



**TERMS OF REFERENCE (TOR) FOR  
CONSULTANT  
ROADMAP FOR EXTREME HEAT PROTECTION THROUGH  
PASSIVE COOLING IN ASEAN REGION**

**PROJECT NAME:  
“Roadmap for Passive Cooling Strategy in ASEAN”**

**DEADLINE:  
23 April 2025**



## **PROJECT NAME**

Roadmap for Passive Cooling Strategy in ASEAN

## **POST TITLE**

Consultant for the Roadmap for Extreme Heat Protection through Passive Cooling in ASEAN Region

## **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.

In the ASEAN region, the demand for space cooling is escalating due to the compounded effects of climate change, rapid urbanisation, and the expansion of the built environment. These factors are driving a rapid rise in demand for air conditioning, leading to indirect emissions from the power supply and direct emissions from refrigerants.

Electrical grids across the region are increasingly strained, particularly during extreme heat events, as cooling-related demand soars. In some ASEAN countries where data is available, cooling accounts for between one-third and half of electricity demand, despite air conditioner penetration rates remaining relatively low at around 20%.

The mounting reliance on cooling is placing significant stress on power systems, exacerbating the region's reliance on fossil fuels and hindering national, regional and global climate efforts to achieve commitments under the Paris Agreement and the Sustainable Development Goals (SDGs). Simultaneously, access to adequate cooling remains insufficient, underscoring the urgent need for solutions that ensure comfortable, healthy, and climate-resilient living and working environments across homes, schools, and workplaces.

## **PROJECT DESCRIPTION**

The Roadmap for Extreme Heat Protection through Passive Cooling in ASEAN Region is developed to provide widespread understanding of passive cooling solutions, clean and climate-friendly technologies, and sustainable materials. It will also raise awareness of the socio-economic impacts of extreme heat, particularly its disproportionate effects on women, children, and marginalised communities due to unequal access to cooling. By contextualising strategies at the national level, the roadmap seeks to foster collaboration among governments, building stakeholders, and communities to ensure a resilient and equitable approach to cooling in the face of climate change.



## OBJECTIVE AND OUTCOMES

The primary objective of this consultancy is to support the development of a Regional Roadmap on Passive Cooling for the ASEAN Region, aimed to support AMS in preparing for the effect of extreme heat, with accessible approach through passive cooling for all, including the poor and vulnerable. The roadmap will outline strategic actions, policies recommendation, and framework to promote passive cooling solutions. The findings will contribute to the development of guideline for AMS to established country-specific approach to implement passive cooling strategies.

The expected outcomes include increased awareness and adoption of passive cooling solutions, improved supporting policies, and strengthened resilience of communities, and reduction in energy demand for cooling.

The main intended outputs at the project level include the following:

- Identification of the current understanding of AMS in regards of extreme heat and passive cooling strategy.
- Identification of the current regulatory landscape that encourage the adoption of passive cooling strategy.
- A set of tangible and actionable recommendations for national and regional policies.
- Enhanced engagement with policymakers to design short-, medium-, and long-term action for AMS, including financing support, incentives, and capacity building.

## TASKS TO BE UNDERTAKEN

The tasks to be performed by the Consultant include the following:

1. Prepare an Inception Report, identifying outlines of the work plan, methodology, milestones, and detailed timeline for each activity.
2. Conduct a literature review on the impacts of extreme heat in ASEAN and its relevance to passive cooling solutions.
3. Identify key stakeholders, including building sector stakeholders, community representatives, and policymakers, to specify their roles in implementing passive cooling strategies.
4. Jointly, with ACE, assess existing policies, technologies, finance mechanisms, social indicators on climate, urban planning infrastructure data, and best practices for passive cooling in ASEAN and other regions.
5. Support the dissemination and analysis of surveys on the impact of extreme heat and the level of understanding of passive cooling solutions among vulnerable communities, including low-income groups, women, children, the elderly, and individuals with illnesses or disabilities.
6. Support ACE on the development of a passive cooling roadmap, outlining the methodology, key findings, and recommendations for adopting passive cooling solutions to mitigate extreme heat across the region.

## WORK MECHANISMS

The implementation of the project is arranged as below:

- To support the implementation of this Roadmap, ACE and UNECSAP is responsible in conducting study focused on passive cooling strategies, supported by the work of the Consultant.



- The Consultant to provide technical expertise and support as described in this TOR. During the work period, the consultant must have regular check-in call meetings 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.

## DELIVERABLES AND DURATION OF ENGAGEMENT

The Consultant awarded with the assignment will be hired **for 5 months**, starting from **May 2025** and obliged to work within the required deadlines and be available for calls if needed. An indicative timeline is provided below:

No.	Deliverables	Deadline
1.	One (1) Inception Report, identifying outlines of the work plan, methodology, milestones, and detailed timeline for each activity	2 weeks after Contract Award
2.	One (1) Report of dataset from the literature review, identification of key stakeholders, and the review of existing policies, technologies, finance mechanisms, social indicators on climate, urban planning infrastructure data, and best practices for passive cooling in ASEAN and other regions.	June 2025
3.	One (1) Survey Analysis Report documenting the methodology, findings, and insights from surveys conducted with vulnerable communities regarding extreme heat impacts and passive cooling awareness	July 2025
4.	One (1) Regional Roadmap for Extreme Heat Protection through Passive Cooling in ASEAN Region	July – August 2025
5.	One (1) Monitoring and Evaluation Toolkit, consisting of template or kit to track progress and measure the impact of roadmap implementation	July – August 2025

## CONSULTANT QUALIFICATION

ACE requires a consulting service provider or technical experts with proven experience and capacity to provide the necessary tasks and deliverables as described above. The desired qualifications are:

- Extensive experience in climate policy and data analysis, with minimum 10 years' experience in data mapping, policy development, and strategy formulation for climate adaptation. Strong focus on passive cooling solutions and climate-friendly technologies will be given preference.
- Demonstrate deep understanding in the socio-economic impacts of climate change, market research, and regulatory frameworks related to energy-efficient technologies, particularly passive cooling, across ASEAN countries.
- Proven track record in stakeholder engagement, conducting consultations, and facilitating workshops at national and regional levels.
- Ability to develop actionable strategies for the adoption and implementation of passive cooling strategies based on research findings.



- Familiarity with sustainable development principles and practices, particularly in the context of energy efficiency goals under the ASEAN Plan of Action for Energy Cooperation (APAEC).
- Ability to produce detailed and comprehensible reports, including actionable recommendations for energy efficiency improvements.
- Proficiency in English language, both written and verbal, is essential.

## SERVICE FEE

- For satisfactory performance of the assignment, Consultant will **be paid a lump sum fixed fee, ranging from USD 7,000 – USD 10,000.**
- The service fee awarded to the consultant will depend on the scope of the work and tasks to be delivered. ACE and the consultant will agree upon a detailed price breakdown before the activities start.
- The fee shall include all stakeholders or consultation meetings necessary to collect the data for the assessment.
- We strongly encourage all interested candidates to **submit a competitive price proposal, with a clear fee mentioned for each deliverable.** Given the high level of competition, proposals that demonstrate equivalent qualifications at a more favourable price point will be given preferential consideration.
- Payment will be made to the Consultant's nominated bank account. The first payment will be issued upon submission of the initial draft of the document, with the final payment made after the successful approval of the completed report.
- ACE is an intergovernmental organisation and is not liable for any taxes. You shall file and settle any payment for income tax arising from the income from ACE. ACE shall not be responsible for any consequences of your failure to fulfil your obligation relating to the income taxation laws of your respective country.

## REQUIRED DOCUMENTS

Interested consultants or individual experts should submit a proposal (maximum 10 pages), which becomes the evaluation criteria, that contains:

- **Introduction:** explain your expertise and experience that is relevant to the ToR
- **Scope of Work:** understanding about the tasks and deliverables of the study
- **Methodology:** explain your data collection method, what data to collect, analysis to perform
- **Timeline:** breakdown of detailed activities with gantt chart and milestones towards completion of the project
- **Resource Management:** provide experts' profiles/CV to be involved in the projects with their roles, identify potential risks that may hamper the projects and how to mitigate them, and regular reporting mechanisms to ACE
- **Financial Proposal:** provide cost breakdown and alignment with the scope of the project and the size of the plant. 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.

Description of Deliverable	Unit cost per day	Number of Man-days	Total cost USD




## SELECTION PROCESS AND TIMELINE

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

Call for Proposals	: 17 March – 23 April 2025
Shortlisting of Proposals	: 24 – 25 April 2025
Interview	: 28 – 29 April 2025
Final Evaluation	: 30 April 2025
Contract Award	: 5 – 9 May 2025

## SUBMISSION OF APPLICATION

Please submit the proposal alongside your CV or Company Profile to email with the subject: **"Consultant\_Roadmap for Extreme Heat Protection through Passive Cooling in ASEAN Region"**, to ACE's Procurement Division ([procurement@aseanenergy.org](mailto:procurement@aseanenergy.org)) and cc to [cee@aseanenergy.org](mailto:cee@aseanenergy.org) no later than **23 April 2025 (GMT+7)**.

We encourage early applications as the recruitment process will close upon the selection of a suitable candidate.

## AMENDMENT TO TERMS OF REFERENCE

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

## CONFIDENTIALITY AGREEMENT

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

## 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.

## 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.

## CONTACT PERSON

All communications and queries related to this ToR shall be submitted in writing through email to [cee@aseanenergy.org](mailto:cee@aseanenergy.org) and [procurement@aseanenergy.org](mailto:procurement@aseanenergy.org)