

REQUEST FOR PROPOSAL (RFP)

| NAME & ADDRESS OF FIRM | DATE: October 7, 2020 |
|------------------------|--|
| | REFERENCE: RFP/UNDP/MTRE3/113716/027/2020 - Detailed Feasibility Study for Application of Geothermal Direct-Use in Flores Island, NTT. |

Dear Sir / Madam:

The United Nations Development Programme (UNDP) hereby invites you to submit a Proposal to this Request for Proposal with reference **Detailed Feasibility Study for Application of Geothermal Direct-Use in Flores Island, NTT.**

 A bidder's conference will be held on:

 Date/Time
 :
 14 October 2020

 Place
 :
 Zoom Meeting

 https://undp.zoom.us/meeting/register/tZEtdO-trTljH9yXBhSMDHEyLrmpJ92u0zUb

Detailed Terms of Reference (TOR) as well as other requirements are listed in the RFP available on UNDP ATLAS e-Tendering system (<u>https://etendering.partneragencies.org</u>) **Event ID: 0000007423**

Your offer, comprising of a Technical and Financial Proposal, should be submitted in accordance with the RFP requirements, through the UNDP ATLAS e-Tendering system and by the deadline indicated in <u>https://etendering.partneragencies.org</u>.

NOTE! The Technical Proposal and Financial Proposal files **MUST BE COMPLETELY SEPARATE** and **UPLOADED SEPARATELY** in the system and clearly named as either <u>"TECHNICAL PROPOSAL"</u> or <u>"FINANCIAL PROPOSAL"</u>, as appropriate. Each document shall include the Proposer's name and address.

The file with the <u>"FINANCIAL PROPOSAL" must be encrypted with a password</u> so that it cannot be opened nor viewed until the Technical Proposal has been found to be pass the technical evaluation stage. Once a Technical Proposal has been found to be responsive by passing the technical evaluation stage, UNDP shall request the Proposer to submit the password to open the Financial Proposal.

The Proposer shall assume the responsibility for not encrypting the Financial Proposal. **NOTE: DO NOT** ENTER BID AMOUNT IN THE SYSTEM, INSTEAD ENTER THE NUMBER 1 (ONE).

In the course of preparing and submitting your Proposal, it shall remain your responsibility to ensure that it is submitted into the system by the deadline. The system will automatically block and not accept any bid after the deadline. In case of any discrepancies, the deadline indicated in the system shall prevail.

Kindly ensure that supporting documents required are signed and stamped and in the .pdf format, and free from any virus or corrupted files and the **FINANCIAL PROPOSAL IS PASSWORD PROTECTED**.

NOTE: The file name should contain only Latin characters (No Cyrillic or other alphabets.).

You are kindly requested to indicate whether your company intends to submit a Proposal by clicking **"Accept Invitation"** but not later than **14 October 2020** If this is not the case, UNDP would appreciate indicating your reason, for our records.

If you have not registered in the system before, you can register by logging in using:

Username: event.guest Password: why2change

The step by step instructions for registration of bidders and quotation submission through the UNDP ATLAS e-Tendering system is available in the attached "Instructions Manual for the Bidders". Should you require any training on the UNDP ATLAS e-Tendering system or face any difficulties when registering your company or submitting your quotation, please send an email to <u>Sestyo.wicaksono@undp.org</u> and <u>yusef.millah@undp.org</u>

Please note that ATLAS has following minimum requirements for password:

- 1. Minimum length of 8 characters;
- 2. At least one capital letter; and
- 3. At least one number.

New proposer registering for the first time, the system will not accept any password that does not meet the above requirement, and thus registration cannot be completed.

For existing vendor whose current password does not meet the abovementioned password requirements, the system will prompt you to change your password upon signing in. Please change your password in accordance with the abovementioned password requirements to be able to login to the system.

The user guide and video are available to you in the UNDP public website in this link: <u>http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement:notices</u>/<u>resources/</u>. You can also access the instruction from youtube with link: <u>https//www.youtube.com/watch?v=Trv1FX6reu8&feature=youtu.be</u>.

You are advised to use Internet Explorer (Version 10 or above) to avoid any incompatibility issues with the re-tendering system.

No hard copy or email submissions will be accepted by UNDP.

UNDP looks forward to receiving your Proposal and appreciate your interest to participate in UNDP procurement opportunities.

Sincerely yours,

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Martin Stephanus Kurnia Head of Procurement Unit 10/7/2020

| Context of the Requirement | Detailed Feasibility Study for Installation Application of Geothermal Direct-Use in Flores Island, NTT | | | | |
|-------------------------------|--|----------------------|---------------------------|---------------------|-----------|
| Implementing | The Ministry of Energy and Mineral Resources (MEMR), Directorate General for | | | | |
| Partner of UNDP | New and Renewable Energy and Energy Conservation (DJEBTKE) | | | | |
| Brief Description | The objective of this a | assignment is to cor | duct detailed feasibility | y study for install | ation |
| of the Required | application of geothermal direct-use in Flores Island, East Nusa Tenggara. This study will | | | | |
| Services ¹ | be implemented in Mataloko in collaboration with the geothermal developer | | | | |
| List and | The key expected ou | tput under this as | signment is a detailed | feasibility study | for the |
| Description of | installation of geothe | ermal direct-use ap | plication, in Mataloko | Flores Island, Ea | ast Nusa |
| Expected Outputs | Tenggara. | | | | |
| to be Delivered | | | | | |
| Person to | Technical Working | Group Componen | t #2 of MTRE3 Projec | t - UNDP | |
| Supervise the | | | | | |
| Work/Performanc | | | | | |
| e of the Service | | | | | |
| Provider | | | | | |
| Frequency of | Please refer to the a | attached ToR (ann | ex 3) | | |
| Reporting | | | | | |
| Progress Reporting | Please refer to the attached ToR (annex 3) | | | | |
| Requirements | | | | | |
| | □ Exact Address/es Djibouti initially , or the assignment Country Office in case | | | | |
| Location of work | of LTA used by othe | r Country Office | | | |
| | 🛛 At Contractor's L | ocation, if require | d, for technical work | s specifically in | dicated |
| | in the proposal | | | | |
| Expected duration | 70 (seventy) working days within 5 (five) months | | | | |
| of work | | | | | |
| Target start date | October 2020 | | | | |
| Latest completion | February 2021 | | | | |
| date | | | | | |
| | Shall be agreed upo | on starting, UNDP | shall be responsible | of any travel ou | it of the |
| Travels Expected | agreed duty station | | | | |
| | Brief Description | | | | |
| | Destination/s | Estimated | of Purpose of the | Frequency | |
| | | Duration | Travel | 2.11 | |
| | Niataloko, Flores, | 4 days | Survey, | 2 times | |
| | | | feasibility study | | |
| | | | icasionity study | | |
| Special Security | | 1 | | 1 | 1 |
| Requirements | Security Clearand | e from UN prior t | o travelling | | |

Description of Requirements

¹ A detailed TOR may be attached if the information listed in this Annex is not sufficient to fully describe the nature of the work and other details of the requirements.

| | Completion of UN's Basic and Advanced Security Training |
|--|--|
| | \boxtimes Comprehensive Travel Insurance |
| | |
| Facilities to be Provided by UNDP (i.e., must be excluded from Price Proposal) | Office space and facilities Land Transportation Liaise with the relevant stakeholders |
| Implementation Schedule indicating breakdown and timing of activities/sub- activities | ⊠ Required |
| Names and curriculum vitae of individuals who will be involved in completing the services | ⊠ Required |
| Currency of Proposal | ☑ United States Dollars ☑ Local Currency for Local Bidders |
| Value Added Tax on Price Proposal ² | Image: March and March and Stress |
| Validity Period of Proposals (Counting for the last day of submission of quotes) | ☑ 90 days In exceptional circumstances, UNDP may request the Proposer to extend the validity of the Proposal beyond what has been initially indicated in this RFP. The Proposal shall then confirm the extension in writing, without any modification whatsoever on the Proposal. |
| Partial Quotes | ⊠ Not permitted |
| Payment Terms ³ | Please refer to the attached ToR (annex 3) |
| Person(s) to review/inspect/ | Technical Working Group Component #2 of MTRE3 Project - UNDP |

² VAT exemption status varies from one country to another. Pls. check whatever is applicable to the UNDP CO/BU requiring the service.

³ UNDP preference is not to pay any amount in advance upon signing of contract. If the Service Provider strictly requires payment in advance, it will be limited only up to 20% of the total price quoted. For any higher percentage, or any amount advanced exceeding \$30,000, UNDP shall require the Service Provider to submit a bank guarantee or bank cheque payable to UNDP, in the same amount as the payment advanced by UNDP to the Service Provider.

| approve outputs/complete d services and authorize the disbursement of payment | |
|--|--|
| Type of Contract to be Signed | ⊠ professional service contract |
| Criteria for Contract Award | Lowest Price Quote among technically responsive offers Highest Combined Score (based on the 70% technical offer and 30% price weight distribution) Full acceptance of the UNDP Contract General Terms and Conditions (GTC). This is a mandatory criterion and cannot be deleted regardless of the nature of services required. Non-acceptance of the GTC may be grounds for the rejection of the Proposal. |
| Criteria for the Assessment of Proposal | Technical Proposal (70%) ☑ Expertise of the Firm 30% ☑ Methodology, Its Appropriateness to the Condition and Timeliness of the Implementation Plan 40% ☑ Management Structure and Qualification of Key Personnel 30% NOTE: only bidder(s) who received minimum of 70 points where the financial proposal will be opened Financial Proposal (30%) To be computed as a ratio of the Proposal's offer to the lowest price among the proposals received by UNDP. |
| UNDP will award the contract to: | ☑ One and only one Service Provider |
| Contract General Terms and Conditions ⁴ | □ General Terms and Conditions for contracts (goods and/or services) ⊠ General Terms and Conditions for de minimis contracts (services only, less than \$50,000) |
| | Applicable Terms and Conditions are available at: http://www.undp.org/content/undp/en/home/procurement/business/ho w-we-buy.html |

⁴ Service Providers are alerted that non-acceptance of the terms of the General Terms and Conditions (GTC) may be grounds for disqualification from this procurement process.

| Annexes to this RFP ⁵ | Form for Submission of Proposal (Annex 2) Detailed TOR (Annex 3) Others⁶ [pls. specify] |
|---|---|
| Contact Person for Inquiries (Written inquiries only) ⁷ | Sestyo Ndaru Wicaksono and Yusef Saiful Millah Procurement Unit Sestyo.wicaksono@undp.org/yusef.millah@undp.org Mandatory subject of email: RFP/UNDP/MTRE3/113716/027/2020 - Detailed Feasibility Study for Application of Geothermal Direct-Use in Flores Island, NTT. |
| | Any delay in UNDP's response shall be not used as a reason for extending the deadline for submission, unless UNDP determines that such an extension is necessary and communicates a new deadline to the Proposers. |
| Other Information [pls. specify] | |

⁵ Where the information is available in the web, a URL for the information may simply be provided.

⁶ A more detailed Terms of Reference in addition to the contents of this RFP may be attached hereto.

⁷ This contact person and address is officially designated by UNDP. If inquiries are sent to other person/s or address/es, even if they are UNDP staff, UNDP shall have no obligation to respond nor can UNDP confirm that the query was received.

Annex 2

FORM FOR SUBMITTING SERVICE PROVIDER'S PROPOSAL⁸

(This Form must be submitted only using the Service Provider's Official Letterhead/Stationery⁹)

[insert: Location]. [insert: Date]

To: [insert: Name and Address of UNDP focal point]

Dear Sir/Madam:

We, the undersigned, hereby offer to render the following services to UNDP in conformity with the requirements defined in the RFP dated [specify date], and all of its attachments, as well as the provisions of the UNDP General Contract Terms and Conditions :

A. Qualifications of the Service Provider

The Service Provider must describe and explain how and why they are the best entity that can deliver the requirements of UNDP by indicating the following :

- a) Profile describing the nature of business, field of expertise, licenses, certifications, accreditations;
- b) Business Licenses Registration Papers, Tax Payment Certification, etc.
- c) Latest Audited Financial Statement income statement and balance sheet to indicate Its financial stability, liquidity, credit standing, and market reputation, etc. ;
- d) Track Record list of clients for similar services as those required by UNDP, indicating description of contract scope, contract duration, contract value, contact references;
- e) Written Self-Declaration that the company is not in the UN Security Council 1267/1989 List, UN Procurement Division List or Other UN Ineligibility List.

B. Proposed Methodology for the Completion of Services

The Service Provider must describe how it will address/deliver the demands of the RFP; providing a detailed description of the essential performance characteristics, reporting conditions and quality assurance mechanisms that will be put in place, while demonstrating that the proposed methodology will be appropriate to the local conditions and context of the work.

C. Qualifications of Key Personnel

⁸ This serves as a guide to the Service Provider in preparing the Proposal.

⁹ Official Letterhead/Stationery must indicate contact details – addresses, email, phone and fax numbers – for verification purposes

If required by the RFP, the Service Provider must provide :

- a) Names and qualifications of the key personnel that will perform the services indicating who is Team Leader, who are supporting, etc.;
- b) CVs demonstrating qualifications must be submitted if required by the RFP; and
- c) Written confirmation from each personnel that they are available for the entire duration of the contract.

D. Cost Breakdown per Deliverable*

| | Deliverables [list them as referred to in the RFP] | Percentage of Total Price (Weight for payment) | Price (Lump Sum, All Inclusive) |
|---|---|---|---------------------------------------|
| 1 | 1 st Payment : upon signing of contract and submission of detail workplan | 10% | |
| 2 | 2 nd Payment shall be made upon submission and acceptance of report on the selected/ recommendation for the most potential geothermal direct- use application | 30% | |
| 3 | 3 rd Payment shall be made upon submission and acceptance of draft Detailed Feasibility Study report | 40% | |
| 4 | 4 th Payment shall be made upon submission and acceptance of Final Detailed Feasibility Study Report and presentation material. Both report and presentation material should be submitted in English and Indonesian versions | 20% | |
| | Total | 100% | |

*This shall be the basis of the payment tranches

E. Cost Breakdown by Cost Component [This is only an Example]:

| Description of Activity | Remuneration | Total Period of | No. of | Total Rate |
|--|------------------|-----------------|-----------|------------|
| | per Unit of Time | Engagement | Personnel | |
| I. Personnel Services | | | | |
| 1. Team Leader | | 70 | 1 | |
| 2. Mechanical Engineer | | 45 | 1 | |
| 3. Chemical Engineer | | 45 | 1 | |
| 4. Metallurgy Engineer) | | 45 | 1 | |
| 5. Industrial Engineer | | 45 | 1 | |
| 6. Financial Analyst | | 30 | 1 | |
| 7. Social – Environmental Risk Analyst | | 30 | 1 | |
| 8(if any, please specify) | | | | |
| II. Out of Pocket Expenses (Please | | | | |
| provide in detail) | | | | |
| 1. Travel Costs | | | | |

| 2. Daily Allowance | | |
|--|--|--|
| 3. Communications | | |
| 4. Reproduction | | |
| 5. Equipment Lease | | |
| 6. Others | | |
| III. Other Related Costs (if any, please | | |
| provide in detail) | | |

[Name and Signature of the Service Provider's Authorized Person] [Designation] [Date]

Term of Reference (TOR) Detailed Feasibility Study for Installation Application of Geothermal Direct-Use in Flores Island, NTT

| A. General Information | |
|--------------------------|---|
| Title | : Consultant for Detailed Feasibility Study for Installation Application of Geothermal Direct-Use |
| Report to | : Market Transformation through Design and Implementation of Appropriate Mitigation Actions in Energy Sector (MTRE3) Project |
| Location | : UNDP Indonesia Country Office, Menara Thamrin 8-9 th Floor. Jl. MH Thamrin Kav.3 Jakarta 10250, Indonesia |
| Expected place of travel | : Flores Island, Nusa Tenggara Timur |
| Duration of contract | : The expected duration of the contract is 5 (five) months calculated based on the contract starting date |

B. Background Information

Indonesia has abundant resources of geothermal energy. With the current total installed capacity of 2.1GW, Indonesia is in the 1st place with largest geothermal installed capacity in Asia and 2nd place in the worldwide. This shows the huge potential of geothermal energy in the country. Even in the Government Regulation No. 79 of 2014 on the National Energy Policy mandates that out of the 23% target of Renewable Energy (RE) in the national energy mix by 2025, about 16% (equal with 7.2GW) is expected coming from the geothermal energy.

One of the locations with promising potential of geothermal energy is Flores Island, in East Nusa Tenggara Province. Flores Island has a very large potential of electricity generation from geothermal, with resource as much as 402,5 MW and reserves reach 527 MW (Geological Agency, 2018). At present, a total of 12.5 MW electricity in Flores Island is generated from the geothermal power plant in Flores Island. This number is expected to increase significantly in the near future as Flores Island had been appointed Geothermal Island through the Ministerial Decree (Ministry of Energy and Mineral Resource (MEMR)) No. 2268 K/30/MEM/2017. The objective of the Flores Geothermal Island program is to optimize the utilization of geothermal energy resources in meeting the electricity baseload demand in Flores Island.

Besides the indirect-use of geothermal energy in generating electricity, it also has direct-use heating and cooling potential such as for swimming/bathing, space heating or cooling, agricultural application, aquaculture application and industrial processes (drying, extracting or processing). These potential of geothermal direct-use can be beneficial for the people and community living near the geothermal power plant, as it can support their economic activities and productivity.

To support the Directorate General of New, Renewable Energy and Energy Conservation (DJEBTKE) in boosting the Renewable Energy (RE) and energy efficiency (EE) initiatives, United Nations Development Programme (UNDP) Indonesia implement the Market Transformation for Renewable Energy and Energy

Efficiency through Design and Implementation of Appropriate Mitigation Actions in Energy Sector (MTRE3) Project which funded by the Global Environment Facility (GEF). The Project was designed to support the Government of Indonesia in achieving the GHG emission reduction volunteering target through the effective implementation of RE/EE projects, including technical assistances for the Flores Geothermal Island program. One of the technical assistances provided in the piloting of geothermal direct-use study in Flores Island.

C. Objectives of Assignment

With the above context, the objective of this assignment is to conduct detailed feasibility study for installation application of geothermal direct-use in Flores Island, East Nusa Tenggara. This study will be implemented in Mataloko in collaboration with the geothermal developer.

D. Scope of Services and Expected Outputs

The consultant is expected to deliver the detailed feasibility study for the installation of geothermal directuse application, in Mataloko Geothermal Power Plant Flores Island, East Nusa Tenggara. The output of the assessment will directly inform the construction stage as well as provide information of the potential commodity and users from the people/community.

Scope of activities includes:

Under the supervision of UNDP and DJEBTKE, the scope of work shall include but not necessarily be limited to following tasks:

- a) Development of work approach and timeline showing how the contractor will undertake the scope of works
- b) Assess the potential for geothermal direct-use application in the selected location, including the commodities and end-users that could potentially benefit from the application
- c) Conduct visits and undertake detailed assessment of the project sites, including assessment of geothermal resources while observing COVID-19 health protocols during the site visit
- d) Propose recommendation for the most potential geothermal direct-use application in the location
- e) Develop detail feasibility study of geothermal direct-use for the selected application, including the cost estimates for construction according to the existing specification and installation of the geothermal power plant, operation and maintenances costs as well as the potential CO2 emission reduced from the application, potential costs saved by the community by using the application and quantify the value of the contribution by the geothermal developer providing the application and heat. The detail feasibility study report should be developed by considering the sustainability of the application, assessment and elaboration of recommendations
- f) Assess the human resources capacity requirements in the Mataloko geothermal power plant location to operate and maintain the geothermal direct use operation.
- g) Undertake consultations with the local community nearby the Mataloko geothermal power plant location to gain an understanding of their socio-economic status as well as to identify their priorities relevant to the study.

The main deliverable is detailed feasibility study report that should include the following information, but not limited to:

Description of technicality of the potential:

- Description of the steam temperature, pressure and other relevant characteristics of the available resource that will be used for the geothermal direct-use application
- Potential commodities in the surrounding location and commodity processing capacity, and the process heat and pressure specifications requirement
- Option of design: directly from the steam, waste or other heat sources from the geothermal power plant. Medium of heat transfer and desirable characteristics of design to be specified.
- Land availability in the site/location

Description of socio-economic and environmental aspects:

- Identify the potential end-user/market within 5km radius of the geothermal powerplant, including the number of beneficiaries (gender disaggregated), in terms of total household/farmers that could benefit from the direct-use application
- Information on main source of income of inhabitants, averagely monthly income
- Indicative information on relevant gender aspects in the community e.g. division of labour, control of key resources/assets e.g. land, money.
- If the selected application is drying processing, thus information on the current food/grain drying processes (time, cost, benefit and challenges) is required
- Information on the transportation aspect and option from the villages to the site
- Conduct environmental risk assessment of the application
- Assess the potential for an existing or new cooperative to manage the application (cooperation scheme, tariff, BUMDES etc) and proposed the best management scheme for the sustainability of the application

| No | Expected Outputs | Key Activities | Remarks |
|----|--|--|--|
| 1 | Detail Workplan (including timeline) | Detail workplan, kick-off meeting and discussion with related stakeholders | UNDP-MTRE3 and DJEBTKE can facilitate the required meeting and discussion |
| 2 | Report on the selected/ recommendation for the most potential geothermal direct-use application | Survey for potential geothermal direct-use application Desk study and review on the existing geothermal direct-use application Assess and provide recommendation for the most potential/feasible geothermal direct-use application | UNDP-MTRE3 and DJEBTKE can facilitate the required meeting and discussion |
| 3 | Draft Detailed Feasibility Study report | Conduct visits and data collection | Draft report should be submitted in Indonesian |

Under this assignment, the consultant is expected to conduct the following activities and deliver outputs:

| | | Meeting and discussion with relevant key-stakeholders Assess and design the application according to the scope of work | |
|---|---|---|--|
| 4 | Final Detailed Feasibility Study Report and presentation material | Presentation on the final report Finalization and submission of the Detailed Feasibility Study report | Both report and presentation material should be submitted in English and Indonesian versions |

All reports must be presented first to UNDP-MTRE3, DJEBTKE and geothermal developer for inputs and comments. These comments must be incorporated to the report prior approval. The final reports must have an executive summary, and Power Point presentation, delivered both in Bahasa and English. The consultant shall submit the final report in English version and Indonesian version both soft copy of editable version and hard copy. All presentation, photos and video, calculation/simulation model, and all related data obtained during the implementation of the project shall be submitted to UNDP/Project as the property of UNDP/MTRE3.

E. Institutional Arrangement

The selected company will work closely and under supervision of the Technical Working Group Coordinator under Component #2, MTRE3 Project-UNDP and DJEBTKE.

UNDP – MTRE3 and DJEBTKE will facilitate any requires communication/correspondences, discussion and meeting with the relevant key-stakeholders.

DJEBTKE will provide guidance and participate in the review of the submitted reports.

F. Duration of work

The assignment will cover for approximately 70 (seventy) working days from Nov 2020 to March 2021. Detail estimate timetable as follow:

| No | Expected Outputs | Expected Submission Time |
|----|--|--------------------------|
| 1. | Detail Work Plan | November 2020 |
| 2. | Report on the selected/recommendation for the most potential geothermal direct-use application | December 2020 |
| 3. | Draft Detailed Feasibility Study report | February 2021 |
| 4. | Final Detailed Feasibility Study Report and presentation material | March 2021 |

The above timetable has considered lead time needed by UNDP and DJEBTKE to review outputs, provide feedback and certify on the outputs/works completed. Delay on the completion of the work might affect total budget approved unless it is due to reasons beyond the selected organization's control thus close coordination with the supervisor from UNDP and written notification should always be used to anticipate any delay.

G. Location of Work

The selected company will be required to visit the potential site in Mataloko, Flores Island, East Nusa Tenggara, especially for data collection. Due to covid-19 situation, selected company should provide and execute a health protocol standard that comply with UNDP rules and regulation related to the pandemic situation. Any coordination meeting, discussions or consultations are encouraged to be conducted through virtual.

Note: the travel expenses, cost of accommodation and venue for those activities mentioned above should be part of bidder's proposal (technical and financial).

H. Company Qualification Requirements

Institutional Qualification:

- At least 2 relevant projects within the last 7 years in conducting detail study in geothermal, preferably in developing detail feasibility study of geothermal utilization for power plant or geothermal direct-use application
- At least 3 years of working experiences in Indonesia, providing service to International Organization and government is an advantage
- Registered company with valid license to operate the business in Indonesia
- Possessed relevant background and experiences in geothermal field
- Having experiences in designing geothermal direct-use facility will be an advantage

Personal Qualification

- 1. **Team Leader** : master degree in engineering, with 2 years of experience or bachelor degree in engineering with 6 years of experiences in geothermal, also experience in team managerial and project management such as planning, oversight project, analysis, and reporting. Having experience in geothermal direct-use application will be an advantage.
- 2. A Mechanical Engineer : master degree in engineering with 2 years of experience or bachelor degree in mechanical engineering with 6 years of experience. Possess experience in developing feasibility study for power plant, especially geothermal power plant or direct-use application, will be an advantage
- 3. **A Chemical Engineer** : master degree in engineering with 2 years of experience or bachelor degree in chemical engineering with 6 years of experience. Having experiences in geothermal projects is preferable.
- 4. **A Metallurgy Engineer** : master degree in engineering with 2 years of experience or bachelor degree in metallurgy engineering with 6 years of relevant experience. Having experiences in geothermal projects will be an advantage.
- 5. **An Industrial Engineer :** master degree in engineering with 2 years of experience or bachelor degree in industrial engineering with 6 years of experience. Preferably having experience in engineering design process and or relevant experiences in geothermal projects.
- 6. A Financial Analyst: master degree with 2 years experience or bachelor degree with 6 years of experience in detailed feasibility study works in power plant or renewable energy sector,

preferably in geothermal power plant or geothermal direct-use application with understanding of the technical, regulatory and business issue.

7. A Socio-environmental risk analyst: master degree with 2 years of experience or bachelor degree with 6 years of experience in environmental, social, economy or science, preferably in geothermal project.

Competencies and skill requirements

Each personnel of the team should have the following competencies and skill requirements:

- Strong analytical, writing and communication skills and fluency both in Bahasa and English
- Strong motivation and ability to work and deliver under short deadlines
- Focuses on impact and result for the client and responds positively to critical feedback
- Able to work independently with little or no supervision
- Familiarity with government system is preferable

I. Payment schedule

| No | Deliverables/Outputs | Payment Schedule | Payment Amount |
|----|--|------------------|----------------|
| 1. | Detail Work Plan | November 2020 | 10% |
| 2. | Report on the selected/ recommendation for the most potential geothermal direct-use application | December 2020 | 30% |
| 3. | Draft Detailed Feasibility Study report | February 2021 | 40% |
| 4. | Final Detailed Feasibility Study Report and presentation material | March 2021 | 20% |