Eurasian Development Bank
Resources Manager of EurAsEC Anti-Crisis Fund

APPRAISAL REPORT

on Application of Kyrgyz Republic

for Investment Loan
to be provided by the EurAsEC Anti-Crisis Fund for the project
“Rehabilitation of Toktogul HPP. Phase 2”

in the amount of US$ 100 million

May 2015
Kyrgyz Republic
Fiscal year: 1 January – 31 December

National currency exchange rate
as of 20/05/2015

<table>
<thead>
<tr>
<th>Currency</th>
<th>KGS</th>
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<tbody>
<tr>
<td>1 RUB</td>
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<tr>
<td>1 KZT</td>
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</tr>
<tr>
<td>1 US$</td>
<td>58.5527</td>
</tr>
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<td>1 EUR</td>
<td>65.5497</td>
</tr>
</tbody>
</table>

System of weights and measures: Metric

Acronyms and Abbreviations

ACF, Fund, Anti-Crisis Fund - Anti-Crisis Fund of the Eurasian Economic Community
ADB - Development Bank
ADF - Asian Development Fund
EBRD - European Bank for Reconstruction and Development
EAEU - Eurasian Economic Union
EDB, Manager - Eurasian Development Bank
FS - feasibility study
GDP - gross domestic product
GNI - gross national income per capita
IFI - International Financial Institutions
KR - Kyrgyz Republic
MDB - Multilateral Development Banks
Minenergoprom, MOEI - Ministry of Energy and Industry of the Kyrgyz Republic

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1. KEY PARAMETERS OF LOAN RECOMMENDED BY MANAGER

| Form of financing | For the Borrower: Investment Loan  
|                  | For the Ultimate Beneficiary (Project Company): Budget loan |
| Borrower of the Fund Loan | Kyrgyz Republic |
| Ultimate Beneficiary (Project Company) | Open Joint Stock Company “Electric Power Plants” (OAO “Electric Power Plants”, EPP) |
| Project name | “Rehabilitation of Toktogul HPP. Phase 2” |
| Main objectives | • Enhancing reliability and stable supply to power consumers and availability of electricity for the population;  
|                  | • Improving energy security and sustainability of the power supply system of Kyrgyzstan;  
|                  | • Increasing surplus power export capacity of the Kyrgyz Republic for sale to ACF member countries to improve the balance of payments of the Kyrgyz Republic;  
|                  | • Expanding trade with the Fund member countries, including in supplies of equipment and services;  
|                  | • Mitigating winter shortages of electricity supply in the country. |
| Key performance indicators | • The productivity ratio of the Toktogul turbine generators (generator units) 2 and 4 will be increased by 2.5%, from 90% in 2014 to 92.5% in 2021.  
|                  | • Generator unit 2 of the Toktogul HPP by 2021 will operate with a power output of 360 MW (baseline in 2014 is 300 MW).  
|                  | • Generator unit 4 of the Toktogul HPP by 2020 will operate with a power output of 360 MW (baseline in 2014 is 300 MW). |
| Maturity of Investment Loan | up to 20 years |
| Purpose of Loan | Financing of turnkey contracts for the rehabilitation of Toktogul HPP equipment and for the rehabilitation of the gates and hydraulic steel structures of the Toktogul HPP. |
| Amount committed by the Fund | US$ 100 million |
| Financial participation of the co-financing organization (ADB) in the Project | US$ 110 million |
| Participation of the Borrower in Project financing | US$ 40.68 million |
| Financial participation of the Ultimate Beneficiary in the Project | US$ 1 million |
| Date of termination of loan availability | 30 Jun 2022 |
| Project completion date | 31 December 2021 |
| Disbursement procedure | The Loan funds will be provided to the Borrower in accordance with |
the disbursement guidelines of the Asian Development Bank (Disbursement Handbook of the Asian Development Bank, 2012, as amended) by direct payments to suppliers under contracts.

| Financial conditions for providing the Fund Loan to the Borrower. | • Interest rate: 1% per annum  
• Risk premium: n/a  
• Front-end fee 0.5% of Loan amount  
• Commitment fee: n/a  
• Interest Margin: n/a |
| Fund loan repayment schedule | • Grace period for principal repayment: up to 8 years.  
• Principal repayment schedule - semi-annual, on 30 March and 30 September, starting from 30 September 2023 |
| Project sector | Power engineering |
| Agreement on provision of Investment Loan to Borrower | Draft Agreement prepared by the Manager is submitted to the Fund Council alongside with the Appraisal Report. The draft Agreement has been pre-approved by the Kyrgyz Republic. |
2. MANAGER'S APPRAISAL OF APPLICATION

This Appraisal Report provides an assessment of the preliminary application of the Ministry of Finance of the Kyrgyz Republic (hereinafter - the Application). The main stated purpose of the Loan consists in financing of the project "Rehabilitation of Toktogul HPP. Phase 2" (hereinafter - the Project).

Section 3 of this document contains the rationale for the Appraisal of the Application by the ACF Resources Manager's (hereinafter - the Manager).

Having examined the Application, the Manager hereby requests the ACF Council to consider the following recommendations and the Appraisal conclusions:

1. *The Application conforms to the mission objectives of the Fund, its funding and lending policies, as defined by the Treaty on the Establishment of the Fund, the Fund Statute, and the Regulation on ACF Investment Loans.* At the same time, the Manager wishes to indicate that the conditions tendered by the Borrower, differ from the indicative terms for provision of investment loans by the Fund. According to the World Bank’s classification, the Kyrgyz Republic is a lower-middle-income country, and this category, as provided in the Regulation on the Use of ACF Resources for Providing Investment Loans (see para 12 in Appendix 1 thereto), does not require mandatory compliance with IFI standards for financing such countries. However, with due regard to the current IMF Program in the Kyrgyz Republic, the Manager proposes to grant the request of the Ministry of Finance of the Kyrgyz Republic to extend the drawdown period of the Investment Loan to 20 years, and the grace period - to 8 years, to meet the requirement for the grant element size as provided by the IMF Program for the Kyrgyz Republic. Also, the Manager proposes to agree to the requested interest rate of 1% per annum and to the amount of co-financing by the Borrower (5.3% of the total cost of the Project).

2. *The Application is executed in full compliance with the requirements of the Fund.* The depth of elaboration of the Application in terms of the submitted data, required for evaluation purposes, and the supporting documentation to enable a preliminary approval of the Project, is deemed satisfactory.

3. *The Project is consistent with the ACF mission objectives.* The Project contributes to improving sustainability of the Kyrgyz economy (growth of production and exports of electricity), further mutual integration of the economies of the ACF member countries (provision is made for increasing reciprocal investments and trade between the ACF member states). The Manager has developed a Matrix of project compliance with ACF mission objectives (Appendix 1 hereto), which shows that the Project meets 11 criteria (highlighted in green) in all the categories (anti-crisis, integration, sustainable development).

4. *The Kyrgyz Republic has met all the requirements defined by the Treaty on the Establishment of the Fund, the Statute of the Fund and the relevant decisions of the ACF Council.* The requirement to make an initial cash contribution and in the form of a bill of exchange has been met in full. Kyrgyzstan was required to make a partial payment against its bill of exchange in the amount of US$ 100,000; it was cashed in due time, and there are no outstanding liabilities on the said bill of exchange. According to the information available to the Manager, the Kyrgyz Republic has no outstanding debts either to any of the Fund member states, or to any international financial institutions. By the date of the Fund Council approval of the Loan, all the relevant supporting letters will have been received. The requested amount is within the country eligibility limit, established by the ACF Council for the Kyrgyz Republic.
The level of debt sustainability of the Kyrgyz Republic enables us to make a positive conclusion about financial solvency of the Borrower.

5. To ensure adequate quality control over project design documentation, proper spending of funds, procurement operations, social and environmental safeguards, as well as effective monitoring of the Project implementation, and over progress in ensuring compliance with the recommendations of auditors, the Manager recommends delegating some of the responsibilities for Project administration to the ADB. The EDB and ADB will sign a co-financing agreement, which will provide a mechanism for administration of the Project.

In the process of monitoring the ACF-funded investment projects, the Manager will need to recruit independent experts for technical, legal and environmental consultancy, as well as for procurement support and monitoring proper use of the Loan funds.

The total amount of such expenses is estimated at about US$ 200,000 (up to 0.2 % of the Project cost), including:

- Technical and environmental consultancy - up to US$ 100,000;
- Procurement and spending control consultancy - up to US$ 100 thousand.

The Borrower has suggested that the amount of expenses equal to US$ 500,000 should be funded by the front-end fee (0.5% of the ACF Loan amount).

6. As defined by the Agreement on Management of the Fund Resources, the Manager is required to exercise control over procurement of goods, services and work funded by the ACF in accordance with its in-house procurement policies and regulations, and make provision for compliance commitments to be assumed by borrowers in ACF loan agreements. In accordance with the ACF Procurement Policy, the Borrower may be requested to apply the procurement procedures of IFIs, including the ADB. The proposed ADB Procurement Guidelines are consistent with the Project objectives, as well as requirements of the ACF Procurement Policy, and with a view to ensure procurement transparency for the Project, and reduce potential corruption risks, the Manager advises to examine possible application of the ADB Procurement Guidelines, subject to waiver of the requirement providing access to competitive bidding only to suppliers from the ADB member countries, which rules out participation of suppliers from some of the ACF member countries. The relevant provisions are stipulated in the EDB-ADB Framework Cofinancing Agreement, as well as in the draft agreement on investment financing between the EDB and the Kyrgyz Republic.

7. Monitoring and evaluation of the Project will be performed by the Manager in accordance with the Guidelines for strategic monitoring and project evaluation of the Manager, and as required by the ADB Guidelines for Preparing a Design and Monitoring Framework. The monitoring procedures will require continuous collection of information and reporting data on the Project implementation progress, risk assessment to be carried out by the ADB and the Manager on an on-going basis, regular field trips of the officers of the ADB and the Manager to visit the Project sites.

8. In the process of the Project implementation the Manager recommends relying on ADB Safeguard Policy Statement. The evaluation of the Project has shown that its implementation is unlikely to have any environmental or social impact, but even if it arises, the ADB has the experience and expertise in mitigating such consequences. The Environmental and Social Policy of the Manager provides additional requirements to be imposed on ACF-funded

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projects, including in terms of enforcing compliance with relevant safeguard policies of other IFIs.

9. Additional Information. During the discussion of the Project with ADB, it was decided to harmonize the Project name for both the ADB and the EDB, and change it to "Rehabilitation of Toktogul HPP. Phase 2". Also, additional Project financing needs were discussed, and the ADB and the Borrower requested the Manager to consider increasing the amount of the ACF Investment Loan to US$ 100 million.

The project is expected to be implemented on the basis of a co-financing scheme together with the ADB.
3. RATIONALE OF APPRAISAL

3.1. General

3.1.1. Social and economic status of Kyrgyz Republic

The Kyrgyz Republic is a lower-middle-income country with a population of 5.6 million people and a gross national income (GNI) per capita of about US $1,500\(^3\). The poverty level in the country in 2013 was 37\(^3\)% (compared to 52% in 2000). Despite some reduction in the level of extreme poverty (from 17.8% to 2.8\(^3\)%), its overall level in 2010-2012 demonstrated an upward trend. The low-income level, high poverty and unemployment are conducive to generation of significant flows of labor migrants: about one-third of the working-age population is looking for jobs to earn money in the neighboring countries (mainly in Russia and Kazakhstan).

The economic growth in the country for the entire period since its independence is characterized by high volatility. During the first five years (1991-1996), after the disintegration of the Soviet Union, as a result of economic disarray and the transformation-induced recession, the national GDP shrank by almost 50%. Starting from 1996, the GDP growth began to pick up. From 1996 to 2008, the GDP grew by an average of 6% per year\(^6\). The rate of economic growth in the Kyrgyz Republic is primarily contingent on the growth in the gold mining sector, which accounts for about 8% of GDP and about 40% of the overall industrial output, as well as cash remittances of labor migrants from countries where they make money, which are equal to about 30% of GDP. On the demand side, its growth was supported by the above cash transfers of labor migrants from Russia and Kazakhstan.

In the context of the global financial crisis, the GDP growth in 2009 slowed down to 2.9%, compared to 8.4% in 2008\(^7\). In the post-crisis period, the economic growth was extremely volatile, which was caused by a number of shocks that affected the GDP growth rates. Thus, the political crisis of 2010 led to a 0.5% drop in the GDP, and the significant reduction in the gold mining output in 2012 at Kumtor resulted in a 0.1% decline in the GDP. The sharp increase in the GDP by 10.9% in 2013 brought about by the restoration of Kumtor in 2013, was followed in 2014 by a deceleration in the GDP growth down to 3.6%. The GDP growth volatility has a negative impact on the investment potential of domestic sources. The deterioration of the economic condition in the Russian Federation, the most important economic partner of the Kyrgyz Republic, will eventually cause reduction in cash remittances of migrants and shrinking domestic demand. For the purposes of supporting economic growth, it appears reasonable to initiate increased budget spending for investment purposes. However,

\(^3\) According to calculations of the ACF, based on data of the Statistical Committee of the Kyrgyz Republic and the National Bank.

\(^4\) According to the National Statistical Committee of the Kyrgyz Republic.

\(^5\) Source: Statistical Committee of Kyrgyzstan

http://stat.kg/index.php?option=com_content&task=view&id=45&Itemid=100

\(^6\) The calculations did not factor in the data for 2002 and 2005; the negative growth rates of 0.02% and 0.2%, respectively, in those years were caused by an industrial accident at the largest gold mine Kumtor in 2002, and by the political turmoil of 2005, which eventually triggered a coup d'état.

\(^7\) The downturn in the growth rate was mainly due to a 7% drop in exports, a 30% decline in cash remittances and a 3% reduction of bank lending to private sector businesses.
this mechanism can only prove effective, given sufficient budget capacity or sustainable funding options.

Kyrgyzstan largely depends on the external market environment, owing to the large share of gold in the total volume of exports of goods and services (about 40%), and very much so on imports: imports of goods and services in recent years accounted for 90 - 100% of GDP (see Fig. 1). More than one-third of imports is supplied by fuels and food. The principal trading partners are Russia, China and Kazakhstan.

Figure 1.

![Current Account of Kyrgyzstan, % of GDP](source: NB of KR)

The narrow export base and high dependence of the Kyrgyz economy on imports are responsible for its strong reliance on the external markets and its exposure to internal production-related shocks, and constitute the main factors of the current significant foreign trade deficit. Over the past 3 years, the deficit of the foreign trade balance has exceeded 50% of GDP, compared to its level of about 30% in previous years. The deterioration of its foreign trade position was a consequence of the growth in imports, which was, in turn, caused by the increased capital inflows, resulting from more intensive implementation of the Kyrgyz Government-sponsored projects, funded by its development partners, thereby increasing investment imports. The inflow of current cash remittances offsets the negative foreign trade balance and payments of investment dividends by 55%. And this is responsible for the formation of an extremely high current account deficit, which was about 25% of GDP on average over the past 3 years (2012-2014). Despite the high current account deficit all the way up until 2014, the inflow of funds, including unlisted capital, ensured a positive balance of payments, which facilitated the accumulation of the international reserves. The crisis events at the end of 2014, led to a decline in the cash remittances of migrants, and also contributed to further deterioration of the condition of Kyrgyz exporters. As a result of the balance of payments deficit in 2014, Kyrgyzstan's international reserves dropped by 12.5% (US$ 0.3

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8 Four commodities (gold, mineral products, metals, and agricultural products) account for about 80% of total exports.

9 Average for 2006-2010
billion), although they are still on a safe level (3.9 months of imports). Supporting the exchange rate by the international reserves proved instrumental in containing the inflation, which in Kyrgyzstan is largely contingent on external factors. The trends in global prices for energy resources and food are the key drivers of the price level variations in the country. The rate of inflation in Kyrgyzstan promptly stabilized at the beginning of 2000, as a result of the restraining monetary and fiscal policy. The high dependence on imports of food and energy resources, as well as the increase in prices for these items, boosted the inflation in 2007-2008 and 2010 to 20% (compared to an average of 4.7% in all previous years). Overall, in 2000 - 2014, the average increase in consumer prices was about 8% per year. The deterioration in the external background, associated with a considerable devaluation of currencies in the partner countries in late 2014, accelerated the inflationary processes. To curb the inflation, the National Bank of the Kyrgyz Republic was forced to substantially raise the interest rates. This forced tightening of the monetary policy will limit access to financial resources for domestic market actors.

Kyrgyzstan is characterized by a chronic and volatile budget deficit, averaging at around 4% of GDP in 2000-2011, including the expenditures for the public investment program. At the same time, if in 2000-2005 the deficit exceeded 5.5% of GDP, as a result of the budget consolidation, it dropped in 2006-2008 to 0.8%. As a result, the national external debt was put under control, while prior to 2009 it had varied within the range of 33-37% of the GDP. The impact of the global financial crisis in 2009 and the political turmoil in 2010, which required expansion of spending on social support for the population, resulted in an increase of the deficit in these years up to 3.6% of GDP and 6.3% of GDP, respectively. Moreover, the expenditures were increased in industries characterized by highly depreciated fixed assets or generally poor condition of the infrastructure (in particular, power and roads sectors), which were financed primarily by foreign investors. External borrowings, slower growth of the GDP and weakening of the national currency exchange rate, by the end of 2011 had led to an increase in the external debt service burden to 47.5% of GDP. In 2012, observers registered a deterioration of the budget condition, caused by the reduction in GDP, followed, as a result, by a drop in the tax base. The relatively moderate fiscal policy in 2013-2014 allowed to arrest the budget deficit at 0.5-0.6% of GDP, which had a stabilizing effect on the public debt. The situation also improved somewhat after the debt had been written off pursuant to the relevant bilateral agreements with the Russian Federation. As of the end of 2014, the ratio of the total external debt to GDP was equal to 86.4%, including the public debt - 46.7%. The weakening of the KGS at the end of 2014, amid a slowdown in the economic growth in 2015, will result in an increased ratio of external debt to GDP and will curb the ability of the Government of the Kyrgyz Republic to raise external borrowed funds. The pending structural problems hinder the economic growth. The downward trend in the ranking of the Kyrgyz Republic in the Global Competitiveness Index (World Economic Forum), observed in 2006-2012, when the country moved 17 steps down (127th out of 148 participants), in 2013-2014 changed only somewhat, when it stepped up into the 121st place\textsuperscript{10}. Thus, according to the WEF rating, the Kyrgyz economy is in the initial phase of development, and its institutional and infrastructural capacity is characterized as poor. Quality of business environment is the only indicator out of the commonly known development indexes, which rates the Kyrgyz Republic in the midrange and

not at the bottom amongst the CIS countries. At the same time, in recent years, the Kyrgyz Republic has been losing its standing in the World Bank Doing Business ranking. Moreover, the quality rating of public institutions is low. Given all the ambiguity of ratings, their low level is indicative of the lack of progress in the last decade. The poor business environment rating constitutes a serious constraint for the inflow of foreign investments, and thus suppresses opportunities for diversification and modernization of the national economy.

The poor performance of the domestic production facilities compelled the authorities to start refocusing the economy toward growth, based on domestic demand, including on support by migrant workers' cash remittances. The high level of dependence on imports and cash remittances increases the risks for the balance of payments sustainability in the event of exposure to negative developments in the host countries for Kyrgyz migrant workforce (mainly the Russian Federation).

The increase in external labor migration has also resulted in distortions of incentives for the domestic labor market. The incoming cash remittances more often than not significantly exceed the level of wages in the local economy, which leads to the degradation of incentives to work and puts constraints on wage increases. In general, in 2004 to 2014, the growth of wages in real terms exceeded GDP growth by a factor of 1.7. This is a factor, which reduces competitiveness of the economy and puts additional pressure on the balance of payments.

An additional challenge consists in the contemplated accession of Kyrgyzstan to the Eurasian Economic Union. The high overhead costs associated with the required adaptation of Kyrgyz business entities to the EAEU standards and procedures, will be exacerbated by a rapid deceleration in the economic growth in the partner countries, which will limit the opportunities for benefiting from the advantages of expanding the markets for Kyrgyz products, and may hamper sustainable development of the country.

To increase the economy's resilience to shocks and restore the trend towards poverty reduction in the context of natural growth of the population, it is extremely important to ensure creation of new jobs, especially in export-driven sectors. Despite the relatively high share of investments in fixed assets in the GDP structure (about 30% in 2012-2014), about half of them end up in the mining and construction sectors. These sectors are not adequately equipped to deal in principle with the problems of employment and resilience of the Kyrgyz economy to adverse developments. The investment capacity of the Kyrgyz Government is limited both by the need to ensure restraining fiscal policies, and by its commitment to maintain the level of social spending. In 2014, the volume of budget investments was less than 1% of GDP. Besides, there is a significant requirement to provide funds for ensuring maintenance of the existing infrastructure, especially in the roads and energy sectors.

The problem of the gap of funding the investments also stems from the limited capacity for raising capital from domestic sources, which is due to the inadequate condition of the financial market. The cost of borrowing in the domestic market for the private sector substantially exceeds the rate of inflation (given inflation is about 10%, the interest rates on national currency loans are about 22% per annum), the interest on foreign currency loans is also high - over 16% per annum, which keeps away private investors. Bottom line, the volume of

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11 For 2014 according to the estimates of the Manager.
12 As a result of the obsolescence and physical deterioration of the assets in 2014, Kyrgyzstan will for the first time experience a shortage of power supply, despite the availability of significant hydropower resources.
loans issued by the banking system (net of mortgage and consumer loans), as well as lending of working capital to retail outlets, in 2014 accounted for about 17% of GDP\(^{13}\).

As is the case with most of the lower-income countries, Kyrgyzstan, given its high investment requirements, is unable to provide adequate funds to finance them on its own.

One more factor holding up the development of Kyrgyzstan is its land-locked status, as well as predominantly mountainous terrain. It explains its high dependence on the condition of the road network infrastructure and constitutes a deterrent to the expansion of domestic and transboundary traffic flows. The southern and northern regions of the country are linked up by only one road (Bishkek-Osh), which passes across mountainous areas, and it creates problems for traffic in wintertime. Improved economic security and sustainable growth can be achieved in the country through commercialization of the comparative advantages of Kyrgyzstan: its unique geographical location, higher efficiency of traditional sectors, as well as by creating new points of economic growth in the context of Kyrgyzstan's accession to the Eurasian Economic Union in 2015, with due regard to the fact that these opportunities can only be taken advantage of in the medium term.

The current economic condition of the Kyrgyz Republic demonstrates its inability to provide financial support for large-scale investment projects by mobilizing its domestic resources, while the capacity to attract FDIs for these purposes is extremely limited.

The Project cannot be financed by the funds, offered by commercial banks, due to the high cost of funding and the small amounts proposed as loans, as well as short terms of lending.

### 3.1.2. Impact of ACF Loan on economic condition of KR

Replacing obsolete equipment will improve reliability of the national energy systems, which will actually enable addressing the emerging problem of electricity shortages in the Kyrgyz Republic. In particular, the implementation of the Project will reduce the acute nature of demand for electricity in the country, which is more pronounced in winter.

In the event of power outages in winter, the population is forced to switch over to more expensive heating methods, which increase the share of such expenses in the total budget of the households, and this growth is especially sensitive for the poorest groups of population. Thus, the implementation of the Project will have a positive impact on alleviating the pressing problem of poverty in the country.

The second important driver will be restoration of the export potential of the electric power sector, which will improve the current account status. In addition, the improvements in the balance of payments will contribute to the potential termination of electricity import from other countries and/or using more expensive fuels. Considering significantly more cost-effective export operations, their expansion will have a positive impact on the financial condition of the sector, which will promote not only its growth, but also greater volumes of inbound investments, and as a consequence, provide more room for effective management of the tariff policy.

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\(^{13}\) According to computations of the ACF, based on the data of the Statistical Committee and the National Bank of Kyrgyzstan.
Another important factor in terms of macroeconomics is ensuring maintenance of investment flows, amid the slowdown of economic growth, which should enable support of the economic development plans.

Participation of Kyrgyzstan in the Central Asian Power System (CAPS), comprising Kazakhstan - Kyrgyzstan - Uzbekistan - Tajikistan, promotes positive integration effect by increasing the generation of electricity for the countries of the region.

The impact of the Loan on debt sustainability is rated as negligible. The Loan in the amount of US$ 100 million will increase the external public debt by 2.2%, which is less than 1% of the GDP in 2014.

Moreover, the debt repayment and service will proceed in a smooth mode. The ratio of payments on the external public debt to the budget revenues is way below the threshold level: 4.3% in 2014, compared to 20%. According to the IMF, in the medium term this indicator will stay at about 5%. The ratio of debt to the amount of export earnings and cash remittances of migrant workers is equal to about 110%, which, according to the IMF Guidelines, amounts to an average level of risk.14

The approval of the ACF Loan in the amount of US$ 100 million to be provided on the proposed extremely soft terms, will not lead to any significant increase in the debt service burden of the country.

3.1.3. Status of energy sector

The energy sector is very important for the national economy; it accounts for about 2.5% of GDP and 16.0% of its industrial output. The bulk of the currently available power generation capacity (more than 95%) falls on hydropower facilities: on average 14.7 billion kWh of electricity is generated annually, of which about 14 billion kWh is produced by hydropower plants (Fig. 2).

Figure 2.

Access to electricity consumption is provided to 98% of the population of Kyrgyzstan. The sector employs more than 15% of those working in the industrial production sector (about 1% of the total workforce).

The Kyrgyz Republic controls 2% of energy and 30% of the hydropower resources of Central Asia, as well as large reserves of coal. The theoretical hydropower capacity of the country's rivers, according to various estimates, is up to 163 billion kWh per year, of which the

14 The average risk ranges from 100 to 150%
hydropower resources of small rivers and watercourses account for about 5-8 billion kWh per year. The availability of power generation resources is one of the strategic comparative advantages of Kyrgyzstan. In terms of hydropower capability, Kyrgyzstan ranks third in the CIS after Russia and Tajikistan. Only one-tenth of the capacity of all hydropower resources of the country has been put into operation.

Structure of market:

- **Production (generation)** of electricity is carried out by hydroelectric power plants (HPPs) and thermal (co-generation) power plants (TPPs). Most of the generation facilities on the market are owned by OAO "Electric Power Plants" (7 HPPs, 2 TPPs and 12 small-scale HPPs).

- **Transmission (transportation and export)** of electricity and operational dispatching power control are handled by OAO “National Electric Network of Kyrgyzstan” (the operations base of the power transmission system includes power lines (power transmission lines) of a total length of 70,000 km, with a voltage of up to 500 kV).

- **Distribution** of electricity, i.e. delivering it to the end user, is carried out via distribution companies - independent enterprises with government ownership.

Power generation plants (HPPs, TPPs) sell electricity on the wholesale market to distribution companies and large end-users, and the transmission of electricity is carried out along high-voltage power networks owned by OAO "National Electric Network of Kyrgyzstan" (NENK). OAO “Electric Power Plants” invoices the distribution companies on the basis of the balance reports on the actually sold electricity, received from NENK. Technical power losses of OAO "Electric Power Plants" are compensated by NENK, whereas commercial losses are allocated as overheads of the distribution companies.

Control over the energy sector is the responsibility of the State Department for Regulation of Fuels and Energy, which establishes and approves tariffs for electricity, heat, gas, licensing of relevant activities, and monitors compliance with fuels and energy legislation.

Production and consumption balance

The production of electricity generated by HPPs depends on the flow of water in the rivers. Electricity production during 2005-2013 had a volatile trend:

| Balance of production and consumption of electricity in Kyrgyz Republic, million kWh |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| **Indicators**                  | 2005       | 2006       | 2007       | 2008       | 2009       | 2010       | 2011       | 2012       | 2013       | 2014*     |
| Production                      | 14 687     | 14 326     | 14 645     | 11 789    | 11 083    | 12 063    | 15 158    | 15 168    | 14 088     | 14 639     |
| Consumption                     | 12 230     | 12 063     | 12 451     | 11 244   | 10 049    | 10 504    | 12 370    | 13 580    | 13 714     | 14 853     |
| Export                          | 2 576      | 2 437      | 2 380      | 552       | 1 034    | 1 635    | 2 794    | 1 589    | 375        | 72         |
| Import                          | 0          | 0          | 0          | 7         | 0        | 76       | 0        | 0        | 286        |

* Preliminary estimates

The decline in production in 2008-2010 caused a reduction in consumption caused by the establishment of certain consumption limits for specific areas and regions of the country, whereas the current volume, channeled to the domestic market, increased from 83% in 2005 to 90% on average for 2008-2010.
The per capita electricity consumption and tariffs in the Kyrgyz Republic are the lowest in Central Asia and almost the lowest in the world; they are within the range of 1.4 cents (households) - 2.6 cents (industry) per kWh\textsuperscript{15}.

Due to the decrease in power production amid growing consumption, the share of exports steadily declined and in 2013 dropped to 3% of the total volume of electricity generated, compared to 13% in 2004. Due to the low-water season in 2014, Kyrgyzstan suspended export of electricity. The principal destination of exports is Kazakhstan, which is due to the need to ensure approved water releases from the Toktogul reservoir during the vegetation period for purposes of irrigation in the downstream countries.

The growth of domestic consumption, given the operating generation plants, acts as a strong deterrent to the export capacity of the energy sector of Kyrgyzstan. In 2010-2014, the increase in consumption averaged about 8% per year. The capacity of generating electricity is critically affected by the volume of water accumulated in the reservoirs. The significant reduction of the water content in the Syr Darya river in 2008-2010, 2013 and in the current year, as well as the required drawdown of water in the Toktogul reservoir in meeting the domestic electricity requirements in winter, have seriously cut down on both generation of electricity and export capacity. As a result, in 2014 Kyrgyzstan suspended its export and faced a shortage of electricity even in summer. In 2014, compared to 2012, the capacity of Kyrgyzstan for generation of its own power fell by 3.6 billion kWh. As a result, a resource gap in power supply emerged in the amount of 2.4 billion kWh during the heating season in 2014-2015. According to the Minister of Energy and Industry of the Kyrgyz Republic\textsuperscript{16} the water level in 2015 will remain critically low, and in order to prevent it from falling below the threshold limit, electricity imports will have to be continued, and the TPP capacity will be used for power generation in the summertime. Further increase in consumption will bring about serious shortfalls in electricity supplies, and according to the World Bank forecasts, by 2020 the power shortage will reach 30% of the level of domestic consumption in 2012. In order to ensure growth of the domestic consumption and to enable the resumption of export and growth of export earnings, it is critically important to put into operation new power generation facilities. In the context of limited domestic resources, since its accession to independence (1991), Kyrgyzstan has commissioned only one generating plant, which is Kambarata HPP-2, where only one hydraulic generator unit is installed and running, though according to the design plan there should be three such units. The power generation facilities of newly built small-scale hydropower plants have their positive impact only on local communities, and don’t deal with the problem as a whole.

**Development plans**

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\textsuperscript{15} Accoring calculations of the Manager on the basis of available data on tariffs and exchange rate as of 01/04/2015.

\textsuperscript{16}http://www.24kg.org/obschestvo/12040 ministr energetiki kr oevuchil ryad mer neobdhimiyih dlyya nakoplienya vodyi v toktogulskom vodohranilische/
With a view to improving the efficiency of operation of the power sector and ensure reliability of electricity supply for domestic consumption, a Strategy for development of fuel and energy industries to 2025 has been adopted. A Medium-term electricity tariff policy of the Kyrgyz Republic for the period 2014-2017 has also been adopted. The Strategy envisages construction of new power plants totaling more than US$ 5 billion to meet the current consumption requirements, as well as to eliminate winter power shortages and increase exports. Starting from 2010, investors have been invited in the power sector: investments were made to power generation facilities (beginning of the construction of the Verkhne-Narynsky cascade of HPPs, Kambarata HPP-1, a number of small-scale HPPs, upgrading of the TPP in Bishkek, feasibility study for the Kara-Kechinskaya TPP, upgrading of the Toktogul HPP, At-Bashinskaya HPP, etc.), power transmission systems (Datka and Kemin substations, Datka-Kemin and Datka-Khujand transmission lines, cascade replacement of a number of transformers), and power distribution and sale processes (replacement of worn down cables and overhead lines, installation of advanced electronic meters, including prepayment devices, automated power consumption monitoring and metering systems).

Limitations in funding resources constitute a major constraint not only for putting into operation of additional capacity, but also in terms of ensuring safety of operation of the sector. In general, during 1991 - 2010, the energy industry absorbed about US$ 370 million worth of investments, which is less than US$ 20 million per year. According to some experts, the amount of investments needed for maintaining depreciation of fixed assets at the level as required by relevant regulatory documents, should have been about US$ 40 million per year throughout this period. This lack of investments resulted in equipment wear increase up to 50%, given the critical level industry-wide equal to 25%17. Experts estimate the rate of degradation of power generation capacity at about 5% per year.

In 2011-2014, a significant growth of investments was registered in the sector (on average about US$ 130 million per year), spurred by the implementation of several construction projects of power lines and modernization of the existing and commissioning of new facilities. These investments were financed mainly by soft loans provided by international organizations18 and foreign countries. In 2014 four projects were completed: modernization of power transmission lines in the south of Kyrgyzstan, "Feasibility study for Kambarata HPP-1", "Feasibility study for Kara-Kechin TPP" and "Construction of double-circuit 110 kV overhead line and 110/10 kV substation in the Ak-Ordo residential area of Bishkek.

Despite the recent growth of investments, the shortage of funds for financing the sector is a key constraint for development of both the sector, and the economy of Kyrgyzstan as a whole. The root causes of the shortage of financial resources lie in the inefficient operation of the sector and the limited ability to engage private investors. The non-efficiency of the energy sector performance is largely a result of the tariff policy aimed at subsidizing power consumers, primarily households. According to the Ministry of Energy and Industry of the Kyrgyz Republic, the cost of electricity generation in 2013-2014 was equal to KGS 1.24 per kWh, and the average tariff charged in 2014 was KGS 0.88 per kWh. Furthermore, despite the positive trend, the level of losses in the energy sector in recent years was very high, amounting in 2014 to about 17% of the total volume of generated electricity.

17 In the economy of the USSR, the average amount of annual investments in the energy sector was estimated at US$ 65 million.
One more factor, limiting the efficiency of the sector, is the shortage of domestic power lines. The main sources of electricity supply in the country, the largest 5 HPPs, which account for 80 percent of the country's electricity generation capacity, are located in the Jalal-Abad region. From there, only a certain portion of electricity is supplied to the regions of the country through its territory. The rest of it is delivered via Uzbekistan, Kazakhstan and partly Tajikistan. As a result, Kyrgyzstan incurs losses in transportation of electricity along its external perimeter. In addition, this adversely impacts on energy security, since in the event of a breakdown in the power supply networks, the northern regions would fall short of about 40-50% of electricity, the Osh region - about as much, and Batken region would lose 85%. The shortage of domestic networks is also a deterrent to the development of industrial production facilities in these regions of the country. It results in loss-making performance of the energy sector: according to the Ministry of Energy and Industry of the Kyrgyz Republic, the earnings of the energy sector in 2013 were KGS11.4 billion (about US$ 235 million), and their expenditures were equal to about KGS 16 billion (about US$ 330 million). The estimated loss for 2014, confirmed by the Antimonopoly Committee of Kyrgyzstan, is expected to be equal to KGS 6.3 billion (about US$ 130 million)\(^\text{19}\).

The inflow of capital into the energy sector helped only to stem the degradation of the infrastructure. The chronic shortage of funds hampers not only new construction and modernization projects, but also prevents ensuring comprehensive maintenance and repairs of the facilities. According to the Minenergoprom (MOEI), the equipment wear rate is currently about 50%. It results in deterioration of the quality of services provided by the sector. According to the Ministry of Energy, in 2014 about 9.2 thousand emergency outages in the distribution networks were reported\(^\text{20}\), and in 2013, 36 emergency shutdowns of the power plants, of which 30 happened due to equipment failure.

In fact, with its availability of significant potential hydropower capacity, Kyrgyzstan, in failing to put into operation additional power facilities, becomes an energy-deficient country that cannot guarantee its own energy security.

The Resolution of the Government “On the medium-term tariff policy for electricity and heat for 2014-2017” lays down the principles of self-sufficiency of the energy sector, requirements for phased elimination of cross-subsidies in tariff policies and for annual improvement of the key performance indicators of the energy sector, as well as tariff increases. As part of the implementation of the tariff policy, the weighted average tariff for 2015 should be increased by 87%, and further on - at a rate enabling full cost recovery by 2017.

In view of the above problems stacking up in the energy sector, the Project "Rehabilitation of Toktogul HPP", which requires replacement of the second and fourth units with the replacement and/or repair of auxiliary systems and powerhouse equipment, will have a positive impact on the electric power sector of the Kyrgyz Republic. The implementation of this Project will help reduce the shortages in the generation of electricity for supply to domestic consumers, and furthermore, will restore the export capacity of the sector.

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\(^{19}\) At the current exchange rate

3.1.4. Foreign economic relations of Kyrgyz Republic with ACF member states

According to the official statistical data, ACF countries account for more than 40% in the structure of trade of the Kyrgyz Republic (KR). However, 95% of it is should be attributed to Russia and Kazakhstan. Exports of the Kyrgyz Republic to the ACF countries are minor and amount to about US$ 0.5 billion. Re-export of Chinese goods to these countries takes up a significant proportion in the Kyrgyz exports; however, in the context of specific activities the KR is engaged in, considering its prospective accession to the EAEU, since 2014 this type of foreign trade has been in decline. The imports of the Kyrgyz Republic from ACF member countries in 2014 amounted to a total of US$ 2.5 billion and consisted predominantly of fuel and energy products and foodstuffs. It should be indicated that a substantial portion of foreign trade earnings of the Kyrgyz Republic with the ACF member countries is provided by migrant workers and their cash remittances. In 2014 about 1 million Kyrgyz migrants were located in the ACF member countries. In 2014, the total amount of migrants’ cash remittances reached US$ 1.7 million.21

The performance indicators of the Kyrgyz Republic are given in Appendix 4.

3.2. Project Description

3.2.1. Project description and objectives

The Toktogul HPP is one of the hydroelectric power plants of the cascade of Toktogul HPPs and the largest of the operating hydropower plants in the country. The installed capacity of the power plant is 1200 MW (4 units of 300 MW each). The plant was put into operation in 1975, the design storage capacity of the reservoir is 19.5 billion m$^3$, the dam height is 215 meters, and its average annual power production output is 4,400 million kWh.

The program of comprehensive rehabilitation of the Toktogul HPP consists of three phases. Currently, the ADB is financing the first phase of the Toktogul HPP rehabilitation works, which requires replacement of the electromechanical equipment, including the generator circuit breakers, the excitation and control systems, the 500 kV cable lines, etc. The second phase of the rehabilitation process envisages replacement of the second and fourth generator units with replacement/repair of auxiliary systems and powerhouse equipment. The third phase makes provision for replacement of the first and third generator units of the power plant.

Project "Rehabilitation of the Toktogul HPP. Phase 2"; its co-financing is contemplated to be made available by the ACF in three parts:

Part 1 - Rehabilitation of Toktogul HPP and improvement of business processes:

a) Rehabilitation of hydraulic generator units 2 and 4 at Toktogul HPP;

b) Implementation of plan to improve business processes of the Ultimate Beneficiary in order to: (1) evaluate the current business processes and propose a modernization plan, and (2) design and implement an enterprise resource planning system; and

в) Project management support to the Ultimate Beneficiary, including on construction supervision, procurement and safeguards, as well as on external audits of Project expense accounts;

Part 2 - Asset inventory and revaluation of assets

а) Preparation of asset inventory and revaluation of assets of all companies in the energy sector of the Kyrgyz Republic, including:
   - Two power generating companies - Open Joint Stock Company "Electric Power Plants" (hereinafter - "EPP") and Open Joint Stock Company "Chakan HPP" (hereinafter - "Chakan HPP");
   - One power transmission company (Open Joint Stock Company "National Electric Network of Kyrgyzstan" (hereinafter – "NENK");
   - Four distribution companies - Open Joint Stock Company "Vostokelektro" (hereinafter - "Vostokelektro"), Open Joint Stock Company "Oshelektro" (hereinafter - "Oshelektro"), Open Joint Stock Company "Jalalabadelektro" (hereinafter - "Jalalabadelektro"), Open Joint Stock Company "Severelektro" (hereinafter - "Severelektro"); and
   - One heat and hot water distribution company - Open Joint Stock Company "Bishkekteploset" (hereinafter - "Bishkekteploset"); and

б) Providing support by the State Property Fund of the Government of the Kyrgyz Republic (hereinafter - "SPF") in project management, including assistance on procurement and dealing with external audits of the Project expense accounts;

Part 3 - Master plan for comprehensive development of the energy sector

а) Preparation of Master Plan for comprehensive development of the energy sector, including: (1) Power demand projection for 20 years horizon; (2) Investment plan for construction and rehabilitation of power generation and transmission facilities; (3) Current and future capacity for export and import of electricity; (4) Capital expenditure plan for 10 years; and (5) feasibility study for the Uch-Kurgan HPP; and

б) Support by the Ministry of Energy and Industry of the Kyrgyz Republic (hereinafter - "MOEI") in addressing project management issues, including assistance on procurement and dealing with external audits of the Project expense accounts.

The Project makes provision for the allocation of ACF funds in the form of an investment loan to the Kyrgyz Republic with a view to:

а) Ensuring enhanced reliability and stability of supply to power consumers and adequate availability of electricity for the population;

б) Improving energy security and sustainability of the power supply system of Kyrgyzstan;

в) Increasing surplus power export capacity of the Kyrgyz Republic for sale to the ACF member countries to improve the balance of payments of the Kyrgyz Republic;

г) Expanding trade with the Fund member countries, including in supplies of equipment and services;

д) Mitigating winter shortages of electricity supply in the country.
3.2.2. Current status of Project (as of 20 May 2015)

Currently, with the funding provided by the ADB, the first phase of the rehabilitation of the Toktogul HPP is underway. The financing agreement for the first phase of the Project was signed between the Kyrgyz Republic and the ADB on 12 September 2012, ratified by the Parliament of the Kyrgyz Republic and entered into force on 7 December 2012. The budget of the Project amounted to US$ 62 million, of which the ADB provides US$ 55 million, and the Kyrgyz Republic - US$ 7 million US.

ADB had recruited the German engineering company Fichtner to prepare a feasibility study for the second phase, which was delivered in October 2014.

In July 2014, the Fund Council approved the Appraisal Report of the Manager on the preliminary Application of the Ministry of Finance of the Kyrgyz Republic requesting an ACF investment loan in the amount of US$ 75 million to finance the implementation of the Project “Rehabilitation of Energy Sector. Phase 2. Component "Rehabilitation of Toktogul HPP: Replacement of second and fourth generator units with replacement/repair of auxiliary systems and powerhouse equipment". Following the approval by the Council, the Manager continued the work on the Project, in particular, during the discussion of the Project with the ADB, it was decided to harmonize the Project name for both the ADB and the EDB, and change it to "Rehabilitation of Toktogul HPP. Phase 2". Also, additional Project financing needs transpired, and both the ADB and the Borrower requested the Manager to consider increasing the amount of the ACF Investment Loan to US$ 100 million.

The loan agreement with the ADB for the second phase was signed on 26/12/2014 and subsequently ratified by the Kyrgyz Republic. One of the entry-into-force conditions in the loan agreement with the ADB is the requirement for signing a loan agreement between the EDB and the Kyrgyz Republic, which is in need of being expedited in order to proceed with the Project preparation.

3.2.3. Project funding requirements

The second phase budget is equal to US$ 251.7 million, of which US$ 110 million would be allocated by the ADB, US$ 100 million - by the ACF, and US$ 40.7 million - by the Kyrgyz Republic.

<table>
<thead>
<tr>
<th>Source of finance</th>
<th>Amount, (US$)</th>
<th>Percent of total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB - Grant of ADF</td>
<td>44.50</td>
<td>17.68</td>
</tr>
<tr>
<td>ADB - Loan of ADF</td>
<td>65.50</td>
<td>26.03</td>
</tr>
<tr>
<td>EDB - Loan of ACF*</td>
<td>100.00</td>
<td>39.73</td>
</tr>
<tr>
<td>Government of Kyrgyz Republic</td>
<td>40.68</td>
<td>16.16</td>
</tr>
<tr>
<td>OAO “Electric Power Plants”(EPP)</td>
<td>1.00</td>
<td>0.40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>251.68</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

* Endorsed by the Council in the amount of US$ 75 million

Project costs include:

a) Two general contractors for rehabilitation of the Toktogul HPP;

22 Letter of the Ministry of Finance of the Kyrgyz Republic dated 17 January 2014 Ref. # 16-2-2/505 with a concept of the investment project attached thereto.
b) One general contractor for improvement of business processes at EPP;
c) Consulting services for support of the Project implementation;
d) Consulting services for preparation of a Master plan for comprehensive development of the energy sector;
e) Consulting services for asset inventory and revaluation;
f) External audit;
g) Individual consultants;
h) Taxes and duties;
i) Current expenses;
j) Contingency.

The ACF loan will be dedicated to funding two turnkey contracts: a contract for the rehabilitation of the Toktogul HPP powerhouse and its superstructure, and a contract for the rehabilitation of hydraulic steel structures and equipment of the Toktogul dam. One portion of the ACF Investment Loan funds will be allocated as “Contingency”.

The ACF Loan funds will be administered in part by the ADB, including on monitoring the quality of the Project documentation, the efficiency of spending, procurement, compliance with social and environmental safeguards, as well as monitoring general project progress and follow-up on auditors' recommendations. The Borrower invests US$ 40.68 million in the form of exemption from taxes and duties, and the Ultimate Beneficiary will put up US$ 1 million for financing the current expenses of the Project.

Table 2. Detailed Project cost estimate with breakdown by funding organizations (US$ million)
3.2.4. Funding scheme, financial conditions and Project implementation mechanism

The funding scheme of the Project conforms to the Regulation on the Use of ACF Resources for Providing Investment Loans. The Project will be funded according to the following scheme: the ACF Investment Loan is provided to the Kyrgyz Republic; the Kyrgyz Republic extends a budget loan to the Project Company; the Project Company disburses budget loan funds for the rehabilitation of the Toktogul HPP. The scaled-up chart of the Project implementation mechanism is shown in Figure 3.

Figure 3. Project implementation mechanism

The expense items, which the Investment Loan funding is intended for (and, accordingly, those of the budget loan of the Kyrgyz Republic) are given in Table 5.

23Approved by Minutes of the Fund Council meeting # 3 of 25 February 2010
Table 5. Project cost estimates for ACF Investment Loan

<table>
<thead>
<tr>
<th>Expense category</th>
<th>Allocated amount (US$ million)</th>
<th>Percentage of expense funding per category, %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investment Loan:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnkey contract for rehabilitation of the equipment of Toktogul HPP (Part 1 (a) of the Project)</td>
<td>68.260</td>
<td>53.75%</td>
</tr>
<tr>
<td>Turnkey contract for rehabilitation of the water gates and hydraulic steel structures of Toktogul HPP (Part 1 (a) of the Project)</td>
<td>6.45</td>
<td>53.75%</td>
</tr>
<tr>
<td>Contingencies</td>
<td>25.29</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

1) ACF Investment Loan

Baseline financial conditions:
- Total Cost of Project: US$ 251.68 million;
- Requested ACF Loan amount: US$ 100 million;
- Grace period: up to 8 years;
- Interest rate: One (1) per cent per annum;
- Currency of Loan: US dollars;
- Term of Loan, including grace period: up to 20 years;
- Fixed interest rate: 1% per annum;
- Front-end fee: 0.5% of the total initial amount of Investment Loan;
- Risk premium: n/a;
- Interest Margin: n/a;
- Commitment fee: n/a;
- Loan availability period: to 30 June 2022;
- Form of lending: investment loan;
- Co-financing by Project Company: US$ 1 million;
- Co-financing by Borrower: US$ 40.68 million.

In the context of rapid growth of external borrowings and debt exposure to external shocks, a zero limit for non-preferential lending was agreed upon under the current IMF Program in the Kyrgyz Republic for the total portfolio of external sovereign and government-guaranteed borrowings. The Kyrgyz Republic has undertaken to refrain from borrowing and issuance of guarantees for loans that may reduce the average grant-element for the above portfolio below 35%. The conditions stipulated by the Manager, are consistent with the IMF Guidelines (the grant-element is calculated on the basis of the IMF methodology and is equal to 39.04%\(^{24}\)). Also in view of the above it was proposed to agree upon the 20-years term of the Investment Loan and the 8-years grace period.

\(^{24}\) http://www.imf.org/external/np/pdr/conc/calculator/
The terms of borrowing are similar to those of the Asian Development Bank for raising ADB funding for Phase 2. The funds of the ACF Loan are expected to be drawn down within 7 years beginning from 2015 and in compliance with the relevant procedures of the ADB Loan Disbursement Handbook.\(^{25}\)

The ACF Loan is provided to the Kyrgyz Republic for subsequent relending to the Project Company. Debt liability to ACF will be sovereign liability of the Kyrgyz Republic. The Government of the Kyrgyz Republic will enter the funds borrowed from ACF in its national budget as a source of funding of the budget deficit and as an item of expenditure for financing the Project, as well as it will post into the national budget of the Kyrgyz Republic the budget outlays allocated for repayment and debt service of the ACF Loan.

Application of the ADB’s guidelines for disbursement, procurement and project monitoring will enable higher transparency in disbursement procedures, and lower corruption and fiduciary risks.

The loan will be disbursed by transferring funds directly to suppliers under contracts upon receipt by the Manager of a confirmation from the ADB of compliance of the proposed payment with the ADB disbursement and procurement policies and procedures.

In implementing the Project, the Ministry of Energy and Industry of the Kyrgyz Republic will be responsible for coordinating the implementation activities on Part 1 of the Project, for monitoring the implementation of the Project and evaluating the efficiency of the Project, for drafting and submitting Project progress reports to the Manager, for ensuring compliance by the Ultimate Beneficiary with the requirements of financial management of the budget loan funds, and performance under the Loan Agreement, including in accounting records, reporting and audit, for ensuring financial statements and audit reports are filed to the Manager, for monitoring and supervision over procurement transactions for the Project, for ensuring the operation of the PIU.\(^{26}\)

The Ministry of Finance of the Kyrgyz Republic will be responsible for the completeness and scheduled implementation of the Loan Payments, for financial management of the Investment Loan funds, including accounting records, reporting and audit, as well as for ensuring Co-financing by the Borrower.

Both ministries will be required to ensure signing of the Budget Loan Agreement with the Project Company.

The Manager recommends the following performance indicators for Project monitoring and evaluation to be used in regular progress reports submitted to the Manager by the Borrower:


\(^{26}\) PIU - the Project Implementation Unit is established within OAO “Electric Power Plants”.
<table>
<thead>
<tr>
<th>Performance indicator</th>
<th>Unit of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional generation capacity of Toktogul HPP</td>
<td>MW</td>
</tr>
<tr>
<td>Load factor for Toktogul HPP</td>
<td>%</td>
</tr>
<tr>
<td>Monthly volume of electric power traded within the Kyrgyz Republic, by sources</td>
<td>kWh/month, US$/kWh, US$/month</td>
</tr>
<tr>
<td>Monthly volume of electricity traded between the Kyrgyz Republic and CAREC countries</td>
<td>kWh/month, US$/kWh, US$/month</td>
</tr>
<tr>
<td>Financial statements of EPP</td>
<td>n/a</td>
</tr>
</tbody>
</table>

According to the ADB practices, upon expiry of the loan availability period, 6 months are provided for disbursement auditing. In view of the above the Borrower is required, within 6 months of the Project completion date, to prepare and submit to the Manager regular progress reports for the recent period of Project implementation, the final Project audit report, the final Project Implementation Report, the report on the Borrower's performance under its obligations, and a plan of action for ensuring sustainability of the Project outputs. The Manager will submit the above documents to the Fund Council for review.

2) **Budget loan provided by Kyrgyz Republic to OAO “Electric Power Plant”**

The Investment Loan funds are provided to OAO “Electric Power Plants” in the form of a budget loan (according to Kyrgyz legislation). Its terms and conditions are as follows:
- Interest Rate: not to exceed 1.5 % per annum;
- Maturity: not to exceed 25 years;
- Grace period, during which no repayment of the principal will be required: not to exceed 8 years;
- Debt liability of the Ultimate Beneficiary under the Budget Loan is denominated in US dollars.

The Project Company will spend the funds of the Investment Loan for financing of turnkey contracts for the rehabilitation of the HPP equipment and for the rehabilitation of the gates and hydraulic steel structures of the Toktogul HPP.

The Project Company undertakes to ensure special financial management of the Budget Loan funds, including accounting and records, safekeeping of accounting documents, audit and progress reporting. The Project Company must ensure compliance with the Environmental Policy of the Manager, and ADB Governor and Policy on protective measures.

With regard to procurement procedures, the Manager offers the Project Company, which will be responsible for these operations, the following recommendations: All procurement operations funded by the Investment Loan must be performed in accordance with the Procurement Policy of the Fund and the ADB Procurement Guidelines, insofar as they are not inconsistent with the ACF Procurement Policy, and subject to the ADB blanket waiver of
member country procurement eligibility restrictions in cases of co-financing for operations financed from Asian Development Fund resources (Manila, 2013)\textsuperscript{27}.

\textbf{3.2.5. Project's compliance with Fund mission objectives and government support}

The Project promotes improved economic resilience of Kyrgyz Republic and aims to ensure:

- Improvement of the trade balance through expansion of electricity exports;
- Upgrading of the existing electric power generation assets;
- Improvement of productivity and increased output of electricity;
- Enhanced energy security of Kyrgyzstan.

In full compliance with the Regulation on ACF Investment Loans, the Project is classified as 'National', since:

- The Borrower for the Project is the Government of the Kyrgyz Republic;
- It is implemented by a Project Company;
- It is implemented in one member state of the Fund;
- It aims at modernizing and renovation of fixed assets.

The Project is designed as integrating, because its implementation will lead to the following integration results:

- Increase in interstate investments and trade through higher level of imports of machinery, equipment and services to the Kyrgyz Republic;
- Improvement of trade between member states of the ACF by expended exports of electricity from the Kyrgyz Republic.

The current economic condition of Kyrgyzstan constitutes a serious constraint for the inflow of foreign capital, which suppresses the opportunities for potential market-driven investments.

The Project can not be financed by commercial market actors, because in view of the limitations, inherent in the current IMF Program in the Kyrgyz Republic, for imposed on non-preferential funding of the energy sector, investments in energy projects may be carried out on the basis of grants and very soft loans, whereas banks of the Kyrgyz Republic lack adequate resources for financing such projects.

The Government of the Kyrgyz Republic has defined development of the energy sector as the main component of its development plan.\textsuperscript{28} The program is aimed at improving the financial performance and corporate governance of the sector, increasing energy security by developing domestic resources, by expanding regional electricity exports, and by gradual introduction of cost-effective tariffs in the medium term.

On 27 May 2012, the Government of the Kyrgyz Republic adopted a medium-term strategy for development of the electric power industry for 2012-2017. The plan of action for the implementation of the Strategy includes the Project "Rehabilitation of Energy Sector", one of its components being the "Rehabilitation of the Toktogul HPP".

\textsuperscript{27} ADB. 2013. Blanket Waiver of Member Country Procurement Eligibility Restrictions in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources. Manila.

3.2.6. Expected economic benefits of Project

The estimates of the expected economic benefits of the Project are as follows:

- The productivity ratio of the Toktogul turbine generators (generator units) 2 and 4 will be increased by 2.5%, from 90% in 2014 to 92.5% in 2021;
- Generator unit 2 of the Toktogul HPP by 2021 will operate with a power output of 360 MW (baseline in 2014 is 300 MW);
- Generator unit 4 of the Toktogul HPP by 2020 will operate with a power output of 360 MW (baseline in 2014 is 300 MW);
- Average exports over 10 years will remain in 2025 at the level of 2000 GWh per year (Baseline: average exports for 10 years 2015 GWh in 2013);
- Higher ratio of zero-downtime operation of the Toktogul HPP from 80% in 2014 to 90% by 2019;
- Enhanced economic security and independence of the country from external electricity supplies;
- Mitigation of winter shortages of electricity supply in the country;
- Higher reliability and more stable supply to power consumers;
- Increased safety of operation of the power plant.

3.2.7. Environmental impact

According to the ADB Safeguards Policy Statement (2009), in terms of its environmental impact the Project is compliant with category "B". The first draft on the Environmental Impact Assessment (EIA)\(^\text{29}\), including the Environmental Management Plan (EMP), has been prepared. The main environmental impacts of the project include:
- Occupation health and safety at the Project site;
- Management of used oil and grease wastes;
- Disposal of scrap metal and other solid waste;
- Delivery of construction materials and heavy equipment to the project site;
- Removal of waste from the Project site.

The EMP sets out appropriate mitigation measures and a plan for monitoring the above impacts.

The Ultimate Beneficiary will be responsible for the implementation of the EMP in cooperation with Project Implementation Consultant (PSC) and the EPP Reliability and Safety Service. During the implementation of the Project, the Ultimate Beneficiary will recruit a technical expert, specializing in hazardous waste management and environment protection to work in the PIU with a view to developing the EPP’s in-house capacity for handling hazardous wastes and protecting the environment upon expiry of the first three years of Project implementation. Environmental experts and the PIC will organize on-the-job training for the above technical expert.

Measures to mitigate environmental impacts will be included in the competitive bidding documents. The PIC will carry out environmental monitoring. The EMP implementation costs will be funded from by the ADB's loan and grant. The Ultimate Beneficiary will be responsible for removing and final disposal of scrap metal and waste oil and lubricants from the storage area of the Project site.

3.2.8. Additional information

Draft Agreement on ACF Investment Loan

The draft Loan Agreement has been prepared by the Manager and pre-approved by the Kyrgyz Republic. The Manager recommends reviewing the draft Loan Agreement and endorsing it alongside with this Appraisal Report, since the readiness of the document at the ADB is much more advanced (the loan agreement has already been ratified), but the ADB loan agreement, according to its terms and conditions, will not take effect without the duly executed EDB Loan Agreement.

Draft co-financing agreement with ADB

The draft co-financing agreement between EDB and ADB for the Project has been prepared by the Manager and pre-approved by the ADB. The Manager recommends reviewing the draft and endorsing it alongside with the Appraisal Report, which should speed up the draft preparation work, and synchronize the efforts of the two parties in implementing the Project.

Report of independent consultant

Based on the outputs of the independent consultant, selected by the Manager following an open competitive bidding process, on the analysis and evaluation of the Technical report "Technical assistance in preparation of the Toktogul HPP Rehabilitation Project, Phase 2" (Feasibility Study) and the Report "Hydrological studies for Toktogul Rehabilitation Project. Phase 2" (Hydrology report) the following conclusions can be made:

1) The Project Feasibility Study has identified no factors preventing or interfering with the capacity for manufacturing/supply of such equipment in the member countries of the Anti-Crisis Fund.

2) No substantive factors have been found in the Project that would in any way adversely impact on the regional electricity market as a whole, and on the flow of the transboundary river Syr Darya.

The report of the independent consultant is attached to the Manager’s Appraisal Report.
## 3.2.9. Project Risk Assessment

<table>
<thead>
<tr>
<th>Risk group</th>
<th>Description</th>
<th>Risk rating</th>
<th>Impact on Project</th>
<th>Risk mitigation measures</th>
<th>Risk rating following mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction risks</td>
<td>Risks of exceeding the originally project cost estimates, poor-quality installation and construction works, non-compliance with work completion schedules.</td>
<td>High</td>
<td>High</td>
<td>The Manager in cooperation with the ADB plan to ensure “turn-key” delivery of all construction/repair/replace operations, which in turn will require higher responsibility of the contractor; also to specify additional penalties/sanctions, thereby reduce potential performance risks.</td>
<td>Medium</td>
</tr>
<tr>
<td>Operational risks</td>
<td>Performance reduction risks associated with high technical losses, lower production capacity, obsolete equipment and poor maintenance.</td>
<td>Medium</td>
<td>High</td>
<td>Continuous monitoring of the Project, its progress, by engaging experts, job compliance monitoring of the Project participants.</td>
<td>Low</td>
</tr>
<tr>
<td>Financial risks</td>
<td>Sovereign financial risk of potential delays, underpayments or total failure by the Kyrgyz Republic to make interest and/or principal payments. Financial risks of the Project Company in respect of the budget loans, associated with the risks of high commercial losses due to poor financial accounting or operational efficiency, and tariffs that are below the cost of electricity production.</td>
<td>Low-Medium</td>
<td>Medium</td>
<td>This investment loan is classified as sovereign, therefore by definition is characterized as 'low-risk'. One more factor of reduction of this risk lies in the provision of cross-default conditions in the draft Agreement. Similar conditions are imposed on KR by other leading MDBs. For the second phase of the Project, it is expected that the ADB would allocate funds for financial audit and review of corporate governance of energy companies, which will allow to assess and mitigate potential risks.</td>
<td>Low</td>
</tr>
<tr>
<td>Legal risks</td>
<td>Risks resulting from inappropriate interpretation and, as a consequence, non-performance (delayed performance) under the Investment Loan Agreement and related documents, other than legal provisions of the Kyrgyz Republic.</td>
<td>High</td>
<td>High</td>
<td>Signing by the Manager of the Investment Loan Agreement directly with the Kyrgyz Republic and its ratification in due process, which will upgrade its status as an international agreement and will thus ensure its precedence over national legislation of the Kyrgyz Republic; Introduction into the Agreement of penalties, which may be applied in case of breach by the Beneficiary of any provision thereof.</td>
<td>Medium</td>
</tr>
<tr>
<td>Regulatory risks</td>
<td>Risks of potential collision between various regulatory authorities; risks of changes in regulatory environment; risks of changes in economic and political situation in Kyrgyzstan; risks of unbalanced policies in intergovernmental energy-related ties.</td>
<td>Medium</td>
<td>Medium</td>
<td>Monitoring of the current condition of the Project Company, the political situation, meetings and negotiations with the Borrower in the course of Project implementation.</td>
<td>Low</td>
</tr>
<tr>
<td>Risk Type</td>
<td>Description</td>
<td>Rating</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental risks</td>
<td>Overall, the Toktogul HPP does have an impact on the environment of the Kyrgyz Republic, but the level of the Project's impact is rated as fairly low.</td>
<td>Medium</td>
<td>In the Project implementation process, the Ultimate Beneficiary will recruit a professional, specializing in hazardous waste management and environmental issues to work in the PIU. Also, the Project Implementation Consultant will monitor these aspects of the Project.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corruption and fiduciary risks</td>
<td>In accordance with the Corruption Perception Index ratings, provided by Transparency International[^31], in 2014 Kyrgyzstan ranked 134th out of 177 countries. In the process of funding the Project, corruption and fiduciary risks may arise in connection with alleged misuse of the funds.</td>
<td>High</td>
<td>Application of ADB procurement and disbursement guidelines, which require enforcement of financial penalties for non-compliance therewith. For purposes of Project performance monitoring, provision is made for services of ADB experts. In addition, if necessary, special compliance review procedures of the Manager will be applied.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Appendix 1. Matrix of Project compliance with ACF mission objectives

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Anti-Crisis</th>
<th>Integration</th>
<th>Objectives</th>
<th>Sustainable development</th>
<th>Social sustainability:</th>
<th>Economic sustainability:</th>
<th>Environmental sustainability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Project implementation in depression-stricken sector&lt;br&gt;• Project implementation in sector exposed to crises.&lt;br&gt;• Funding of project, whose implementation failure may provoke adverse social and economic impacts (threats to energy security)&lt;br&gt;• Implementation of project of strategic importance in the context of increasing budget constraints&lt;br&gt;• Recovery of sector in the aftermath of armed conflicts, mass riots, etc.&lt;br&gt;• Creation of new jobs in the context of growing unemployment</td>
<td>• Growth of mutual investments in ACF member countries&lt;br&gt;• Growth of trade between ACF member countries&lt;br&gt;• Quantitative growth of product items for trade between ACF countries&lt;br&gt;• Growth of passenger and freight traffic flows in ACF member countries&lt;br&gt;• Reduced overheads on traffic of passengers and goods between ACF member countries&lt;br&gt;• Reduced transit time for passengers and goods in traffic between ACF member countries&lt;br&gt;• Improved access (reduced costs and time) to key transport hubs (not necessarily located in ACF member countries) linking up ACF member countries&lt;br&gt;• Project implementation in the context of preparation of the country for accession to the Customs Union</td>
<td>• Creation of new jobs&lt;br&gt;• Creation of new jobs for disadvantaged groups of population&lt;br&gt;• Improvement of food security&lt;br&gt;• Reduction of volatility of prices for food and basic services&lt;br&gt;• Increased access to basic services (education, health care, etc.)&lt;br&gt;• Improved access to higher quality water resources&lt;br&gt;• Increased access to electric power supply for communities in inaccessible and sparsely populated areas&lt;br&gt;• Broader service coverage in inaccessible and sparsely populated areas with communications networks&lt;br&gt;• Provision of access to housing utility services (sewerage, gas supply, district heating) for communities in inaccessible and sparsely populated areas</td>
<td>• Growth of tax revenue (both directly from project implementation, and indirectly - from enabling development of other sectors and businesses)&lt;br&gt;• Development of export-driven sectors&lt;br&gt;• Growth of share of domestic value-added products.&lt;br&gt;• Support of sustainable operation of national power supply systems&lt;br&gt;• Reduction of logistics overheads&lt;br&gt;• Diversification of economy and/or exports</td>
<td>• Project implementation is carried out under stringent environmental controls (IFC safeguards)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2. Cascade of Toktogul HPPs on Naryn River, Kyrgyz Republic
Appendix 3. Estimates for Project grant-element based on IMF Guidelines

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency</td>
<td>US dollars</td>
</tr>
<tr>
<td>Principal repayment</td>
<td>Equal semi-annual installments</td>
</tr>
<tr>
<td>Loan amount</td>
<td>US$ 100 million</td>
</tr>
<tr>
<td>Front-end fee</td>
<td>0.5 %</td>
</tr>
<tr>
<td>Interest rate</td>
<td>1 %</td>
</tr>
<tr>
<td>Term of loan (years)</td>
<td>20</td>
</tr>
<tr>
<td>Grace period (years)</td>
<td>8</td>
</tr>
<tr>
<td>Grant-element</td>
<td>39.04 %</td>
</tr>
</tbody>
</table>

### Appendix 4 – Key economic performance indicators of Kyrgyz Republic

<table>
<thead>
<tr>
<th>Performance indicator</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (growth to previous year, %)</td>
<td>102.9</td>
<td>99.5</td>
<td>106.0</td>
<td>99.9</td>
<td>110.9</td>
<td>103.6</td>
</tr>
<tr>
<td>including net of Kumtor</td>
<td>103.4</td>
<td>97.9</td>
<td>106.3</td>
<td>106.3</td>
<td>105.8</td>
<td>104.6</td>
</tr>
<tr>
<td>GDP per capita, US$</td>
<td>880.0</td>
<td>875.0</td>
<td>1,120.5</td>
<td>1,181.8</td>
<td>1,270</td>
<td>1,299</td>
</tr>
<tr>
<td>Inflation (average annual, %)</td>
<td>6.8</td>
<td>7.8</td>
<td>16.6</td>
<td>2.8</td>
<td>6.6</td>
<td>7.5</td>
</tr>
<tr>
<td>Investments (% of GDP)</td>
<td>22.9</td>
<td>27.7</td>
<td>23.7</td>
<td>31.4</td>
<td>29.6</td>
<td>31.6</td>
</tr>
<tr>
<td>Consolidated budget revenues (% of GDP)</td>
<td>31.2</td>
<td>32.6</td>
<td>31.8</td>
<td>33.4</td>
<td>32.4</td>
<td>34.5</td>
</tr>
<tr>
<td>including taxes</td>
<td>31.2</td>
<td>32.6</td>
<td>31.8</td>
<td>33.4</td>
<td>32.4</td>
<td>34.5</td>
</tr>
<tr>
<td>Consolidated budget expenditures (% of GDP)</td>
<td>31.2</td>
<td>32.6</td>
<td>31.8</td>
<td>33.4</td>
<td>32.4</td>
<td>34.5</td>
</tr>
<tr>
<td>Consolidated budget deficit (% of GDP)</td>
<td>31.2</td>
<td>32.6</td>
<td>31.8</td>
<td>33.4</td>
<td>32.4</td>
<td>34.5</td>
</tr>
<tr>
<td>Public debt (% of GDP)</td>
<td>57.9</td>
<td>60.3</td>
<td>52.4</td>
<td>51.9</td>
<td>47.8</td>
<td>51.4%</td>
</tr>
<tr>
<td>Exports of goods and services (increase to previous year,%)</td>
<td>1.0</td>
<td>-16.7</td>
<td>31.5</td>
<td>-6.6</td>
<td>5.8</td>
<td>-11.9</td>
</tr>
<tr>
<td>Imports of goods and services (increase to previous year,%)</td>
<td>-13.1</td>
<td>-15.8</td>
<td>36.4</td>
<td>29.3</td>
<td>17.2</td>
<td>-9.4</td>
</tr>
<tr>
<td>Current account (% of GDP)</td>
<td>-4.0</td>
<td>-6.6</td>
<td>-10.0</td>
<td>-25.9</td>
<td>-25.1</td>
<td>-24.7</td>
</tr>
<tr>
<td>External debt (% of GDP)</td>
<td>84.6</td>
<td>88.7</td>
<td>80.0</td>
<td>80.2</td>
<td>82.2</td>
<td>86.4</td>
</tr>
<tr>
<td>including public debt (% of GDP)</td>
<td>53.7</td>
<td>55.4</td>
<td>47.5</td>
<td>46.3</td>
<td>43.8</td>
<td>46.7</td>
</tr>
<tr>
<td>External debt service ratio (% of exports of goods and services)</td>
<td>3.6</td>
<td>3.9</td>
<td>3.1</td>
<td>3.4</td>
<td>3.1</td>
<td>4.1</td>
</tr>
</tbody>
</table>

34 According to computations of the ACF
35 2012-2013 national budget