23 June 2025

Request for quotation (RFQ) – UK PACT Expert Deployment

RFQ title	Strengthening Technical Studies for Wider Green Hydrogen Adoption in Bolivia
RFQ issue date	23 June 2025
Terms of reference	The services to be delivered are detailed in the attached Schedule.
Project title	UK PACT – Bolivia Green Hydrogen Adoption
Close date and time	07 July 2025 at 09:00 AM EST / 14:00 BST
Details for submission	Expertdeployments@ukpact.co.uk

Palladium as the delivery partner for the Foreign, Commonwealth and Development Office (FCDO) funded UK Partnering for Accelerate Climate Transitions (UK PACT) programme invites you to submit a quotation for the services detailed in this RFQ.

Please forward your quote in accordance with the Details for Submission above by the Close Date and Time. This RFQ includes the following materials:

Schedule 1 – Terms of Reference

Schedule 2 – Instructions for submission

Schedule 3 – Terms and Conditions

Annex I – RFQ Response Form

Annex II – Budget and workplan template

We look forward to your response.

Schedule 1 - Terms of Reference

1.1. Overview of requirements	
Name of project	Strengthening Technical Studies for Wider Green Hydrogen Adoption in Bolivia
Country/region	Bolivia, Amazon Regional Fund
Proposed start date	21 July 2025
Proposed end date	31 January 2026

1.2 Context and scope of work

Background

Over the past couple of years, the British Embassy in La Paz has built a productive partnership with Bolivia's Ministry of Hydrocarbons and Energy (MHyE), as well as three of its main state-owned enterprises: YLB (Bolivian Lithium Company), YPFB (Bolivian Oil and Gas Company) and ENDE (Power and Electricity Company).

The Embassy initially collaborated with the MHyE and YLB through a successful academic partnership programme. This included master and PhD scholarships, and a joint investigation project aimed at supporting the development of Bolivia's lithium industry. Additionally, the Embassy has supported the development of Bolivia's green hydrogen sector. In collaboration with the MHyE and YPFB, two training workshops in 2023 and 2024 were delivered by a UK-based firm (Everoze) and a leading UK hydrogen researcher (Profesor Mamdud Hossain, RGU), building local capacity by ensuring knowledge exchange and mutual learning rather than one-way technical transfers. and promoting ownership by Bolivian stakeholders in this emerging field.

There is growing momentum in Bolivia's energy sector—currently the country's second-largest source of greenhouse gas emissions—to develop further green hydrogen as a strategic and reliable source of renewable energy. This technology has the potential to help Bolivia reduce emissions, meet its Nationally Determined Contributions (NDCs), and decrease its unsustainable reliance on imported fossil fuels. To be transformative, this process should be guided by principles of energy justice and social equity, incorporating local voices, and integrating gender, disability, and social inclusion considerations into the design, implementation, monitoring, and evaluation of hydrogen strategies.

Bolivia recently launched its Green Hydrogen Roadmap and National Strategy, with the ambition of becoming a regional leader in green hydrogen production. The strategy aims to harness Bolivia's abundant renewable resources to drive sustainable development and accelerate the energy transition.

Objectives

In line with this strategy, the MHyE and YPFB have requested UK support for technical assistance to advance the implementation of a green hydrogen pilot plant. These include:

- Review/validation of previous YPFB's Prefeasibility studies for the implementation of a green hydrogen pilot plant in Oruro,
- Evaluation of the most suitable type of electrolyser for operation at 3,500 meters above sea level.
- Development of a detailed Levelized Cost of Hydrogen Model (LCOH) incorporating CAPEX, OPEX, altitude-related performance, and electricity source.
- Proposal of a technical solution for producing hydrogen using wastewater from oil and gas fields.

The provided technical assistance will produce a range of reports that assess existing prefeasibility studies and provide additional technical recommendations on the potential implementation of the green hydrogen pilot plant.

The expected intermediate outcomes of this project include:

- New or enhanced policies, practices, tools or technologies with a projected emissions reduction or climate change mitigation impact. The proposed outputs will directly enhance technical tools currently available to MHyE that contribute to climate change mitigation impact by "greening" Bolivia's energy matrix.
- Organisational or institutional change in capacities. The proposed outputs will provide technical models and solutions that directly enhance MHyE's capacity to lead the design and implementation of a technically sound green hydrogen pilot plant.

The expected outcomes of this project include:

- Increased installed capacity of clean energy (MW). A successful and technically sound pilot would increase Bolivia's installed clean energy capacity, with estimates of the potential MW yield of said pilot being calculated as part of the project outputs.
- Increased number of people with improved access to clean energy. Likewise, a successful and scalable green hydrogen pilot would increase the share of green energy available to Bolivian consumers.

Upon completion, these outputs and outcomes can in turn be used by MHyE/YPFB to assess progress against the Green Hydrogen Roadmap and National Strategy.

Approach

Kick Off
• Kick off meeting with stakeholders in La Paz, Bolivia, including efforts to ensure diverse representation from women, Indigenous groups, people with disabilities, local stakeholders, and communities from the project's area of influence. • Review of prefeasibility study and existing documentation, including an assessment of how gender, equity, diversity, and social inclusion (GEDSI), local participation, ownership, and contextual relevance have been integrated, and identifying opportunities to strengthen inclusion and avoid reinforcing extractivist patterns and/or inequalities in technology and knowledge exchange between countries.
Component 1: Consolidated and updated prefeasibility study
• Review and analysis of YPFB's existing prefeasibility studies • Identification of technical, economic and environmental, environmental, and social inclusion gaps, including a GEDSI assessment of how proposed energy developments

might differentially impact, or benefit underrepresented and marginalised groups. This should cover community-level impacts, local inclusion plans, and potential for job creation for these groups.
- Validation against international standards, to be agreed on between the selected IP and counterparts before the work begins
- Elaboration of a validation report and recommendations

Component 2: Electrolyser selection

- Analysis of on-site conditions (Altitude, temperature, pressure, energy supply, etc)
- Technical and economic comparison of suitable electrolyser types considering ease of operation and maintenance by locally trained staff, and potential for inclusive employment.
- Validation with manufacturers or technology providers
- Recommendations report elaboration with justifications and specifications, including reflections on accessibility, skills transfer, and social inclusion opportunities in the deployment process

Component 3: LCOH Calculation

- Data collection and validation for CAPEX, OPEX, performance parameters
- Development of a levelized cost of hydrogen model
- Sensitivity analysis of key variables (Electricity, water, scale), including potential social impacts on different user groups or geographic areas
- Report elaboration including calculation methodology and assumptions and recommendations highlighting opportunities for equitable cost-sharing and social benefit

Component 4: Hydrogen production from oil and gas production fields formation water

- Assessment of available data on water quality and quantity from YPFB's oil and gas production fields
- Identification of potential treatment technologies
- Technical feasibility analysis for integration with H2 production
- Elaboration of a conceptual study and proposal including potential impacts on surrounding communities, public participation, and community buy-in.

Closeout

- Presentation of all the deliverables/outputs to stakeholders in La Paz, Bolivia, followed by feedback incorporation
- GEDSI best practices brief
- Final project completion report submission

Key Stakeholders

- Ministry of Hydrocarbons and Energy
- Bolivian Oil and Gas Company (YPFB)

Furthermore, it is recommended to include relevant local stakeholders and representatives of surrounding communities (including women's organisations, Indigenous groups, and organisations

of persons with disabilities) throughout the process, to ensure inclusivity, transparency, and contextual relevance.

1.3 Outputs and timelines

Output	Description	Deliverables	Deliverable due	Acceptance criteria/sign-off
Consolidated and updated prefeasibility study	Review and refinement of the following prefeasibility studies: • YPFB's prefeasibility study for the implementation of a pilot of a green hydrogen plant at high altitude. • Prefeasibility study for the implementation of a pilot of a green hydrogen using formation water	Brief assessment report covering the prefeasibility studies. Assessment should include: includes: • An Assessment of the technical soundness, feasibility assumptions, and alignment with best practices. • An evaluation of how gender equality, disability, and social inclusion (GEDSI), local participation, and community ownership have been considered or omitted in the original studies, • Identification of opportunities to strengthen inclusive and participatory approaches and to mitigate risks of exacerbating existing inequalities. • Includes technical recommendations and a validation report.	31 August 2025	Brief assessment report reviewed and approved by evaluation team,
Report with technical recommendations	Evaluate and deliver a technical recommendation on	Document with technical recommendations.	31 October 2025	Technical report reviewed and approved

Output	Description	Deliverables	Deliverable due	Acceptance criteria/sign-off
for the selection of an Electrolyser according to operational requirements	the most appropriate type of electrolyser for operation at 3,500 meters above sea level. Consider temperature, pressure, altitude-related derating, maintenance requirements, and costs.	Document should include: • An electrolyser final recommendation • Assessment of opportunities for inclusive employment and skills development associated with installation and maintenance		by the evaluation team.
Levelized Cost of Hydrogen (LCOH) model delivered along with a sensitivity analysis highlighting the impact of key variables.	Develop a detailed LCOH model incorporating CAPEX, OPEX, altitude-related performance, and electricity source. Include sensitivity analysis for key variables (e.g., renewable energy costs, water treatment)	Brief technical report including: • Assumptions, scenario modelling & recommendations • Analysis of potential socio-economic co-benefits for underrepresented groups.	30 November 2025	Report reviewed and approved by evaluation team.
Technical recommendation report that includes a costed technical solution for Hydrogen Production using formation water from oil and gas production fields	Propose a technical solution for producing hydrogen using formation water from oil and gas wells, including an estimate of increased installed capacity of clean energy (MW) attributable to the project. The technical solution should also account for water quality requirements, required treatment processes, and integration with electrolyser technology	Technical recommendation report, including: • Design considerations and cost estimates • Incorporation of local knowledge, participatory feedback from nearby communities (especially Indigenous and marginalised groups), and analysis of local benefits or risks.	15 January 2026	Conceptual study reviewed and approved by evaluation team.

Output	Description	Deliverables	Deliverable due	Acceptance criteria/sign-off
GEDSI Best Practices Brief.	The brief would document inclusive approaches, lessons learned, and replicable practices related to gender equality, disability, and social inclusion in hydrogen development.	Technical brief on GEDSI Best Practices	23 January 2026	Brief is reviewed and accepted by the project GEDSI specialists.

1.4 Required expert qualifications and experience

A team of technical experts and project management support should be suggested in proposals, with CVs provided (max two-pages per CV). It is estimated that 2-3 experts will be required to deliver the requirements.

Bidders should propose a team which covers the technical areas required to deliver the outputs as detailed above and manage the overall delivery.

Bidders are welcome to propose alternate structures, but the proposed team should cover at minimum the following technical requirements criteria.

Consolidated and updated prefeasibility study

- At least 5 years of experience in reviewing, validating or preparing prefeasibility or feasibility studies for energy infrastructure projects.
- Familiarity with green hydrogen production systems and infrastructure.
- Experience with international standards and methodologies for feasibility assessments.
- Demonstrated understanding of gender equality, disability, and social inclusion (GEDSI) principles and their relevance to energy systems, infrastructure, and community engagement.
- Experience working in multicultural or community-based contexts in the Global South, particularly with a sensitivity to local knowledge systems, environmental justice, and power asymmetries in technology transfer

Electrolyser Recommendation

- Technical knowledge of different types of electrolysers (alkaline, PEM, solid oxide) and their operational characteristics.
- Proven experience selecting or specifying electrolysers for projects, ideally including high-altitude or extreme climate conditions.
- Understanding of derating effects, efficiency, and performance limitations at altitude.
- Ability to consider gender-responsive, socially inclusive, and locally appropriate implications in technology selection and deployment.

Levelised Cost of Hydrogen (LCOH)

- Experience developing financial and economic models for energy projects, particularly for hydrogen or similar renewable energy technologies.
- Ability to build and explain Levelized Cost of Hydrogen (LCOH) models, including sensitivity analysis.
- Proficiency in Excel or similar tools for delivering editable models.
- Awareness of how cost structures may affect access to energy among marginalised groups, and ability to integrate equity indicators or affordability metrics where relevant.

Hydrogen Production from oil and gas production formation water

- Experience in water quality analysis and treatment technologies relevant to petroleum or gas fields - derived formation water.
- Knowledge of the interface between water treatment systems and electrolyser technology.
- Experience in developing conceptual or basic engineering studies for innovative water reuse in energy applications.
- Capacity to assess environmental and social implications, particularly impacts on local communities and underrepresented/marginalized groups.

GEDSI Best Practices

- Experience with the application of GEDSI analysis and inclusive approaches in energy production contexts. #

Language and Communication Skills

- Excellent written and oral communication skills in English and Spanish.
- Ability to prepare high-quality technical reports and present findings to technical and non-technical audiences, including Indigenous peoples, women's organisations, and local community groups.

1.5 Reporting

Alongside the project specific reporting outlined in the output section and below, the supplier will also be required to align with the UK PACT monitoring and reporting governance framework which includes:

- Monthly progress reporting on outputs, including through our monthly progress report and monthly meetings
- A full project completion report, summarising project achievements, any lessons learned through delivery, including progress and learning on GEDSI, and any recommendations for future action
- Project closure presentation, outlining project deliverables/outputs and feedback incorporation
- Weekly/Bi-weekly meetings may be requested during the first few months and where needed.

To report against standard UK PACT indicators, the supplier will also need to collect and report disaggregated data on the organisations and individuals participating in workshops and trainings. Disaggregation should cover gender as a minimum and include age, disability, geography and other social characteristics where feasible.

Project specific reporting includes:

Reporting requirements	Deadline
• Consolidated and updated prefeasibility study	31st August 2025
• Electrolyser Recommendations- 3rd month	31st October 2025
• Levelized Cost of Hydrogen (LCOH) report	30th November 2025
• Technical recommendation report on Hydrogen Production from oil and gas production fields formation water	15th January 2026
• GEDSI best practices brief	23rd January 2026

1.5 Budget and contracting

The maximum budget is GBP 70,000 which must include personnel expenses and be inclusive of any local taxes.

The supplier must provide a breakdown of budgeted personnel and expenses using Annex II.

Expenses should cover workshop and conference logistics, venue, any interpretation & translation services, travel & accommodations of delivery team, as well as participants.

We anticipate that 1-2 trips will be required during the project, where experts will meet and interview key stakeholders in country and raise awareness among MHyE and YPFB officers. We anticipate these trips to be a maximum of 10 days each.

The successful supplier having passed the requisite due diligence checks will enter into a subcontractor agreement with Palladium for the delivery of these services on a time and materials basis. The agreement will include a milestone payment structure, which will be agreed between both parties during contract mobilisation.

Schedule 2 – Instructions for submission

2.1 Submission process

Timeline

Stage	Date
1. Terms of Reference (ToR) and application process launched	23 June 2025
2. Deadline for receipt of clarification questions	27 June 2025
3. Deadline for submission of applications	07 July 2025
4. Applicants notified of project selection	11 July 2025
5. Due diligence complete	18 July 2025
6. Agreement signature	21 July 2025

Applicant guidance

Interested suppliers should complete and submit the below documents to expertdeployments@ukpact.co.uk with the subject line: **RFQ Submission – [Supplier name] UK PACT – Bolivia Green Hydrogen Adoption**

- **RFQ Response form**
- **Budget and Workplan Template**
- **CVs of key experts or personnel** (max two pages per CV)

Please note the following key dates:

- **Deadline for Queries:** 27 June 2025 (23:59 BST)
- **Submission Deadline:** 07 July 2025 at 09:00 AM EST / 14:00 BST

2.2 Evaluation criteria

Criteria	Category	Weighting
Technical	Approach and methodology	30%
	Personnel	50%
Commercial	Competitiveness of the supplier's personnel cost	20%
Total		**100%**

2.2.1 Technical evaluation

The technical criteria will be evaluated by the procurement panel using the scale detailed below:

Score	Description
5 (Excellent)	Demonstrates an expert understanding of the project and proposes excellent and accurate solutions which address all requirements, and which are innovative where appropriate. Responses are excellently

	tailored to the context in all aspects. The level of detail and quality of information provides the highest degree of confidence in the ability to deliver.
4 (Very Good)	Demonstrates a very good understanding of the topic relating to delivery of the project. Responses are relevantly tailored to the context in most aspects. There is sufficient detail and quality of information to give a strong level of confidence that they will deliver.
3 (Good)	Demonstrates a good understanding of the topic relating to the delivery of the project. Responses are reasonably tailored to the context for many of the aspects. There is a good level of detail and quality to give a good level of confidence that they will deliver.
2 (Satisfactory)	Demonstrates a satisfactory understanding of the topic relating to delivery of the project. Some appetite to tailor to context where required. Provides a limited level of detail and the quality of information provided gives only some level of confidence that they will be able to deliver satisfactorily.
1 (Unsatisfactory)	Demonstrates a poor understanding of the topic relating to delivery of the project. Poor tailoring to the context where this is required. Generally, an unsatisfactory and a low level of quality information and detail, leading to a low level of confidence that they will deliver.
0 (Fail)	Failure to address the material requirements of the project. No tailoring of responses to meet the context. No quality responses providing no confidence that they will deliver.

2.2.2 Commercial evaluation

The commercial evaluation will be conducted using the total personnel cost quoted in the Schedule III - Budget and Workplan (Cell W15 of "Budget Summary" sheet).

Supplier scores will be calculated relative to the lowest price supplier using the formula below:

*([Personnel cost of lowest price supplier/personnel cost of supplier] *price weighting 20%)*

Where required, a Best and Final Offer process may be used to differentiate between suppliers of equal scoring.

Terms and Conditions

1. **Quote conditions**
   By submitting a quote, potential suppliers are bound by these terms and conditions. Potential suppliers must submit offers with all details provided in English and with prices quoted in GBP.
2. **Quote Lodgement**
   The Company may grant extensions to the Closing Time at its discretion. The Company will not consider any quotes received after the Closing Time specified in the RFQ unless the Company determines to do so otherwise at its sole discretion.
3. **Evaluation**
   The Company may review all quotes to confirm compliance with this RFQ and to determine the best quote in the circumstances.
4. **Alterations**
   The Company may decline to consider a quote in which there are alterations, erasures, illegibility, ambiguity or incomplete details.
5. **The Company's Rights**
   The Company may, at its discretion, discontinue the RFQ; decline to accept any quote; terminate, extend or vary its selection process; decline to issue any contract; seek information or negotiate with any potential supplier that has not been invited to submit a Quote; satisfy its requirement separately from the RFQ process; terminate negotiations at any time and commence negotiations with any other potential supplier; evaluate quotes as the Company sees appropriate (including with reference to information provided by the prospective supplier or from a third party); and negotiate with any one or more potential suppliers
6. **Amendments and Queries**
   The Company may amend, or clarify any aspect of the RFQ prior to the RFQ Closing Time by issuing an amendment to the RFQ in the same manner as the original RFQ was distributed. Such amendments or clarifications will, as far as is practicable be issued simultaneously to all parties. Any queries regarding this RFQ should be directed to the Contact Person identified on the cover page of this RFQ.
7. **Clarification**
   The Company may, at any time prior to execution of a contract, seek clarification or additional information from, and enter into discussions and negotiations with, any or all potential suppliers in relation to their quotes. In doing so, the Company will not allow any potential supplier to substantially tailor or amend their quote.
8. **Confidentiality**
   In their quote, potential suppliers must identify any aspects of their quote that they consider should be kept confidential, with reasons. Potential suppliers should note that the Company will only agree to treat information as confidential in cases that it considers appropriate. In the absence of such an agreement, potential suppliers acknowledge that the Company has the right to disclose the information contained in their quote. The potential supplier acknowledges that in the course of this RFQ, it may become acquainted with or have access to the Company's Confidential Information (including the existence and terms of this RFQ and the TOR). It agrees to maintain the confidence of the Confidential Information and to prevent its unauthorised disclosure to any other person. If the potential supplier is required to disclose Confidential Information due to a relevant law or legal proceedings, it will provide reasonable notice of such disclosure to the Company. The parties agree that this obligation applies during the RFQ and after the completion of the process
9. **Alternatives**
   Potential suppliers may submit quotes for alternative methods of addressing the Company's requirement described in the RFQ where the option to do so was stated in the RFQ or agreed in writing with the Company prior to the RFQ Closing Time. Potential suppliers are responsible for providing a sufficient level of detail about the alternative solution to enable its evaluation.
10. **Reference Material**
    If the RFQ references any other materials including, but not limited to, reports, plans, drawings, samples or other reference material, the potential supplier is responsible for obtaining the referenced material and considering it in framing their quote. And provide it to the Company upon request.
11. **Price Basis**
    Prices quoted must be provided as a fixed maximum price and show the tax exclusive price, the tax component and the tax inclusive price. The contract price, which must include any and all taxes, supplier charges and costs, will be the maximum price payable by the Company for Services.
12. **Financial Information**
    If requested by the Company, potential suppliers must be able to demonstrate their financial stability and ability to remain viable as a provider of the Services over the term of any agreement. If requested by the Company, the potential supplier must promptly provide the Company with such information or documentation as the Company reasonably requires in order to evaluate the potential supplier's financial stability.
13. **Referees**
    The Company reserves the right to contact the potential supplier's referees, or any other person, directly and without notifying the potential supplier.
14. **Conflict of interest**
    Potential suppliers must notify the Company immediately if any actual, potential or perceived conflict of interest arises (a perceived conflict of interest is one in which a reasonable person would think that the person's judgement and/or actions are likely to be compromised, whether due to a financial or personal interest (including those of family members) in the procurement or the Company).
15. **Inconsistencies**
    If there is inconsistency between any of the parts of the RFQ the following order of precedence shall apply:
    (a) these Terms and Conditions;
    (b) the first page of this RFQ; and
    (c) the Schedule so that the provision in the higher ranked document will prevail to the extent of the inconsistency.
16. **Collusion and Unlawful Inducements**
    Potential suppliers and their officers, employees, agents and advisors must not engage in any collusive, anti-competitive conduct or any other similar conduct with any other potential supplier or person or quote any unlawful inducements in relation to their quote or the RFQ process. Potential suppliers must disclose where quotes have been compiled with the assistance of current or former the Company employees (within the previous 9 months and who was substantially involved in the design, preparation, appraisal, review, and or daily management of this activity) and should note that this may exclude their quote from consideration. Potential suppliers warrant that they have not provided or offered any payment, gift, item, hospitality or any other benefit to the Company, its employees, consultants, agents, subcontractors (or any other person involved in the decision-making process relating to this RFQ) which could give arise to a perception of bribery or corruption in relation to the RFQ or any other dealings between the parties.
17. **Jurisdiction**
    This Agreement shall be subject to the laws of the Jurisdiction. The Supplier and the Company will use their best efforts to settle amicably any dispute, controversy, or claim arising out of, or relating to this Agreement or the breach, termination, or invalidity thereof. If no agreeable settlement can be found, any dispute, controversy, or claim arising out of or relating to this Agreement or the breach,

termination, or invalidity thereof, shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules in effect on the date of this Agreement. The appointing authority shall be the Secretary-General of the Permanent Court of Arbitration. The Parties will be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of any such dispute. The place of arbitration shall be the headquarters location of Company at the time the claim is filed and the language of the arbitration will be English. The relevant laws shall be the laws of the Jurisdiction.

If your quote is successful, you will be required to enter into the Company's standard contract for the types of services being provided. In the provision of the Services, you will be required to comply with the Company's policies, including (without limitation) its Business Partner Code of Conduct and any relevant Project Manual. Potential suppliers must also comply with the Company's Business Partner Code of Conduct in the submission of any quotes pursuant to this RFQ. If you are bidding as part of a joint venture, partnership or similar, please make this clear in your submission. Likewise, if you propose to subcontract any part of the services provision, then disclose this fact within your submission. The Company may require additional information from you and approval for subcontracting will not be automatic as subcontractors will be subject to Palladium's Due Diligence process.