

Request for Proposal (RFP)

Study on 'Scope of Rooftop Solar in Government Educational Institutions in Bangladesh'

August, 2025



SAARC Energy Centre

House No. 255, Akram Road, Bani gala, Islamabad.
Phone: +92-51-8772376 Email: info@saarcenergy.org

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Introduction

Recently, power supply shortages have intensified in Member State Bangladesh due to increasing gap in electricity demand and supply. The Government educational institutes including schools, vocational centers, and madrassas also face disrupted supply during their working hours. Although power is mainly required in these educational institutes for electrical loads like lighting and fan, but in today's digital age, they also utilize latest technology for teaching and learning purposes. The appliances including computers, projectors, and interactive whiteboards also require electricity to function. The energy requirement of these educational institutes has increased with period of time. With load shedding, these appliances become inoperable, hindering the quality of education and creating a barrier to effective learning. The disruption of power leads to a loss of valuable educational time for the students.

Solar PV technology is a growing alternative energy source that reduces the electricity demand from grid, lowers electricity bills, provides off-grid alternative, and supports in combating climate change. The rooftops of these educational institutes can be ideal for installing solar panels to produce the energy needed to operate education facilities. Yet, a comprehensive assessment has not been conducted in Bangladesh to determine the feasibility of Solar electrification in these institutes.

In view of above, SAARC Energy Centre is conducting a Research Study on 'Scope of Rooftop Solar in Government Educational Institutions in Bangladesh'. This study shall be outsourced to a short-term Expert(s)/ part(y/ies) selected and hired by SEC. The Expert(s)/part(y/ies) shall be required to conduct a detailed techno-economic assessment of installing Solar PV systems at the Government educational institutes in Member State Bangladesh. The Expert(s)/ part(y/ies) shall conduct the study in line with given TORs and shall build the research while considering the "Proposed Minimum Contents" provided by SEC for this study. The Expert(s)/ part(y/ies) are expected to further expand the scope to add value to the overall objective of the study.

Objectives

The objective of the study is to analyze the challenges and opportunities, and assess the techno-economic feasibility of installing Solar PV systems at the Government educational institutes in Member State Bangladesh. This study after completion, may help the Government of Bangladesh to take informed decisions on installing Solar PV technology in these institutes.

Scope of Study

The study should cover all Government educational institutions (including but not limited to primary/secondary schools, colleges, vocational centres, universities and madrassas etc) within

Bangladesh. The Study should evaluate suitability of different rooftop configurations, technical design specifications of Solar PV (on-grid/off-grid/net-metered including battery storage), Existing and Forecasted load in next 5/10 years, and financial indicators i.e., Capital & Operational cost, Return on Investment, Payback period etc.

Any limitations and assumptions taken during the course of the research should be clearly mentioned in the study report.

Terms of Reference (TORs) of Study

The major aspects and approach of this research study are as under:

- a) Cover the areas suggested in “Proposed Minimum Contents” (given at Annexure – I) keeping in view the objectives described in Section 2 and scope in Section 3.
- b) An in-depth, factual and concise research shall be preferred over generic or broad natured appraisal. Similarly, the quantified results (where applicable) shall be preferred over the qualitative evaluations.
- c) Contents and style should guide the stakeholders (policy makers, professionals etc.).
- d) Analysis of the study should be based on authentic primary as well as secondary sources with citation.
- e) The pictures/ exhibits should be of good quality and of high resolution.
- f) The comparison (if any) can be drawn from existing viable and proven solutions/ examples/ best practices of countries or regions, which have similar or near-similar conditions as of SAARC Member States.
- g) Conclusions and recommendations of the study shall be reported.
- h) There should be no copyright violation in the study report.

General Terms & Conditions

Following terms and conditions will apply for the purpose of this study:

- a) SEC reserves the right to accept or reject any or all of the proposals.
- b) Any false information/ document(s) will lead to rejection of the proposal.
- c) The selected and hired Expert(s)/ part(y/ies) will enter into a Service Agreement with SEC to conduct the study.
- d) The Study task will be carried-out while working at location of the Expert(s)/ part(y/ies). It does not include any travelling to SAARC Member States or to SEC.
- e) The Expert(s)/ part(y/ies) will remain in close liaison with and report to the SEC Programme Coordinator of this study.

- f) Email or any other online communication will be the preferred mode of contact between Expert(s)/ part(y/ies) and SEC.
- g) To facilitate the Expert(s)/ part(y/ies) in the conduct of the study, SEC will give free access to all relevant data available with it. This shall include all SEC publications, reports/ data/ information held in SEC library and data bank. Other than this, access to additional data/ information, for the purpose of this study, will be the sole responsibility of the Expert(s)/ part(y/ies).
- h) Expert(s)/ part(y/ies) will design and structure the study by taking into account, but not limited to the TORs and Proposed Minimum Contents of the study. Expert(s)/ part(y/ies) is/are strongly encouraged to add or improve the contents of study, preferably in consultation with SEC.
- i) Expert(s)/ part(y/ies) will submit the broad Table of Contents along with any further additional information about the study within three weeks of the signing of the Service Agreement.
- j) The Expert(s)/ part(y/ies) will submit the interim report of the study (electronic copy) conducted/ completed on fortnightly basis, to SEC for mutual coordination and timely feedback from the Programme Coordinator.

Duration of the Assignment

- a) The Expert(s)/ part(y/ies) will submit final draft report of the study (completed in all respects) within six months of the signing of the service agreement. SEC shall review the draft and communicate to the Expert(s)/ part(y/ies) of its evaluation. Any weaknesses/ shortcomings/ improvements pointed out by SEC shall be addressed by the Expert(s)/ part(y/ies) in the draft study report accordingly.
- b) SEC will send the improved draft study report to the selected reviewer(s) for peer-review and comments/suggestions. The Expert(s)/ part(y/ies) will incorporate the suggestions of the reviewer to finalize the study report.

Deliverables

After finalization of the study, the Expert(s)/ part(y/ies) will submit the following as per the requirement of SEC:

- a) Soft copy of Final Study Report (editable version) with appropriate formatting and composing.
- b) A comprehensive PowerPoint presentation covering the important features and the outcome of the study.
- c) A techno-economic analysis tool (preferably Excel-based).

Payment Terms

SEC will pay a lump sum honorarium not exceeding USD 30,000/- (all-inclusive and after deduction of tax/duty) to the Expert(s)/ part(y/ies) after peer review and finalization of the study, and upon

acceptance of the final study report by the Centre. The Centre will not be liable to make the payment in case of late submission of the deliverables mentioned in Section 7.

Hiring Process of Expert(s)/ Part(y/ies)

Interested Expert(s)/ part(y/ies) shall submit their technical & financial proposals to undertake this study. Hiring process will be as follows:

- a) Submission of technical & financial proposals by Expert(s)/ part(y/ies) by the set deadline.
- b) Technical evaluation of the proposals by Evaluation Committee for shortlisting of suitable Expert(s)/ part(y/ies) as per “Scoring Criteria for Evaluation of Technical Proposals” (given in Annexure – II).
- c) Financial evaluation of the top three shortlisted proposals as per the following formula:

$$\text{Financial Score (out of 20)} = 20 \times \frac{\text{Lowest Bid Value Offered}}{\text{Your Bid Value}}$$

- d) Final selection will be based on combined score of technical (out of 80) and financial (out of 20) evaluations.
- e) The successful Expert(s)/ part(y/ies) will be intimated and offered to enter into a Service Agreement with SEC to undertake the study. In case successful Expert(s)/ part(y/ies) declines, next in line Expert(s)/ part(y/ies) will be offered to proceed with Service Agreement.

Components of the Proposal

The proposal shall comprise of following three components:

10.1. Cover Letter

A cover letter (maximum one page) assuring that the study will be completed by the team members indicated in the CVs and they will be available and interacting with SEC throughout the conduct of the study till finalization and its dissemination the following year, as per the requirement of SEC.

10.2. Technical Proposal

The Technical Proposal shall comprise of:

- a) Research Proposal to conduct the study (guidelines given in Annexure – III)
- b) Curriculum Vitae (CVs) of Team Lead and each team member as per template in Annexure – IV. Scanned copies of testimonials/ degrees/ certificates must be attached with the CV.

10.3. Financial Proposal

The Financial Proposal should stipulate a lump-sum amount in US Dollars to undertake the assignment as per format at Annexure – V.

Annexure – I

Proposed Minimum Contents

For

Study on ‘Scope of Rooftop Solar in Government Educational Institutions in Bangladesh’

These are the proposed minimum contents that should be improved to make the study comprehensive to meet the objectives:

- i. Overview of Government Educational Institutes in Bangladesh
- ii. Reviewing policy and regulatory regime on national Solar PV sector
- iii. Data collection and Analysis including Energy Audit, Statistical Analysis and Modelling etc
- iv. Existing and forecasted energy consumption patterns of educational institutes
- v. Evaluate Technical Feasibility including various configurations and specifications of system size/design, Rooftop structure design, local Irradiance and shading, etc
- vi. Analyze Economic Viability including costs, potential savings and payback periods
- vii. Conduct detailed techno-economic analysis
- viii. Examine environmental and social impacts of Solar PV technology adoption on Stakeholders in local communities
- ix. Implementation Plan including modes of financing, procurement strategy, installation/commissioning, Training and capacity building, and Monitoring & maintenance.
- x. Recommendations and Way forward

Note: Please follow APA Seventh Edition method in your study report for citing the work of others.

Annexure – II

Scoring Criteria for Evaluation of Technical Proposals

Evaluation of Technical Proposal will be based on the following criteria:

| Evaluation Parameters | Max Score | Evaluation Score | Clarifications | | | | | | | | | | | | | | | |
|--|-----------|---|--|-------------------|-----------|-----------|---------|----|----|-----------|----|----|------------|----|----|-----------|----|----|
| Relevant Academic Qualifications / Education (of Team Lead) | 20 | <ul style="list-style-type: none">10 for B.E./B.Sc./B.Eng. (16 years of education)12 to 15 for MS/M.Sc./M.Eng./M.Phil (17-18 years of education)17 to 20 for PhD | <ul style="list-style-type: none">Only the highest qualification will be scored.For MS/PhD, the scoring shall be as follows: | | | | | | | | | | | | | | | |
| | | | <table><tr><th>Latest QS Ranking</th><th>MS Score</th><th>PhD Score</th></tr><tr><td>1 to 50</td><td>15</td><td>20</td></tr><tr><td>51 to 100</td><td>14</td><td>19</td></tr><tr><td>101 to 200</td><td>13</td><td>18</td></tr><tr><td>Below 200</td><td>12</td><td>17</td></tr></table> | Latest QS Ranking | MS Score | PhD Score | 1 to 50 | 15 | 20 | 51 to 100 | 14 | 19 | 101 to 200 | 13 | 18 | Below 200 | 12 | 17 |
| | | | Latest QS Ranking | MS Score | PhD Score | | | | | | | | | | | | | |
| | | | 1 to 50 | 15 | 20 | | | | | | | | | | | | | |
| | | | 51 to 100 | 14 | 19 | | | | | | | | | | | | | |
| | | | 101 to 200 | 13 | 18 | | | | | | | | | | | | | |
| | | | Below 200 | 12 | 17 | | | | | | | | | | | | | |
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| Team Composition | 10 | <ul style="list-style-type: none">6 for individual7 for local team / firm9 for regional team / firm10 for international team / firm | <ul style="list-style-type: none">Team comprises of two or more than two members.Local: Team members from the same country.Regional: Team members from at least two SAARC Member States.International: Team members from SAARC region and at least one from outside. | | | | | | | | | | | | | | | |
| Relevant Professional Courses and Trainings | 05 | <ul style="list-style-type: none">01 for every 15 training days up to maximum score of 03 (for Team Lead)Additional 01 for every 15 training days up to maximum score of 02 (for team members) | <ul style="list-style-type: none">Total training days will be counted separately for Team Lead and other team members.For Team Lead, total training days between 0-14 will get 0 score, between 15-29 days will get 01 score, between 30-44 days will get 02 score, and beyond 45 days will get 03 score.For team members, number of training days will be counted individually not collectively. For example, for two team members in addition to the Team Lead, if | | | | | | | | | | | | | | | |

| Evaluation Parameters | Max Score | Evaluation Score | Clarifications |
|--------------------------------------|-----------|--|--|
| | | | each team member has less than 15 days training, total score will be zero. |
| Relevant Work Experience | 10 | <ul style="list-style-type: none"> 01 for each completed year of relevant experience by Team Lead up to maximum score of 08 Additional 02 (maximum) if team members also have relevant experience | |
| Study Related Assignments Undertaken | 15 | <ul style="list-style-type: none"> 02 for each completed assignment by Team Lead or Firm up to maximum score of 10. Additional 02 (maximum) for assignment(s) involving multiple countries. Additional 01 for each relevant assignment (up to maximum of 03) conducted by team members | Assignments of duration less than 02 month will not be considered |
| Research Proposal | 20 | Graded on the scale of 01 to 20 | <p>Scoring will be based on strengths and suitability of the individual sections of Research Proposal as under:</p> <ul style="list-style-type: none"> Introduction: 02 Statement of the Problem: 01 Rationale and Objectives of the Study: 02 Scope of the Study: 02 Methodology: 04 Existing Status in Member State Bangladesh: 03 Issues and Challenges/Barriers (Socio-techno-economic, etc.): 03 Value Addition/Deliverable(s), if any: 02 Expected Outcome and Benefit of the Study: 01 |

Research Proposal to Conduct the Study

The Research Proposal should include the below mentioned sections and each section shall be scored as per “Scoring Criteria for Evaluation of Technical Proposals” (as given in Annexure – II). The Research Proposal must not exceed five pages (A4 page, font Calibri, size 11, line spacing 1.15, 1 inch margin on all sides), including charts and diagrams (if any).

- a) Introduction
- b) Statement of the Problem
- c) Rationale and Objectives of the Study
- d) Scope of the Study
- e) Methodology
- f) Existing Status in Member State Bangladesh
- g) Issues and Challenges/Barriers (Socio-techno-economic, etc.)
- h) Value Addition/Deliverable(s), if any
- i) Expected Outcome and Benefit of the Study

Annexure – IV

Standard Template for Curriculum Vitae

| Assignment/ Study/ Task Applied for | | | |
|--|----------|---------|-----------|
| Name | | | |
| Nationality | | | |
| Present Address | | | |
| Postal Address | | | |
| Cell and Landline Telephone | | | |
| Alternate Contact (if away) | | | |
| Email | | | |
| Whatsapp | | | |
| Proficiency in English Language (Proficiency in speaking, reading & writing by <i>Excellent, Good, Fair or Poor</i>) | | | |
| English Language | Speaking | Reading | Writing |
| | | | |
| References | | | |
| Name, Position, Institution and Country | | Email | Telephone |
| | | | |
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| | | | |
| | | | |
| | | | |

| Relevant Academic Qualifications/ Education <i>(College/ University & other higher educational institutions)</i> <i>Provide latest QS Ranking of institute of highest qualification</i> | | | | |
|---|-------------|----------------|------------------|----------------|
| Degree | Institution | Specialization | Courses Attended | Year Completed |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |

| Relevant Professional Courses/Trainings attended and Professional Certifications obtained etc. <i>(professional courses/ short courses (other than academic courses) attended)</i> | | |
|--|----------------------------------|------------------|
| Course Title/ Description | Institution and Country Attended | Duration (MM+DD) |
| | | |
| | | |
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| | | |
| | | |
| | | |

| Relevant Work Experience <i>(All positions held since graduation)</i> | | | |
|--|------------------------------------|----------|------------------------|
| Period (YY+MM) | Position | Employer | Major Responsibilities |
| | | | |
| | | | |
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| | | | |
| Experience Specifically Related to This Assignment/ Study/ Task <i>(Study Related projects, research work etc.)</i> | | | |
| Brief Description of Project/ Research/ Field Work Undertaken | Organization and Country/ Location | Year | Duration (YY+MM) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Format for Financial Proposal

| FINANCIAL PROPOSAL | |
|--|------------------------|
| Description of Assignment | Bid Offer (USD) |
| Study on ‘Scope of Rooftop Solar in Government Educational Institutions in Bangladesh’ | |

It is certified that the given RFP has been thoroughly read, understood and agreed upon. We (Expert(s)/ part(y/ies)) undertake to complete the assignment within stipulated time at the total cost (inclusive of all taxes/ duties) quoted above.

Expert/ Team Lead: _____

Signature with date: _____