Feasibility Studies with the Aim of Developing a Bilateral Offset Credit Mechanism FY2011

Studies for Project Development and Organization

**Newly-constructed CCGT Power Generation Project in the People’s Republic of Bangladesh**

New Energy and Industrial Technology Development Organization (NEDO)
Mitsubishi Research Institute, Inc.
Newly-constructed CCGT Power Generation Project in the People’s Republic of Bangladesh

1. Background & Objective

• Introduction of CCGT is significantly important for Bangladesh’s power resources development plan for maximizing effective use of existing natural gas.

• Accumulation of operational experience and know-how through its early introduction is indispensable for the stable power supply in Bangladesh.

2. Estimation of Emission Reductions

• There is a wide range of difference in emission factor depending on the calculation method (AM0029, ACM0013, J-MRV0004, Standardized Baseline) from 0.542~0.762 kg-CO2/MWh.

• Difference in the amount of emission reduction is 542,163~1,232,794 t-CO2/year. Ripple effect of this project would be about 8.3~18.8 million t-CO2.

• For the purpose of verification of additionality, average power generation cost in the host country and that of the project are compared. And, when power sources are listed in the order of higher emission factor, those of which emission factors are lower than Ya% (ex. 80%) will be deemed as additional.

3. Economic Evaluation

• FIRR: 11.41% (High-EF), 9.40% (Low-EF), 7.85% (No credit)

• The economic effects include reduction of O&M cost and supplying about 17~39% of EPC cost.

Conceptual Specification (CCGT)

<table>
<thead>
<tr>
<th>Capacity</th>
<th>421,600 kW</th>
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<tbody>
<tr>
<td>Type</td>
<td>1 on 1</td>
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<tr>
<td>Gas Condition</td>
<td>49,115kJ/kg (LHV)</td>
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<tr>
<td>Gross Efficiency</td>
<td>57.3% (LHV)</td>
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