



TERMS OF REFERENCE

Title:	Development of a methodology for testing components of renewable energy technologies
Place of work:	Home based
Period:	During the period - June-October 2022
Contract type:	Institutional contract for the provision of services in the UNDP format
Project name:	UNDP - GEF Project "Reducing Risks for Investments in Renewable Energy Sources in Kazakhstan" (DREI)

PROJECT DESCRIPTION

The goal of the DREI project is to promote private sector investment in renewable energy sources (RES) in Kazakhstan to achieve Kazakhstan's renewable energy targets for 2030 and 2050. The DREI project targets both large scale and small scale renewable energy generation. The goal of the project is to achieve the transformation of the energy market in Kazakhstan by expanding the use of renewable energy sources in the electric power industry from 1.1% in 2017 to 10% by 2030, i.e. increase the production of renewable energy by about 10 times.

To achieve the goal, the project includes activities to support renewable energy projects, which should reduce emissions of at least 460,000 tons of CO₂. In addition, by the end of the project, the project should support the commissioning of 9.5 MW of capacity, small-scale renewable energy (RES) generation, which will produce about 500 GWh of energy.

The project includes three components:

- Component 1 - Large Scale Renewable Energy: Policy and Financial Derisking Measures.
- Component 2 - Renewable Energy for Life: Policy Derisking.
- Component 3 - Renewable Energy for Life: Financial Measures to Reduce Risks; information and education.

This consulting assignment is part of Activity 2.4.5 under Component 2 / Output 2.4

OBJECTIVES

The project is currently working on the analysis of legal requirements and necessary institutional mechanisms and procedures for the creation and operation of a national testing system for quality control of RES equipment and components.

The main goal of this work will be to contribute to the functioning of the national testing system for quality control in terms of developing methods for testing components of renewable energy technologies by types of renewable energy sources (for the production of heat and electricity).

Number of outputs - 4 methodologies aimed at:

- testing of solar photovoltaic panels (without limitation on power of one panel);
- testing of wind turbines, including turbine components (up to 1 MW);
- testing of solar collectors for hot water supply;
- boilers/boiler houses for solid biomass, pressed straw bales, unit capacity up to 1 MW.

These methods must be developed in accordance with the national legislation in the field of technical regulation, standardization and testing of equipment of the Republic of Kazakhstan.

The developed methods must be submitted for discussion by the Technical Committee for Standardization No. 117 "Renewable Energy Sources and Alternative Energy".

SCOPE OF WORK

Under the guidance of the Project Manager, in close cooperation with the project experts and in close coordination with the RES Department of the Ministry of Energy of the Republic of Kazakhstan, the Contractor will work on the following scope of tasks:

Stage 1

1. Building a justification for the development of methods and ways for testing the above RES technologies (normative / regulatory references, practicality, justification and other aspects related to testing the components of RES technologies);
2. Methods and ways of applicable assessment to an extended list of quality parameters of energy generating equipment based on renewable energy sources (photovoltaics, solar heat, wind energy, low potential heat pumps) and its components;
3. Submission and agreement with UNDP on the content of testing methods for RES technologies (at least 10 pages), which should contain at least:
 - general provisions (terms and concepts, test objects);
 - test procedure (test procedures for components, list of test equipment, test methods, formulas for calculations);
 - test results (test reports, generation of reports and documentation)
 - applications.
4. Provisions for compliance and harmonization of the developed methods with the requirements of the legislation of the Republic of Kazakhstan and regulatory documents. Recommendations and a list of normative documents;
5. Development of the first edition of 4 methods for testing renewable energy technologies:
 - testing of solar photovoltaic panels (without limitation on unit power of one panel);
 - testing of wind turbines, including turbine components (up to 1 MW);
 - testing of solar collectors for hot water supply;
 - boilers/boilers for solid biomass, pressed straw bales, unit capacity up to 1 MW.

Stage 2

6. Preparation of letters and distribution of the first edition of the methodologies to interested organizations and companies in the field of testing and certification of RES devices for receiving feedback and comments;

7. Discussion with representatives of testing laboratories of the developed methods for testing renewable energy technologies at the TC 117 meeting, in a hybrid format, so that participants from remote regions can also take part;
8. Expert analysis work with comments, suggestions and recommendations from testing laboratories;
9. Preparation of a comparative table on test methods based following the analysis of the recommendations of testing laboratories and comparison with international practice of testing;
10. Refining, introduction of reasonable changes and submission of the proven version of the methods and ways for testing RES technologies. Based on the results of consideration and approval of the methods, the Contractor prepares a summary of reviews including accepted and not accepted comments and suggestions of testing laboratories. In case of disagreement with the comments and suggestions, a grounded justification should be given;
11. As a result of agreeing on the final text of methods and methods for testing RES technologies - preparation of the final version in Russian and Kazakh languages;

Stage 3

12. Registration of methods for testing RES technologies in accordance with national regulatory acts in the field of standardization and testing of equipment (in Russian and Kazakh languages);
13. Preparation of an explanatory note with the attachment of all related documents prepared during the development of 4 methods;
14. Preparation of a draft / text of the order of the authorized body for further approval of the developed methods for testing RES technologies (in Russian and Kazakh languages);
15. Based on the results of the work performed, it is necessary to provide a final information and analytical report with minutes of discussions and summaries of feedback, as well as a draft article in the media.

The work should be presented and discussed with all interested parties, including, but not limited to: the Ministry of Energy, Industry and Infrastructure Development, the Committee for Technical Regulation and Metrology (hereinafter - CTRM) and testing laboratories.

EXPECTED RESULTS

The deadlines for submission of specific assignment deliverables are as follows:

No.	Practical results	Deadline (number of working days)	Checked and approved	Payment, %
1.	Works performed in accordance with Stage 1: items 1,2,3,4,5,6	8 weeks from start date	ICTA, Project manager	40
2.	Works performed in accordance with Stage 2: items 7,8,9,10,11	16 weeks from start date	ICTA, Project manager	40
3.	Works performed in accordance with p. Stage 3: 12,13,14,15	20 weeks from start date	ICTA, Project manager	20

BUSINESS TRAVEL

Business trips under this Terms of Reference are not provided.

GENERAL TERMS

- The Contractor guarantees the unconditional fulfillment of the requirements of this TOR, in case of inadequate quality of his work, UNDP reserves the right to terminate the contract unilaterally;
- When performing all types of work, the Contractor must ensure the complete safety of materials and finished products, excluding the creation of counterfeit products.
- It is necessary to ensure compliance with the legislation and regulations of the Republic of Kazakhstan on copyright (and related rights).
- All rights to the manufactured products, including original documents and their copies, can be transferred to any third party at the discretion of the Client, and such transfer can be made directly to the third party and immediately after completion and acceptance. all work performed in accordance with this Terms of Reference.
- Terms of payment: upon delivery of the results, as indicated in the "Expected results" section, on the basis of financial documents (invoice, acts);
- The cost of services must include VAT if the Service Provider is a VAT payer and all other expenses;
- The proposal must be valid for at least 90 days from the deadline for submission of proposals;
- No price changes due to escalation, inflation, currency fluctuations or any other market factors are accepted at any time during the offer period after the offer has been received;
- The UNDP project reserves the right to make changes to the Terms of Reference by no more than 20% of the volume, which does not affect the general nature of the work and the cost of services under the Contract.

RESPONSIBILITY AND ACCOUNTABILITY

The Contractor is solely responsible for the accuracy and legality of the information provided, as well as for the timely submission of reports.

- Coordinates planned activities with ICTA and UNDP Project Manager.
- Works closely with the Department of Renewable Energy of the Ministry of Energy of the Republic of Kazakhstan and a team of project experts.
- Ensures the unconditional fulfillment of the requirements specified in the contract and Terms of Reference.

REPORTS AND MATERIALS

All reports must be written in Russian in electronic format in MS WORD format (2003 and above), font size 11 . Font requirements: "Proxima Nova" or "Arial".

Working time: June-October 2022

Place of work: Home based

PLACE OF WORK

Home based

QUALIFICATION REQUIREMENTS

The Contractor can be a company/organization that has the following experience and meets the following requirements:

- Must have legal capacity to conclude contracts:
 - certificate of registration/re-registration.
 - copy of the charter
- At least 5 years of experience in the field of testing and quality control of electrical equipment in the Republic of Kazakhstan;
- At least 5 years of experience in the development of technical documents in the Republic of Kazakhstan in the field of standardization and metrology (technical standards, regulations, rules);
- At least 5 years of experience in developing documentation in the field of testing and certification of electrical equipment in the Republic of Kazakhstan (test methods, instructions and protocols, documents for accreditation);
- A list of similar services performed, indicating the client, the name of the services / works, the year the services were provided and the cost;
- At least 3 reviews / recommendations based on the results of similar work performed;
- Experience in working with UNDP and other international organizations is an asset.
- Financial stability:
 - certificate of absence of tax arrears
 - balance sheet for 2020-2021
- Certificate of VAT payer (if any). If the company is not a VAT payer, written confirmation must be provided

The staff should consist of the following specialists (with the provision of a detailed resume, diplomas and other documents confirming experience and qualifications), as well as a letter of consent from each employee that he will be available during the entire term of the contract.

Requirements for the key personnel involved in the performance of work on this terms of reference:

No.	Compound commands	Qty human	Min. acceptable level of education and field of study	Special skills/experience
1	Team Leader	1	Higher technical education;	<ul style="list-style-type: none"> • At least 10 years of experience in the field of technical regulation, standardization, testing and certification of electrical equipment; • Excellent knowledge of legislative and other regulatory documents in the field of standardization and testing; • Excellent presentation and report writing skills. • Fluency in Russian
2	Technical expert	1	Higher technical education	<ul style="list-style-type: none"> • At least 5 years of experience in testing laboratories; • At least 3 years of experience in preparing documentation for testing laboratories (test methods, instructions and test reports). • Fluency in Russian
3	Expert proofreader	1	Higher legal education	<ul style="list-style-type: none"> • At least 5 years of experience in the development of technical documents in the Republic of Kazakhstan (standards, regulations, rules); • At least 3 years of experience in office work on the development of methodological documents, maintaining a summary of feedback and reporting. • Fluency in Russian

PRICE OFFER AND PAYMENT SCHEDULE

The quotation must include all costs of the Contractor with a detailed breakdown by items specified in the Expected Results section, as well as the agreement of the Contractor with the terms and requirements of the Terms of Reference. The quotation must include all indirect and direct costs (VAT, if applicable, and other obligatory payments). The Contractor must indicate whether he is a VAT payer or not.

Payments are to be made in 3 tranches upon satisfactory completion of each item in accordance with the Expected Results section of the Terms of Reference and approval of the results by the UNDP project team upon submission of the Acceptance Certificate and Invoice.

% of the contract amount	Stage of work
40%	Result 1
40%	Result 2
20%	Result 3

Payment must be made in local currency for each completed deliverable, as specified in the ToR, once the deliverables have been approved by the Project Manager and the completion certificate for each deliverable has been signed by the Project Manager.

RECOMMENDATIONS FOR SUBMITTING A PROPOSAL

- a) Properly executed Application for Tender, UNDP template must be used;
 - **Short description** why the company considers itself the best fit for the job, and a methodology that tells what approach will be taken and how the assignment will be carried out. Work schedule (should necessarily include the composition of the team and the distribution of responsibilities, a brief description of the methods and procedures for performing work),
 - A financial proposal indicating the total amount of the contract, including all costs, as well as their breakdown according to the template. If the tenderer is in an organization/company/institution and he/she believes that his/her employer will charge a management fee in the process of his/her release to work under UNDP under a loan repayment agreement, then the tenderer must indicate this paragraph and ensure that all costs are properly included in the financial proposal submitted to UNDP. All other documents confirming qualifications and experience that meet the requirements specified in the "QUALIFICATION REQUIREMENTS" (requirement for the Contractor).

CRITERIA FOR SELECTING THE BEST OFFER

Contractor will be evaluated based on an aggregate approach based on technical qualifications and a financial proposal. Qualification and methodology assessment will be a maximum of 70%, the maximum assessment of the price offer is 30%.

Technical proposal (70%, 1000 points)

- ✓ Firm experience(30%)
- ✓ Methods, compliance with the terms and conditions of the Implementation Schedule [30%]
- ✓ Management structure and qualifications of key personnel [40%]

Summary of Technical Proposal Evaluation Forms		Evaluation weight	Points received
1.	Expert assessment of the Firm / Organization	30%	300
2.	Suggested methodology, strategy and implementation plan	30%	300
3.	Organizational structure and key personnel	40%	400
Total			1000

Evaluation of the Technical Proposal		Points received
Expert assessment of the Firm / Organization		
Compliance with project requirements:		
1.1	At least 5 years of experience in interaction and performance of work for organizations operating in the field of testing and quality control of electrical equipment in the Republic of Kazakhstan: 5 years - 56 points (minimum requirement); for each additional year - -8 points, maximum - 80 points.	80
1.2	At least 5 years of experience in the development of technical documents in the Republic of Kazakhstan in the field of standardization and metrology; (technical standards, regulations, rules): 5 years - 56 points (minimum requirement); for each additional year - 8 points, maximum - 80 points.	80
1.3	At least 5 years of experience in the development of documentation in the field of testing and certification of electrical equipment in the Republic of Kazakhstan (test methods, instructions and protocols, documents for accreditation): 5 years - 56 points (minimum requirement); for each additional year - 8 points, maximum - 80 points.	80
1.4	List of similar services performed, indicating the client, name of services / works, year of services and cost (if possible): if available - 20 points (minimum requirement).	20
1.5	At least 3 reviews / recommendations based on the results of similar work performed: if available - 20 points (minimum requirement).	20
1.6	Experience of working with UNDP and other international organizations: absent - 0 points if available - 20 points.	20
Total:		300

Suggested methodology, strategy and implementation plan		
2.1	Understanding the essence, methodology and expected results of the project corresponds to the terms of reference and is reflected in the proposal;	150
2.2	Work schedule (must include the composition of the team and the distribution of responsibilities, descriptions of methods and procedures for performing work)	150
	Total:	300

Organizational structure and key personnel		
3.1	<u>Project Manager</u>	
	Compliance with project requirements	
	Higher technical education: higher education - 42 points (minimum requirement); master's degree - 51 points, higher qualification - 60 points;	60
	At least 10 years of experience in the field of technical regulation, standardization, testing and certification of electrical equipment: 10 years - 42 points (minimum requirement), for each additional year 9 points, max. up to 60 points	60
	Excellent knowledge of legislative and other regulatory documents in the field of standardization and testing: with experience 50 points (minimum requirement)	50
	Excellent presentation and reporting skills: with experience - 30 points (minimum requirement)	30
	Total:	200
3.2	<u>technical expert</u>	
	Compliance with project requirements	
	Higher technical education - 25 points (minimum requirement); master's degree - 30 points, higher qualification -35 points;	35
	At least 5 years of experience in testing laboratories: 5 years - 25 points, (minimum requirement) for each additional year 5 points, max. up to 35 points	35
	At least 3 years of experience in preparing documentation for testing laboratories (test methods, instructions and test reports): 3 years - 21 points (minimum requirement), 3 points for each additional year, max. up to 30 points	30
	Total:	100
3.3	<u>Expert-corrector</u>	
	Compliance with project requirements	
	Higher legal education: higher education - 25 points (minimum requirement); master's degree - 30 points, higher qualification -35 points;	35

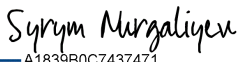
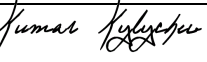
	At least 5 years of experience in the development of technical documents in the Republic of Kazakhstan (standards, regulations, rules): 5 years - 25 points (minimum requirement), for each additional year 5 points, max. up to 35 points	35
	At least 3 years of experience in office work on the development of methodological documents, keeping a summary of feedback and reporting: 3 years - 21 points (minimum requirement), for each additional year 3 points, maximum. up to 30 points	30
	Total:	100

Please note that if an applicant does not meet any of the minimum technical qualification criteria/requirements specified in the Terms of Reference (TOR), they will be scored zero and will be automatically disqualified. A disqualified candidate will not be evaluated further.

Financial offer (30%)

Calculated as the ratio of the Proposal price to the lowest price among all Proposals received by UNDP.

TERMS OF REFERENCE APPROVED:

Syrym Nurgaliev Project manager	Signed	DocuSigned by:  A1839B0C7437471...
	The date:	31-May-2022
Kumar Kylychev Head of the Department of Environment and Energy	Signed	DocuSigned by:  34BDDA26FC1641C...
	The date:	31-May-2022