



AGENCY FOR NEW & RENEWABLE ENERGY RESEARCH AND TECHNOLOGY (ANERT)

Department of Power, Government of Kerala
Thiruvananthapuram, Kerala – 695033
www.anert.gov.in, gh2cell@anert.in

Eoi Document

Expression of Interest (EOI) for Development of Innovative Demonstration Projects in Green Hydrogen, Smart Energy, and Industrial Decarbonisation

(H2SEID – Hydrogen, Smart Energy & Industrial Decarbonisation)

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Disclaimer

Prospective respondents to this EoI acknowledge and agrees that:

- ANERT has issued this EoI with the best intention to explore the market for eligible and interested bidders and has no compulsions to enter into definitive contractual agreements. This EoI does not guarantee the conversion of this EoI into any definitive contractual agreements.
- It is also agreed that ANERT, in its sole discretion, may reject any and all proposals made by respondent(s), may change the conditions relating to the EoI or cancel this EoI at any time without assigning any reason.
- Prospective respondent(s) acknowledge and agree that response to the EoI is purely voluntary action on their part and for any expenditure on this account shall be borne by the respondent(s).
- The applicants shall bear all cost associated with the preparation and submission of the response to this EoI.



1. Introduction

The Agency for New and Renewable Energy Research and Technology (ANERT), an autonomous institution under the Department of Power, Government of Kerala, is at the forefront of promoting clean energy innovation, technology deployment, and decarbonization solutions in the state.

ANERT is the State Nodal Agency (SNA) for the Ministry of New and Renewable Energy (MNRE), Govt. of India, to carry out the centrally assisted clean energy programmes in Kerala. ANERT is also a state agency for Renewable Purchase Obligations (RPO) and Renewable Energy Certificates (REC) for Kerala. ANERT has been nominated by Power Department as the State Nodal Agency for Green Hydrogen mission of Kerala.

As part of its ongoing efforts to support Kerala's transition to a sustainable energy future, ANERT is inviting Expressions of Interest (EOI) from eligible stakeholders across India for late-stage demonstration projects in climate-friendly technologies.

This EOI aims to identify technically sound, innovative, and scalable project proposals where ANERT can act as the Lead Applicant for securing support under upcoming national and international climate funding opportunities. Selected proposals may also be considered for implementation under ANERT-led initiatives, including pilot projects, Hydrogen Valley Innovation Cluster (HVIC) programmes, or relevant schemes of the Ministry of New and Renewable Energy (MNRE).

The proposed projects should focus on technology demonstration and market readiness, and must align with ANERT's strategic focus areas, including clean hydrogen, smart energy systems, and industrial decarbonization. Through this EOI, ANERT seeks to co-develop and advance high-impact proposals that can contribute to Kerala's broader climate and energy goals, while also supporting innovation-led growth in India's clean energy ecosystem.

This is not a tender for funding, but a preliminary call for technically mature and co-fundable project ideas, which may be pursued by ANERT for funding consideration under various national or international mechanisms.

2. Thematic Areas of Interest

Proposals submitted under this EOI should address innovative and technically mature solutions that support climate action, energy transition, and industrial sustainability. The focus is on demonstration-phase projects that are ready for real-world validation and can be scaled or replicated. The following thematic areas are of particular interest:

1. **Clean Hydrogen Technologies:** Proposals may span the full value chain of green hydrogen, including:
 - Hydrogen production from renewable (e.g., electrolysis, biomass, biogas)
 - Hydrogen storage, transportation, and distribution infrastructure
 - End-use applications such as hydrogen mobility (buses, trucks, vessels, aviation), power generation, or hydrogen blending for industrial use
 - System integration solutions involving hybrid renewable energy and hydrogen
2. **Smart energy systems:** Proposals in this theme should demonstrate advanced, intelligent systems that enable cleaner, more efficient energy use across sectors such as mobility, buildings, industry, and power. Examples include:
 - AI-based grid or energy optimization tools
 - Digital twin applications for system simulation and control
 - Blockchain-enabled energy traceability or transactions
 - Virtual power plants (VPPs) and distributed energy orchestration
 - EV-grid response systems and rail-to-grid energy storage models
 - Intelligent converters and demand-side automation technologies
3. **Industrial decarbonization:** This area targets technology demonstrations that significantly reduce emissions across industrial operations. Eligible proposals may focus on:



- Low-carbon fuels and electrification of industrial heat
 - Integration of renewable energy in energy-intensive sectors
 - Circular economy models (e.g., waste-to-fuel or waste heat recovery)
 - Efficient energy management systems for manufacturing and processing units
 - Clean transition of industrial clusters or MSMEs through shared infrastructure
4. Hybrid and Integrated Demonstrations: Innovative projects that bridge multiple domains — such as green hydrogen with smart grid systems, or waste-derived energy with industrial use — are encouraged. These could include:
- Combined applications of RE and hydrogen for logistics, ports, or agriculture
 - Multi-utility demonstration zones integrating storage, RE, and green fuels
 - Community-scale pilot models with replication potential

3. Project Categories and Funding Framework

To facilitate structured evaluation and prioritization, ANERT invites proposals under two distinct categories, based on the total project size, level of external support sought, and the co-funding commitments expected from both ANERT and the project developer or consortium.

The co-funding for the project should come from two sources — ANERT (either as financial support or in-kind assistance) and the applicant (such as the project developer or technology partner). This co-funding will be in addition to the external grant being requested.

Total Project Cost = External Funding (Grant Request) + Internal Co-Funding

Internal Co-Funding = ANERT Contribution + Applicant Contribution

Category	Maximum Project Size	External Funding Requested	Internal Co-Funding (Shared between ANERT and the applicant)
Category 1	Up to USD 10 million	Up to USD 5 million	Shared between ANERT (20-50%) and Project Developer/Consortium
Category 2	Up to USD 40 million	Up to USD 20 million	Shared between ANERT (up to 20%) and Project Developer/Consortium

3.1 Key Guidelines for Funding Structure

The external funding (from national or international agencies or multilateral institutions) requested by any applicant must not exceed 50% of the total project cost. A well-defined co-funding plan is mandatory for all proposals, indicating how the remaining share of the project cost will be met through contributions from ANERT and the project developer or their technology or industry partners. ANERT's support may be provided in the form of financial assistance or in-kind contributions, such as infrastructure facilitation (land, electricity, water, etc.), integration into state initiatives, or coordination support.

In general, ANERT's co-funding share shall not exceed 50% of the total co-funding amount (i.e., the portion not covered by external funding). However, in exceptional cases, ANERT's share may be increased up to 60–70% of the co-funding amount if the project is assessed to be of strategic importance to both Kerala and the nation and is expected to have a wide-ranging impact.

For instance, in a Category 1 project with a total cost of USD 8 million, the applicant may request up to USD 4 million from an external funding agency. The remaining USD 4 million must be co-funded, out of which ANERT can provide up to 50% (i.e., USD 2 million) and the rest must come from the applicant. In the case of a Category 2 project, ANERT's contribution is limited to 20% of the total co-funding, regardless of the project cost.



Co-funding may include infrastructure readiness, proprietary technology deployment, equipment supply, or operational expenditures. All applicants are expected to provide realistic and verifiable cost estimates and to demonstrate the overall financial viability and value proposition of the proposed project.

Proposals with negligible or zero co-funding from the applicant are likely to be given lower priority during evaluation.

3.2 Submission Expectations

Applicants must provide an estimated budget summary indicating:

- Total project cost
- Proposed funding breakdown (external, ANERT, and developer/ applicant)
- Timeline-linked major cost heads
- Evidence or intent of co-funding (MoUs, letters of interest, or previous investment track record)

ANERT may support shortlisted proposals in refining their financial structure and ensuring alignment with the requirements of targeted funding agencies. This may include guidance on cost elements, co-funding clarity, and compliance with financial due diligence norms to enhance the proposal's competitiveness.

4. Eligibility Criteria

EOI is open to Indian entities with the technical, financial, and institutional capacity to implement late-stage demonstration projects in clean energy, green hydrogen, or industrial decarbonization domains.

The following eligibility criteria must be met by applicants:

- The lead organization must be a registered legal entity in India with a minimum of three years of operational history as of the date of submission. Entities may include private companies, public sector undertakings, research institutions, or consortiums led by such entities.
- The proposed project must be at a Technology Readiness Level (TRL) of at least 6 or higher, indicating that the solution is beyond laboratory validation and ready for real-world demonstration in operational environments.
- Projects must show a clear implementation pathway with identified sites, local partnerships, and preliminary regulatory clarity (if applicable). Preference will be given to projects that can demonstrate readiness for deployment within a reasonable timeframe.
- Applicants must possess, or demonstrate access to, technical and managerial capabilities necessary to execute the project, either directly or through confirmed partnerships.
- A co-funding plan must be submitted as part of the proposal, with indicative commitments from the applicant and/or its collaborators. Proposals that rely entirely on external funding will not be considered.
- Proposals must clearly outline the intended impact, scalability, and relevance to Kerala's or India's clean energy transition, along with environmental and social safeguards.

ANERT encourages applications from both established firms and emerging solution providers, provided the project concept meets the maturity and strategic relevance thresholds outlined in this EOI.

Note: Shortlisted applicants may be required to submit MoUs or equivalent documentation from key partners and co-funders prior to final selection.



5. Submission Requirements

Interested applicants must submit a comprehensive proposal package that demonstrates the technical merit, financial feasibility, and strategic alignment of the proposed project. All documents must be submitted in PDF format, via email, by the stipulated deadline.

5.1 Proposal Components

Interested applicants must submit a comprehensive proposal package that demonstrates the technical merit, financial feasibility, and strategic alignment of the proposed project. All documents must be submitted in PDF format, via email, by the stipulated deadline.

Section	Content Description	Page Limit / Notes
1. Cover Letter	A signed letter on official letterhead summarizing the organization's interest, thematic focus of the proposal, total project cost, and requested support. It should clearly state the project's readiness level and implementation window.	1 page max
2. Organizational Profile	A brief overview of the lead organization, highlighting: <ul style="list-style-type: none"> – Years of operation (minimum 3 years) – Core areas of expertise – Key technical and managerial resources – Previous relevant projects (especially in demonstration in hydrogen, or smart energy sectors) 	2 pages max
3. Detailed Project Concept Note	The Concept Note should address the following: <ul style="list-style-type: none"> – Title and Summary Table: A summary table including project title, site(s), technology, and other key information – Technology Overview: Description of the core technology, its novelty, and current maturity level (TRL 6 or above) – Problem Statement: What specific challenge the project addresses – Solution Approach: How the proposed technology or approach addresses the challenge – Implementation Plan: Timeline, proposed deployment phases, and duration of demonstration – Team and Roles: Key personnel or partner organizations, including their roles and expertise – Expected Outcomes: Quantified and qualitative benefits such as GHG reduction, local employment, skills training, and policy relevance – Scalability and Replication: Potential for wider adoption across sectors or geographies – Readiness to Execute: Details of land availability, permits, partnerships, and any work already completed — clearly mentioned in a separate subheading 	Max 1 page per subheading
4. Financial Summary Sheet	Applicants must provide a clear and realistic financial structure, including: <ul style="list-style-type: none"> – Total project cost (Category 1 or 2) in USD – Breakdown of funding sources: <ul style="list-style-type: none"> • Grant requested from external agency • Expected or proposed ANERT contribution • Contribution by developer/applicant – Cost structure by major components: <ul style="list-style-type: none"> • Infrastructure and equipment • Project development and engineering • Deployment and operations • Monitoring, training, and dissemination activities • Administrative and personnel costs (maximum 10%) – Supporting notes on cost assumptions and unit estimates – Availability of funds (secured, pledged, or under discussion) 	–



	<i>Note: The budget must be valid for a period of 365 days from the date of submission.</i>	
5. Annexures (as applicable)	Relevant annexures may include: – Letters of Interest, MoUs, or commitment letters from co-funders or partners – Technical specifications or product brochures – Past project reports or media references that demonstrate prior experience in similar domains	5 pages max

5.2 Submission Format and Document Packaging

Applicants must compile their proposal into a single PDF document, following the structure, content, and page limits specified in Section 5.1 and the Submission Requirements Table. The final document should be well-organized and clearly labelled.

To avoid email size restrictions, the compiled PDF must be uploaded to a Google Drive folder with download permissions enabled.

Document Preparation Instructions:

- Format: PDF only
- File name: <OrganizationName>_EOI_ANERT2025.pdf
- Upload the file to Google Drive
- Set access to: “Anyone with the link can download” OR shared directly with GH2CELL@ANERT.IN (with download access)

Once the document is ready and uploaded, the downloadable Drive link must be shared with ANERT via email as detailed in Section 7.2.

6. Evaluation Methodology

All eligible proposals received under this EOI will be evaluated by ANERT based on a structured and transparent assessment framework. The aim is to identify technically mature, financially viable, and strategically aligned demonstration projects that can be co-developed with ANERT for submission to suitable national or international funding opportunities.

6.1 Evaluation Stages

The evaluation will consist of the following stages:

1. Preliminary Screening: Verification of completeness, eligibility, and adherence to submission structure and page limits. Proposals not meeting the basic criteria may be rejected at this stage.
2. Technical and Strategic Assessment: A detailed review based on the evaluation parameters listed in Section 6.2.
3. Shortlisting and Due Diligence: ANERT may seek additional information, clarifications, or conduct virtual discussions with shortlisted applicants. Proposals may also refer to subject experts or funding agencies for feedback before final selection.
4. Final Selection for Nomination: Based on evaluation outcomes, ANERT will select one or more proposals to be taken forward as lead applicant under suitable funding programs.

6.2 Evaluation Parameters

The following parameters will be used by ANERT to assess and score proposals during the technical and strategic evaluation stage. Each proposal will be reviewed for both its intrinsic merit and its suitability for nomination under relevant funding opportunities:



Evaluation Parameter	Description
Technical Maturity	Readiness of the technology for real-world demonstration (minimum TRL 6)
Innovation and Uniqueness	Novelty of the solution within the Indian context or sector
Implementation Feasibility	Availability of land, permits, partnerships, and project management capacity
Co-funding Commitment	Realistic and credible co-funding structure; demonstrated ability to mobilize resources
Impact Potential	Contribution to GHG reduction, energy transition, job creation, and local value addition
Scalability and Replication	Ability of the project to serve as a model for similar deployments elsewhere
Alignment with State/National Priorities	Fit with Kerala's climate and energy goals, including Hydrogen Valley, EV, RE integration, etc.
Social and Environmental Safeguards	Consideration of social acceptance, E&S risks, and inclusiveness (gender, community benefit)

Each proposal will be scored on a scale of 1 to 10 for each parameter, where a score of 10 represents strong alignment and high-quality response, and 1 indicates a weak or incomplete response.

7. Submission Timeline and Process

Applicants are advised to carefully note the key dates and submission process outlined below. Late or incomplete submissions may not be considered for evaluation.

7.1 Key Dates

Milestone	Date
Release of EOI	04-Jun-25 on ANERT Website
Last date to submit queries	11-Jun-25
Responses to queries published by ANERT	13-Jun-25
Last date for EOI proposal submission	18-Jun-2025 (by 11:59 PM IST)
Shortlisting and communication to applicants	On or before 20-Jun-2025

7.2 Final Delivery Instructions

All applicants must prepare their proposal according to the structure, content requirements, and page limits detailed in Section 5 and summarized in the Submission Requirements Table.

All proposals must be submitted by email with the required Drive link to: ✉ GH2CELL@ANERT.IN

Email Submission Details:

- Subject Line: "EOI Submission – ANERT H2SEID 2025"



- Include in Email Body:
 - Name of applicant organization
 - Thematic area of the project
 - Link to Google Drive (ensure direct download access)

Important Notes:

- Ensure the Google Drive link is active and accessible until at least 31 July 2025
- Proposals must be submitted by 11:59 PM IST of 18 June 2025
- For any clarifications, queries must be emailed by 11 June 2025 with the subject line: “Query – ANERT H2SEID EOI 2025” referring to the Section or Sub-section number in this EOI
- At the same time, ANERT reserves the right to reach out to any applicant after proposal submission for additional information, clarifications, or supporting documentation, as part of the evaluation process.

Late or inaccessible submissions may be disqualified from consideration.

8. General Terms

EOI only, not a Tender: This document is an invitation for Expressions of Interest only. It does not constitute a commitment to award any contract, funding, or partnership.

No Obligation to Select or Fund: ANERT reserves the right to accept or reject any or all proposals received without assigning any reason. Submission of a proposal does not guarantee selection, nomination, or funding under any scheme.

Use of Submitted Information: Information submitted through this EOI may be used by ANERT for further discussions, stakeholder consultations, and alignment with ongoing and upcoming initiatives, including but not limited to the Kerala HVIC, MNRE-supported pilot projects, other Central Financial Assistance schemes, and relevant bilateral or multilateral international funding opportunities.

Right to Modify or Cancel: ANERT may modify, postpone, or cancel this EOI at any stage, without incurring any liability. Any updates or clarifications will be communicated through the official ANERT website or via email.

Confidentiality and IP: Proprietary information explicitly marked as confidential will be treated with due care and used only for evaluation and project planning purposes. However, ANERT does not guarantee confidentiality of submitted materials unless covered by a separate NDA.

No Costs Reimbursed: ANERT will not be responsible for any costs incurred by applicants in preparing or submitting responses to this EOI.

Jurisdiction: All matters arising under this EOI shall be governed by the laws of India, and subject to the jurisdiction of courts in Thiruvananthapuram, Kerala.