

TERMS OF REFERENCE FOR CONSULTANTS

A. SUMMARY OF CONSULTING SERVICES REQUIREMENTS

1. The following table shows required services for the transaction technical assistance (TA) facility in order to support the Government of Bangladesh to prepare and subsequently implement (i) Scaling Up Energy Efficiency and Conservation Project; (ii) Sustainable and Reliable Power Supply Project; and (iii) Green Power Development Investment Project.

Table 1: Summary of Consulting Services Requirement

Positions	Person-Months
International	
Senior Energy Advisor/Team Leader	6.0
Energy Efficiency Specialist	2.0
Power Systems Engineer	3.0
Renewable Energy Specialist	3.0
Financial Management Specialist	4.0
Energy Economist	3.0
Environmental Specialist	6.0
Climate Change Specialist	4.0
Social Development and Gender Specialist	6.0
Procurement Specialist	6.0
Total	43.0
National	
Energy Efficiency Expert	3.0
Power Systems Engineer	3.0
Environmental Specialist	6.0
Social Development and Gender Specialist	6.0
Procurement Specialist	6.0
Research Associates	6.0
Total	30.0

Source: Asian Development Bank.

B. OUTLINE OF THE TERMS OF REFERENCE FOR CONSULTANTS

2. The terms of reference for consultants provides main information on the task to be delivered under the TA facility. Approximately 43 person-months of international consultants' input and 30 person-months of national consultants' input will be required.

3. Asian Development Bank (ADB) will engage consultants on an individual basis, using the individual consultant selection (ICS) method. Consultants will be recruited following ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations (2017, as amended from time to time) and its associated staff instructions and/or project administration instructions. Survey and other support services will be acquired by the consultant following the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations (2017, as amended from time to time) and its associated staff instructions and/or project administration instructions.

4. Multidisciplinary team of individual consultants will be recruited to carry out activities identified in each output under the TA facility. The expertise of the consultants will cover the entire range required to conduct necessary due diligence for the projects mentioned in para. 1 above. Consultants will be deployed based on the requirements of each ensuing project. Consultants will closely coordinate and work with Ministry of Power, Energy and Mineral Resources, concerned

sector utilities and agencies as well as other key stakeholders and project proponents during the TA facility implementation.

C. INDIVIDUAL CONSULTANTS

1. International Consultants

a) Senior Energy Advisor/Team Leader (international)

5. **Objective and purpose of the assignment.** An International Senior Energy Advisor acting as a team leader of the consultants will be responsible for the overall quality and implementation of the activities and deliverables under the TA facility. The expert will provide coordinated and integrated expert guidance to the government and propose energy sector solutions by improving (i) the energy systems planning process; (ii) the quality of energy sector service delivery; (iii) institutional effectiveness in line ministry and concerned sector utilities; and (iv) the enabling environment for energy sector services by improving the policy, legal, and regulatory setting.

6. **Detailed scope of work.** Senior Energy Advisor/Team Leader will carry out, but not be limited to, the following tasks:

- (i) Provide the required support for the executing/implementing agencies (the EA/IAs) of each ensuing project mentioned in para. 1 above and report to ADB's project officer. As team leader of consultants, coordinate with other team members to develop a detailed work plan and implementation schedule, work with the EA/IAs to oversee the consulting team, and compile, edit, and ensure the quality of reports to be issued under the TA;
- (ii) Together with other team members through cross-sectoral stakeholder consultations assess current state of affairs in energy sector, identify key development constraints and opportunities and prepare problem tree analysis and summary sector assessment covering power and gas sectors;
- (iii) Lead preparatory process for the projects, provide expert guidance on project planning and design, and ensure that all necessary project due diligence documents are prepared on time and in good quality;
- (iv) Determine issues and challenges that may arise for the identified energy efficiency, energy transmission and distribution, and renewable energy projects;
- (v) Identify capacity building requirements among sector utilities and government agencies;
- (vi) Conduct analysis of energy sector policies and regulations in Bangladesh and propose practicable measures to further strengthen and improve policies and regulations in power and gas sectors, which may be added as policy actions in the forthcoming ADB's policy-based loans to Bangladesh;
- (vii) Based on the detailed sector assessment propose measures to standardize technologies in all energy subsectors, such as grid codes, equipment standards etc.;
- (viii) Lead preparation of technical appraisal manual to be used in undertaking feasibility studies and appraising energy efficiency subprojects; and
- (ix) Carry out other relevant tasks assigned by ADB Project Officer/Team Leader.

7. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to

comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

8. **Minimum qualification.** The expert shall have at least (i) a bachelor's degree in engineering and preferably have qualification of chartered and/or certified engineer; (ii) minimum 20 years of relevant experience in planning, implementing and evaluating interventions across all two energy subsectors – power and gas; (iii) at least 5 years of team leadership experience; (iv) excellent written and oral English skills; and (v) experience in international cooperation and management. He/she will have demonstrated excellent skills and experience in advising government and multilateral development partner organizations and working in multicultural contexts. Experience working in Bangladesh and knowledge of country's energy sector will be an advantage. Working experience with multilateral development organizations will be beneficial.

9. **Consulting inputs and terms of engagement.** An International Senior Energy Advisor will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until December 2022.

b) Energy Efficiency Specialist (international)

10. **Objective and purpose of the assignment.** An International Energy Efficiency Specialist will work closely with Senior Energy Advisor/Team Leader and the National Energy Efficiency Specialist to prepare an energy efficiency project in Bangladesh. Based on comprehensive review of the ongoing energy efficiency initiatives in Bangladesh and in close coordination with government agencies, the expert will help to conceptualize the business model for the proposed project. The expert will also provide recommendations on a set of required actions to address the barriers to energy efficiency and accelerate full realization of the potential of improving energy efficiency in Bangladesh.

11. **Detailed scope of work.** The tasks of the consultant will include, but not be limited, to the following:

- (i) Conduct comprehensive analysis and assessment of the ongoing energy efficiency initiatives in Bangladesh including the Energy Efficiency and Conservation Master Plan up to 2030; outputs of ADB TA 9266-REG: Improving Institutional Capacity in Preparing Energy Efficiency Investments; Energy Efficiency and Conservation Promotion Financing Project funded by the Japan International Cooperation Agency; and other energy efficiency projects being considered by other development partners;
- (ii) Propose appropriate business model for the proposed energy efficiency project and appraise their technical, financial, and economic feasibility;
- (iii) Review the roles and responsibilities of all stakeholders, appraise their institutional capacity, and propose a suitable arrangement for successful implementation of the proposed energy efficiency project;
- (iv) Define the subproject selection criteria for the proposed energy efficiency project in technical, finance, economic, environmental and social aspects;
- (v) Estimate the amount of emission control and pollution reduction capacity of the proposed energy saving solutions;
- (vi) Propose actions to address the barriers to energy efficiency for consideration in designing of the proposed energy efficiency project. This covers all areas including policy, institutional, finance, information and technology; and

(vii) Carry out other relevant tasks assigned by ADB Project Officer/Team Leader.

12. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

13. **Minimum qualification.** The consultant must have (i) at least a bachelor's degree in engineering or related field; (ii) a minimum of 10 years of experience in structuring energy efficiency and renewable energy projects; (iii) excellent written and oral English skills; and (iv) experience in international cooperation and management. Solid understanding of the energy efficiency markets in the South Asian Region will be an advantage.

14. **Consulting inputs and terms of engagement.** An International Energy Efficiency Specialist will be engaged for a total of 44 working days on an intermittent basis. The expert is expected to commence work by May 2020 until December 2020.

c) Power Systems Engineer (international)

15. **Objective and purpose of the assignment.** An International Power Systems Engineer will closely work with power sector utilities to plan, design and implement power transmission and distribution projects, as well provide coordinated support in development of renewable energy generation projects with an aim of optimal connection of upcoming generation to the national grid. High-level technical expertise will be required to ensure that the proposed solutions are technically and acceptable given the country context.

16. **Detailed scope of work.** The tasks of the consultant will include, but not be limited, to the following:

- (i) Study all relevant power sector related information and data, gather all additionally required information and prepare comprehensive power sector assessment;
- (ii) Identify key development constraints and sector opportunities to ensure reliable and uninterrupted electricity supply to consumers at all levels;
- (iii) Assess national power demand forecasts, electricity network planning and provide recommendations for improvement;
- (iv) Based on the analysis conducted propose most optimum energy solutions and project design;
- (v) Liaise with the EAs/IAs and help them prepare the project documents and fill information gaps, if any;
- (vi) Review due diligence and feasibility study prepared for the project as well as review of proposed transmission and distribution network development plan and examine alternative solutions;
- (vii) Visit project sites and assess the status of existing networks (condition, issues in capacity, reliability, use of standards, operation and maintenance aspects, losses, generation facilities, condition of distribution networks connected to the transmission system);
- (viii) Propose solutions, options and methodologies for network and equipment standardization;

- (ix) Conduct technical due diligence of proposed transmission and distribution projects including technical viability, standards used, potential to use latest technologies and provide recommendations;
- (x) Prepare bill of quantities and cost estimates for the proposed transmission and distribution projects;
- (xi) Review technical specifications for all network components of the proposed projects and provide recommendations for updating;
- (xii) Review bidding documents and provide recommendations for updating;
- (xiii) Assess the risks to the project implementation with risk mitigation measures;
- (xiv) Assess the implementation period of ongoing projects and provide achievable targets for implementation of the proposed projects;
- (xv) Assess the institutional arrangements in technical and operational planning of the EAs/IAs and their regional departments who supervise the project and responsible in operation and maintenance of the project assets;
- (xvi) Review costs estimates by EAs/IAs, validate and provide recommendations;
- (xvii) Estimate greenhouse gas emissions and potential reduction due to the new projects; and
- (xviii) Carry out other relevant tasks assigned by ADB Project Officer/Team Leader.

17. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

18. **Minimum qualification.** The consultant must have (i) at least a bachelor's degree in electrical engineering and preferably be a certified and/or chartered engineer; (ii) a minimum of 15 years of experience in structuring power sector projects; (iii) excellent written and oral English skills; and (iv) experience in international cooperation and management. Solid understanding of the power sector operation and performance in the South Asian region will be an advantage. Working experience (i) in Bangladesh and (ii) with multilateral development organizations will be beneficial. The consultant will work closely with Senior Energy Advisor/Team Leader and National Power Systems Engineer to ensure quality deliverables.

19. **Consulting inputs and terms of engagement.** An International Power Systems Engineer will be engaged for a total of 66 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

d) Renewable Energy Specialist (international)

20. **Objective and purpose of the assignment.** An International Renewable Energy Specialist will provide technical expertise support to the government in identifying, conceptualizing and implementing biomass, wind, and solar power generation projects. The experts will validate the design and general layout of the power stations, generators and other electrical components and power plant electrical systems.

Detailed scope of work. The tasks of the consultant will include, but not be limited, to the following:

- (i) Review existing policies and regulations pertaining to renewable energy;

- (ii) Assess and validate renewable energy potential in the selected project sites and provide recommendations;
- (iii) Prepare feasibility studies to justify technical soundness of the proposed projects;
- (iv) Propose best international practices and use of high-level technologies in the proposed projects considering local conditions;
- (v) Support EAs/IAs in finalizing the project design and selection of developer;
- (vi) Assess potential of public-private partnerships in renewable generation and propose recommendations;
- (vii) Review existing tariff methodology for renewable power generation and propose recommendation, if necessary; and
- (viii) Carry out other relevant tasks assigned by ADB Project Officer/Team Leader.

21. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

22. **Minimum qualification.** The consultant must have (i) at least a bachelor's degree in electrical engineering and preferably be a certified and/or chartered engineer; (ii) a minimum of 10 years of experience in structuring solar, wind, and biomass power generation projects; (iii) excellent written and oral English skills; and (iv) experience in international cooperation and management. Solid understanding of the power sector operation and performance in the South Asian region will be an advantage. Working experience (i) in Bangladesh and (ii) with multilateral development organizations will be beneficial. The consultant will work closely with Senior Energy Advisor/Team Leader to ensure quality deliverables.

23. **Consulting inputs and terms of engagement.** An International Renewable Energy Specialist will be engaged for a total of 66 working days on an intermittent basis. The expert is expected to commence work by July 2020 until September 2021.

e) Energy Economist (international)

24. **Objective and purpose of the assignment.** As part of its project preparatory activities, ADB performs an economic due diligence for its proposed investment projects mentioned in para. 1 above. An International Energy Economist will also help in preparing these ensuing projects by conducting the economic analysis to assess the (i) economic rationale for the ensuing projects in terms of the market or nonmarket failures that are to be addressed; (ii) economic viability of projects in the context of a country's development and macroeconomic conditions and the relevant sector's goals, performance, and development plan; (iii) economic efficiency of all technically feasible alternative ways of achieving a project's objectives to identify the most efficient option as the preferred alternative; and (iv) the costs and benefits analysis of such preferred alternative. Methodological details are provided in ADB's Guidelines for the Economic Analysis of Projects¹.

25. **Detailed scope of work.** The tasks of the consultant will include, but not be limited, to the following:

¹ ADB. 1997. *Guidelines for the Economic Analysis of Projects*. Manila.

- (i) Establish and document rationale for the projects including an analysis of alternatives;
- (ii) Conduct an economic analysis comprising quantitative and qualitative examination to determine the acceptability of an investment project in terms of economic viability, efficiency, and sustainability, generally following the methods provided in ADB's Guidelines for the Economic Analysis of Project;
- (iii) Assess economic feasibility of various investment components;
- (iv) Estimate the economic capital and operating costs, and carry out least-cost, viability, and beneficiary analysis of the proposed investments, including sensitivity analysis;
- (v) Conduct economic benefit-cost analysis to confirm the overall viability of the proposed investments in terms of economic internal rates of return;
- (vi) In consultation with an individual social development specialist, incorporate poverty reduction impacts in accordance with ADB's Handbook on Integrating Poverty Impact Assessment in the Economic Analysis of Projects;²
- (vii) Assess various stakeholders' willingness to pay and ability to pay for expected various services under the proposed project;
- (viii) Estimate the poverty reduction impact ratio according to ADB's relevant guidelines and requirements;
- (ix) Assess economic and sustainability issues and carry out distribution, sensitivity and risk analyses;
- (x) Evaluate the proposed project's direct and indirect environmental impacts, and carry out economic analysis of these impacts in terms of net present value and internal rates of return in accordance with ADB's Workbook on Economic Evaluation of Environmental Impacts;³ and
- (xi) Specify indicators to monitor benefits from the ensuing project loan, establish procedures and provide cost estimates for benefit monitoring and evaluation in terms of the ADB's Guidelines for Benefit Monitoring and Evaluation (1992);
- (xii) Conduct cost-benefit analyses for subprojects. The economic costs and benefits associated with the proposed subprojects require establishing the with-project and without-project scenarios and comparing the two. The costs and benefits are estimated in terms of a common economic price level and a common currency in order to allow comparison. In addition to costs and benefits that are directly related to the project, external factors such as the social cost of carbon and other environmental costs or benefits also need to be considered;
- (xiii) Conduct risk and sensitivity analyses of identified project by assessing project uncertainty and risks for major changes in project parameters that could render the project economically not viable. The sources of risk, and possible mitigating measures should be appraised. Sensitivity analysis assesses the impact of changing values of the different parameters on project outcome. Switching values are presented for key parameters. Project economic analysis may draw on ex-post evaluation results for similar projects to assess the likelihood of these switching values actually occurring. For projects that involve large investment, a quantitative risk analysis applying a probability distribution to key variables can be applied; and
- (xiv) Support the project team leaders in identifying indicators for the design and monitoring framework.

26. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the

² ADB. 2001. *Handbook for Integrating Poverty Impact Assessment in the Economic Analysis of Projects*. Manila.

³ ADB.1996. *Economic Valuation of Environmental Impacts: A Workbook*. Manila.

ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

27. **Minimum qualification.** The economist must have (i) at least a master's degree in economics or related field; (ii) a minimum of 10 years of experience in economic analysis of projects; (iii) excellent written and oral English skills; and (iv) good understanding of the Bangladesh's energy and industrial sectors. Experiences in macroeconomic and sector economic assessments for policy-based loans would be an important asset.

28. **Consulting inputs and terms of engagement.** An International Energy Economist will be engaged for a total of 66 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

f) Finance Management Specialist (international)

29. **Objective and purpose of the assignment.** An International Financial Management Specialist will undertake financial due diligence of the proposed project components, including assessment of financial performance and financial management capabilities of the executing/implementing agencies and conduct financial analysis. Candidates shall undertake assignments following ADB's Technical guidance note (TGN) for Financial Management Assessment (2015)⁴; TGN (2018) for Financial Due Diligence for Financial Intermediaries⁵; TGN (2015) for Project Financial Reporting⁶; TGN (2019) for Financial Analysis and Evaluation⁷; TGN (2014) for preparation of cost estimates⁸; and eLearn module for Cost Estimates preparation and presentation.

30. **Detailed scope of work.** The tasks of the consultant will include, but not be limited, to the following:

- (i) Prepare project's cost tables and a financing plan for the investment components, including proposed ADB lending and appropriate counterpart funds for local currency and expenditures;
- (ii) Carry out a financial analysis of the proposed project components by building a financial forecasting model that will create future year projections comprising executing agencies' income statements, balance sheets, cash-flow statements and key financial ratios. The model should include 3-year historic data and projections for at least 10 years. Key risks should be identified, and sensitivity modeled. Actions that will be needed to ensure project sustainability, typically agreement to required future tariff levels and financial ratios, should be identified as potential "assurances and/or covenants". If necessary, measures to improve executing agencies' financial position would be recommended;
- (iii) Carry out a financial evaluation of the proposed investment components over the construction and operating periods by calculating the financial internal rate of

⁴ ADB. 2015. *Financial Management Assessment*

⁵ ADB. 2018. *Financial Due Diligence for Financial Intermediaries*

⁶ ADB. 2015. *Project Financial Reporting and Auditing*

⁷ ADB. 2019. *Financial Analysis and Evaluation*

⁸ ADB. 2018. *Preparing and Presenting Cost Estimates for ADB-finance Projects and Programs*

- return and comparing it with a weighted average cost of capital in accordance with the ADB guidelines;
- (iv) Identify risks to project's revenues and costs, conduct relevant sensitivity analysis, and identify potential risk mitigation strategies and approaches;
 - (v) Undertake a financial management assessment of the proposed executing/implementing agencies, including a review of corporate planning and budgetary control, financial management accounting and reporting, internal control and audit systems, and data processing, to identify any financial issues that could affect project implementation and/or sustainable operations of project investments and suggest mitigation strategies. If necessary, measures will be proposed to improve executing agencies' financial performance, operating systems, and overall efficiency levels as part of its financial management assessment;
 - (vi) Study the proposed project's financial impact on the executing/implementing agencies and options for sharing the financial burden, recommend measures for improving their financial performance, suggest appropriate financial covenants to monitor the project's financial performance, and recommend ways to improve their corporate governance considering ADB's policy on governance;
 - (vii) Design the project's fund flow and disbursement mechanism, and where applicable, review lending and on-lending arrangements in consultation with the executing/implementing agencies and the government on the financing terms; and
 - (viii) Review and note the existing tariff schemes and regulations to be applied to the project and regulations pertaining to cross-border gas supply.

31. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

32. **Minimum qualification.** The expert shall have at least a bachelor's degree in business, finance or commerce with a professional qualification in finance, accounting or related fields with specialized experience in similar organization/s, preferably at post-graduate level or its equivalent. Minimum 10 years of relevant experience in financial management assessment and/or financial analysis of projects are required. Direct involvement in a similar exercise of financial due diligence of a public sector utility companies will be an advantage.

33. **Consulting inputs and terms of engagement.** An International Financial Management Specialist will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

g) Environmental Specialist (international)

34. **Objective and purpose of the assignment.** An International Environmental Specialist will support the EAs/IAs to incorporate features for avoidance of adverse environmental impacts of the project during decommissioning, construction and operation and when avoidance is not possible, minimize, mitigate and compensate for such impacts. Assist the project's EAs/IAs to prepare and finalize the Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA), Environment Management and Monitoring Plan (EMMP) and any complementary studies as applicable in accordance with ADB's Safeguards Policy Statement (2009) and applicable laws of Bangladesh.

35. **Detailed scope of work.** The tasks of the consultant will include, but not be limited, to the following:

- (i) Act as focal point for environmental due diligence of the proposed projects;
- (ii) Coordinate the work of national environment and social safeguards consultants;
- (iii) Identify institutional gaps, if any, comparing to the requirements under the ADB's Safeguard Policy Statement (2009);
- (iv) Perform site visits of potential and/or selected project sites together with ADB, EAs/IAs and other relevant institutions that are potentially involved in subproject selection and due diligence;
- (v) During the site visits, assess their due diligence capacities and educate them if necessary on the Safeguard Policy Statement requirements;
- (vi) Be responsible for preparing an environmental and social management system (ESMS) in case of financial intermediary (FI) loans;
- (vii) Communicate and discuss with all stakeholders and project proponents on ESMS and ESMS requirements and implementation;
- (viii) Perform participatory and interactive capacity-building trainings on the Safeguard Policy Statement 2009 and ADB safeguards system for EAs/IAs and FIs, so to support proper and timely implementation of ESMS for the project;
- (ix) Work closely with the technical design team of the EAs/IAs to identify possible ways in which adverse environmental impact can be avoided or minimized;
- (x) Assist the executing agency in screening/categorization of the project;
- (xi) Based on the project scope and design, review/update and if needed prepare IEE and/or EIA document in accordance with Appendix 1 of the Safeguard Policy Statement. Conduct additional surveys, if necessary;
- (xii) Support the executing agency to develop the EMMP. Recommend mitigating measures, and budgets, institutional arrangements and capacity building program (if required) to implement them; and
- (xiii) Organize meaningful public consultations in accordance to SPS requirements, in accessible locations across representative project area of influence, ensuring active participation of local stakeholders and vulnerable groups. Thoroughly document all comments received and how these have been addressed including how they have influenced the project design if applicable. In case project components are classified as environment category A, carry out at least two sets of public consultations across each representative project area of influence (once during the early stages to gather stakeholders inputs for the EIA, and once when the draft EIA report is available for dissemination of results and stakeholders feedback, before loan appraisal).

36. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

37. **Minimum qualification.** The expert must have at least a master's degree in environmental engineering, environmental management, or relevant fields and a minimum of 10 years of experience in environmental impact assessment. Experience in clean energy generation, efficient industrial production, power and gas transmission infrastructure, will be an important

asset. Experience in international cooperation and clean energy generation and efficient industrial production and working with multilateral development organizations will be preferable. Oral and written English proficiency is required.

38. **Consulting inputs and terms of engagement.** An International Environmental Specialist will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

h) Climate Change Specialist (international)

39. **Objective and purpose of the assignment.** An International Climate Change Specialist will be engaged to support the EAs/IAs and ADB project team in planning project designs resilient to climate change and consider appropriate mitigation and adaptation measures.

40. **Detailed scope of work.** The tasks of the consultant will include, but not be limited, to the following:

- (i) Review all available relevant project documentation and, in close consultation with the ADB project team, define the scope of the climate risk and vulnerability assessment as required by the project;
- (ii) Collate, organize, and review available baseline biophysical, environmental, demographic, socioeconomic, and policy data and information relevant to climate risk management within the context of the project;
- (iii) Review existing studies, data, and information on current and projected climate change risks and vulnerability for the proposed investment projects;
- (iv) Develop detailed scenarios of climate change variables as required for future time horizons pertinent to the project, including documentation of scenario method, data sources, uncertainties, and caveats;
- (v) Identify climate risks and vulnerabilities and potential adaptation options and practices as inputs to modeling and/or assessment of climate change impacts on relevant aspects of the project;
- (vi) Identify and discuss the implications of projected climate change impacts and associated uncertainties for the design and operations of the project;
- (vii) Conduct technical and economic assessments of potential climate risk and vulnerability adaptation (climate proofing) options and practices relevant to the project;
- (viii) Within the context of the project, assess existing policies, laws and regulations, and/or institutional framework for adaptation and identify ways to enhance the enabling environment (if necessary);
- (ix) Submit a comprehensive report on the potential risks of climate change to the project and possible adaptation interventions, including practical advice on the use of the CRVA results for project design and operation; and
- (x) Following the established methodology in ADB calculate total amount adaptation and mitigation climate change financing for all ensuing projects.

41. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

42. **Minimum qualification.** The expert must have an advanced university degree, preferably at master's level, in civil or environmental engineering or related discipline. At least 10 years of experience encompassing infrastructure design, adaptation planning and practices in the energy sector. A strong track record of working in complex and inter-disciplinary research projects. Demonstrated skills in effectively communication and interaction with professionals from different cultural backgrounds and disciplinary fields. Demonstrated knowledge of, and ideally experience in conducting CRVA for projects in energy sector.

43. **Consulting inputs and terms of engagement.** An International Climate Change Specialist will be engaged for a total of 154 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

i) Social Development and Gender Specialist (international)

44. **Objective and purpose of the assignment.** An International Social Development and Gender Specialist is required to advise and assist the EAs/IAs on mitigating adverse social impact and design of resettlement plan with indigenous peoples plan if necessary, for the projects, in accordance with Safeguard Policy Statement 2009 and applicable laws of Bangladesh.

45. **Detailed scope of work.** The tasks of the consultant will include, but not be limited, to the following:

- (i) Work closely with the design team to identify possible ways in which adverse social impact arising from resettlement and indigenous peoples can be minimized. Identify stakeholders and their involvement;
- (ii) Assist the executing agency in screening/categorization of the project;
- (iii) Based on the project design and scope, review/update a resettlement plan and an indigenous peoples plan (if required) in accordance with Appendix 2, 3 of the Safeguard Policy Statement. Conduct additional/sample surveys if applicable;
- (iv) Analyze national, state and local laws and regulations that apply to the project and identify gaps between local laws and Safeguard Policy Statement. and discuss how any gaps will be addressed;
- (v) Assist the executing agency to develop the Entitlement Matrix, Compensation Plan and Monitoring Plan, and recommend mitigating measures, and budgets, institutional arrangements and capacity building program (if required) to implement them;
- (vi) Support/organize public consultations and disclosure to ensure that the executing agency has consulted all affected people and obtained their views;
- (vii) Assess the capacity of the executing agency to plan, manage, implement, finance, monitor, and prepare capacity-building measures (if required);
- (viii) Assist the executing agency in the design of a culturally appropriate grievance redress mechanism to receive and resolve the concerns of affected people;
- (ix) Prepare a summary poverty reduction and social strategy according to ADB guidelines and format;
- (x) Conduct necessary assessment and propose practicable measures to incorporate gender mainstreaming activities in the projects to be financed by ADB;
- (xi) Conduct gender analysis, collection of sex-disaggregated baseline data, and prepare gender action plans for the ensuing projects.
- (xii) In the event that safeguards category A or B is assigned to indigenous peoples, prepare an Indigenous Peoples plan (IPP) which contains a social impact

assessment, beneficial measures, mitigating measures, capacity building (if required), institutional arrangement and budget for the affected indigenous peoples.

46. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

47. **Minimum qualification.** The specialist should have a master's degree, or equivalent, in applied social science, anthropology or other related fields. Candidates must have an overall experience of about 10 years, preferably in the energy sector, and an expertise on resettlement and indigenous peoples' issues with at least 10 years in preparation and monitoring of resettlement and indigenous plans for international funding agencies. The expert will undertake analysis and use qualitative and quantitative data/information.

48. **Consulting inputs and terms of engagement.** An International Social Development and Gender Specialist will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

j) Procurement Specialist (international)

49. **Objective and purpose of the assignment.** An International Procurement Specialist will conduct strategic procurement planning including procurement capacity assessment and risk assessment for the proposed projects in accordance with ADB guidelines. The expert shall (i) identify the capacity, procedural and organizational constraints that could hinder effective project implementation and agree on an action plan with the EAs/IAs to address these constraints; (ii) determine the overall procurement risk, and establish appropriate review and supervision processes to mitigate these risks; and (iii) provide assistance, technical guidance and capacity development to the EAs/IAs to ensure compliance with ADB's procurement (goods, works, and consulting services) policies and procedures. He/she will also help the EAs/IAs during project implementation and provide guidance for good contract management and procurement.

50. **Detailed scope of work.** The tasks of the consultant will include, but not be limited, to the following:

- (i) Work on the first phase of the project preparatory TA implementation period to work on the project design and due diligence of the financial intermediation loan—this includes procurement due diligence and capacity assessment of the EA/IA and management team of the proposed financing platform;
- (ii) Undertake a procurement capacity assessment of financial intermediary with respect to the institutional ability to comply with ADB's procurement guidelines applicable to financial intermediation projects;
- (iii) Conduct strategic procurement planning including procurement capacity assessment of the EAs/IAs of the ensuing projects and prepare a summary assessment including risks assessment and identifying mitigation measures;
- (iv) Propose an appropriate contract packaging strategy and formulate a procurement plan following ADB's guidelines and procedures;

- (v) Assist the executing agency in preparing the draft bid documents following ADB's standard bidding documents;
- (vi) Support and advise the executing agencies' during the bidding process;
- (vii) Review and evaluate possible contracts, if necessary, and based on these provide recommendations to the executing agencies;
- (viii) Participate in a pre-bid and pre-contract meetings as an observer and if necessary, an advisor to the executing agencies; and
- (ix) Provide capacity building on loan disbursement procedures and assist the EAs/IAs in preparing withdrawal applications during the first 6 months of project implementation.

51. The consulting services required will include, but will not necessarily be limited to, the services described in these terms of reference. The consultant shall coordinate closely with the ADB project officer or the ADB project officer may augment the tasks outlined as required, to comply with ADB guidelines and procedures and to improve the quality of the overall due diligence. The tasks may be required to be carried out in close cooperation with the government, and consultation may be needed to ensure transfer of knowledge and full ownership of the processes and documents by the concerned government agencies.

52. **Minimum qualifications.** Candidate shall have at least bachelor's degree in engineering/ public procurement/ public policy/ project management or other related fields. Proficient knowledge on ADB's procurement guidelines and procedures should be demonstrated. Experiences working in energy sector related activities is required. Advance knowledge of energy systems costing, and construction will be beneficial.

53. **Consulting inputs and terms of engagement.** An International Procurement Specialist will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

2. National Consultants

k) Energy Efficiency Specialist (national)

54. A National Energy Efficiency Specialist shall be qualified with a degree in engineering or equivalent, with graduate qualifications and at least 10 years of work experience in energy efficiency and conservation, preferably in the public sector. Experience working with multilateral financing agencies will be an advantage. Excellent written and communications skills in English are required. The consultant will work closely with Senior Energy Advisor/Team Leader and the International Energy Efficiency Specialist to ensure quality deliverables. The tasks of the consultant will include, but not be limited, to the following:

- (i) Collect and compile reports, information, and data on the ongoing energy efficiency initiatives of the government of Bangladesh and Sustainable and Renewable Energy Development Authority (SREDA);
- (ii) Review relevant reports, information, and data on the ongoing energy efficiency initiatives and provide expert inputs to ADB Project Officer for consideration in processing of the proposed energy efficiency project;
- (iii) Identify key issues that may affect processing and implementation of the proposed energy efficiency project and provide advice to ADB Project Officer;
- (iv) Liaise and coordinate with all national stakeholders including the Government of Bangladesh, SREDA, and financial intermediaries to sort out issues for timely and successful processing of the proposed energy efficiency project; and

(v) Carry out other relevant tasks assigned by ADB Project Officer/Team Leader.

55. A National Energy Efficiency Specialist will be engaged for a total of 66 working days on an intermittent basis. The expert is expected to commence work by May 2020 until December 2020.

l) Power Systems Engineer (national)

56. A National Power Systems Engineer shall have a degree in engineering, with at least undergraduate qualifications and 7 years of work experience in electricity network/system planning, preferably in projects with multilateral lending agencies. The tasks of the consultant will include, but not be limited, to supporting International Power Systems Engineer in undertaking his/her responsibilities.

57. A National Power Systems Engineer will be engaged for a total of 66 working days on an intermittent basis. The expert is expected to commence work by May 2020 until December 2021.

m) Environmental Specialist (national)

58. A National Environment Specialist will be qualified with a degree in environmental science/engineering or equivalent, with at least a bachelor's degree in environmental science/engineering or equivalent and 7 years of experience in carrying environmental studies for projects, IEE and EIA preparation, including for power sector projects. The consultant shall have experience in preparing EIAs and IEEs of projects financed by international financial institutions, specifically ADB and the World Bank. The tasks of the consultant will include, but not be limited, to supporting International Environmental Specialist in undertaking his responsibilities.

59. A National Environment Specialist will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

n) Social Development and Gender Specialist (national)

60. A National Social Development and Gender Specialist will be qualified with a degree in social development or related fields, with at least a bachelor degree and 7 years of experience in conducting social and poverty analysis and preparing RPs of projects, including for power sector projects. The tasks of the consultant will include, but not be limited, to supporting the International Social Development and Gender Specialist in undertaking his responsibilities.

61. A National Social Development and Gender Specialist will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

o) Procurement Specialist (national)

62. A National Procurement Specialist must have at least a bachelor's degree in engineering or relevant field, and minimum 5 years of experience in procurement, project management, and loan disbursement procedures of international financial institutions. The tasks of the consultant will include, but not be limited, to supporting International Procurement Specialist in undertaking his responsibilities

63. A National Procurement Specialist will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022.

p) Research Associate (national)

64. ADB will engage a National Research Associate to support the proposed four investment projects mentioned in para. 1 above. The national research associate shall work closely with the ADB project officers and other consultants. The consultant will also be expected to liaise with the government and stakeholders in Bangladesh. He/she will be responsible for conducting background research work, analyses, and developing sections of technical and safeguards reports, as well as creating a database of reference materials and project documents. The consultant should hold at least bachelor's degree in a relevant field (e.g. engineering, sciences, environment management, economics, finance, urban planning). The consultant should have consultancy experience with the government, ADB or with any other multilateral development organizations. He/she should also have minimum general experience at least 5 years and minimum specific at least 3 years. It is essential to have energy sector knowledge in Bangladesh. It is preferable to have experience with ADB project processing and knowledgeable with ADB's implementation guidelines and procedure. The consultant should have strong interpersonal skills and ability to work effectively in a multicultural environment. Excellent English language proficiency is a must.

65. National Research Associate will be engaged for a total of 132 working days on an intermittent basis. The expert is expected to commence work by May 2020 until June 2022