be provided to support the implementation of this project. CVs should demonstrate qualifications in areas relevant to the Scope of Services. The indication of **international and regional experts** must also be included.



2) The Financial component should specify the following information (30% weight):

The Financial Proposal must provide a detailed cost breakdown. The format shown on the following pages is suggested for use as a guide in preparing the Financial Proposal. The format includes specific expenditures, which may or may not be required or applicable but are indicated to serve as examples.

The cost of workshops organisation will be covered by ACE. Consultancy meetings in between will be covered by the consultant. The travel of consultant for workshops and training will not be covered by ACE. Consultant to include the travel cost for workshops in the bidding price.

ACE is an intergovernmental organization and excluded from any tax obligation, therefore any tax and/or levy, which may be imposed upon the professional fee performed shall be the responsibility of and borne solely by the consultant's candidate and the consultant's indemnifies ACE against any tax, levy, tax claim or liability in connection with this works.

Table 2. Format of Man-days proposed by the Consultant and Cost

Deliverable (refer to Table 1)	Cost Category (Personnel / Travel / Others, etc.)	Role/Description	Rate (USD)	Days	Cost (USD)
Inception Report	Personnel	Senior Consultant	\$ xx	xx	\$ xx
		Junior Consultant	\$ xx	xx	\$ xx
	Travel	Travel for Data Collection	\$ xx	xx	\$ xx



	Other Direct Cost	Data purchase	-	-	\$ xx

13. Selection Process and Timeline

The selection process and timeline for this procurement are as follows:

Deadline of Proposal Submission	15 January 2025
Shortlisting of Proposals	16-20 January 2025
Interview	21-24 January 2025
Final Evaluation	27-30 January 2025
Contract Award Announcement	31 January 2025

14. Submission of Application

The proposal should be submitted to procurement@aseanenergy.org and cc cee@aseanenergy.org by 15 January 2025 (GMT+7).



Technical and Financial proposals are to be submitted as two (2) separate electronic files. The proposals are to be submitted in pdf format.

Please indicate the subject heading: Proposal for ESCO Market Assessment.

15. Intellectual Property Rights

All material produced under this assignment will belong to ACE and remain property of ACE. Consultants will only share copyright claims and intellectual property.

16. Confidentiality Clause

Without any prior consent from ACE, the consultant shall, in no case, disclose any data or information to external parties without written permission from ACE.

17. Amendment to Terms of Reference

These Terms of Reference may be amended in writing only, subject to the agreement of both parties.

18. ACE Governance Policies on Fraud and Corruption

ACE takes a zero-tolerance approach to fraud and corruption involving ACE Staff Members and third parties concerning their work with ACE. ACE encourages the use of the Whistle-Blower Policy to report any identified cases of fraud and/or corruption in ACE operations.

19. Contact person

All communications and queries related to this TOR shall be submitted in writing through email to cee@aseanenergy.org and cc procurement@aseanenergy.org & cmutia@aseanenergy.org