



Report and Recommendation of the President to the Board of Directors

Project Number: 44951-014
November 2014

Proposed Loan Summit Bibiyana II Power Company Limited Bibiyana II Gas Power Project (Bangladesh)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communication Policy 2011.

CURRENCY EQUIVALENTS

(as of 7 November 2014)

Currency unit	–	taka (Tk)
Tk1.00	=	\$0.0129
\$1.00	=	Tk77.39

ABBREVIATIONS

ADB	–	Asian Development Bank
GEE	–	GE Energy
IPP	–	independent power producer
km	–	Kilometer
kV	–	Kilovolt
MW	–	Megawatt
SBIIPCL	–	Summit Bibiyana II Power Company Limited
SIMCL	–	Summit Industrial & Mercantile Corporation (Pvt.) Limited

NOTE

In this report, "\$" refers to US dollars.

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PROJECT AT A GLANCE

1. Basic Data			Project Number: 44951-014	
Project Name	Bibiyana II Gas Power Project	Department /Division	PSOD/PSIF1	
Country	Bangladesh			
2. Sector		Subsector(s)	ADB Financing (\$ million)	
✓ Energy	Conventional energy generation		Total	up to 75.00 up to 75.00
3. Strategic Agenda		Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded		Climate Change impact on the Project	
Environmentally sustainable growth (ESG)	Eco-efficiency		Low	
4. Drivers of Change		Components	Gender Equity and Mainstreaming	
Private sector development (PSD)	Promotion of private sector investment		No gender elements (NGE)	
			✓	
5. Poverty Targeting			Location impact	
Project directly targets poverty	No		Nation-wide	
			High	
6. Safeguard Categorization		Environment: A	Involuntary Resettlement: B	Indigenous Peoples: C
7. Effective Development Cooperation				
Use of country procurement systems		No		
Use of country public financial management systems		No		

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to \$75 million to Summit Bibiyana II Power Company Limited (SBIIPCL) for the Bibiyana II Gas Power Project in Bangladesh.¹

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. In Bangladesh, about 62% of the population had access to electricity as of May 2014.² Many industrial and commercial establishments depend on expensive and inefficient captive power generation (burning diesel or heavy oil) during power interruptions. Bangladesh faces the challenge of increasing access to electricity and removing power-related constraints on economic development. The government has embarked on a program of fast-track measures to develop power generation capacity, including developing new gas supply facilities and dual-fuel and coal-based power plants to generate 15 gigawatts of power capacity by 2016.³

3. The consortium of Summit Industrial & Mercantile Corporation (Pvt.) Limited (SIMCL) and GE Energy (GEE) was awarded the Bibiyana II project in November 2010. After being formally awarded the project, the consortium approached ADB to discuss financing for the project, given ADB's pioneering role and experience in financing the Meghnaghat gas power IPP project, one of the first major private sector IPP projects in Bangladesh, and its strong support for the power sector through sovereign lending.⁴

2. Project Design

4. The project involves design, engineering, construction, and operation of a 341 megawatt (MW) combined-cycle, gas-fired power plant to be located on the south bank of the Khushiyara River about 180 kilometers (km) northeast of Dhaka and 30 km southwest of the town of Sylhet in the district of Habiganj. The project comprises one combined-cycle equipment train and utilizes a single General Electric 9FA combustion turbine generator, coupled to a heat recovery steam generator and a single steam turbine generator, as well as other plant and equipment. Gas will be supplied to the project through an 8.8 km long, 50.8-centimeter high-pressure pipeline from the existing Bibiyana gas field. Power will be evacuated from the power plant by means of 230 kilovolt (kV) or 400 kV transmission lines.

3. The Borrower and Sponsors

5. SBIIPCL is a joint venture between SIMCL (80% ownership) and GEE (20% ownership) (sponsors).

¹ The design and monitoring framework is in Appendix 1.

² Ministry of Power, Energy and Mineral Resources. Power Sector Updates. <http://www.powerdivision.gov.bd/user/brec/85/85>

³ Ministry of Power, Energy and Mineral Resources. Generation Plan. <http://www.powerdivision.gov.bd/user/brec/41/58>

⁴ ADB.2009. *Performance Evaluation Report: Meghnaghat Power Project in Bangladesh*. Manila

6. SIMCL is the holding company of the Summit Group and is owned by the group's founder, Muhammed Aziz Khan, and his family. Since its establishment in 1972, the Summit Group has diversified into areas such as power generation, trading, supplying furnace oil, shipping, storage, inland container depots and freight stations, infrastructure development, and optical fiber networks. The Summit Group is the first local IPP in Bangladesh and the leading local IPP, providing power to the national grid through its subsidiaries. The Summit Group currently operates 10 power projects with total generation capacity of 923 MW, which accounts for around 9% of the total power capacity of Bangladesh as of August 2014. .

7. GEE was established in 2002 and is a wholly owned subsidiary of General Electric Company, the parent company of the General Electric group, through BHA Group Incorporated, a directly wholly owned subsidiary of General Electric. General Electric, established in 1892, is a diversified technology, media, and financial services company. The General Electric group serves customers in more than 100 countries and operates through five segments: energy infrastructure, technology infrastructure, media and entertainment, capital finance, and consumer and industrial. Its energy infrastructure segment produces gas, steam, and aero derivative turbines; generators; combined-cycle systems; and renewable energy solutions, as well as providing water treatment services and equipment. .

B. Development Impacts, Outcome, and Output

1. Impacts

8. The project will help alleviate Bangladesh's severe power shortage that adversely impacts the country's economic growth and poverty reduction efforts. The project has two impacts (i) it will improve access to electricity in Bangladesh which will benefit households, business, and industry and (ii) it will help increase investments by the private sector in power generation in Bangladesh. Successful implementation of the project will foster confidence among potential investors and lenders and will promote further private sector investments in Bangladesh's energy sector, where few major IPPs of this size have materialized since early 2000.

2. Outcome

9. The project outcome is increased combined cycle power generation. The project will dispatch around 2,500 gigawatt-hours of generated power annually and employ about 70 people during operations.⁵ The project will install a combined-cycle power plant with low-carbon-emission technology.

3. Output

10. The output is the construction and successful full-capacity commissioning of 341 MW power plant by 2016. About 900 people are expected to be employed locally during construction. Furthermore, an estimated \$60 million of corporate income taxes are expected to be paid to the government for the entire operating period.

⁵ ADB.2011. *Manual for Calculating Energy Output Indicators*. Manila

C. Alignment with ADB Strategy and Operations

1. Consistency with Strategy 2020 and Country Strategy

11. The project is consistent with ADB's Midterm Review of Strategy 2020, which emphasizes ADB's support for infrastructure projects that contribute to poverty reduction and inclusive growth through expansion of power supply.⁶ The strategy seeks to meet the region's growing energy demand by helping developing member countries to develop their economies using environmentally friendly technologies. The strategy also aims to promote a larger role for the private sector in financing infrastructure.

12. ADB's support for the project is in line with its country partnership strategy for Bangladesh, 2011–2015⁷ and the government's Sixth Five-Year Plan, FY2011–FY2015, both of which emphasize accelerating growth by boosting private sector investment. The country partnership strategy emphasizes solving the power supply shortage and private sector development in the power sector. The project will contribute to the reduction of the power supply gap, which is one of the most critical obstacles to private sector investment, and will improve the investment climate for private-sector-led growth and poverty reduction.

2. Consistency with Energy Sector Strategy

13. The project is in line with ADB's Energy Policy, and is particularly consistent with one of the three pillars of that policy—maximizing access to energy for all.⁸ Access to modern and reliable energy services fosters sustainable human development, economic growth, a higher quality of life, and improved delivery of social services. The project will add generation capacity and help increase the reliability of electricity supplies in a country facing a severe power shortage. Electricity supplied by the project will emit less greenhouse gases than the existing furnace oil power plants or diesel power plants and will be sold at a comparable tariff to those of the other gas power projects, and will not be directly affected by the volatility of the international gas market.

D. Implementation Arrangements

14. Table 3 summarizes the implementation arrangements.

Table 3: Summary of Implementation Arrangements

Aspects	Arrangements
Regulatory framework	<p>Pursuant to the implementation agreement between the government, PGCB, and SBIIPCL the government gives direct support to the project with various commitments, including protection for the project against the risk of changes in law and political force majeure and a guarantee of the respective obligations of SBIIPCL's counterparties to the implementation agreement, PPA, LLA, and GSA (all as defined and described below).</p> <p>Other government commitments in the implementation agreement include assurances of support for government authorizations; various tax and custom duties exemptions; making dollars available in Bangladesh; and the right to open and operate bank accounts and to transfer and repatriate dollar funds.</p>

⁶ ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

⁷ ADB. 2011. *Country Partnership Strategy: Bangladesh, 2011–2015*. Manila.

⁸ ADB. 2009. *Energy Policy*. Manila.

Aspects	Arrangements
Implementation arrangements	<p>SBIIPCL entered into a 22-year take-or-pay PPA with BPDB, the state-owned utility company, as the off-taker. The tariff comprises capacity and energy payments which are adjusted to reflect changes in natural gas price, the dollar exchange rate, and inflation.</p> <p>The term of the GSA mirrors the PPA term. The gas supplier, JGTDSL, a wholly owned subsidiary of Bangladesh Mineral Oil and Gas Corporation (Petrobangla), is liable to pay SBIIPCL liquidated damages if it fails to supply a minimum quantity of gas to the project. PGCB undertakes certain obligations in the implementation agreement, including O&M of interconnection and transmission facilities for the evacuation of power from the project.</p> <p>Under the LLA, BPDB grants SBIIPCL a lease of the project site for the term of the PPA.</p> <p>As noted above, the government guarantees the obligations of the BPDB under the PPA and the LLA, the PGCB under the implementation agreement, and JGTDSL under the GSA.</p>
Management	Summit Industrial & Mercantile Corporation (Pvt.) Limited is a pioneer in private sector power generation in Bangladesh.
Construction period	The construction activities started in December 2012. It is anticipated that single-cycle operation will start in March 2015 and combined-cycle operation in January 2016.
Construction arrangements	
Construction arrangements for the power plant	<p>The EPC of the power plant will be executed under EPC contracts with a consortium of the NEPC, and CEEC on a lump-sum and turnkey basis. The General Electric Company will supply a General Electric 9FA combustion turbine generator.</p> <p>Spare parts will be provided to SBIIPCL by GE Energy Parts pursuant to the Parts Supply and Repair Work Agreement and maintenance services will be provided by General Electric International pursuant to the Maintenance Service Agreement.</p>
EPC contractors	CEEC is a state-owned large energy construction enterprise based in the People's Republic of China owning 14 design institutes and 25 engineering companies. The NEPC is a fully owned subsidiary of CEEC. It was founded in 1951 and has built more than 163 power plants and installed 242 generating units with total installed capacity of 41,607 megawatts.
Construction arrangements for the transmission lines and interconnection facilities	<p>Power will be evacuated from the power plant by means of 230 kV or 400 kV transmission lines. The 230 kV transmission lines already exist.</p> <p>SBIIPCL has entered into a separate construction contract for the construction of 400 kV switchyard bays and interconnecting transformer with Energypac Engineering Limited.</p>
Operation arrangements	
Revenue structure	All power generated from the project will be sold exclusively to the BPDB throughout the 22-year term of the PPA.
Operation and maintenance	O&M of the project will be outsourced. SBIIPCL will select an O&M operator with sufficient technical resources to satisfactorily perform the O&M services for the project.
Performance monitoring	Key performance indicators, including output and outcome indicators, compliance with ADB's safeguards requirements, financial performance, and compliance with financial covenants, will be reported by SBIIPCL and monitored by ADB and other senior lenders.

ADB = Asian Development Bank; BPDB = Bangladesh Power Development Board; CEEC = China Energy Engineering Group Company; EPC = engineering, procurement, and construction; GSA = gas supply agreement; JGTDSL = Jalalabad Gas Transmission and Distribution System Limited; kV = kilovolt; LLA = land lease agreement;; NEPC = First Northeast Electric Power Engineering Company; O&M = operation and maintenance; PGCB = Power Grid Company of Bangladesh; PPA = power purchase agreement; SBIIPCL = Summit Bibiyana II Power Company Limited.

Sources: Summit Bibiyana II Power Company Limited and lenders' technical advisor.

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

15. ADB will provide a secured loan of up to \$75 million to SBIIPCL. The loan will have a term of up to 14.5 years, including a grace period of up to 1.5 years.

B. Value Added by ADB Assistance

16. ADB's active participation and presence in the project will provide comfort to the sponsors that the government and government entities will continue to support the project in line with the project agreements. Given ADB's track record and ongoing engagement with both the government and private investors in the Bangladesh energy sector, including policy dialogue, technical assistance, sovereign loans, reform programs, and the past financing of a key private sector IPP project, investors particularly value ADB's role in mitigating risks, solving problems, and catalyzing financial resources to support private sector power projects in Bangladesh. Moreover, ADB's contribution to promoting robust safeguard practices and good corporate governance will also add substantial value to the development and operation of the project.

17. ADB's assistance is considered important for the successful funding of the project as the long-term financing that ADB will provide is largely unavailable from the commercial market and will help ensure the project has a sound cash flow structure. The long-term financing for the project helps amortize the capital expenditures across the economic life of the assets, and thereby enable the project to operate under the low tariff which will benefit consumers.

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

18. The project is classified category A for environment, category B for involuntary resettlement, and category C for indigenous peoples. The potential environmental and social impacts of the project have been identified and disclosed on ADB's website in accordance with its Safeguard Policy Statement (2009) and effective measures to mitigate the adverse impacts are incorporated in the safeguard reports and plans. SBIIPCL has developed an environment, health, safety, and social compliance audit and a project site social compliance audit, each with a corrective action plan, which were disclosed on ADB's website. SBIIPCL has committed to implement the corrective action plan to fully comply with ADB's Safeguard Policy Statement.

19. The project site is surrounded by farmland without any environmentally sensitive receptors. Natural gas will be supplied from the Bibiyana gas field through an 8.8-km-long, 50.8-centimeter, high-pressure pipeline passing through paddy fields. The electricity will be evacuated to the national grid through existing 230 kV transmission lines or 400 kV transmission lines being built through a substation next to the power plant. A 2-km-long paved access road is being built to connect the project to the Dhaka–Sylhet N2 highway. The environmental impact assessment predicts that air pollutant concentrations, such as nitrogen oxide and effluents to be discharged to the nearby Kushiara River, will meet internationally recognized standards. An environmental management plan has been developed including monitoring plan, implementation arrangements, and budget. SBIIPCL has committed to the implementation of the environmental management plan.

20. Four and a half hectares of agricultural land were acquired in June 2011 by the Bangladesh Power Development Board for the project. There was no physical displacement involved as the majority of the land acquired had been used for paddy cultivation by 14 landowners (affecting the livelihoods of about 120 people) in Parkul village. There were 6 share croppers and 11 agricultural laborers affected by the project. There are no indigenous peoples in the project area. ADB considers that SBIIPCL has the institutional capacity and commitment to manage the project's social and environmental impacts.

21. SBIIPCL will comply with national labor laws and take measures to conform with internationally recognized core labor standards in compliance with ADB's Social Protection Strategy.⁹ Information disclosure and consultations with affected people are required in accordance with ADB's requirements and have been complied with. The project is categorized as having no gender elements. Because of the nature of jobs available and working conditions at the construction site, employment opportunities for women are limited. However, SBIIPCL will ensure that women's needs are considered in the identification of development activities for the local community.

B. Anticorruption Policy

22. SBIIPCL was advised of ADB's policy of implementing best international practice relating to combating corruption, money laundering, and the financing of terrorism. ADB will ensure that the investment documentation includes appropriate provisions prohibiting corruption, money laundering, and the financing of terrorism, and remedies for ADB in the event of noncompliance.

C. Assurances

23. Consistent with the Agreement Establishing the Asian Development Bank, the Government of Bangladesh will be requested to confirm that it has no objection to the proposed assistance to SBIIPCL. ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by the ADB Board of Directors.

V. RECOMMENDATION

24. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of up to \$75,000,000 to Summit Bibiyana II Power Company Limited for the Bibiyana II Gas Power Project in Bangladesh from ADB's ordinary capital resources, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Takehiko Nakao
President

12 November 2014

⁹ ADB. 2003. *Social Protection*. Manila (adopted in 2001).

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impacts Improved access to electricity in Bangladesh</p> <p>Increased investments by the private sector in power generation in Bangladesh</p>	<p>The share of the population which has access to electricity increased from 62% in 2014 to 72% in 2025</p> <p>The number of reported electrical outages in a typical month in Bangladesh reduced from 65 in 2013 to 30 in 2025</p> <p>Private power generation capacity increased from 3,880 MW in 2014 to 8,880 MW in 2025</p>	<p>Ministry of Power, Energy and Mineral Resources</p> <p>IFC enterprise surveys</p> <p>World Development Indicators</p> <p>BPDB; Ministry of Power, Energy and Mineral Resources; and ADB statistics</p>	<p>Assumption Government continues to allow tariffs that provide reasonable returns to private investors</p> <p>Risk Bangladesh is not able to increase its indigenous gas production to sustain incremental gas-fired power capacity</p>
<p>Outcome Increased combined cycle power generation</p>	<p>The gas combined-cycle generation plant dispatches an estimated 2,500 gigawatt-hours of power annually from 2016 onwards</p> <p>70 full time equivalent employees locally employed during combined-cycle operation from 2016 onwards</p> <p>About \$60 million of corporate income taxes paid to the government for the entire project period (2016-2037)</p>	<p>Development effectiveness monitoring reports</p> <p>BPDB and Ministry of Power, Energy and Mineral Resources statistics</p> <p>Audited financial statement</p>	<p>Assumptions Reliable transmission and distribution networks with sufficient capacity to dispatch power</p> <p>Sufficient gas supply from the Bibiyana gas field</p> <p>BPDB continues paying the tariffs as agreed in the Power Purchase Agreement</p> <p>The project operates with expected capacity and performance</p>
<p>Output Construction and operation of a power plant running on indigenous gas</p>	<p>341 MW of additional combined-cycle power capacity commissioned in 2016</p> <p>900 full time equivalent employees locally employed during construction during 2014–2016</p>	<p>Development effectiveness monitoring reports</p> <p>Project construction report and completion certification by lenders' technical advisor</p>	<p>Assumption Timely completion of the project construction as well as associated facilities</p>
<p>Activities with Milestones</p> <ol style="list-style-type: none"> Mobilization of debt from all lenders completed and loan first drawdown made by March 2015 Single-cycle commercial operation by March 2015 Combined-cycle commercial operation by January 2016 			<p>Inputs For the Bibiyana II plant ADB loan of up to \$75 million</p>

ADB = Asian Development Bank, BPDB = Bangladesh Power Development Board, IDB = Islamic Development Bank, IFC = International Finance Corporation, MW = megawatt.

Sources: Summit Bibiyana II Power Company Limited and Asian Development Bank.