

Nov-Dec 2022

CASE STUDY

Total marks: 100

Time allowed: 4:30 hours

Instructions:

1. Check that your question paper contains all the exhibits as mentioned in page 3. The consecutive page numbering may be found under the base line at the foot of each page.
2. Use the answer script provided by the Institute. Write your name, roll no., registration no. and name of the subject on the upper portion of the cover page of the answer script.
3. Candidates are asked not to write any particulars of identification in any other place of the answer script and additional pages if taken.
4. Questions must be answered in English.
5. The answer should be referenced to the relevant workings.
6. Answer script and additional page(s) taken to write answer, used or unused, must not be removed or taken away from the Examination Hall.

Requirements & Marks Allocation:

You are Ziaul Hoque, Manager at Khan Monoj & Co., Chartered Accountants (KMC). You directly report to Partner of the firm, Mr. Monoj Khan FCA. Your firm KMC has been appointed as a consultant of the Ambient Renewable Energy Limited (Ambient). Mr. Monoj Khan, partner of the firm, has received an e-mail from Ambient Managing Director Mr. Moshir Rahman (Exhibit-1). Mr. Monoj Khan has asked you to prepare a report covering all the requirements stated in the e-mail sent by Mr. Moshir Rahman.

Requirements:

You are required to prepare a draft report for Mr. Monoj Khan FCA. Your report should comprise the following elements:

- ❖ An executive summary
- ❖ Your responses to the detailed requirements (a), (b) and (c) set out in Exhibit-1.
- ❖ State clearly any assumptions that you make.

Of the total marks, 10% are included for the relevant discussions of ethical issues within your answer to the requirements.

Marks Allocation:

All of the marks in the Case Study are awarded for the demonstration of professional skills, allocated broadly as follows:

Requirements	Professional Skills					Total
	Assimilating and using information	Structuring Problems and solutions	Applying Judgment	Conclusions and making recommendations	Integrative & multidisciplinary skills	
Executive Summary	3	3	3	3	0	12
Requirement (a) (i)	3	5	4	4	2	18
(ii)	4	4	2	2	0	12
Requirement (b) (i)	4	4	4	4	2	18
(ii)	0	3	3	4	0	10
(iii)	2	2	2	2	2	10
Requirement (c) (i)	2	2	2	4	2	12
(ii)	2	2	2	2	0	8
Total	20	25	22	25	8	100

In planning your report, you should be aware that not attempting one of the requirements, including an executive summary, will have a significantly detrimental effect on your chances of success. In addition, as indicated above, all skills areas will be assessed under each element of your report.

You should be clear that marks are awarded for demonstrating your professional skills, not for reproducing facts from the case. To be successful, you will need to:

- Demonstrate your knowledge of the case material and make use of your analysis.
- Carryout relevant analysis of the problems and structure your proposed solutions.
- Apply your judgment based on the analysis that you have carried out
- Draw conclusions from your analysis and judgment and develop them into practical commercial recommendations.
- Ethical issues may cover the following topic-
 - Lack of professional independence or objectivity
 - Conflict of interest among stakeholders
 - Doubtful accounting or commercial practice or market competition or Market proximity
 - Inappropriate pressure to achieve a reported result.
 - Compliance of local laws and regulations
- Integrative & multidisciplinary skills may cover the following areas-
 - Depletion and wastage of natural resources and its impact on environment and climate change.
 - Impact on pollution, on the public health and productivity and on the national health budget.
 - Social impacts, e.g. social unrest for allowing use of alcohol, bar, etc.
 - Economic impacts, e.g. on employment generation and improvement in connectivity using ICT.

LIST OF EXHIBITS

Exhibit	Description	Page reference
1	E-mail from Mr. Moshir Rahman, Managing Director of Ambient Renewable Energy Limited to Mr. Monoj Khan FCA, Partner, Khan Monoj & Co., Chartered Accountants about confirmation of appointment of Advisory Engagement.	4
2	A brief note on Ambient Renewable Energy Limited and its business operations.	5 - 8
3	Summary and Extracts of Financial Statements of the Ambient Renewable Energy Limited	9 - 10
4	A brief note on Power Sector and Renewable Energy Business Industry in Bangladesh.	11 - 12
5	E-mail from Mrs. Kashfia Alam FCA, Finance Director, Ambient Renewable Energy Limited to Mr. Monoj Khan FCA, Partner, Khan Monoj & Co., Chartered Accountants on reporting and compliance issues.	13
6	E-mail from Mr. Abu Naser, Operations Director, Ambient Renewable Energy Limited to Mr. Monoj Khan FCA, Partner, Khan Monoj & Co., Chartered Accountants regarding strategic investment options and financing alternatives.	14 - 15
7	Environmental, Health and Ethical Issues in Renewable Energy Industry	16
8	News Clips regarding Power Generation & Renewable Energy Industry in Bangladesh	17 - 18

List of persons in the Case and their Roles

SL.	Names	Roles
1	Ziaul Hoque (You)	Manager at KMC
2	Monoj Khan FCA	Partner of KMC
3	Iftekhar Hassan	Chairman of the Board
4	Moshir Rahman	Managing Director at Ambient
5	Abu Naser	Operations Director
6	Kashfia Alam FCA	Finance Director
7	Sarwar Khan	Admin Director
8	Farhan Ahmed	Nominee Director of Phoenix Investments Limited

E-MAIL

From : Mr. Moshir Rahman, Managing Director, Ambient Renewable Energy Limited
To : Mr. Monoj Khan FCA, Partner, Khan Monoj & Co., Chartered Accountants
Subject : Confirmation of appointment for advisory engagement.
Date : 10 November 2022

Dear Mr. Khan,

Congratulations! The Board of Ambient Renewable Energy Limited (Ambient) has voted in favour of appointing your firm Khan Monoj & Co., Chartered Accountants for business advisory services. Your scope of works will include:

- Assess and analyze business operations for formulating business strategies.
- Evaluation of strategic options and viability of financing for investment opportunities considering past performances & prospects of the company and related business issues.
- Assist us in raising funds through initial public offering (IPO) of shares, Issuance of Bond and perform necessary evaluation of investment options, Risk Management, Governance, Due Diligence, Restructuring, etc.
- Review and advise on various Accounting, Tax, financial and internal control related issues of the company.
- Support on various regulatory and secretarial matters as and when solicited.

Board has approved your proposed fee of BDT 4,000,000. Applicable tax and Vat will be charged on this fee. Kindly proceed for finalizing the engagement letter.

We are currently reviewing our current business positions and analyzing available strategic options where we need input from your firm. In this regard, I am sharing a brief note on Ambient Renewable Energy Limited, its operation, and its plans (**Exhibit 2**). I am also sharing the extracts of financial statements of the Ambient for the year ended 31 December 2021 (**Exhibit 3**). For your easy reference I have attached a brief note about Renewable Energy business industry of Bangladesh (**Exhibit 4**) and copy of emails from our Finance Director (**Exhibit 5**) and Operations Director (**Exhibit 6**). Apart from these, please take into consideration the relevant information provided in **Exhibits 7 to 8** for your analysis and to draw your conclusion and recommendations for the requirements stated below.

You are required to prepare a **draft report** for the board which should include an **Executive Summary** and cover:

- (a) (i) Evaluation of financial and non-financial performances of Ambient Renewable Energy Limited and its current financial position considering the required adjustments for reporting and compliance issues stated in **Exhibit-5**.
(ii) Evaluate of the Strengths, Weaknesses, Opportunities, and Threats (SWOT) of Ambient's existing business.
- (b) (i) Identify & critically analyse the strategic options available at the hand of Ambient's board of directors;
(ii) Based on your above analysis in (b)(i) and evaluation in (a)(i) & (a)(ii), recommend to the Board with justification(s), the best investment option to be executed for increasing shareholders' wealth and return.
(iii) Advise the Board on the best option available for financing the selected investment option.
- (c) (i) Assess Sustainability, that is, Human, Social, Economic and Environmental factors concerning Ambient's operations; and
(ii) Comment on the ethical issues of Ambient's business and operations.

State the assumptions used and provide your workings as annexure(s) to the report.

I look forward to receiving your draft report on or before 20 November 2022.

Yours sincerely,

Moshir Rahman

Managing Director, Ambient Renewable Energy Limited

A brief note on Ambient Renewable Energy Limited and its business operations.**Company Background**

Ambient Renewable Energy Limited (Ambient) is engaged in selling and commission of equipment used for generating electricity from renewable sources. Ambient is one of the companies who have patronized power generation from renewable sources.

Ambient was founded by Mr. Iftekhar Hassan, current Chairman of the Board, in 2008 after his return from USA. Mr. Hassan studied from a University at USA where he carried out research work on ‘*Sustainability of Alternative Energy Sources*’. During his research work, he obtained extensive knowledge on various renewable energy sources like Solar power, Wind power, Tidal power, Wave energy, Waste to electric energy, Biogas, Geothermal energy etc. as mean of alternative energy sources.

After completion of his research and study, Mr. Hassan returned to Bangladesh and joined as ‘Consultant & Project Lead’ in a Non-Government Organization (NGO) working on a project called ‘*Renewable Energy for Sustainable Future*’. Purpose of the project was to develop sources and usage of alternative energy to lower dependency of fossil fuel. Project also worked with various government agency in forming government policy on renewable energy usage. After much effort from the project together with various other stakeholders, a renewable energy policy was adopted by Bangladesh government in 2008 where a target was set to generate 10% of the total electricity from renewable energy sources by 2020.

While leading the project, Mr. Hassan had opportunity to work with officials from various government agencies. He used to invite them in various seminars on renewable energy sources where Mr. Khan used to point out the roadblocks restricting the growth of massive use of alternative sources. These enabled Mr. Khan to learn about practicalities and prospects of various renewable energy sources in Bangladesh. He was also able to learn about various business aspects. He found there is growing demand for private use of renewable energy sources e.g., setting up solar panels in residential and office buildings to reduce dependency on government grid. After many thoughts and continuous support from his family members, Mr. Hassan left his job as ‘Consultant & Project Lead’ and founded Ambient Renewable Energy Limited in Dhaka in July 2017.

Ambient started its business by importing solar panels and supplying them to his past employers “*Renewable Energy for Sustainable Future*” project which started to install Solar Panels to individual beneficiaries in remote areas of the country. This helped him to be connected with development of alternative energy and find a fixed client. Eventually he started selling to various companies which were planning to install solar panels to their factories. Although most of the companies installed these solar panels mostly to demonstrate their effort to reduce carbon footprint, gradually they realized that they could reduce electricity bill by using solar energy in non-core production areas. From then on Ambient saw a surge in demand.

At the beginning it was difficult for Ambient to make profit. Ambient relied on heavily on government subsidies and tax relief programs. With time new technology emerged which enabled higher efficiency panels at low cost. With growing demand and availability of low-cost panels, sale of solar panel increased significantly. By 2019, Ambient started to make profit and slowly introduced other products like Solar Charge Controller, Battery, On Grid & Off Grid Inverter, Solar Street Light etc. It also started supplying LED Bulb & Tube, Energy Saving FAN etc. to its customers.

As business grew, various complexity started to arise including need for investment to ensure supply of fund to support the growing business activities. He then invited his friend Mr. Moshir Rahman, current Managing Director, to invest in this company who was then Head of Finance in a large local company. Mr. Rahman saw good growth potential in this sector. In 2018 he acquired 40% shares of Ambient and became a silent investor. Later in 2019, he joined as Director of the company when Ambient was facing various administrative challenges and was preparing for setting up its Solar Panel manufacturing plant in Gazipur. Ambient needed financing for the plant and Mr. Rahman assisted Ambient in documentation and obtaining loan from bank a fresh new equity investment from a venture capitalist.

With Mr. Rahman’s guidance, Ambient cleared administrative challenges and documented most of the operating policies which made business administration smoothers. Later in 2019, Mr. Khan, who led the business so far, took over oversight role as Chairman of the board and transferred responsibility of Business Administration to Mr. Rahman for his experience. Mr. Rahman restructured the business and hired Mr. Abu Naser as Operations Director & Mrs. Kashfia Alam as Finance director of the company.

Key Management

Records of the company shows following persons as member of the board and departmental heads.

Name of the Shareholders	Ownership %	Position at the board
Iftekhhar Hassan	50%	Chairman of the board
Moshiur Rahman	40%	Managing Director & CEO
Phoenix Investments Limited	10%	
Farhan Ahmed	0%	Nominee Director of Phoenix Investments Limited
Abu Naser	0%	Operations Director
Kashfia Alam FCA	0%	Finance Director
Sarwar Khan	0%	Admin Director

Business Model

At present Ambient's primary business activities are divided into three divisions: Equipment Business (EB), Power Generation (PG) and newly formed Energy-as-a-Service (ES). These primary activities are then supported by various business departments like Finance, HR, Admin, Design, Commercial and sourcing department. Combined effort from these primary activities and support activities leads to achieving targeted margin for the company.

Equipment Business (EB):

This is the oldest business division in Ambient. This division is engaged in manufacturing and trading of solar power generation equipment and accessories. It manufactures various equipment like solar panels, Solar Charge Controller, Battery, On Grid & Off Grid Inverter etc. in its factory. It also imports various equipment parts and assemble them to sell in their own name. It also imports complete equipment for customers based on their requirements. Most of the accessories are manufactured either in own plant or outsourced. LED Bulb & Tube, Energy Saving Fan are produced in own factory.

Equipment business division follows both B2C and B2B model. In B2B model, Ambient sales equipment and accessories nationwide to the individual customers like homeowners and small shop owners. Most of these customers does not have access to national grid or trying to reduce their utility bills or ensure availability of lights during loadshedding. As such most of these customers are in remote parts of the country. Although Ambient has recently launched online shop, most of these customers' demands are fulfilled via dealers and agents across nations. These dealers and agents receive commission and incentives based on their sales.

B2B customers are mostly Manufacturing companies, Hospitals and Real Estate developers. These commercial entities install solar panels in their building rooftop of in factory premises. Solar energy helps them by ensuring electricity during power cut and by reducing utility bills. These customers also use them as marketing tool to demonstrate their business/operation/building uses clean energy and taking action to reduce carbon footprint. Most of the sales in Equipment Business are generated from B2B business. These customers purchase enterprise grade equipment in bulk quantities. Ambient's marketing team convinces these customers on benefit of using renewable energy and pursue them to win supply contract.

Power Generation (PG):

In February 2021, Ambient stated construction of a 3 MW solar power plant in Iswardi, Pabna which was financed jointly by Ambient and Phoenix Investments Limited (PIL). Construction of the plant was ended by December 2019 totaling a cost of 360 million Taka. It is expected that the plant will remain useful for 25 years. The power plant can produce 3 MW of electricity per hour. However, production of electricity is dependent on availability of sunlight. In sprint season sunlight are available nearly 6 hours whereas it drops to 3 hours during rainy season. The average annual sun hour in Pabna is 4.5 hours. This means annual production on average is 13.5 MW / 13,500 kw per day.

While converting the produced power from DC to AC via the inverters and other system loss, approximately 20% power are lost and rest 20% are pushed to the national grid as per power supply contract with government. Rate for per kilowatt-hour (1 kw) has been fixed at BDT 15. This contract will remain valid for 20 years when government have option to renew/extend the contract.

As production-supply and revenue per unit is predetermined, annual revenue for next 20 years is virtually certain. Annual maintenance cost is expected to be 1% of the construction cost. Because of fixed revenue and expenses, profitability from Power Generation business is certain.

Energy-as-a-Service (ES):

This is new and smallest business division in Ambient. Under this division Ambient runs a subscription model when customers pay for an energy service without having to make any upfront capital investment. Ambient owns the equipment and accessories which are used to produce electricity. Customers purchase the electricity generated by solar power equipment for at a predetermined rate. Consumers do not have to buy the equipment to get benefit and usage of clean energy. Customers can enjoy newest technology without thinking of high investment and equipment maintenance service.

Future business plan

Ambient is currently closely monitoring progress of business of PG and ES department. ES department is also showing good prospects in terms of demand and revenue. Because of low variability in revenue and cost, Ambient is interested to expand its PG & ES business.

Ambient is also currently planning to introduce equipment and accessories for household and factories. Apart from this, Ambient is also trying to expand business opportunities involving other sources of renewable energy like wind power, Tidal and wave energy.

Under EB division, Ambient has taken steps to introduce new line of energy saving electronic equipment. On this purpose, Ambient is having discussion with a Chinese Electronic Equipment manufacturing company.

Financing strategy

Ambient's current financing sources are mostly retained earnings and borrowings from Phoenix Investments Limited. Also, it has history of issuing equity stocks to finance its projects. It sold shares to Mr. Moshir Rahman and Phoenix Investments Limited to raise finance for its project. Ambient may choose to issue equity in future as well depending on consent of the existing shareholders. However, management plans to finance short term projects with bank loan. They will also emphasize on getting government incentives, loans at below market rate, tax reliefs etc.

Appointment of External Auditors

Ariful Islam & Co., Chartered Accountants (AIC) has been auditing Ambient since its incorporation. AIC and Ambient always had good relationship. Mr. Iftekhar Hassan, Founder of the company and Chairman of the board, met Mr. Ariful Islam, managing partner of AIC when Mr. Hassan was project Head in the NGO. Mr. Arif was auditing the financial statements of the project. When Mr. Hassan left the NGO to form Ambient, he called for help to Mr. Ariful Islam. Mr. Islam helped Mr. Hassan in formation of Ambient Renewable Energy Limited. He also helped Mr. Hassan in developing various business procedures. At the year end, Mr. Arif provided audit service and filing of regulatory returns.

Ambient is currently in process of appointing auditor for the year ended 30 June 2023. AIC has expressed their interest to be reappointed. Mr. Iftekhar Hassan believes AIC has been performing outstanding services and should be reappointed. Furthermore, its audit fee is cheaper as fees remained constant for last 5 years. However, Mr. Farhan Ahmed, Nominee Director of PIL, and Mrs. Kashfia Alam FCA, Finance Director are of the opinion to change the company auditor. Mr. Hassan told them that there is no point of raising cost of audit by changing auditor. He then requested Mr. Moshir Rahman and Mrs. Kashfia Alam FCA to search for a new auditor and authorized Mr. Moshir Rahman to finalize the appointment of new auditor if audit fee cost remains unchanged. Mr. Rahman approached to Mr. Baqi, his first cousin and a partner of Aman Baqi & Co. (ABC), a newly formed Chartered Accountants firm, to audit Ambient. ABC agreed to accept the appointment at the current audit fee level. Mr. Rahman is currently in process of finalizing appointment of Aman Baqi & Co., Chartered Accountants as auditor of the company for the year to be ended on 30 June 2023.

Market Position

Since adoption of renewable energy policy was adopted by Bangladesh government, many company working with renewable energy sources has emerged. Most of these companies preferred working with Solar Energy as this can be easily set up at any place which has sunlight. For the same reason, solar power equipment was readily available. Many companies started importing solar panel and related accessories from China at a cheaper price and selling at high price in the country. However, with time, competition has become intense, much awareness has already created. However, business with other source of renewable energy is almost greenfield. Some companies have started working with Biogas. Also, there are projects being considered by government to build windmill to harness the power from wind. Furthermore, a new technology has emerged which helped to miniaturize the windmills which now can be constructed at building rooftop similar to installation of solar panels.

Business Support Functions

Ambient's business support functions include Finance, HR, Admin, Design, Commercial and sourcing department. These departments are headed by Mr. Abu Naser as Operations Director, Kashfia Alam FCA as Finance Director Sarwar Khan as Admin Director. It is expected that all these support functions departments will work together to enhance shareholders' wealth. However, this is not always the case. There have been allegations that these support functional departments are not cooperative to each other. These departments are not cooperative because job description of these departments is not clearly documented. In absence of clear guidance, employee productivity has decreased significantly. Employees are overworked and asked to perform tasks related to different departments.

In order to maintain proper supply of raw materials or assembly parts for EB business, Commercial & sourcing department identifies suppliers from China. Once suppliers are selected, they notify finance department who arranges for LC opening, issue of purchase orders. Finance department also managing finance against the part or material import process. There were some case that there was no adequate fund available. Furthermore, due to increase in foreign currency exchange rate, purchase cost has increased significantly.

Design team is responsible for researching on new technology and come up with new designs that is manufactured in Ambient's plant. However, there were several cases of design failure which led to increase of wastage in the production process. Neither the design team nor administrative department taken measure to revise the production design and reduce wastage by increasing efficiency.

Environmental and safety policy

Ambient believe that the health and safety of its stakeholders and environment protection is of the utmost importance and take precedence in all its business decisions. For this belief, Ambient:

- Maintains and improves its business practice to minimize health and safety hazards to its stakeholders.
- Complies with all applicable occupational health, safety and environment regulations and legal requirements.
- Encourage employees in maintaining a safe and healthy workplace through periodic reviews of operational procedures, safe methods of work and a safe working environment.
- Develop a culture of safety through active leadership and provide appropriate training at all levels to enable employees to fulfil their health, safety and environment obligations.
- Conserve natural resources by improving efficiency, reducing wastages in its process and promoting usage of solar energy.

Corporate Social responsibility

Ambient's operation supports economic and environmental sustainability by encouraging and promoting use of renewable energy sources. It helps to reduce usage of fossil fuel which in turn reduced carbon footprint. Management of Ambient believes that its operation can be considered as CSR activities. Nevertheless, Ambient has reported following CSR Activities.

- Facilitating production and usage of clean green energy.
- Creating awareness in school & colleges regarding use of renewable energy.
- Improving efficiency in operation and manufacturing process to reduce wastages in production process.
- Donating solar panels to school & colleges in remote areas which doesn't have access to national grid for electricity.

Summary and Extracts of Financial Statements of the Ambient Renewable Energy Limited**Statement of Financial Position**

As of 30 June 2022

Figures in BDT '000

	30-Jun-22	30-Jun-21
Assets		
Non-current Assets		
Property, Plant & Equipment	152,080	158,693
Right of use assets	29,758	33,064
Investments	4,028	4,028
Deferred tax assets	3,029	1,863
	188,895	197,648
Current Assets		
Equipment, Spares & Accessories	40,871	38,198
Inventories	5,885	1,653
Trade & Other receivables	40,465	6,824
Advance, Deposits & Pre-payments	24,179	18,821
Cash & Cash Equivalents	11,028	4,218
	122,428	69,714
	311,323	267,362
Equity & Liabilities		
Shareholders' Equity		
Share Capital	200,000	200,000
Retained Earnings	34,661	5,160
	234,661	205,160
Non-Current Liabilities		
Long term borrowings	10,181	6,619
Lease liabilities	15,481	19,314
Gratuity obligation	17,778	16,907
	43,440	42,840
Current Liabilities		
Short Term Borrowings	2,467	5,670
Trade and other Payables	13,042	6,035
Provisions and other liabilities	10,405	1,593
Income tax payables	7,308	6,064
	33,222	19,362
	311,323	267,362

Statement of Changes in Equity

As of 30 June 2022

Figures in BDT '000

Particulars	Share Capital	Retained Earnings	Total
Balance as on 01 July 2020	200,000	-17,242	182,758
Profit for the year		22,402	22,402
Balance as on 30 June 2021	200,000	5,160	205,160
Profit for the year		29,501	29,501
Balance as on 30 June 2022	200,000	34,661	234,661

Statement of Profit or Loss and Other Comprehensive Income
Ambient Renewable Energy Limited
For the year ended 30 June 2022

Figures in BDT '000

	<u>2022</u>	<u>2021</u>
Sales	491,937	419,682
Less: Cost of Sales	-402,109	-341,156
Gross Profit	89,828	78,526
Less: Operative expenses	-56,002	-51,249
Net operating profit	33,826	27,277
Less: Finance Charges	-1,185	-2,844
Profit before WPPF & Tax	32,641	24,433
Less: Provision for WPPF	-573	-318
Profit before Tax	32,068	24,115
Less: Current Tax Expenses	-3,733	-3,576
Deferred Tax income	1,166	1,863
Profit for the year	29,501	22,402
Other Comprehensive Income	-	-
	<u>29,501</u>	<u>22,402</u>

Notes to the financial statements

Note-01 Revenue

	<u>2022</u>	<u>2021</u>
Equipment Business (EB)	155,349	136,949
Power Generation (PG)	77,674	61,848
Energy as a Service (ES)	258,914	220,885
	<u>491,937</u>	<u>419,682</u>

Note-02 Cost of Revenue

Equipment Business (EB)	124,654	109,170
Power Generation (PG)	56,295	42,644
Energy as a Service (ES)	221,160	189,342
	<u>402,109</u>	<u>341,156</u>

Summary of 5 Year Financial Information

Figures in BDT '000

Significant Line Items	30-Jun-22	30-Jun-21	30-Jun-20	30-Jun-19	30-Jun-18
Revenue	491,937	419,682	345,385	290,123	266,913
Gross profit	89,828	78,526	55,618	51,724	48,518
Net profit	29,501	22,402	2,018	676	-19,936
Share capital (Tk.10 per Share)	200,000	200,000	200,000	200,000	200,000
Total Equity	234,661	205,160	182,758	180,740	180,064
Current Assets	122,428	69,714	59,257	47,406	36,977
Non-Current Assets	188,895	197,648	201,601	205,633	209,746
Current Liabilities	33,222	19,362	37,061	35,208	31,687
Non-Current Liabilities	43,440	42,840	41,039	37,091	34,971
NAV per Share	11.73	10.26	9.14	9.04	9.00
EPS	1.48	1.12	0.10	0.03	-1.00

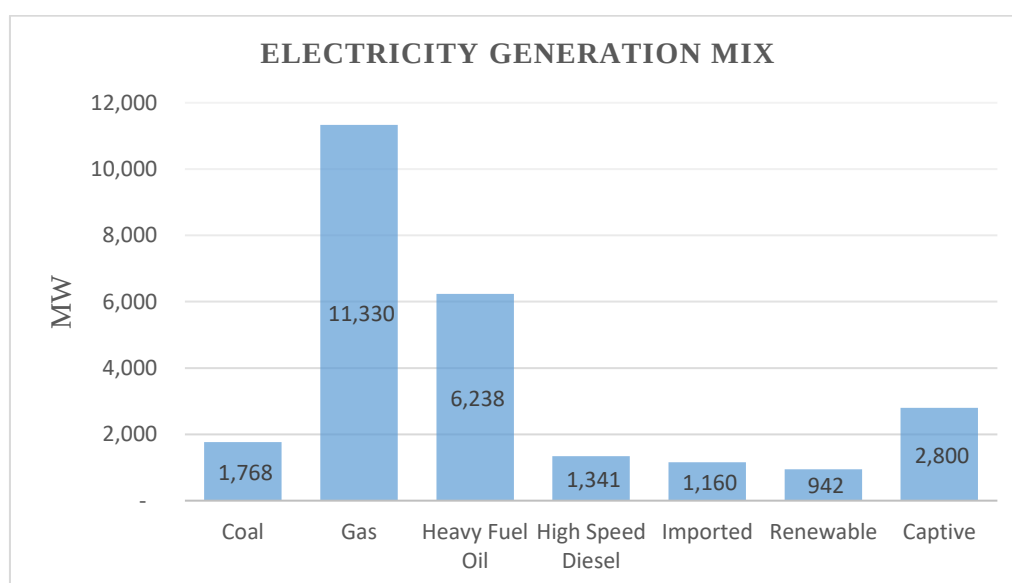
A brief note on Power Sector and Renewable Energy Business Industry in Bangladesh.

Bangladesh is on a path to become a middle-income country and is striving to become a developed nation by 2041. Before the COVID-19 pandemic, forecasts pointed to increasing national demand for electricity resulting from economic and population growth. Bangladesh’s growth needs to be supported by energy security and universal access to high quality, reliable electricity that can fuel economic and social activities.

Bangladesh have made great strides toward these objectives in the last decades. The electricity access rate, one of the lowest in the world in 2000 at 20 percent, increased to 97 percent by 2020. Per capita electricity consumption increased from 110 kWh to 378 kWh during the same period. The power sector has seen the greatest development in the last decade, during which generation capacity has more than tripled, catapulting from deficit to overcapacity. At the same time, electricity system losses have fallen to about 8 percent and system reliability (measured by duration and frequency of outages) has improved substantially.

The Government of Bangladesh began reforming the power sector in the 1990s, a process that still continues today. The biggest push for reforms came in 2000, when the government adopted the Vision Statement and its annexed Policy Statement on Power Sector Reforms that aimed “to provide access to affordable and reliable electricity to all by the year 2025.”

In 2008, the government released the 17-Year Road Map for Power Sector Reform: 2008-2025. Its primary objective was to create an institutional foundation to stimulate the substantial investment needed for economic growth and poverty reduction. This would require restructuring the power sector to improve its efficiency, transparency, and overall governance; facilitate effective and independent regulation; expand competition; and improve the quality of electricity services. Although the plan included specific reform initiatives, progress has slowed in recent years and the road map was never updated.



Transitioning to clean energy would allow Bangladesh to diversify its power mix, reduce the risks associated with the volatile prices of fossil fuels, and decrease the negative environmental impacts of thermal power generation.

Prospects of renewable energy business in Bangladesh

In Bangladesh, energy is a scarce resource. Government has declared single digit interest-based loan for industries which requires energy at an increasing rate. Government support for this industry is spontaneous. They provide as much support as they can from establishment of renewable energy and energy saving sources. Government provides infrastructural support to less developed and remote areas to ensure balanced economic development.

Power crisis due to shortage of input

Since July 2021, the production of natural gases from gas fields has drastically fallen. The government has been importing LNG to make up the gap, but LNG price hikes in the international market in recent months have forced the government to slow down, especially since the country's foreign exchange reserve has also been falling. Consequently, against a demand of 2,252 million cubic feet of gas for power generation, only 1,035 million cubic feet of gas has been supplied to power plants in recent months.

The country does not produce enough gas to operate its power generation plants. Households and commercial establishments in Bangladesh are also heavily dependent on natural gas provided through the gridline. Meanwhile, another important source of electricity generation in Bangladesh, coal-based power plants, are also facing a shortage of raw materials. For instance, a total of 525 MW of electricity can be generated from the three units of the coal-based thermal power plant at Barapukuria; however, only 200 MW of electricity is being generated at present due to a coal shortage.

Way out to overcome the challenges

Establishment of environment friendly renewable energy sources is a national and international demand. Government may adopt policies to create realistic investment environment to ensure sustainable industrial growth and employment creation. Easy access of finance from government and foreign investment are needed for attracting entrepreneurs to invest for renewable energy production.

E-mail from Ambient Finance Director

From : Mrs. Kashfia Alam FCA, Finance Director, Ambient Renewable Energy Limited
To : Mr. Monoj Khan FCA, Partner, Khan Monoj & Co., Chartered Accountants
Subject : Reporting and Compliance issues.
Date : 7 November 2022

Dear Mr. Khan,

Congratulations on your reappointment for the advisory services to the company. I am writing today for your advice on some issues we have been facing. Our current year audit is on-going. Our auditor has completed their audit and raised some issues which need to be incorporated in the draft financial statements in **EXHIBIT-3**. We need your assistance to make corrections in our draft financial statements.

Long-term loan in foreign currency: Long term loans include a foreign loan from CDC US Dollar 100,000 which was incurred for procuring Plant and Equipment. The transaction has been recognized in accounts at the beginning of the year in July-2021 at an exchange rate of Taka 88 per Dollar. At the year-end there was massive devaluation of Taka, at 30th June selling rate of banks to clients was Taka 107 per Dollar. The company, although charged depreciation on the Plant and Equipment on the accounted for value but has not given any effect for this devaluation in the financial statements in **EXHIBIT-3**. The management is asking for your advice to comply with the IAS 16, IAS 21 and IAS 23 in this regard.

Government Supports: During the year Ambient was awarded with cash reward of BDT 1,000,000 from government for its contribution in production of renewable energy. Reward amount will be received next month. We have not considered the government grant while preparing the financial statements. Similarly, Ambient is expecting to receive Duty Draw Back (DDB) of Taka 500,000 in 2022. The DDB are paid after installation of the Plant and Equipment and carrying out due diligence by the National Board of Revenue. The company has not accounted the same as the said DDB has not been received within 30th June 2022. However, it is expected that the DDB fund will be released within December 2022. Management is seeking your advice regarding compliance with **IAS 20-Government Grants** of the International Financial Reporting Standards (IFRS) in these regard.

Interest free loan: At the beginning of the year, we have installed several solar panels to generate power and electricity in Ambient premises. This has been installed with support from IDCOL which is government owned specialized non-bank financial institution for financing renewable infrastructure. IDCOL have lent BDT 5,000,000 for five years without any interest. Loan needs to be repaid at 1,000,000 Taka per year. Management booked this as short-term Borrowings. Your advice is solicited on compliance of IAS 1 and IFRS 9 of the International Financial Reporting Standards (IFRS).

Employee benefits: Ambient Renewable Energy Ltd. have two benefit plans for its permanent employees. The provident fund is contributory by both employees and the employer. The PF is funded, approved by the taxation authority and administered by separate trustee board. Its financial statements are separately audited which shows that there was a balance of Taka 5,000,000 in “Members’ Forfeiture” account. Until last year the balance in Members’ Forfeiture account if there was any, was distributed amongst the PF members. But company auditor has objected to this and opined that the balance of Taka 5,000,000 has to be transferred to the company account and recognized as other income of the company. The Gratuity scheme is not funded and not approved by taxation authority. The company is keeping provisions at a rate of one-month basic salary for all permanent employees. But the auditor has commented that Gratuity obligations are under provided to the extent of Taka 3,000,000 because as per amended Labor Law 2006 for employees having more than 15 years’ service length with the company provisioning rate shall be 50% higher. Also the auditor has advised the company to get the Gratuity scheme approved from the taxation authority to get the tax benefits against Gratuity provisions. The company seeks your advice to comply with the laws.

Tax disputes: the company calculated the current tax provisions on the basis of minimum tax payable under section 82C of ITO 1984 and considered the deferred tax income expecting the due credits and refund of excess tax deducted at sources (TDSs). The auditor observed that in reality excess TDSs are not refunded and assessments are usually completed covering the TDSs. Therefore, deferred tax provisions are not applicable for the company and current tax provisions has been understated to the extent of the amount the company considered as deferred tax income and deferred tax assets. Your advice is sought for compliance of laws, IFRSs as well as protection of company interests in this regard.

E-Mail from Operations Director of Ambient Renewable Energy Limited

From : Mr. Abu Naser, Operations Director, Ambient Renewable Energy Limited
To : Mr. Monoj Khan FCA, Partner, Khan Monoj & Co., Chartered Accountants
Subject : Strategic investment options and financing alternatives.
Date : 5 November 2022

Dear Mr. Khan,

We are currently considering following strategic options to implement where we need your input. Board of Ambient is now considering following options. First, expansion of PG business involving renewable energy from wind power; and secondly, setting up an equipment manufacturing plant under EB Division. Board is expecting your advice on the on evaluation of investment and financing options independently.

Strategic Options under consideration.

Board requires that, for apprising the investment options, the discount rate be determined considering applying Capital Asset Pricing Model (CAPM). We have been informed that the Bangladesh 10 Years Government Bond has an 7% yield which is considered risk free. The expected beta (β) for Ambient is 1.2. Beta measures the volatility of a security compared to market risk as a whole. The average expected market return from the investments in securities similar to Ambient (comprising of dividend and capital gain yield) is 12% per annum.

Investment option 1:

Expansion of PG business involving renewable energy from wind power: Ambient management has discussed with a Dutch counterpart to set a wind mills in Patuakhali on a turnkey basis for producing 100 megawatt power (i.e. 876 million KW per annum). The cost for the wind mills has been quoted at US Dollar 1,000,000. The exchange rate is estimated to be Taka 110 per Dollar at the time of execution of the contract. Additional Taka 40,000,000 will be required for civil (50%) and mechanical (30%) works and purchase of vehicles (20%) for the project. The management expects that they can sell power at Taka 15 per kilowatt. Management estimated that maintenance costs will be Taka 250,000 per month and life cycle for the wind mills and all other related capital costs will be 10 years.

Investment option 2:

Setting up an equipment manufacturing plant under EB Division: Ambient is planning to introduce equipment and accessories for energy saving electronic equipment like LED bulb and tube, energy saving fans etc. Management estimates that Taka 150,000,000 will be required for this purpose. For feasibility study purpose the manufacturing plant will have life cycle of 10 years if maintained regularly and will able generate Taka 4,000,000 against incurring Taka 900,000 per month.

Determining the financing options.

Ambient management forecasts that it can manage finance for 150,000,000 which will be required for financing selected the project from the above two investment options. Board is discussed about following two financing options but could not reach to conclusion which will incur lesser cost of finance.

Option 1: Financing through bank loan

The management consulted with the existing bankers to get a bank loan for the 150,000,000 at the interest rate of 9 percent per annum. Repayment of bank loan has to be made in equal yearly instalment in 10 years. However, 1% delinquent charge over offered interest rate will be added on the overdue installments, if there is any. The Company thinks it will be more appropriate to consider the delayed payment in calculation in view of its liquidity constraints.

As part of the loan terms and conditions, bank will nominate two of their representatives in the Board. Each of these representatives will be paid board meeting attendance fee at BDT 10,000 per meeting. Ambient shall have to hold quarterly board meeting and submit quarterly financial statements including cash flows both direct and indirect method. Further, personal guaranty of shareholder directors will be required for availing the loan to the lender. If company incur loss, shareholders will have to pay outstanding interest and installment from their own source. Bank also requested a 'No Objection Certificate (NOC)' from the existing lenders regarding creating its priority charge over the assets of the company. If NOC cannot be provided to the bank, additional 2% 'risk premium' will be applicable on the outstanding loan amount. Ambient requested NOC from existing lenders but they refused to issue the same for creating the priority charge over the assets of the company.

Option 2: Qualified Investor Offer (QIO) of Shares

Small and medium enterprises (SMEs) can now raise funds from the capital market as part of a strategic partnership between SME Foundation and the Dhaka Stock Exchange (DSE). As per the rules, the SMEs will be allowed to collect a maximum of Tk 300 million from the stock market, officials concerned have said. It will be listed with the Stock Exchanges and raise capital through the Qualified Investor Offer (QIO).

The company expects to raise fund through QIO in 2022 at 50% premium subject to approval of Bangladesh Securities & Exchange Commission (BSEC). BSEC consider the NAV, EPS and sectoral Market PE ratio, etc. while approving the premium rate. The market capitalization of all securities listed in DSE Ltd. as on August 2022 was Tk. 5,439,922 million and market P/E Ratio for all listed securities is 16.15, whereas sectoral Market Capitalization was Tk. 254,024 million and sector's Price earnings (P/E) ratio was 23.18. Market price and EPSs of other comparable companies of the sector were as follows:

SL	Company	Face Value (BDT)	NAV (BDT) June 2022	Market Price (6-month average till June 2022) (BDT)	EPS on June 2022 (BDT)
1.	Pacific Electronics Industries Limited	10	22	30	2.36
2.	Rana Electronics Manufacturing Co. Ltd.	10	20	25	2.73
3.	Transcom Electronics Limited	10	8	10	0.10
4.	Energy Saving Ltd.	10	15	16	0.74
5.	Now and then Electronics Limited	10	7	7	0.07

Ambient is planning to raise 150,000,000 by offering 10,000,000 shares of Taka 10 each. Entire proceed for QIO will be used for financing the selected investment project. During initial 5 years, no new bank loan can be availed without the consent of new shareholders and the BSEC. If additional fund is required for expansion or selection of new project, fund must be raised through right share at face value during this period.

Board is not sure whether expected 50% premium is justifiable to get BSEC's approval. DSE Listing Rules require that the listed company shall follow BSEC code of corporate governance which includes submission of quarterly financial statements and induction of at least one or one fifth of the board as independent directors. Further, board need to introduce different committees including an audit committee headed by an independent director. The independent director shall be entitled to receive board attendance fee for participating in the board and committee meetings at the rate of Tk. 10,000 per meeting. Usually, board and audit committee meetings are mandatory before submission of quarterly and annual financial statements.

Table for Present Value Interest Factor Schedule

Year / Rate	1	2	3	4	5	6	7	8	9	10
8%	0.9259	0.8573	0.7938	0.7350	0.6806	0.6302	0.5835	0.5403	0.5002	0.4632
9%	0.9174	0.8417	0.7722	0.7084	0.6499	0.5963	0.5470	0.5019	0.4604	0.4224
10%	0.9091	0.8264	0.7513	0.6830	0.6209	0.5645	0.5132	0.4665	0.4241	0.3855
11%	0.9009	0.8116	0.7312	0.6587	0.5935	0.5346	0.4817	0.4339	0.3909	0.3522
12%	0.8929	0.7972	0.7118	0.6355	0.5674	0.5066	0.4523	0.4039	0.3606	0.3220
13%	0.8850	0.7831	0.6931	0.6133	0.5428	0.4803	0.4251	0.3762	0.3329	0.2946
14%	0.8772	0.7695	0.6750	0.5921	0.5194	0.4556	0.3996	0.3506	0.3075	0.2697
15%	0.8696	0.7561	0.6575	0.5718	0.4972	0.4323	0.3759	0.3269	0.2843	0.2472
16%	0.8621	0.7432	0.6407	0.5523	0.4761	0.4104	0.3538	0.3050	0.2630	0.2267
17%	0.8547	0.7305	0.6244	0.5337	0.4561	0.3898	0.3332	0.2848	0.2434	0.2080
18%	0.8475	0.7182	0.6086	0.5158	0.4371	0.3704	0.3139	0.2660	0.2255	0.1911
19%	0.8403	0.7062	0.5934	0.4987	0.4190	0.3521	0.2959	0.2487	0.2090	0.1756
20%	0.8333	0.6944	0.5787	0.4823	0.4019	0.3349	0.2791	0.2326	0.1938	0.1615

Environmental, Health and Ethical Issues in Renewable Energy Industry

Renewable energy sources like Solar power are considered to be safest for the environment and viewed as producers of “clean energy” or “Green Energy”. Because of this, demand for renewable energy is surging and new renewable energy plant like solar power plant is being established. One of the main components of solar energy infrastructure is a processed form of silicon called polysilicon. The mines that produce polysilicon and other key materials needed for solar infrastructure are in countries without stringent environmental and labor standards.

The waste from mining raw materials or manufacturing these energy technologies is occurring in countries that are either too poor or environmentally negligent or both. Economic incentives are driving large multi-national corporations to meet exploding global demand by using expedient methods to mine, refine, build and transport these energy technologies with little regard for the wellbeing of the poor indigenous populations that do all the dirty work to support this industry. These poor people are being employed by the same industries that are slowly poisoning them in their own communities with silicon tetrachloride, cadmium telluride, silane gas, hydrofluoric acid, and low-level radioactive waste. At present there is not regulatory pressure or financial incentive to manage waste from raw materials in renewable energy technology.

The hazards renewable energy workers encounter are often universal issues that people in similar fields experience. Clean power alternatives have specific challenges that increase safety risks for operators and mechanics. Operators in renewable energy plants can encounter confined spaces. Because some energy sources contain hazardous chemicals and gases in the production phase, workers need to take the proper precautions to avoid injury. It's also important to be careful during manufacturing.

Renewable energy features unique equipment and tools. For example, solar energy requires an array of photovoltaic modules to source power. Installation of these equipment requires specific knowledge and workers must need to know how to install them. Any misuses of the machineries can expose themselves to safety risks. However, it is common that solar energy companies do not provide proper training to the people who installs the equipment.

All energy sources have some impact on our environment. Fossil fuels like coal, oil, and natural gas etc. do substantially more harm than renewable energy sources by most measures, including air and water pollution, damage to public health, wildlife and habitat loss, water use, land use, and global warming emissions. However, renewable sources such as wind, solar, geothermal, biomass, and hydropower also have environmental impacts, some of which are significant.

Harnessing power from the wind and Sun Are one of the cleanest and most sustainable ways to generate electricity as it produces no toxic pollution or global warming emissions. However, these technologies require huge amount of land and challenges to wildlife and habitat. Biomass power plants share some similarities with fossil fuel power plants: both involve the combustion of a feedstock to generate electricity. Thus, biomass plants raise similar, but not identical, concerns about air emissions and water use as fossil fuel plants. Hydroelectric power technology, another source of renewable energy, may affect aquatic ecology and its animals.

Understanding that the energy industry plays a crucial role in reducing the environmental impact of its operations is more critical today than it has ever been. By adopting an effective environment, social, and governance (ESG) model, industrial operators can ensure they minimize harm to the natural environment while striving to optimize their productivity. Renewable energy sources like wind, solar, geothermal, biofuels, are clean sources of power that can be replenished indefinitely due to their infinite supply. Power companies serious about a sustainable and environment-friendly manufacturing future are increasing the fraction of their outputs obtained from renewables. Utilizing renewable energy as an ESG strategy is an excellent way to comply with industry emission standards.

Ambient has been working toward conducting business complying all relevant regulations and environmental concerns. However, there have been several allegations against the company Ambient has forcibly removed local inhabitants while constructing its solar power plants. It has provided minimal compensation which was not sufficient for sufferers to acquire new land and building houses.

News Clips regarding Power Generation & Renewable Energy Industry in Bangladesh**Renewable energy business: A Promising Sector in Bangladesh**

22 July 2022 on The Daily Star

Recently, the government has given the highest priority to the improvement of the energy business. In this context, the government has shifted its concentration from commercial sources of energy i.e., fossil fuel, to renewable energy, in order to speed up the use of renewable energy (RE) sources such as solar, wind, biomass, biogas, biofuels, hydro, geothermal, tidal wave, etc. Therefore, Bangladesh adopted Renewable Energy Policy 2008 to offer lower operating costs and show its commitment to the direction of climate change improvement by encouraging more production of RE in the country.

Besides, this policy offers to provide subsidies and tax incentives to attract more investment in this sector. Strong legal and policy frameworks, institutional capacity, technological development, financial strength, and skilled human resources are required to ensure an appropriate business environment in this sector.

Country's big leap in wind energy

21 July 2022 on The Business Standard

When the country is reeling from load shedding and production cuts in industries due to short supply of imported fuel, there is a small but significant development in the country: the national grid is likely to get an additional 60 megawatts of green power in December this year as the country's maiden large-scale wind-powered power plant is set to go into production in that month. This power plant being built in Cox's Bazar will have an impact with its 60-megawatt capacity. The biggest advantage for Bangladesh from this green power project would be that it would not have to depend on any imported fossil fuel but only year-round natural wind to generate this power.

The 724km long coastal region of the country is suitable for wind power generation as there is significant wind power generation potential, according to a report of energytrackerasia, a renewable energy advocacy group. Bangladesh has vast potential to exploit this renewable energy source, which still remains untapped.

Solar power investors face land crisis

13 February 2022 on The New Age

Sustainable and Renewable Energy Development Authority (SERDA) figures show that the government has undertaken a total of 47 grid-connected large solar power projects in the past 10 years. But so far, only seven of them have been implemented. SERDA officials said that any solar power plant would require three times more land than the conventional power projects, but undisputed land seems to have become a scarce resource in Bangladesh these days. In the past few years, many local and foreign investors have expressed interest in setting up green power plants. Even after getting an approval, several of them have not been able to acquire land for their dream projects. This is gradually turning out to be a major hindrance to setting up green power projects in this country.

Bangladeshi industries explore renewables as power crisis emerges

26 Sep 2022 on www.news.mongabay.com

An ongoing power crisis in Bangladesh – prompted by a gas shortage – is encouraging Bangladeshi industries to slowly transition to renewable energy sources such as solar power. Although Bangladesh achieved 100% access to electricity for all people in March 2022, dwindling gas reserves, alongside a jump in global prices of Liquefied Natural Gas (LNG), have forced the Bangladesh government to resort to power load-shedding. Because of this, industries are operating at much below than standard capacity. Some of them have set up captive power stations inside their factories which is run by diesel. However, this is very expensive. Increase in fuel price now increase expense further. Many factories are now trying to set up their own solar plants to avoid dependence on fossil fuel-based power. However, due to heavy investment and space and thus only large factories at present can afford to install Solar energy equipment.

Government is working to mitigate the challenges

20 July 2022 on The Daily Star

Bangladesh has limited scale power to run the current huge-scale development projects in accordance with the national development scheme. Production expenses of renewables in Bangladesh are usually higher compared to the cost of fossil fuels. In the 7th Five Year Plan, the government set targets for developing RE resources to meet 10% of the total power demand by 2020 but it achieved only around 3% of the total energy. The government has also set the ambitious target of 20% of total power demand by 2025 in the 8th Five-year plan. To achieve the target, there are legal, technological, institutional, and economic challenges with regard to renewables in Bangladesh, such as excessive cost to set up RE plants, and grid constraints (overcapacity in some regions). The government is working hard to mitigate the challenges through effective institutional coordination and comprehensive policy initiatives on and about economic, social, and environmental sustainability in the RE business context.

Coastal belt holds wind power prospects

21 Nov 2018 on The Daily Star

Bangladesh's southern coastal belt offers potential for generating power through wind, according to a recently published study by the US Department of Energy's National Renewable Energy Laboratory, raising hopes of meeting the government's renewable energy goals. The study, carried out on behalf of the power division, found that coastal areas of Khulna, Barishal and Chattogram divisions have more than 6 meters per second (m/s) wind speed at 120-metre height, sufficient for generating electricity from wind turbines. For wind speeds of 5.75-7.75 m/s, there are more than 20,000 square kilometers of land with a gross wind potential of more than 30,000MW, according to the study.

Renewable energy development and sustainable project financing

22 Aug 2021 on The Financial Express

In line with the government policies, various projects have been promoted both in public and private sectors to add off-grid and grid connected power based on renewable energy sources (mainly solar and wind). Bangladesh Bank, the Central Bank of the country has announced in December 2020 its sustainable finance policy for lenders and made it mandatory for 2 per cent all the loans by the banks and other financial institutions for devoting to renewable energy facilities and 'green projects'. The Central Bank further announced that the achievements of the banks and financial institutions in 'green banking and sustainable financing' would be taken into consideration in their rating.

Bangladesh receives \$200 million loan to develop renewable energy

8 May 2022 from The Solar Energy International

Bangladesh has got a long-term credit facility of \$200 million from the Asian Infrastructure Investment Bank (AIIB). To develop a range of infrastructure project top of which stands renewable energy expansion in the country. The renewable energy and electricity infrastructure improvement is to ensure optimal power supplies throughout Bangladesh. State owned investor of Bangladesh called Infrastructure Development Co. Limited (IDCOL) will receive the loan amount from Bangladesh Government to offer low-cost loans to renewable energy developers. IDCOL offers financing for the development of renewable energy, energy efficiency, and social infrastructure projects.

Load shedding could be up to 8 hours

16 Oct 2022 from Daily Prothom Alo

The government on 18 July announced to implement countrywide load shedding due to power crisis. Following the announcement, the planned area wise load shedding began on 19 July. The government said the load shedding time would decrease by October but that did not happen. Rather, the time of load shedding has increased. Sources in the power division said they had carried out the highest 2000MW to 2200MW load shedding on average in a day from July to September across the country. Now it has increased to 2500-3000MW, which is the highest in the last three months. Most of the areas in Dhaka will continue to experience three-four hours of power cut every day. But some areas it might extend up to eight hours.

-----End-----