



CAMP4ASB
Climate Adaptation & Mitigation
Program for Aral Sea Basin
CENTRAL ASIA



THE PUBLIC-PRIVATE PARTNERSHIP MECHANISM IN THE ENERGY

Central Asia





For the moment, Central Asia countries in a varying degree are meeting their energy demands. Nevertheless, the energy intensity of key economic sectors of the countries still remains at a high level. At the same time, inherited from the Soviet Union, the Central Asian energy system with a high degree of depreciation requires a tremendous infrastructure upgrade. Population growth and the rapid economic development of CA countries are two factors that as early as in the short term will lead to growth in consumption of energy resources. Moreover, international commitments – aimed at reducing greenhouse gas emissions – adopted by CA countries will be feasible only through pledging high efficiency of the energy system and introducing of renewable energy sources.

Zhanna Babagaliyeva,
Regional environmental centre for Central Asia

Almaty, 2018

Public-private partnership is a cooperative arrangement between two or more public and private sectors, in those sectors of the economy that are in the sphere of state responsibility. This type of cooperation is realized on the basis of equal distribution of risks, benefits and costs, as well as rights and obligations¹.



In that context, CA countries have already initiated some steps aimed at improving energy efficiency, as well as at introducing renewable energy sources (RES). In all five CA countries, a legal framework has been established to implement the requirements for energy efficiency, as well as efficient operation of enterprises and expansion of the share of RES in the fuel and energy balance. However, in the light of public budget stringency observed in all countries of the region, there are some obstacles and challenges that impede implementation of declared goals and objectives. Thus, CA countries emphasize the need to attract larger flows of private capital aimed at ensuring far-reaching changes in the energy sector and Public-Partner Partnership (PPP) is considered to be as one of the main tools to attract business into “clean” energy development. Private investments will enable to cut the state budget expenditures, while transfer of some function will allow private investors to increase efficiency and quality of service delivery, cost control and enhance access to new technologies and new management modalities. At the same time, the State as

a right owner will reserve the right to exercise control, including public interest regulation, concurrently supporting the business by providing tax and other benefits and guarantees.

In a sense Public-Private Partnerships are observed in various Central Asian countries; however application of PPP mechanism in the energy sector is different compared with other sectors. The PPP mechanism in the energy sector is primarily applied in the energy sector of Tajikistan, where most of the projects are implemented in the field of hydropower development. There are also PPP projects in the energy sector of Kazakhstan; however most of them are aimed at increasing energy efficiency in municipal facilities. This is due to the fact that other mechanisms are applied for the development of RES in Kazakhstan. The PPP development in Kyrgyzstan has gained some momentum; however, so far no PPP projects were observed in the energy sector. In Uzbekistan, the relevant legislation is under development, while some elements of PPP are present across the various bills of Turkmenistan.

¹ The National Chamber of Entrepreneurs of the Republic of Kazakhstan
<http://atameken.kz/ru/pages/566-gosudarstvenno-chastnoe-partnerstvo>



Photovoltaic modules on “Central Mynkuduk” mine in Suzak region of UKO, Kazakhstan



Since 2006, Public-Private Partnership in Kazakhstan has been developing at the legislative level. Then the first legal framework governing the Public-Private Partnership envisaged using a concession² – the Law “On Concessions” – as a PPP tool. The Ministry of National Economy was appointed as the public authority for the shaping of State policy in the field of public-private partnership.

² A concession or concession agreement is a grant of rights, land or property by a government, local authority, corporation, individual or other legal entity. In the case of a public service concession, a private company enters into an agreement with the government to have the exclusive right to operate, maintain and carry out investment in a public utility for a given number of years. The owner of a concession – the concessionaire – typically pays either a fixed sum or a percentage of revenue to the owner of the entity from which it operates.

However, concession as a tool, has not gained much popularity among the private sector players. Since 2006 and up to date, only 3 concessional projects were implemented and 3 project faced unsatisfactory operation. For instance, one of the projects was about the construction of the transmission line – “North Kazakhstan – Aktobe Province”; however enterprises supposed to operate this transmission line had either ceased their activities or not operating at full capacity. Project failure and low popularity of using the concession are associated with excessive regulation of concession relations, “red tape”, as well as weak assessment of the projects proposed by the concessionaire.

The Kazakh Public-Private Partnership Center was established under the Ministry of National Economy of the Republic of Kazakhstan in order to address aforementioned problems and facilitate the process of PPP development in the country. The Kazakh Public-Private Partnership Center is taking an active part in development and support of Kazakhstan legislation, including expertise and evaluation of the PPP investment projects' implementation. The Coordination Council for PPP under the Government of the Republic of Kazakhstan was established in 2012 in to ensure coordination of the Public-Private Partnership. Currently, the Council develops proposals aimed at harmonization of legislation, performs analysis and proposes ways to address some problematic issues. In 2014, in accordance with the resolution of the Coordination Council, a PPP Project Support Center was established, now called the Kazakhstan Project Preparation Fund. The Kazakhstan Project Preparation Fund provides project support, including preparation of documents, negotiations with potential investors and concessionaires, and coordination with public agencies.

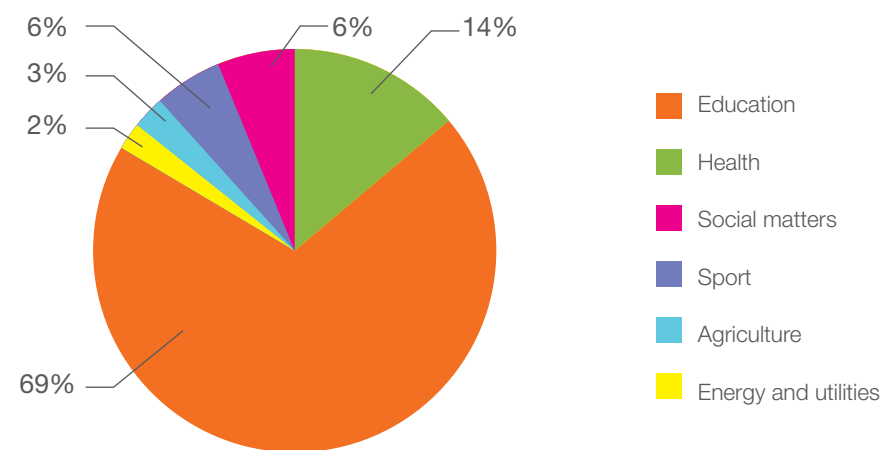
Thus, after setting-up the institutional framework for the PPP promotion, in 2015 the Government of Kazakhstan had adopted an entirely new Law "On Public-Private partnership", which offers a more flexible approach in partnership and can be applied to any sector of the economy.

According to the Kazakhstan Center for Public-Private Partnership, so far 615 PPP projects of different stages implementation have been registered³, including 267 contracts in various sectors of the economy, 6% of the contracts are associated with the energy and utilities sector (Figure 1).



Wind station on Kordai pass, Kazakhstan

Figure 1 Number of contracts concluded as per PPP mechanism, as of beginning of 2018



Source: Official web-page of the Ministry of National Economy of the Republic of Kazakhstan.

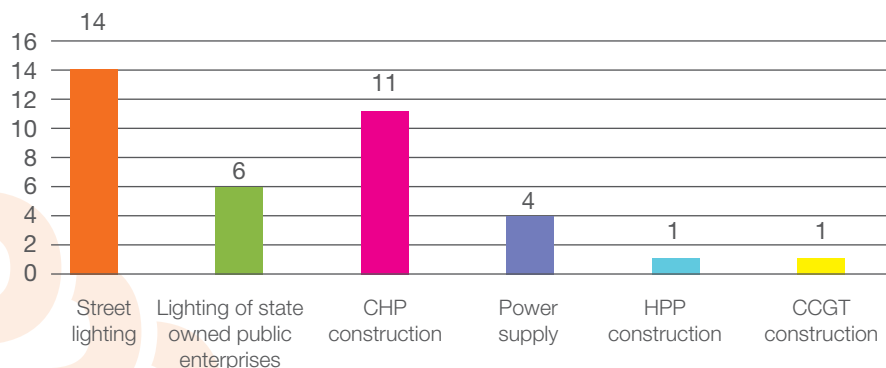
³ <http://economy.gov.kz/ru/news/v-respublike-kazahstan-zaregistrovano-547-proektov-gchp-na-obshchuyu-summu-1-8066-mlrd-tenge>

According to the project database of the Kazakhstan Center for PPP development, 60 projects have been registered in the field of “Energy and Utilities”, of which 37 projects are related to the energy sector. Most of these projects are aimed at improving energy efficiency through the rehabilitation of Combined-heat plants, improving street lighting and lighting of state-owned public enterprises (Figure 2).

According to the project database of the Kazakhstan Center for PPP development, there are no RES related projects implemented under PPP mechanism. This may be due to the fact that the Republic of Kazakhstan has adopted a specific Law “On Support for the Use of Renewable Energy Sources”. This Law established that the State approves fixed tariffs for electricity, thereby ensuring the liquidity of RES facilities. Also, the State supports the connection to power and heat supply grids, obliging energy transmission providers to unimpeded and non-discriminatory determination of the nearest point of power or heat supply grids and ensures that RES facilities are connected to the nearest grid.



Figure 2 PPP projects in the energy field



Source: The Kazakh Public-Private Partnership Center⁴

⁴ http://kzppp.kz/project_base?level=all®ion=all&industry=all&status=all

For better RES performance, in 2018 the Republic of Kazakhstan amended the National Law “On support of the Renewable Energy Sources”. The amended version of the law envisages knockdown (auction) approach for implementation of the RES-based projects with the lowest tariff for the generated electricity. So, in accordance with the Law, the knockdown (auction) bidding happens in electronic platform and envisages that international and local players offer their tariffs below the marginal auction prices⁵. However, it should be noted that tariffs will be indexed in annual basis in accordance with currency fluctuation and inflation.

So, in 2018, the total capacity planned for selection under knockdown approach will be 1000 MW equivalent, including 430 MW wind energy (wind turbine generators), 410 MW solar power (solar power station), 130 MW hydropower (HPP) and 5 MW biofuel (biofuel power plant).

⁵ Marginal auction price – the maximum value of the auction price for electricity (Law on support of RES)



Toktogul HPP, Kyrgyzstan

In 2014, an Agency for Investment Promotion was established under the Ministry of Economy of the Kyrgyz Republic. The main function of the new Agency is to ensure interaction of state bodies, local authorities, business communities and non-governmental organizations in attracting private investment into the Kyrgyz Republic, including promotion, implementation and support of investment projects and programs, including PPP projects. Later, in 2016, the Public-Private Partnership Council⁷ was established in order to more effectively coordinate the activities of state bodies and local self-governing bodies for PPP development. This Council is a consultative and advisory body under the Government of the Kyrgyz Republic, which assists in the formation of a single coherent state policy in PPP field: Council act as a platform for addressing complex and controversial issues. Among the members of the Council there is Deputy Prime Minister, as well as the ministers of the authorized state bodies.

⁷ <http://www.ppp.gov.kg/upload/file/13.pdf>

The Republic of Kyrgyzstan has relatively recently begun to develop the Public-Private Partnership. However, it should be noted that the legal framework, as well as the responsible institutions are well determined. The National Law “On Public-Private Partnership”⁶, was adopted in 2009, and amended in 2012, according to which PPP mechanism in the energy field can be applied to infrastructure facilities and/or infrastructure services related to generation, transmission and distribution of electricity and heat. The Ministry of Economy of the Kyrgyz Republic was designated as the authorized body for PPP policy promotion, and the Ministry of Finance of the Kyrgyz Republic was designated as the authorized state body for risk management.

⁶ <http://cbd.minjust.gov.kg/act/view/ru-ru/203607>



Solar water heating system, Kyrgyzstan



Toktogul HPP, Kyrgyzstan

Over the past few years international donors and development partners render technical and financial assistance for the PPP development in the Kyrgyz Republic. For instance, while designing PPP project, country faced problems attributed with the feasibility studies (Technical-Economic Assessment Study) that is due to the lack of experienced staff in field of PPP, as well as lack of financial means for recruiting of an international consultant. The problem was resolved after the establishment of the Fund for the Preparation of PPP Projects (FP3PP), where half of the FP3PP's budget is contribution by the Asian Development Bank and another half is contribution of the state budget.

The Kyrgyz Republic has approved the Public-Private Partnership Development Program for 2016–2021⁸, where the Government of the Kyrgyz Republic has set priorities for the coming years aimed at implementing PPP projects, including project in the energy field.

⁸ <http://www.ppp.gov.kg/upload/file/12.pdf>

That Program also sets up main goals and objectives for PPP development, which include the development of sectorial and regional long-term PPP investment programs, enhancement of target-specific human and expert capacity, as well as development of a PPP Guidelines and mechanisms aimed at creating financial instruments for PPP.

Currently, according to the Agency for Investment Promotion, there are 14 PPP projects registered in the country, none of which attributed with the energy sector (Table 1).

Table 1 PPP project registered at the Agency for Investment Promotion under the Ministry of Economy of the Kyrgyz Republic⁹

Sector	Number of PPP projects
Transport	6
Health	4
Sport	2
Education	1
Environment Protection (solid domestic waste management)	1

⁹ <http://www.ppp.gov.kg/ru/proekty2/>



Upper Naryn HPP, Kyrgyzstan



Nurek HPP, Tajikistan



In Tajikistan, the Law “On Public-Private Partnership” was adopted in 2012. The State Committee for Investments and State Property Management of the Republic of Tajikistan was appointed as the authorized body, under which, in 2013, the State Enterprise for the Implementation of Public-Private Partnership Projects was established¹⁰.

The Government of the Republic of Tajikistan takes a direct role in the PPP development in the country. So the competence of the Government on the PPP affairs is as follows: (i) establishment of the PPP Council; (ii) approval of Council’s composition and charter; (iii) define the list of infrastructure facilities and social services to which the Law “On PPP” is not applied; and (iv) appoint the authorized state body.

¹⁰ http://www.gki.tj/ru/nvestitsii_v_rt/osudarstvennoe_uchrezhdenie_entr_realizatsii_proektov_gosudarstvenno-chastnogo_partnerstva/

Thus, already in 2013, the Public-Private Partnership Council was established via Resolution of the Government of Tajikistan. The Council is a collegial body, which consists of the number of the senior managers of public ministries and agencies. The Council reviews the project proposals submitted by the authorized body and monitors the activities of the authorized body in the field of PPP.

The State Enterprise for the Implementation of Public-Private Partnership Projects under the State Committee for Investments and State Property Management of the Republic of Tajikistan provides advisory assistance to a private partner during submission of the project proposals, develops technical and methodological tools for a partnership project, and also reviews preliminary feasibility studies.



The interactive investment map, available online on the website of the State Committee for Investments and State Property Management of the Republic of Tajikistan¹¹, illustrates investment projects proposed within the seven sectors of the economy, including hydropower, mining, infrastructure, light industry, agriculture, the social sector and tourism.

There are 54 projects in the hydropower sector, including construction and rehabilitation of hydropower plants; where for 48 projects the PPP is envisaged as one of the investment tool. At the same time, it should be noted that such projects require technical and economic assessment studies (TEAS). Nevertheless, it should also be noted that there are some HPP projects which have some PPP features such as Pamir Energy (in operation since 2002), Sangtuda-1 (in operation since 2009), and Sangtuda-2 (in operation since 2011), as they were implemented before the adoption of Law “On PPP” – all these projects are considered as PPP projects¹².

¹¹ <http://www.gki.tj/ru/investkarta/otrasl/1/#googleMap>

¹² https://www.adb.org/sites/default/files/project-documents/47098/47098-001-tacr-01-ru_0.pdf

Fifteen years ago, before the “**Pamir Energy**” hydropower PPP project started its operation; only 13% of GBAO region population had access to power supply (electricity).

To address this problem, in 2002 the Government of Tajikistan, AKFED, IFC, and the Swiss Agency for Development and Cooperation (SDC) designed the first-ever PPP project in the country – “Pamir Energy” with a 25 year concession on the assets formerly owned by the OJSCH “Barqi Tajik (national power utility)”.

Nowadays, 96% of households in GBAO, some 220,000 people, as well as public facilities (including medical and educational facilities) have access to clean, reliable and affordable energy. Since 2002, Pamir Energy has restored 11 micro hydro power plants and upgraded 4,300km of transmission lines, as well as distribution facilities. In 2008, the company began exporting energy across the Pyandj River to communities in northern Afghanistan – some receiving electricity for the first time in their history.

Currently, 35,000 Afghans are connected. The company plans to reach thousands more customers in Afghanistan in the coming years and to expand its operations to Northern Pakistan by 2025. Pamir Energy received its Ashden Award on June 15, 2017 at a prestigious ceremony at the Royal Geographical Society in London and £20,000 cash for expansion of its activities. Under agreement with the Board of Directors, the company has decided to spend the Ashden Award prize money (£20,000) for construction of a small hydropower plant with capacity of 100 kW in the Roshorv village, Bartang Valley.





Compared with the other Central Asia countries, the Republic of Turkmenistan has the relatively least developed legal and institutional framework for PPP development. There is no dedicated law and an institute for PPP regulation; nevertheless some PPP elements are available in National Laws of Turkmenistan “On Leasing”, “On Innovative Activities”, “On State Youth Policy”, “On State Support for Small and Medium Enterprise” and other by-laws.

For instance, in the Republic of Turkmenistan, the most common PPP feature is attributed to the lease relationships - when public property is leased to the private sector. At the same time there is an increase in the number of lease contracts; increase by 10.5% in 2011 compared to 2010¹³. Also, the PPP elements are available in the Law “On Hydrocarbon Resources”, where one of the types of contracts is a concession agreement on the terms of royalty and taxation. In addition, there are product sharing agreements in the country, mainly used in oil and gas sector, applied by joint venture and foreign companies¹⁴.

¹³ http://www.cbt.tm/ru/news/2016/12_26a.html

¹⁴ <http://www.turkmenistan.gov.tm/?id=8441>

However, despite the fact that the use of the PPP tool in the field of energy in the country is not developed, the Government of Turkmenistan in the National Climate Change Strategy has determined the increased energy efficiency and the introduction of renewable energy sources as priority areas.

The Government of Turkmenistan had adopted “the State Concept for the Electrical Power Development in Turkmenistan for 2013-2020”. This Concept is aimed at increasing energy production through the modernization and construction of new gas turbine power plants. During the implementation of the State Concept, 6 gas turbine power plants (out of planned 14), as well as 13 power stations that manage 14 steam turbine and 32 gas turbine units, were put into operation¹⁵. The Concept also provides for the study of the possibility of generation of electricity via use of renewable energy sources. So, for the training of personnel in the field of renewable energy sources, the Turkmen State Energy Institute kicked-off training sessions for specialists in the field of “Alternative energy sources”. Solar and wind installations have been installed within the Institute’s compound aiming some practical and research works, as well as non-grid generation of electricity. All scientific work is carried out under the patronage of the Academy of Sciences of Turkmenistan.

¹⁵ <https://turkmenportal.com/blog/11652/elektroenergetika-turkmenistana-dostizheniya-i-perspektivy-razvitiya>



end-use energy consumption, introduce improved highly-efficient design measures to major housing designers and developers, and replicate these measures through protocols for energy-saving measures in prototype buildings and through mainstreaming energy-efficiency issues into policies and programs. Moreover, an energy management system has been established that allows collection and transmission of energy consumption data from installed meters in some pilot buildings. Five samples of automatic heat regulator were installed and tested in 5 residential buildings of the same area. Potentially, the use of the heat regulators in the existing residential premises for the next 10 years (2018–2027) will result in gas savings of more than 250 million m³ and reduction in GHG emissions of 480.3 thousand tons of CO₂.

In general, the modernization of the residential premises aimed at enhancing energy efficiency might potential reduce gas consumption by some 3,077.8 M m³.¹⁶

¹⁶ <http://www.tm.undp.org>

With the aim at improving energy efficiency, in the recent years the Ministry of Construction and Architecture of Turkmenistan is consistently improving design-related activities for more energy-efficient facilities, both industrial and civil nature. During implementation of the State Concept, such construction norms and standards like “Housetops and roofs”, “Residential buildings”, “Construction climatology” and “Construction heat engineering” were revised and amended.

We should also note the GEF-funded project called “Improving Energy Efficiency in the Residential Building Sector”, implemented jointly with UNDP Turkmenistan since 2011. The project will help reduce greenhouse gas emissions by improving energy management and reducing energy consumption in the residential sector in Turkmenistan. The project aims at strengthening incentives and capacity to build highly energy-efficient buildings, develop national capacity to identify end-use energy savings in its residential sector and implement investments to reduce



Solar panels, Turkmenistan



Gissarak HPP-3, Uzbekistan

With recent amendments in 2017, the Law “On Concessions”¹⁷, has been in force in Uzbekistan since 1995. However, according to the definition provided in the Law, “a concession is a permit issued by the State to a foreign investor to carry out specific economic activity linked with allocation of property, land plots, as well as mines and carriers on the basis of concluded concession agreement”. The definition itself limits the possible involvement in concessions of the local private sector.

¹⁷ <http://lex.uz/acts/118763>

Promotion of the Public-Private Partnership mechanism in Uzbekistan has been started relatively recently. Currently, the draft bill “On Public-Private Partnership”¹⁸ is under development, and hearing of this bill in the Parliament of the Republic of Uzbekistan is scheduled for mid-2018. The draft bill defines 16 areas where this type of partnership can be applied: particular attention is given to fuel and energy and chemical industries, as well as renewable energy sources. Project might be initiated either by a public or a private partner. It should be noted that international organizations, including the European Bank for Reconstruction and Development (EBRD), provide assistance to the Uzbekistan in drafting the aforementioned draft bill.

While the process for PPP development is initiated, where this process considers the energy sector as a stand-alone direction, Uzbekistan actively implements mechanisms aimed at increased energy efficiency, as well as the promotion and use of renewable energy sources.

In 1997, the Law on Rational Use of Energy¹⁹ was adopted (with the latest amendments as of 2016). This Law regulates norms and standards for energy consumption in the country, including monitoring and control of energy efficiency standards, standardization of energy efficiency and mandatory certification and mandatory state metrological control. In addition to that, this Law envisages energy studies, expertise and audits for assessment of the energy-efficiency performance and energy intensity of any given enterprise.

¹⁸ <https://regulation.gov.uz/ru/documents/1469>

¹⁹ <http://www.lex.uz/acts/2054>



According to the Law, the State supports the use of renewable energy sources, and irrational use of energy is subject to administrative liability. Moreover, the Government of Uzbekistan has developed an institutional framework for promoting energy efficiency and renewable energy sources.

For instance, the Republican Commission on Energy Efficiency and Promotion of Renewable Energy Sources and the Department of Energy Efficiency and Development of Renewable Energy Sources has been established under the Ministry of Economy of the Republic of Uzbekistan²⁰.

²⁰ Resolution No. 238 of the Cabinet of Ministers of the Republic of Uzbekistan “On approval of the Charter on the Republican Commission on Energy Efficiency and Promotion of Renewable Energy Sources”, as of August 13, 2015.

In general, the national policy on energy efficiency and renewable energy of Uzbekistan – in addition to laws and regulations – employs various national programs, including: (i) the Programme of measures to reduce energy intensity and introduce energy-saving technologies in the economic and social sectors for 2015–2019, (ii) the Programme of Measures for the Further Development of Renewable Energy, increasing energy efficiency in the economic and social sectors for 2017–2021, and (iii) the Programme for the Hydropower Development for 2016–2020.

In addition to that, starting from 2011 and up to date, country implements a project called “Increased energy efficiency of industrial enterprises”. This project aims promoting energy efficiency in the industrial sector, with an eye at reducing energy and fuel consumption. Within the framework of the project more than 30 large enterprises received soft credits from participating banks. According to the reports of the Ministry of Economy of the Republic of Uzbekistan²¹, the successful implementation of these sub-projects – as per preliminary rough calculations – will annually ensure savings of more than 518 M kWh of electricity and 202 M m³ cubic meters of natural gas.

It is important to note that in 2018 the Government of Uzbekistan adopted a Resolution “On Additional Measures for Implementing Investment Projects in the Field of Renewable Energy Sources”. This Resolution is aimed at attracting wide-scope foreign investments and modern technologies in the field of renewable energy sources. This Resolution envisages tax and customs fee exemptions for a private company that entered into agreement with the Government of Uzbekistan. Concluded agreement is about the Construction of a generation facilities (solar/photovoltaic energy) with a total capacity of one thousand (1,000) MW of alternating current (hereinafter referred to as the Project). The scope of investment is some 1.3 B USD. Moreover, the Contractor is allocated a land plot, and utility costs are covered at the expense of the state budget of Uzbekistan²².

²¹ <https://mineconomy.uz/ru/node/1615>

²² <http://lex.uz/docs/3713634>



Conclusions

Recognizing the need to modernize the energy system, Central Asia countries are actively undertaking measures aimed at increasing energy efficiency and introducing the renewable energy sources. However, such transformations require certain investments where such investments are difficult to be covered at the state budget expense. Over the past few years, the mechanism of Public-Private Partnership is being developed by CA countries to address this issue. Well-designed legal and institutional framework is essential to ensure effective partnership.

In the process of introducing the PPP tool, in particular in the energy sector aimed at improving energy efficiency of the system, as well as using of the renewable energy sources, CA countries face number of factors impeding legal, economic and management activities.

Given that the PPP tool is relatively new for the region, first of all CA countries face specific issues attributed to the low staff capacity in this field. For instance, some difficulties are observed in preparation of feasibility studies and project proposals.

Low tariffs for power and heat supply are considered one of the main problems practically for all CA countries in attracting investments into the energy sector. Low tariffs are not able to secure liquidity for rehabilitation and construction of new grids and plants. Knockdown (auction) approach is applied for tariffs in Kazakhstan to address this issue; nevertheless, knockdown approach might be replicated by other countries of the region.



Building of the Rogun HPP, Tajikistan

Given the significant depreciation of the energy system in the region, as well as the intentions of CA countries to ensure energy security and low-carbon development, it is important to note that the introduction of a PPP mechanism into the energy sector will help in attracting the private sector and effectively develop “clean” energy. In this context, rapid and effective implementation of the PPP tool will depend on cooperation and experience sharing between CA countries in the field of PPP development.



Red tape in drafting and review of documents during submission of a project proposal by a private partner, leads to low interest in PPP projects. In this regard, some countries are accordingly amending the legal framework. However, sharing of best practices might allow avoiding these problems in other countries of the region where legal framework is still under development.