

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB LOAN MLD: Greater Male' Waste to Energy Project (GMWEP) - Public Awareness Consultant (51077-003)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Approx. value of the contract (in current US\$):</b> US\$ 518,350                                                                                                                                                                                                                                                                                                                      |
| <b>Country:</b> Maldives<br><b>Location within country:</b> Countrywide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Duration of assignment (months):</b> 42 Months                                                                                                                                                                                                                                                                                                                                         |
| <b>Name of Client:</b> Asian Development Bank (ADB)/ Ministry of Tourism and Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Total No of staff-months of the assignment:</b> 75 months                                                                                                                                                                                                                                                                                                                              |
| <b>Address:</b> Ahmed Nizam, Deputy Minister Ministry of Tourism and Environment, Ground Floor, Saafu Raajje Building, Boduthakurufaanu Magu, 20386, Male', Maldives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Approx. value of the services provided by your firm under the contract (in US\$ currency equivalent):</b> US\$ 518,350                                                                                                                                                                                                                                                                 |
| <b>Start date:</b> 22 June 2025<br><b>Completion date:</b> 31 December 2028                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>No of professional staff-months provided by associated Consultants:</b> 22 months                                                                                                                                                                                                                                                                                                      |
| <b>Name of associated Consultants, if any:</b><br>• Turquoise Lab Pvt. Ltd., Maldives (Sub-Consultant)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Name of senior professional staff of your firm involved and functions performed:</b><br>• Communication and Social Marketing Specialist – Rutger-Jan Schoen<br>• Solid Waste Management Specialist – Spitaler Ewald<br>• National Community Mobilization and Outreach Expert – Aminath Shaliny<br>• National 3R Motivator – Mohamed Shumais<br>• National 3R Motivator – Munzir Ismail |
| <p><b>Narrative description of Project:</b> The Government of Maldives is committed to improve the environmental conditions and to strengthen the solid waste management (SWM) system in the country. In Zone 3, it is establishing an integrated (end-to-end) modern SWM system through a phased approach consisting of two projects, supported by the Asian Development Bank (ADB) and other development partners. The Greater Malé Environmental Improvement and Waste Management Project (Phase 1), supported by ADB and Japan Fund for Prosperous and Resilient Asia and the Pacific, was approved in 2018 and to improve collection and transfer systems in Greater Male and outer islands, and to provide immediate measures to stop smoke and fires on Thilafushi.</p> <p>A public awareness and community capacity building consultant (firm) will be mobilized under Phase 2 to design and implement a comprehensive public awareness and behavioral change program focused on the role of WTE, 3R, and public participation, to ensure sustainable SWM service delivery in the project area (Greater Malé and its outer islands [Zone 3]). These are crucial factors to achieve the project outcomes and sustainability, and maximize environmental, economic, and public health benefit.</p> |                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Description of actual services provided in the assignment:</b><br/>e.Gen, in collaboration with its consortium member, is delivering a wide-ranging technical assistance assignment aimed at enhancing public awareness, community engagement, and behavior change to support sustainable solid waste management (SWM) in Greater Malé and the outer islands (Zone 3). The scope includes promoting Waste-to-Energy (WTE), 3R principles (Reduce, Reuse, Recycle), and public participation—fully aligned with the national “Fasgandu” campaign and SWM policy.</p> <p>Key services include:<br/>→ <b>Developing a Comprehensive Communication and Behavior Change Strategy</b><br/>The team is developing a multi-level strategy for stakeholder engagement, behavior change, and public awareness campaigns that highlight the relevance of WTE and 3R in everyday life. This includes conducting stakeholder and capacity assessments, literature reviews, formative research (interviews, FGDs), and workshops to revise existing IEC materials. The strategy is also incorporating emergency response communications, site visit protocols, and alignment with national branding and donor visibility guidelines.</p>                                                                         |                                                                                                                                                                                                                                                                                                                                                                                           |

→ **Designing and Producing IEC and Awareness Materials**

The consortium is designing and producing a wide range of communication materials in both Dhivehi and English, including posters, banners, factsheets, brochures, and branded promotional content. These materials are being adapted for both digital and traditional media and are covering technical topics such as household waste segregation, the WTE process, environmental safety, and the national plastic phase-out plan.

→ **Leading Digital and Social Media Campaigns**

The team is managing content development and digital engagement across platforms like Facebook, YouTube, Instagram, TikTok, and Twitter. This includes designing motion graphics, infographics, and short-form videos, while also running time-bound marketing campaigns and audience-specific messaging to build online engagement and drive behavior change. Analytical tools are being used to monitor and optimize impact.

→ **Implementing Community and Institutional Outreach Programs**

The firm is conducting door-to-door awareness campaigns, organizing clean-up events, and facilitating direct engagement sessions with households and communities. It is also engaging community-based organizations, schools, and environmental clubs to run localized programs on waste segregation, composting, and hygiene practices, especially targeting women and youth.

→ **Organizing School and Island-Based Educational Campaigns**

The team is organizing school workshops, academic tours, and interactive public events with reusable exhibition kits, 3D WTE plant mockups, and branded student materials. These initiatives are aiming to build environmental consciousness from a young age and ensure long-term adoption of sustainable SWM behaviors in local communities.

→ **Providing Capacity Building and Technical Support to PMU and Partners**

e.Gen and its partner are supporting the PMU by coordinating with local stakeholders, ensuring gender mainstreaming, and aligning IEC activities with project KPIs. The team is assisting with monitoring and reporting on all communication activities, collecting sex-disaggregated data, maintaining visual records, and supporting compliance with ADB's Access to Information Policy.

Through these efforts, e.Gen and its partner aim to strengthen institutional and community capacity, increase public participation, and ensure the long-term sustainability of waste management services and WTE infrastructure in the Maldives.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name: Study on Opportunities for Solar Energy Solutions in Coastal Infrastructure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Approx. value of the contract (in US\$):</b><br>\$262,020                                                                                                                                                                                                                                                                                                                                   |
| <b>Country:</b> Cape Verde<br><b>Location within country:</b> Santiago, Sal, São Vicente, Santo Antão, São Nicolau                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Duration of assignment (months):</b> 7                                                                                                                                                                                                                                                                                                                                                      |
| <b>Name of Client:</b> World Bank/ Unidade de Gestão de Projetos Especiais (UGPE), Cape Verde                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Total No of staff-months of the assignment:</b><br>19                                                                                                                                                                                                                                                                                                                                       |
| <b>Contact Person/ Address:</b><br>Mr. Nuno Gomes<br>Mail: <a href="mailto:Nuno.Gomes@mf.gov.cv">Nuno.Gomes@mf.gov.cv</a><br>Unidade de Gestão de Projetos Especiais (UGPE)<br>Avenida Amílcar Cabral, Ex. Edifício do BCV, 4º Andar<br>CP nº 145, Plateau, Cidade da Praia - República de Cabo Verde<br>Telefones: (+238) 261 75 84 / 261 61 98<br>Republic of Cabo Verde                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Approx. value of the services provided by your firms under the contract (in US\$):</b><br>\$262,020                                                                                                                                                                                                                                                                                         |
| <b>Start date (month/year):</b> October 21, 2024<br><b>Completion date (month/year):</b> May 21, 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>No of professional staff-months provided by your Consultants:</b> 14                                                                                                                                                                                                                                                                                                                        |
| <b>Name of associated Consultants, if any:</b><br>• Gesto Energy, Portugal (Sub-consultant)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Name of senior professional staff of your firm involved and functions performed:</b><br>– Team Leader – Robert Foster<br>– Environmental and Social Safeguards Specialist - Manuel Adilson Cardoso Fragoso<br>– Energy Analyst - Md Tahsin Nawaz<br>– Fisheries Expert - Zubaer Bin Mostafa<br>– Social and Gender Development Expert – Redwanul Islam<br>– GIS Expert – Md Tajbir Morsalin |
| <b>Narrative description of Project:</b> The assignment aims to undertake a feasibility study of solar energy and energy efficiency opportunities in select coastal infrastructure, by identifying energy saving opportunities and where feasible, assessing specific energy requirements and proposing sustainable solar solutions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Description of actual services provided in the assignment:</b><br>e.Gen will assist the client in achieving the following results: <ul style="list-style-type: none"> <li>→ Inventory of fisheries related coastal infrastructure eligible to benefit from solar energy and energy efficiency interventions; Identification of opportunities for solar energy in selected eligible fisheries-related coastal infrastructure;</li> <li>→ Technical feasibility assessment of proposed solar energy solutions in selected fisheries-related coastal infrastructure including by assessing detailed energy requirements (i.e., energy audit);</li> <li>→ Assess sustainable business models for rooftop solar and solar-powered cooling. This would include assessment of rooftop solar and cooling market, potential demand and landscape of suppliers of energy efficient appliances, technology, policy, institutional set up and financing incentives and recommend sustainable business models leveraging local expertise and incorporating lessons learned from past experiences as well as international best practices;</li> <li>→ If feasible, preparation of detailed design and specifications for the micro production systems for each site, including cost estimates;</li> <li>→ Photovoltaic (PV) solar solutions compatible with the local guidelines and regulations and approved by the electric utility and sector regulator;</li> <li>→ Environmental and social screening of the proposed solutions and recommendations of further studies and actions to assess and mitigate the anticipated impacts;</li> <li>→ Documents to procure the works and equipment required for implementing the different systems proposed; and Terms of Reference (TOR) that may be needed for additional studies (i.e., in case of structural issues);</li> <li>→ Market assessment for solar direct drive refrigerators that could be leveraged for fisheries: demand and supply assessment, business models.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name: ADB TA-10187 BAN: Smart Metering Energy Efficiency Improvement Project - Output 1 - Energy Transition and Decarbonization Strategy for the Gas Distribution Sector in Bangladesh (56004-001)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Approx. value of the contract (in current US\$):</b><br>US\$ 680,367                                                                                                                             |
| <b>Country:</b> Bangladesh<br><b>Location:</b> Countrywide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Duration of assignment (months):</b> 24                                                                                                                                                          |
| <b>Name of Client:</b> Asian Development Bank (ADB)/ Energy & Mineral Resources Division, MOPEMR/ Titas Gas Transmission & Distribution Co. Ltd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Total No of staff-months of the assignment:</b><br>51                                                                                                                                            |
| <b>Contact Person/ Address:</b><br>David J. Paixao Morgado<br>Designation Senior Energy Specialist<br>Asian Development Bank<br>Email dmorgado@adb.org                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Approx. value of the services provided by your firms under the contract (in US\$ currency equivalent):</b> US\$ 93,720                                                                           |
| <b>Start date (month/year):</b> October 03, 2024<br><b>Completion date (month/year):</b> October 03, 2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>No of professional staff-months provided by your Consultants:</b> 9                                                                                                                              |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>• Pricewaterhousecoopers Pvt. Ltd. (Lead Firm)</li> <li>• PricewaterhouseCoopers Bangladesh Private Limited</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>• Md. Atiquzzaman – Deputy Team Leader and Gas Specialist</li> </ul> |
| <b>Narrative description of Project:</b> The aim of the energy transition and decarbonization study and strategy is to provide a cost-effective pathway for the reduction of greenhouse gas emissions, energy transition, and decarbonization of the gas distribution sector in Bangladesh in line with the country's commitments under the Paris Agreement and other relevant policies and plans which include but not limited to Updated NDC (2021), Energy Efficiency and Conservation Master Plan up to 2030, National Environment Policy 2018, Third National Communication of Bangladesh to the United Nations Framework Convention on Climate Change (UNFCCC). National Renewable Energy Policy, Mujib Climate Prosperity Plan, etc. The detailed study and strategy will focus on the gas distribution sector in Bangladesh only. The study and strategy will cover the period of 2025 to 2070.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                     |
| <b>Description of actual services provided in the assignment:</b><br>e.Gen and the consortium will work together on the following scope of services: <ol style="list-style-type: none"> <li>1. Identify and describe the gas distribution sector stakeholders and map the whole gas distribution network in Bangladesh to clearly define the scope and coverage of the study and strategy.</li> <li>2. Conduct a detailed review of Bangladesh's gas distribution policies, plans, structure, and other key institutional documents including financial reports.</li> <li>3. Coordinate closely with all gas distribution companies, through Petrobangla, to ensure the detailed study and strategy incorporate their views and feedback, and ultimately ensure ownership of the strategy.</li> <li>4. Organize regular meetings as well as consultation workshops to discuss and present the draft study and strategy to Petrobangla, gas distribution companies and other key stakeholders and incorporate the feedback in the draft and final versions of the study and strategy.</li> <li>5. Provide monthly updates and quarterly progress reports covering meetings, workshops, study and strategy.</li> <li>6. Conduct interviews with management, board, and selected staff members of Petrobangla and gas distribution companies in Bangladesh.</li> <li>7. Conduct a detailed comprehensive assessment of cost-benefit and financial viability of investment in clean energy solutions and potential pathways for energy transition and decarbonization of the gas distribution sector. Identify how these could impact the gas distribution business in Bangladesh.</li> </ol> |                                                                                                                                                                                                     |

8. Conduct a detailed assessment of the readiness of gas distribution companies' organizational structure and business model to address the energy transition and decarbonization pathway as well as climate risks. The assessment should cover the viability of accessing private capital for project financing including the use of carbon credits. Identify specific measures needed to be undertaken, areas for improvement, and recommendations for consideration by the Government of Bangladesh.
9. Conduct a detailed climate risk assessment with short-term to long-term measures required to ensure the gas distribution infrastructure in Bangladesh remains resilient to climate change impacts through investment in adaptation measures. Specific areas of high climate risk and potential adaptation measures should be described.
10. Prepare two pre-feasibility studies for selected cost-effective short-term measures in the gas distribution sector in Bangladesh including viability to access private capital for project financing and use of carbon credits. This should include investment requirements, pay-back period and recommendations for conducting detailed feasibility studies.
11. Conduct a knowledge-building visit to a leading gas distribution company in Asia to learn about their energy transition and decarbonization plans and projects.
12. Organize annual workshops for Petrobangla and gas distribution companies' staff on energy transition and decarbonization aspects with other international experts.
13. Present findings of the detailed study to the Management, Board, and staff of gas distribution companies and Petrobangla.
14. Prepare and finalize the Energy Transition and Decarbonization Study and Strategy.

e. Gen will also provide the following services during the implementation:

- Organizing monthly meetings with Petrobangla staff to track progress on the activities of the program (meeting minutes to be prepared monthly).
- Preparing quarterly reports on the implementation status of the study and strategy (quarterly progress reports).
- Conducting a detailed review of Bangladesh's gas distribution policies, plans, structure, and other key institutional documents including financial reports.
- Conducting interviews with management, board, and selected staff members of selected gas distribution companies in Bangladesh.
- Conducting an assessment of the readiness of gas distribution companies' organizational structure and business model to address the energy transition and decarbonization pathway.
- Preparing two pre-feasibility studies for selected cost-effective short-term measures in the gas distribution sector in Bangladesh.
- Organizing regular workshops for Petrobangla and gas distribution companies' staff on energy transition and decarbonization aspects.
- Preparing the Energy Transition and Decarbonization Study and Strategy.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name: Preparation of Solar Energy Roadmap of Bangladesh</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Approx. value of the contract (in current US\$):</b> N/A                                                                                                                              |
| <b>Country:</b> Regional<br><b>Location:</b> Bangladesh, Bhutan, Nepal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Duration of assignment (months):</b> 7                                                                                                                                                |
| <b>Name of Client:</b> International Solar Alliance (ISA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Total No of staff-months of the assignment:</b> 1                                                                                                                                     |
| <b>Contact Person/ Address:</b> Sunil Sharma, Senior Director – Management Consultancy Division<br>Email: sunilkumars@fichtnerindia.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Approx. value of the services provided by your firms under the contract (in US\$ currency equivalent):</b> US\$ 7,000                                                                 |
| <b>Start date (month/year):</b> August 02, 2024<br><b>Completion date (month/year):</b> March 02, 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>No of professional staff-months provided by associated Consultants:</b> N/A                                                                                                           |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>Fichtner Consulting Engineers (India) Pvt. Ltd. (Lead Firm)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>Md. Tahsin Nawaz – Renewable Energy Specialist</li> </ul> |
| <b>Narrative description of Project:</b> The project entails a comprehensive assessment of the country's solar energy potential and the development of strategies to enhance solar deployment. The project aims to address gaps and barriers in solar energy deployment, recommend strategies for integrating solar energy into energy-intensive sectors, and evaluate grid infrastructure for connecting solar projects. Additionally, the project includes developing energy scenarios aligned with national objectives, engaging stakeholders through workshops and consultations, and creating a comprehensive stakeholder engagement plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                          |
| <b>Description of actual services provided in the assignment:</b><br>e.Gen and the consortium will work together on the following scope of services: <ol style="list-style-type: none"> <li>1. Assessment of power and energy in Bangladesh through stakeholder consultation and site visit (if required) to map solar deployment potential. This includes assessing various technologies like Floating Solar, ground mounted solar, and Aqri-photovoltaics (APV) technology.</li> <li>2. Identification of the list of stakeholders for consultation.</li> <li>3. Conduct comprehensive research and data collection, through secondary research, in-house database and stakeholder consultation on the solar energy landscape and linked energy systems and infrastructure requirement</li> <li>4. Based on the data and information collected, review and analyze solar resources assessment and mapping of solar deployment potential</li> <li>5. Analyze existing country-specific renewable/solar energy policies, regulations, roadmaps and incentives and identify national priorities for solar adoption.</li> <li>6. Identify energy-intensive sectors that are critical for sustainable development and estimate the solar potential of such sectors. Also, identify priority sectors that can be focused in short, mid and long terms for large-scale solar energy adoption.</li> <li>7. Identify gaps and barriers for accelerating solar energy deployment and investment opportunities, also outline new strategies for increased solar energy generation, utilization, and demand savings.</li> <li>8. Recommend ways to integrate solar energy in energy-intensive sectors to make service delivery cleaner.</li> <li>9. Assess the current performance of the grid infrastructure in urban and rural areas through available data in public domain and data from transmission/discom companies and stakeholder consultations. This also includes possibilities of connecting solar projects/power plants to the grid.</li> <li>10. Review of the institutional capacity, organizational set up, financial and administrative systems available within the country and private sector to execute solar-based projects and provide recommendations to fill the gaps.</li> </ol> |                                                                                                                                                                                          |

11. Support in Developing multiple energy scenarios, including Business as Usual (BAU), Best Possible Scenario (BPS), and Ambitious Scenario (AS), in alignment with the National Solar Energy Roadmap objectives and assess investment opportunities based on outcome of stakeholder consultation
12. Facilitate consultative processes, such as workshops, focus group discussions, and public consultations, to gather feedback and insights from stakeholders throughout the development of the Solar Roadmap and Action Plan.
13. Develop a stakeholder engagement plan that outlines specific strategies for engaging with key stakeholders at various levels, including government bodies, local communities, NGOs, and industry associations.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Solar Off-Grid Training Course for Governments</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Approx. value of the contract (in current US\$):</b> US\$ 125,125                                                                                                                                                                                                                                                                                                                                               |
| <b>Country:</b> Liberia<br><b>Location within country:</b> Countrywide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Duration of assignment (months):</b> 6 Months                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Name of Client:</b> International Finance Corporation (World Bank Group)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Total No of staff-months of the assignment:</b> 3.6                                                                                                                                                                                                                                                                                                                                                             |
| <b>Address:</b> International Finance Corporation (IFC)<br>2121 Pennsylvania Avenue, N.W.<br>Washington, DC 20433                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Approx. value of the services provided by your firm under the contract (in US\$ currency equivalent):</b> US\$ 125,125                                                                                                                                                                                                                                                                                          |
| <b>Start date (month/year):</b> 14 November 2023<br><b>Completion date (month/year):</b> 14 December 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>No of professional staff-months provided by your Consultants:</b> 1                                                                                                                                                                                                                                                                                                                                             |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– MicroEnergy International (Sub-Consultant)</li> <li>– WNLDS (Sub-Consultant)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>• Ben Aboubakar Cisse – Project Manager/Solar Off-Grid Technology Expert</li> <li>• Margaret Matinga – Gender and Social Development Expert</li> <li>• Eric James Mutuiri Guantai – E-waste Management Expert</li> <li>• T. Stewart Sherman – Geospatial Analysis Expert</li> </ul> |
| <b>Narrative description of Project:</b> The aim of this project assignment is to create a training program that focuses on off-grid technologies, designs, business models, and strategies to overcome market barriers hindering DRE market growth. It will also provide core skills development in program management and practical guidance to World Bank counterpart Governments for designing and implementing off-grid market building programs. The training will be designed and tested with the Government of Liberia before being made available to other World Bank counterpart Governments globally to enhance institutional capacity for rural electrification strategies and DRE market building programs. |                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>→ <b>Capacity Evaluation and Mapping:</b> Conduct a comprehensive evaluation and mapping of capacity shortages within government organizations in Liberia to identify areas where support is needed for the growth of the off-grid market.</li> <li>→ <b>Collaboration with Government and World Bank Specialists:</b> Work collaboratively with the Government of Liberia and World Bank Global specialists to determine the specific modules and training requirements necessary to enhance the capabilities of government agencies in developing off-grid markets.</li> </ul>                                |                                                                                                                                                                                                                                                                                                                                                                                                                    |

- **Best Practice Integration:** Incorporate best practices, solutions, and relevant assessments from other emerging Distributed Renewable Energy (DRE) markets to inform the design of the training program. This includes leveraging insights and experiences from similar initiatives globally.
- **Blended Training Strategy:** Design and implement a blended training strategy that combines both in-person and online sessions. This approach maximizes adaptability and efficiency in the transfer of information, ensuring that participants can access training materials through various mediums.
- **Online Learning Platform Integration:** Develop and integrate training materials, such as scripts, videos, quizzes, and scenario-based exercises, into the World Bank's Open Learning Campus (OLC) platform. This online component enhances accessibility and interactivity for participants.
- **Technological Issue Addressing:** Address a range of technological issues within the off-grid sector, including mini-grids, productive use of energy, standalone off-grid solar solutions, electrification of public facilities, e-waste management, gender and social inclusion considerations, and skill development.
- **Pilot Program Implementation:** Implement the training program as a pilot initiative with the Government of Liberia to enhance their institutional capacity in rural electrification policies and DRE market development activities. This serves as a practical testing ground for program effectiveness.

|                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Feasibility Study of a Waste to Energy Plant for Nawabganj, Keraniganj and Dohar Upazilas in Bangladesh</b>                                                                                                                                                                    | <b>Approx. value of the contract (in current US\$):</b> US\$ 230,000                                                                                                                                                                                                                                             |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Nawabganj, Keraniganj and Dohar                                                                                                                                                                                                      | <b>Duration of assignment (months):</b> 6 Months                                                                                                                                                                                                                                                                 |
| <b>Name of Client:</b> Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)                                                                                                                                                                                                               | <b>Total No of staff-months of the assignment:</b> 8.2                                                                                                                                                                                                                                                           |
| <b>Address:</b> Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH<br>Dag-Hammarskjöld-Weg 1 - 5 65760 Eschborn<br>Germany                                                                                                                                                         | <b>Approx. value of the services provided by your firm under the contract (in US\$ currency equivalent):</b> US\$ 66,500                                                                                                                                                                                         |
| <b>Start date (month/year):</b> 05 June 2023<br><b>Completion date (month/year):</b> 31 March 2024                                                                                                                                                                                                 | <b>No of professional staff-months provided by associated Consultants:</b> 2.73                                                                                                                                                                                                                                  |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>Fichtner GmbH &amp; Co. KG (Lead Firm)</li> </ul>                                                                                                                                                            | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>Harunur Rashid - Power Engineering Expert</li> <li>Abdullah Al Mahmud - Legal and Institutional Expert</li> <li>Roomee Tareque Moudud - Financial and Economic Analyst</li> </ul> |
| <b>Narrative description of Project:</b> The objective of the assignment is to carry out detailed study on Waste to Energy (WtE) technology, site selection for the proposed power plant, and business model development with different technologies for the proposed waste-to-energy power plant. |                                                                                                                                                                                                                                                                                                                  |
| <b>Description of actual services provided in the assignment:</b><br>e.Gen, as the national consultant, will support the International Consulting Firm for providing the following services:                                                                                                       |                                                                                                                                                                                                                                                                                                                  |

- 1) **Framework conditions:** The consultants will evaluate framework condition for energy generation from wastes, proposed waste to energy power plants and evacuation of power to grid in Nawabganj, Dohar and Keraniganj upazilas.
  - a) **General Framework:** The consultants shall analyze the general framework conditions including geography, climate, demography, and administrative and legal institutional structure in these three upazilas.
  - b) **Legislative Framework:** The consultants shall analyze the legislative framework for proposed WtE power plant in three upazilas in respect of energy policy, renewable energy policy, waste management policy, political motive, etc.
  - c) **Economic Framework:** The consultants shall analyze the economic framework in these three upazilas which include industry, service sector, transport, and communication, etc.
  - d) **Energy Scenario:** The consultants shall analyze the energy generation, demand and supply, ongoing and future developments of the energy sector in these three upazilas as well as neighboring areas.
  - e) **Waste Management Scenario:** The consultants shall analyze the waste management situation in these three upazilas and overall, in Bangladesh. The consultants will get both raw and processed data about waste management from the other consultancy firm (national) engaged in this feasibility study.
- 2) **Waste to Energy Technology**
  - a) **State of the art of Waste to Energy:** The consultants will evaluate different technologies applied in energy recovery from solid waste globally. The consultants will analyze the technologies based on their capabilities to handle different types of waste as feedstock. The consultants will assess every WtE alternative with its own advantages and limitations. The consultants will propose the optimal alternative or combination of alternatives, to maximize the benefits from the selected options.
  - b) **Comparison of options:** The consultants shall carry out comparative analysis among all alternative options systematically that will support in decision making process of BPDB. The consultants will consider all complex situations in comparative analysis of WtE technology options to overcome uncertainties in decision making.  
The consultants shall prepare ranks of all options with relative importance of weight.
- 3) **Proposed Capacity of the WtE Power Plant:** The consultants shall propose the capacity of the WtE power plant based on the appropriate technologies; their capabilities to handle different types of waste as feedstock; available amount of feedstock; generated, collected and transported amount of waste, proposed improved waste management procedure in coordination with National Consulting Firm, required pre-treatment of waste, manpower and other parameters.
- 4) **Land Requirement and Site Selection:** The consultants shall propose land mass requirement for proposed WtE power plant considering the proposed capacity of the WtE power plant, process flow information, different settings of layout, scale of economies, environmental and social guidelines, etc. The consultants shall propose suitable locations for the proposed WtE power plants in consideration of available land mass, building code, environmental and social guidelines, and other laws.
- 5) **Power Evacuation to the grid:** The consultants shall propose a power evacuation strategy from the WtE power plant to the power grid considering the quantity and quality power and adjustment with the existing grid structure and technologies.
- 6) **Road Map of the WtE Project:** The consultants shall prepare a road map for the proposed WtE project in consideration with feasibility study, fund allocation, land acquisition, engineering design, procurement, construction, commissioning, trial operation and full-scale operation, etc.
- 7) **Business Model Development:** The consultants shall prepare a business model for the proposed power plant. The consultants shall conduct economic assessment considering investment cost, tax,

custom duty, depreciation, amortization, bank interest, maintenance and operation cost, land rent, revenue, profit and loss calculation, breakeven point, etc.

a) **Financing Models:** The consultants will assess all possible financing models for the proposed WtE power plant project. The consultants shall include the advantages and disadvantages of each financing model.

b) **Risk Management:** The consultants shall analyze all project risks and develop a risk management plan. The consultants shall analyze similar projects in Asian countries as example.

8) **Environmental and Social Impact Assessment:** The consultants shall conduct environmental impact assessment of proposed technology based proposed power plant. The consultants evaluate both positive and negative impacts on the environment, and possible mitigation measures for negative impact on environment.

The consultants shall assess the potentials applicability of Clean Development Mechanism (CDM) projects. The consultants shall assess the regulatory and permitting requirements of the proposed WtE power plants.

The international firm shall assess both positive and negative social impact of the proposed WtE power plants as well as mitigation measure to the negative impacts.

9) **Recommendation:** The consultants shall recommend based on their findings in this feasibility study and previous experience and gained knowledge for the proper implementation of the proposed WtE power plant if it is not covered by above sections.

The consultants shall review any similar projects implemented in Bangladesh (example: Biogas Project by Chicks and Feed Ltd., Biogas Project by LGED, Biogas Project by Practical Action, Biogas Project in Ershad Nagar, Tongi by Swiss Contact, Municipal Waste Management Facility Project by Gazipur City Corporation and BRAC, Incineration Plant in Dhaka North City Corporation (DNCC) by Japan International Cooperation Agency (JICA) funding, Incineration Plant in Gazipur City Corporation (GCC) by Chinese Company, Pyrolysis Plant in Narayanganj City Corporation, Plastic Pyrolysis Plant and Faecal Sludge Treatment Plant (FSTP) in Faridpur Municipality by Practical Action) and neighboring countries with recommendation for Bangladesh based on learnings from these projects.

The consultants shall review in depth to find out reasons for failure of waste to energy projects in Bangladesh. The CONSULTANTS shall analyze reasons of failure of WtE projects in Bangladesh. The consultants shall recommend things to do and not to do for the proper implementation of WtE project.

10) **International Study Visit:** The consultants will assist GIZ for an international Study Visit (e.g., Germany, Netherland etc.) for the Officials of relevant stakeholders for paying visit to ideal Waste to Energy Power Generation Projects in consultation with GIZ. The duration of the study visit will be 3 to 7 days in length based on the discussion with GIZ. The GIZ is anticipating organizing visits for relevant officials of BPDB to the best plants e.g. Dry anaerobic digestion plant, incineration plant, large scale biogas projects, biomass to energy plants, landfill gas (LFG) to energy plants, etc. GIZ will bear the cost associated with the study visit includes airfare, accommodation, transportation, and others for the Government delegates.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Mapping Market Potential of Utility Scale Floating Solar PV (FSPV) in Bangladesh</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Approx. value of the contract (in current US\$):</b><br>N/A                                                                                                                                                                                                                                                                                                                                                             |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Duration of assignment (months):</b> 4                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Name of Client:</b> International Finance Corporation (IFC) / World Bank Group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Total No of staff-months of the assignment:</b> 7                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Address:</b> United House, 10 Bir Uttam Mir Shawkat Sarak, Dhaka 1212, Bangladesh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Approx. value of the services provided by your firm under the contract (in US\$ currency equivalent):</b> US\$ 35,630                                                                                                                                                                                                                                                                                                   |
| <b>Start date (month/year):</b> December 2021<br><b>Completion date (month/year):</b> December 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>No of professional staff-months provided by associated Consultants:</b> 3.7                                                                                                                                                                                                                                                                                                                                             |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>RINA Consulting S.p.A. (Lead Firm)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>Syed Ishtiaque Ahmed – Technical Expert</li> <li>ABM Harun Ur Rashid – Grid Expert</li> <li>Abdullah Al Mahmud – Legal Expert</li> <li>Roomee Tareque Moudud – Financial Expert/Economist</li> <li>Muhammad Khalid Bin Siddique – Hydrologist</li> <li>Shamim Hasan – GIS Expert</li> </ul> |
| <b>Narrative description of Project:</b><br><p>The objective of this assessment is to estimate the market potential of FSPV projects on water bodies across Bangladesh and to identify key related techno-commercial, regulatory, and legal issues. Based on the assessment of the FSPV approach for project development, it is anticipated that at least one reservoir will be identified to take forward for more in-depth analysis. The assessment should be geared towards determining the current and future viability/ legitimacy of implementing FSPV projects in the country by the private sector. The assessment will focus on:</p> <ul style="list-style-type: none"> <li>Market potential of FSPV projects in man-made reservoirs (hydro-electric projects, irrigation dams, industrial ponds etc.), and natural water reservoirs (natural lakes, natural ponds etc.)</li> <li>Screening of potential riverbed locations (if any identified by SREDA) for solar PV projects</li> <li>High level screening of potential lagoon areas for solar PV projects and assessment of potential use of new technology for 'Offshore FSPV'</li> <li>Undertake preliminary legal due diligence with respect to challenges of building FSPV in the lagoons and water bodies, some of which may be in protected areas.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Description of actual services provided in the assignment:</b><br><p>The Consultant will be responsible for accomplishing the following tasks to carry out mapping of FSPV in Bangladesh. The activities planned include:</p> <p><b>Task-1: Mapping Market Potential of FSPV</b><br/> Leverage off existing SREDA studies/ experience and identification of potential FSPV sites in the country. The consultant needs to explore the work done so far in the space of FSPV in Bangladesh by any Govt/International agency and consolidate the outcomes/barriers etc. The potential locations for FSPV (man-made, natural reservoirs) needs to be finalize in consultation with SREDA and other stakeholders of the country. The mapping exercise will include ranking of the sites within countries in terms of suitability for commercial FPV deployment as well as the size of the addressable market and will include the following activities:</p> <ul style="list-style-type: none"> <li>Identify man-made reservoirs, natural lakes, bays, and lagoons suitable for FPV in the target countries. Provide a brief description on the water bodies in terms of water uses (aquaculture, flood</li> </ul>                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                            |

control, hydropower, irrigation, tourism, traditional fishing, etc.), total area, potential area available for floating solar deployment, potential generation capacity (MW) and energy output (MWh per year); accessibility and connectivity etc.; and other pertinent information relevant for future development.

- High level potential of riverbed sites – Feasibility and capacity quantification of the riverbed sites (deltas, upgraded land etc.) identified by SREDA. This exercise needs to be done in consultation with SREDA. The potential assessment be more focus on hydrological and associated civil work requirements and cost estimates for the work of the sites to make it suitable for solar PV projects.
- Screening of potential lagoon areas for FSPV – Techno-commercial due diligence of identified lagoon areas for developing commercial projects (SEZ, etc.). High level assessment of Offshore FSPV in Bangladesh.
- Geographic Information System (GIS) based screening of reservoirs (natural and man-made reservoirs, industrial ponds, etc.)
- Solar radiation resource assessment (assessment through ground data, satellite data and time-series data)
- Meteorology of the location(s)
- Energy yield assessment (standard EYA using SolarGIS data through PVsyst software)
- Power evacuation infrastructure – adequacy of existing system and requirement of upgradation or new infrastructure
- Only FSPV and possibility to make hydro-FSPV hybrid
- Techno-economic inter-comparability with ground mounted PV in Bangladesh
- Quantification of investment potential in next 4-5 years
- Based on the site identification indicate environmental and social safeguards issues and screening and evaluation criteria for future consideration by IFC.
- Recommend additional site-specific survey work for further project development.
- Techno-commercial due diligence of One representative (most potential) location for developing FSPV project

## **Task – 2 Business Model**

Identify suitable business models for Bangladesh FSPV target markets and their attractiveness and limitations. This will explore:

- Project Cost Estimates - Benchmark costs should be based on utility-scale projects which have been completed in the past 3-5 years which must be sufficiently detailed to allow financial and economic evaluation and sensitivity analyses. Estimates should reference other local costs for similar items of work, based on available information. Details on other assumptions made to support cost estimates.
- Business Model(s) - Different ownership structures (with combination of solar capacity with existing public/private hydro project); and Different types of contracts (solar PPA with utilities, captive generation etc.).

## **Task – 3 Regulatory and Legal Assessment**

The consultant needs to review the existing regulatory and legal framework for utility scale FSPV in Bangladesh. In case of non-availability of above consultant need to suggest measures to incorporate in the existing framework of ground mounted solar PV or other renewable energy projects for customization wrt FSPV.

- Assessment of existing regulations in Bangladesh for utility scale solar projects and their efficacy for FSPV projects, Identification of the gaps and solutions through best global practices. The exercise should address the lack of appropriate licensing, permitting, auction schemes, concession frameworks (particularly for potential projects in publicly owned Hydro power projects) and clear guidance on water use rights can act as market barriers to attract private sector investment.

- Summarize policy and regulations governing the solar energy sector in general and FSPV specifically, including project development pathways (public vs. private sector, competitive procurement, etc.), permitting and licensing requirements
- Understanding the legal challenges of undertaking FSPV in water bodies, particularly those which may be located in protected areas.

## Task – 4 Capacity Building

The consultant has to conduct a 5-days (or two programs of 2.5 days each) training and capacity building training program for key stakeholders with SREDA. The capacity building program should cover basic approach for developing FSPV projects, global experience to date regarding technology, key components and their standards and specifications, feasibility assessment, bathymetry practices, energy yield assessment, basic design, implementation, operational results, best practices, key manufacturers of the components, key developers and EPC players, E&S aspects, finance opportunities and due diligence of utility scale FSPV and its bankability.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: USAID South Asia Regional Energy Partnership (SAREP)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Approx. value of the contract: N/A</b>                                                                                                                                                                                    |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Duration of assignment: 5 Years</b>                                                                                                                                                                                       |
| <b>Name of Client:</b> United States Agency for International Development (USAID)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Total No of staff-months of the assignment: N/A</b>                                                                                                                                                                       |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>American Embassy, Shantipath, Chanakyapuri, New Delhi, Delhi 110021, India<br>(+91)11 2419 8312                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Approx. value of the services provided by your firm under the contract: US \$ 424,679</b>                                                                                                                                 |
| <b>Start date:</b> July 2021<br><b>Completion date:</b> September 2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants: 60</b>                                                                                                            |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>Research Triangle Institute (RTI) International, USA</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>Mohammad Tahsin Nawaz (Country Manager)</li> </ul> |
| <b>Narrative description of Project:</b> SAREP is a five-year USAID-funded program focused on facilitating collaboration among its six countries of operation to accelerate the transition to clean energy, mitigate climate change, and promote energy security, economic development, self-reliance, livelihoods, health, and productivity throughout the region. It will facilitate collaboration amongst Bangladesh, Bhutan, India, the Maldives, Nepal, and Sri Lanka to improve access to affordable, reliable, and sustainable energy. To achieve ambitious renewable energy goals and increased energy efficiency, SAREP will offer opportunities to leap forward using advanced technologies and infrastructure, and help to facilitate a transition to sustainable energy, including through innovative financing. |                                                                                                                                                                                                                              |
| <b>Description of actual services provided in the assignment:</b><br>e.Gen as the Bangladesh counterparts of the project is working on the following interventions.<br>→ <b>Market-Based Electricity Trade Mechanisms:</b> Assisting the Bangladesh Power Development Board (BPDB) in actively engaging with market-based electricity trade mechanisms in the region,                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                              |

enabling Bangladesh to optimize its energy trade strategies and capitalize on cross-border electricity exchange opportunities.

- **Conceptualization of Trading Entity:** Leading the conceptualization and development of a dedicated trading entity in Bangladesh that will facilitate and streamline energy trade, ensuring efficient operations and compliance with regional energy trade protocols.
- **Promoting E-Mobility:** Promoting the adoption of electric mobility in Bangladesh through targeted capacity-building programs and strategic partnerships, aiming to reduce carbon emissions and modernize the transportation sector.
- **Energy Auditor Training with SREDA:** Providing hands-on support to the Sustainable and Renewable Energy Development Authority (SREDA) by training energy auditors, enhancing their expertise to conduct thorough and effective energy assessments across various industries.
- **Master Class on Green Hydrogen:** Organizing master classes on Green Hydrogen, focusing on the potential of hydrogen as a clean energy source, and equipping engineers and policymakers with the knowledge needed to spearhead hydrogen-based projects in Bangladesh.
- **Smart Metering Training:** Delivering specialized training programs on smart metering technologies for engineers and technicians, aimed at improving the efficiency and accuracy of energy consumption measurement and management in Bangladesh.
- **Best Value Procurement and Roadmap for South Asia:** Developing and implementing a procurement strategy that ensures the best value for investments in energy infrastructure, and crafting a roadmap for South Asia to guide future energy procurement and infrastructure development.
- **Energy Efficiency Market Development:** Assisting in the development of energy efficiency (EE) markets in South Asia, with a focus on creating a joint venture Energy Service Company (ESCO) in Bangladesh to drive energy efficiency improvements across various sectors.
- **DUN Regional Meet and Taskforces:** Coordinating the regional meet under the Developing Utilities Network (DUN) and establishing task forces to address critical energy issues, foster collaboration, and share best practices across the region.
- **Establishing SAFEI:** Spearheading the establishment of the South Asia Forum for Energy Integration (SAFEI), a platform for regional cooperation and dialogue on energy integration and sustainable development.
- **Support for Regional Parliamentary Forum:** Supporting the regional Parliamentary Forum on Energy Cooperation and Energy Trade, facilitating dialogue and cooperation among policymakers to enhance regional energy security and trade.
- **BIMSTEC Grid Transmission Interconnection Master Plan:** Contributing to the development of the BIMSTEC grid transmission interconnection master plan, which aims to create a seamless and robust electricity grid across BIMSTEC member countries, enhancing regional energy connectivity.
- **BIMSTEC Energy Outlook:** Participating in the creation of the BIMSTEC Energy Outlook, a comprehensive study that projects future energy trends and identifies opportunities for regional energy collaboration.
  - **Transition to SARI/EI:** Managing the transition of regional activities to the South Asia Regional Initiative for Energy Integration (SARI/EI), ensuring continuity in regional forums, the South Asia Energy Knowledge and Resource Database (SAEKRD), and other strategic initiatives like the Transition Task Force (TTF) and South Asia Forum for Infrastructure Regulation (SAFIR) Study.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Global market assessment of floating solar PV system (PPP or Private Sector-led)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Approx. value of the contract</b> (in current US\$): US\$ 180,000                                                                                                                   |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Duration of assignment</b> (months): N/A                                                                                                                                            |
| <b>Name of Client:</b> World Bank Group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Total No of staff-months of the assignment: 10                                                                                                                                         |
| <b>Address:</b> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Approx. value of the services provided by your firm under the contract</b> (in US\$ currency equivalent): US\$ 16,000                                                               |
| <b>Start date</b> (month/year): June 2021<br><b>Completion date</b> (month/year): March 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>No of professional staff-months provided by associated Consultants:</b> 1.5                                                                                                         |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>RINA Consulting (UK) (Lead)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>Peter Mackay - Socio and Environmental Study</li> </ul> |
| <b>Narrative description of Project:</b> FPV is fully aligned with IFC's Energy Strategy in unlocking markets for new renewables and helping countries transition from fossil fuel to renewable energy generation. IFC, independently as well as in collaboration with the World Bank, has been involved in market assessments and knowledge products for FPV to scope out investment opportunities in this sector. This Global Floating Solar study will help in advancing the earlier studies into concrete private sector investment opportunities. This global program is designed as an umbrella project that will help create a pipeline of investment projects globally and hence has a strong market creation and replicability potential. |                                                                                                                                                                                        |
| <b>Description of actual services provided in the assignment:</b><br>The study will be based on a detailed desk analytical review and assessment, as well as interaction with key relevant public and private sector institutions/companies and other stakeholders. IFC will provide a list of candidate countries for assessment and the selected consultant(s) will develop a prioritized list of potential projects for the IFC team that needs to be vetted by the relevant public sector entity in a given country to ensure the required regulatory support for floating solar projects.                                                                                                                                                     |                                                                                                                                                                                        |

|                                                                                                                                                                                                                |                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Assessment of solar PV (floating and ground/rooftop-mounted) potential to accelerate sustainable solar generation in the largest Economic Zone under development in Bangladesh (BSMSN)</b> | <b>Approx. value of the contract</b> (in current US\$): US\$ 59,080                                                                                                          |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> BSMSN                                                                                                                                            | <b>Duration of assignment</b> (months): 6                                                                                                                                    |
| <b>Name of Client:</b> World Bank/ BEZA                                                                                                                                                                        | Total No of staff-months of the assignment: 3.5                                                                                                                              |
| <b>Address:</b> Level 12 Monem Business District, 111 Bir Uttam CR Dutta Rd, Dhaka 1205                                                                                                                        | <b>Approx. value of the services provided by your firm under the contract</b> (in US\$ currency equivalent): US\$ 59,080                                                     |
| <b>Start date</b> (month/year): January 2021<br><b>Completion date</b> (month/year): December 2021                                                                                                             | <b>No of professional staff-months provided by associated Consultants:</b> 2.7                                                                                               |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>RINA Consulting (UK)</li> </ul>                                                                                          | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>Syed Ishtiaque Ahmed – Team Leader</li> </ul> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>▪ Yasin Mozumder – Environment and Social Expert</li> <li>▪ Roomee Tareque Moudud – Economist/Financial Expert</li> <li>▪ Abdullah Al Mahmud – Legal Expert</li> </ul> |
| <p><b>Narrative description of Project:</b></p> <p>The consultants will be responsible for accomplishing the following tasks:</p> <ol style="list-style-type: none"> <li>1) Develop an Inception Report presenting a detailed timeline for completion of all tasks, methodology that will be followed in the assignment and list of data and document necessary for fulfilling the assignment.</li> <li>2) Organize a virtual inception meeting with the Client at the end of the 2nd week of the assignment to present the results of the Inception Report and discuss the way forward</li> </ol> <p>Outputs: (i) Inception Report and (ii) Inception meeting.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                               |
| <p><b>Description of actual services provided in the assignment:</b></p> <p><b>Task 1: Preliminary Screening</b> – The Consultant will use and elaborate on the following initial screening checklist to evaluate the potential of solar PV sites that would connect to BSMSN – Zone 2. Based on that list, the Consultant will develop a comprehensive and in-depth analysis of the exploitable potential for solar PV of the selected sites:</p> <ul style="list-style-type: none"> <li>– Solar irradiation and shadow analysis of the respective sites;</li> <li>– Estimated PV generation potential (including potential energy storage options) of the selected sites;</li> <li>– Potential area: (i) determined by rooftop availability on factory shells that will be built in the planned area, (ii) the water body (including offshore, coastal areas in front of the selected economic zone) that could be available for PV deployment, (iii) non-operational areas (such as one side of the superdyke);</li> <li>– Features of the substation &amp; SCADA and opportunity/Constraint analysis for connecting new PV power and kV of the transmission lines;</li> <li>– Climatic data, such as wind speed, temperature, evaporation, precipitation, etc. including considerations on seasonal water height or other water level variations and other climatic conditions if relevant to the application (e.g. evaporation);</li> <li>– Ownership/jurisdiction of the potential areas for PV development;</li> <li>– Resilience measures and impacts on the total cost of the power infrastructure, including increase of capital cost and cost of kWh;</li> <li>– Comparison of cost of PV power with the costs of power bought from the grid operator or other captive/self-generation</li> <li>– Evaluate potential financing solutions, including SREDA solar program and its implementation by BEZA as local operator;</li> <li>– Evaluate potential PPP arrangements, including the possibility of appointing a qualified operator to outsource the management of the PV generation in the economic zone.</li> </ul> <p><b>Outputs:</b> (i) Analysis of the potential of solar PV to be connected to BSMSN – Zone 2 and provide initial screening checklist, (ii) Screening Selection meeting and (iii) Recommendation and Final section of selected opportunities.</p> <p><b>Task 2: Pre-Feasibility Study</b> – Once the Selected areas are agreed on, the Consultant shall develop a comprehensive pre-FS of each selected opportunity (floating and ground/rooftop – one operator to sell power to tenant firms), focusing on (i) technical design, (ii) site assessment, (iii) contractual and institutional assessment, (iv) financial and economic analysis, and (v) risk analysis.</p> <p><b>Task 2.1: Technical Design:</b> For Task 2.1, the Consultant will:</p> <ul style="list-style-type: none"> <li>- Select technical design for (i) ground/rooftop-mounted and (ii) floating in the BSMSN – Zone 2, based on master plan, site visits and an assessment of site availability and ownership;</li> </ul> |                                                                                                                                                                                                               |

- Recommend the plant's size, which could be developed in phases, based on the available non-operational areas, rooftops and water basins (including coastal areas) sizes for floating solar, the transmission line/substation capacity, including assessment of impacts on grid stability, tension and frequency regulation. Explain impacts on (1) the max. PV peak power to be installed, (2) the constraints imposed on the grid operation by the dispatch;
- Describe the plant arrangements and design (SCADA system to control the potential solar plants – floating and ground/rooftop-mounted -, need for storage etc.), estimated energy production and grid connection plans. Conduct a solar power assessment of the site using PVsyst, or a similar software;
- For ground/rooftop-mounted and floating PV, detail description of selected technology: panels, platforms, anchoring, mooring, floating mounting systems, transmission and interconnection infrastructure (including inverters, transformers, cables and substations), including resilience measures;
- An overview of potential environmental constraints that could hinder the project from a technical perspective;
- Gains associated with improved meteorological forecasts, that ease management of solar variability;
- Provide technical and economic analysis for potential energy storage associated to the different options (floating, rooftop/ground mounted).

**Task 2.2: Site and Permit Assessment:** The Consultant will provide an initial estimate if there is any limitation for development of solar PV in the sites due to environmental or social concerns. For floating technology, the Consultant will provide an initial estimate of the risks that this design may have on the water reservoirs or coastal areas. The Consultant shall develop a list of the permits required to bring the solar plant to ready-to-build, keeping in mind the difference between the two designs. It shall list national permits and local permits.

**Task 2.3: Contractual and Institutional Assessment:** Through discussions with the Client and country relevant stakeholders, the Consultant shall develop an analysis of the institutional (applicable laws, rules and regulations and relevant gap analysis), commercial and contractual potential arrangements and recommend the best way forward. This will be done by providing relevant international examples, drawing lessons from these examples to the specific situation studied, and project specific characteristics, such as plant's size. The proposed structuring for each plant will take into account: (i) country- and plant-specific situation, (ii) proposed design, (iii) expected economics of the PV plant, (iv) legal framework of the given country, (v) preferences of the government for Public Private Partnerships (“PPP”) or Independent Power Producer (“IPP”) contractual structuring.

**Task 2.4: Financial and Economic Analysis:** The Consultant shall develop an economic analysis considering all benefits and GHG emissions reduction. The consultant should develop this analysis on a 'single buyer' model assumption, where BEZA will act as the single buyer - as this is the most bankable model. On the same note, the consultant should provide an estimate in terms of blended cost of electricity to BEZA, as BEZA will buy electricity from other sources, such as BPDB. The Consultant shall develop a financial analysis based on the design and contractual agreement recommended. This analysis should be complemented by a high-level funding options analysis. Considering the programs that the local Sustainable and Renewable Energy Development Authority (SREDA) has developed with exceptions in terms of maximum capacity applicable to BEZA, the single investor (BEZA) scenario with a global operator (Local Utility or international player) shall be considered for captive distribution and use of power in the BSMSN – Zone 2. The financial analysis should include market-based assumptions regarding financing costs and estimate the tariff/price for off-take to the utility and the scenario for captive use in the economic zone with one operator to install and operate the PV plant. The Consultant shall also compare the estimated tariff with the off-taker's financial performance and analyze the affordability for the single operator option. The output of the financial analysis should include levelized costs, capital costs, operating

costs, capital structure, cost of capital, and off-take tariff. The Consultant will be asked to run sensitivities on the financial analysis on key inputs. The Financial and Economic Analysis should be accompanied by a Financial Model developed on MS Excel. The model should be free of any passwords/macros etc., so that WB or BEZA can conduct the necessary changes including sensitivity analysis based on future development.

**Task 2.5: Risk analysis:** The Consultant shall conduct a risk analysis encompassing technical, contractual, environmental/social and financial risks. The Consultant should consider technology risks that may impact the design and contractual structure. For example, the Consultant should consider risks that may impact the ability for floating solar to raise financing for PPP or IPP structures. The output of this the risk analysis will be a Risk Matrix that identifies all the risks associated with the projects, their potential consequences and probability and corresponding mitigation strategies.

**Task 2.6: Market Sounding:** The consultant should perform an initial market sounding among the commercial banks and NBFIs in Bangladesh. The market sounding should capture the risk appetite of the financial institutions to provide long term financing to projects of this nature undertaken by BEZA and what kinds of Risk Mitigation the banks would expect.

**Task 2.7: Final Document:** The final pre-FS document shall encompass, but not limited to:

1. Project Overview: description, rationale for project, solar potential
2. Site Presentation: precise localization, environmental and social impacts, ownership status
3. Technical Design: presenting the results of Task 2.1 including production forecast
4. Grid integration assessment
5. Captive generation assessment
6. Permits list and analysis
7. Market sounding analysis
8. Economic analysis
9. Financial analysis
10. Risk analysis

|                                                                                                                                                                                                                                                                                                                              |                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA-9884 MON: Smart Energy System for Mongolia - Feasibility Study on Smart Energy System</b>                                                                                                                                                                                                         | <b>Approx. value of the contract: USD 664,000</b>                                          |
| <b>Country:</b> Mongolia<br><b>Location within country:</b> Several provinces                                                                                                                                                                                                                                                | <b>Duration of assignment:</b> 12 months                                                   |
| <b>Name of Client:</b> Asian Development Bank (ADB)                                                                                                                                                                                                                                                                          | <b>Total No of staff-months of the assignment:</b><br>International: 15.5, National: 21.25 |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b> Ovgor Bavuudorj<br>Director of Renewal Energy Division<br>Ministry of Energy<br>Government Building 14, Khan-Uul District,<br>Chinggis Avenue, 3-r khoroo, Ulaanbaatar<br>Mongolia<br>Phone: +976 95 596198, Fax: +976 7004 3479, Email: bavuudorj@energy.gov.mn | <b>Approx. value of the services provided by your firm under the contract: USD 90,000</b>  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Start date:</b> July 2020<br><b>Completion date:</b> October 2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 5                                                                                                                                                                                          |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– Tractebel Engineering GmbH (JV Partner)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>– Jayath Atukorala, Energy economic and financial specialist</li> <li>– Regiland Miller, IT specialist</li> <li>– Jena Samarendra Narayan, Safeguard specialist</li> </ul> |
| <b>Narrative description of Project:</b><br>The knowledge and support technical assistance (TA), Mongolia: Smart Energy System for Mongolia, will support the country's energy policy to promote renewable energy power generation and to maintain the power grid stability in Mongolia through studies to transform the existing national power grid to a smart grid using innovative technologies and practices. The government of Mongolia aims to increase the share of renewable energy in total installed capacity in the country from around 12% in 2018 to 20% by 2023 and 30% by 2030 as per the State Policy on Energy, 2015–2030. <sup>1</sup> The country's electricity supply depends on imported power (20%) and on domestic power, which is mostly generated by coal. The power sector adopts a single-buyer model, where National Dispatching Center (NDC), an independent system operator, is the single buyer. Country's renewable energy development has been supported by private sector. The government plans to transit from traditional power purchase agreement (PPA) scheme to auction system. To unlock the country's renewable energy potential, Asian Development Bank (ADB) also supports the government.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                           |
| <b>Description of actual services provided in the assignment:</b><br>Output 1: Investment-ready smart energy system plan incorporating high-level technology for transmission grid developed: <ul style="list-style-type: none"> <li>(i) Assess the establishment of Metering Data Management System (MDMS), which will upgrade and expand the existing automatic meter reading system. The MDMS will install revenue-precision meters for settlement of wholesale power market at point-of connections among power utilities including generation, transmission, and distribution companies; install a metering data management (settlement) server, and connect meters via SCADA and other networks to the settlement server. The MDMS, which is HLT, is expected to make the settlement transaction more accurate and more transparent;</li> <li>(ii) Assess the installation of synchro-phasor based Wide Area Monitoring System (WAMS) that expedites the restoration from the large-scale blackout and reduces the possible blackout in future. WAMS is HLT;</li> <li>(iii) Design the expansion of the existing SCADA network coverage from the central energy system (CES) to the other regional energy systems, including the western energy system, the eastern energy system, and the Altai-Uliastai energy system. In addition to the existing NDC, regional dispatching centers (RDCs) will be established in western, eastern, and southern regions. Design the scope of work for RDCs;</li> <li>(iv) Recommend the upgrade of energy management system to meet the changing energy sector environment;</li> <li>(v) Recommend the establishment of backup control center (BCC) and design the scope of work for the BCC;</li> <li>(vi) Review and recommend necessary cyber security countermeasure against possible threats;</li> <li>(vii) Assess policy and market regarding grid flexibility;</li> <li>(viii) Assess the financial capability of NDC and NPTG as a loan borrower;</li> <li>(ix) Recommend measures for gender mainstreaming about the project;</li> <li>(x) Conduct preliminary safeguard assessment on the prioritized project;</li> </ul> |                                                                                                                                                                                                                                                                                                           |

- (xi) Prepare the feasibility study report, which contains Action Plan of Smart Energy for Mongolia (2020-2025), based on the above findings; and  
(xii) Identify the prioritized smart energy project.

Output 2: Capacity of the NDC to manage modern and sophisticated system enhanced:

(i) Enhance the counterpart's capacity on the above HLTs, including MDMS, WAMS, and other smart energy technologies and practices. Hands-on training on the use of MDMS and WAMS will be provided to the counterpart staff. Capacity building would analyze events in the power system like cascading blackout, voltage stability, and harmonized protection relay settings, using power system analysis tool like DigSilent. The capacity building would also include the assessment of policy and the market for the power system flexibility. An international study tour to ADB member countries will be organized for the counterpart staff's capacity building, focusing on the actual use of the above HLTs;

(ii) Organize domestic workshops to disseminate the findings towards power sector stakeholders including the MOE, inviting resource persons for knowledge transfer of international best practice; and  
(iii) Explore measures to engage more female staff to join NDC to ensure gender inclusivity.

A) Upgrade of the normal operation regime information exchange, monitoring and control system (SCADA).

B) Establishment of the energy generation and consumption sales balance monitoring sub-system (MDM-Metering Data Management).

C) Establishment of the transient operation regime technological process information exchange, monitoring, recording and real time control system (Wide area management system (WAMS)).

|                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA-9628 BAN: Solar PV Power Investment Plan - Capacity Development for Renewable Energy Investment Programming and Implementation</b> | <b>Approx. value of the contract: US\$ 875,272</b>                                                                                                                                                                                                                                                                                              |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Countrywide                                                                                     | <b>Duration of assignment:</b> 22 months                                                                                                                                                                                                                                                                                                        |
| <b>Name of Client:</b> Asian Development Bank (ADB)                                                                                                           | <b>Total No of staff-months of the assignment:</b> 62 person-months                                                                                                                                                                                                                                                                             |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b> ADB Bangladesh Resident Mission (BRM)                                                             | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 528,451                                                                                                                                                                                                                                                     |
| <b>Start date:</b> March 2019<br><b>Completion date:</b> December 2021                                                                                        | <b>No. of professional staff-months provided by your consulting firm/organization:</b> 52 person-months                                                                                                                                                                                                                                         |
| <b>Name of associated Consultants, if any:</b><br>– RINA Consulting Limited (UK) – JV partner                                                                 | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b><br>– Romeo Pacudan – Energy Economist<br>– Nisha Menon – Financial Specialist<br>– S.N Jena – Social Dev. Specialist<br>– Derek Ratcliff – Environmental Specialist<br>– Janaka Eknayaka – Smart Grid Expert |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>- Syed Ishtiaque Ahmed – Solar PV System Engr.</li> <li>- Dr. S Shahnewaz – Power System Analysis Engr.</li> <li>- Harun-Ar-Rashid – Power System Planning Engr.</li> <li>- Zubaer Mostafa – Biodiversity Specialist and Project Manager</li> </ul> |
| <p><b>Narrative description of Project:</b></p> <p>The Government of Bangladesh has set a target of achieving 10% of power generation from renewable energy by 2021. With Bangladesh showing an enormous potential in solar energy, this feasibility study project will assess the potential of floating solar photovoltaic power generation in Bangladesh. The broad objective of the project is to facilitate the renewable energy uptake in Bangladesh. Specific objectives of the project are provided below:</p> <ul style="list-style-type: none"> <li>▪ Feasibility study for assessing potential of floating solar PV power in Bangladesh</li> <li>▪ Grid Impact Assessment</li> <li>▪ Updating grid code and preparing operational guidelines</li> <li>▪ Institutional capacity strengthened</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                            |
| <p><b>Description of actual services provided in the assignment:</b></p> <ul style="list-style-type: none"> <li>▪ Conducting due diligence and analysis to assess countrywide potential of solar PV power projects.</li> <li>▪ Technical, financial, economic and safeguard due diligence will be conducted as part of the feasibility study. Feasibility study will identify sub-projects those are feasible for public-private investment.</li> <li>▪ Develop commercially viable business models that can be readily replicated and scaled up.</li> <li>▪ Grid impact assessment will be carried out by using appropriate software and analytical tools to check the impact of renewable intake on the selected sites.</li> <li>▪ Officials from the PGCB will be trained on how to conduct grid impact assessment.</li> <li>▪ Based on the power system analysis, updated grid code and relevant guideline will be proposed.</li> <li>▪ Help address the necessary grid code updates, specifically automatic frequency control, voltage control, economic dispatching, cross-country interconnections, tariff structures to incentivize generators for grid frequency and power factor control, and demand forecasting and generation planning (including prescribing penalties for noncompliance).</li> <li>▪ Training and capacity development support will be provided to the relevant power agencies. Trainings will be provided on advanced technologies, floating solar system and business model development.</li> </ul> |                                                                                                                                                                                                                                                                                            |

|                                                                                                                       |                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Assignment name: Feasibility Study for the Project “Modernization of Power Distribution - Smart Grids Phase I”</b> | <b>Approx. value of the contract:</b> US\$ 380,570                                            |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Khulna                                                  | <b>Duration of assignment (months):</b> 7 months                                              |
| <b>Name of Client:</b> KfW and Bangladesh West Zone Power Distribution Company Ltd (WZPDCL)                           | <b>Total No of staff-months of the assignment:</b> 20.75                                      |
| <b>Address of Client:</b> KfW Entwicklungsbank<br>z.H. Sandra Lutz LEb2<br>Palmengarten Str. 5-9<br>60325 Frankfurt   | <b>Approx. value of the services provided by your firm under the contract:</b><br>US\$ 63,200 |
| <b>Start date (month/year):</b> November 2018<br><b>Completion date (month/year):</b> May 2019                        | <b>No of professional staff-months provided by associated Consultants:</b> 14.25              |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– Lahmeyer International GmbH (Lead Firm)</li> <li>– Tractebel Engineering S.A. (Joint Venture Partner)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Name of senior professional staff of your firm involved and functions performed:</b><br>Md. Yasin Mozumder - Environmental & Social Expert<br>D.K.M Anowarul Haque - Civil Engineer |
| <b>Narrative description of Project:</b> The Consultant prepared, on behalf of WZPDCL, a Feasibility Study (inter alia consider technical, financial/ economic aspects and environmental/ social aspects) for the Project. The Project comprises both investment as well as institutional support to WZPDCL. The first part of investments relates to improving the 33/11 kV distribution system with the aim of reducing losses and making the system more energy efficient, increasing reliability and availability of the system. Both, reducing direct and indirect losses will also contribute towards saving of greenhouse gasses. This shall be achieved by renovation of substations and medium voltage distribution lines and installation of capacitor banks. A second major part of the investment relates to operability by increasing automatization of the distribution system and introduction of a Distribution Control Centre (DMS) including online/ offline distribution SCADA system allowing for remote control of all considered substations within WZPDCL's distribution system. In this regard, existing substation should be facilitated with modern SCADA technology and to be integrated in the DMS, which shall be done only after an assessment, if the substation and the equipment is suitable for upgrading. In addition to the investment, it is also foreseen to provide Institutional support and capacity building in the framework of the foreseen Accompanying Measure |                                                                                                                                                                                        |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Environmental Impact Assessment</li> <li>• Distribution Planning</li> <li>• Capacity Building Assessment</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                        |

|                                                                                                                                                                                                                                                   |                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name:</b> ADB LOAN-3522 BAN: Bangladesh Power System Enhancement and Efficiency Improvement Project - Consulting Services for Aminbazar-Maowa-Mongla 400 kV double circuit transmission line and 400/230 kV substation at Aminbazar | <b>Approx. value of the contract (in current US\$):</b><br>US\$ 211,282                                                                                                                   |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka                                                                                                                                                                               | <b>Duration of assignment (months):</b> 28                                                                                                                                                |
| <b>Name of Client:</b> Power Grid Company of Bangladesh Limited / Asian Development Bank (ADB)                                                                                                                                                    | <b>Total No of staff-months of the assignment:</b> 50 Staff Months                                                                                                                        |
| <b>Address:</b> IEB Building (3rd & 4th floor), Ramna, Dhaka-1000, Bangladesh                                                                                                                                                                     | <b>Approx. value of the services provided by your firm under the contract (in US\$ currency equivalent):</b> US\$ 211,282                                                                 |
| <b>Start date (month/year):</b> August 2016<br><b>Completion date (month/year):</b> On going                                                                                                                                                      | <b>No of professional staff-months provided by associated Consultants:</b><br>N/A                                                                                                         |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– Gopa Intec., Germany (Lead Firm)</li> </ul>                                                                                                               | <b>Name of senior professional staff of your firm involved and functions performed:</b><br>1. A.B.M. Harunur Rashid – Transmission Line Engineer – Assisting client in completing bidding |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | process and contributing in PGCB counterpart staffs' capacity building<br>2. Shofiqur Rahman – Civil Engineer Transmission Lines – Construction supervision and work in the preparation of foundation design for tower<br>3. Md. Sohel Rana – Telecommunication Engineer |
| <b>Narrative description of Project:</b><br>Providing Technical advice to PGCB in (i) preparation of basic design; (ii) preparation of bid documents; (iii) clarifying bidders' queries during bidding stage; (v) evaluation of bids; (vi) verifying contractors' design and modifications thereof; (vi) ensuring environmental standards during construction; (vii) supervision of contractors' work during implementation; and (viii) preparing periodic progress reports. The total work scope is categorized into two broad segments that are Pre-Contract Scope and Post-Contract Scope. In the Pre- Contract phase, some key tasks are- EMTP study for selection of reactor at Aminbazar and Mongla, preparation of bid document, preparation of reply, scrutiny of bid proposals and evaluation of bids and preparation of Evaluation Reports. In the post contract phase, the key task is to check Contractor's all technical design submissions and drawings and submit comments and recommendations to PGCB to facilitate the approval.                                                      |                                                                                                                                                                                                                                                                          |
| <b>Description of actual services provided in the assignment:</b><br><br>Following are some of the core tasks to be conducted by the experts from e.Gen Consultants Ltd.:<br>Make necessary inputs and advice to the project team and to PGCB on transmission line matters including foundation for towers. Prepare the scope, make necessary inputs and advice to the project team and to PGCB to prepare project designs and bidding documents. Assist PGCB in evaluation of technical and financial bids to be received against ICB for engagement of turnkey contractor, preparation of bid evaluation reports, contract negotiations and draft contract agreements. Advice on submission of documents to ADB for review and approval. Contribute to capacity building of PGCB counterpart staff. Assist PGCB in the preparation of foundation design for tower. Supervise the construction and erection works for transmission line. Review the existing optical fiber based telecommunication and protection system and suggest appropriate specification for inclusion in the bidding document. |                                                                                                                                                                                                                                                                          |

|                                                                                                                                                                                               |                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB LOAN 3146 SRI: Green Power Development and Energy Efficiency Improvement Investment Program - Tranche 1 (Project Management Support for Preparation of Tranche 2)</b> | <b>Approx. value of the contract: USD 988,582</b>                                                                   |
| <b>Country:</b> Sri Lanka<br><b>Location within country:</b> Countrywide                                                                                                                      | <b>Duration of assignment:</b> 24 months                                                                            |
| <b>Name of Client:</b> Asian Development Bank (ADB)/ Ceylon Electricity Board                                                                                                                 | <b>Total No of staff-months of the assignment:</b> 85                                                               |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>50, Sir Chittampalam A Gardiner Mw, Colombo 02                                                                                 | <b>Approx. value of the services provided by your firm under the contract: USD 988,582</b>                          |
| <b>Start date:</b> 11-Feb-2016<br><b>Completion date:</b> Dec 2018                                                                                                                            | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants: 21.5</b> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name of associated Consultants, if any:</b><br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>Hanzheng (Han) Duo (International Transmission Specialist and Team Leader)</li> </ul> |
| <b>Narrative description of Project:</b><br>The objective of procurement of consulting services was for Project Management Support for Tranche 2 Sub-Projects which included: <ol style="list-style-type: none"> <li>Transmission projects</li> <li>Distribution project</li> <li>Demand Side Management projects covering smart grid, smart buildings, and cold storage</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                 |
| <b>Description of actual services provided in the assignment:</b><br>The Consultants' scope of work covered two major areas: <ol style="list-style-type: none"> <li>Transmission and Distribution Projects <ol style="list-style-type: none"> <li>Evaluated and finalized the Tranche 2 transmission and distribution subprojects.</li> <li>Carried out Environmental and Social Safeguard Assessment relevant to the Tranche 2 transmission and distribution subprojects.</li> </ol> </li> <li>Demand Side Management projects covering smart grid, smart buildings, and cold storage <ol style="list-style-type: none"> <li>Designed the smart grid pilot project under Tranche 1 with the participation of the CEB Engineers.</li> <li>Guided CEB to implement the smart grid pilot project by preparing specifications, request for proposals, selection of contractors, and ensuring the pilot project is implemented in accordance with the concept and the specifications</li> <li>Designed the smart building pilot project under Tranche 1 with the participation of the CEB Engineers.</li> <li>Guided CEB to implement the smart building pilot project by preparing specifications, request for proposals, selection of contractors, and ensuring the pilot project is implemented in accordance with the concept and the specifications</li> <li>Designed the cold thermal storage pilot project under Tranche 1 with the participation of the CEB Engineers.</li> <li>Guided CEB to implement the cold thermal storage pilot project by preparing specifications, request for proposals, selection of contractors, and ensuring the pilot project is implemented in accordance with the concept and the specifications</li> </ol> </li> </ol> |                                                                                                                                                                                                                                                                 |

|                                                                                                                                                                                                |                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Assignment name: Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) for a 75 MW Power Plant and Quality Standards Gap Analysis Study</b> | <b>Approx. value of the contract:</b> US\$ 36,097                                          |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Sitakunda, Chittagong                                                                                                            | <b>Duration of assignment:</b> 4 Months                                                    |
| <b>Name of Client:</b> Abul Khair Steel & Power Ltd., Abul Khair Group                                                                                                                         | <b>Total No of staff-months of the assignment:</b> 9                                       |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b>                                                                                                                                    | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 36,097 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Md. Jasim Uddin, Project Director, BAIDP, LGED, LGED Bhaban, (Level-07), Agargoan, Dhaka-1207.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Start date:</b> December 2015<br><b>Completion date :</b> April 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 9                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>N/A</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>– Swapan Kanti Poddar (TL/ Environmental Specialist);</li> <li>– Brig. General M Mofizur Rahman, Retd (Senior OHS and Quality Management Specialist);</li> <li>– Mohammed Masudur Rahman (Project Director and Consultant);</li> <li>– Faisal Rabbi (Project Manager);</li> <li>– Sami Karim (Project Manager)</li> </ul> |
| <b>Narrative description of Project:</b><br>Abul Khair Steel & Power Ltd. has large flat and long steel manufacturing plants in Chittagong, drawing massive power from the mains grid. As the grid is not reliable for its connectivity or quality of the power, AKSPL has taken upon itself to construct captive power plants of their own to support the smooth operation of steel manufacturing units. Under this effort, the company plans to add another 75 MW captive gas-fired power plant in its existing premise as an extension to the already running 24 MW power plant of the same nature. In order to do this, AKSPL has sought funding from Export Credit Norway.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Description of actual services provided in the assignment:</b><br>e.Gen assisted AKSPL in securing the funding from Export Credit Norway by providing the following services: <ul style="list-style-type: none"> <li>• Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) according to IFC (Thermal) EHS Guidelines</li> <li>• Labor &amp; HR Regulatory Audit</li> <li>• Young Workers' Rehabilitation Framework with a Back to School Program</li> <li>• Gap Analysis of Quality Standards for OHSAS 18001 and SA 8000.</li> </ul> <p>During this assignment, e.Gen undertook a total of about 200 responses using combinations of methods including KII, FGD and individual surveys. The team regularly visited the factory premises, and conducted environmental audit in the field. The ESIA was completed using an open source dispersion modelling method, which was used to identify the ESMP. Following the main deliverables, the consultants also prepared a Summarized Action Plan for the client in assisting them to follow through the recommendations in the Final Reports.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                                                                                                                                   |                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Assignment Name:</b> ADB TA 8818 PAK- Power Transmission Enhancement Investment Program II – Project Preparation for MFF and 1 | <b>Approx. value of the contract:</b> US\$ 1,083,558   |
| <b>Country:</b> Pakistan<br><b>Location within Country:</b> Lahore                                                                | <b>Duration of assignment:</b> 26 months               |
| <b>Name of Client:</b> Asian Development Bank (ADB) / National Transmission & Despatch Company (NTDC)                             | <b>Total No. of staff-months of the assignment:</b> 51 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contact Person, Title/Designation, Tel. No./Address:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Approx. value of the services provided by the firm under the contract:</b> US\$ 1,031,960                                                                                                                                 |
| <b>Start date:</b> Nov-2015<br><b>Completion date:</b> Jan-2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>No. of professional staff-months provided by sub consultants:</b> 19                                                                                                                                                      |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>- FHC Consulting</li> <li>- Mazars</li> <li>- GOPA Intec</li> <li>- DESL</li> <li>- IN Consult, Pakistan</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• George Birtcher Aguirre - Team Leader</li> </ul> |
| <b>Narrative description of Project:</b><br><p>The project preparatory technical assistance (PPTA) required conductance of due diligence for the MFF and tranche 1. Tranche 1 was expected to include 4 to 6 sub-projects, consisting of new the rehabilitation, augmentation and expansion of transmission lines, substations and supporting Infrastructure.</p> <p>The main objective of the PPTA was to:</p> <ul style="list-style-type: none"> <li>i) Prepare the multitranche financing facility (MFF) of the Power Transmission Investment Program II and its first tranche; and</li> <li>ii) Assist the executing agency to undertake advance procurement.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                              |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>i) Undertook due diligence on the MFF as well as the project (Tranche 1) impact, outcome, scope, cost, schedule and implementation arrangements;</li> <li>ii) Conducted technical, economic, financial and social assessment of the project;</li> <li>iii) Prepared the facility administration manual (FAM), risk assessment and risk mitigation plans, procurement plan, bidding documents and technical specifications as required;</li> <li>iv) Undertook financial management assessment of NTDC;</li> <li>v) Prepared a social and poverty analysis, including gender;</li> <li>vi) Reviewed and updated the MFF roadmap, strategic context, policy framework, investment program and interventions, financing plan, undertakings, reporting requirements and monitoring, evaluating, and measuring results;</li> <li>vii) Prepared a capacity development plan covering, as a minimum, financial management, regulatory relations and procurement capacity;</li> <li>viii) Prepared a project feasibility study in the format required by the Government for its internal approval (this may include assisting with PC-1 preparation);</li> <li>ix) Prepared the bidding documents, and assist NTDC to complete the bid evaluations</li> </ul> |                                                                                                                                                                                                                              |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name:</b> ADB LOAN 2966-BAN - Power System Expansion and Efficiency Improvement Investment Program - Tranche 3 Preparation Consultants                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Approx. value of the contract:</b> USD 694,097                                                                                                                                                                                                                                   |
| <b>Country:</b> Bangladesh<br><b>Location within Country:</b> Countrywide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Duration of assignment:</b> 18 months                                                                                                                                                                                                                                            |
| <b>Name of Client:</b> Asian Development Bank / Power Cell                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Total No. of staff-months of the assignment:</b> 39                                                                                                                                                                                                                              |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b> Power Division Ministry of Power, Energy and Mineral Resources, 1, Abdul Gani Road, Dhaka-1000, Bangladesh                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Approx. value of the services provided by the firm under the contract:</b> USD 434,296                                                                                                                                                                                           |
| <b>Start date:</b> Jun 2015<br><b>Completion date:</b> Jan 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 10                                                                                                                                                                   |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– Resource Management Associates (Pvt) Limited, Sri Lanka (sub-consultant)</li> <li>– Development Environenergy Services Ltd. (DESL), India (sub-consultant)</li> </ul>                                                                                                                                                                                                                                                                                                                                                      | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Romeo Pacudan - Energy Economist</li> <li>• ABM Harunur Rashid - DTL / Power System Engineer</li> </ul> |
| <b>Narrative description of Project:</b><br>Power Cell under Power Division of Ministry of Power, Energy and Mineral Resources is assigned the responsibility of conducting due diligence on Tranche 3 of the Power System Expansion and Efficiency Improvement Investment Program funded by the Asian Development Bank (ADB). With supports of ADB, Power Cell has recruited e.Gen Consultants Ltd. as Tranche 3 preparation consulting firm in accordance with ADB Guidelines on the Use of Consultants.                                                                                                         |                                                                                                                                                                                                                                                                                     |
| <b>Deliverable Plan:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                     |
| a. Inception Report including: <ul style="list-style-type: none"> <li>• Review the overall work scope and requirements</li> <li>• Assess the power sector performance and issues in terms of clean energy</li> <li>• Design engineering, social, and environmental survey</li> <li>• Adjust detailed schedule and staffing requirements</li> </ul>                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                     |
| b. Interim Report including: <ul style="list-style-type: none"> <li>• Review the Government's energy efficiency/clean energy priorities</li> <li>• Review other development partners' clean energy operation plans for Bangladesh power sector</li> <li>• Review clean energy plans and activities of the Government and power sector entities</li> <li>• Submit initial sector assessment report and medium term investment requirements for power sector expansion and clean energy development</li> <li>• Identify candidate components for consideration of ADB financing under the ensuing project</li> </ul> |                                                                                                                                                                                                                                                                                     |
| c. Draft Final Report including: <ul style="list-style-type: none"> <li>• Prepare scope and cost estimates of the ensuing project</li> <li>• Justify rationale of the project components</li> <li>• Prepare financing plans and debt sustainability study</li> </ul>                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                     |

- Propose implementation arrangements
- Prepare procurement capacity assessments of implementing agencies
- Develop implementation schedule and procurement plan
- Conduct economic and financial analysis
- Prepare socioeconomic profile, RPs and IPDPs
- Prepare IEE reports and EIA reports
- Recommend policy actions to improve power supply efficiency and clean energy development

d. Final Report.

**Description of actual services provided in the assignment:**

e. Gen managed its team of consultants to carry out the following tasks:

- Identify potential sub projects and prioritize them;
- Conduct feasibility assessment on those prioritized sub projects in consultation with the government and ADB;
- Prepare cost estimates, implementation schedules, contracting and implementation arrangements and identify suitable procurement packages;
- Prepare procurement capacity assessments of the implementing agencies;
- Prepare environmental impact assessment (EIA) or initial environmental examination (IEE) as appropriate, and involuntary resettlement plan (RP) and indigenous people's plan (IPP), as well as Summary of Poverty Reduction and Social Strategy (SPRSS);
- Prepare risk management plan;
- Recommend policy, investment, and capacity building and institutional needs in relation to power sector development;
- Assist the ADB project team and the government in preparing relevant sections of the Periodic Financing Request Report (PFR) to the ADB Management and
- Preparing interim and final reports on the preparation.

As requested by the client during inception phase, to conduct due diligence on two loans:

1. Tranche 3 of Bangladesh Power System Expansion and Efficiency Improvement Investment Program
2. Loan 2016: Bangladesh Power System Enhancement and Efficiency Improvement Project

Project Components and Indicative Financing Arrangement of Tranche 3:

- Ashuganj 400MW Combined Cycle Power Plant
- PGCB: 132 kV Transmission Line and Substations in Chittagong Division
- REB: Prepayment e-Metering in Dhaka Division

Project Components and Indicative Financing Arrangement of Loan 2016:

- PGCB: National Grid 3 sub project
- DESCO: Prepayment Metering and SCADA System in Dhaka City
- Prepayment Metering Project for DPDC
- Rehabilitation and Intensification of Distribution system in Dhaka, Mymensingh, Chittagong and Sylhet (REB)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name:</b> Value Chain Analysis for market development and dissemination of PicoPV (Solar Lantern)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Approx. value of the contract:</b> USD 27,350.00                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Country:</b> Bangladesh<br><b>Location within Country:</b> Various locations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Duration of assignment:</b> 12 months                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Name of Client:</b> Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Total No. of staff-months of the assignment:</b> 4                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b> Engr. Ratan Kumar Ghosh, Senior Advisor, Sustainable Energy for Development (SED), GIZ, P.O. Box 6091, Rd# 90, H# 10/A, Gulshan 2, Dhaka 1212, Bangladesh. +88 01715 024659 ratan.ghosh@giz.de                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Approx. value of the services provided by the firm under the contract:</b>                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Start date:</b> November 2014<br><b>Completion date:</b> November 2015                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 5                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Name of associated Consultants, if any:</b><br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Syed Tamjid Ur Rahman (Team Leader/ Value Chain Expert)</li> <li>• Shahriar Ahmed Chowdhury (Subject Matter Expert)</li> <li>• Shahidur Humayun Rahman (Senior Survey Coordinator)</li> <li>• Mohammed Masudur Rahman (Supply Chain Analyst)</li> <li>• Raduan Hossin (Survey Coordinator)</li> </ul> |
| <b>Narrative description of Project:</b><br>The project was the first installment of the GIZ-IFC joint initiative in Bangladesh for the <i>Lighting Bangladesh</i> Programme, a chapter of <i>Lighting Global</i> and <i>Lighting Asia</i> by IFC. This project was funded by GIZ's <i>Sustainable Energy for Development (SED) Phase III</i> in Bangladesh. The findings and recommendations emanating from the study was intended to provide insights for the development of a comprehensive market entry strategy for manufacturers, distributors and retailers of off-grid lighting products and solutions, seeking to serve the Bangladesh market.                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Description of actual services provided in the assignment:</b><br>The team had been tasked to deliver the complete Value Chain Analysis of a new product PicoPV (Solar Lantern). Throughout the project: <ul style="list-style-type: none"> <li>• The team ascertained the prevalence of the most common lighting options</li> <li>• Carried out a baseline study, provided detailed value chain scenarios and distribution channel analysis</li> <li>• Mapped the off-grid products value chain</li> <li>• Determined the key constraints and challenges that would be encountered in optimizing the current supply chain/s</li> </ul> In order to do this, the team |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

- Conducted a thorough literature review of the current market and regulatory situation
- Undertook a data collection phase of a sample size of approx. 350 representative of the value actors using tools like Key Informant Interviews
- Focus Group Discussions
- One-on-One snowball interviews

During the data collection phase, the team also built up a database of key players involved in the value chain. The analysis included:

- Analysis of Product/ Distribution Flow
- Analysis of the End-Market Preferences
- Analysis of similar BOP products reaching the last mile
- Recommendation on Optimum Market Entry Channel Strategies
- Develop a database of key players

In the end, the team presented to the client a Presentation of Findings for the purpose of knowledge dissemination.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                  |                                          |                                                     |                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name: Research on Energy Consumption and EE&amp;C Implementation (Energy Saving Potential)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |                                          |                                                     | <b>Approx. value of the contract:</b> USD 78,750                                                                                                                                                                                                                                                                                           |
| <b>Country:</b> Bangladesh<br><b>Location within Country:</b> Various                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                  |                                          |                                                     | <b>Duration of assignment:</b> 6.5 months                                                                                                                                                                                                                                                                                                  |
| <b>Name of Client:</b> JICA / Electric Power Development Co., Ltd. /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                  |                                          |                                                     | <b>Total No. of staff-months of the assignment:</b> 15                                                                                                                                                                                                                                                                                     |
| <b>Contact Person,</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Title/Designation,</b>        | <b>Tel.</b>                              | <b>No./Address:</b>                                 | <b>Approx. value of the services provided by the firm under the contract:</b>                                                                                                                                                                                                                                                              |
| Kimio Yoshida                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Team Leader of JICA Project Team | C/o Electric Power Development Co., Ltd. | 15-1 Ginza 6-chome, Chuo-ku, Tokyo, 104-8165, Japan |                                                                                                                                                                                                                                                                                                                                            |
| <b>Start date:</b> May 15, 2014<br><b>Completion date:</b> November 30, 2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |                                          |                                                     | <b>No. of professional staff-months provided by sub consultant:</b> 2                                                                                                                                                                                                                                                                      |
| <b>Name of associated Consultants, if any:</b><br><br>– Chemical Engineering Department, Bangladesh University of Engineering and Technology (BUET)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                  |                                          |                                                     | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b><br><ul style="list-style-type: none"> <li>• Mr. B D Rahmatullah (Team Leader)</li> <li>• Dr. Ijaz Hossain (Academy Expert)</li> <li>• Dr. Md. Ali Ahammad Shoukat Choudhury (Academy Expert)</li> </ul> |
| <b>Narrative description of Project:</b><br>The objectives of the work were followings: <ul style="list-style-type: none"> <li>• To grasp energy consumption by sector, industrial sub-sector and building</li> <li>• To grasp energy consumption of designated large energy consumers</li> <li>• To grasp present situation of EE&amp;C implementation by industrial sub-sector and building</li> <li>• To grasp energy saving potential by industrial sub-sector and building</li> <li>• To utilize the research data for drafting framework of EE&amp;C policies such as energy management system, labelling system, building codes and finance system.</li> </ul> |                                  |                                          |                                                     |                                                                                                                                                                                                                                                                                                                                            |
| <b>Description of actual services provided in the assignment:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                  |                                          |                                                     |                                                                                                                                                                                                                                                                                                                                            |

The consulting team was working to achieve the following outputs:

- **Output 1:** To grasp energy consumption by sector, by industrial sub-sector and by building type (use) Primary energy and secondary energy consumption by sector (industries, businesses and households); to make break down by industrial sub-sector and building type (use); to estimate energy intensities such as by product, process and building floor area, etc.; and to list up annual energy consumption of top-10 large energy consumers in each sub-sector.
- **Output 2:** To grasp present situation of EE&C implementation by industrial sub-sector and building, also to conduct comparison of energy intensities between Bangladesh and other countries which are advancing on EE&C.
- **Output 3:** To study and recommend energy saving potential at present, middle and long-terms, which was done by comparison of neighbouring countries and foreign advanced countries situation.
- **Output 4:** To study and suggest possibility of EE&C implementation up to 2030. This matter was explained by intensity improvement, etc.
- **Output 5:** To summarize opinions on EE&C policies which were to be suggested in the experienced person meetings, and report.

|                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name: System Loss Reduction of Titas Gas Transmission and Distribution Company Limited (TGTDCL)</b>                                                                                                                                                                                                                                         |  | <b>Approx. value of the contract:</b> USD 27,500                                                                                                                                                               |
| <b>Country:</b> Bangladesh<br><b>Location within Country:</b> Dhaka                                                                                                                                                                                                                                                                                       |  | <b>Duration of assignment:</b> 3 Months                                                                                                                                                                        |
| <b>Name of Client:</b> Implementation Monitoring and Evaluation Division (IMED), Ministry of Planning, Government of the People's Republic of Bangladesh                                                                                                                                                                                                  |  | <b>Total No of staff-months of the assignment:</b> 9                                                                                                                                                           |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b> Agargaon, Dhaka                                                                                                                                                                                                                                                                               |  | <b>Approx. value of the services provided by your firm under the contract :</b>                                                                                                                                |
| <b>Start date:</b> March 2014<br><b>Completion date:</b> June 2014                                                                                                                                                                                                                                                                                        |  | <b>No of professional staff-months provided by associated Consultants:</b> 3                                                                                                                                   |
| <b>Name of associated Consultants, if any:</b><br>– Creative Consulting Limited, Bangladesh                                                                                                                                                                                                                                                               |  | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b><br>Team Leader/ Evaluation Specialist<br>Electrical Engineer<br>Statistical |
| <b>Narrative description of Project:</b><br>The main objective of the project was to improve operational and distribution performance of two marketing areas of the Company through reduction of System Loss or unaccounted for gas. Main target of this project was to reduce the system loss of two isolated non bulk sales areas (Area-1: Narayanganj, |  |                                                                                                                                                                                                                |

Fatullah, Munshiganj & Area-2 : Sonargaon) of the Company's operational system to an acceptable limit of 2%) or less gradually by 2010 from the recent level of around 22%..

**Description of actual services provided in the assignment:**

- I. To review the Target and Actual Progress status of various components of the project as per revised DPP and reasons for any short fall.
- II. To examine whether the procurement process (Invitation of tender, evaluation of tender, approval procedures, contract awards etc) of the packages (goods, works and services) under this project was done following PPR'2008/donor's procurement guidelines. The consultant will be required to analyze these procurement related functions based on predetermined indicators.
- III. To assess impact of installation of meters with EVC, and comprehensive System Loss Reduction Plan (SLRP) on instant calibration of industrial meters, as well as reduction in pilferage of gas, and conservation of energy.
- IV. To assess effectiveness of the Revised Time Bound Action Program (RTAP) in analyzing the factors causing system loss and their relative importance and in apportioning the percentages of losses for each factor.
- V. To assess impacts of various foundation and specialized training on skill development of the TGTDCCL personnel in conducting gas operation and distribution performance etc.
- VI. To scrutinize the main recommendations by experts/consultants relating to improvements of system operation and control of operational losses.
- VII. To carry out SWOT analysis to identify in-built strengths and probable opportunities as well as internal weaknesses and external threats towards improvement of operational and distribution performance.
- VIII. To provide recommendations to reduce system loss to the desired level, and to identify the best practices for replication and assess the implementation status in other project areas.

|                                                                                                                                                                                                                 |                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name: Monitoring the Social and Economic Impacts of Electricity Privatization</b>                                                                                                                 | <b>Approx. value of the contract:</b><br>US\$ 112,000                                                                                                              |
| <b>Country:</b> Turkey<br><b>Location within Country:</b> Various                                                                                                                                               | <b>Duration of assignment:</b> 4.5 months                                                                                                                          |
| <b>Name of Client:</b> The World Bank                                                                                                                                                                           | <b>Total No. of staff-months of the assignment:</b> 7                                                                                                              |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Zeynep Darendeliler<br>Social Development Specialist<br>The World Bank Group   Ankara, TURKEY<br>+90 312 459 8360<br>zdarendeliler@worldbank.org | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 112,000                                                                        |
| <b>Start date:</b> February 19,2014<br><b>Completion date:</b> June 27, 2014                                                                                                                                    | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 5                                                   |
| <b>Name of associated Consultants, if any:</b><br>– Social Assessment LLC, USA                                                                                                                                  | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b><br>Dr. Ayse Kudat (Team Leader) |
| <b>Narrative description of Project:</b>                                                                                                                                                                        |                                                                                                                                                                    |

The broad objective of this study was to conduct quantitative and qualitative assessments designed with input from UNDP methodology to analyze the social impact of privatization of electricity distribution on households in Turkey that would enable the World Bank and the Government of Turkey to plan and design mitigation measures, if necessary, for low income households in order to make reforms more acceptable to all stakeholders.

**Description of actual services provided in the assignment:**

e.Gen Consultants Ltd. conducted a survey to 1,500 households selected from 23 provinces of 20 electricity distribution regions. The sample of 1,500 was determined by the client according to the number of electricity customers, regional characteristics and the technical/non-technical losses of each province. e.Gen provided the following services under this assignment-

- Identified electricity and other types of energy consumption patterns for different groups across various regions;
- Understood the affordability of electricity consumption for households;
- Assessed consumers' satisfaction with services;
- Assessed the impact of energy tariff increases across different groups with particular reference to poverty and affordability;
- Identified the ability of households to afford tariff increases based on existing household income/expenditure survey data;
- Assessed the efficiency, scope and targeting of existing social assistance mechanisms and the role they could play in mitigating negative impacts;
- Suggested alternative mitigation measures that might complement social assistance in supporting affordability.
- Understood the spending patterns on energy throughout the year to identify the most stressful times with respect to energy payments and the type of activities that would be affected by tariff increases;
- Identified barriers/incentives for substitutions between different energy sources;
- Identified factors magnifying or affecting the impact of the reforms or acting as a barrier to the effectiveness of safety nets;
- Identified alternative types of measures households can look into in order to cope with price increases;
- Realized the perception on quality of service and interaction with energy service providers including transparency, clarity of tariff-setting process, accountability, issues of arrears and non-payment;
- Identified the type of programs that participants use to support them with basic needs, ease of access, also to identify effectiveness of such programs;
- Suggested measures for making these programs more impactful in protecting poor households from adverse impacts of energy tariff increase

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment Name:</b> Selection and implementation of Pilot project for 3 BRESL products under Barrier Removal to the cost-effective Development and Implementation of Energy Efficiency Standards & Labelling (BRESL) project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Value of the Contract:</b> BDT 4,030,560                                                                                                                                                                                                                                                                                                                              |
| <b>Country:</b> Bangladesh<br><b>Location within Country:</b> Overall Bangladesh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Duration of assignment:</b><br>4.5 Months                                                                                                                                                                                                                                                                                                                             |
| <b>Name of Client:</b><br>UNDP / BSTI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Total No of staff-months of the assignment:</b><br>18                                                                                                                                                                                                                                                                                                                 |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>United Nations Development Programme<br>UNDP Registry, IDB Bhaban, Agargaon<br>Sher-E-Bangla Nagar, Dhaka, Bangladesh<br><b>Project office:</b> Level -4, BSTI Bhaban, 116/A, Tejgaon Industrial Area, Dhaka-1208.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Approx. value of the services provided by the firm under the contract:</b>                                                                                                                                                                                                                                                                                            |
| <b>Start date:</b> January, 2014<br><b>Completion date:</b> May , 2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>No of professional staff-months provided by associated Consultants:</b> N/A                                                                                                                                                                                                                                                                                           |
| <b>Name of associated Consultants, if any:</b><br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader):</b> <ul style="list-style-type: none"> <li>• B.D. Rahmatullah (Team Leader)</li> <li>• Khursheed Alam (Social Expert)</li> <li>• Syed Md. Wasimul Bari (Project Management Expert)</li> </ul> |
| <b>Narrative description of Project:</b><br>Upon development of the energy standards & labelling of star grades for six appliances, BRESL program aimed to carry out a Pilot project for 3 of those BRESL products. Sequentially this assignment was developed as a continuation of the first phase of BRESL project. This assignment included- <ol style="list-style-type: none"> <li>Selection of Pilot Project Area and 50 Households(HHs);</li> <li>Supply 3 BRESL products to 50 HHs of Pilot Project;</li> <li>Analysis of the Findings and Data obtained from the Pilot Project;</li> <li>Preparation of socioeconomic profile of targeted users in the pilot project;</li> <li>Recommendations for removal of barriers based on pilot project experience;</li> <li>Data collection about quality of non-star products (CFL &amp; Fan) from open market;</li> <li>Preparation of Database for overall scenario of Energy Efficient CFL &amp; Fan;</li> <li>Factory visits to find out the current capacity of Manufacturer of CFL &amp; Fan;</li> <li>Determine the <i>marketing</i> and advertisement strategy for 2 BRESL products (CFL &amp; Fan);</li> <li>Recommendation on Tax rebate, exemption pattern, loan facilities for manufacturers of EE CFL &amp; EE Fan.</li> <li>Preparation of leaflets, Festoon, Stickers with appropriate slogans for CFL &amp; Fan products aiming to an Awareness Campaign and distribution among the stakeholders within seven divisional districts;</li> <li>Green House Gas emission calculation;</li> </ol> |                                                                                                                                                                                                                                                                                                                                                                          |

xiii) Training/Workshop on CFLs and EE Fans

**Description of actual services provided in the assignment:**

- e.Gen consultants Ltd. Screened out few target locations suitable for Pilot project on the basis primary information.
- Project team visited those locations in person for short list the locations. Based on few criteria BRESL-PMU, BSTI officials and consulting team finally selected Village: Char Nagar, Union: Char Shideer, Upazilla: Palash (near Ghorashal) as the most suitable location of pilot project.
- In that location 50 households was selected based on detailed information. CFLs and EE Fans was installed in those houses. In fact, households was selected in such a way that pilot project would reflect results on energy efficiency and cost savings by using CFLs and EE Fans.
- Other Relevant data on the users in the pilot project was collected and analyzed.
- A socioeconomic profile of the users was developed.
- Experts prepared a report on barriers in executing pilot project and the steps taken for overcoming those barriers.
- Consulting team visited the manufacturing entities (Factories) to find out their current Capacity. Leaflets, Festoons, Stickers with appropriate slogans for promoting the star labeled products was developed by e.Gen team and was distributed among the stakeholders in seven divisional districts. Through a quick survey, market status of the EE Products was identified. Manufacturers were also provide lists of their distribution points.
- Based on the sales volume of these products Green House Gas (GHG) Emission was calculated.
- 2 Days Training/Workshop was conducted on Energy Efficient Compact Fluorescent Lamps (CFLs).
- 2 Days Training/Workshop was conducted also on Energy Efficient Fans.
- Upon reviewing the present status, carrying out necessary background research Marketing and Advertisement Strategy was developed for each of the CFL & EE Fan Manufacturers.

|                                                                                                                                                                                                                                               |                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Preparation of Tranche 2 under "Power System Expansion and Energy Efficiency Improvement Investment Program"</b>                                                                                                          | <b>Approx. value of the contract : US\$ 138,000</b>                                                                                |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Bangladesh                                                                                                                                                                      | <b>Duration of assignment : 29 months</b>                                                                                          |
| <b>Name of Client:</b> Asian Development Bank / Power Cell, Power Division, Ministry of Power, Energy and Mineral Resources, Bangladesh                                                                                                       | <b>Total No of staff-months of the assignment: 8</b>                                                                               |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Ministry of Power, Energy & Minerals Resources<br>Rm 124, Building 6, Bangladesh Secretariat<br>Dhaka, Bangladesh<br>Telephone: (880-2) 716-5918<br>Email: secypower@gmail.com | <b>Approx. value of the services provided by your firm under the contract : US\$ 138,000</b>                                       |
| <b>Start date:</b> 18-Feb-2013<br><b>Completion date :</b> 31-Jul-2013                                                                                                                                                                        | <b>No. of professional staff-months provided by your consulting firm/organization: 8</b>                                           |
| <b>Name of associated Consultants, if any:</b><br>N/A                                                                                                                                                                                         | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> |

- Michael John Emmerton (Power System Development Specialist and Team Leader)

**Narrative description of Project:**

Tranche 2 is concentrated in distribution and supporting transmission development to allow increased power transfer from Ghorasal to Tongi and to increase transmission capability to satisfy the increasing demand in Dhaka, Chittagong and Sylhet areas; also, to improve distribution networks in the Dhaka region to supply increasing demand in the system to ensure no load-shedding due to network constraints by 2018.

Tranche 2 consists of three outputs; (i) increased transmission capacity where 230kV and 132kV transmission system is strengthened with 229km of transmission lines and substations with a total capacity of 4,942MVA (ii) increased south Dhaka distribution network capacity with a total of 3010MVA transformer capacity and associated lines added to the distribution network and (iii) increased north Dhaka distribution network capacity with a total of 2,240MVA of transformer capacity and 813 circuit kilometers of associated lines added to the distribution network.

**Description of actual services provided in the assignment:**

e.Gen managed the input of the Team Leader and the National Environmental Expert to carry out the specific tasks for this assignment.

The team leader was responsible to coordinate with other team members to develop a detailed work plan and implementation schedule, work with the executing agency to oversee the consulting team, and compile, edit, and ensure the quality of reports to be prepared under the TA; Identify, analyze and evaluate various potential investment project components in power transmission and distribution, according to technical perspective and operating conditions; Prepare the scope, capital and operating cost estimates, implementation schedule, contracting, and implementation arrangements, and formulate suitable procurement packages; Based on the above reviews and analyses and in coordination with the other members of the team, recommend necessary policy, investment, and capacity building institutional needs to be addressed under the ensuing project; Prepare the final project report consisting of information needed for ADB to bring the investment proposal for its Board consideration; Provide technical inputs to the entire team, especially for the planned solar powered irrigation component; and Assist in preparation of relevant sections of the ADB's Report and Recommendation of the President (RRP) for the ensuing project.

The National Environmental expert reviewed institutional capacity of the proposed executing and implementing agencies to prepare Environmental Impact Assessment (EIA) reports, in accordance with ADB Safeguard Policy Statement (2009), for the future project components and the required EMP to determine mitigation measures in the design, construction, and maintenance phases of the future investment subprojects, their components and national regulatory requirements; Undertook necessary consultations with the project stakeholders on relevant environmental issues and impacts; and Assisted the Team Leader and other international experts.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Drafting Energy Standard and Labelling (ES &amp;L) Legislation Rules and Regulations, Reviewing Capacity of Barrier Removal To The Cost Effective Development and Implementation of Energy Efficiency Standards And Labelling (BRESL) on ES &amp; L And Reviewing ES &amp; L Technical Capacity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Approx. value of the contract : N/A</b>                                                                                                                                                                                       |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Duration of assignment : 4 months</b>                                                                                                                                                                                         |
| <b>Name of Client:</b><br>UNDP / BSTI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Total No of staff-months of the assignment: 6</b>                                                                                                                                                                             |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Approx. value of the services provided by your firm under the contract : USD 25,000</b>                                                                                                                                       |
| <b>Start date :</b> September 2012<br><b>Completion date :</b> Feb 28, 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants: 10</b>                                                                                                                |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>• PricewaterhouseCoopers Private Limited, India</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Dr. S. Shahnawaz Ahmed (Technical Expert)</li> </ul> |
| <b>Narrative description of Project:</b><br>BRESL project was to develop and implement the standards & labelling of six products i.e. (i) Room air conditioners, (ii) Refrigerators; (iii) Electric Fans, (iv) Electric Motors; (v) The Ballast for Fluorescent Tube lights (vi) The compact Fluorescent lamps to bringing about energy saving out of the use of these products. This was the International project, was financed by GEF, and was being implemented by UNDP. Six Asian countries had been participating in this project independently as a country component of the project. These countries are Bangladesh, China, Indonesia, Pakistan, Thailand and Vietnam. This project was to rapidly accelerate the adoption and implementation of Energy standards and labelling (ES&L) in these countries and would facilitate harmonization of tests procedure of standards and labels among these countries.                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                  |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Review of BSTI (Bangladesh Standards and Testing Institution) standards on energy efficiency and grading of 6 products and identification of the sources such as other national standards/International Electro-technical Commission (IEC)/ International Standards Organization (ISO) standards etc.</li> <li>• Review of the list of products brought under mandatory Certification Marks (CM) scheme of BSTI and the standards referenced in that list; and Review of local representative manufacturers' data/facts sheet or technical brochure on the 6 BRESL products;</li> <li>• Review of the Drafted Bill of 2012 on formation of SEDA; and Review of report(s) on energy efficiency improvement in Bangladesh published with assistance of German Technical Cooperation Agency (GIZ) / World Bank;</li> <li>• Review of the roles played by GOB and its various machinery such as NBR (national Board of Revenue), Ministry of Commerce, IDCOL (Infrastructure Development Company Limited), and non-government stakeholders such as CAB (Consumers Association of Bangladesh), EAB (Electrical</li> </ul> |                                                                                                                                                                                                                                  |

Association of Bangladesh) and BEMA (Bangladesh Electric Manufacturing and Merchandizing Association);

- Guiding the BRESL team with an implementation strategy comprising of the review of reports and several survey sessions' comments and findings from TWG consultants and other relevant stakeholders
- Carrying out a small pilot project to quantify and justify our findings and recommendations
- Developing a training module for the training course including facilitator's guide, session plan with power point presentation on case studies or examples from Bangladesh context.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Study on Opportunities for Sub-projects under JICA Renewable Energy Development Project and their Estimated Effects</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Approx. value of the contract: USD 70,000</b>                                                                                                                                                                                     |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Various                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Duration of assignment:</b>                                                                                                                                                                                                       |
| <b>Name of Client:</b> Mitsubishi Research Institute, Inc., Japan / JICA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Total No of staff-months of the assignment:</b> 20                                                                                                                                                                                |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Approx. value of the services provided by your firm under the contract:</b> USD 70,000                                                                                                                                            |
| <b>Start date:</b> April 2012<br><b>Completion date:</b> Dec 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 0                                                                                                                     |
| <b>Name of associated Consultants, if any:</b> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Syed Maksud Hasan (Project Management Expert)</li> </ul> |
| <b>Narrative description of Project:</b><br>Mitsubishi Research Institute, Inc. (MIRI) had been assigned by Japan International Cooperation Agency (JICA) to conduct "Preparatory Survey on Renewable Energy Development Project in Bangladesh". Within the context of the Survey MIRI desired to obtain support from e.Gen in Bangladesh to conduct a study on the opportunities for Sub-projects under JICA Official Development Assistance (ODA) two-step loan project, as well as to estimate expected effects due to execution of such Sub-projects. This covered, all three technological domains: [1] Solar photovoltaic renewable energy (RE) technology, [2] Biomass utilization RE technology, and [3] Energy Efficiency and Conservation technologies. |                                                                                                                                                                                                                                      |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Defining a potential market for three technological domains of RE and EE&amp;C</li> <li>• Identifying available and applicable technologies / products</li> <li>• Estimating demands</li> <li>• Proposing a short list of business models by considering combinations of</li> <li>• Estimating quantitative and qualitative effects due to execution of each of the Sub-projects</li> <li>• Helping the client in collecting and disseminating data.</li> </ul>                                                                                                                                                                                        |                                                                                                                                                                                                                                      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA-7889 BAN: Power System Efficiency Improvement Project: - II, Tranche 2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Approx. value of the contract:</b><br>US\$ 300,300                                                                                                               |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Duration of assignment:</b> 7 months                                                                                                                             |
| <b>Name of Client:</b> Asian Development Bank (ADB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Total No of staff-months of the assignment:</b> 35                                                                                                               |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>6 ADB Avenue,<br>Mandaluyong City 1550, Philippines<br>Tel: +63 2 632 4444, Fax: +63 2 636 2444                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 270,300                                                                         |
| <b>Start date :</b> March 2012<br><b>Completion date :</b> September 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>No. of professional staff-months provided by sub consultants:</b> 2                                                                                              |
| <b>Name of associated Consultants, if any:</b><br>– Dalkia Energy Services Ltd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b><br>• Romeo Pacudan (Team Leader) |
| <b>Narrative description of Project:</b><br>The project addressed three key areas in the electricity supply sector. They were improving energy use efficiency of thermal power plants, improving the transmission network capacity, and expanding the renewable energy base. The project interventions included: (i) conversion of power plants at Siddhirganj, Baghabari, and Khulna to combine cycle power plants; (ii) construction of 180 km 132 kV transmission lines and four 133/32 kV substations; (ii) installation of solar irrigation water pumps; and (iii) capacity development for solar powered irrigation and power plant management.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                     |
| <b>Description of actual services provided in the assignment:</b> e.Gen led its effort to conduct a power sector assessment and to develop the following projects worth of \$ 350 million covering economic analysis, financial analysis, investment planning, safeguard assessment: <ul style="list-style-type: none"> <li>• <b>Component 1-</b> Upgrade of four different power plants across Bangladesh considering areas such as status, fuel supply, transmission, land availability for expansion, etc. Power Plants in Khulna, Baghabari, Sylhet and Shajibazar were updated respectively. All four power plants are- Gas fired, some have a dual-fuel capability; Open cycle combustion gas turbines, hence lower efficiency (about 30%). The project increased generating capacity by about 50% in each power plant and increase efficiency (to about 50%) by capturing waste heat in the exhaust gas. There would be no additional use of gas and the expansion would generally be located within the existing power plant premises.</li> <li>• <b>Component 2-</b> Transmission improvements performed on the following lines: Mymensingh to Tangail; Chandraghona-Rangamati-Khagrachari; and Brahmanbaria-Narsingdi.</li> <li>• <b>Component 3-</b> Irrigation Water Pumping with Solar Energy- Provide solar photovoltaic (PV) generation at site for about 200 irrigation water pumps; Power to water pumps are presently supplied from the grid; Direct current will be inverted to alternative current on-site, and grid connected; The pump will be operated on solar PV system; When the pump is off and during off-season, electricity generated will be sent to the grid; Project identification: Pump locations being identified by REB.</li> <li>• <b>Component 4-</b> Capacity Building by meeting key personnel spreading awareness.</li> </ul> |                                                                                                                                                                     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA 7826-BAN Support for Climate Change Mitigation and Renewable Energy Development</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Approx. value of the contract:</b> US\$ 404,550                                                                                                                                                                                                                                                  |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Duration of assignment:</b> 26 months                                                                                                                                                                                                                                                            |
| <b>Name of Client:</b> Ministry of Power, Energy & Minerals Resources                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Total No of staff-months of the assignment:</b> 20                                                                                                                                                                                                                                               |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Ministry of Power, Energy & Minerals Resources Rm 124, Building 6, Bangladesh Secretariat Dhaka, Bangladesh, Telephone: (880-2) 716-5918                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 404,550                                                                                                                                                                                                         |
| <b>Start date :</b> January 2012<br><b>Completion date :</b> February 2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 2                                                                                                                                                                                    |
| <b>Name of associated Consultants, if any:</b><br>– Economic Consulting Associates (ECA), UK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b><br><ul style="list-style-type: none"> <li>• Romeo Pacudan (Project Team Leader )</li> <li>• N.M.Rizwan (Deputy Team Leader/ Energy Efficiency Expert)</li> </ul> |
| <b>Narrative description of Project:</b> e.Gen as the lead firm is assisting the Sustainable Energy Development Authority (SEDA) to develop (i) a renewable energy development road map; (ii) wind potential mapping in the selected coastal area; (iii) identification of one concentrated solar power and one wind power plant project; and (iv) training and capacity building support to SEDA staff, especially on the Clean Development Mechanism (CDM), carbon trading, and related activities. The outcome of the TA was SEDA's readiness and capability to meet the business projections and fulfill its mandates. The Power Division under the Ministry of Power, Energy and Mineral Resources is the executing agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                     |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Reviewing government strategies, policies, legal framework, and regulations on the renewable energy sector;</li> <li>• Reviewing the available and relevant documentation on renewable energy development, including existing and proposed renewable energy projects, particularly solar Photovoltaic, concentrated solar power, wind power, biogas, and waste power projects;</li> <li>• Consulting and coordinating with relevant government agencies and other donors, with assistance from other team members, to identify feasible supporting policy options including an energy tariff, incentive and disincentive measures, legal and regulatory framework, monitoring and evaluation framework, and institutional arrangements, to encourage implementation of renewable energy projects;</li> <li>• Identifying areas and subsectors suitable for renewable energy development interventions for ADB, ensuring no overlapping with or duplication of programs being implemented by other development partners;</li> <li>• Developing stakeholder-accepted selection criteria for a list of investment projects and pilot projects that should be ranked according to priority;</li> <li>• Developing a renewable energy strategy and action plan for the Bangladesh power sector, to be implemented in the medium to long-term (up to 2020), which shall focus on public policy initiatives to facilitate financing and overcoming institutional barriers;</li> </ul> |                                                                                                                                                                                                                                                                                                     |

- Using previous satellite-based wind maps by the US National Renewable Energy Laboratory and other existing second-hand wind data, select one representative site along the coastal area of Bangladesh for commercial grade site measurement;
- Prepare the wind measurement program, including proposing the wind measuring equipment, methodology, and assessing quality of existing data to be used for the wind measurement;
- Procuring a wind measurement station, and supervise installation and commission of such equipment;
- Monitoring and collect data over a period of 1 year, categorize and analyse the collected data, and complete the wind measurements in selected sites;
- Preparing the operating arrangement, including quality control procedures and data management procedures, once the government takes over the running and management of the wind measurement station;

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Study on Biomass Potentials in Bangladesh</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Approx. value of the contract:</b><br>USD 10,000                                                                                                                                                                 |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Various Locations                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Duration of assignment:</b> 2 months                                                                                                                                                                             |
| <b>Name of Client:</b> IFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Total No of staff-months of the assignment:</b> 2                                                                                                                                                                |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Approx. value of the services provided by your firm under the contract :</b> USD 10,000                                                                                                                          |
| <b>Start date:</b> December 2011<br><b>Completion date:</b> January 2012                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> N/A                                                                                                  |
| <b>Name of associated Consultants, if any:</b><br>– CRISIL                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b><br>– Dr. Md. Golam Rabbani<br>– Dr. Harun-Ur-Rashid<br>– Humayun Shahidur Rahman |
| <b>Narrative description of Project:</b><br>The overall objective of the assignment was to explore opportunities in biomass energy in Bangladesh. Accordingly, the assignment was broadly an assessment study to span out the potentials for biomass projects in Bangladesh in terms of generating electricity from biogas. The outcome of the assignment has been a well-researched, realistic, and well-structured assessment report covering various aspects pertaining to biomass energy in Bangladesh. |                                                                                                                                                                                                                     |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Preliminary data review</li> <li>• Training and Team Mobilization</li> <li>• Conduct key Stake Holder Interactions</li> <li>• Data analysis and reporting</li> <li>• Recommendation on key findings</li> <li>• Strategic advisory, quality assurance and support</li> </ul>                                                                                                                      |                                                                                                                                                                                                                     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA 7619-MON: Updating Energy Sector Master Plan</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Approx. value of the contract: USD 843,000</b>                                                                                                                                                                        |
| <b>Country:</b> Mongolia<br><b>Location within country:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Duration of assignment: 16 months</b>                                                                                                                                                                                 |
| <b>Name of Client:</b> Asian Development Bank (ADB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Total No of staff-months of the assignment: 82</b>                                                                                                                                                                    |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Approx. value of the services provided by your firm under the contract: USD 843,000</b>                                                                                                                               |
| <b>Start date:</b> September 2011<br><b>Completion date:</b> December 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants: 64</b>                                                                                                        |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– MVV Decon GmbH, Germany</li> <li>– Dalkia Energy Services Ltd., India</li> <li>– Mon-Energy Consult, Mongolia</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>– Carlos A. Yermoli - (Team Leader)</li> </ul> |
| <b>Narrative description of Project:</b> The scope of this assignment focused on identification of priority interventions to attain an energy sector road map for the Government of Mongolia while enhancing energy security, improving the efficiency and promoting clean technologies.<br>The broad objective of the project was to improve power supply in Mongolia to meet additional demand in an environmentally sustainable.<br>The specific objectives of the project were: <ul style="list-style-type: none"> <li>• Comprehensive Sector Assessment: Assessing the sector to identify investment gaps and the urgent reforms required for creating an enabling environment for sustained sector development</li> <li>• Medium term and Long-term Investment Plan: Formulate priority investments in power and energy.</li> <li>• Capacity Development and Knowledge Dissemination: Enhance the government's capacity in sector assessment and investment needs analysis</li> </ul>                                                                                                     |                                                                                                                                                                                                                          |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Conducting literature review covering energy sector institutional capacity development reports, energy sector policies, strategies, laws and regulations, 2001 master plan and statistical data available through National Statistical Office, MMRE and the ADB</li> <li>• Reviewing of activities undertaken under various donor funded energy sector development programs to enable them to quickly prepare the initial draft of the sector assessment report</li> <li>• Further developing the initial draft based on secondary research by the team through qualitative primary information gather through interviews and FGDs.</li> <li>• Conducting interviews and FGDs with key staff in the MMRE, related agencies and ADB staff</li> <li>• Preparing detailed load forecasts for the country's energy sector</li> <li>• Preparing fuel price forecasts based on imported fuel price and domestic fuel costs</li> <li>• Conducting Financial Capacity Assessment.</li> </ul> |                                                                                                                                                                                                                          |

|                                                                                                    |                                                                                             |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA-7666 (NEP) Energy Access and Efficiency Improvement Project II</b>      | <b>Approx. value of the contract: US\$ 393,950</b>                                          |
| <b>Country:</b> Nepal<br><b>Location within country:</b>                                           | <b>Duration of assignment: 7 months</b>                                                     |
| <b>Name of Client:</b> Asian Development Bank/ Nepal Electricity Authority                         | <b>Total No of staff-months of the assignment: 19</b>                                       |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>6 ADB Avenue, Mandaluyong City 1550 | <b>Approx. value of the services provided by your firm under the contract: US\$ 393,950</b> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Metro Manila, Philippines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                     |
| <b>Start date:</b> April 2011<br><b>Completion date:</b> October 2011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 15                                                                                                   |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>• PPA Energy, UK</li> <li>• Dalkia Energy Services Ltd., India</li> <li>• Total Management Services (TMS), Nepal</li> <li>• Environment and Resource Management Consultants (ERMC) Pvt. Ltd., Nepal</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Mr. Trevor Fry (Team Leader)</li> </ul> |
| <b>Narrative description of Project:</b><br>The broad objective of the project was to conduct necessary scoping and feasibility studies to identify appropriate candidate projects for loan program under the 41155- 01: Energy Access and Efficiency Improvement Project II.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                     |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Assessment of the Nepal power sector including a problem tree analysis</li> <li>• Identification of potential clean energy projects and prioritizing them</li> <li>• Preparation of feasibility studies for those prioritized projects for implementation within the proposed power sector loan in consultation the government and ADB</li> <li>• Preparing cost estimates, implementation schedules, contracting and implementation arrangements</li> <li>• Identifying suitable procurement packages as well as preparing procurement capacity assessments of the implementing agencies</li> <li>• Recommending policy, investment, regulatory reforms, capacity building, and institutional needs in relation to clean energy development.</li> </ul> |                                                                                                                                                                                                                     |

|                                                                                                                                                                                                                                               |                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name:</b> ADB TA-7242 BAN: Power System Efficiency Improvement Project, Tranche 1                                                                                                                                               | <b>Approx. value of the contract:</b> USD 707,900                                                                |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Bangladesh                                                                                                                                                                      | <b>Duration of assignment:</b> 10 months                                                                         |
| <b>Name of Client:</b> Ministry of Power, Energy & Minerals Resources/ Asian Development Bank                                                                                                                                                 | <b>Total No of staff-months of the assignment:</b> XXX                                                           |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Ministry of Power, Energy & Minerals Resources<br>Rm 124, Building 6, Bangladesh Secretariat<br>Dhaka, Bangladesh<br>Telephone: (880-2) 716-5918<br>Email: secypower@gmail.com | <b>Approx. value of the services provided by your firm under the contract:</b> USD 707,900                       |
| <b>Start date:</b> September 2010<br><b>Completion date:</b> June 2011                                                                                                                                                                        | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 2 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>Dalkia Energy Services Ltd.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>Oswaldo Juvier (Project Team Leader)</li> </ul> |
| <b>Narrative description of Project:</b><br>The broad objective of the project was to conduct necessary scoping and feasibility studies to identify appropriate candidate projects for the USD 300 million-loan program under the 37113- 01: Energy Efficiency Improvement Project.<br><b>The specific objectives of the project were:</b> <ul style="list-style-type: none"> <li>Assessment of the Bangladesh power sector including a problem tree analysis;</li> <li>Identification of potential clean energy projects and prioritize them;</li> <li>Preparation of feasibility studies prioritized projects which can be implemented;</li> <li>Preparation of cost estimates, implementation schedules, contracting and implementation arrangements and identify suitable procurement packages.</li> <li>Preparation of procurement capacity assessments of the implementing agencies.</li> <li>Recommendation of policy, investment, and capacity building and institutional needs in relation to clean energy development.</li> <li>Assist the ADB project team in preparing relevant sections of the Report and Recommendation of the President (RRP) to the ADB Board and</li> <li>Preparation of interim and final reports on the PPTA.</li> </ul> |                                                                                                                                                                                                                           |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>Making assessment of the Bangladesh power sector including a problem tree analysis</li> <li>Identifying potential clean energy projects and prioritizing them</li> <li>Preparing feasibility studies for those prioritized projects which had been implemented within the proposed power sector loan in consultation the government and ADB</li> <li>Preparing cost estimates, implementation schedules, contracting and implementation arrangements and identifying suitable procurement packages, also preparing procurement capacity assessments of the implementing agencies</li> <li>Recommending policy, investment, and capacity building and institutional needs in relation to clean energy development</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                           |

|                                                                                                                                                                                                  |                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA 7262-VIE: Capacity building of Renewable Energy Development</b>                                                                                                       | <b>Approx. value of the contract: US\$ 1,870,900</b>                                          |
| <b>Country:</b> Vietnam<br><b>Location within country:</b> Several provinces                                                                                                                     | <b>Duration of assignment:</b> 47 months                                                      |
| <b>Name of Client:</b> Asian Development Bank                                                                                                                                                    | <b>Total No of staff-months of the assignment:</b> 126                                        |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Central Operations Services Office<br>Asian Development Bank, 6 ADB Avenue<br>Mandaluyong City 1550, Metro Manila,<br>Philippines | <b>Approx. value of the services provided by your firm under the contract: US\$ 1,870,900</b> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Start date:</b> May 2010<br><b>Completion date:</b> April 2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 79                                                        |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– PB Power, UK</li> <li>– Hydro Tasmania, Australia</li> <li>– Dalkia Energy Services Ltd. (DESL), India</li> <li>– GFD Consultants, Vietnam</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Name of senior professional staff of your firm involved and functions performed:</b> <ul style="list-style-type: none"> <li>• Carlos Yermoli (Team Leader)</li> </ul> |
| <b>Narrative description of Project:</b><br>Development of mini-Hydropower Projects for Rural Electrification in Mountainous Provinces in Lai Chau and Dien Bien Provinces. Providing implementation support in improving and expanding 9 HPP transmission lines in 12 provinces, 86 districts and 500 communes. Grid Extension and Rehabilitation of Distribution Networks Serving Poor Communities in the operational areas of PC1 in northern Viet Nam (mainly, Lai Chau and Dien Bien Provinces), PC2 in southern Viet Nam (TraVinh and SocTrang Provinces) and PC3 in Central Viet Nam (several provinces).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                          |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Review of Government Strategies and policies on renewable and legal framework related to rural electrification and small hydropower development</li> <li>• Review of all previously available documentation of small hydropower development in the proposed provinces</li> <li>• Coordinate necessary consultation workshops to be done at district, provincial and national level</li> <li>• Design of renewable energy and rural electrification projects along with planning, implementation and supervision</li> <li>• Design of small hydropower planning, tropical hydrology, geology, civil works, turbine, mechanical and electrical works</li> <li>• Construction Supervision</li> <li>• Design of medium voltage transmission and low voltage distribution design</li> <li>• Economics of rural electrifications</li> <li>• Financial and institutional analysis</li> <li>• Environment, resettlement, gender, ethnic minorities, gender issues, HIV issues, social development, and poverty analysis, monitoring and evaluation</li> <li>• Review of the geological and geo-technical conditions at the site and reservoir with reference to foundation of the dam, spillway, waterways, and power plant</li> <li>• Assessment of the need of monitoring dam safety</li> <li>• Necessary Field investigations needed for detailed design</li> <li>• Review of the contractor's and supplier's operation and maintenance manuals.</li> <li>• Preparation of reports to the Executing Agency and ADB at regular intervals to summarize the progress of the Project and to identify possible difficulties and delays.</li> </ul> |                                                                                                                                                                          |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name:</b> Follow-Up (Panel) Survey of socioeconomic Monitoring and Impact Evaluation of Rural Electrification and Renewable Energy Program in Bangladesh under 'Bangladesh Rural Electrification and Energy Development Project (Credit # 3679 BD)'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Approx. value of the contract:</b> Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Duration of assignment:</b> 12 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Name of Client:</b> Rural Electrification Board (REB); Donor: The World Bank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Total No of staff-months of the assignment:</b> 50                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b> Mr. Syed Sarwar Hussain<br>Executive Director<br>Rural Electrification Board,<br>Khilkhet, Nikunjo-2, Dhaka-1229<br>Bangladesh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Approx. value of the services provided by your firm under the contract:</b> USD 70,000                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Start date:</b> August 2008<br><b>Completion date:</b> July 2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b>                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– IRG Development Services Ltd, USA</li> <li>– ECON, Norway</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Mr. Harsha M. De Silva (Team Leader)</li> <li>• Ms. Sudeshna Ray (Social Scientist)</li> <li>• Dr. M. Asaduzzaman (Economist)</li> <li>• Dr. M. Khairul Hossain (Statistician)</li> <li>• Dr. MahbubaNasreen (Sociologist-cum-Gender Specialist)</li> <li>• Mr. Md. Naimul Islam (Computer Analyst / Programmer)</li> </ul> |
| <b>Narrative description of Project:</b><br>This end line panel survey captured the socioeconomic impact of rural electrification and renewable energy project using double difference method. Survey covered 12,384 sampling units in 453 villages of 45 districts throughout all divisions of Bangladesh (7,352 households; 1,979 commercial; 1,059 industrial; 1,884 irrigation) retraced from year 2005 baseline survey data. e.Gen designed M&E framework and appropriate survey methodology for comprehensive evaluation; prepared survey instruments; collected data; processed data; conducted econometric analysis; validated findings through qualitative method (transect walk, FGD, Participatory Rural Approach); submitted final report with findings and recommendations. The final output was appreciated by the client for high quality of analysis. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Retrace 2005 survey units.</li> <li>• Develop a survey design, and sample design for M&amp;E study and train PBS staff.</li> <li>• Develop a questionnaire design for impact study.</li> <li>• Develop an appropriate sample design for the impact study.</li> <li>• Conduct resurvey for impact study.</li> <li>• Implement a qualitative survey.</li> <li>• Implement entry, cleaning and processing of the collected data.</li> </ul>                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

- Perform necessary data analysis.
- Compile the findings and policy recommendations into a report.\_

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: World Bank TA to Design a Framework of Performance Management for Energy Utilities - Bangladesh</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Approx. value of the contract: **</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Duration of assignment:</b> 20 months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Name of Client:</b> The World Bank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Total No of staff-months of the assignment:</b> 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Sudeshna Ghosh Banerjee<br>1818 H Street, NW, Washington<br>DC 20433, USA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Approx. value of the services provided by your firm under the contract:</b> USD 80,000                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Start date:</b> August 2008<br><b>Completion date:</b> March 2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 10                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Name of associated Consultants, if any:</b><br>– Power Planning Associates Ltd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Nihad Kabir (Legal Expert)</li> <li>• Syed Maksud Hasan (Deputy Team Leader / Project Management Expert)</li> <li>• Dr. Muhammad Raushan Ali (Human Resource Expert)</li> <li>• Md. Naimul Islam (IT / Systems Integration Expert)</li> <li>• Masud Hussain (Financial / Accounting Specialist)</li> <li>• Syed Abdul Mayeed (Technical / Engineering Expert)</li> </ul> |
| <b>Narrative description of Project:</b><br>The TA program on enhancing the power sector governance extended the contemporary initiatives by GOB to introduce modern management methods and commercial principles in the functioning of these entities through an overarching framework of performance target agreements (PTA) between GOB and the participating energy utilities. The management consulting and economic advisory services were required to support the development of the PTAs based on individual needs of these utilities. The advisory services were targeted to enable the senior management of the corporatized utilities to assist them in setting feasible operational, financial, and governance indicators, monitoring them on a sustainable basis, and reporting them to the key internal and external stakeholders such as boards, regulators, consumer associations, and the ministries. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Identification of stakeholder needs and drivers</li> <li>• Formulation of organization and HR-development plan</li> <li>• Creation of Performance Management Framework</li> <li>• Performance Management System Design</li> <li>• Development of Numerical Targets</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

- Arranging workshops
- Preparing Recommendations

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name:</b><br>South Asian Regional Initiative/Energy-<br>Training - Phase III (SARI/E - III)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Approx. value of the contract:</b> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Bangladesh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Duration of assignment:</b> 60 months                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Name of Client:</b> USAID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Total No of staff-months of the assignment:</b><br>85                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>USAID Bangladesh<br>US Embassy, Baridhara, Dhaka                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Approx. value of the services provided by your firm under the contract:</b> USD 400,000                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Start date:</b> November 2007<br><b>Completion date:</b> July 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b>                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>• PA Consulting, USA (Lead Firm)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Alamgir Kabir (National Coordinator)</li> <li>• Ijaz Hossain (Clean Energy Expert)</li> <li>• Mohammad Tamim (Energy Security/ Gas Sector Expert)</li> <li>• Mahfuzur Rahman (Rural Cooperative &amp; Renewable Energy Expert)</li> <li>• Tawfik E Chowdhury (public-private Partnership Expert)</li> </ul> |
| <b>Narrative description of Project:</b><br>South Asian Regional Initiative III /Energy (SARI III) was a continuation of the previous phases of USAID funded SARI I and SARI II which was aimed to promote sustainable development in the energy sector of the South Asian countries by providing technical assistance, imparting training, enhancing cross-border exchange of energy, facilitating sharing of technology know-how, promoting efficient generation and use of energy / power and reducing long-term threats to environment. The program intended to impart efficiency to the regional energy grid through increased use of eco-friendly energy generation and utilization mechanism. The regional stakeholders, including mid and senior level managers from the energy utilities, government officials, policymakers, private sector in the South Asian region were expected to be benefited through developing better understanding on national, regional, and international energy and environment issues affecting the countries of South Asia. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• In association with PA Consulting PA, e-Gen not only led efforts in achieving the project objectives for the Bangladesh chapter of the project but also make available its expertise for the benefit of the other regional associates of PA during the implementation of SARI III.</li> <li>• e-Gen's successful experience in executing SARI I was an added advantage for the SARI III since e-Gen had both the technical skills as well as training capacity to add value to the project.</li> <li>• The consultants in e-Gen's team are well respected energy sector professionals both within and outside Bangladesh who are expected to make available their expertise in enhancing regional cooperation in the efficient use of energy resources to achieve sustainable economic development.</li> </ul>                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Study for the Development of the Power Market and Competitive Tender Framework for Thermal IPPs in Vietnam</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Approx. value of the contract:</b> USD 14,080                                                                                                                                                                                  |
| <b>Country:</b> Vietnam<br><b>Location within country:</b> Vietnam                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Duration of assignment:</b> 3 months                                                                                                                                                                                           |
| <b>Name of Client:</b> Ministry of Industry (MOI), Vietnam/ World Bank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Total No of staff-months of the assignment:</b> 2.5                                                                                                                                                                            |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Ministry of Industry<br>54 Hai Ba Trung, HoanKiem, Ha Noi, Viet Nam                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Approx. value of the services provided by your firm under the contract:</b> USD 14,080                                                                                                                                         |
| <b>Start date:</b> October 2007<br><b>Completion date:</b> December 2007                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> 1                                                                                                                  |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>PA Consulting, USA</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>Nihad Kabir (International Legal Specialist)</li> </ul> |
| <b>Narrative description of Project:</b><br><p>The general objective of this consultancy has been to provide the following assistance to Ministry of Industry (MOI), Vietnam: Drafting a framework to set the principles, guidelines and general procedures to implement tenders for thermal IPPs under the general BOT framework existing in Vietnam, ensuring an efficient and transparent competitive process; analyzing and developing principles and mechanisms for the coordination between planning and investment in natural gas and in gas fired generation; and developing a strategy to harmonize the IPP program with the future competitive power markets approved in the Roadmap, with the objective of attracting sufficient private investment at the best possible prices and conditions prior to the initiation of wholesale competition, and at the same time minimizing risk of stranded costs and impediments to the efficient development of the market roadmap.</p>                                                                                                                                                                                 |                                                                                                                                                                                                                                   |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>Providing Assistance to the MOI in designing the general framework for procurement and competitive tender of thermal BOT generation</li> <li>Creating a level playing field for private investors along with assurance of transparency</li> <li>Drafting of standard principles and procedures for tenders of thermal generation projects</li> <li>Developing standard rules that would apply to all thermal BOT tenders and hence achieving a level of standardization and predictability, which speeds up implementations of future BOT transaction and Power Purchase Agreements (PPAs).</li> <li>Assessment and identification of specific considerations and mechanisms to coordinate the efficient development of new thermal gas fired IPPs with development and investment in natural gas</li> <li>Assessment and design of recommended strategy to integrate IPPs in future power market with the best possible mechanisms and PPA design</li> <li>Smooth implementation of the Roadmap and mitigation of the risks of future stranded costs.</li> </ul> |                                                                                                                                                                                                                                   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA 4898 BAN-Promotion of Private Sector Participation in the Power Sector</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Approx. value of the contract:</b> Not Given                                                                                                                        |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Bangladesh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Duration of assignment:</b> 8 months                                                                                                                                |
| <b>Name of Client:</b> Bangladesh Power Development Board (BPDB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Total No of staff-months of the assignment:</b> 12                                                                                                                  |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Dhaka, Bangladesh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 40,000                                                                             |
| <b>Start date:</b> August 2007<br><b>Completion date:</b> January 2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>No. of professional staff-months provided by your consulting firm/organization:</b> 6                                                                               |
| <b>Name of associated Consultants, if any:</b><br>– PricewaterhouseCoopers (PwC) Private Limited, India (Lead Firm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b><br>• Ms. Nihad Kabir (Legal Expert) |
| <b>Narrative description of Project:</b><br>The TA assisted the Government to promote private sector participation and public-private partnership (PPP). Based on the country specific analysis, the TA helped the Government to update the 1996 private sector participation policy and formulate enforceable regulations tailored to the latest market environment. The TA also assisted the Government to develop PPP models in generation and distribution subsectors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                        |
| <b>Description of actual services provided in the assignment:</b><br>In association with Pricewaterhousecoopers Pvt. Ltd, India, e-Gen <ul style="list-style-type: none"> <li>Analyzed related laws and regulations, with a perspective on the state of crucial laws and their key elements such as related to property rights, contractual rights, law of associations, and others.</li> <li>Drafted changes for incorporating them in existing policies, laws, and regulations to facilitate introduction of PPP models.</li> <li>Analyzed costs of doing business and transactions;</li> <li>Analyzed the capacity and quality of the public institutions responsible for planning and implementing the policy, laws, and regulations;</li> <li>Analyzed the perspective on state of crucial laws and their key elements such as related to property rights, contractual rights, law of associations, and others.</li> <li>Examined sector-related governance issues and prepare recommendations.</li> </ul> |                                                                                                                                                                        |

|                                                                                                                                                                 |                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Assignment name: Implementation of Siddhirganj 2X120 MW Peaking Power Plant</b>                                                                              | <b>Approx. value of the contract:</b> N/A                                                   |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka and Siddhirganj                                                                             | <b>Duration of assignment:</b> 33 months                                                    |
| <b>Name of Client:</b> Electricity Generation Company of Bangladesh (EGCB) / Asian Development Bank (ADB)                                                       | <b>Total No of staff-months of the assignment:</b> 100                                      |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Thevakumar Kandiah, Director, Energy Division<br>South Asia Department, ADB, Manila, Philippines | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 550,000 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Start date:</b> February 2006<br><b>Completion date:</b> October 2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>No. of professional staff-months provided by your consulting firm/organization:</b> 36                                                                                                                                                                                                                                                                                                                                                   |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– KEMA International BV (Lead Firm), Netherlands</li> <li>– TCE (Tata Consulting &amp; Engineers) Ltd., India</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Md Mofazzal Hoque (Mechanical Engineer)</li> <li>• Shaikh Ramzan Ali (Electrical Engineer)</li> <li>• Quazi Md. Obaidul Munim (Instrument Engineer)</li> <li>• Shofiqur Rahman (Civil Engineer)</li> <li>• Dr. Ansari Karim (Environmental Engineer)</li> </ul> |
| <b>Narrative description of Project:</b><br>Assisting Electricity Generation Company of Bangladesh Ltd. (EGCB) in the implementation of the Siddhirganj 2 X 120 MW Peaking Power Plant by a 2 X 120 MW Gas Turbine, 3 X 10 MW steam plants, and 50 MW steam plant for Peaking Power Station at the Siddhirganj site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Environmental impact assessment for the project.</li> <li>• Providing assistance on evaluation of bids, examination and checking contract documents &amp; contractor's report.</li> <li>• Supervision of demolition works as per standard safety &amp; waste disposal regulations and monitor compliance of Environmental Regulations.</li> <li>• Checking, recommending and approving the drawings, specifications, and detailed work schedule submitted by the Turnkey Contractor.</li> <li>• Verifying contractor's invoices, reviewing schedule of contractor's work and contractor's documents (engineering / procurement).</li> <li>• Supervised construction, testing, commissioning, and recommended provisional taking over certificate.</li> <li>• Witnessing factory tests, investigating and providing approval of the method for trial operation, test, commissioning procedures and acceptance tests.</li> <li>• Organizing and supervising local training provided by the Turnkey Contractor.</li> <li>• Checking the list of materials of the Stores handed over to EGCB vis-à-vis Contract Document.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                                                                                                         |                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA-3978 BAN: Corporatization of Dhaka Electric Supply Authority (DESA)</b>                                      | <b>Approx. value of the contract:</b>                                                       |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka                                                                     | <b>Duration of assignment:</b> 14 months                                                    |
| <b>Name of Client:</b> Asian Development Bank, Manila / DESA, Dhaka                                                                     | <b>Total No of staff-months of the assignment:</b> 41                                       |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Leonardus Boenawan Sondjaja<br>Consulting Services Division, ADB, Manila | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 175,000 |
| <b>Start date :</b> May 2005<br><b>Completion date :</b> July 2006                                                                      | <b>No. of professional staff-months provided by your consulting firm/organization:</b> 15   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>British Power International, UK (Lead Firm)</li> <li>Norplan, Norway</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>Ghiasuddin Ahmed</li> <li>Nihad Kabir</li> <li>Monower Hossain</li> <li>Tareque Ahmed</li> <li>Masud</li> </ul> |
| <b>Narrative description of Project:</b><br>Reviewing and designing an effective organizational and management structure for DESA. Institutionalizing organizational and hierarchical autonomy. Drafting personnel policies including a voluntary separation policy as a particular requirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                           |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>Designing a project strategy and planning the participation of agencies involved in implementing corporatization.</li> <li>Identifying legal steps to transfer assets and identifying transactions between DESA and other entities. Preparing legal documents and defining the financial status of the company. Identifying assets and liabilities and starting financial statements.</li> <li>Preparing a financial restructuring plan and establishing performance criteria including developing a business plan and financial action plans.</li> <li>Preparing the first tariff proposals for the new company and developing management systems for the new corporatized company.</li> <li>Developing computerized daily and monthly reporting formats, implementing financial, and management information systems.</li> </ul> |                                                                                                                                                                                                                                                                                           |

|                                                                                                                                                                                                                      |                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: Feasibility Study for 1000 MW Power Plant</b>                                                                                                                                                    | <b>Approx. value of the contract: N/A</b>                                                                                                                                                                       |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka                                                                                                                                                  | <b>Duration of assignment:</b> 2 months                                                                                                                                                                         |
| <b>Name of Client:</b> TATA Power Ltd., India                                                                                                                                                                        | <b>Total No of staff-months of the assignment:</b> 2                                                                                                                                                            |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Mr. Suresh N<br>Assistant General Manager<br>TATA Power Ltd., India                                                                                   | <b>Approx. value of the services provided by your firm under the contract:</b> USD 10,000                                                                                                                       |
| <b>Start date:</b> January 2005<br><b>Completion date:</b> March 2005                                                                                                                                                | <b>No. of professional staff-months provided by your consulting firm/organization or your sub consultants:</b> XXX                                                                                              |
| <b>Name of associated Consultants, if any:</b><br>N/A                                                                                                                                                                | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>A Kabir</li> <li>SM Khasru</li> </ul> |
| <b>Narrative description of Project:</b><br>Determination of the feasibility of setting up 1000 MW power plant in Western Bangladesh and selling a portion of capacity in the local market based on the market need. |                                                                                                                                                                                                                 |
| <b>Description of actual services provided in the assignment:</b>                                                                                                                                                    |                                                                                                                                                                                                                 |

- Overlooking different entities of the power sector and their roles (Specially REB), regulatory framework and impacts of relevant development.
- Gathering information of the current physical system – existing generation capacity and existing transmission capacity
- Assessing different aspects of the proposed addition like Generation – capacity, commissioning schedules (year-wise), location, ownership, fuel, likely pricing (fixed, variable, first year), sale arrangements, transmission - capacity and likely loading, tied capacity, likely pricing etc.
- Assessing different market aspects like - Consumption pattern – West and East Bangladesh, Demand/Supply gap (region wise), Tariffs and realization, Collection efficiency of distribution companies and Transmission, Distribution & Commercial losses etc.
- Conducting a feasibility study on various types on consumers and recommend the consumers for targeting.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Assignment name: ADB TA 3801-BAN: Corporatization of the West Zone Distribution Operations of the Bangladesh Power Development Board (BPDB)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Approx. value of the contract: USD</b>                                                                                                                                                                                                                                                                                             |
| <b>Country:</b> Bangladesh<br><b>Location within country:</b> Dhaka and Khulna                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Duration of assignment:</b> 23 months                                                                                                                                                                                                                                                                                              |
| <b>Name of Client:</b> Asian Development Bank and BPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Total No of staff-months of the assignment:</b> 35                                                                                                                                                                                                                                                                                 |
| <b>Contact Person, Title/Designation, Tel. No./Address:</b><br>Leonardus Boenawan Sondjaja<br>Consulting Services Division<br>Asian Development Bank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Approx. value of the services provided by your firm under the contract:</b> US\$ 200,000                                                                                                                                                                                                                                           |
| <b>Start date:</b> August 2003<br><b>Completion date:</b> June 2005                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>No. of professional staff-months provided by your consulting firm/organization:</b> 20                                                                                                                                                                                                                                             |
| <b>Name of associated Consultants, if any:</b> <ul style="list-style-type: none"> <li>– British Power International, UK (Lead Firm)</li> <li>– Norplan AS, Norway</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Name of senior professional staff of your consulting firm/organization involved and designation and/or functions performed:</b> <ul style="list-style-type: none"> <li>• Monoweruddin Ahmed (Team Leader)</li> <li>• AKM Sahbub Alam</li> <li>• Nihad Kabir (International Legal Expert)</li> <li>• Badiul Alam Bhuiyan</li> </ul> |
| <b>Narrative description of Project:</b><br>This project was undertaken with a view to improve the operating efficiency and consumer orientation of the power distribution agencies in Bangladesh. The objectives included transforming the West Zone of BPDB into a separate company and devising ways for it to be efficient in power distribution and operations and management                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                       |
| <b>Description of actual services provided in the assignment:</b> <ul style="list-style-type: none"> <li>• Providing technical assistance to BPDP to transform its West Zone into a new company under this project.</li> <li>• Providing legal and accounting formalities required for the transfer of the asset and personnel from BPDB to an independent private company as well as guiding the newly developed company to take over the operations and management from the BPDB.</li> <li>• Improving the operations and management techniques of the newly developed company by means of developing expansion and modernization programs, preparing specifications and bid</li> </ul> |                                                                                                                                                                                                                                                                                                                                       |

documents and providing assistance in evaluation programs. These services were focused on management systems, engineering, O & M systems of distribution systems, legal drafting of power purchase agreements and cost accounting.

- Making the network plan, standards for the network structure and performance as well as manuals for operations and maintenance.
- Developing effective systems for quality assurance to make the new company more consumer-oriented and efficient in its performance.
- Assessing the training needs of the new company employees and designing training courses including development of curriculum and preparation of training manuals.