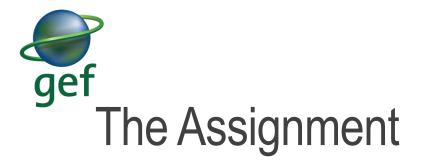






SMALL SCALE RES MRV in Kazakhstan

MONITORING PLAN 06 NOVEMBER 2019







The 31 July 2019 a contract has been signed between **UNDP Kazakhstan** and **NIRAS** represented by **Morten Pedersen** from Denmark.



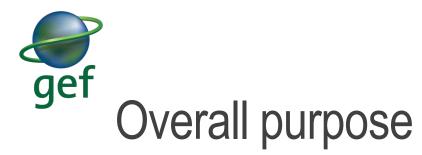
The title of the assignment "Preparation and development an MRV system of international standard for regular measurement, reporting, and verification of relevant indicators for the small-scale renewable sector".



The final output is to prepare a monitoring plan for specific and selected RE technologies.



The contract with NIRAS was successfully performed in the period August – October 2019.





The overall purpose of having a small scale RES (Renewable Energy System) MRV is threefold



To be able to report the green development of Kazakhstan as part of the UNFCCC reporting requirement.



To have an overview of the implementation and impact of the measure in Kazakhstan





Key principles

Promoting UNFCCC priorities transparency, accuracy, completeness, consistency and comparability when implementing the RES MRV system

When developing the RES MRV system for the specific technical solution, the UNFCCC approved CDM methodologies will be used as a main source. The eligibility criteria and monitoring plan in these methodologies shall be adopted the Kazakhstan conditions.

The approved process and MRV of the national projects according to current legislation shall be taken into consideration.

Sustainable Development Co-Benefits shall be an integrated part of the RES MRV system and these benefits shall be carefully evaluated as cost-benefit shall be the focus.

RES MRV shall be developed so it can be covered by national funding and the RE MRV shall be as such be operational without donor funding.







Under **UNFCCC the Kyoto Protocol** a significant number of Renewable Energy methodologies have been developed and the ones relevant for this assignment are described in the below section.



Under the Japanese program - **Joint Crediting Mechanism** renewable energy methodology has been developed and solar PV has been used in many countries, but it has not been developed for Kazakhstan yet.



Several voluntary programmes also cover renewable energy. Gold Standard is presented as they have developed microscale methodologies for less than 5 MW.







	Off-grid	On-grid
Small scale Solar PV, wind and hydro projects	Included	Included
Solar Water heaters	Included	

	Off-grid	On-grid
Small scale Solar PV, wind and hydro projects	AMS 1.L Electrification of rural communities using renewable energy	AMS 1.D. Grid connected renewable electricity generation
Solar Water heaters	AMS 1.J Solar water heating systems	- N/A



PoA

MM

>15

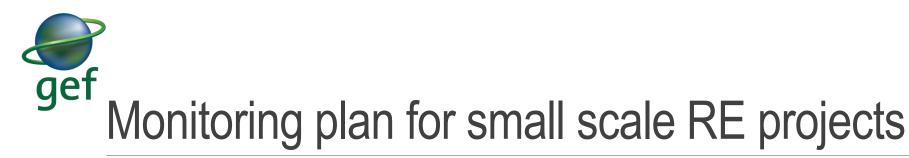


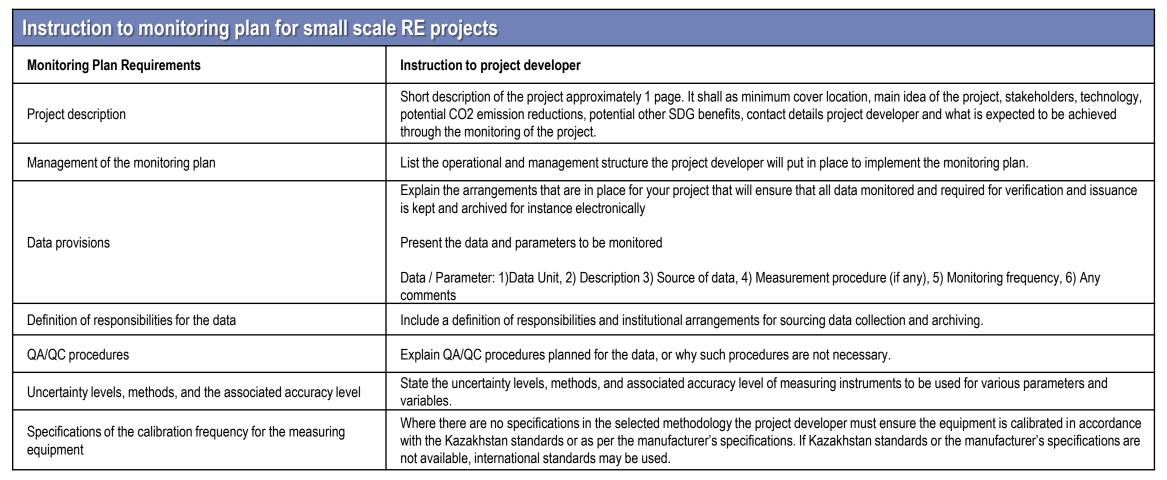


Programmatic Approach

- The classical structure of CDM uses a project-by-project process for registering and verifying projects. This approach involves very high transaction costs, a long time to market, and a high risk of non-registration. In order to reduce transaction costs in CDM and expand the mechanism's applicability to micro project activities, the CDM Executive Board launched the Programme of Activities modality (PoA).
- Above approach shall also be considered by Kazakhstan. For now the situation is that only small scale RE projects below 15 MW is eligible.
 - A project developer can for instance consider implementing a significant number of 1 MW solar PV in entire Kazakhstan and maybe the project developer would like to install 100 solar PV. In case the total installed capacity will be 100 MW after all the 1 MW solar PVs have been installed. Probably the project developer will also do it in a gradual process depending on demand and financing.
 - Kazakhstan should consider adjusting the rules for the domestic projects, so it will cope with above scenario.

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Monitoring plan – Solar PV, wind and hydro projects connected to the grid (example)

This section includes supplementary instructions to the monitoring plan for Small scale Solar PV, wind and hydro projects connected to the grid.

Project description

The project description the actual situation in relation to energy supply and consumption and size and number of Solar PVs, wind and hydro units to be installed.

• Data provisions - GHG

Data/Parameter	EF –emission factor for the grid
Data Unit	t CO ₂ e/kWh
Description	CO ₂ emission factor of the grid electricity in year y
Source of data	-
Measurement procedure	As per the requirements in "Tool to calculate the emission factor for an electricity system" as per CDM or as proposed by the Agency of Statistics/ Zhasyl Danu JSC
Monitoring frequency	-
Any comments	-







- ✓ The monitoring plan for small scale RE projects shall be processed formally and shall be adapted and used accordingly.
- For the monitoring plan it is important to clarify whether Non-GHG shall be part of the documentation when developing a project.
- ✓ To prepare three suitable RE methodologies valid for Kazakhstan based on the international recognised methods, for instance adjusting the CDM. The methodologies shall be adjusted by addressing the eligibility criteria and when options in a methodology select upfront what is suitable for Kazakhstan. The three RE methodologies shall cover: 1) Small scale Solar PV, wind and hydro projects – off-grid, 2) Small scale Solar PV, wind and hydro projects – on-grid and 3) Solar Water Heaters – offgrid.
- ✓ The monitoring plan with be an integrated part the development CO2 reducing projects and following issues related to the monitoring should have attention :
 - The monitoring report format and verification report format should be developed 1. for small scale RE to support a uniform and easy administration,
 - Consider the programmatic approach for easier and less costly administration. 2.