



**United States Energy Association
Clean EDGE (Enhancing Development and Growth through Energy) Asia
Indo-Pacific Energy Market Investment and Modernization (EMIM)
Request for Proposals – Bhutan National Green Hydrogen Roadmap Development**

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Closing date: October 20, 2023
Implementing Organization: United States Energy Association
Funding Agency: U.S. Department of State, Bureau of Energy Resources

The United States Energy Association (USEA) is inviting hydrogen market and policy experts through this Request for Proposals (RFP) to submit proposals to provide support to the Royal Government of Bhutan to develop a National Green Hydrogen Roadmap. Eligible applicants for this RFP include non-profits, for profit entities, individuals/consultants, and educational institutions. This is an activity implemented by the United States Energy Association (USEA) with funding from the U.S. Department of State, Bureau of Energy Resources (ENR), Energy and Mineral Governance Program (EMGP). As this is a U.S. Government-funded project, the RFP follows all relevant federal procurement regulations and laws. Following U.S. Government funding rules, profits cannot be charged to this project. All bidder details will be kept confidential.

Proposals are due by 17:00 hours EST of the closing date. Please forward your proposal in soft copy (PDF form) to Mr. Derek Burke, Senior Program Coordinator, at dburke@usea.org.

I. INTRODUCTION

The U.S. Energy Association (USEA), headquartered in Washington, D.C., is an association of public and private energy related organizations, corporations, and government agencies. USEA represents the broad interests of the U.S. energy sector by increasing the understanding of energy issues, both domestically and internationally.

Through a cooperative agreement with ENR, USEA implements the Clean EDGE Asia Indo-Pacific Energy Market Investment and Modernization (EMIM) program to support the U.S. Government’s Clean EDGE Asia initiative. EMIM aims to strengthen the energy security of allies and partners; create open, efficient, rule-based, and transparent energy markets; improve free, fair, and reciprocal trading agreements; and to expand access to affordable and reliable energy. This activity in South Asia will support the Royal Government of Bhutan.

II. PROGRAM BACKGROUND

Based on the scope of requested support from the Bhutan Ministry of Energy and Natural Resources (MoENR),- Department of Energy, USEA plans to sponsor a team of technical and policy experts to support the Royal Government of Bhutan in developing its National Green Hydrogen Roadmap, identifying potential platforms for stakeholder consultation/coordination, and develop investor outreach materials to support future green hydrogen projects. The ENR-funded EMIM activity in Bhutan will be implemented under USAID's agreement with the Government of Bhutan for assistance under the Clean EDGE Asia initiative, which was approved by the Government of Bhutan in 2020. USAID has a long history of working with the Government of Bhutan and has current energy programming in the country. ENR will continue managing EMIM activities, including this project, and lead communication with DHPS.

INTRODUCTION TO BHUTAN AND THE DEPARTMENT OF ENERGY

Bhutan is committed to promoting sustainable hydropower for socio-economic development in pursuit of Gross National Happiness (GNH). An important part of raising GNH is minimizing the environmental and social impact of large-scale hydropower developments and infrastructure projects while maximizing the economic benefits to its people. As mandated in its constitution, Bhutan must preserve over 60% of its land as forest cover. The Department of Energy is responsible for ensuring that hydropower exports generate maximum revenue for the nation and provide reliable, secure, and affordable energy for domestic consumers and explore opportunities for export in the regional market in South Asia by developing renewable hydropower in the country.

In Bhutan, hydropower is a strategic national resource and primary driver of economic growth. In addition to meeting domestic demand, surplus electricity is exported to India, thereby increasing government revenue, and achieving a positive balance of payment. Installed capacity has reached 2,326 MW as of 2019, and accordingly the Royal Government of Bhutan (RGoB) has a goal of achieving a minimum of 5,000 MW by 2030. It is estimated that the overall generation potential is around 36,900 MW as per the Power System Master Plan of Bhutan 2040. The RGoB has prioritized the development of projects with pumped storage and reservoir facilities to address the concerns of seasonality of hydro resources, thereby increasing energy security in the future and enhancing foreign revenue earnings. In addition, the RGoB is looking to enhance its ancillary services capabilities/industry, develop green hydrogen, and contribute towards the development of clean energy and technologies to mitigate problems related to global warming and climate change.

Despite Bhutan's abundant hydropower resources, the current generation capacity lacks adequate storage during the dry season and a limited diversity of domestic electricity generation sources present risks to the country's energy security. With hydrogen emerging as a promising solution within the global energy landscape, DHPS has expressed interest in exploring the prospect of green hydrogen for the context of Bhutan, where surplus electricity generated by hydropower during the wet season, which otherwise would have been curtailed, could potentially be converted to hydrogen. The hydropower-generated hydrogen can also be used in electrifying and decarbonizing Bhutan's major energy end-use sectors such as the transport sector and industrial sector. Green hydrogen also presents an opportunity for Bhutan to increase exports of energy commodities. There are many plausible hydrogen value chains to be considered for the RGoB.

To support Bhutan's sustainable development goals, USEA previously engaged the services of technical and economic hydrogen experts to conduct a Market Study on Green Hydrogen in Bhutan. The study, completed in 2023, identified potential domestic and export market potential based on projected hydrogen production prices, existing transportation infrastructure, and potential end-use markets domestically and outside of Bhutan. Based on the findings of the Market Study and in accordance with their national targets for environmental stewardship and energy growth, the RGoB has committed to advancing the early development of a hydrogen economy.

As part of that process, the RGoB is developing a National Green Hydrogen Roadmap, which will define progressive targets for the deployment of hydrogen pilot project; establish a plan for aligning development of hydrogen generation

capacity with end use demand growth; design a platform and process for expert advisory groups and stakeholder coordination; and develop an investment outreach packet to highlight opportunities for developing green hydrogen projects in Bhutan; and develop a strategy for energy value chain enhancement both domestically and in global market through the green hydrogen initiatives.

This RFP aims to identify qualified experts to provide assistance to Bhutan Department of Energy management and staff under the direction of USEA. Submissions may include a single expert or multiple experts, and submissions will be accepted from companies, institutions, and individual consultants.

The proposals should include and detail the submitter's:

- Knowledge of hydrogen generation from hydropower
- Regulatory expertise in hydrogen transport, storage, export/import, and safety
- Experience in developing national or subnational hydrogen roadmaps or strategies
- Experience in preparing investment pitch decks or energy project financing, particularly related to hydrogen projects

Additional experience sought includes:

- Experience organizing or establishing stakeholder coordination bodies
- Regional experience and/or knowledge of Bhutan's energy sector

III. SCOPE OF WORK

The objective of this project is to prepare and assist Bhutan Department of Energy management and staff, as well as other stakeholders in the Royal Government of Bhutan, in their efforts to accelerate the deployment of green hydrogen projects in Bhutan. Through the completion of this scope of work, it is expected that the Bhutan Department of Energy will have a complete National Green Hydrogen Roadmap detailing their plans for hydrogen development and ensure sustainable development for the people of Bhutan, as well as be prepared for engaging with domestic stakeholders and potential international project investors.

PROJECT TASKS AND DELIVERABLES

Hired experts will support the Bhutan Department of Energy in developing and finalizing a National Green Hydrogen Roadmap outlining national decarbonization goals, the role of hydrogen in meeting decarbonization goals, strategies to support the deployment of green hydrogen infrastructure, identifying priority economic sectors for the use of hydrogen, identifying regional/global market opportunities, mapping the process for stakeholder participation in the hydrogen sector, setting national milestones and targets for hydrogen sector growth, and including a strategy for engaging with hydrogen technology providers and potential investors. In addition to supporting the Bhutan Department of Energy in developing the National Green Hydrogen Roadmap, the hired experts will advise Department of Energy staff on the formation of a stakeholder consultation and advisory group, the Green Hydrogen Panel of Experts. Next, the hired experts will work with Department of Energy staff to develop an investment prospectus and pitch deck designed to inform potential project investors and hydrogen project developers of opportunities for investment in Bhutan's green hydrogen sector. Finally, the hired experts will support the Department of Energy in developing a plan for soliciting project financing, investment, and regional/global market access.

The hired experts will be responsible for collecting background information, conducting desk research, and communicating with the Bhutan Department of Energy and other key domestic stakeholders. The hired experts will regularly communicate with and provide updates to USEA, Bhutan Department of Energy, and U.S. Department of State staff to ensure the roadmap development process is on track and meets the vision of the Department of Energy leadership. In addition to providing monthly reports to USEA, U.S. Department of State, and the Bhutan Department of Energy, the hired experts will participate

in USEA-facilitated introductory, draft review, and final meetings with the Department of Energy and other key stakeholders.

At the onset of this contract the chosen institution or individual will review available documentation on Bhutan's energy and hydrogen background, Bhutan's hydrogen market potential, and other relevant market information related to the hydrogen sector. Travel may be required to complete the tasks in this project, and applicants must be willing and able to conduct short-term international travel. The chosen institution or individual will then carry out the following tasks:

Task 1: Document Review & Inception Report

Experts will begin with remote review of documents and a virtual introductory meeting with the Department of Energy. To begin the project, the hired experts will familiarize themselves with Bhutan's vision for green hydrogen development, evaluate existing market research and data, and familiarize themselves with key domestic and international stakeholders. After completing remote review as described, the hired experts will produce an Inception Report outlining their feedback on the first draft of a National Green Hydrogen Roadmap developed by the Department of Energy, identifying key stakeholders, and mapping out the investment solicitation strategy. Hired experts will work closely with USEA and ENR staff by sharing outlines and drafts for review and comments and submit monthly progress reports to USEA, ENR, and the Department of Energy throughout the engagement.

Task 2: Prepare National Green Hydrogen Roadmap

After sharing the Inception Report with the Department of Energy, hired experts will work remotely with Department of Energy staff to prepare the National Green Hydrogen Roadmap ahead of the upcoming United Nations Framework Convention on Climate Change Conference of Parties 28 (COP28) in Dubai, United Arab Emirates (UAE). The Roadmap will build on previous strategic planning documents from the Department of Energy, including a Green Hydrogen Market Study finalized in 2023 and a draft National Green Hydrogen Roadmap developed by the Department of Energy. The roadmap should include, but not be limited to:

- An outline of national decarbonization goals;
- A description of the role of hydrogen in meeting decarbonization goals;
- A summary of Royal Government of Bhutan strategies to support the deployment of green hydrogen infrastructure;
- A summary of priority economic sectors for the use of hydrogen;
- A summary of the economic impact from the hydrogen initiatives;
- A roadmap of the process for stakeholder participation in the hydrogen sector;
- National milestones and targets for hydrogen sector growth;
- A strategy for financing hydrogen projects and market (domestic as well as regional/global) access; and
- A strategy for engaging with hydrogen technology providers and potential investors

The hired experts will then share the draft National Green Hydrogen Roadmap with USEA, ENR, and the Department of Energy for review. The hired experts will also prepare a presentation summarizing the key features of the National Green Hydrogen Roadmap to deliver to Department of Energy staff using Microsoft PowerPoint, to be delivered during a virtual meeting. The presentation should be at least 30 minutes in duration with at least 30 minutes allocated to responding to questions from Department of Energy staff. Discussion time will also be allocated for feedback on the draft roadmap. Draft presentation materials and the draft roadmap will be due to USEA and DoE at least two weeks before the presentation.

Task 3: Support Bhutan Green Hydrogen Pavilion Session at COP28

After finalizing the National Green Hydrogen Roadmap, the hired experts will assist the Department of Energy with the preparation of presentation materials for a planned Pavilion Session hosted by the RGoB at COP28 on December 5, 2023 in Dubai, UAE. The Pavilion Session will serve as an opportunity for the Bhutan Department of Energy to showcase Bhutan's commitment to a carbon-negative economy and to advertise opportunities for international partners and donors to invest in Bhutan's green hydrogen infrastructure. One member of the consulting team will travel to COP28 with Bhutan's team of COP28

negotiators and green hydrogen project leaders to facilitate the Pavilion Session and participate in individual meetings with potential international partners. Following the Pavilion Session, the hired experts will submit a trip report to USEA, ENR, and DOE summarizing the outcomes of the Pavilion Session and meetings with potential international partners.

Task 4: In-Country Stakeholder Workshop and Meetings

Following the preparation of the National Green Hydrogen Roadmap and participation in the COP28 Pavilion Session, the hired experts will coordinate with USEA and Department of Energy staff to organize a one-day Stakeholder Workshop in Thimphu, Bhutan to solicit stakeholder feedback on the National Green Hydrogen Roadmap and strategic plans for accelerating the deployment of green hydrogen in Bhutan. USEA will support the hired experts by coordinating travel logistics. The workshop will be preceded by in-person meetings with Department of Energy leadership and staff to refine the National Green Hydrogen Roadmap and ensure it aligns with Bhutan’s green hydrogen vision.

Task 5: Design of a Stakeholder Consultation and Coordination “Panel of Experts”

After presenting the draft roadmap to the Department of Energy, the hired experts will prepare a framework for a stakeholder consultation and coordination group called the “Green Hydrogen Panel of Experts” that will serve to support the implementation of the National Green Hydrogen Roadmap. The Panel of Experts could include both private and public sector stakeholders, and should represent all key stakeholders in Bhutan’s green hydrogen value chain. The framework document should outline the key members of the Panel of Experts, the organizational structure of the Panel of Experts, and the operational process for the Panel of Experts, including roles and responsibilities, frequency of engagement, and anticipated deliverables. The hired experts will share this framework with USEA, ENR, and the Department of Energy for review and comment.

Task 6: Development of a Green Hydrogen Investment Prospectus, Pitch Deck and Outreach Strategy

While developing the framework for the Green Hydrogen Panel of Experts, the hired experts will prepare a Green Hydrogen Investment Prospectus, high-level investment pitch deck, and strategy for outreach to potential investors. The Investment Prospectus should include, but not be limited to:

- A detailed overview of the potential for green hydrogen projects in Bhutan;
- A description of relevant laws, regulations, government commitments, incentives, and targets of the Royal Government of Bhutan to create a strong enabling environment for green hydrogen;
- An overview of potential green hydrogen project structures;
- A description of the benefits of project investment; and
- An analysis of anticipated returns and risks of project investment.

The hired experts will work closely with the Department of Energy leadership and staff to develop the Investment Prospectus, and submit the draft Investment Prospectus to USEA, ENR, and the Department of Energy for review and approval. Based on the final Investment Prospectus, the hired experts will then prepare a condensed pitch deck that summarizes the key points of the Investment Prospectus and can be shared with potential investors.

Finally, the hired experts will work in consultation with Department of Energy leadership and staff to develop an investment outreach strategy, outlining the process for engaging with potential investors. The strategy should include, but not be limited to:

- Identification of potential investors from private sector, donor institutions, and government development agencies;
- A strategy for ensuring the economic viability of green hydrogen initiatives, including strategies for domestic and global market access;

- A description of the strategic process for engaging with these potential investors; and
- Identification of key industry and finance events for potential engagement with multiple potential investors.

Task 7: Convening of National Green Hydrogen Panel of Experts

After the approval of the National Green Hydrogen Roadmap, framework for the Green Hydrogen Panel of Experts, Investment Prospectus, Pitch Deck, and Outreach Strategy by the Department of Energy, USEA, and ENR, the hired experts will support the Department of Energy in convening the first in-person meeting of the National Green Hydrogen Panel of Experts. The hired experts will support the Department of Energy in planning outreach to the organizations and individuals invited to join the Panel of Experts, preparing a summary presentation of the documents finalized in Tasks 2 – 6, and on-site support with presenting these documents to the Panel of Experts for comment. Following the in-person workshop and the receipt of verbal and written feedback from the Panel of Experts, the hired experts will revise and finalize these documents in consultation with the Department of Energy, USEA, and ENR. and address any follow up questions, as well as explore areas for possible future cooperation. The final structure of the Panel of Experts meeting will be subject to agreement between the Department of Energy, USEA, ENR, and the hired experts. Draft presentation materials will be due to USEA, ENR, and the Department of Energy two weeks before the meeting.

Task 8: Submission of Final Project Materials

Following the meeting of the Panel of Experts and any necessary revision of the National Green Hydrogen Roadmap, framework for the Green Hydrogen Panel of Experts, Investment Prospectus, Pitch Deck, and financing outreach strategy, the hired experts will submit them to the Department of Energy, USEA, and ENR for approval. The final documents should be submitted in editable form and have a professional formatting/graphic design suitable for widespread public dissemination.

Please note that travel and meeting rental costs will be covered directly by USEA and do not need to be detailed in the financial proposal.

IV. TENTATIVE SCHEDULE

Tasks	Deliverables	Estimated Duration
1. Document Review & Inception Report	1. Inception report 2. Monthly progress report	21 days after project launch
2. Prepare National Green Hydrogen Roadmap	1. Final Draft of National Green Hydrogen Roadmap 2. Monthly Progress Report	35 days after project launch
3. Support Bhutan Green Hydrogen Pavilion Session at COP28	1. Trip Report 2. Monthly progress reports	45 days after project launch
4. In-Country Stakeholder Workshop and Meetings	1. Workshop Report 3. Monthly progress report	90 days after project launch
5. Design of a Stakeholder Consultation and Coordination “Panel of Experts”	1. Framework document for Panel of Experts 2. Monthly progress report	100 days after project launch
6. Development of a Green Hydrogen Investment Prospectus, Pitch Deck and	1. Draft Investment Prospectus 2. Draft Pitch Deck	100 days after project launch

Outreach Strategy	3. Draft Investment Outreach Strategy with Economic Impact/Viability Analysis 4. Monthly Progress Report	
7. Convening of National Green Hydrogen Panel of Experts	1. Presentation materials 2. Meeting Report 3. Monthly progress report	130 days after project launch
8. Submission of Final Project Materials	1. Final National Green Hydrogen Roadmap 2. Final Framework for Panel of Experts 3. Final Investment Prospectus 4. Final Pitch Deck 5. Final Investment Outreach Strategy	140 days after project launch

V. SUBMISSION CONTENT

The proposal must contain the following:

- a) A cover letter; explaining areas of expertise and work experience, proposed approach of completing the tasks and work schedule, as well as knowledge of Bhutan’s energy sector, the hydrogen sector, and project finance planning, if applicable. The letter should not exceed 10 pages in length.
- b) A CV or CVs, including:
 - Summary of past relevant experience
 - Description of past work as it relates to the hydrogen sector
 - Summary of work conducted in international energy markets
 - Summary of energy project finance or investment expertise

Note: listed professional experience must include date ranges
- c) Unique Entity Identifier (UEI) number and confirmation of current status in the System of Award Management (SAM)
- d) Financial proposal including submitter’s proposed hourly rate for this project and any other proposed expenses broken out by the following cost categories:
 - a. Personnel (labor costs should be broken out by individual)
 - b. Fringe Benefits
 - c. Travel*
 - d. Equipment*
 - e. Supplies
 - f. Contractual
 - g. Construction*
 - h. Other Direct Costs
 - i. Total Indirect Costs (overhead)

*Note: no equipment purchases or construction costs are anticipated to complete this report. However, these line items should still be included in the financial proposal with a line item reading \$0. All travel and workshop costs will be directly funded by USEA and do not need to be included in the financial proposal.

VI. EVALUATION CRITERIA AND CONTRACT MANAGEMENT/OVERSIGHT

Selection of an offer for subcontract award will be based on a quality and cost assessment of the technical qualifications, including prior relevant experience, as well as the financial proposal. Subcontract agreement management, oversight, and payment will be carried out by USEA. Costs incurred for the preparation and submission of a proposal are not eligible for reimbursement.

Submissions will be evaluated by a review team on the following basis:

- Past experience and project approach – 40%
- Subject matter expertise – 40%
- Financial proposal – 20%

VII. QUESTIONS AND CLARIFICATIONS

For all questions and clarification requests please contact Mr. Derek Burke, Senior Program Coordinator, at dburke@usea.org. Please submit questions prior to 17:00 EST October 6, 2023. All questions and answers will be made public on the USEA website on October 9, so that all interested parties are fully informed.

END OF REQUEST FOR
PROPOSALS