



Tranche Report

Project Number: 42378-017
MFF Number: 0073
November 2015

People's Republic of Bangladesh: Power System Expansion and Efficiency Improvement Investment Program (Tranche 3)

Distribution of this document is restricted until it has been approved by the Board of Directors. Following such approval, ADB will disclose the document to the public in accordance with ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 27 October 2015)

Currency unit – taka (Tk)

Tk1.00 = \$0.01285

\$1.00 = Tk77.82

ABBREVIATIONS

ADB	–	Asian Development Bank
EIA	–	environmental impact assessment
EMP	–	environmental management plan
IDB	–	Islamic Development Bank
IEE	–	initial environmental examination
MFF	–	multitranches financing facility
MW	–	megawatt
NOx	–	nitrogen oxides

NOTE

- (i) The fiscal year (FY) of the Government of Bangladesh and its agencies begins on 1 July and ends on 30 June.
- (ii) In this report, "\$" refers to US dollars.

Vice-President	W. Zhang, Operations 1
Director General	H. Kim, South Asia Department (SARD)
Director	A. Jude, Energy Division, SARD
Team leader	L. Zhang, Energy Specialist, SARD P. Wijayatunga, Principal Energy Specialist, SARD
Team members	A. Firoz, Senior Procurement Officer, BRM, SARD J. Ghimire, Senior Counsel, Office of the General Counsel Y. Jang, Social Development Specialist, SARD C. Nunez, Associate Project Officer, SARD M.S. Rahman, Project Officer (Energy), BRM, SARD S. Shafiq, Financial Management Specialist, SARD A. Yusupov, Energy Specialist, SARD Y. Zhou, Environment Specialist, SARD
Peer reviewer	A. Tareen, Energy Specialist, Central and West Asia Department

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

CONTENTS

	Page
I. PROPOSAL	1
II. BACKGROUND	1
III. DUE DILIGENCE ON ENVIRONMENTAL IMPACTS	1
IV. JOINT COFINANCING WITH ISLAMIC DEVELOPMENT BANK	3
V. RECOMMENDATION	3
APPENDIX	
List of Linked Documents	4

I. PROPOSAL

1. Conversion of \$205 million into a tranche to finance Tranche 3 of the Power System Expansion and Efficiency Improvement Investment Program¹ in Bangladesh is proposed for Board consideration.²

II. BACKGROUND

2. The Government of Bangladesh is implementing the Sixth Five Year Plan (2011–2015) and Power System Master Plan 2010, targeting universal access to grid electricity by 2021 with a total generation capacity of 16,000 megawatts (MW) by 2016; 20,000 MW by 2020; and 40,000 MW by 2030. The plans identify \$12 billion of investments for 2011–2015 and a further \$58 billion of investments for 2016–2030. In 2012, the Asian Development Bank (ADB) approved a multitranche financing facility (MFF) amounting to \$700 million for the Bangladesh Power System Expansion and Efficiency Improvement Investment Program; this was to assist the government in implementing the plans to provide sustainable, affordable, and reliable energy for all in Bangladesh. The MFF supports power sector investments in generation, transmission, and distribution systems in Bangladesh for capacity expansion and efficiency improvement. Management approved the first tranche of the MFF on 12 December 2012 and the second tranche on 9 December 2013.

3. Through a periodic financing request dated 5 August 2015, the government asked for a loan of \$205 million from ADB's ordinary capital resources to help finance three outputs under Tranche 3:

- (i) **Output 1:** replacement of an aging steam and gas turbine power plant of 220 MW capacity with a more efficient 400 MW gas-fired combined-cycle power plant (CCPP) at Ashuganj Power Station complex.
- (ii) **Output 2:** upgrade and construction of approximately 72 kilometers (km) of 132 kilovolt (kV) transmission line and associated substations in Chittagong Division.
- (iii) **Output 3:** replacement of meters with approximately 700,000 prepayment meters in Dhaka Division.

4. The impact of Tranche 3 will be better access to reliable electricity supply in Bangladesh. The outcome will be increased efficiency and capacity of the power system in Bangladesh.

III. DUE DILIGENCE ON ENVIRONMENTAL IMPACTS

5. The proposed tranche project is classified as category A for environmental impact under ADB's Safeguard Policy Statement (2009). Tranche 3 has undergone the applicable business processes for subsequent tranches of MFFs. The project team has requested Management approval of the conversion of a portion of the MFF into financing for Tranche 3. This conversion is proposed for Board consideration because of the project's category A classification for the

¹ ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Multitranchise Financing Facility to Bangladesh for the Power System Expansion and Efficiency Improvement Program*. Manila.

² This tranche report is being presented for Board consideration as required under the revised Operations Manual on MFF, which states that projects with an environmental impact category A classification in a subsequent tranche should be submitted to the Board for its decision as to whether to authorize the President to convert the tranche. This tranche report also includes a recommendation to allow procurement outside of ADB member economies.

environment.

6. Tranche 3 is classified as category A for output 1, category B for output 2, and category C for output 3. The overall classification is A. The project's environmental safeguard documents were prepared in compliance with the Safeguard Policy Statement, the MFF's environmental assessment and review framework, and Bangladesh environmental regulations. The environmental impact assessment (EIA) and the environmental management plan (EMP) for output 1 were disclosed on ADB's website on 3 June 2015. A revised EIA incorporating ADB's comments was submitted to ADB and the Department of Environment of Bangladesh on 5 August 2015. The updated EIA was disclosed on ADB website on 28 October 2015. The updated EIA is available from the list of linked documents in the Appendix. A draft IEE for output 2 was disclosed on ADB's website on 14 September 2015, and an updated IEE on 5 October 2015.

7. Public consultations were held with local communities, including fisherfolk. They welcomed the project since it would improve the reliability of power supply. Community concerns were noted in the EIA and IEE, and mitigation measures were incorporated into the EMP. A climate change risk assessment was conducted and led to a *medium climate risk* rating. The main risks to the project are potentially higher flood levels, temperature rises, and tropical cyclones of greater wind speeds. The risks will be factored into the project design.

8. Given the potential environmental impacts—e.g., discharge of cooling water into Meghna River and emissions of nitrogen oxides (NO_x) during operation—output 1 is classified as environmental category A. However, it is not expected to cause significant harm as Output 1 focuses on replacing an old gas-fired power plant with a more energy-efficient combined-cycle gas power plant in an existing power complex. This new plant will reduce pollutant intensity and offset pollution emissions growth without consuming more natural gas. The environmental impacts identified in the EIA are mostly predictable and reversible. Sensitive ecosystems will not be affected. Impacts such as NO_x emissions during operation will be mitigated by incorporating the best available technology into the power plant design, which includes the use of low-NO_x burners and a NO_x-reduction system. Furthermore, the electricity generated through the incremental 180 MW combined cycle gas fired generation capacity will offset CO₂ emissions of around 800,000 ton per year equivalent of a new coal-fired generation capacity.

9. Potential environmental impacts of output 2 are mostly temporary, predictable, and reversible. No impacts will arise on forests, sanctuaries, or protected areas, and historical and cultural monuments. Environmental impacts mainly occur during construction stage, including increased local air pollution due to dust and vehicular emissions, construction waste at substation sites, increase in noise level at the construction sites, deterioration of surface water quality due to sanitary wastes from worker-based camps, etc. These temporary impacts can be minimized or mitigated by best-practice control measures as set forth in the Environmental Management Plan. Output 3 will have minimal environmental impacts. The replaced meters that are functional will be reused in other locations. Any final disposal of used meters would occur at approved waste management facilities.

10. The EMP includes measures to minimize anticipated impacts during construction and operation. The EIA includes a robust monitoring plan that will support smooth implementation of the EMP. The executing agency has experience in implementing ADB-financed projects and has established a project management unit that includes dedicated staff responsible for monitoring environmental issues and implementing the EMP. The engineering, procurement, and construction contractor will comply with the EMP during pre-construction and construction

under close monitoring by the project supervision consultant and the executing agency. All contractors will submit monthly environmental monitoring reports to the project supervision consultant, who will prepare and submit quarterly environmental monitoring reports to the executing agency. Based on the contractors' reports and its own due diligence, the executing agency will then submit semiannual environmental monitoring reports to ADB.

11. A grievance redress committee will be set up by the executing agency as soon as the project starts. The committee will convene twice a month and keep record of the grievances, and provide the solution(s) within 30 days from the date of the complaint. All complaint-related documentation, such as minutes of the meeting and decisions, will be summarized and become part of the semiannual monitoring report submitted to ADB. If the grievance is not dealt with, the complainant can seek legal redress in the appropriate courts.

IV. JOINT COFINANCING WITH ISLAMIC DEVELOPMENT BANK

12. The Islamic Development Bank (IDB) will provide \$220 million to cofinance the turnkey package for the Ashuganj 400 MW combined-cycle power plant (East). ADB will finance the gas turbine and generator, and IDB will finance the balance of the plant, design services, and installation works. Since it is not possible to separately procure individual components of this package, procurement will be conducted as one package to be financed jointly by ADB and IDB. To enable such joint procurement, it is proposed to expand country eligibility in this particular case by allowing firms, subcontractors, and sourcing of materials from any country eligible under ADB's Procurement Guidelines and IDB's Guidelines for Procurement of Goods and Works under IDB Financing (2009). Such an expansion of country and source eligibility is required to implement the jointly financed package and would require a procurement eligibility waiver from the Board. In the absence of such a waiver, a jointly financed procurement package will not be possible.

13. Tranche 3 has undergone the applicable business process procedures for subsequent tranches of MFFs. Upon Board approval, the project team will request Management approval of the conversion of a portion of the MFF into financing for tranche 3.

V. RECOMMENDATION

14. The President recommends that the Board

- (i) authorize the conversion of \$205,000,000 into a tranche to finance Tranche 3 of the Power System Expansion and Efficiency Improvement Investment Program in Bangladesh; and
- (ii) approve the proposal set out in para. 12 of this report to permit procurement in nonmember countries of ADB of goods, works, and services produced in nonmember countries of ADB.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=42378-017-MFF> Tranche Report

1. Tranche at a Glance
2. Environmental Impact Assessment