

CALL FOR PROPOSAL

TERM OF REFERENCE

HIGHER EDUCATION INSTITUTION(S)

ON

“ENHANCEMENT OF LOW-CARBON BUILDING (LCB) CURRICULUM IN UNIVERSITY SYLLABUS IN INDONESIA”

1. Project

Asia Low Carbon Buildings Transition (ALCBT)

2. Assignment Title

Enhancement of Low-Carbon Building (LCB) Curriculum in University Syllabus in Indonesia

3. Background

The ASEAN Centre for Energy (ACE) is an intergovernmental organisation that independently represents the 11 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.

As part of its efforts to fulfill 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 building for ASEAN Member States to support the implementation of the ASEAN Plan of Action for Energy Cooperation (APAEC).

APAEC serves as ASEAN's strategic blueprint to guide regional energy cooperation for a secure, resilient and interconnected low-carbon energy future. APAEC 2026–2030 includes aspirational targets of a 40% reduction in energy intensity (EI) with one of the Outcome-based Strategy (OBS) under Programme Area 4: Energy Efficiency & Conservation is to accelerate the adoption of EE&C to encourage the realisation of zero energy building (ZEB).

HEAT GmbH is an independently acting consulting firm with 30 years of experience in the field of climate, heating & cooling, and transport. HEAT's goal is to support countries in

their effort to mitigate emissions and to implement transformative pathways towards zero GHG emission solutions.

The Asia Low Carbon Buildings Transition (ALCBT) project funded by the German Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety (BMUKN) under the International Climate Initiative (IKI), seeks to significantly reduce greenhouse gas (GHG) emissions by catalysing nationwide transitions towards low carbon buildings in 5 pilot countries (Cambodia, India, Indonesia, Thailand, and Viet Nam) for a duration of 5 years (2023–2028).

The project implementation is led by GGGI together with consortium partners, namely ACE, HEAT GmbH and Energy Efficiency Services Limited (EESL). The ALCBT project targets policy makers, industry professionals, financial institutions, and academia as beneficiaries to advance a low-carbon building transition with four key outputs:

- I. Standardised tools for managing carbon emissions from buildings.
- II. Enhanced capacity of key industry stakeholders to deliver low-carbon buildings.
- III. Established pipeline to facilitate low-carbon building project financing.
- IV. Published knowledge products to support replication and scaling up.

Under Output II, the ALCBT project aims to strengthen technical expertise and equip young professionals with the required knowledge and skills to deliver low-carbon buildings. To effectively integrate low-carbon building modules, ACE and HEAT GmbH will support pilot universities to enhance LCB principles in their academic curriculum. Therefore, ACE is engaging higher-education institutions to deliver the project output, contributing to long-term workforce readiness and alignment with ASEAN's decarbonisation goals.

4. Objectives

This call aims to prepare graduates with competencies that align with national strategies by facilitating the enhancement of Low-Building (LCB) curriculum in university syllabus. **Grants will be awarded to up to four (4) higher education institutions in Indonesia** to:

1. Assess institutional readiness and gap assessments.
2. Enhance LCB curriculum at university-level programme.
3. Launch LCB Massive Open Online Course (MOOC).
4. Establish monitoring, reporting, and scalability mechanisms plans.

In line with ASEAN's commitment to a just and inclusive energy transition and the ACE Inclusivity Pledge, the assignment will be implemented in accordance with Gender Equality, Disability, and Social Inclusion (GEDSI) principles. Higher educational institutions are expected to apply inclusive and respectful professional conduct in all interactions and to support inclusive participation in all activities associated with the assignment.

5. Scope of Work

The engagement to enhance LCB curriculum in university syllabus will include:

A. Institutional Readiness and Gap Assessment

- a. Institutional readiness
 - i. Assess institution's academic priority reflected in graduate learning outcomes and research areas.
 - ii. Assess availability of supporting technical capacity and facilities.
 - iii. Identify institutional involvement in academic and professional networks.
- b. Gap assessment
 - i. Evaluate course learning outcomes (CLO) coverage of LCB master modules.
 - ii. Conduct a comparative study using Bloom's Taxonomy framework between the existing curriculum and ALCBT master modules (<https://alcbt.gggi.org/lcb-training-modules/>).
 - iii. Identify the alignment between university courses and the LCB master modules.

Table 1. Gap Assessment Component

Component	Description
Scope of Analysis	<p>Fields of Study: Architecture, Civil Engineering, Mechanical Engineering, Electrical Engineering, and Physics Engineering.</p> <p>Level of Education: Bachelor and Master study programmes. Relevant Doctoral dissertation topics may also be reviewed to understand research focus areas.</p>
Objects of Analysis	<p>Department Curriculum: Vision, mission, expected learning outcomes (ELOs), or graduate attributes.</p> <p>Syllabus/Course Outline: Specific course learning outcomes (CLOs), including the Bloom's Taxonomy level for each, if available.</p>
Units of Analysis	<p>Coverage: Identifying if expected learning outcomes related to low-carbon buildings are present in the subject/course.</p> <p>Depth of Coverage: Identifying the depth of cognitive learning (based on Bloom's Taxonomy) for the covered topics and analysing the gap based on the expected depth following the ALCBT's Low-Carbon Buildings Modules.</p>

- c. Faculty member engagement:
 - i. Validate findings and confirm alignment with institution’s strategic and academic priorities.
 - ii. Explore potential integration models and provide recommendations for piloting, covering number of modules, number of credits, learning objectives, assessment methods, to be adopted in elective or mandatory course.

Table 2. Institutional Readiness and Gap Assessment Activities

Activities	Descriptions	Deliverables
Institutional readiness assessment	Assessment of core values, priorities, curriculum alignment (Bachelor/Master), faculty expertise, facilities, academic networks, and industry partnerships.	Report on Institutional LCB Adoption Readiness.
Curriculum gap assessment	Comparison between existing courses and LCB master modules in relevant departments, identifying alignment and missing concepts.	Report on LCB curriculum gap analysis.
Stakeholder Engagement	<p>Consultation with faculty members to validate interest, alignment, and delivery feasibility.</p> <p>The engagement can be done in form of interviews, surveys, FGD, or workshop, as needed.</p>	Report on study programmes and course structure recommendations.

B. LCB syllabus in university-level programme

- a. Joint development agreement:
 - i. Facilitate the establishment of a joint-development agreement through the signing of a Memorandum of Understanding (MoU) between ACE and ALCBT consortium partners, partner institutions, and government partners, *if possible*.
 - ii. Identify collaboration opportunities with stakeholders from green building associations, experts, certification bodies, financial institutions, and energy service companies (ESCOs) for industry involvement in the course delivery, if expertise is required.
- b. LCB syllabus enhancement:
 - i. Define learning outcomes, competencies, and assessment methods based on the identified curriculum gaps.

- ii. Enhance LCB curriculum based on recommendations from the gap assessment and local context. Leveraging ALCBT localised master modules that reflect Indonesia's national standard, market practice, and terminology as the basis of curriculum development is recommended. Localised master modules cover the following topics:
 1. Regional Low-Carbon Buildings Transition.
 2. Energy manager.
 3. Energy auditor.
 4. Bangunan Gedung Hijau (BGH).
- iii. Prepare teaching materials, comprising lecture slides, assessment methods, and practical tools. Where applicable, available ALCBT knowledge products can be leveraged, including:
 1. Technical tools, specifically Building Emission Assessment Tool (BEAT) to measure embodied and operational carbon emissions based on Life Cycle Assessment methodologies (<https://beat-alcbt.gggi.org/>).
 2. Market insights, including finance mechanisms, market data, and scenario modelling.
 3. Case studies, relating to low-carbon building best practice.
 4. Policy briefs, that support alignment between national and regional frameworks.
- c. Workshop with related faculty members:
 - i. Conduct at least 1 (one) workshop(s) with faculty members from related study programmes including curriculum team, to review curriculum enhancement progress, present study findings, and collect feedback for further refinement.
 - ii. Clarify accreditation and compliance procedures necessary for syllabus improvement and secure consensus on delivery model, learning outcomes, and assessment strategies.
 - iii. Confirm the involvement of regulatory and industry experts required to ensure alignment with national best practices, professional certification pathways, and industry applicability.

C. Massive Open Online Course (MOOC)

- a. Online course production:
 - i. Adjust course structure for an online version, including learning objectives, assessments, estimated learner effort, and completion criteria.
 - ii. Determine pre-recorded online course production quality, including consistent visual identity and formatting across sessions, clear audio, readable slides, stable video with adequate laptop display resolution, and quality checks prior to publication.
 - iii. Produce online course materials including but not limited to transcribed video lectures, downloadable materials in accessible formats, and auto-graded assessments, with the inclusion of Inclusion of ACE and ALCBT project badge.

- iv. Prepare course descriptions and curriculum outlines along with speakers/instructor information.
 - v. Provide course rules in the course landing page and learner guidance, including passing grade, retake policy, integrity statement, and certificate or credit claim conditions.
 - vi. Secure the issuance of course certification or claimable credits according to syllabus and institutional credit/certification requirements.
 - vii. Publish a brief privacy notice and ensure compliance with applicable data-protection requirements.
 - viii. Deploy and launch online courses on the institution's Learning Management System (LMS), alternatively on ACE's online learning platform, and ensure its public availability and accessibility.
- b. Online course post-production:
- i. Disseminate promotional content and facilitate a dissemination event for students and faculty members, in coordination with and supported by ACE.
 - ii. Maintain records of enrolment, course activities, assessment submissions, and learner satisfaction for future improvement.
- D. Monitoring, Reporting, and Scalability Mechanisms Plans**
- a. Curriculum enhancement proposal:
- i. Draft a formal curriculum enhancement proposal aligned with the institution's academic requirements and submission format, including course governance and faculty endorsement.
 - ii. Finalise curriculum enhancement proposal, including supporting documents and annexes required for submission to the curriculum team in the next revision cycle to ensure sustainability.
- b. Final report:
- i. Submit final syllabus packages and recommendations, including an outline of key enhancement processes and methodologies for replication beyond pilot institution.
 - ii. Submit consolidated documentation and feedback, including stakeholder database, attendance records, media coverage, and reflection on effectiveness of the engagement approach, institutional responsiveness, and readiness for implementation.

6. Deliverables

The selected grantee/s will be required to submit the following output:

- 1) **Output 1: Inception Report** covering the approach, methodology, work plan, team structure, timelines, key considerations of the success of the project – *2 weeks after date of signing of contract (D)*
- 2) **Output 2: Institutional Readiness and Gap Assessment Report** including curriculum mapping, alignment and missing concepts with LCB master modules, evaluation of institutional readiness, and recommendations for piloting curriculum enhancement – *D+ 6 weeks*

- 3) **Output 3: Teaching Materials** consisting relevant lecture notes, assessments, and case studies – *D+ 16 weeks*
- 4) **Output 4: Massive Open Online Course** including recordings and downloadable materials accessible at online platforms – *D+ 24 weeks*
- 5) **Output 5: Final Project Report** comprising integration proposal, guidelines for adoption and replication, feedback and evaluation, and a final enhancement proposal aligned with university submission *formats* – *D+ 28 weeks*

7. Requirement for Higher Education Institution

The institutions will undertake the following deliverables within approximately six to seven months of engagement:

1) Higher Education Institution Requirements

- a. Accredited higher education institutions in Indonesia, offering architecture, civil engineering, environmental engineering, mechanical engineering, electrical engineering, and physics engineering study programmes.
- b. Ability to give committed approval to adopt and integrate syllabus into the study programme.
- c. Prior commitment to integrating sustainability and energy-efficiency content.
- d. Track record of collaborating with international donors and projects in Indonesia is an advantage.
- e. Ability to deliver and run the course in English is preferable, including workshop and stakeholder facilitation.
- f. Ability to designate a team of minimum 1 lead and 2 members.

2) Curriculum Development and Higher Education Engagement

- a. Offering advanced degree in Energy, Architecture, or other related fields and in-depth understanding of energy-efficient buildings.
- b. Strong track record in interdisciplinary curriculum design.
- c. Experience in creating and utilising user-friendly tools.
- d. Prior adoption of energy efficiency, low-carbon buildings, or green building concepts.
- e. Familiarity with green building standards, energy auditing tools, and building performance assessments.

3) Stakeholder and Industry Collaboration

- a. Demonstrated track record of collaboration with academia, industry, and government stakeholders.
- b. Knowledge of current trends and challenges in building energy efficiency and sustainable construction.
- c. Experience in coordinating multi-sector partnerships and institutional agreements.

8. Proposal Requirement

Interested institutions are invited to submit a proposal in response to these Terms of Reference. The full proposal must not exceed 10 pages, excluding CVs and annexes.

1) Technical Proposal

a. Relevant Experience

- i. A brief profile of the institution 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 partner institution has been involved that could adversely affect or impact the performance of services, indicating the status/result of such litigation/arbitration.
- ii. Institution capacity including available faculty/study programme, number of students by programme, accreditation timelines, and industry links.
- iii. Demonstrated experience in developing industry and sustainable oriented university level curriculum.

b. Institutional Capacity

- i. Availability of experts, research facilities, and simulation tools suitable for practical exercises.
- ii. Ability to collaborate with professional associations and relevant Indonesian authorities.

c. Proposed Methodology & Work Plan

- i. A detailed description of the methodology for how the institution will achieve the Project's Terms of Reference, including internal technical and quality assurance review mechanisms and considering the appropriateness to local conditions and the project environment.
- ii. Clarity and feasibility of approach for curriculum enhancement, course material preparation, and adoption plan.
- iii. Gantt chart or Project schedule, indicating detailed sequence of activities undertaken.
- iv. 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.
- v. A brief description of the mechanisms proposed for reporting to ACE and HEAT.
- vi. A discussion on how measures to ensure the future sustainability of the project outcomes will be addressed.
- vii. A short statement outlining the approach to support inclusive participation and consider accessibility needs in meetings, consultations, and workshops, where relevant and feasible.

d. Key Experts

- i. 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 and HEAT's approval of the justification for the substitution and with ACE and HEAT's approval of

the replacement, who shall be of equal or superior credentials to the one being replaced, which shall not involve any additional cost to ACE and HEAT. No cost increase will be considered as a result of any substitution).

- ii. 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.

B. Financial Proposal

- a. The Financial Proposal must provide a detailed cost breakdown. The format shown on the following pages is suggested 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.
- b. The cost of working meetings and review meeting organisation will be covered by ACE. The institution will cover consultancy meetings in between.
- c. Proposals will be evaluated based on cost-effectiveness, clarity, and compliance with budget requirements under the ALCBT project.

Table 3. Financial Proposal Breakdown

Deliverable (refer to Table 1)	Cost Category (Personnel / Travel / Others, etc)	Role/Description	Rate (USD)	Days	Cost (USD)
Inception Report	Personnel	Senior technical experts	\$ xx	xx	\$ xx
		Junior technical experts	\$ xx	xx	\$ xx
	Travel	Travel for Workshop	\$ xx	xx	\$ xx
	Other Direct Cost		-	-	\$ xx

9. Work Mechanism

The implementation of the project is arranged as below:

- 1. ACE and HEAT GmbH are responsible as co-implementor of the project. ACE and ALCBT consortium partners will coordinate with government representation, namely Ministry of Public Works and Ministry of Energy and Mineral Resources.

2. Higher Educational Institutions to support the objectives as described in this ToR, responsible for communication with internal faculty members, and engagement with external parties, particularly private sectors or industries.
3. The institutions shall work with ACE and HEAT GmbH to establish a clear process for the activities, including timelines for review and feedback on key deliverables.

10. Language

1. All reports and outputs must be in British English.
2. The enhancement proposal, curriculum, and online material can be delivered in Bahasa Indonesia.

11. Grants

1. Each selected institution will receive a grant amount up to USD 15,000 (Fifteen Thousand United States dollars) per award. Payment will be made to the institution's nominated bank account.
2. ACE is an intergovernmental organisation and is not liable for any taxes. HEAT GmbH is not liable for any taxes. The partner institution shall file and settle any payment for income tax arising from the income from ACE and HEAT. ACE and HEAT shall not be responsible for any consequences of the failure to fulfil obligations relating to the income tax laws of the respective country.
3. The partner institution shall propose the disbursement timeline under the proposal and the mechanism will be agreed upon between ACE and the partner institution within the contract signing process.
4. The partner institution must submit a report on the person-days usage and timesheet for each disbursement.

12. Submission of Application

1. The proposal should be submitted to procurement@aseanenergy.org and cc alcbt@aseanenergy.org by **31 March 2026**.
2. Technical and Financial proposals are to be submitted as two (2) separate electronic files. The proposals are to be submitted in pdf format.
3. Please indicate the subject heading: **Document for University Curriculum Enhancement - Indonesia**.

13. Selection Process and Timeline

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

Table 4. Selection Timeline

Call for Proposals	16 – 31 March 2026
Final Evaluation	1 – 3 April 2026
Awardee(s) Announcement	6 April 2026

14. Intellectual Property Rights

All material produced under this assignment will belong to ACE and remain the property of ACE. The partner institution will have license to use and adapt for internal academic delivery. Redistribution outside the university requires prior written consent from ACE.

15. Confidentiality Clause

Without any prior consent from ACE, partner institution shall, in no case, disclose any data or information to external parties.

16. Amendment to Term of Reference

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

17. 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 using the Whistle-Blower Policy to report any identified cases of fraud and/or corruption in ACE operations.

18. Contact Person

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