# FINANCIAL MANAGEMENT ASSESSMENT

## I. INTRODUCTION

1. This financial management assessment (FMA) is prepared for the proposed Golovnaya 240MW Hydro Power Plant Rehabilitation Project in accordance with ADB's "Financial Management and Analysis of Projects" (2005) and "Financial Due Diligence - A Methodology Note'' (January 2009).[1] It builds on previous FMAs undertaken by ADB and other international financial institutions, avoiding duplicating diagnostic work that already exists.[2]

2. The next section provides the result of financial management assessment related to the Joint-Stock Company Barki Tojik (BT), the project executing agency (EA). Section 3 focuses on the analysis of BT's historical financial performance. The financial projection of BT is summarized in Section 4. Section 5 summarizes the conclusions and recommendations of the FMA. The updated FMA Questionnaire is in Annex 1.

## II. FINANCIAL MANAGEMENT ASSESSMENT

### A. Country Level Institutional Framework

#### 1. Accounting Standards

3. Tajikistan adopts International Financial Reporting Standards (IFRS) as the national accounting standards for public entities. According to the President's Decree #702 of 25 March 2011, a new Law of Accounting was issued requiring public entities to follow international accounting and reporting standards. This Law replaced the previous version of the Law of Accounting issued on 14 May 1999 (#750). The accounting and financial reporting requirements are defined by Decree 428 of 04 November 2002 "*International Financial Reporting Standards"* and Decree 231 of 02 May 2010 "*Additional arrangements for implementation of IFRS in RT",* issued by the Government of the Republic of Tajikistan. All public entities in the RT are required to implement IFRS as set out in these two statutory documents.

4. The Ministry of Finance (MoF) issued Instruction #68 dated 27 May 2004 "*Methodical recommendations for transfer of accounting to IFRS*". This instruction provided a standard Chart of Accounts and a standard set of Financial Statements that are implied to be in accordance with IFRS and that all public entities are obliged to follow.

5. In addition, the MoF issued two further instructions on 27 May 2011: (i) Instruction #41 "*Chart of Accounts and Instruction of use of the Chart of Accounts*" and (ii) Instruction #42 "*Instruction about order of completion of financial statements prepared in accordance with National and International Financial Reporting Standards*". Although the instructions refer to national and international reporting standards, they only provide one format for financial statements and one Chart of Accounts. Therefore, national accounting and reporting standards reflect IFRS.

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[1] The original FMA was prepared by Ministry of Energy and Industry (MOEI) Consultant under G0213-TAJ Regional Power Transmission Project, and revised by revised by ADB staff.

[2] FMA prepared for G0213-TAJ Regional Power Transmission Project (2010). World Bank, "Report on the observance of standards and codes (ROSC) Republic of Tajikistan: Accounting and Auditing", 2009. Washington D.C.

### 2. Auditing Standards

6. Auditing in Tajikistan is regulated by the Audit Law (2006).[3] It defines among others audit activities, licensing and certification procedures, and entities subject to annual audits. MoF is the authority to provide auditors with certification and license.

7. With respect to internal audit, on 21 July 2010, the Parliament of the Republic of Tajikistan enacted two laws governing auditing and audit related requirements for all entities in the public sector: "*Law on Financial Management & Internal Control*" (Presidential Decree #626) and the "*Law on Internal Audit*" (Presidential Decree #631). Under these laws, public entities are required to establish internal audit functions and, in principle, both laws say that public sector entities should follow International Standards on Auditing (ISA).

## B. Institutional Considerations for the Project

8. BT is a 100% state-owned company responsible for power generation, transmission, and distribution in Tajikistan. It was established in its present state by resolution of the Government of Tajikistan on October 31, 2008. Previously, it had been a department within the Ministry of Energy. The company is incorporated as an Open Joint Stock Holding Company. As a holding company, it has about 30 subsidiary reporting units.

9. BT itself is separated into five Divisions, each headed by a Deputy Chairman who reports to the Chairman of the company. Although each Division comprises many diverse reporting units, their general areas of responsibility include: (i) generation and transmission, (ii) distribution (in two Divisions) and (iii) various administrative and support functions (in two Divisions).

10. Thus, BT's organization structure offers neither clear business focus nor a clear separation of roles and responsibilities. As well, the structure must be changed to incorporate the Government's order to establish three separate business units for the generation, transmission and distribution functions. Despite a number of recommendations for BT to introduce a more effective organisational structure, including Government Decree, its structure has changed very little since 2007 till 2011. In 2011 the Presidential decree endorsed the individual restructuring plan for Barki Tojik prepared based on ADB recommendations. In May 2012 the Supervisory Board (chaired by the First Deputy Prime Minister) established to supervise restructuring. The first Supervisory Board meeting, held on 11 June 2013, approved new organizational structure of BT, thus giving the basis for moving forward with significant organizational improvements.[4]

11. BT's staffing of accounting and finance functions is currently under review. Recommended accounting staff, titles, responsibilities, job descriptions, etc., are dependent on approval of an organisation structure that will become more clearly defined over the next few months. BT's present job classification system needs improving through the preparation of more appropriate and complete job descriptions. Presently, BT does not have a finance unit or specialists in this area. There are no staffs with financial backgrounds - academically or with practical experience. The accounting and reporting functions need to be properly realigned in

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[3] The Audit Law was renewed in July 2013, however, at the time of FMA preparation, it was not available.
[4] This is supported by MOEI consultant for Sector Operational Performance Improvement Program under G0213-TAJ.

keeping with modern requirements and staffed with appropriately trained and experienced persons.

12. Within BT's current organizational structure, the Accounting Department reports directly to the Chairman. The auditor's management letter of 2007 recommended that the BT's financial function be reorganised and that financial functions, including the Accounting Department, be consolidated under the control of the Deputy Chairman of Economics and Finance. The need for Accounting Department to report to the Deputy Chairman for Economic and Finance was also highlighted in previous ADB technical assistance.[5] This structure would create a better relationship between accounting and reporting, planning and budgeting, and analysis functions. Also, it would decrease the distortion of financial data provided in the different reports and increase the speed of data flows between departments.

13. Another recommendation is the removal of the treasury function from the Accounting Department and the creation of a new Treasury Department with its own staff, management and responsibilities. At present, the treasury function is performed by the Accounting Department under the direct supervision of the Chief Accountant. Given the importance of this function, notably cash management and control, it has been recommended that it directly reports to the Deputy Chairman for Economic and Finance, who, in turn, reports to BT's Chairman.

14. The project will be administered by the project management unit (PMU), a specialized unit established for project management of IFI funded projects. PMU has successfully been involved in implementing several projects over the past few years, including, among others, projects funded by ADB, World Bank, EximBank, Islamic Development Bank, Kuwait Fund, KfW, OFID and the Swiss Government. Still, training to PMU staff on ADB procedures may be appropriate, as well as the enhancement of accounting expertise within the PMU.

## C. Funds Flow Arrangement

15. All payments for the turnkey contract and consulting services will be in accordance with the direct payment and letter of commitment procedures in accordance with ADB's *Disbursement Handbook* (2012 or as amended from time to time). No imprest account or the use of statement of expenditure procedure is envisaged. The proposed flow mechanisms under the direct payment procedure are illustrated below in Figure 1.

[5] ADB. A4908-TAJ. 2006. Strengthening Corporate management of Barki Tajik.

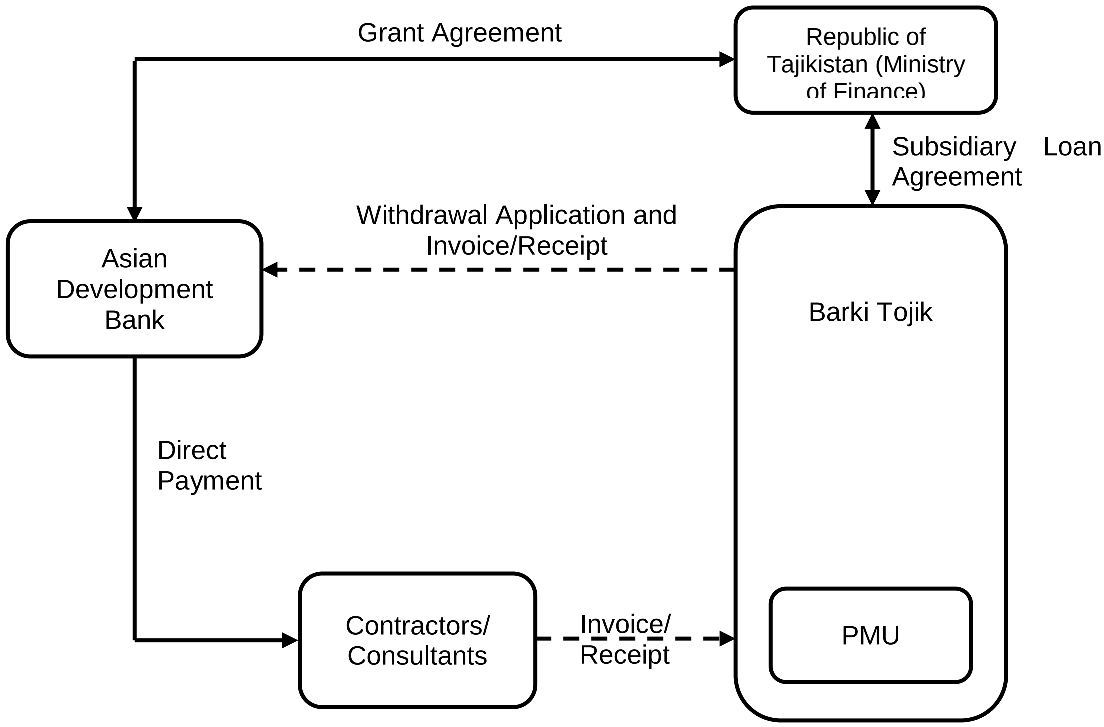


**Figure 1: Funds Flow Arrangement**

16. The loan for the project will be reported as part of long-term debt on the balance sheet of BT's financial accounts. The physical assets will be included as a part of fixed assets on BT's balance sheet, with these assets initially entering as work-in-progress prior to finalization of construction works, when they will be reclassified as fixed assets.

## D. Accounting Policies and Procedures

17. Since 2001, BT has engaged an external professional auditor to audit its IFRS corporate financial statements. However, the auditor has issued a denial of opinion for each of the past six years due primarily to the inability of obtaining sufficient audit evidence to support the expression of an opinion on BT's corporate IFRS financial statements. Thus, it appears that the capacity of BT is somewhat limited in producing and analyzing information in compliance with IFRS. No formal training program exists within BT. The central training centre established under a previous ADB project was closed several years ago. The accounting and financial staff have received preliminary in house training in IFRS. Training in accounting policy and the appropriate use of a new chart of accounts is essentially based on the issuance of the Accounting Policy document, other directives by head office and responses to questions. Several subsidiary accountants have reported that they receive very little support from the head office facility.

18. During the past several years, BT has made a number of efforts in implementing IFRS principles, the latest and most promising were those taken during the past 2 years. The Chief Accountant has advised that once the planned training program is completed at the subsidiaries, IFRS will have been fully implemented across BT by 31 December 2014.

19. The notion of national accounting standards has really gone by the wayside since, by Government Decree, all public entities are required to implement IFRS. One can therefore say that IFRS (and the underlying Framework and IAS) is the national standard. Financial reporting required by various Governmental Ministries and Commissions (especially the taxing authorities) has been slow to incorporate IFRS (they have their own reporting formats and rules regarding composition of data).

20. BT uses both National and International Accounting Standards. Generally, the accrual basis of accounting is followed. In the past, external auditors have noted that not all of BT's subsidiary reporting units followed the accrual method in terms of accruing of expenses.

21. The new Chart of Accounts and Accounting Policy issued in 2011 sets out policies and procedures to guide activities and to ensure staff accountability. However, considerable training of subsidiary accounting staff is required to ensure appropriate compliance and implementation. Difficulties include: lack of policies and procedures concerning the write-off of uncollectible accounts receivable, accurate calculation and recognition of technical and commercial losses in the transmission and distribution of power, provision for bad and doubtful debts, write-off of obsolete fixed assets, calculation of asset impairment provisions and, valuation of property, plant and equipment.

22. Generally, procedures do exist to ensure that only authorized persons can alter or establish a new accounting principle, policy or procedure to be used by BT, but improvements need to be made in governance procedures. BT's Charter and Regulation Regarding Internal Control and Regulation Regarding Internal Audit provide policies and procedures that clearly define conflict of interest and related party transactions and also provide safeguards to protect BT from such possibilities. However, it is doubtful that a review of BT's activities and functions performed by senior and middle management takes place. The above Regulations have been distributed to the various reporting units but no (or little) instructions/interpretations have been provided. It is doubtful that such Regulations have been distributed to BT's central senior management.

## E. Internal Audit

23. In 2011 and 2012, BT developed a new internal audit policy as well as "*Regulations on Internal Control"* and "*Regulations on Internal Auditing",* setting out appropriate policies and procedures. Although these were positive actions, they are insufficient in themselves in addressing the concerns expressed, for example, by the external auditors relating to internal control deficiencies and the availability of auditable documentation.

24. BT's Charter includes a provision for the creation of an Audit Committee with responsibility for control over the financial and economic activities of BT. BT's reporting units are required to implement changes recommended by the audit staff within a designated time and to report such actions taken. Although an Audit Committee has not been created, an Internal Audit Department, reporting to BT's Chairman, was established in late 2008. However, in 2010, it became a unit within the central accounting department, reporting to the Chief Accountant, as well as the Chairman. This meant a loss of independence for the internal auditors, as one of their roles is oversight of the financial activities of BT and its reporting systems. This development, coupled with the reduction in staff numbers from 10 to 5, significantly reduced the capacity of the internal audit.

25. The following internal audit objectives are either not currently being pursued or are being paid minimal attention: (i) effectiveness of the IFRS implementation or training of accountants; (ii) documentation, review and assessment of a companywide internal control system; (iii) reviews and assessment of BT's overall operational and financial performance; (iv) identification and review of corporate objectives and their implementation; (v) assessing risks and improving overall risk management policy and strategies; and (vi) liaising with external auditors to ensure auditors' concerns are understood and addressed.

26. Currently, the internal audit unit includes an acting head and four staff, each of whom have a university degree (economics), and between 27 and 37 years of relevant "business" practical experience, as well as an average of 2-3 years auditing experience. However, none of the staff have taken or are enrolled in accredited auditing courses.

## F. External Audit

27. Since 2001, BT has engaged an external professional auditor to audit its IFRS corporate financial statements. This audit normally also includes project statements and reports. As stated in each of the auditor's reports, the basis of work performed was that audit procedures were conducted in compliance with International Standards on Auditing (ISA). This ISA basis will be true for each external audit. Annual audits of BT are also routinely rendered by governmental taxing and regulatory agencies.

28. Delays in the issuance of the independent external auditor's reports are the norm, as audit opinion (or denial thereof) and the financial statements are usually not available until at least 6 months following the financial year end. Following completion of audit work and release of corporate financial statements and audit opinion (or denial thereof), the auditor routinely issues its management letter to BT's senior management setting out deficiencies and weaknesses detected during the course of the audit work together with recommendations for BT's consideration and resolution.

29. Specific reasons given for denial of opinion in the audit of 2012 results were: (i) insufficient evidence that the value of inventories received from other State entities through barter operations were estimated at their fair market value as required by IFRS; (ii) plant, property and equipment were not valued in accordance with International Valuation Standards, as required by IFRS; (iii)accounts receivable and payable could not be verified; and (iv) revenues could not be verified, mainly because automated billing systems were not installed in certain BT subsidiaries. These are almost the same reasons provided for a denial of opinion for the 2011 results.

30. However, a comparison of the Management Letters between 2011 and 2012 shows that while BT's responses to identified weaknesses in 2011 were largely defensive and refuted the auditor's findings, the 2012 responses were conciliatory, with promises to improve reporting performance. Also, in working with BT, the current auditor, Deloitte, fully expects the first two issues, dealing with inventory and fixed assets, to be resolved for 2013 with the appointment of consultants to clean/ revalue the inventory and undertake a proper valuation of fixed assets. Resolution of the issues related to accounts payable/ receivable and revenue accounting may take longer. Work is underway to introduce automated metering, billing, accounting and payment systems in the two major centres of the country, Dushanbe and Khujand. Thus, progress is being made and is likely to continue.

## G. Reporting and Monitoring

31. BT prepares semi-annual and annual consolidated financial statements in accordance with National accounting standards and, during the past few years, in accordance with IFRS, generally with assistance of external consultants. However, their timeliness and usefulness for management decision making is questionable. There is little evidence that such statements are used in decision making. Actually, appropriate, timely and relevant management reports do not exist. The centralized Planning department prepares piecemeal financial reports, which compare budgeted and actual financial data, but often, such analyses are delayed due to lack of timely actual information. Comparing budgeted figures with the actual performance is made difficult as cost structures used in planning are different from those used for accounting. Furthermore, information required from the Accounting Department is often 2-3 months old and does not represent the current situation.

32. The PMU has used the Russian “1C” accounting system, which reflects only financial data (physical data is not generated). Based on weaknesses throughout BT, it is highly probable that physical data will not synchronize with financial data. The accuracy of financial data is suspect, as differences often exist in financial data received from different sources. Currently, financial reports are generally prepared using electronic spread sheets, as the “1C” accounting system has limited ability to generate reports required by BT. For projects, reporting requirements are set out by the particular lender concerned, as BT has no effective management reporting system.

## H. Information Systems

33. The “1C” computerised accounting system was installed in all of BT’s 30 reporting units by the end of 2012, but training in its use is still on-going. The 1C system enables the Accounting Department to: (i) respond to operational and project-related queries related to specific accounts; (ii) record transactions in the reporting period; and (iii) generate financial reports for both external and internal users. However, BT does not have an integrated computerized management information system.

34. With respect safeguarding the confidentiality, integrity and availability of the data, in 2011 BT issued a Regulation on Internal Control and distributed a copy to each of the 30 reporting units. However, management and account staff of many of these reporting units have said that they have yet to read and understand its contents.

35. As part of the ongoing Sector Operational Performance Improvement project, it is planned to: (i) critically re-examine the current programme for the implementation of the new accounting system and establish quality control procedures for monitoring the effectiveness of the implementation and training work being carried out by contractors; (ii) reorganise BT’s central IT Department and establish clear policies and procedures for its responsibility to provide assistance in the implementation of new systems and the monitoring of externally provided services; and (iii) establish an effective user-support unit at the central Accounting Department to provide assistance to the subsidiaries in the application of new procedures and policies and the use of accounting software.

## I. Sector Reform

36. Several of the issues identified above are currently being addressed by ADB’s “Regional Power Transmission Project – Sector Operational Performance Improvement” (SOPI) program,

which is centered on implementing a sector operational performance improvement program. It is designed to address institutional and technical impediments constraining the effective operation of BT. The project has identified deficiencies in specific areas, including governance, commercial and financial performance, control and audit, management systems, organizational structure, technical operations, and management capacity. An Action Plan to rectify these deficiencies has been drafted.

37. The Government has adopted a three phased restructuring process:

- Under Phase 1, BT will be reorganised from a vertically integrated monolithic organisation into three horizontally-integrated business units under a single control structure and operated in accordance with good commercial and financial management principles. The links between the business units would be controlled via transfer pricing. This phase may be referred to as the "commercialisation" phase. During this phase, tariff, legal and regulatory reforms will be pursued to facilitate private sector participation in the second phase.

- Under Phase 2, which may be referred to as the "competition" phase, BT will be divided into a number of operationally and legally independent enterprises, with existing generation and transmission lines remaining in the ownership of the government as monopolies. The links between these operationally and legally independent enterprises will be controlled via supply contracts and a regulatory system. In this phase, distribution business units will be separated as legal entities and independent generation companies will be allowed access to the state-owned transmission network.

- Under Phase 3, the Government will evaluate the results of the first two phases and consider the privatisation of state-owned generation facilities. This phase may be referred to as the "divestment" phase.

38. SOPI program focuses on Phase 1 only. In carrying out the proposed restructuring, it is intended to focus the attention of BT management on improving the organisational, financial and operational performance of the sector before unbundling or privatisation. This includes the establishment of three business units (generation, transmission and distribution), the introduction of commercial practices and systems, and the separation of accounting for the business units. In parallel, legislative changes will be introduced and a regulatory body established to create an enabling environment for private sector participation.

39. Recent key developments in structural reforms include the following:

- Based on the proposed restructuring plan, a Government Decree (No. 431), dated 30 August 2011, was issued "On approval of individual restructuring plan of OJSHC "BT" for the period of 2011-2018", instructing all relevant government ministries, departments and authorities to support the implementation of the restructuring plan. This decree also sets out a programme of work up to 2015 which, when implemented, will result in the electricity sector being restructured during Phase 2 into three joint stock companies (generation, transmission and distribution), System Operators for transmission and distribution, and a regulator established as a "central executive body". It also commits the government to develop an action plan for Phase 3 of the restructuring, which involves privatisation over the period 2015 – 2018.

- In order to support the implementation of Government resolution (no. 431), BT has established five Working Groups (WGs), each focused on a separate aspect of the restructuring programme: (i) organisational structure, (ii) economy and policy (finance),

(iii) technical, (iv) social and legal and (v) revenue collections. These five WGs report, via BT's Chairman, to an Inter-Ministerial Working Group (IMWG) which was established by the MoEI to oversee progress of the restructuring.

- The IMWG reports and makes recommendations to a Supervisory Board, which is chaired by the First Deputy Prime Minister and comprises: (i) Ministers of Energy and Industry, Economic Development and Trade, Finance and Justice, (ii) Chairman of the State Committee on Investments and State Property, (iii) Head of the Anti-Monopoly Service and (iv) Chairman of BT. This Board was established with overall responsibility for "the implementation and control over the restructuring process" by Government Order No 281 dated 31st May 2012. The first Supervisory Board meeting was held on 11 June 2013. The Board has approved: (i) the Assessment Report; (ii) the intervention plan of SOPI consultants; and (iii) new structure of BT. The Board also instructed BT to establish three departments (generation, transmission and distribution) and appoint the heads in consultation with the Ministry of Energy and Industry. Following the Board's guidance, BT chairman has issued resolution on appointment of the three departments on 28 August 2013. The next step is to finalize Detailed Action Plan, the Implementation Schedule and Restructuring Progress Indicators by November 2013.

## III. HISTORICAL FINANCIAL PERFORMANCE AND CURRENT POSITION OF BARKI TOJIK

40. Accounting and financial performance data of BT have been analyzed over the period 2007-11.[6] Recent audit reports indicate that financial statements of BT have been prepared consistent with the requirement of national accounting standards. However, as yet BT does not provide consolidated financial reports consistent with International Financial Reporting Standards (IFRS). In fiscal year 2011, an audit undertaken by Deloitte noted a number of weaknesses with the accounts and did not provide an opinion on the results. However, during the process, the 2011 and 2010 accounts were restated in such a way that they conformed more closely to IFRS.

41. BT is a fully vertically integrated electrical utility whose operations also include the provision of heat. However, heat supply accounts for a practically insignificant amount of total revenues and costs. Thus, the financial data reflect the full costs of electricity supply across the entire corporate entity, including the distribution, transmission and generation functions, plus a very limited amount of heat supply.

42. A summary of estimated key components of the Income Statement over the period 2007-11 is set out in Table 1 below. As 2010 and 2011 numbers were restated by Deloitte in 2011, the information for 2010 is provided in both original and restated terms. It can be seen that the restated profit for 2010 is just less than half of the originally reported profit of TJS 396 million. The relatively high profit level for 2010 can be attributed to an "extraordinary" gain due to a revaluation of assets of TJS 328 million, which was not included as profit in the restatement. To include such a gain as income is in accordance with IFRS standards. However, why this did not lead to an increase in depreciation expense (or income tax) the same year, nor why it was not shown as an extraordinary gain in the restatement is unknown. In any case, it can be seen that BT has not operated profitably in every year over the selected time period, with losses occurring over the period 2007-2009. In the most recent years, the profit

[6] At the time of the preparation of the analysis, audited 2012 financial data had not yet been released.

margin, in restated terms, was 23% in 2010 and 6% in 2011. Corresponding historical income statements balance sheets are provided in Annex 2.

**Table 1: Key Income Statement values (TJS million)**

| | | | | | Deloitte | |
|---|---|---|---|---|---|---|
| | **2007** | **2008** | **2009** | **2010** | **2010** | **2011** |
| Total revenue | 337 | 512 | 858 | 1,320 | 1,027 | 993 |
| Operating expenses | 314 | 515 | 874 | 883 | 781 | 973 |
| **EBITDA** | **23** | **-3** | **-16** | **437** | **246** | **19** |
| Depreciation and amortization | 23 | 27 | 31 | 24 | 64 | 95 |
| **EBIT** | **0** | **-30** | **-46** | **412** | **182** | **-76** |
| Net finance and other costs | 11 | 21 | 541 | 19 | 56 | -131 |
| **Profit before tax** | **-11** | **-51** | **-587** | **394** | **126** | **55** |
| Income tax | 32 | -10 | 0 | -3 | -65 | -2 |
| **Profit for the year** | **-43** | **-41** | **-587** | **396** | **191** | **57** |

Source: BT Annual Financial Statements

43. Electricity sales in millions of kWh are shown in Table 2. It can be seen that overall growth over the period has actually been negative, first as the result of poor hydrology in 2008 and subsequently, electricity shortages due to regional interconnection problems in 2011 – which is a continuing problem.

**Table 2**
**2007-2011 Electricity Sales Volumes (GWh)**

| | **2007** | **2008** | **2009** | **2010** | **2011** |
|---|---|---|---|---|---|
| Annual sales | 13,967 | 12,515 | 13,140 | 14,025 | 13,617 |
| Annual increase | | -10.4% | 5.0% | 6.7% | -2.9% |

Source: BT

44. The evolution of BT's average tariff is summarized in Table 3. It can be seen that there have been relatively large tariff increases over the period, but, as seen on Table 1, these increases through to 2009 have tended to be insufficient. In 2010, BT appears to have briefly shown an adequate profit level, but this has fallen in subsequent years. Indeed, based on preliminary results for 2012, a tariff increase of 30% on April 1, 2012, failed to provide any profit in that year (full financial information for 2012 is not yet available). The average tariff from April 1, 2012, is around $0.02/kWh, which is very low compared to other countries. Although this tariff is too low from a financial standpoint, it has allowed BT to operate at almost breakeven. The reason for this is the abundance of "old" hydropower on the system, whose costs were largely sunk decades ago. Hydropower currently accounts for well over 99% of production.

**Table 3**
**2007-2011 Evolution of Average Tariff**

| | 2007 | 2008 | 2009 | 2010 | 2010 restated | 2011 |
|---|---|---|---|---|---|---|
| Revenue from tariffs (TJS millions) | 316 | 501 | 757 | 977 | 1,011 | 957 |
| Annual sales (GWh) | 13,967 | 12,515 | 13,140 | 14,025 | 14,025 | 13,617 |
| Average tariff (TJS per kWh) | 0.0226 | 0.0400 | 0.0576 | 0.0697 | 0.0721 | 0.0705 |
| Increase in average tariff | | 77.1% | 44.0% | 20.9% | 25.1% | -2.2% |

Source: BT annual financial statements

45. Key performance data are summarized in Table 4. BT has a substantial amount of accounts receivable and accounts payable. Accounts receivable has risen from TJS 269 million in 2007 to TJS 597 million in 2011 after having reached a high of TJS 645 million in 2010. These numbers correspond to days' receivables of 303 days in 2007, 231 days in 2010 and 226 days in 2011, which shows slight improvement over the period, but still well short of a desirable level in the 30 day range. This tendency for bills to be paid over 7 to 8 month period, mainly by residential customers, may be explained by the increase in tariffs for electricity and the deterioration in people's ability to pay as a result of the financial crisis. However, it is more likely that the main reason for the increase is the ineffective performance of BT's revenue collection process. On the other hand, BT's collection efficiency in 2011 was 87%, which represents a significant improvement over levels in the low 60% range up to 2009.

**Table 4**
**Key Performance Indicators**

| | 2007 | 2008 | 2009 | 2010 | 2010 restated | 2011 |
|---|---|---|---|---|---|---|
| Days' receivables | 303 | 271 | 219 | 227 | 231 | 226 |
| Days' payables | 295 | 317 | 291 | 505 | 527 | 501 |
| Debt as a % of total capitalization | 40.3% | 55.9% | 86.2% | 64.3% | 57.2% | 60.1% |
| Return on equity | -4.2% | -3.9% | -180.5% | 30.0% | 11.1% | 3.1% |
| Return on net fixed assets | -1.0% | -0.8% | -11.2% | 3.9% | 1.2% | 0.3% |
| Current ratio | 2.54 | 2.63 | 2.34 | 0.90 | 0.73 | 0.64 |

Source: BT Annual Financial Statements

46. The *"Regulation on Accounting Policy and Accounting Reporting in RT"* (No. 9 dated 8 February 2003), regulates the process and procedure for writing off bad debts. Unfortunately, it is very general regarding the procedure and criteria to be followed and what supporting documentation is required. The Ministry of Finance of the Republic is responsible for approving all write-off requests. To date, it has routinely refused to authorise most of BT's requests to write-off its uncollectible accounts.

47. The calculation of appropriate allowances for doubtful accounts is problematic at BT. It has no formal procedure governing the determination of appropriate amounts. At present, BT is unable to prepare an ageing analysis of receivables with any degree of accuracy due to shortcomings in the billing systems at the distribution centres (some of these centres have no automated billing system and produce bills manually). A large part of the accounts receivables are extremely old and cannot be substantiated by any verification procedure. It is believed that

these unverifiable receivables are a result of the current practice of understating technical and commercial losses while overstating receivables.

48. BT has substantial amounts of accounts payable as well, which have increased from TJS 254 million in 2007 to TJS 1,336 million in 2011 – a five-fold increase. In 2007, this represented 295 days operating expenses, while in 2010 and 2011, it was over 500 days. Thus, it appears that BT was financing a part of its operations over the 2009-2010 period by not paying its bills – leading to a buildup in payables that had not yet been settled as of the end of 2011. At the end of 2011, BT's trade payables were about TJS 860 million, of which TJS 220 million was for purchased power. Of this amount, TJS 205 million was owed for purchases from the Sangtuda 1 hydropower station, a separate legal entity owned 75% by RAO "UES" of Russia.

49. It can also be seen on Table 5 that debt as a percent of total capitalization has climbed over the period from about 40% to 60%, which can be explained by borrowings over the period for capital projects. A jump in this ratio in 2009 up to 86% was due to the large loss in that year, which significantly decreased BT's equity level. However, the revaluation of assets in the ensuing year increased the equity base to former levels. Returns on both equity and net assets have been negative or relatively low over the period, while the current ratio has decreased from a relatively healthy level in the 2.5 range between 2007 and 2009 down to under 1.0 since 2010.

## IV. FUTURE FINANCIAL PROJECTION

### A. Key Assumptions

50. The projection uses the actual 2011 and estimated 2012 figures based partly on the 2012 information available and the 2011 statements. A summary of the 2011 financial statements and the estimates for 2012 are provided in Annex 3. Revenues (and, as a result, net income) for 2012 have been "normalized" to reflect BT's financial position as if the tariff increase that took place on April 1, 2012, had been in effect all year. This is to set an appropriate base on which to calculate required tariff increases in future years. As a result, 2012 revenues have been increased by TJS 229 million, from TJS 1,171 million to TJS 1,400 million and the 2012 net loss has decreased from TJS 330 million to TJS 100 million.

51. In line with current Government of Tajikistan policy, which is focused on elections to be held in the latter part of the year, there will be no tariff increases in 2013. In the absence of a longer-term tariff plan, tariff increases in subsequent years are set so that minimum financial performance criteria are met. The projection analysis assumes 25% annual increase for 2014-2015, and 10% for 2016, and 7% for 2017-2020.

52. BT does not currently prepare a formal investment plan beyond a 3-year "wish-list" of various projects. However, under the current technical assistance being provided to BT by ADB, a Master Plan for the Tajikistan power sector is being prepared. Appropriate training of BT staff on strategic investment planning is also included in this technical assistance.

53. For the time being, however, the most recent investment forecasts available that fit BT's investment requirements into some kind of planning framework have been prepared by a World

Bank report[7] prepared in November 2012 that focused on alternatives for relieving Tajikistan's winter load shortages, as well as the ADB funded Power Sector Regional Master Plan [8] published in October 2012, which included a power sector plan for a number of countries within the Central Asia Power System. While the demand forecasts under each of these studies are similar (in the World Bank report, 2020 domestic demand is projected to be 20,484 GWh, while ADB forecasts this demand to be 20,831 GWh), their forecast approaches to meeting this demand differ somewhat. The World Bank forecast relies to some extent on imports from Uzbekistan and Turkmenistan to eliminate current electricity shortages by 2018, while the ADB report foresees significant coal-fired generating capacity from the Dushanbe-2 and Shurob plants to be installed by 2017, thus eliminating the deficit in that year. Each of these scenarios is judged to be somewhat optimistic. For the purpose of this analysis, a more conservative forecast is adopted, whereby no regional imports are foreseen and the coal-fired capacity is brought on-stream more slowly, so that Tajikistan's winter energy deficit is eliminated by 2020, as can be seen in Table 5. Regarding investments to meet this demand, the World Bank report foresees an investment requirement of about $3.1 billion in generation facilities during the 2012 to 2020 period, while ADB's corresponding forecast is $3.3 billion, and both including the proposed project. The two reports are fairly consistent but overly optimistic. For the purpose of projection, the numbers from the World Bank report have been adopted, but adjusted downward to be more realistic and excluded imports.

**Table 5**
**Forecast Energy Balance**

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| Energy demand after WB measures | 19,635 | 19,918 | 20,007 | 19,909 | 19,810 | 19,970 | 20,129 | 20,307 | 20,484 |
| To be met by: | | | | | | | | | |
| Sangtuda (2012 forecast) | 2,130 | 2,130 | 2,130 | 2,130 | 2,130 | 2,130 | 2,130 | 2,130 | 2,130 |
| Existing CHPs (2011) | 34 | 34 | 34 | 34 | 34 | 34 | | | |
| Existing hydro plants (by difference in 2012) | 14,771 | 14,771 | 14,771 | 14,771 | 14,771 | 14,771 | 14,771 | 14,771 | 14,771 |
| Dushanbe-2 | | 110 | 329 | 657 | 876 | 876 | 876 | 876 | 876 |
| Shurob-1 | | | | | | | 1,100 | 1,100 | 1,100 |
| Shurob-2 | | | | | | | | | 1,100 |
| Sanobod HPP | | | | | | | | | 657 |
| Imports from Uzbekistan #1 | | | | | | | | | |
| Imports from Uzbekistan #2 | | | | | | | | | |
| Imports from Turkmenistan #1 | | | | | | | | | |
| Imports from Turkmenistan #2 | | | | | | | | | |
| Deficit | 2,700 | 2,873 | 2,744 | 2,317 | 1,999 | 2,159 | 1,252 | 1,430 | 0 |
| Total | 19,635 | 19,918 | 20,007 | 19,909 | 19,810 | 19,970 | 20,129 | 20,307 | 20,634 |
| WB calculated deficit | 2,700 | 2,350 | 1,210 | 580 | 320 | 660 | 0 | 0 | 0 |
| ADB report deficit | 2,702 | 2,830 | 3,110 | 3,397 | 450 | 0 | 0 | 0 | 0 |

Source: Developed by MOEI consultant for SOPI under G0213-TAJ, based on information contained in World Bank report "Tajikistan's Winter Energy Crisis: Electricity Supply and Demand Alternatives"

54. Other key assumptions include:

7 "Tajikistan's Winter Energy Crisis: Electricity Supply and Demand Alternatives", published by the World Bank through the Energy Management Assistance Program (ESMAP) and funded by the CAEWDP Multi-DonorTrust Fund, November 2012.

8 "Central Asia Regional Economic Cooperation: Power Sector Regional Master Plan", published by ADB and cofinanced by the Regional Cooperation and Integration Fund under the Regional Cooperation and Integration Financing Partnership Facility, October 2012.

- The local inflation rate in Tajikistan is expected to be 7% in 2013 as per the latest forecast used by ADB. This rate is assumed to continue throughout the forecast horizon. The international inflation rate is forecast to be 2.2% in 2014, 1.9% in 2015 and 1.8% annually thereafter. The exchange rate used for 2013 is TJS 4.87 per USD. It is assumed this rate will change over the forecast horizon based on the inflation differential between the two currencies.
- Table 5 does not consider exports available during summer months from excess hydropower. In 2012, 1,100 GWh was exported to Afghanistan. It is assumed that this will increase to 1,500 GWh by 2015 as a result of the completion of the substation construction in Kunduz (Afghanistan), at the 2013 tariff of USD $0.0364 per kWh escalated at 2% per year, as per the current power purchase agreement between Tajikistan and Afghanistan. As additional energy of about 2,400 GWh annually is available for export, it is assumed that such exports of electricity will begin around 2020, although where and how this might happen is presently uncertain. The current export price to Afghanistan is $0.0364 per kWh. However, additional transmission capacity will be required to evacuate all Tajikistan's summer surplus. The previously cited World Bank report estimated the export price of this energy and associated transmission to be $0.044 per kWh at 2012 price levels. Therefore, a value a $0.045 per kWh at 2013 price levels has been ascribed to 2,400 GWh summer energy from 2020 onwards, assuming that appropriate power purchase agreements and transmission links will have been developed by that time. This 2013 price is assumed to escalate with inflation.
- BT's heat supply business accounts for practically insignificant revenues and costs. For the purpose of the forecast, the costs of heat supply are included (they are bundled together with those of electricity supply), but not the heat supply revenues. In any case, the existing combined heat and power (CHP) plant will close after 2017.
- Employee expenses are assumed to increase at the rate of inflation less 1%.
- Fuel expenses will comprise costs for:

  i. The existing CHP plant, Dushanbe-1, the cost for which is maintained at current levels and adjusted for inflation until 2017, when the plant is scheduled to be retired.

  ii. The future Dushanbe-2, which is a coal fired plant, 50 MW of which will be commissioned in 2013, an additional 50 MW in 2014 and, a final 100 MW in 2015. The forecast cost is $0.055 per kWh at 2013 price levels, escalating with inflation.

  iii. The 300 MW Shurob-1 plant, which will become operational in 2018 and is assumed to have the same unit cost as the Dushanbe-2 plant.

- "Other" and "Admin & General" expenses are assumed to increase at the rate of inflation less 1%.
- Interest expense is assumed to evolve over time in accordance with the following components:

  i. Forecast interest on existing debt, as provided by BT.

  ii. Interest on new long-term debt to finance new projects is calculated as 5% on the average of the projected opening and closing balances each year

  iii. Interest on any required short-term debt to cover cash shortfalls is assumed to cost 24%.

- Depreciation expense for all three entities is assumed to be 3% of the closing balance of net fixed assets.
- Bad debt expense, which is calculated as 25% of non-collected revenue each year. The collection efficiency is assumed to improve over the period from 87% to 97%.
- Investments are assumed to be 85% financed with concessional debt. New debt is assumed to be repaid over 20 years after a five year grace period.
- As previously seen, BT's accounts payable are relatively large. Days' payables expressed in terms of cash operating expenses are forecast to decrease from an estimate of 597 days in 2012 to 50 days by 2020. This payment of outstanding bills, even over 7 years, has a significant effect on the BT's financial position, as short-term borrowings at 24% are required to cover the cash shortfalls in paying down this debt. One possible scenario is that the Government of Tajikistan could pay this debt on behalf of BT, thus putting BT on a better footing financially to operate.
- Other current liabilities are assumed to grow with cash operating expenses.
- It is assumed that a minimum cash position of 8% of cash operating expenses is required. Cash shortfalls below this level will require short-term borrowings at 24%. This loan is assumed to be paid back the following year and contributes to the cash position of that year.

## B. Financial Projections and Conclusions

55. Required tariff increases to the year 2020 have been set so that minimum acceptable financial performance criteria are met. These required tariff increases and associated performance criteria are summarized in Table 6. A corresponding projected balance sheet, income statement and cash flow statement are provided in Annex 4. It can be seen in Table 6 that self-financing ratio, debt service coverage ratio, and current ratio will gradually improve and attain the acceptable benchmark level by 2020. Operating ratio improves faster, and reaches below 90% by 2015. The required tariff increases are high for the first two years mainly due to a low initial level of tariff and a tariff freeze in 2013. The tariff will need to be at least increased to match the inflation rate of 7% over the period.

**Table 6**
**Required Tariff Increases and Financial Performance Criteria**

| Year ending Dec 31 ====> | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| **Annual average retail tariff increase** | | | **25.0%** | **25.0%** | **10.0%** | **7.0%** | **7.0%** | **7.0%** | **7.0%** |
| Self-financing ratio | | -65.8% | -162.8% | -155.0% | -197.9% | -71.8% | -57.7% | 3.1% | 137.8% |
| Debt service coverage ratio | | 0.57 | 0.40 | 0.50 | 0.49 | 0.77 | 0.91 | 1.23 | 2.22 |
| Debt ratio (%) | | 49.1% | 57.7% | 63.0% | 67.0% | 67.0% | 66.1% | 64.2% | 60.9% |
| Operating ratio (%) | | 100.9% | 90.3% | 78.0% | 76.9% | 62.3% | 65.7% | 65.0% | 69.3% |
| Current ratio | | 0.67 | 0.66 | 0.71 | 0.75 | 0.93 | 1.14 | 1.49 | 1.98 |
| Return on net fixed assets | | -1.4% | 4.6% | 13.9% | 14.3% | 25.8% | 22.2% | 21.5% | 20.1% |
| **Average retail tariff per kWh** | | | | | | | | | |
| **- in TJS** | **0.09527** | **0.09527** | **0.11908** | **0.14886** | **0.16374** | **0.17520** | **0.18747** | **0.20059** | **0.21463** |
| **- in USD** | **0.02006** | **0.01956** | **0.02336** | **0.02780** | **0.02910** | **0.02962** | **0.03015** | **0.03070** | **0.03125** |
| **Other critical assumptions:** | | | | | | | | | |
| Power system losses (% of input) | 14.4% | 14.4% | 14.4% | 13.4% | 12.4% | 11.4% | 10.4% | 9.9% | 9.4% |
| Collection efficiency (% of Billings) | | 87.0% | 88.0% | 89.0% | 90.0% | 91.0% | 92.0% | 93.0% | 94.0% |
| Inflation rate (%) | | | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% |
| Index | 1.0000 | 1.0000 | 1.0700 | 1.1449 | 1.2250 | 1.3108 | 1.4026 | 1.5007 | 1.6058 |
| US inflation rate (%) | | | 2.2% | 1.9% | 1.8% | 1.8% | 1.8% | 1.8% | 1.8% |
| Index | 1.0000 | 1.0000 | 1.0220 | 1.0414 | 1.0602 | 1.0792 | 1.0987 | 1.1184 | 1.1386 |
| FX rate forecast (TJS/ USD) | 4.750 | 4.870 | 5.099 | 5.354 | 5.627 | 5.915 | 6.217 | 6.535 | 6.868 |

| Year ending Dec 31 ====> | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| **Annual average retail tariff increase** | | | **25.0%** | **25.0%** | **25.0%** | **15.0%** | **15.0%** | **15.0%** | **15.0%** |
| Self-financing ratio | | -48.6% | -122.1% | -141.5% | -175.8% | -79.6% | -121.4% | -23.0% | 166.9% |
| Debt service coverage ratio | | 0.45 | 0.28 | 0.33 | 0.40 | 0.60 | 0.72 | 1.08 | 2.48 |
| Debt ratio (%) | | 55.4% | 68.5% | 78.2% | 82.9% | 81.9% | 78.0% | 71.9% | 64.5% |
| Current ratio | | 0.64 | 0.61 | 0.61 | 0.65 | 0.76 | 0.95 | 1.38 | 2.30 |
| Return on net fixed assets | | -1.9% | 2.1% | 7.9% | 12.7% | 21.0% | 21.1% | 24.0% | 27.9% |
| **Average retail tariff per kWh** | | | | | | | | | |
| **- in TJS** | **0.09527** | **0.09527** | **0.11908** | **0.14886** | **0.18607** | **0.21398** | **0.24608** | **0.28299** | **0.32544** |
| **- in USD** | **0.02006** | **0.01956** | **0.02336** | **0.02780** | **0.03306** | **0.03618** | **0.03958** | **0.04331** | **0.04738** |
| **Other critical assumptions:** | | | | | | | | | |
| Power system losses (% of input) | 14.4% | 14.4% | 14.4% | 13.4% | 12.4% | 11.4% | 10.4% | 9.9% | 9.4% |
| Collection efficiency (% of Billings) | | 87.0% | 88.0% | 89.0% | 90.0% | 91.0% | 92.0% | 93.0% | 94.0% |
| Inflation rate (%) | | | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% |
| Index | 1.0000 | 1.0000 | 1.0700 | 1.1449 | 1.2250 | 1.3108 | 1.4026 | 1.5007 | 1.6058 |
| US inflation rate (%) | | | 2.2% | 1.9% | 1.8% | 1.8% | 1.8% | 1.8% | 1.8% |
| Index | 1.0000 | 1.0000 | 1.0220 | 1.0414 | 1.0602 | 1.0792 | 1.0987 | 1.1184 | 1.1386 |
| FX rate forecast (TJS/ USD) | 4.750 | 4.870 | 5.099 | 5.354 | 5.627 | 5.915 | 6.217 | 6.535 | 6.868 |

Source: ADB Staff and MOEI Consultant SOPI under G0213-TAJ.

56. The tariff increase is necessary to ensure financial sustainability of Barki Tojik. It should be noted that the tariff level has been low but the tariff has been raised by on average above 25% per annum over the last 5 years, so assuming 25% for 2014-2015 is not unrealistic. A high level of continued tariff increase may be necessary if the government would like to proceed with the $3 billion investment program in a relatively short period of time if the financial viability of the power sector has to be sustained.

# V. SUMMARY AND CONCLUSIONS

## A. Summary

57. Barki Tojik's financial management capacity requires significant improvement. External auditing for fiscal years (FY) 2011 and 2012 based on international standards on auditing (ISA) both indicate major issues including i) valuation of inventory, ii) revaluation of assets, iii) records on account receivables and payables, and iv) data conciliation of revenues. However, substantial efforts are being made to strengthen the financial management capacity. Barki Tojik, funded by the World Bank, is in the process of recruiting international consultants to i) revaluate assets in accordance with the International Financial Reporting Standards (IFRS), and ii) assess the issues related to the account receivables and payables. Automated accounting and billing system are being introduced starting from major cities such as Dushanbe and Khujand. It is expected that there will be positive changes in Barki Tojik's accounting procedures, financial reporting and management reporting systems in the next three years.

58. Barki Tojik's accounting policies, procedures and financial reporting follows IFRS, which is required under the Law of Accounting and state's decrees.[9] Each of the 30 subordinate entities under the holding company prepares its financial report which is consolidated at the holding company level. Barki Tojik has an internal audit unit established at the head office but with limited independency. External independent auditors are engaged to undertake auditing based on ISA for the holding company in compliant with the statutory requirements.[10]

59. The recent financial performance of Barki Tojik has been weak and unstable, generating losses for FY2007-2009, profits for FY2010-2011, and losses again in FY2012. The weak and unstable performance may be attributed to a low level of end-user tariffs (an average tariff at 2 cents/kWh), provisions required to accommodate increasing doubtful account receivables, and deteriorated performance of ageing assets. Continued efforts are necessary to steadily increase the tariff level, improve tariff collection efficiency with the adoption of computerized accounting and reporting systems, and modernize and rehabilitate productive assets through investments. It is expected that Bark Tojik's financial performance improves with the supports provided by international financial institutions including ADB and WB.

## B. Financial Management Risk Analysis

60. The financial management risks of the project, together with their mitigating measures are highlighted in Table 7 below.

[9] Government's Decree 428 of 4 November 2002 for "International Financial Reporting Standards"; Government's Decree 231 of 2 May 2010 for "Additional arrangements for implementing International Financial Reporting Standards in Republic of Tajikistan"; and President's Decree 702 of 25 March 2011 for the "Law of Accounting".

[10] President's Decree 626 for the "Law on Financial Management and Internal Control"; and President's Decree 631 for the "Law on Internal Audit".

**Table 7**
**Financial Management Risks**

| Risk | Assessment without Mitigation | Management Plan or Mitigation Measures | Assessment with Mitigation |
|---|---|---|---|
| 1. Funds flow arrangements | High | Direct payment method and Letter of Commitment will be used. No imprest account. BT has a satisfactory record with previous ADB projects. | Moderate |
| 2. Staffing | High | The SOPI consultants (G0213-TAJ) will address staffing deficiencies through extensive training as defined in their terms of reference. | Moderate |
| 3. Accounting policies, procedures, and systems | High | The SOPI consultants (G0213-TAJ), together with WB assistance for financial capacity development, will work to complete the implementation of IFRS together with a computerised accounting system.<br><br>External audit based on ISA to be maintained.<br><br>An accounting system will need to be established and maintained for the project, with ADB procedures to be followed to minimize financial risk. | Moderate |
| 4. Internal audit | High | The SOPI consultants (G0213-TAJ), together with WB assistance for financial capacity development, will work to improve BT's internal audit function. | Moderate |
| 5. External audit | Moderate | Widespread implementation of IFRS under the sector operational improvement project (G0213-TAJ), together with WB assistance for financial capacity development, should end the extended period of opinion denial by external auditors. | Low |
| 6. Reporting and monitoring | Substantial | Ongoing corporate restructuring under ADB G0213-TAJ, will improve management reporting practices and result in better decision-making New accounting system and following ADB procedures at the PMU, assisted by project implementation consultants, should result in the timely preparation of meaningful reports. | Moderate |

EA = Executing Agency; FY = fiscal year;
Source: MOEI Consultant SOPI under G0213-TAJ.

## C. RECOMMENDED FINANCIAL COVENANTS

61. As seen in the preceding analyses, BT's financial position will likely improve with sustained increase in tariff but continue to underperform for the immediate future. Therefore, it is appropriate to look at 2020 as the target year in which to achieve adequate performance levels.

62. The most current grant agreement between ADB and the Republic of Tajikistan contains the following key financial covenants:

- BT's accounts receivables are maintained at a level that does not exceed the equivalent of the aggregate amount of three months of billing;
- BT maintains its: (i) DSCR at not less than 1.2; (ii) SFR at not less than 20%; and (iii) operating ratio at less than 90%;

- BT does not incur any debt except to the extent that its free cash flows for the 12 months prior to the date of such occurrence is at least 1.3 times the estimated maximum debt service requirement of BT for any succeeding year on all debt of BT, including the debt to be incurred; and
- The specific financial terms used in this paragraph shall be construed in accordance with IFRS.

63. BT's days' receivables for electricity and heat sales during 2011 was 147 days, or about five months' billing, which is substantially above the three month level specified in the above covenant. Under the assumption that BT's collection efficiency will increase from its current level of 87% to 92% by 2018 and that 25% of the uncollected amount is provisioned as bad debt, the financial forecast projects days' receivables to fall to 85 days, so it seems reasonable to retain the three months' billing target as a covenant, but beginning 2018.

64. At the projected tariff increases, the stipulated DSCR and SFR in the grant agreement will not be achieved until 2020. Therefore, it would be more realistic to set 2020 as the target year for achieving such targets. The specific targets of 1.2 DSCR and 20% SFR are relatively low compared to the more generally accepted minimum levels of 1.4 and 30% respectively. However, given the rather large forecast year-to-year changes in these indicators between 2013 and 2019, as well as the fact that 2019 is rather far into the future, it is almost immaterial whether the target DSCR is set at 1.20 or 1.40 – or whether the SFR is at 20% or 30%.

65. Regarding the 90% operating ratio, the financial forecast shows that this ratio will be easily achieved if the DSCR and SFR targets are realized. Also, given the seven-year horizon for the DSCR and SFR to reach acceptable levels and the large DSCR range until 2020 the 1.2 "future year" requirement for the DSCR seems to be an almost irrelevant detail.

66. However, the Government of Tajikistan should continue to commit to relatively large tariff increases in order for BT to achieve adequate financial performance. With this in mind, a covenant related to tariff increases could be added, which could specify that at least a 25% annual tariff increase will be put into effect in each year over at least the 2014 to 2015 period. It is important to note however, the current tariff change mechanism in Tajikistan, involves the approval process involving parties such as the Anti-Monopoly Committee, the Ministry of Energy and the Cabinet of Ministers.

67. Given all of the above, the recommended financial covenants are:

- By 2018, BT's accounts receivable should reach a level that does not exceed the equivalent of the aggregate amount of three months of billing;

- By 2020, BT commits to achieving: (i) a DSCR of not less than 1.2; and (ii) a SFR of not less than 20%.

- If possible, the Government of Tajikistan should commit to allowing at least 25% annual electricity tariff increases over the 2014 to 2015 period.

**Annex 1 - FMAQ**

| Open Joint Stock Holding Company "Barki Tojik" | | |
|---|---|---|
| **Financial Management Assessment Questionnaire** | | |
| | | |
| **Topic** | **Response** | **Remarks** |
| **1. Implementing Agency** | | |
| 1.1 What is the entity's legal status / registration? | Open Joint Stock Holding Company "Barki Tojik" - Approved by Resolution of the Government of<br>Republic of Tajikistan on October 31, 2008 № 537. Head office located at 734026, Republic of Tajikistan, Dushanbe, ul. I.Somoni 64.<br>Authorized capital 31,823,546 shares each with a 10 Somoni nominal value currently 100% owned by the Government of RT. | See Charter document |
| 1.2 Has the entity implemented an externally-financed project in the past (if so, please provide details)? | Several projects over the past several years including funding (grants and loans) from ADB, WB, EximBank (China), Islamic Development Bank (IDB), Kuwait Fund, International Development Assoc., German Development Bank (KFW), OFID, Swiss Government (SECO) | See deferred revenue and long-term debt sections of audited corporate financial statements for details |
| 1.3 What are the statutory reporting requirements for the entity? | Audited annual financial statements are required by the Government, various ministries and IFIs. (semi-annual statements are also required by the State Committee on Investments and State Property Management and other regulatory and taxing authorities) | |
| 1.4 Is the governing body for the project independent? | BT's governing body is the Steering Committee (Supervisory Board), members are appointed by the Government | |
| 1.5 Is the organizational structure appropriate for the needs of the project? | BT's organisational structure is inconsistent with the scale of its current operations. As well, the structure must be changed to incorporate the Government's order to establish three separate business units (generation, transmission and distribution). Despite a number of recommendations for BT to introduce a more | See Assessment Report* that identifies inadequacies in organisation structure and governance as well as the recommended Organisation Structure. |

| | | |
|---|---|---|
| | effective organisational structure, including the Government Decree, the structure has changed very little since 2007. A new organisational structure has now been endorsed by the management of BT but needs to be approved by the Supervisory Board. | |
| **2. Funds Flow Arrangements** | | |
| 2.1 Describe (proposed) project funds flow arrangements, including a chart and explanation of the flow of funds from ADB, government and other financiers | For the ADB, the direct payment procedure and letter of commitment procedure will be applicable. Direct payments to the contractor(s) will be actuated by the Withdrawal Application procedure by the grant beneficiary. | |
| 2.2 Are the (proposed) arrangements to transfer the proceeds of the loan (from the government / Finance Ministry) to the entity satisfactory? | GoT is the grant recipient by grantagreement and the Barki Tojik is the loan beneficiary through secondary subsidiary agreement. | |
| 2.3 What have been the major problems in the past in receipt of funds by the entity? | The procedure described above (item 2.1) has been satisfactorily practiced in all past and current projects with foreign financing agencies. | |
| 2.4 In which bank will the Imprest Account be opened? | Not relevant. There will be no imprest account under the project. | |
| 2.5 Does the (proposed) project implementing unit (PIU) have experience in the management of disbursements from ADB? | Yes. There are two on-going ADB projects administered by PMU. | |
| 2.7 Does the entity have/need a capacity to manage foreign exchange risks? | PMU has extensive experience with ADB payment procedures under past and current projects since 2002. | |
| 2.8 How are the counterpart funds accessed? | This is not relevant under the proposed funds flow arrangement. | |
| 2.9 How are payments made from the counterpart funds? | No cash payments expected from counterpart funds for the turnkey contract or for the consulting services. Taxes and duties are expected to be exempted by the government. | |
| 2.10 If part of the project is implemented by communities or NGOs, does the PIU have the necessary reporting and monitoring features built into its systems to track the use of project proceeds by such agencies? | Not relevant. | |

| | | |
|---|---|---|
| 2.11 Are the beneficiaries required to contribute to project costs? If beneficiaries have an option to contribute in kind (in the form of labor), are proper guidelines formulated to record and value the labor contribution? | No NGO or Community will be involved. | |
| **3. Staffing** | | |
| 3.1 What is the (proposed) organizational structure of the accounting department? Attach an organization chart. | See Annex 11 to the Assessment Report* | |
| 3.2 Identify the (proposed) accounts staff, including job title, responsibilities, educational background and professional experience. Attach job descriptions and CVs of key accounting staff. | Recommended accounting staff, titles, responsibilities, job descriptions, etc. are dependent on approval of recommended organisation structure will be progressed during the next few months. BT's present job classification system needs improving through the preparation of more appropriate and complete job descriptions. | |
| 3.3 Is the project finance and accounting function staffed adequately? | BT does not have a finance unit or specialists. There are no staff with a financial background (academic or practical experience). The accounting and reporting functions need to be properly realigned in keeping with modern requirements and staffed with appropriately trained and experienced persons. | |
| 3.4 Is the finance and accounts staff adequately qualified and experienced? | See 3.3 above | |
| 3.5 Is the project accounts and finance staff trained in ADB procedures? | PMU has sufficient experience and staff are familiar with ADB procedures. | |
| 3.6 What is the duration of the contract with the finance and accounts staff? | Unknown | |
| 3.7 Indicate key positions not contracted yet, and the estimated date of appointment. | See 3.2 above | |
| 3.10 Does the project have written position descriptions that clearly define duties, responsibilities, lines of supervision, and limits of authority for all of the officers, managers, and staff? | BT's present job classification system needs improving through the preparation of more appropriate and complete job descriptions. | |

| | | |
|---|---|---|
| 3.11 At what frequency are personnel transferred? | Traditionally very few transfers are made. | |
| 3.12 What is training policy for the finance and accounting staff? | No formal training program exists within BT – the central training centre established under a previous ADB project was closed several years ago. The accounting and financial staff have received preliminary in house training in IFRS. Training in accounting policy and the appropriate use of the new chart of accounts is essentially based on the issuance of the Accounting Policy document and other missives by head office and responses to questions. Several subsidiary accountants have reported that they receive very little support for the central facility. | |
| **4. Accounting Policies and Procedures** | | |
| 4.1 Does the entity have an accounting system that allows for the proper recording of project financial transactions, including the allocation of expenditures in accordance with the respective components, disbursement categories, and sources of funds? Will the project use the entity accounting system? | Head office and each of the 30 subsidiary reporting units utilize the "1C" computerised accounting system and standardised new chart of accounts and accounting policy. Although not a fully integrated system that should be the requirement of a company the size and complexity of BT, BT's current system does possess the ability to record financial transactions in accordance with categories set out in the chart of accounts and policy but with limited reporting potential. | |
| 4.2 Are controls in place concerning the preparation and approval of transactions, ensuring that all transactions are correctly made and adequately explained? | Although there are instances where recording errors of omission and commission have been made (caused primarily by inappropriate interpretation of accounting policy and procedures) the document preparation and approval process is generally acceptable. On-going remedial training of chief accountants is necessary | |
| 4.3 Is the chart of accounts adequate to properly account for and report on project activities and disbursement categories? | A new chart of accounts and accounting policy was issued and implemented in each of BT's reporting units during 2011 and 2012 and | |

| | | |
|---|---|---|
| | appears to be appropriate to report on financial activities and disbursement categories. | |
| 4.4 Are cost allocations to the various funding sources made accurately and in accordance with established agreements? | Unknown | |
| 4.5 Are the General Ledger and subsidiary ledgers reconciled and in balance? | Yes – differences are promptly resolved | |
| 4.6 Are all accounting and supporting documents retained on a permanent basis in a defined system that allows authorized users easy access? | Accounting and supporting documents are retained on a permanent basis but are retained at each of the 30 subsidiary units - file methodology is often divergent. Head office accounting retains only its own documents. Convenient availability of such documents by authorised persons could be problematic | |
| **Segregation of Duties** | | |
| 4.7 Are the following functional responsibilities performed by different units or persons: (i) authorization to execute a transaction; (ii) recording of the transaction; and (iii) custody of assets involved in the transaction? | It is believed that these functional responsibilities are appropriate with the exception of the difficulties related to the recognition of transmission and distribution technical and commercial losses (revenue and accounts receivable are grossly overstated). | |
| 4.8 Are the functions of ordering, receiving, accounting for, and paying for goods and services appropriately segregated? | Yes. BT's central purchasing function (DPMTO) is responsible for the purchase of all major equipment and supplies as requested by the various subsidiary units. However, it is believed that control systems over the competitive bidding process and purchasing should be strengthened. Head office is responsible for the payment of all such expenditures. | |
| 4.9 Are bank reconciliations prepared by someone other than those who make or approve payments? | Yes | |
| **Budgeting System** | | |
| 4.10 Do budgets include physical and financial targets? | Multi-year integrated budgeting (complete with a full set of financial statements) does not exist at BT. Very limited one-year physical and | |

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| | financial "targets" are prepared by the central Planning Department. Such planned information, once approved by senior management, is transmitted to the subsidiary units for action. | |
| 4.11 Are budgets prepared for all significant activities in sufficient detail to provide a meaningful tool with which to monitor subsequent performance? | An annual corporate financial plan is prepared for BT's Chairman, Deputy Chairman of Finance, MoF and if requested to the MoEI, MoEDT, IFIs and also other departments of BT. This one page document contains projected quarterly and annual electricity balances, plus a basic statement of income, expenditure and profits as well as a proposal for the distribution of profits. However, full projected financial statements, offering projections for assets, liabilities, changes in owner's equity, and cash flow are not prepared. Nor is any descriptive information, explanations or assumptions used in the derivation of the planned figures provided. Balance sheet items such as cash, accounts receivable, fixed assets, assets under construction, long-term debts and servicing requirements are also excluded. | See Section 3.3.2 of the Assessment Report* |
| 4.12 Are actual expenditures compared to the budget with reasonable frequency, and explanations required for significant variations from the budget? | The central Planning Department performs monthly reviews and analyses of the technical, operational and financial performance of BT in the current year compared to prior year for BT's senior management. Although the analyses depict the results and variances from planned amounts together with explanations, they do not offer measures to be taken to achieve improvements in performance. In addition, the Planning Department prepares (on a quarterly basis) a more detailed analysis of planned vs. actual performance for the following items: expenses, energy losses, average tariffs, etc. These analyses are usually | See Section 3.3.3 of the Assessment Report* |

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| | prepared in tables without additional explanations and recommendations and sent to BT's senior management. | |
| 4.13 Are approvals for variations from the budget required in advance or after the fact? | Generally, approvals for budget variations are provided in advance | |
| 4.14 Who is responsible for preparation and approval of budgets? | BT's central Planning Dept. is responsible for the preparation of the financial budget with approval given by the Chairman | |
| 4.15 Are procedures in place to plan project activities, collect information from the units in charge of the different components, and prepare the budgets? | At the subsidiary level, their economic planning departments are responsible for planning, analysis and control of some functions. However, their activities are highly regulated by the central planning department which dictates the policy and procedures to be followed and the content of analysis, as well as the format of reports to be prepared. Prior to the budget year, the central department sends each of the subsidiary units detailed requests for information. | |
| 4.16 Are the project plans and budgets of project activities realistic, based on valid assumptions, and developed by knowledgeable individuals? | The limited scope of the planning work in the subsidiaries is due largely to the fact that most are cost centres and do not account for either revenues or profitability. The estimates of operating expenses are for a year, with a quarterly breakdown, using a mix of standard and actual cost-plus methods. For example, in the projection of salaries and wages the standard costing method is used where the approved monthly salary is multiplied by the number of staff allowed. Other costs such as materials, repair and maintenance and stationary are calculated based on the previous year costs plus an inflation factor. The subsidiaries' annual budgets are sent to the central planning department for review, which are revised and then sent back to the subsidiaries for execution. | |

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| | Considerable training of specialists responsible for the planning function is required in the use of modern procedures and techniques. In many respects, the central planning function must rely on planned information submitted by the various technical units (especially in capital investment, maintenance and funding). At best, all it can do is to review such submission for reasonableness. | |
| **Payments** | | |
| 4.17 Do invoice-processing procedures provide for: (i) Copies of purchase orders and receiving reports to be obtained directly from issuing departments? (ii) Comparison of invoice quantities, prices and terms, with those indicated on the purchase order and with records of goods actually received? (iii) Comparison of invoice quantities with those indicated on the receiving reports? (iv) Checking the accuracy of calculations? | Yes. The central Accounting Dept. staff is responsible for performing such activities. | |
| 4.18 Are all invoices stamped PAID, dated, reviewed and approved, and clearly marked for account code assignment? | Yes | |
| 4.19 Do controls exist for the preparation of the payroll and are changes to the payroll properly authorized? | Yes. Staff complements, positions and salaries are established annually and are under strict control by BT's central departments (Labor & Salaries Dept., Planning Dept.) | |
| **Policies And Procedures** | | |
| 4.20 What is the basis of accounting (e.g., cash, accrual)? | Generally the accrual basis of accounting is followed. In the past external auditors have noted that not all of BT's subsidiary reporting units followed accrual method in terms of accruing of expenses. In addition, BT does not recognize or identify commercial losses in the distribution of electricity – consequently | |

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| | revenue and accounts receivable are routinely overstated. | |
| 4.21 What accounting standards are followed? | National and International Accounting Standards | |
| 4.22 Does the project have an adequate policies and procedures manual to guide activities and ensure staff accountability? | The new Chart of Accounts and Accounting Policy issued in 2011 provide guidance. However, considerable training of subsidiary accounting staff is required to ensure appropriate compliance and implementation. Difficulties include: lack of policies and procedures concerning the write-off of uncollectible accounts receivable, accurate calculation and recognition of technical and commercial losses in the transmission and distribution of power, provision for bad & doubtful debts, write-off of obsolete fixed assets, calculation of asset impairment provisions, valuation of property, plant and equipment. | See Deloitte's management letter and Section 3.2 of the Assessment Report* |
| 4.23 Is the accounting policy and procedure manual updated for the project activities? | The Accounting policy needs to be updated | |
| 4.24 Do procedures exist to ensure that only authorized persons can alter or establish a new accounting principle, policy or procedure to be used by the entity? | Generally yes but improvements need to be made in governance procedures | |
| 4.25 Are there written policies and procedures covering all routine financial management and related administrative activities? | See 4.22 above | |
| 4.26 Do policies and procedures clearly define conflict of interest and related party transactions (real and apparent) and provide safeguards to protect the organization from them? | Such objectives are included in BT's Charter and Regulation regarding Internal Control and Regulation regarding Internal Audit. It is doubtful that a review of BT's activities and functions performed by senior and middle management takes place. | |
| 4.27 Are manuals distributed to appropriate personnel? | The above noted regulations have been distributed to the various reporting units but no (or little) instructions/interpretations have been provided. It is doubtful that such Regulations have been | |

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| | distributed to BT's central senior management. | |
| **Cash and Bank** | | |
| 4.28 Indicate names and positions of authorized signatories in the bank accounts. | Authorized signatories include : BT's Chairman, Chief Accountant and probably the First Deputy Chairman and Deputy Chairman (Finance) as well | |
| 4.29 Does the organization maintain an adequate, up-to-date cashbook, recording receipts and payments? | Although this is an area that BT's internal audit function reviews, in light of the following statement by Deloitte, it appears that BT needs to improve its control procedures over cash receipts and banking transactions and the recording thereof. Deloitte reports that the accounting departments of head office and the distribution subsidiaries do not perform reconciliation of cash receipts through bank accounts and receivables on a regular basis (BT's management refutes this) | See Deloitte's Management Letter |
| 4.30 Do controls exist for the collection, timely deposit and recording of receipts at each collection location? | Yes. Each distribution subsidiary transfers on a daily basis all cash receipts to BT's central bank. | |
| 4.31 Are bank and cash reconciled on a monthly basis? | See 4.29 above. Inter-bank transfers are not reconciled | |
| 4.32 Are all unusual items on the bank reconciliation reviewed and approved by a responsible official? | It appears so | |
| 4.33 Are all receipts deposited on a timely basis? | Yes. This is an area that BT's internal audit function reviews | |
| **Safeguard over Assets** | | |
| 4.34 Is there a system of adequate safeguards to protect assets from fraud, waste and abuse? | Yes. All assets are numbered and entered into a fixed assets ledger and premised secured during non-business hours. Annually a specially designated commission conducts an extensive inventory count of all assets. Any shortages are charged back to the person responsible for the warehouse | |
| 4.35 Are subsidiary records of fixed assets and | Yes | |

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| stocks kept up to date and reconciled with control accounts? | | |
| 4.36 Are there periodic physical inventories of fixed assets and stocks? | See 4.34 above | |
| 4.37 Are assets sufficiently covered by insurance policies? | No | |
| **Other Offices and Implementing Entities** | | |
| 4.38 Are there any other regional offices or executing entities participating in implementation? | No. | |
| 4.39 Has the project established controls and procedures for flow of funds, financial information, accountability, and audits in relation to the other offices or entities? | PMU has sufficient experience and system in place for controls and procedures for flow of funds, financial information, accountability and audits. | |
| 4.40 Does information among the different offices/implementing agencies flow in an accurate and timely fashion? | Yes. | |
| 4.41 Are periodic reconciliations performed among the different offices/implementing agencies? | Not relevant. PMU is the only unit engaged in the project administration. | |
| **Other** | | |
| 4.42 Has the project advised employees, beneficiaries and other recipients to whom to report if they suspect fraud, waste or misuse of project resources or property? | The Regulation on Internal Control and employee job descriptions includes such information | |
| **5. Internal Audit** | | |
| 5.1 Is there a internal audit department in the entity? | BT's Charter includes a provision for the creation of an Audit Committee with responsibility for control over the financial and economic activities of BT. Although an Audit Committee was not created, an Internal Audit Department, reporting to BT's Chairman, was established in late 2008. However, in 2010 it became a unit within the central accounting department, reporting to the Chief Accountant, | See Assessment Report* for details |

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| | as well as the Chairman. This meant a loss of independence for the internal auditors as one of their roles is oversight of the financial activities of BT and its reporting systems. This development, coupled with the reduction in staff numbers from 10 to 5, significantly reduced the capacity of the internal audit.<br>Currently the following objectives are either not currently being pursued or are being paid minimal attention:<br>- effectiveness of the IFRS implementation or training of accountants;<br>- documentation, review and assessment of a companywide internal control system;<br>- reviews and assessment of BT's overall operational and financial performance;<br>- identification and review of corporate objectives and their implementation;<br>- assessing risks and improving overall risk management policy and strategies;<br>- liaising with external auditors to ensure auditors' concerns are understood and addressed. | |
| 5.2 What are the qualifications and experience of audit department staff? | Currently the internal audit unit includes an acting head and four staff, each of whom have a university degree (economics), and between 27 and 37 years of relevant 'business' practical experience and an average of 2-3 years of auditing experience. However, none of the staff have taken or are enrolled in accredited auditing courses. | |
| 5.3 To whom does the internal auditor report? | BT's Chief Accountant and the Chairman | |
| 5.4 Will the internal audit department include the project in its work program? | BT's 2011 Regulation on Internal Auditing requires periodic audits of all of BT's reporting units . | |
| 5.5 Are actions taken on the internal audit findings? | BT's reporting units are required to implement changes recommended by the audit staff within a designated time and to report such actions | |

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| | taken | |
| **6. External Audit** | | |
| 6.1 Is the entity financial statement audited regularly by an independent auditor? Who is the auditor? | Since 2001 BT has engaged an external professional auditor to audit its IFRS corporate financial statements. However, the auditor has issued a denial of opinion for each of the past 5 years due primarily to the inability of obtaining sufficient audit evidence to support the expression of an opinion on BT's corporate IFRS financial statements | |
| 6.2 Are there any delays in audit of the entity? When are the audit reports issued? | Delays are the norm as audit opinion (or denial thereof) and the financial statements are not available until at least 6 months following the financial year end. | |
| 6.3 Is the audit of the entity conducted according to the International Standards on Auditing? | Yes | |
| 6.4 Were there any major accountability issues brought out in the audit report of the past three years? | Yes. Following completion of audit work and release of corporate financial statements and audit opinion (or denial thereof) the auditor routinely issues its management letter to BT's senior management setting out deficiencies and weaknesses detected during the course of their audit work together with recommendations for BT's consideration and resolution. | See Deloitte's Management Letter relating to the year ended 31 December 2011 issued 10 September 2012. This report summarises past deficiencies and current status of resolution efforts made by BT together with currently outstanding items |
| 6.5 Will the entity auditor audit the project accounts or will another auditor be appointed to audit the project financial statements? | The auditor of BT's corporate financial statements normally audits project statements and reports. | |
| 6.6 Are there any recommendations made by the auditors in prior audit reports or management letters that have not yet been implemented? | Yes - see Deloitte's Management Letter re year ended 31 December 2011 | |
| 6.7 Is the project subject to any kind of audit from an independent governmental entity (e.g., the supreme audit institution) in addition to the external audit? | Yes. Annual audits are routinely rendered by governmental taxing and regulatory agencies | |
| 6.8 Has the project prepared acceptable terms of | The TOR for the previous projects will be used as a | |

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| reference for an annual project audit? | template and revised to reflect the specificities of the project's legal documents. | |
| **7. Reporting and Monitoring** | | |
| 7.1 Are financial statements prepared for the entity?<br>In accordance with which accounting standards? | BT prepares semi-annual and annual consolidated financial statements in accordance with National accounting standards and during the past few years, generally with assistance of external consultants, in accordance with IFRS | |
| 7.2 Are financial statements prepared for the implementing unit? | We believe that the PMU is able to produce financial reports. Results are included in the corporate financial statements | |
| 7.3 What is the frequency of preparation of financial statements? Are the reports prepared in a timely fashion so as to useful to management for decision making? | Semi-annual and annual consolidated financial statements are prepared by BT but their timeliness and usefulness for management decision making is questionable. Here has been little evidence that such statements are used in decision making | |
| 7.4 Does the reporting system need to be adapted to report on the project components? | Although we do not have examples to base an opinion on, it is believed that considerable improvement in project accounting and reporting mechanisms is required | |
| 7.5 Does the reporting system have the capacity to link the financial information with the project's physical progress? If separate systems are used to gather and compile physical data, what controls are in place to reduce the risk that the physical data may not synchronize with the financial data? | The PMU used the Russian "IC" accounting system and reflects only financial data (physical data is not generated). Based on weaknesses throughout BT, it is highly probable that physical data will not synchronize with financial data. The accuracy of financial data is often suspect (differences often exist in financial data received from different sources). | |
| 7.6 Does the project have established financial management reporting responsibilities that specify what reports are to be prepared, what they are to contain, and how they are to be used? | Reporting requirements are set out by the IFI but BT has no effective management reporting system both within the PMU and BT generally | |
| 7.7 Are financial management reports used by management? | A major deficiency exists within BT – appropriate, timely and relevant management reports do not exist. At best, piecemeal reports are prepared | |

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| | by the central Planning Dept. (comprehensive management accounting financial statements are not prepared) | |
| 7.8 Do the financial reports compare actual expenditures with budgeted and programmed allocations | The centralized Planning department prepares piecemeal financial reports comparing budgeted and actual financial data but often such analyses are delayed due to lack of timely actual information. Comparing budgeted figures with the actual performance is made difficult as cost structures used in planning are different to those used for accounting. Furthermore, information required from the Accounting Department is often 2-3 months old and does not represent the current situation | |
| 7.9 Are financial reports prepared directly by the automated accounting system or are they prepared by spreadsheets or some other means? | Currently financial reports are generally prepared using electronic spreadsheets. The "IC" accounting system has limited ability to generate reports required by BT | |
| **8. Information Systems** | | |
| 8.1 Is the financial management system computerized? | There is no financial management system in use at BT | |
| 8.2 Can the system produce the necessary project financial reports? | The "1C" accounting system in use can generate the financial information required for the production of required financial statements but only when supplemented with additional detail provided in a number of data collection forms completed by each of the various 30 subsidiary and other reporting units. | |
| 8.3 Is the staff adequately trained to maintain the system | The "1C" computerised accounting system was installed in all of the 30 reporting units by the end of 2012 but training in its use is still on-going | |
| 8.4 Does the management organization and processing system safeguard the confidentiality, integrity and availability of the data? | In 2011 BT issued a Regulation on Internal Control and distributed a copy to each of the 30 reporting units. However, management and account staff of many of these reporting units have said that they have yet to read and | |

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| | understand its contents. As well, it has been reported that BT's internal auditors are more interested in reviewing the daily transmittal of cash to head office and with checking the presence of appropriate document authorisations and not reviewing internal control, governance and risk identification and analysis | |

*Note: The Assessment Report was published in June 2013 by Corporate Solutions as part of ADB's Regional Power Transmission Project - Sector Operational Improvement Project, ADB Grant No. 0213 -TAJ

## Annex 2 – BT Historical Financial Statements

# Historical BT Balance Sheet (TJS)

| | 2007 | 2008 | 2009 | 2010 | Per Deloitte 2010 | 2011 |
|---|---|---|---|---|---|---|
| **ASSETS** | | | | | | |
| **Current Assets** | | | | | | |
| Cash & Cash equivalents | 12,327,000 | 35,974,000 | 9,201,000 | 13,561,000 | 13,561,000 | 19,525,000 |
| Trade and other receivables, net | 181,370,000 | 275,307,000 | 351,221,000 | 481,254,000 | 526,664,000 | 419,294,000 |
| Trade receivables - Energy | 169,076,000 | 245,341,000 | 349,771,000 | 489,087,000 | 573,841,000 | 553,795,000 |
| Less portion transferred to long-term receivable | (56,974,000) | (56,974,000) | | | | |
| Other trade receivables | 99,967,000 | 130,716,000 | 111,248,000 | 121,826,000 | 71,480,000 | 43,519,000 |
| Provision for doubtful debts | (33,484,000) | (43,776,000) | (109,798,000) | (129,659,000) | (106,745,000) | (163,391,000) |
| Provision for impairment | | | | | (11,912,000) | (14,629,000) |
| Current portion of restructured receivables | 2,785,000 | | | | | |
| Receivable from associated entities | 774,000 | | | | | |
| Advances to suppliers | 438,198,000 | 1,021,160,000 | 1,127,866,000 | 189,535,000 | 37,167,000 | 35,158,000 |
| Other receivables | 24,120,000 | 398,000 | | 168,718,000 | | |
| Inventories | 232,434,000 | 262,155,000 | 349,315,000 | 473,060,000 | 432,613,000 | 618,376,000 |
| Other current assets | | | | | 4,580,000 | 36167000 |
| **Total current assets** | **889,223,000** | **1,594,994,000** | **1,837,603,000** | **1,326,128,000** | **1,014,585,000** | **1,128,520,000** |
| **Non-Current Assets** | | | | | | |
| Property, plant & equipment, net book value | 1,143,786,000 | 1,316,007,000 | 1,304,386,000 | 3,785,376,000 | 3,993,681,000 | 4,956,894,000 |
| Property, plant & equipment | 1,420,584,000 | 1,619,768,000 | 1,639,105,000 | 5,093,732,000 | 5,430,511,000 | 6,489,069,000 |
| Land | 17,000 | 17,000 | 17,000 | 17,000 | | |
| Buildings and constructions | 439,352,000 | 442,594,000 | 442,733,000 | 1,253,977,000 | 1,879,147,000 | 1,903,197,000 |
| Plant & equipment | 495,435,000 | 536,885,000 | 593,335,000 | 1,948,043,000 | 1,281,652,000 | 1,497,882,000 |
| Other fixed assets | 11,322,000 | 11,770,000 | 14,012,000 | 62,377,000 | 166,843,000 | 165,210,000 |
| Assets in construction | 474,458,000 | 628,502,000 | 589,008,000 | 1,829,318,000 | 2,102,869,000 | 2,922,780,000 |
| Accumulated Depreciation | (276,798,000) | (303,761,000) | (334,719,000) | (1,308,356,000) | (1,436,830,000) | (1,532,175,000) |
| Buildings & constructions | (59,025,000) | -65,109,000 | -65,226,000 | -368,528,000 | -841,371,000 | -878,837,000 |
| Plant & Equipment | (206,564,000) | -227,091,000 | -255,710,000 | -889,567,000 | -519,576,000 | -574,282,000 |
| Other fixed assets | (11,209,000) | -11,561,000 | -13,783,000 | -50,261,000 | -75,883,000 | -79,056,000 |
| Biological assets | 237,000 | 177,000 | 193,000 | 85,000 | | |
| Intangible assets (software) | 14,000 | 13,000 | 13,000 | 16,000 | 16,000 | 267,000 |
| Long-term financial investments | 103,000 | 103,000 | 103,000 | 31,436,000 | 31,631,000 | 31,631,000 |
| Joint stock company "Energy Services" | | | | | | |
| Association "Nazar Ailokh" | 72,000 | 72,000 | 72,000 | 0 | | |
| Orion Bank | 28,000 | 28,000 | 28,000 | 28,000 | 28,000 | 28,000 |
| OJSC "Rogun Hydropower Station" | | | 3,000 | 31,408,000 | 31,603,000 | 31,603,000 |
| Somonbank | 3,000 | 3,000 | | | | |
| Long-term receivables, net | 56,974,000 | 56,974,000 | 6,666,000 | 6,877,000 | 350,304,000 | 201,671,000 |
| Long- term receivables - energy | 56,974,000 | 56,974,000 | 6,666,000 | 6,877,000 | | |
| Provision for long-term receivables | | | | | | |
| Fair value adjustments | (3,814,000) | | | | | |
| Loan to TADAZ net of fair value adjustment | 3,814,000 | | | | | |
| Advances paid re equipment & construction work | | | | | 350,304,000 | 201,671,000 |
| Deferred Tax Asset | | | 0 | 15,720,000 | 30,392,000 | 54,895,000 |
| **Total non-current assets** | **1,201,114,000** | **1,373,274,000** | **1,311,361,000** | **3,839,510,000** | **4,406,024,000** | **5,245,358,000** |
| **Total assets** | **2,090,337,000** | **2,968,268,000** | **3,148,964,000** | **5,165,638,000** | **5,420,609,000** | **6,373,878,000** |
| | | | | | | |
| **Current Liabilities** | | | | | | |
| Trade & other payables | 253,902,000 | 447,799,000 | 697,865,000 | 1,222,058,000 | 1,126,960,000 | 1,335,916,000 |
| Trade creditors | 196,629,000 | 250,961,000 | 403,495,000 | 663,760,000 | 514,441,000 | 628,846,000 |
| Income tax payable | 9,660,000 | 19,445,000 | 13,002,000 | 44,136,000 | | |
| Road tax payable | | | 98,261,000 | 55,064,000 | 21,001,000 | 31,912,000 |
| Social tax payable | | | | 1,403,000 | 3,420,000 | 5,453,000 |
| Payable for energy imports | | | | | 153,283,000 | 231,222,000 |
| Payable to associated entities | 0 | | | | | |
| Payable to the State | 16,322,000 | 82,915,000 | 64,186,000 | 96,843,000 | 68,107,000 | 66,823,000 |
| Income tax payable | | | | | 51,510,000 | 54,252,000 |
| VAT Payable | 21,514,000 | 64,637,000 | 49,095,000 | 116,890,000 | 116,890,000 | 12,908,000 |
| Payable to employees | 6,567,000 | 8,542,000 | 10,629,000 | 11,822,000 | 11,624,000 | 24,581,000 |
| Advances received | 47,000 | 47,000 | 65,000 | 4,789,000 | 440,000 | 475,000 |
| Social insurance payable | 2,349,000 | 2,156,000 | 3,505,000 | 4,775,000 | 183,000 | 827,000 |
| Interest on loans | 331,000 | 18,532,000 | 54,750,000 | 202,882,000 | 121,401,000 | 262,415,000 |
| Accrued financial penalties | | | | | 64,186,000 | 15,800,000 |
| Other current payables | 483,000 | 564,000 | 877,000 | 19,694,000 | 474,000 | 402,000 |
| Short-term bank loans | 94,102,000 | 145,780,000 | 13,511,000 | 61,740,000 | 61,740,000 | 87,987,000 |
| Credit from Ministry of Finance | | | 43,758,000 | 65,518,000 | 65,670,000 | 61,603,000 |
| Other short-term debts | | | | | 6,229,000 | 3,629,000 |
| Current porion of long-term loans | 2,412,000 | 12,008,000 | 29,168,000 | 116,473,000 | 121,357,000 | 251,748,000 |
| Other short-term payables | | | 150,000 | 73,000 | 1,564,000 | 2,425,000 |
| Provision for accrued vacations | | | | | 7,446,000 | 12,837,000 |
| Total current liabilities | **350,416,000** | **605,587,000** | **784,452,000** | **1,465,862,000** | **1,390,966,000** | **1,756,145,000** |
| | | | | | | |
| **Long-term liabilities** | | | | | | |
| Long-term loans, total | 558,596,000 | 1,146,198,000 | 1,965,033,000 | 2,137,300,000 | 542,909,000 | 964,770,000 |
| ADB - Power Rehabilitation Project | 103,463,000 | 121,495,000 | 174,606,000 | 175,889,000 | | |
| ADB - Land Stabilisation Project | 15,331,000 | 15,274,000 | 19,340,000 | 24,206,000 | | |
| ADB - Intersystem transmission line project | | 2,577,000 | 26,872,000 | 75,507,000 | | |
| Islam Development Bank (Power Rehabilitation) | 38,456,000 | 39,961,000 | 57,213,000 | 67,839,000 | | |
| Islam Development Bank (Small HPS) | 6,107,000 | 7,477,000 | 9,796,000 | 33,913,000 | | |
| Swiss Government (Power Rehabilitation) | 19,880,000 | 26,458,000 | 38,736,000 | 39,021,000 | | |
| Swiss Government (Energy Loss Reduction project) | | 725,000 | 2,998,000 | 6,356,000 | | |
| Kuwait Fund (Dushanbe Power Network Rehabilitation) | 11,041,000 | 33,765,000 | 53,597,000 | 50,207,000 | | |
| Eksimbank re High Voltage Line 500, HVL 200 | 360,913,000 | 893,655,000 | 1,559,704,000 | 1,645,979,000 | | |
| OFID intersystem transmission line project | | | 6,194,000 | 25,759,000 | | |
| KWF grant (German Development Bank) | | | 1,814,000 | 26,998,000 | | |
| International Development Organisation (Power Losses) | 2,069,000 | 12,479,000 | 36,024,000 | 80,899,000 | | |
| Government of Tajikistan (reconstruction of 2 small HPS) | 3,748,000 | 4,340,000 | 7,307,000 | 1,200,000 | | |
| Less current portion of long-term debt | (2,412,000) | -12,008,000 | -29,168,000 | -116,473,000 | | |
| | | | | | | |
| Deferred income | 119,978,000 | 174,389,000 | 74,307,000 | 100,283,000 | 104,727,000 | 92,717,000 |
| Deferred revenue from government grant (re low interest rate) | | | | | 1,656,493,000 | 1,717,315,000 |
| Deferred Tax Liability | 22,254,000 | | | 142,738,000 | 10,000 | 0 |
| Total long-term liabilities | **700,828,000** | **1,320,587,000** | **2,039,340,000** | **2,380,321,000** | **2,304,139,000** | **2,774,802,000** |
| **Total liabilities** | 1,051,244,000 | 1,926,174,000 | 2,823,792,000 | 3,846,183,000 | 3,695,105,000 | 4,530,947,000 |
| **Equity** | | | | | | |
| Share Capital (Charter Capital) | 315,911,000 | 318,235,000 | 318,235,000 | 316,436,000 | 367,030,000 | 383,836,000 |
| Additional Capital (Revaluation Reserve) | 528,207,000 | 528,207,000 | 415,493,000 | 870,727,000 | 24,302,000 | 24,302,000 |
| Reserve Capital | 0 | 0 | 0 | 273,514,000 | 0 | 0 |
| Other Reserves | 0 | 0 | 0 | 0 | 0 | 0 |
| Foreign Exchange Differences from Translation of foreign subsidiaries | | | | | 5,000 | (9,000) |
| Retained Profits | 194,975,000 | 195,652,000 | (408,556,000) | (141,222,000) | 1,334,167,000 | 1,434,802,000 |
| **Total equity** | 1,039,093,000 | 1,042,094,000 | 325,172,000 | 1,319,455,000 | 1,725,504,000 | 1,842,931,000 |
| **Total liabilities and equity** | **2,090,337,000** | **2,968,268,000** | **3,148,964,000** | **5,165,638,000** | **5,420,609,000** | **6,373,878,000** |

Source: BT Annual Reports

## Annex 2 – BT Historical Financial Statements

# Historical BT Income Statement (TJS)

| | 2007 | 2008 | 2009 | 2010 | Per Deloitte 2010 | 2011 |
|---|---|---|---|---|---|---|
| **Turnover** | | | | | | |
| Sales of electric energy | 315,645,000 | 500,984,000 | 757,275,000 | 977,036,000 | 1,010,768,000 | 959,389,000 |
| Sales of heat energy | 1,979,000 | 2,484,000 | 2,424,000 | 796,000 | 796,000 | 1,020,000 |
| Revenue from Frequency control - Kazakhstan) Voltage regulation | 6,817,000 | 3,732,000 | 7,007,000 | 5,597,000 | 6,728,000 | 1,451,000 |
| Revenue from transit of electricity | | | | | 223,000 | 3,115,000 |
| | **324,441,000** | **507,200,000** | **766,706,000** | **983,429,000** | **1,018,515,000** | **964,975,000** |
| **Cost of Sales** | | | | | | |
| Salaries,contributions & benefits | 67,589,000 | 79,181,000 | 120,319,000 | 71,895,000 | 37,411,000 | 55,413,000 |
| Material expenditures | | | | | 195,623,000 | 256,262,000 |
| Energy imported (net of exports) | (10,000) | 67,424,000 | 115,946,000 | 181,607,000 | | |
| Materials | 49,189,000 | 42,925,000 | 57,769,000 | 36,921,000 | | |
| Fuel | 115,034,000 | 126,186,000 | 95,666,000 | 15,923,000 | | |
| Local energy | 2,111,000 | 2,994,000 | 3,954,000 | | | |
| Services | 4,661,000 | 4,921,000 | 6,334,000 | | 8,733,000 | 13,853,000 |
| Repair & maintenance | 8,066,000 | 7,192,000 | 8,162,000 | 184,231,000 | | |
| Other expenses | 50,396,000 | 60,751,000 | 83,373,000 | 21,582,000 | 70,715,000 | 59,652,000 |
| Depreciation | 22,135,000 | 25,448,000 | 29,690,000 | 24,316,000 | 19,976,000 | 13,533,000 |
| | **319,171,000** | **417,022,000** | **521,213,000** | **536,475,000** | **332,458,000** | **398,713,000** |
| **Gross Profit** | **5,270,000** | **90,178,000** | **245,493,000** | **446,954,000** | **686,057,000** | **566,262,000** |
| **Other Operating Income** | | | | | | |
| Income from secondary activities | 12,523,000 | 4,916,000 | 5,759,000 | 8,627,000 | | |
| Fixed assets received free of charge | 186,000 | 2,000 | | | | |
| Grants and donations | | | | | | |
| Tax liabilities written-off | | | 85,896,000 | | | |
| Other Operating Income | 83,000 | | | 80,000 | 8,042,000 | 27,532,000 |
| | **12,792,000** | **4,918,000** | **91,655,000** | **8,707,000** | **8,042,000** | **27,532,000** |
| **Selling Expenses** | | | | | | |
| Salaries | | | | | 74,970,000 | 106,576,000 |
| Social fund contributions | | | | | 18,079,000 | 26,123,000 |
| Bad debts expense | | | | | 56,831,000 | 56,646,000 |
| Depreciation | | | | | 40,742,000 | 79,106,000 |
| Other selling expenses | | | | | 117,506,000 | 176,615,000 |
| | | | | | **308,128,000** | **445,066,000** |
| **General and Administrative Expenses** | | | | | | |
| Services | 1,205,000 | 694,000 | 979,000 | | 789,000 | |
| Materials | 75,000 | 445,000 | 605,000 | | | 18,761,000 |
| Other administrative expenses | 5,477,000 | 3,495,000 | 3,344,000 | 116,488,000 | 119,081,000 | 1,417,000 |
| Taxes & other payments to State | 9,462,000 | 30,549,000 | 99,545,000 | 275,000 | | 27,944,000 |
| Salaries, contributions & benefits | 3,548,000 | 3,012,000 | 7,044,000 | | 13,649,000 | 12,541,000 |
| Management expenses | | | | 13,124,000 | | |
| Provision for doubtful accounts (reversal of prior years' allowance) | (27,299,000) | 10,286,000 | 45,350,000 | 103,656,000 | | |
| Loss from write-off of acct. receivable | | | 85,896,000 | 67,000 | | |
| Expenses transferred from funds | 3,153,000 | 35,924,000 | 20,909,000 | 80,815,000 | | |
| Fees to Ministry, EPC, Energy ODTS Centre | 2,806,000 | 1,218,000 | 1,251,000 | | | |
| Maintenance of Ministry of Energy | 2,053,000 | | | | | |
| Fines and penalties | | 21,110,000 | 43,115,000 | 32,812,000 | | 124,696,000 |
| Fair value adjustment - restructured receivables | | | | | | |
| Fair value adjustment - loan to TADAZ | (982,000) | | | | | |
| Consulting services re Power Rehabilitation Project | | | | | | |
| Depreciation | 1,217,000 | 1,515,000 | 1,091,000 | | 3,382,000 | 2,706,000 |
| | **715,000** | **108,248,000** | **309,129,000** | **347,237,000** | **136,901,000** | **188,065,000** |
| **Other Operating Expenses** | | | | | | |
| Agricultural farm loss for year; expenses for subdivisions | | | | 9,236,000 | | |
| Penalties | | | | | | |
| Impairment loss of fixed assets | | | | | 17,021,000 | |
| Losses from net realizable value of inventory | | | | | 704,000 | |
| Loss (gain) from disposal of assets | 550,000 | 25,000 | 13,000 | 137,000 | 137,000 | |
| Other Operating Expenses | 16,917,000 | 16,938,000 | 74,338,000 | 14,585,000 | 49,383,000 | 36,957,000 |
| | **17,467,000** | **16,963,000** | **74,351,000** | **23,958,000** | **67,245,000** | **36,957,000** |
| **Operating profit (loss)** | **(120,000)** | **(30,115,000)** | **(46,332,000)** | **84,466,000** | **181,825,000** | **(76,294,000)** |
| **Net Finance Income (Expenses)** | | | | | | |
| Amortisation of duscount on loans | | | | | | 141,465,000 |
| Foreign exchange gains (losses) | 11,856,000 | -1,148,000 | -506,349,000 | -10,692,000 | 20,975,000 | 8,672,000 |
| Accrued interest on loans payable | | | | | -76,806,000 | -18,923,000 |
| Interest and bank charges | (22,814,000) | -19,870,000 | -34,284,000 | -7,997,000 | | |
| | **(10,958,000)** | **(21,018,000)** | **(540,633,000)** | **(18,689,000)** | **(55,831,000)** | **131,214,000** |
| Profit before taxes | (11,078,000) | (51,133,000) | (586,965,000) | 65,777,000 | 125,994,000 | 54,920,000 |
| **Profit Tax Expenses** | | | | | | |
| Current tax (savings) | 1,120,000 | -11,375,000 | | -2,500,000 | 13,220,000 | 22,398,000 |
| Deferred tax (credit) | 31,026,000 | 1,306,000 | | | -78,645,000 | -24,503,000 |
| | **32,146,000** | **(10,069,000)** | **0** | **(2,500,000)** | **(65,425,000)** | **(2,105,000)** |
| Profit (loss) before unusual item | (43,224,000) | (41,064,000) | (586,965,000) | 68,277,000 | 191,419,000 | 57,025,000 |
| Other profit (unusual item re revaluation) | | | | 327,970,000 | | |
| **Net Profit (Loss) for year** | **(43,224,000)** | **(41,064,000)** | **(586,965,000)** | **396,247,000** | **191,419,000** | **57,025,000** |
| Exchange differences on translating foreign operations | | | | | 5,000 | (14,000) |
| **Total comprehensice income** | | | | | **191,424,000** | **57,011,000** |

Source: BT Annual Reports

## Annex 3 – Estimated BT 2012 Balance Sheet and Income statements

### BT 2011 and Estimated 2012 Balance Sheet and Normalized Income Statement

**Barki Tojik**
**Consolidated Balance Sheet**
**(Somoni millions)**

| Year ending Dec 31 ====> | 2011 | 2012 |
|---|---|---|
| **Assets** | | |
| Fixed assets | | |
| Gross plant in service | 3,566 | 3,923 |
| Accumulated depreciation | 1,532 | 1,685 |
| Net plant in service | 2,034 | 2,237 |
| Work in progress | 3,125 | 3,438 |
| Total fixed assets | 5,159 | 5,675 |
| Long term investments | 31 | 34 |
| Other | 55 | 61 |
| Total long-term assets | 5,245 | 5,770 |
| Current assets | | |
| Receivables: Power Sales | 379 | 417 |
| Receivables: Heat | 8 | 9 |
| Inventory | 618 | 680 |
| Cash | 20 | 22 |
| Other current assets | 104 | 114 |
| Total current assets | 1,129 | 1,242 |
| Total assets | 6,374 | 7,011 |
| **Liabilities** | | |
| Equity | | |
| Share capital | 384 | 422 |
| Reserves | 24 | 26 |
| Retained earnings | 1,435 | 1,579 |
| Total equity | 1,843 | 2,027 |
| Deferred revenue | 1,810 | 1,991 |
| Long term liabilities | 965 | 1,062 |
| Current liabilities | | |
| Current portion long-term debt | 252 | 277 |
| Accounts payable | 860 | 946 |
| Other current liabilities | 644 | 708 |
| Total current liabilities | 1,756 | 1,932 |
| Total liabilities | 6,374 | 7,011 |

**Barki Tojik**
**Consolidated Income Statement**
**(Somoni millions)**

| Year ending Dec 31 ====> | 2011 | 2012 |
|---|---|---|
| **Revenue** | | |
| Electricity sales | 959 | 1,400 |
| Heat sales | 1 | 1 |
| Other electricity related revenue | 5 | 117 |
| Total revenue | 965 | 1,518 |
| **Less Expenses** | | |
| Direct costs of electricity generation | 342 | 558 |
| Direct costs of heat production | 43 | 70 |
| Payroll - networks | 107 | 174 |
| Other cash expenses - networks | 203 | 331 |
| General and admin | 166 | 271 |
| Depreciation expense electricity generation | 13 | 21 |
| Depreciation expense heat production | 1 | 2 |
| Depreciation expense networks | 79 | 129 |
| Depreciation expense general property | 3 | 5 |
| Bad debt expense | 57 | 93 |
| Total | 1,014 | 1,653 |
| Non-operating income | 190 | 209 |
| Non-operating expenses | -67 | -74 |
| Interest expense | -19 | -100 |
| Profit before tax | 55 | -100 |
| Income tax (15%) and credits | -2 | 0 |
| Net profit | 57 | -100 |

Source: MOEI Consultant SOPI under G0213-TAJ.

**Barki Tojik Consolidated**
**Balance Sheet**
**(TJS millions)**

| Year ending Dec 31 ====> | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | | | |
| Fixed assets | | | | | | | | | |
| Gross plant in service | 3,922 | 4,536 | 5,165 | 5,877 | 6,579 | 7,844 | 8,991 | 9,955 | 10,518 |
| Accumulated depreciation | 1,685 | 1,821 | 1,976 | 2,152 | 2,350 | 2,585 | 2,855 | 3,153 | 3,469 |
| Net plant in service | 2,237 | 2,715 | 3,189 | 3,725 | 4,229 | 5,259 | 6,136 | 6,801 | 7,049 |
| Work in progress | 3,438 | 3,475 | 3,473 | 3,482 | 3,480 | 3,543 | 3,523 | 3,504 | 3,462 |
| Total fixed assets | 5,675 | 6,190 | 6,662 | 7,207 | 7,709 | 8,802 | 9,659 | 10,306 | 10,512 |
| Long term investments | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Current assets | | | | | | | | | |
| Receivables: Pow er Sales | 426 | 562 | 720 | 907 | 1,099 | 1,285 | 1,475 | 1,655 | 1,834 |
| Inventory | 679 | 785 | 894 | 1,017 | 1,139 | 1,358 | 1,557 | 1,723 | 1,821 |
| Cash | 22 | 114 | 126 | 142 | 157 | 167 | 201 | 215 | 526 |
| Other current assets | 114 | 132 | 150 | 171 | 191 | 228 | 261 | 289 | 306 |
| Total current assets | 1,241 | 1,593 | 1,890 | 2,237 | 2,586 | 3,038 | 3,495 | 3,882 | 4,487 |
| Total assets | 7,011 | 7,877 | 8,647 | 9,539 | 10,390 | 11,935 | 13,249 | 14,283 | 15,093 |
| **Liabilities** | | | | | | | | | |
| Equity | | | | | | | | | |
| Paid in capital | 422 | 422 | 422 | 422 | 422 | 422 | 422 | 422 | 422 |
| Reserves | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Retained earnings | 1,579 | 1,431 | 1,247 | 1,262 | 1,281 | 1,857 | 2,455 | 3,172 | 3,971 |
| Total equity | 2,027 | 1,879 | 1,695 | 1,710 | 1,729 | 2,305 | 2,903 | 3,620 | 4,419 |
| Long term debt | 1,339 | 1,811 | 2,314 | 2,916 | 3,517 | 4,680 | 5,666 | 6,486 | 6,894 |
| Deferred income | 1,991 | 1,991 | 1,991 | 1,991 | 1,991 | 1,991 | 1,991 | 1,991 | 1,991 |
| Current liabilities | | | | | | | | | |
| Accounts payable | 946 | 936 | 749 | 706 | 561 | 397 | 210 | 167 | 118 |
| Other current liabilities | 708 | 721 | 821 | 934 | 1,045 | 1,246 | 1,428 | 1,581 | 1,671 |
| Required short term loan | 0 | 539 | 1,078 | 1,282 | 1,547 | 1,317 | 1,050 | 438 | 0 |
| Total current liabilities | 1,654 | 2,196 | 2,648 | 2,921 | 3,153 | 2,959 | 2,689 | 2,186 | 1,789 |
| Total liabilities | 7,011 | 7,877 | 8,647 | 9,539 | 10,390 | 11,935 | 13,249 | 14,283 | 15,093 |

Source: MOEI Consultant SOPI under G0213-TAJ.

**Barki Tojik Consolidated**
**Income Statement**
**(TJS millions)**

| Year ending Dec 31 ====> | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| **Inflation index:** | 1.0000 | 1.0000 | 1.0000 | 1.0700 | 1.1449 | 1.2250 | 1.3108 | 1.4026 | 1.5007 |
| Rate | | | 0.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% | 7.0% |
| **Revenue:** | | | | | | | | | |
| % increase in average retail tariff | | 0.0% | 25.0% | 25.0% | 10.0% | 7.0% | 7.0% | 7.0% | 7.0% |
| Average retail tariff (TJS/ kWh) | 0.0953 | 0.0953 | 0.1191 | 0.1489 | 0.1637 | 0.1752 | 0.1875 | 0.2006 | 0.2146 |
| Net energy sales (GWh) | 14,550 | 14,590 | 14,778 | 15,235 | 15,602 | 15,781 | 16,914 | 17,008 | 18,559 |
| Retail sales revenue | 1,400 | 1,390 | 1,760 | 2,268 | 2,555 | 2,765 | 3,171 | 3,412 | 3,983 |
| Export sales revenue | 111 | 195 | 209 | 304 | 326 | 1,050 | 1,159 | 1,248 | 1,344 |
| Other operating income | 6 | 6 | 8 | 10 | 11 | 12 | 14 | 15 | 17 |
| Total revenue | 1,517 | 1,591 | 1,976 | 2,582 | 2,891 | 3,826 | 4,343 | 4,674 | 5,344 |
| **Operating Expenses:** | | | | | | | | | |
| Purchased pow er | | | | | | | | | |
| Existing purchases | 320 | 320 | 342 | 366 | 392 | 419 | 449 | 480 | 514 |
| New purchases | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fuel | | | | | | | | | |
| Existing CHP | 82 | 82 | 88 | 94 | 100 | 107 | 0 | 0 | 0 |
| New coal plants | 0 | 29 | 94 | 201 | 287 | 308 | 742 | 794 | 1,323 |
| Employees | 288 | 285 | 302 | 320 | 340 | 360 | 382 | 404 | 429 |
| Repairs & maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Admin & general | 270 | 267 | 283 | 300 | 318 | 337 | 358 | 379 | 402 |
| Depreciation | 157 | 136 | 155 | 176 | 197 | 235 | 270 | 299 | 316 |
| Bad debt expense | 93 | 45 | 53 | 62 | 64 | 62 | 63 | 60 | 60 |
| Other Expenses | 444 | 440 | 466 | 494 | 524 | 555 | 588 | 624 | 661 |
| Total operating expenses | 1,654 | 1,605 | 1,784 | 2,015 | 2,223 | 2,384 | 2,852 | 3,040 | 3,704 |
| Net operating profit | (137) | (14) | 192 | 567 | 669 | 1,442 | 1,491 | 1,634 | 1,640 |
| Non-operating income | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Non-operating expenses | (73) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Earnings before interest and income tax | 0 | (14) | 192 | 567 | 669 | 1,442 | 1,491 | 1,634 | 1,640 |
| Less interest & financing charges | 100 | 134 | 377 | 548 | 647 | 764 | 788 | 791 | 700 |
| Profit before income tax | (100) | (148) | (185) | 19 | 22 | 678 | 703 | 843 | 940 |
| Less income tax | 0 | 0 | 0 | 3 | 3 | 102 | 105 | 126 | 141 |
| **Profit/ Loss** | **(100)** | **(148)** | **(185)** | **16** | **19** | **576** | **598** | **717** | **799** |

Source: MOEI Consultant SOPI under G0213-TAJ.

**Barki Tojik Consolidated**
**Cash Flow (Sources and Uses of Funds) Statement**
**(TJS millions)**

| Year ending Dec 31 ====> | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|
| **Sources of funds:** | | | | | | | | | |
| Net income | | (148) | (185) | 16 | 19 | 576 | 598 | 717 | 799 |
| Depreciation | | 136 | 155 | 176 | 197 | 235 | 270 | 299 | 316 |
| Bad debt expense | | 45 | 53 | 62 | 64 | 62 | 63 | 60 | 60 |
| Deferred interest | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Capitalized interest | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FX losses on loans | | 0 | 85 | 116 | 149 | 180 | 239 | 289 | 331 |
| Total funds from operations | | 33 | 108 | 370 | 429 | 1,053 | 1,170 | 1,364 | 1,506 |
| Debt funding | | 618 | 596 | 685 | 665 | 1,261 | 1,071 | 898 | 495 |
| **Total sources excluding cash** | | 652 | 704 | 1,055 | 1,094 | 2,315 | 2,241 | 2,262 | 2,001 |
| **Uses of funds:** | | | | | | | | | |
| Capital investments | | 651 | 627 | 721 | 700 | 1,328 | 1,127 | 945 | 521 |
| Increase in long term investments | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Increase in w orking capital (excl cash) | | 302 | 425 | 324 | 431 | 468 | 490 | 324 | 312 |
| Dividends | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Long term debt repayment | | 146 | 178 | 198 | 214 | 278 | 323 | 368 | 418 |
| Short term loan repayment | | 0 | 539 | 1,078 | 1,282 | 1,547 | 1,317 | 1,050 | 438 |
| **Total Uses of Funds** | | 1,099 | 1,770 | 2,321 | 2,626 | 3,621 | 3,256 | 2,687 | 1,689 |
| **Cash Position:** | | | | | | | | | |
| Opening balance | | 22 | 114 | 126 | 142 | 157 | 167 | 201 | 215 |
| Net surplus (deficit) | | (447) | (1,066) | (1,266) | (1,532) | (1,307) | (1,016) | (425) | 312 |
| Net cash position | 22 | (425) | (952) | (1,140) | (1,390) | (1,150) | (849) | (223) | 526 |
| Required cash position | 22 | 114 | 126 | 142 | 157 | 167 | 201 | 215 | 266 |
| - as a % of cash operating expenses | | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% |
| Required short-term loan | | 539 | 1,078 | 1,282 | 1,547 | 1,317 | 1,050 | 438 | 0 |
| Closing balance | 22 | 114 | 126 | 142 | 157 | 167 | 201 | 215 | 526 |
| Interest charges | | | | | | | | | |
| on short term loan 24.0% | | 129 | 259 | 308 | 371 | 316 | 252 | 105 | 0 |

- it is assumed this amount is paid and expensed in the follow ing year (to avoid circular references)

Source: MOEI Consultant SOPI under G0213-TAJ.