# REQUEST FOR EXPRESSION OF INTEREST

## International Renewable Energy Expert

**Publication date:** 20th Jan 2022
**Submission date:** 26th Jan 2022
**Country:** Bangladesh
**Duration:** 44 Days

**Description of procurement:**
The objective of this assignment is to update the solar PV pumps roadmap for the government of Bangladesh, reflecting the changing circumstances on the ground due to the government's electrification program and demonstrating how renewable energy (RE) can be a benefit to the agriculture sector and propose possible purchase tariff that government could consider and over what time period to make solar PV pumping a viable solution in the long run.

**Scope of the work:**
The consultant will include/update the following aspects in the roadmap report:

a) Compare solar PV pumps with grid-connected electric pumps and undertake a detail cost benefit analysis of using solar PV pumps by farmers and savings to the economy if there is a transition to using solar PV pumps.
b) Consider the hybridization of electric pumps with solar PV pumps since excess solar PV electricity can be sold to the grid and develop a business model for this case.
c) Assess the challenges group financing model for solar PV irrigation pumps face in Bangladesh. What lessons can be learned from this experience and suggest what appropriate changes will be required to make it workable. Review other studies where such models have worked in Africa and Asia for the government of Bangladesh to consider.
d) Update the cost of grid integration as well as payback period for distances of 100 meters to 300 meters to the 11kV line.
e) Coordinate with the water resources expert and the senior energy advisor in conducting ground water impact assessment and incorporate them in the roadmap.
f) Update the business plans providing 2-3 business models that the government of Bangladesh, particularly ministry of agriculture could consider as options in scaling up solar PV pumps among small group of farmers using small sized pumps 2-5kW sized pumps versus 15kW to 20 kW pumps through local financial intermediaries.
g) Work closely with the senior energy policy advisor in including a chapter on using small size solar PV pump system to provide clean drinking water in rural and coastal areas where potable water is not available.
h) Update the business and financing model for the delivery of solar PV pump systems to the farmers, suggest appropriate financing models (NPV, Payback Period, IRR, appropriate net-metering tariff for solar PV pumps, etc.) for consideration by the government for commercial, smallholders and subsistence farmers. In updating the business models, provide optional business models for the government'sconsideration such as:
   - Solar PV pump systems will be provided by the government but operated by the communities including O&M costs;

- Solar PV pump systems will be installed by entrepreneurs who will also provide water for fee including O&M costs;
- Business model for areas where ultra violet (UV) and reverse osmosis technology using solar PV pumps will be required to treat brackish and saline water to meet the drinking water needs of communities that can be installed by the government or private sector.

i) Present the findings of the updated Roadmap to the government at a validation workshop and incorporate comments received in the final report.

**Minimum Qualification Requirements**

The candidate must have at least 15 years of experience in the required expertise, must have an engineering degree

For more information, please email to info@tenderingprojects.es