TERMS OF REFERENCE for INDIVIDUAL CONTRACT

Post Title:	Energy Economist
Timeframe of the planned activities:	23 June 2020 – 31 December 2020
Duration of assignment:	**Maximum 6 months**, within which no more than **70 person days** of work per Individual Contract. **The Individual Contractor is expected to be based at Ministry of Economy and Finance (MEF), in Phnom-Penh, Cambodia.**
Supervisor's name and functional post:	Technical Adviser on Energy
Functional linkages:	The Individual Contractor will be under the overall guidance of Chief of MEF Energy Team and day-to-day supervision of Technical advisor on Energy and work closely with UNDP Energy Team.

1. Background

UNDP is the UN's global development network, an organization advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. UNDP Country Office in Cambodia works in partnership with the Royal Government of Cambodia, non-government organizations, civil society organizations, community-based organizations, multilateral aid agencies, bilateral donors and private sector to support the progress towards the Sustainable Development Goals (SDGs). To support the implementation of the country programme 2019-2023, the Policy and Innovation Hub (PIH) plays an important role within the country office to develop high level policy and technical advisory support to the government. Its work guided by three set of strategies (1) research, policy and innovation, (2) communication, and (3) programming. Through the policy, research and innovation, communications, and programming, the PIH is expected to deliver the two main outputs (1) Prosperity, and (2) Planet. Climate change, natural resources, circular economy and energy are the focused areas of the Output 2, i.e. Planet.

Because of the COVID-19 Pandemic, and related lockdowns, a major proportion of global workforce are operating "work from home", including in Cambodia. This is leading to an increased use of energy at homes in the form of air conditioning for space cooling, lighting, running appliances and electric equipment. This is increasing the peak power demand on grid during the day apart from raising monthly electricity bill of households on top of already impacted livelihoods because of the pandemic. Under these circumstances, many households find it challenging as their affordability to pay the utility bills had impacted significantly because of disrupted livelihoods. To address these challenges, UNDP received core funds to respond to these challenges by closely working with concerned ministries and departments in Cambodia.

Therefore, proposed activities under this TOR will support MEF to analyze electricity tariffs released in early 2020 considering the time of use, peak and off-peak periods, scenario analysis for integration and influence of demand side management measures including rooftop solar. Further, it is expected to analyze cost and benefit analysis of different electricity generation systems. All these are important in shaping post-COVID economic revival.

Increased use of renewable and alternative energy sources may reduce increased dependence on fossil fuel, and reduced pressure on foreign exchange reserves by turning to alternative energy solutions such as solar energy.

2. Objective of the Assignment

The main objective of this consultancy is to make available his/her expertise to the MEF Energy Team for the purpose of advancing policies in the areas of energy access, mainly renewable energy, and energy efficiency by having a good understanding of regional energy market and Cambodia's energy market including power purchase agreements, cross-bordering energy purchase, etc.

3. Description of Responsibilities / Scope of Work

In close collaboration and cooperation with Energy Team based at MEF, the individual consultant will undertake the following tasks. Outputs from these tasks should be practical at field level than to remain as theoretical analysis.

- Conduct a detailed cost and benefit analysis (CBA) of different electricity generation systems with a detailed cost assessment of electricity pricing for each production phases (generation, transmission, distribution and retail segments) of Cambodia's energy market. This analysis must include its generation potential, implementation timeline and investment analysis. Investment analysis shall consider uncertainties related to the monetary values (e.g. buying cost, rate of interest, maintenance cost, future cost of energy, etc.), and parameters which affect the monetary quantities (e.g. anticipated life time of the product, malfunctions frequency, expected saving of conventional energy, variability of meteorological conditions, uncertainties related to the performance testing results of the systems etc.);
- Analysis of different energy mix scenarios to achieve optimal cost of electricity generation and to reduce the electricity blackout rate in the case of Cambodia;
- Analysis of electricity market structure that best suits Cambodia's current context monopolistic/oligopolistic or competitive market for generation, through survey of regulatory policies, its influence on electricity prices and forecasting techniques for assessing electricity price. This analysis must consider influence of energy efficiency on the price of electricity;
- Assessment of Time of Use (TOU) tariff impact on different type of consumers and rooftop solar users including an analysis on energy security, grid stability, capacity charge, energy tariff rate for peak and low loads using the real time data;
- Conduct training on the CBA to Energy Team personnel at MEF;
- Prepare a roadmap and capacity assessment to establish an energy unit in the MEF. The roadmap shall include the mandates of the unit and capacity building plan; and
- An assessment of financing options for investments in energy sector in Cambodia to improve reliability and affordability for consumers connected to low voltage line. This assessment shall include a section for electrification of 1,037 villages that are difficult to reach with grid extension by using possible investments in renewable and alternative energy sources.

4. Deliverables

As final product of the assignment, the Individual Contractor will deliver reports including findings and recommendations of the assigned activities. All these deliverables will be drafted in close coordination and partnership with the MEF Energy Team and based on the review comments by UNDP and MEF. Once agreed with and accepted by UNDP, final version will be prepared and submitted to UNDP.

No	Outputs and Activities	Estimated Duration to Complete	Time
1	A detailed workplan including implementing strategy / methodology / approach, and rough schedule / timeframe of each activities	2 days	Within 10 days after signing the contract
2	A report on detailed cost and benefit analysis of different electricity generation systems with a detailed cost assessment of electricity pricing for each production phases including a feedback on CBA training	20 days	10 July 2020
3	A report on the analysis of different energy mix scenarios to achieve optimal cost of electricity generation and to reduce the electricity blackout rate in the case of Cambodia;		31 July 2020
4	A report on the analysis of electricity market structure that best suits Cambodia's current context	20 days	31 August 2020
5	Assessment report on the Time of Use (TOU) tariff impact on different type of consumers		30 October 2020
6	A report on the roadmap and capacity assessment to establish an energy unit in the MEF	10 days	30 November 2020
7	An assessment of financing options for investments in energy sector in Cambodia to improve reliability and affordability for consumers connected to low voltage line	18 days	15 December 2020
8	Final report of the assignment and assignment and the attachments of all data and calculation sheets.		31 December 2020
Total		70 days	

5. Monitoring / Reporting Requirement

The Individual Contractor(s) will prepare all of the reports and deliverables in the agreed format, stating all actions taken during the assignment. Reports shall be submitted after each deliverable achieved according to the agreed schedule.

6. Duration

The start date for the Individual Contractor's services will be upon signing of the contract, expected to be from 23 June 2020, and completed by 31 December 2020.

7. Duty station

The duty station for this assignment is Phnom Penh.

Only selected individual contractor(s) expected to travel to the Country Office (CO) in country (Cambodia) is (are) required to undertake (BSAFE) training. The course accessible is here: https://training.dss.un.org/course/category/6.

8. Payment

Professional fee

Candidates can include all related costs in their all-inclusive daily rate as travel cost outside Cambodia will not be covered by the project. Upon certification by the Technical Advisor on Energy that assignment related tasks have been completed by the individual contractor, UNDP Cambodia will pay directly to their account. Payment amount is paid within 30 days after satisfactorily completion of work and receiving of certification of payment. Total number of days must be 70 working days from 15 June until 31 December 2020.

If unforeseen assignment not required by the Terms of Reference is requested by UNDP, upon consultation by the Technical Advisor on Energy with the Individual Contractor and approval of the additional assignment by Senior Management, such additional services will be at UNDP's expense and the Individual Contractor may receive a professional fee per full working day based on the Contract Amendment.

In order to ensure the assignment to be effective and efficient, the payment in instalments will be applied as below:

No	Outputs/Deliveries	Payment Schedule	Payment Amount %
1	Upon satisfactory completion and submission of deliverable #1	Within 10 days after signing the contract	5%
2	Upon satisfactory completion and submission of deliverable 2 & 3	10 July 2020	30%
3	Upon satisfactory completion and submission of deliverable #4 &5	31 July 2020	30%
4	Upon satisfactory completion and submission of deliverable #6	31 August 2020	15%
5	Upon satisfactory completion and submission of deliverable 7 &8	30 October 2020	20%

Travel cost

UNDP Cambodia will reimburse directly to their account, at the applicable UN DSA rate/per diem, costs related to field travel (within Cambodia) required by the Terms of Reference, upon prior approval of Travel Authorization by Technical Advisor on Energy and/or Senior Management.

If unforeseen travel or field visit not required by the Terms of Reference is requested by UNDP, and upon consent of the Technical Advisor on Energy and the Individual Contractor and approval of Travel Authorization by UNDP Senior Management, such travel shall also be at UNDP's expense and the Individual Contractor will receive a per diem not to exceed United Nations DSA rate in such other location(s).

9. Experience and Qualification Requirements

In executing this TOR, the Individual Contractor will need to closely cooperate and partner with members of the Energy Team of MEF whose academic background is in finance and economics. The prospective Individual Contractor should have a thorough understanding of energy sector in Cambodia. The following qualification requirement apply:

Essential:

- At least postgraduate degree in Electrical/Power Engineering and/or Energy Economics or a related discipline or a combination of appropriate Bachelor and Postgraduate degrees;
- At least 7 years of work experience in fields of energy markets, regulatory policies, economic analysis and/or financing of energy systems, energy management and process engineering sector particularly in the field of implementation of high-impact, cost-effective energy management and process engineering solutions;
- Good understanding of energy sector in Cambodia. Prior working experience in Cambodia and ministries would be an asset.

Desirable:

- Demonstrated experience working with governments and international organizations in a developing country context, where such experience in south-east Asia is an added advantage;
- Strong knowledge of government policies in power/energy sector and strategies related to the RE and EE measures;
- Past practices in developing training modules in energy planning, conversion technologies, and demand side management is an added advantage;
- Experience in liaising and working with stakeholders, in particular public and private sector parties;
- Demonstrated experience in implementing community level energy solutions;
- Experience in designing and facilitating capacity building processes, consultations and coordination processes;
- Excellent organizational skills, especially for facilitating meetings and writing reports; and
- Excellent writing, editing and oral communication skills in English is required.
- Good interpersonal/communication skills.

10. Document to be Submitted

Applicant shall submit the following documents:

Required

- ☒ Letter of interest/proposal, explaining why the applicant considers him- or herself the most suitable for the work.
- ☒ Letter of interest/proposal, providing brief methodology on how the work will be conducted and/or approached.
- ☒ Personal CV, including information about past experience in similar projects / assignments and contact details for referees.
- ☒ Financial proposal
- ☒ Duly accomplished Letter of Confirmation of Interest and Availability using the template provided by UNDP

11. Evaluation Criteria and Method

Evaluation Criteria

- Educational background – **15 points max.**
- Methodology on how the work will be conducted and/or approached – **25 points max.**
- Relevant professional experience – **30 points max.**

- Strong knowledge of government policies in power/energy sector and strategies related to the RE and EE measures **- 10 points max**.
- Good understanding of developing countries context, particularly Cambodia including prior working experience **- 10 points max**
- Demonstrated experience in implementing community level energy solutions - **10 points max.**

Evaluation Method

☒ Cumulative analysis

Contract award shall be made to the incumbent whose offer has been evaluated and determined as:

i) Responsive/compliant/acceptable, and
ii) Having received the cumulative highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.

* Technical Criteria weight: 70%
* Financial Criteria weight: 30%

Only offeror obtaining a minimum 70% from the maximum available technical score (70 points) would be considered for the Financial Evaluation.

The maximum number of points assigned to the financial proposal is allocated to the lowest price proposal and will be equal to 30. All other price proposals will be evaluated and assigned, as per below formula to evaluate financial offer:
[max points available for financial part (300 points)] x [lowest of all evaluated offered prices of responsive offers] / [evaluated price]

The proposal obtaining the overall cumulatively highest score after adding the score of the technical proposal and the financial proposal will be considered as the most compliant offer and will be awarded a contract.