



**TERMS OF REFERENCE (TOR) FOR
TECHNICAL EXPERTS / CONSULTANT**

**PROJECT NAME:
“IN-DEPTH POWER ASSESSMENT TO
SCALE UP RENEWABLE ENERGY DEPLOYMENT IN ASEAN”**

**DEADLINE:
29 July 2024**



I. PROJECT NAME

In-depth Power Assessment to Scale Up Renewable Energy Deployment in ASEAN

II. POST TITLE

Expert on ASEAN Renewable Energy Power Development

III. 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 and collective energy activities. 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. The ACE office is in Jakarta, hosted by Indonesia's Ministry of Energy and Mineral Resources.

As 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 AMS to support the implementation of the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2025. APAEC is the blueprint for enhancing energy connectivity and market integration in ASEAN to achieve energy security, accessibility, affordability, and sustainability for all AMS.

Concerning the above and alignment with the ASEAN Plan of Action for Energy Cooperation (APAEC) Phase 2: 2021-2025¹ Outcome Based Strategy 2, Action Plan 2.1 to conduct in-depth analysis to increase renewable energy deployment, ACE will conduct a regional in-depth assessment to scale up renewable energy deployment in the ASEAN power sector. Supported by USAID Smart Power Program (SPP), this assessment will address issues on renewable energy development by identifying opportunities to enhance renewable energy penetration and diversify RE technologies in ASEAN.

The study aims to assess current renewable energy policy, financing and technical development in ASEAN and seek opportunities from the gap findings to empower AMS to develop more strategic energy cooperation in developing RE. It is also targeted as a valuable resource for not only policymakers but also state-owned and private utilities, developers, independent power producers (IPP), and financial institutions that seeking a deeper understanding of intricacies surrounding RE integration in the region. Therefore, ACE seeks consultancy services to support the project activities to deliver the project's output.

¹ <https://aseanenergy.org/publications/asean-plan-of-action-for-energy-cooperation-apaec-phase-ii-2021-2025/>



IV. DURATION OF ENGAGEMENT

The consultant awarded with the assignment will be hired for up to six (6) months from August 2024 to January 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 for a period in line with Table 1 of clause VI, which can be continuous or intermittent due to further discussion between ACE and the consultant.

V. TASK TO BE UNDERTAKEN

The consultant will assist ACE in developing the report on approaches to scale up RE deployment in ASEAN through analysis of multiple dimensions from RE: gap analysis, overview of policy, technology, finance, and recommendation on policy and coordination. The structure of the end report is indicated in Annex A. The final content is subject to change based on the discussion and agreement between ACE and the consultant.

The objective of the assignment is to assess:

1. Analyze the gap between renewable energy (RE) status vs national target and expected contribution of each member state in fulfilling the regional target.
2. Analyze the diversity of RE technology in the current power development plan (PDP),
3. Map the Governance of RE development in AMS, e.g., the regulatory framework, market structure, and institutional coordination, monitoring tools,
4. Identify Challenges of RE project development from various aspects,
5. Map the Role of state-owned and private enterprises, and financial institutions in RE expansion plan,
6. Identify Investment needs and financing opportunities for state-owned and private enterprises,
7. Identify Integration with ASEAN's existing platforms, such as ASEAN taxonomy for sustainable finance, ASEAN catalytic green finance facility, ASEAN infrastructure fund; other national level facilities, such as Just Energy Transition Partnership (JETP) in Indonesia and Vietnam; and international level, such as Green Climate Fund (GCF).
8. Recommend options of regional energy cooperation, such as financing facility, dialogues, regulatory harmonisation of cross-border financing and electricity trade, capacity buildings, etc,

The scope of the assignment for the technical experts are:

1. Collect relevant data, analysis, and references to build the analysis.
2. Deliver the preliminary presentation at the pre-determined deadline from ACE,
3. Structure the report as a reference for multiple stakeholders, including areas in policy, financing and technologies,



4. Develop the final report based on the technical notes shared by ACE.
5. Prepare the concept note and guiding questions for discussion, presentation and summary for knowledge-sharing/focus group discussions (FGD).

VI. EXPECTED DELIVERABLES

Expected outputs and deliverables, including timelines for the submission by the consultant, are:

Table 1. Activity and Deliverables of the Consultant

Activity	Deliverable	Deadline*
Research	Propose study outline improvement for agreement: make adjustments to include relevant research areas and aspects for the report	28 August 2024
Research	Presentation on: <ul style="list-style-type: none"> • Preliminary research results • Preliminary contents included are up to Annex A Chapter 4 	20 September 2024
Research	1 st Stage report (Chapter 1-2)	28 October 2024
Research	Interim report (Chapter 1-3)	11 November 2024
Research	First draft of the report (Chapter 1-4)	2 December 2024
Research	Final version of the report	6 January 2024
Workshop/FGD	Concept Note for knowledge-sharing/FGD activities	6 January 2024

* Actual deadline may be adjusted based on the agreement and approval by ACE.

VII. WORK MECHANISM

The implementation of the project is arranged as below:

- Led by the Sustainable Renewable Energy (SRE) Department and SPP's Project Management Unit (SPP PMU), ACE is responsible for the project's full implementation. It will manage and facilitate the work and communication with government officials from ASEAN (RE-SSN focal points), SOME, and AMEM, including with other official parties, if needed.
- External Consultant to provide the 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 regular check-in call meetings with ACE to discuss progress in every step of the work. Any interaction with the external parties to support the project by the consultant must be approved by ACE.



VIII. CONSULTANT QUALIFICATION

ACE requires a consulting service provider or technical experts with proven experience and capacity to provide the necessary tasks, outputs/deliverables as described above.

- The 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 to attest their expertise by submitting, e.g. reports, studies, analysis, consultancy products, research analyses and data management related to the aim of the consultancy.
- Team capabilities: The team involving a senior consultant/technical staff with more than ten years of experience in renewable energy in the power sector, with the support of an adequately skilled team. Bidders to submit CVs.
 - Expertise and knowledge in existing national governmental policies related to power system and renewable energy in ASEAN.
 - Expertise and knowledge in renewable energy, particularly in technologies, financing options, procurement, project development, and investment best practices in ASEAN.
- Excellent command of English and the capacity to write high-quality reports in the language; the ability to deliver high-quality workshops and discussions in English is also required.
- Capacity and flexibility to complete the assignment within the required time frame.

IX. SERVICE FEE

The compensation for the entire performance is arranged according to the project budget.

- For the satisfactory performance of the assignment, the consultant will be paid a fixed fee of a maximum of USD 20,000 (Twenty Thousand US dollars), divided in different stages based on actual work progress
 - 30% of proposed fee, upon meeting the planned deliverable (Chapters 1 and 2) by 28 October 2024
 - 30% of proposed fee, upon meeting the planned deliverable (Chapters 1-4) by 2 December 2024
 - 40% of proposed fee, upon approval for the final report by January 2024.
- Payment will be made to the consultant's nominated bank account.
- ACE is an intergovernmental organisation and is not liable for any taxes. 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 must submit a report on the person-days usage and timesheet to ACE for each disbursement.

X. REQUIRED DOCUMENT

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

1. The Technical component should present the following information (80% weight):

1.1 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.
- 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.

1.2 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.
- Provide the Proposer's internal technical and quality assurance review 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 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.

1.3 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 (20% weight) should specify the following information:

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.

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

Description of Deliverable (referring to Table 1)	Cost per person day – per expert as indicated in the ToR	Number of Man-days	Total cost USD

XI. SELECTION PROCESS AND TIMELINE

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

- Call for Technical Proposals: From July 2 to July 29, 2024
- Shortlisting of Proposals: From July 30 to August 1, 2024
- Interview: From August 5 to August 8, 2024
- Final Evaluation: From August 9 to August 12, 2024
- Contract Finalizations: From August 13 to August 16, 2024

XII. SUBMISSION OF APPLICATION

The proposal should be submitted to procurement@aseanenergy.org and cc ilham.rizaldi@aseanenergy.org, tung.phuong@aseanenergy.org, sre@aseanenergy.org, dwiky.syarief@aseanenergy.org by **29 July 2024** (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: Document for In-dept Power Assessment for ASEAN RE deployment



XIII. AMENDMENT TO TERMS OF REFERENCE

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

XIV. CONFIDENTIALITY AGREEMENT

Without written permission from ACE, the consultants shall not disclose any data or information to external parties.

XV. 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.

XVI. COPYRIGHT AND INTELLECTUAL PROPERTY

All material produced under this assignment will belong to ACE and remain the property of ACE. The consultants will not have any control over copyright claims and intellectual property.

XVII. CONTACT PERSON

All communications and queries related to this ToR shall be submitted in writing through email to sre@aseanenergy.org and cc procurement@aseanenergy.org, tung.phuong@aseanenergy.org, dwiky.syarief@aseanenergy.org



ANNEX A – OUTLINE OF IN-DEPTH POWER ASSESSMENT TO SCALE UP RENEWABLE ENERGY DEPLOYMENT IN ASEAN

Chapter 1 – Introduction

1. Background:
This background section outlines the historical context that motivates the formulation of this report's objectives as described in this concept note.
2. Objectives:
This section succinctly outlines the study's goals as described in this concept note.
3. Methodology:
This section expands the study's methodology, which must correspond to the achievement of objectives and outcomes.

Chapter 2 – Existing Governance of Renewable Energy Development in Power Sector

1. Renewable Energy Target and Policies:
This section delves into ASEAN's current RE targets, mapping the existing national strategies and policies (FiT, tax exemptions, RE fund, etc) that support RE deployment. It analyses the gaps between ambition and current RE share in the power sector at the national level. It also discusses the gap between the reality vs the hypothetical member states' expected contribution to the achievement of the regional RE target. PDP and Regional's ambitions can be included here as well.
2. Overview of RE project implementation in the region:
The section introduces the existing platform to track RE project implementation in ASEAN (global platform, regional platform, country platform). The focused projects are the ones listed under each ASEAN country PDP.
3. Management of implementation progress with ACE:
The section highlights the various channels from ACE to ensure the movement of implementation: RE-SSN, SOME, AMEM, Working group, etc.

Chapter 3 – The challenges in RE implementation

1. Supporting policies for RE implementation:
The section can base on the best policy practices from global standard to review the existing and highlight the policy gaps in each country and region.
2. Supporting infrastructures for RE implementation:
The section can base on the best policy practices from global standard to review the existing and highlight the infrastructure gaps in each country and region. The role of power grid should be highlighted here. Logistic difficulties can also be mentioned.
3. Ownership of Planned Renewable Energy Power Plants
This section identifies the allocation of new RE power plants towards state-owned utilities vs private enterprises (developers/ IPPs), including identifying the companies' name and their potential share in terms of capacity (MW). Further, this section compares the expected responsibilities of state-owned vs private enterprises in developing new RE vs fossil-fuel-based power plants. Which between state and private



companies will bear a larger share in expanding RE? If considering the country's power market structure, what adjustments are needed to support the implementation by state vs private enterprises?

4. Financing for RE

a. Impact of market structure on RE Procurement:

This section analyses ASEAN member states' current power market structure, which falls into two major categories: (1) vertically integrated and (2) unbundled/wholesale. What are the key characteristics of each category? How are the third-party access regulations, the procurement method (auction, closed tender, direct PPA negotiation, etc), the ease of market entry, and the competition dynamics? How does each structure impact RE deployments, such as the pros and cons? Who are the involved stakeholders in different procurement methods and market structures?

b. Harmonization of interest between stakeholders

The section explores the differences in interests for project developers, users, and financial institutions. The various incentives and schemes from countries can be presented to show the effort from each country, together with actual outcomes of such schemes (positive/negative impacts in reality)

c. Availability of reliable bankable project pipeline

The section discusses about the need for a recognized, standardize list of bankable project pipeline based on regional and national interests. Such a list should be vetted (with optimistic and pessimistic expected return) in terms of technical and financial aspects by accredited organizations to ensure the reliability of information.

5. Technical aspects

a. Technology selection:

This section explores the challenges of countries to select certain technologies to deploy RE on scale, given the wide range of technologies in the markets.

b. Auxiliary technologies

This section talks about the shortage of supporting technologies for further RE deployment, such as battery storage, AI, etc.

c. Integrated Electricity Planning

This section stocktakes the current processes in each member country's electricity planning by comparing them with IRENA's key elements of integrated resource planning² or other similar assessment tools. Who are the involved stakeholders? What are the elements, and how can the process be improved to satisfy long-term power demand incorporating high RE penetration in the most affordable and risk-balanced planning portfolio? Hence, the improved planning can provide more confidence for the RE investment.



1. Assessment of Renewable Energy Expansion Plan:

The assessment of this chapter will be based on the data of each countries' PDP. For section IV.1.1, IV.1.2, and IV.1.3, the discussion should be expanded into country-wise sub-sections whenever possible.

a. Renewable Energy Technology Identification:

Extending the gap analysis between member states' target and expected contribution vs status from section II.1, this section compares the possible RE expansion towards 2030 or beyond (depends on the periods covered by the applicable PDP) vs status. The data collection is not limited to effective PDP but also includes ongoing discussion for the formulation of next PDP. This section also assesses the diversity degree of planned RE technologies by considering the untapped RE resources. This section can tap on the existing RE long-term roadmap study.

b. Renewable Energy Project Pipeline

The section introduces the "Database of Power Development Plan (PDP)/AIMS III Projects" can be introduced here as well with an access link (if available) as a reliable reference for tracking.

c. Renewable Energy Project Assessment

The assessment tool can be derived from this database on the basis of technology and financial assessment of past and new projects. The tool can provide a list of trusted developers and financial institutions. Next step is to roll out the assessment tool to be acknowledged in the region and to be implemented as a standard for assessment.

2. Financing of Renewable Energy Expansion Plan

For section IV.2.1, IV.2.2, and IV.2.3, the discussion should be expanded into country-wise sub-sections and into generation and transmission identification whenever possible.

a. Investment to infrastructure and auxiliary technologies:

The overview of importance of strategic investment in infrastructure and auxiliary technologies to have a strong foundation for existing and future RE deployment.

b. Investment Needs Identification

Extending the identification of planned RE technology and its respective capacity expansion from sections IV.1, this section will estimate the investment needs. It quantifies the capital needed to scale up RE projects and modernize transmission infrastructure. This analysis also identifies which investment needs fall under the scope of state-owned vs private enterprises and barriers to the investment by these respective entities.

c. Available financial incentives and mechanisms

This section leverages on the existing study of USAID SPP team to present the overall existing financial incentives and mechanisms that can support RE deployment.



- d. Good practices in RE procurement
This section leverages on the existing study of USAID SPP team to present the good practices in implementation of RE procurement.
- e. Financial Institutions Identification
This section identifies the list of possible financial institutions affiliated with state-owned and private enterprises in funding past or current RE projects. It also identifies other funding sources/ facilities/ schemes on ASEAN, international, and national levels, such as ASEAN taxonomy for sustainable finance, ASEAN catalytic green finance facility, ASEAN infrastructure fund, JETP in Indonesia and Vietnam, and GCF
- f. Mapping of Institutional Coordination to Access Financing
This section assesses how government agencies, state-owned and private enterprises, international development banks, and private investors coordinate to provide financing access for RE projects. It identifies collaborative frameworks at the national and regional levels, evaluates existing coordination mechanisms, and suggests improvements, providing insights to streamline processes and enhance financial accessibility for higher RE deployment.

Design of Regional Cooperation Facility

- g. Policy \Coordination:
This section will evaluate the current practices in the ASEAN regional energy cooperation. With the existence of a regional RE target, how can the annual meeting platforms (SSN, SEB, SOME, and AMEM) and activities under APAEC be optimised to foster effective regional approaches? How can national policies be aligned at the regional level to improve cross-border connectivity (through physical grid connections and economic cooperation schemes)? Particularly, how can regional policy coordination be improved to facilitate more investment and financing in RE for the attainment of the 23% RE target of TPES by 2025? The focus is also with infrastructure development.
- h. Financing and Investment Mobilisation
This section will discuss various mechanisms or frameworks for mobilising more investment and funds in scaling up RE deployment in ASEAN level. It delineates potential funding sources, financial instruments, and innovative approaches. How to define the regional cooperation facility or platform to facilitate discussion, energy planning, and resources mobilization.