



## Bangladesh: Study on Energy Security

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| Project Name                          | Study on Energy Security  |                   |  |
| Project Number                        | 48277-004   |                   |  |
| Country                               | Bangladesh  |                   |  |
| Project Status                        | Approved  |                   |  |
| Project Type / Modality of Assistance | Technical Assistance  |                   |  |
| Source of Funding / Amount            | TA 8839-BAN: Study on Energy Security   |                   |  |
|                                       | Technical Assistance Special Fund   | US\$ 1.00 million |  |
| Strategic Agendas                     | Inclusive economic growth   |                   |  |
| Drivers of Change                     | Governance and capacity development<br>Knowledge solutions  |                   |  |
| Sector / Subsector                    | Energy - Conventional energy generation - Energy sector development and institutional reform  |                   |  |
| Gender Equity and Mainstreaming       | Some gender elements  |                   |  |
| Description                           | <p>a. Link to Country Partnership Strategy/Regional Cooperation Strategy:<br/>The proposed capacity development technical assistance (TA) will conduct a study on the security of energy supplies in Bangladesh. The government has adopted a comprehensive energy development strategy as part of its Sixth Five-Year Plan. It includes measures to boost power supply emphasizing, among others, diversified primary energy sources. The government will try to exploit all forms of primary energy. Building on this plan, the Government has now decided to increase electricity generating capacity based on different primary energy supply options, with an additional 15,000 megawatts by 2016. Implementation of this plan can be facilitated by a systematic study on energy security with the intention of diversifying the primary energy sources. The study can be taken forward by conducting feasibility studies on high priority power generation projects identified based on the recommendations. These studies are aligned with ADB's country strategy where key interventions in the energy sector include, among others, investments in new power-generating facilities.</p> <p>b. Impact<br/>The impact will be enhanced primary fuel diversification in Bangladesh's power sector. The indicator will be at least one project recommended by the study is commissioned by 2022.</p> <p>c. Outcome<br/>The outcome of the TA will be capacity of the Power Division of the Ministry of Power, Energy and Mineral Resources to diversify fuel sources for power generation increased . The indicator will be inclusion of the recommendations of the study included in an updated optimal power generation plan by 2017. This will enable Bangladesh to diversify fuel sources in its power generation system which will lead to greater reliability and adequate power supplies.</p> <p>d. Outputs<br/>The output of the TA will be (i) understanding of the overall security of energy supplies in Bangladesh improved, and (ii) of the most attractive baseload generation options confirmed with specific case studies provided. The indicators will be the final energy security study report submitted to the Power Division of the Ministry of Power, Energy, and Mineral Resources by 2017 and feasibility study report (s) of the specific case studies submitted to the Power Division, Ministry of Power, Energy and Mineral Resources by 2017.</p> |                   |  |

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| Project Rationale and Linkage to Country/Regional Strategy          | Bangladesh's heavy reliance on domestic natural gas in power generation has become one of the main bottlenecks in generation capacity additions to supply the exponentially increasing demand for electricity. Even with a total generation capacity of 10,416 megawatt (2014), inadequate gas production has resulted in power shortages seriously impacting the economic activities and hindering government plans to expand power supply to the population without electricity access. Only 62% Bangladeshis has access to electricity and its per capita consumption stands at 321 kWh which is the second lowest in South Asia. It has been estimated that the economic loss in the industrial sector due to power outages can be as high as 1.7% of the GDP (2004 estimates). In addition, the energy sector suffers from issues such as inefficient sectoral allocation of gas and its use and poor financial sustainability in the sector mainly due to underpricing of gas and electricity. Considering these factors, fuel diversification in the power sector for greater reliability of electricity supply and for improved energy security, is therefore a pressing need. Government has already embarked on a fuel diversification policy with due consideration given to primary energy sources such as nuclear, coal and imported liquefied natural gas (LNG) for power generation. However, a systematic study on the way forward in fuel diversification and other related energy security issues remains to be undertaken. |
| Impact  | Enhanced primary fuel diversification in Bangladesh's power sector  |
| <b>Project Outcome</b>  |   |
| Description of Outcome  | Increased capacity of the Power Division of the Ministry of Power, Energy and Mineral Resources to diversify fuel sources for power generation  |
| Progress Toward Outcome   |   |
| <b>Implementation Progress</b>                                      |   |
| Description of Project Outputs                                      | <ol style="list-style-type: none"> <li>1. Understanding of the overall security of energy supplies in Bangladesh improved</li> <li>2. Feasibility of the most attractive baseload generation options confirmed with specific case studies provided</li> </ol>   |
| Status of Implementation Progress (Outputs, Activities, and Issues) |   |
| Geographical Location   |   |
| <b>Summary of Environmental and Social Aspects</b>                  |   |
| Environmental Aspects   |   |
| Involuntary Resettlement  |   |
| Indigenous Peoples  |   |
| <b>Stakeholder Communication, Participation, and Consultation</b>   |   |
| During Project Design   | The government has requested this study as an urgent matter which needs to be attended to, in the energy sector. This has been discussed with the relevant institutions in the government during several ADB missions and also included in the COBP.  |
| During Project Implementation                                       | <p>Further stakeholder consultations will be undertaken during the implementation of the TA and its activities will be adjusted to be in line with the outcome of such meetings.</p> <p>The progress of the TA will be monitored through inception, interim, draft final and final reports on the study. Further, a senior advisor appointed in the TA will continuously monitor and guide the consulting team during the whole period. Also there will be a minimum of two stakeholder meetings on the findings of the study to validate the approach of the study and the final findings.</p> <p>These meetings, a final dissemination seminar and an ADB publication will be used to disseminate the findings of the study among the key stakeholders.</p>   |
| <b>Business Opportunities</b>                                       |   |
| Consulting Services   | The TA will require 34 person-months of international consultant services and 40 person-months of services from national consultants. Expertise will be engaged in the areas of energy sector policy; power sector planning; mechanical, electrical, and civil engineering; project economic and financial analyses; financial management; environment and social safeguards; and poverty and gender. ADB will recruit a consulting firm and some individual consultants in accordance with its Guidelines on the Use of Consultants (2013, as amended from time to time). Because the contract budget is less than \$1,000,000, simplified technical proposals will be requested from short-listed firms, where applicable. The recruitment of consultants will be carried out using quality- and cost-based criteria, with a quality cost ratio of 90:10. The consultancy deliverables will be the reports on the overall energy security study and on the subsequent feasibility studies of specific projects identified by the overall study. Goods procured under the TA will be handed over to the BPDB on completion of the TA project.  |
| Procurement   | Procurement of goods will be carried out in accordance with ADB's Procurement Guidelines (2013, as amended from time to time).  |

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| Responsible ADB Officer    | Priyantha D.C. Wijayatunga   |
| Responsible ADB Department | South Asia Department  |
| Responsible ADB Division   | Energy Division, SARD  |
| Executing Agencies         | <i>Bangladesh Power Development Board (BPDB)WAPDA Building, 9th Floor<br/>Motijhel C/A<br/>Dhaka-1000,Bangladesh</i> |

| Timetable           |                            |
|---------------------|----------------------------|
| Concept Clearance   | 10 Nov 2014                |
| Fact Finding        | 01 Nov 2014 to 02 Nov 2014 |
| MRM                 | -                          |
| Approval            | 17 Dec 2014                |
| Last Review Mission | -                          |
| Last PDS Update     | 18 Jan 2015                |

#### TA 8839-BAN

| Milestones  |              |                  |             |         |        |
|-------------|--------------|------------------|-------------|---------|--------|
| Approval    | Signing Date | Effectivity Date | Closing     |         |        |
|             |              |                  | Original    | Revised | Actual |
| 17 Dec 2014 | 24 Feb 2015  | 24 Feb 2015      | 31 Dec 2017 | -       | -      |

| Financing Plan/TA Utilization |             |             |               |                 |        |              | Cumulative Disbursements |        |
|-------------------------------|-------------|-------------|---------------|-----------------|--------|--------------|--------------------------|--------|
| ADB                           | Cofinancing | Counterpart |               |                 |        | Total        | Date                     | Amount |
|                               |             | Gov         | Beneficiaries | Project Sponsor | Others |              |                          |        |
| 1,000,000.00                  | 0.00        | 200,000.00  | 0.00          | 0.00            | 0.00   | 1,200,000.00 | 17 Dec 2014              | 0.00   |

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|-------------------------|---|
| Project Page            | <a href="http://www.adb.org/projects/48277-004/main">http://www.adb.org/projects/48277-004/main</a>   |
| Request for Information | <a href="http://www.adb.org/forms/request-information-form?subject=48277-004">http://www.adb.org/forms/request-information-form?subject=48277-004</a> |
| Date Generated          | 22 August 2015  |

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