

Terms of Reference

Position:	International Consultant for the development of emission factors for the regions of Kazakhstan
Duty Station:	Home based (with 1 mission to Nur-Sultan and Almaty, Kazakhstan)
Duration:	Estimated 30 consultancy days over the period July-October 2020
Contract type:	Individual Contract (IC)
Languages:	English. Knowledge of Russian will be an asset
Project title:	UNDP/GEF Project “Development of Kazakhstan National communication to the UNFCCC and Biennial report”

1. Project Description

The project will enable Kazakhstan to prepare and submit its Eighth National Communication (8NC) and Fifth Biennial Report (5BR) to the Conference of Parties (CoP) of the UNFCCC in accordance with its commitments as a Party as mandated by Article 12 of the UNFCCC and subsequent CoP decisions. The project will update the information provided regarding national circumstances, inventories of greenhouse gases (GHG), policies and measures undertaken to mitigate climate change, assessments of vulnerability to climate change and steps taken to adapt, and information on public awareness, education, training, systematic research and observation, and technology transfer. The project will also increase the national technical and institutional capacities in preparing the NC/BR and assisting the Government to integrate climate change issues into sectoral and national development priorities that directly contribute to achieving the Sustainable development goal #13.

The implementation of project objectives will support the Republic of Kazakhstan to prepare high quality National Communications (NCs) and Biennial Reports (BRs) to be submitted to the UNFCCC timely (i.e. once in four years in case of NCs and once in two years in case of BRs).

GHG inventory is a key component of both the NCs and BRs. Identification of key inventory categories, emission factors, methods and required data is one of the expected outcomes of the project. Given that electricity generation and heat production present the largest source category regarding both fuel consumption and greenhouse gas emissions for stationary combustion, it is important to develop relevant country-specific emission factors in order to ensure accurate determination of the national GHG inventory for required national and international reporting. Calculation of the electricity grid emission factor for the regions of Kazakhstan will help to determine the baseline emissions for domestic offset projects in the renewable energy sector and waste heat/gas recovery sector.

In this regard, UNDP is seeking the expertise of an International Consultant for the development of emission factors for electricity generation and heat production for the regions of Kazakhstan.

Objective:

The focus of this assignment is to:

- 1) Assess the required input data for the analysis of the electricity system of Kazakhstan and calculation of the electricity grid emission factors for the regions of Kazakhstan. Develop a list of required input data parameters and guide a national consulting team in data collection process.
- 2) Perform the data review and analysis of the electricity system of Kazakhstan. Develop the Analysis Report.

- 3) Perform calculation of the electricity grid emission factors for regions of Kazakhstan. Develop a calculation algorithm in MS Excel based on IPCC Tool.
- 4) Perform two 2-day trainings of the national experts and institutions involved in GHG inventory and design of domestic offset projects (Please see instructions (2)), considering specifically as main background materials:
 - a. the tools and training materials;
 - b. the comprehensive user manual and guidelines for national experts.

2. SCOPE OF WORK

(1) Assessment of the required input data:

An International Consultant is required to identify the required input data for the analysis of the electricity system of Kazakhstan and calculation of the electricity grid emission factors for the regions of Kazakhstan. The Consultant will develop a list of required input data parameters and guide a national consulting team in data collection process.

(2) Data review and analysis of the electricity system:

Under the supervision of the Project Manager and in close cooperation with a national consulting team, an International Consultant will conduct a detailed data review and analysis of the electricity system of Kazakhstan.

He/she is responsible for producing a timely Analysis Report of high quality that must contain tentatively the following sections:

1. The current state of power generation and transmission;
2. Electricity demand and forecast;
3. Analysis of future changes in electricity supply;
4. Information on grid loads, import/export profile, commissioning and retirement of power units;
5. Database of power plants with detailed information on fuel, technology, capacity, operation mode and efficiency.

The Consultant will prepare the Analysis Report at least of 20 pages.

(3) Calculation of the electricity grid emission factors

Under the supervision of the Project Manager and in close cooperation with a national consulting team, the Consultant shall perform calculation of the electricity grid emission factors. Electricity grid emission factor refers to a CO₂ emission factor (tCO₂/MWh) which is associated with each unit of electricity provided by an electricity system. The Consultant will calculate Combined, Operating and Build Margin electricity grid emission factors for each region of Kazakhstan on the basis of the analysis of the national electricity system.

Calculation has to be in full accordance with the official guidelines and calculation tools published by the UNFCCC, namely the UNFCCC "Tool to calculate the emission factor for an electricity system" in its most recent version. UNFCCC Tool has to be adjusted for the calculation of emission factors for different regions of Kazakhstan. Calculation has to be presented in the MS EXCEL with detailed explanation of the calculation algorithm, assumptions and input data for a national consulting team.

(4) Training of the national experts and institutions involved in the development of emission factors, GHG inventory and design of domestic offset projects

Under the supervision of the Project Manager the Consultant will perform two 2-day trainings of national experts and institutions involved in the development of emission factors and GHG inventory, considering specifically:

- the tools and training materials;
- the comprehensive user manual for national experts

Target Audience and Objective of the Training Materials

The training materials to be developed and used should be suitable for national consultants with beginner to intermediate level knowledge of development of emission factors.

Following this thematic training, the target audience should:

- ✓ Have an overview of how to collect appropriate data required for calculation;
- ✓ Have a deep understanding of the methods available, as well as of the main challenges in calculation of emission factors;
- ✓ Be able to independently calculate electricity grid emission factor;
- ✓ Be able to develop domestic offset projects with the use of emission factors.

There are no special requirements for training materials unless the international consultant makes sure that national experts are at a level of independent users of the calculation tool by the end of trainings.

No	Outputs	Estimated Duration	Target due dates	Review and Approvals Required
1	Assess the required input data for the analysis of the electricity system of Kazakhstan and calculation of the electricity grid emission factors for the regions of Kazakhstan. Submit a list of required input data parameters to a national consulting team.	3 days	July 10, 2020	Project manager A national consulting team
2	Undertake a home-based desk review and submit the analysis of the electricity system.	7 days	August 5, 2020	Project manager A national consulting team
3	Calculate the electricity grid emission factors. Submit MS EXCEL with detailed explanation of the calculation algorithm, assumptions, input data and the list of Combined, Operating and Build Margin electricity grid emission factors for each region of Kazakhstan	7 days	August 20, 2020	Project manager A national consulting team
4	Develop the comprehensive user manual for calculation of grid emission factors and their use for the development of domestic offset projects	3 days	September 5, 2020	Project manager

5	Visit to Nur-Sultan and Almaty Kazakhstan for holding two 2-days training workshops for national experts, in order to make them independent users of the calculation tool. In case of impossibility to travel to Kazakhstan due to COVID-19 or another unforeseen situation, the workshops will be conducted online.	5 days	October 1, 2020	Project manager
6	Provide the final report on undertaken activities, including analysis of the electricity system, calculation methodology, list of emission factors and user manual.	5 days	October 15, 2020	Project manager

Note: by performance of each above points, the materials/reports should be submitted to Project Manager (PM) for commenting. In case of comments, the expert has to finalize the materials in compliance with the comments and/or to discuss these comments via e-mail and forward the final ones to the PM.

3. Institutional Arrangement:

- Ensures timely and quality execution of works described in the Terms of Reference;
- Ensures unconditional carrying out of requirements of the IC;
- Agrees some results given in the ToR and reports to project manager.

4. Duration of the Work and Duty station:

6 July - 15 October 2020 (Estimated 30 consultancy days, including training)

Duty Station: Home-based with one mission to Nur-Sultan (3 days) and Almaty (2 days), Kazakhstan

In case of impossibility to travel to Kazakhstan due to COVID-19 or another unforeseen situation, the workshops will be conducted online.

Travel:

- BSAFE security course must be successfully completed prior to commencement of travel;
- Individual Consultants are responsible for ensuring they have vaccinations/inoculations when travelling to certain countries, as designated by the UN Medical Director.
- Consultants are required to comply with the UN security directives set forth under <https://dss.un.org/dssweb/>

5. Qualifications of the Successful Individual Contractor:

Education

- Master's Degree or equivalent (5-year university education) in Energy and Power Engineering, Environmental Sciences or Economics. PhD degree will be considered as an asset.

Experience

- At least 4 years of experience in application of IPCC methodologies for GHG Inventory and development of emission factors.

- Proven international experience in energy sector.
- Proven knowledge of IPCC calculation tool for electricity grid emission factors.
- Proven experience in designing and/or providing professional trainings for the GHG Inventory, development of emission factors and offset projects.
- Proven experience in working with international or local organizations on similar assignments. Successful experience in working with UN agencies is an asset.
- Prior working experience in Kazakhstan and/or CIS or knowledge of its current socio-economic situation would be an advantage;
- Excellent communication skills and experience in conducting technical presentations with a variety of stakeholders;
- Good knowledge of Excel, Word, Power Point, and Web navigation;
- Full proficiency in English both written and verbal including ability to review and edit the required project documentation. Proficiency in Russian is an asset.

6. Scope of Price Proposal and Schedule of Payments:

%	Stages of Work
10	Activity 1
30	Activity 2 and 3
10	Activity 4
50	Activity 5 and 6

Lump sum contracts

The financial proposal in USD shall specify a total lump sum amount, and payment terms around specific and measurable (qualitative and quantitative) deliverables (i.e. whether payments fall in installments or upon completion of the entire contract). Payments are based upon output, i.e. upon delivery of the services specified in the TOR. In order to assist the requesting unit in the comparison of financial proposals, the financial proposal will include a breakdown of this lump sum amount (including travel, per diems, and number of anticipated working days).

**Please be noted that in financial proposal the living allowances should be lower or equal to UN daily subsistence allowances, but under no circumstance should they be higher.*

7. Recommended Presentation of Offer:

The following documents only in **PDF** should be attached to the application (proposal) and sent by e-mail to the following address: procurement.kz@undp.org indicating **Ref.2020-050** in the e-mail subject no later than **15.00 (Nur-Sultan time zone) 22 June, 2020:**

- Duly accomplished Letter of Confirmation of Interest and Availability and Financial Proposal that indicates the all-inclusive fixed total contract price, supported by a breakdown of costs, as per UNDP template provided;
- Detailed personal CV, indicating all past experience from similar projects, as well as the contact details (email and telephone number) and other supporting information confirming that the Candidate meets the qualification requirements;
- Brief Description of Approach to Work.
- Copies of higher education diplomas and other relevant documents.

Due to the technical features of e-mail, the size of the file/s should not exceed 19 Mb per e-message.

Please make sure you have provided all requested materials. ONLY fully submitted applications would be considered!!!

The type of Contract to be signed and the applicable UNDP Contract General Terms and Conditions, as specified in TOR, can be accessed at <http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html>

Due to large number of applications we receive, we are able to inform only the successful candidates about the outcome or status of the selection process.

8. Criteria for Selection of the Best Offer

Individual consultants will be evaluated based on a cumulative analysis taking into consideration the combination of the applicants' qualifications and financial proposal. The award of the contract should be made to the individual consultant whose offer has been evaluated and determined as: a) responsive/compliant/acceptable, and b) having received the highest score out of a pre-determined set of weighted technical (CV desk reviews and interview) and financial criteria specific to the solicitation.

Initially, the candidates' applications will be shortlisted based on the following qualification criteria of the applicant:

- Proven international experience in energy sector **(10 points)**
- Proven knowledge of IPCC calculation tool for electricity grid emission factors **(10 points)**

The top 5 shortlisted candidates will be admitted to technical desk review evaluation.

Only candidates who receive 70% or more of points in technical evaluation will be considered for financial evaluation.

Technical Criteria - 70% of total evaluation – max. 500 points:

Criteria	Weight %	Min.passing points	Max. points
Master's Degree in Energy and Power Engineering, Environmental Sciences or Economics	10%	35	50
At least 4 years of experience in application of IPCC methodologies for GHG Inventory and development of emission factors	20%	70	100
Proven experience in designing and/or providing professional trainings for the GHG Inventory, development of emission factors and offset projects	20%	70	100
Proven experience in working with international or local organizations on similar assignments. Successful experience in working with UN agencies is an asset	20%	70	100
Knowledge of the Russian language is considered an advantage	10%	35	50

The results of the interview with the evaluation committee for this competition	20%	70	100
TOTAL	100%	350	500

This TOR is approved by:

Project Manager	
Gulmira Sergazina	
Signature	<i>Gulmira Sergazina</i>
Date	08-Jun-2020
Head of SD Unit	
Arman Kashkinbekov	
Signature	<i>Arman Kashkinbekov</i>
Date	08-Jun-2020