



REQUEST FOR PROPOSAL (RFP)

To: Interested Bidders	DATE: November 29, 2019
	REFERENCE: RFP/UNDP/ENV-MTRE3/73137/033/2019 - DEVELOPMENT OF MARGINAL ABATEMENT COST CURVE (MACC) FOR RENEWABLE ENERGY POWERPLANT AT FOUR PILOT PROVINCES OF MTRE3 PROJECT

Dear Sir / Madam:

The United Nations Development Programme (UNDP) hereby invites you to submit a Proposal to this Request for Proposal with reference **DEVELOPMENT OF MARGINAL ABATEMENT COST CURVE (MACC) FOR RENEWABLE ENERGY POWERPLANT AT FOUR PILOT PROVINCES OF MTRE3 PROJECT**.

A **bidder's conference** will be held on:

Date/Time : Thursday, 5th December 2019, starting 1000 hour (GMT+7)

Place : Aceh Meeting Room, 7th Floor, UNDP, Menara Thamrin Building, Jl. M. H. Thamrin Kav. 3, Jakarta

Detailed Terms of Reference (TOR) as well as other requirements are listed in the RFP available on UNDP ATLAS e-Tendering system (<https://etendering.partneragencies.org>) **Event ID: 4987**.

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 <https://etendering.partneragencies.org>.

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

The file with the "FINANCIAL PROPOSAL" must be encrypted with a password 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.**

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 **3rd December 2019**. 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 feby.utari@undp.org and yusef.millah@undp.org.

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: <http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement:notices/resources/>. You can also access the instruction from youtube with link: <https://www.youtube.com/watch?v=Trv1FX6reu8&feature=youtu.be>.

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,



Martin Stephanus Kurnia
Head of Procurement Unit
11/29/2019

Description of Requirements

Context of the Requirement	MTRE3 Project - Development Of Marginal Abatement Cost Curve (Macc) For Renewable Energy At Four Pilot Provinces Of Mtre3 Project
Implementing Partner of UNDP	Directorate General of Renewable Energy and Energy Conservation
Brief Description of the Required Services ¹	The overall objective of this assignment is to support the Government of Indonesia to scale up the climate change mitigation actions in Power Sector, with focus to promote the utilization of renewable energy in powerplant by taking the overall picture of emissions sources, abatement potentials and cost of mitigations actions.
List and Description of Expected Outputs to be Delivered	<ol style="list-style-type: none"> 1. Approved report contain detailed final work plan for methodology and result of the desk study 2. Approved report on overview and analysis from Indonesia's power plant, including source of emission 3. Approved reports on baseline of GHG emissions from power plant 4. Approved reports on comprehensive Abatement Cost Curve with potential of emission reductions from power sector, with focus on renewable energy powerplant 5. Approved final reports on GHG profiling in power sector, including a comprehensive Abatement Cost Curve with potential of emission reductions for power sector
Person to Supervise the Work/Performance of the Service Provider	National Project Manager MTRE3 Project - UNDP
Frequency of Reporting	Please refer to the TOR – Annex 3
Progress Reporting Requirements	Please refer to the TOR – Annex 3
Location of work	<input checked="" type="checkbox"/> Exact Address/es Jambi, Riau, West Sulawesi, East Nusa Tenggara <input checked="" type="checkbox"/> At Contractor's Location, if required, for technical works specifically indicated in the proposal

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.

Expected duration of work	5 (five) months				
Target start date	December 2019				
Latest completion date	April 2020				
Travels Expected	Type of activities	Location	Frequency (times)	Number of participant	Estimated Duration
	Workshop	Pekanbaru (Riau)	2	30	Maximum 3 days / trip
		Jambi	2	30	Maximum 3 days / trip
		West Sulawesi	2	30	Maximum 3 days / trip
		Kupang (NTT)	2	30	Maximum 3 days / trip
	Site visit to renewable energy powerplant	Riau	1	3 persons (member of consultant company)	Maximum 3 days / trip
		Jambi	1		Maximum 3 days / trip
		West Sulawesi	1		Maximum 3 days / trip
		East Nusa Tenggara	1		Maximum 3 days / trip
	Special Security Requirements	N/A			
Facilities to be Provided by UNDP (i.e., must be excluded from Price Proposal)	<p>MTRE3 will be responsible for the following tasks:</p> <ul style="list-style-type: none">- Organize the events (meeting, workshop, FGD, conference, etc.), including preparation of events such as confirmation of participants and secure and check the venue. The cost of meeting package will be borne by MTRE3 UNDP. The consultant, however, should allocate their own cost of accommodation and travels.- Facilitate the communication between the consultant and working group/ other related stakeholders.- Final report printing.				

Implementation Schedule indicating breakdown and timing of activities/sub-activities	<input checked="" type="checkbox"/> Required
Names and curriculum vitae of individuals who will be involved in completing the services	<input checked="" type="checkbox"/> Required
Currency of Proposal	<input checked="" type="checkbox"/> United States Dollars <input type="checkbox"/> Euro <input checked="" type="checkbox"/> Local Currency (IDR)
Value Added Tax on Price Proposal ²	<input type="checkbox"/> must be inclusive of VAT and other applicable indirect taxes <input checked="" type="checkbox"/> must be exclusive of VAT and other applicable indirect taxes
Validity Period of Proposals (Counting for the last day of submission of quotes)	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> Not permitted
Payment Terms ³	Please refer to the TOR – Annex 3
Person(s) to review/inspect/	

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/completed services and authorize the disbursement of payment	National Project Manager MTRE3 Project - UNDP
Type of Contract to be Signed	<input checked="" type="checkbox"/> professional service contract
Criteria for Contract Award	<input type="checkbox"/> Lowest Price Quote among technically responsive offers <input checked="" type="checkbox"/> Highest Combined Score (based on the 70% technical offer and 30% price weight distribution) <input checked="" type="checkbox"/> 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	<p><u>Technical Proposal (70%)</u></p> <input checked="" type="checkbox"/> Expertise of the Firm 25% <input checked="" type="checkbox"/> Methodology, Its Appropriateness to the Condition and Timeliness of the Implementation Plan 35% <input checked="" type="checkbox"/> Management Structure and Qualification of Key Personnel 40% <p><i>NOTE: only bidder(s) who received minimum of 70 points where the financial proposal will be opened</i></p> <p><u>Financial Proposal (30%)</u></p> <p>To be computed as a ratio of the Proposal's offer to the lowest price among the proposals received by UNDP.</p>
UNDP will award the contract to:	<input checked="" type="checkbox"/> One and only one Service Provider <input type="checkbox"/> One or more Service Providers, depending on the following factors:
Contract General Terms and Conditions ⁴	<input checked="" type="checkbox"/> General Terms and Conditions for contracts (goods and/or services) <input type="checkbox"/> General Terms and Conditions for de minimis contracts (services only, less than \$50,000) Applicable Terms and Conditions are available at:

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.

	http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
Annexes to this RFP ⁵	<input checked="" type="checkbox"/> Form for Submission of Proposal (Annex 2) <input checked="" type="checkbox"/> Detailed TOR <input type="checkbox"/> Others ⁶ [pls. specify]
Contact Person for Inquiries (Written inquiries only) ⁷	<p><i>Feby Utari and Yusef Millah</i> <i>Procurement Unit</i> <i>feby.utari@undp.org and yusef.millah@undp.org</i></p> <p>Mandatory subject of email: RFP/UNDP/ENV-MTRE3/73137/033/2019 - DEVELOPMENT OF MARGINAL ABATEMENT COST CURVE (MACC) FOR RENEWABLE ENERGY POWERPLANT AT FOUR PILOT PROVINCES OF MTRE3 PROJECT</p> <p>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.</p>
Other Information [pls. specify]	<ul style="list-style-type: none"> ▪ Format: PDF files only ▪ File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard. ▪ All files must be free of viruses and not corrupted. ▪ Max. File Size per transmission: N/A

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.

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) Certificates and Accreditation – including Quality Certificates, Patent Registrations, Environmental Sustainability Certificates, etc.*
- f) 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.*

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

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

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 <i>[list them as referred to in the RFP]</i>	Percentage of Total Price <i>(Weight for payment)</i>	Price <i>(Lump Sum, All Inclusive)</i>
1	Deliverable 1		
2	Deliverable 2		
3		
	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 per Unit of Time	Total Period of Engagement	No. of Personnel	Total Rate
I. Personnel Services				
1. Services from Home Office				
a. Expertise 1				
b. Expertise 2				

2. Services from Field Offices				
a. Expertise 1				
b. Expertise 2				
3. Services from Overseas				
a. Expertise 1				
b. Expertise 2				
II. Out of Pocket Expenses				
1. Travel Costs				
2. Daily Allowance				
3. Communications				
4. Reproduction				
5. Equipment Lease				
6. Others				
III. Other Related Costs				

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

Term of Reference (TOR)
Development of Marginal Abatement Cost Curve (MACC) for Renewable Energy at Four Pilot Provinces of MTRE3 Project.

A. General Information

Title : Development of Marginal Abatement Cost Curve (MACC) for Renewable Energy at Four Pilot Provinces of MTRE3 Project

Report to : National Project Manager MTRE3 Project

Location : UNDP Indonesia Country Office, Menara Thamrin 8-9th Floor. Jl. MH Thamrin Kav.3 Jakarta 10250, Indonesia

Expected place of travel : 1 powerplant in each pilot province (Riau, Jambi, West Sulawesi, East Nusa Tenggara)

Duration of contract : The expected duration of the contract is 5 (five) months calculated based on the contract starting date

Provision of support services:

Location : Yes ☐ No ☒

Equipment (laptop etc.) : Yes ☐ No ☒

Secretarial Services : Yes ☐ No ☒

Terminology of this TOR

The terms listed hereunder are used throughout this request for proposal (RFP) to mean the following:

Base year	:	Reference year to determine the baseline and mitigation projection, 2010
Baseline scenario	:	A forecast (2010 – 2030) of GHG emissions level scenario in the absence of the specific measures and policies/ regulations that lead to the occurrence of the reduction of the GHG emissions or the enhancement of GHG sequestration
Emission base year	:	A level of emissions that serves as a reference level to set a goal/ target and/or to measure progress
Emission factor	:	Specific value for scaling emissions to activity data in terms of a standard rate of emissions per unit of activity (e.g., grams of carbon dioxide emitted per barrel of fossil fuel consumed, or per gram of product).
Energy intensity	:	Ratio of energy consumption per unit output (TOE/KWH for power sector and TOE/unit product for industrial sector)
GHG abatement cost curve	:	A curve which the y-axis of the graph represents the cost of each of GHG mitigation option, while the width of the x-axis represents the total GHG abatement potential for each option.

GHG emission profile	:	Summary of most representative GHG data.
Renewable Stakeholder	:	A person, group or organization that has interest or related to climate change mitigation action in Renewable Sector, which can affect or be affected by the related actions, activities, or policies. This include 1) Ministry of Energy and Mineral Resources as the Implementing partner and facilitator, 2) independent Power Producer (IPP) and its associations as the business actors, 3) local governments at the provincial, district, and city level in charge of Renewable energy, 4) Related Line Ministries associated in preparing the national action plan for GHG mitigation for Renewable sector, including (but not limited to) Ministry of Environment and Forestry, BAPPENAS.
Key Category	:	One that is prioritized within the national inventory system because its estimate has a significant influence on a country's total inventory of greenhouse gases in terms of the absolute level, the trend, or the uncertainty in emissions and removals.
Mitigation	:	Action(s) that will reduce man-made climate change. This includes action to reduce GHG emissions or absorb GHG in the atmosphere.
Mitigation scenario	:	A forecast (2010 – 2030) of GHG emissions level scenario where the specific measures and policies/regulations exist that lead to the occurrence of the reduction of the GHG emissions or the enhancement of GHG sequestration
Power sector	:	The sector that consists of electricity only and combined heat and power plants whose primary business is to sell electricity and/or heat to the public.
Specific emission	:	GHG intensity level (tCO ₂ e/unit output) level for baseline condition or mitigation target

B. Background Information

Market Transformation through Design and Implementation of Appropriate Mitigation Actions in Energy Sector (MTRE3) is a five-year project (2017-2021) funded by GEF, aims at supporting the design and implementation of appropriate climate change mitigation actions in the energy generation and energy end use sectors in Indonesia, focusing on renewable-based electricity generation and energy efficiency in buildings.

Indonesia faces a significant electricity challenge in the next coming years with an electricity demand of 6.8 % annually and over 30 million people without electricity access. Indonesia's primary energy mix consists mainly of fossil fuels such as crude oil, coal and natural gas while renewable energy generates only about 7% of the total energy. The heavy reliance on fossil fuels leaves Indonesia vulnerable to price fluctuations of imported oil and makes the energy sector one

of the largest greenhouse gas (GHG) emitters, accounting for one-third of the country's total GHG emissions. Meanwhile, renewable energy resources have an abundant potential in Indonesia, and, together with energy efficiency technologies, can provide clean solutions necessary to address the country's electricity demand, increase access to modern energy, reduce the over-reliance on fossil fuels and contribute to GHG emission reductions.

Despite the Government of Indonesia's efforts in promoting renewable energy development and utilization and energy efficiency technology applications, the increased share of renewable energy in the national primary energy mix and the improved primary energy consumption index both remain much to be desired. Significant policy, institutional, financial and technical barriers remain that hinder the realization of the energy saving and GHG emission reducing potential of renewable energy and energy efficiency technologies in Indonesia.

The MTRE3 project addresses the barriers to investments in renewable based power generation and the application of energy efficient technologies in the energy end use sectors and is arranged around three components: 1) Climate change mitigation options for the renewable energy based energy generation and energy efficiency; 2) Market transformation through implementation of appropriate mitigation actions; 3) Measurement, Reporting, and Verification (MRV) system and national registry for mitigation actions.

The project is implemented by the Ministry of Energy and Mineral Resources in close coordination with the Ministry of Environment and Forestry, Ministry of National Development Planning, Ministry of Finance and Ministry of Public Works and Housing. Local governments and the private sector are other key partners in implementing the project activities. Moreover, the project has been started since March 2017 and is in its third year of implementation.

Context of this TOR

A better understanding of the emission profile of the power especially in Renewable Energy will be beneficial for any further process in developing emissions reduction policies and strategy on option to choose kind of Renewable Energy Technology that would support the Best Available Technology with least impact on environment and economically as well. The potential emission reductions and abatement cost of mitigation actions should also be consolidated, reviewed, calculated, and analysed. It is expected that this information will enable MTRE3 Indonesia to support policy makers and relevant key stakeholders to understand the current and expected GHG emissions status, opportunities and costs to reduce emission in the Power sector

The context of this TOR is that UNDP, as the Delivery Agent, is seeking to engage organization/company to conduct study to profile emissions in power sectors according to the most recent condition required for the implementation of the MTRE3 project in Indonesia.

C. Objectives of Assignment

The overall objective of this assignment is to support the Government of Indonesia to scale up the climate change mitigation actions in Power Sector, with focus to promote the utilization of renewable energy in powerplant by taking the overall picture of emissions sources, abatement potentials and cost of mitigations actions.

D. Expected Outputs

The key output under this assignment is estimation of emission reduction potentials and abatement cost which includes but not limited to:

1. Updated Data and information on GHG emissions and sources in power sectors (based on key category analysis);
2. Estimation of emission reduction potentials and abatement cost of mitigation actions, including comprehensive marginal abatement cost curve.

E. Expected Approach and Ethical Guidelines

The consultant will be expected to observe full ethical guidelines and approach during the field work (specifically) and throughout the process (generally) which will be designed and agreed during the methodology design stage. It is important, however, to highlight the following fundamentals to UNDP's intervention practice which the Organization/Company is expected to keep in mind:

- Ensure that both the formal and informal socio-economic mechanisms are examined;
- Be aware of conflict and gender sensitivities and adopt the principles and practices of participatory dialogue for all consultations.
- Respect local cultures and values and ensures behaviours of research team do not violate norms and values;
- Ensure adequate safety to those conducting and attending the consultations and other activities of the process;
- Ensure objectivity and independence by conducting the consultation in an impartial manner;
- Work with relevant government to identify participants for the consultations; and
- Pay attention to vulnerable group throughout the process.

F. Risks and Assumptions

Undertaking data collection in the power plant facilities level, presents several challenges including rejection or resistance from the host, data is not sufficient or not valid, data is considered as confidential matter, and longer administration process which may delay the project.

One of the other risks that may happen is slow process of coordination between government agencies and the relevant partners which require additional acceleration support. It is expected that the consultant should consider the successful factor of project implementation, i.e. relevant government agencies sharing data in timely manner.

Reorganization in the relevant government agencies may occur in the project period which may also affect the commitment of the organizations/facilities. The organizations/company shall identify the risks prior to the project implementation and develop strategies of countermeasures.

G. Scope of Work

MTRE3 programme requires a coordinated effort to develop the MACC included in this TOR. The consultant will assist Directorate General New, Renewable Energy and Energy Conservation and Provincial Energy and Mineral Resources Office at 4 MTRE3's Pilot to develop a MACC from Power Energy Sector, with focus on the utilization of renewable energy.

The scope of works within this TOR will be focused on Renewable Energy Powerplant. The scope of work of consultancy shall include but not necessarily be limited to following tasks:

Scope of work 1: Initial preparation

- 1.1 Facilitate the kick off meeting(s) with Directorate General -NREEC, and other related directorate at Ministry of Energy and UNDP - MTRE3 to discuss the detail tasks;
- 1.2 Participate and initiate meetings with other relevant stakeholders as needed (e.g. other line ministries, State Electricity Company (PLN), independent power producer (IPP), and other relevant stakeholders);
- 1.3 Identify and summarize the GHG emission characteristics in power sector in general. This includes the source of emissions including direct and indirect emission from powerplant for electricity.
- 1.4 Identify the readiness from the power sector in relation to GHG emission calculation and inventory, including data needed within the scope of this TOR, existing regulatory framework(s) in power sector, existing initiatives, and supporting activities. The team of consultants are expected to also conduct desk study to compile already available information and data from existing research, studies, audits, which are already conducted in power sector.
- 1.5 Based on this TOR, initial meeting results and initial desk studies; submit detailed work plan and scope of study within 2 weeks of the contract commencement date;
- 1.6 Update and revise the work plan based on comments and inputs from Ministry of Energy (ESDM) and UNDP.

Scope of work 2: Develop overview of renewable energy powerplant in Indonesia

- 2.1 Summarize the national status quo of the climate change policy in general, and regulatory frameworks supporting the climate change mitigation within power sector, renewable energy powerplant in particular;
- 2.2 Capture the status of renewable energy powerplant in Indonesia including its contribution to GDP, the powerplant population, and its role to national economy;
- 2.3 Analysis of economic, technology and social factor related to the development of renewable energy powerplant in 4 pilot province
- 2.4 Based on the scope / constraints identified; collect and compile the data required within the scope of this TOR from renewable energy power plant, including but not limited to production capacity, type and technology in each powerplant.

Scope of work 3: Provide and develop baseline of GHG emissions from power plant

- 3.1 Identify GHG emissions and sources from each type of power sector and carried out key sources category analysis. The consultant shall use (and evaluate) available national GHG emission data as a basis (including elaboration of approaches/methodology used for estimating GHG emissions level).
- 3.2 Provide an overview of existing baseline emissions scenario and if needed, develop (new) baseline scenarios for power sector. It should be noted that the baseline should cover baseline emission (t CO₂e/year) and specific emission (tCO₂e/t product).

- 3.3 Develop specific emissions baseline by type of power sector using base year 2010 (identified in point 3.1).
- 3.4 Conduct FGDs, workshops, site visits to the powerplant (for sampling purposes) to review, calculate, determine baseline emissions of each of type of Renewable Energy sector.

Scope of work 4: Estimate potential of emission reductions and abatement cost of mitigation actions.

The potential of emission reductions from Renewable energy and Energy Conservation sector should cover options of energy diversification from new and renewable energy (NRE), fuel switching, low carbon technology, and energy efficiency. The consultant shall identify the potential of mitigation actions by 2030. It is expected that the emission reduction potential not only cover the technology but also measures.

- 4.1 Identify potential of GHG mitigation actions in power sector by 2030 including NRE, fuel switching, and low carbon technology and energy efficiency based on stakeholder consultation. The consultant shall determine the cost of mitigation actions. Consultant shall ensure that the newest and valid data and information are used by employing various methodologies including desk studies, in depth interview, site visits and energy rapid assessments, and FGDs. It is expected that consultant to conduct energy rapid assessment in, at least, five selected power plants which represent categories as mentioned in task 2.2.
- 4.2 Develop a comprehensive marginal abatement cost curve (MACC) which reflect the abatement potentials and cost for different mitigation options. The Consultant shall use robust and internationally recognized methodology to develop the MACC. All calculation data and assumptions used should be clearly described and include in the report.
- 4.3 Develop a guideline to update the MACC. Consultant shall conduct socialization, and training to the renewable energy power plant on the general information of MACC.

Scope of work 5: Develop a comprehensive final report

- 5.1 Submit draft final report prior to stakeholder meeting to discuss draft report containing all report produced in scope of work 1 to 4.
- 5.2 Conduct stakeholder meeting to discuss draft report for inputs and comments.
- 5.3 Finalize report based on all inputs and comments gathered and submit the report in English and Indonesian. The consultant shall submit a file storage (i.e. USB flash drive) containing soft copy of editable version of final report, all presentation, photos and video, all data and calculation, and simulation result (if available).
- 5.4 Conduct dissemination workshop, including training related MACC.

Scope of work 6: Ensuring stakeholder participations.

The objective of this activity is consultant to increase the participation of government agencies in every stage of the process. Prior to the implementation, Consultant should conduct stakeholder analysis and mapping. Consultant should organize regular meeting inviting related directorate at

Ministry of Energy and relevant parties to update the progress and finding. Consultant shall conduct an event to present draft report inviting all relevant stakeholders for inputs and comments. In each of the type of powerplant, an emission profile will be captured and projected, and analysis will be undertaken to determine the key abatement measures. Given limitations in duration of the assignments and the complexity of task, the team of consultants should conduct desk study and in-depth research to identify the options of approaches and determine the most appropriate strategy for this task based on current situation, readiness, and latest technology in the powerplant. The team of consultants shall determine the key aspects needed within this scope of TOR: The methodology, tools, as well as scenarios and assumptions in developing baseline and mitigation reduction potential in renewable energy sector.

H. DELIVERABLES

All reports must be presented first to the DG – NREEC, other relevant stakeholder in Ministry of Energy and UNDP-MTRE3 Project Team for comments. These comments must be incorporated to the reports before the product's final approval. The final reports must have an executive summary, and Power Point presentation, delivered in English and must be accompanied by an excellent translation into Bahasa Indonesia. The team of consultant shall submit the final report in Indonesian version and English version in a file storage (i.e. USB flash drive) containing soft copy of editable version of final report, all presentation, photos and video, all data and calculation, and simulation result (if available). The detailed expected deliverables for each scope of works are listed in page 8.

I. MTRE3 UNDP RESPONSIBILITY

MTRE3 will take care of the following tasks:

- Organize the events (meeting, workshop, FGD, conference, etc.), including preparation of events such as confirmation of participants and secure and check the venue. The cost of meeting package will be borne by MTRE3 UNDP. The consultant, however, should allocate their own cost of accommodation and travels.
- Facilitate the communication between the consultant and working group/ other related stakeholders.
- Final report printing.

The team of consultants shall cover the costs for accommodation, travelling to and transportation within Indonesia. Routine (home-) office costs for materials, printing, telecommunication, etc. are considered to be covered within the team of consultant's remuneration.

J. PAYMENT SCHEDULE & DELIVERABLE

Scope of work	Deliverables/Outputs	Due Date	Payment Amount
1	Approved report contain detailed final work plan for methodology and result of the desk study	13 January 2020	20 %

2	Approved report on overview and analysis from Indonesia's power plant, including source of emission	21 February 2020	15 %
3	Approved reports on baseline of GHG emissions from power plant	20 March 2020	20 %
4	Approved reports on comprehensive Abatement Cost Curve with potential of emission reductions from power sector, with focus on renewable energy powerplant	24 April 2020	20 %
5	Approved final reports on GHG profiling in power sector, including a comprehensive Abatement Cost Curve with potential of emission reductions for power sector	30 April 2020	25%
	Total		100%

K. QUALIFICATIONS

1. UNDP is seeking an Organization/company, which can demonstrate:

- Minimum 5 years of experience in related work of renewable energy power sector;
- Familiar with Indonesia's power sector status, policies and regulations is preferred;
- Knowledge in types and technologies of power plants;
- Proven experience managed or conducted project in calculating and identifying GHG emission and potential of mitigation actions from energy sector
- Minimum 3 years of experience in designing and implementing multi-stakeholder project and expertise in engaging government and private sector, and designing/implementing multi-stakeholder engagement process leading to broad-based consensus

2. Personal Education/Qualification

Minimum requirements include:

a) One (1) National team leader

Academic qualification

Master degree in engineering, science, environment;

Years of experience, competencies and skill requirements

- Expert with at least 10 years relevant professional experience in the field of climate change, Renewable energy, energy efficiency or environmental management;

- Good understanding of GHG inventory process and knowledge of IPCC practice and guideline, especially in power sector;
- Strong experience in developing baseline emission and estimating mitigation potentials in power sector;
- Familiar with marginal abatement cost curve is preferred;
- Familiar with Indonesia's climate change status, targets, and policies is preferred;
- Experience from managing teams of experts in international funded project related to the environment and energy;
- Experiences in working with Government of Indonesia is preferred.

b) One (1) National Senior technical expert/advisor for power sector

Academic qualification

Master degree or equivalent in engineering, science, environment ;

Years of experience, competencies and skill requirements

- At least 7 years of professional experience in planning and implementation of power sector, energy efficiency and low carbon technology investments and policies;
- Familiar with marginal abatement cost curve is preferred
- Understanding of the national context, the roles and responsibilities of the various ministries and other agencies, and how they relate to the national GHG inventory.
- Knowledge in optimization in power sector and energy management system;
- Experience from participation with expert teams in at least 3 international projects;

c) One (1) GHG Emission modelling expert

Academic qualification

Master degree in engineering, science, environmental science;

Years of experience, competencies and skill requirements

- At least 5 years of professional experience in GHG emission modelling;
- Proven experience in developing scenarios of mitigation actions;
- Good understanding of GHG emission from renewable energy sector;
- Familiar with marginal abatement cost curve is preferred

3. Language Requirement

While all individuals on the team may not have both English and Indonesian skills, collectively and at all times, there should be at least:

- Proficiency in English language, spoken and written. The consultants must have the ability to write reports, make presentations, and to provide training etc. in the English language.
- Proficiency in Indonesian, spoken and written. The consultants must have the ability to write reports, make presentations, and to provide training etc. in Indonesian.

4. Composition of Key Staff

A guideline proposed staffing structure for the consulting team is given in the following Table. **Bidders should specify the amount of the time of key staff will spend in the field during project period.** The combined team's CV should clearly demonstrate experience in the above-mentioned disciplines. Bidders are encouraged to review and propose their own staffing schedule to match the project need. Bid submissions must include CVs for proposed staff in the format given in the Attachment II "Technical Proposal Format", Section 3: Personnel

Suggested staffing structure and inputs

Description	Quantity	Unit	Number of Unit (Man. Days) in total
Lead expert / team leader	1	Person	50
Senior technical expert/advisor for power sector	1	Person	50
GHG emission modeling expert	1	Person	50
Total	3		

LIST OF ANNEXES

ANNEX 1. LIST OF EXPECTED MINIMUM NUMBER OF ACTIVITIES (WORKSHOP, SEMINAR, FGD,)

**ANNEX 1. LIST OF EXPECTED MINIMUM NUMBER OF ACTIVITIES
(WORKSHOP, SITE VISIT, FGD)**

Type of activities	Location	Frequency (times)	Number of participant	Estimated Duration
Workshop	Pekanbaru (Riau)	2	30	Maximum 3 days / trip
	Jambi	2	30	Maximum 3 days / trip
	West Sulawesi	2	30	Maximum 3 days / trip
	Kupang (NTT)	2	30	Maximum 3 days / trip
Site visit to renewable energy powerplant	Riau	1	3 persons (member of consultant company)	Maximum 3 days / trip
	Jambi	1		Maximum 3 days / trip
	West Sulawesi	1		Maximum 3 days / trip
	East Nusa Tenggara	1		Maximum 3 days / trip