UNECE PPP TEAM OF SPECIALISTS ON PUBLIC-PRIVATE PARTNERSHIPS

UNECE INTERNATIONAL PPP CENTRE OF EXCELLENCE

UNECE National PPP Readiness Assessment Report: Kyrgyzstan

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1. Introduction

The world is facing an increasing demand for infrastructure. The rapid growth of the world's population, the urgent need to make further progress in achieving the United Nations Millennium Development Goals, and the need to mitigate the effects of climate change, are coming together and overstretching every government's budget many times over. Pressing areas of need range from water and sanitation, waste management, hospitals and health care, schools to roads, green energy and many more. Estimates by the OECD put the figure at 35 billion US dollars for new infrastructure and 45 billion US dollars for the mitigation of climate change affects in countries with emerging economies alone. It is not a discussion of why, the problem is how to find funding to meet these enormous needs.

The traditional approach of governments in meeting their infrastructure needs is either to use the State's own budget or privatisation. The first is by far insufficient to meet the needs while the latter only works in very specific instances. There is though a third way in undertaking this task. Governments are focusing their attention on the role of the private sector to help – with emphasis on the word 'help' - but in a distinct new form, namely Public-Private Partnerships (PPPs). The role of PPPs is of critical importance.

The number of PPP projects worldwide has increased exponentially over the past decade or so, and there are over 4500 successful projects in the world today. However, unfortunately, there are only a few PPP projects that are successfully operating in developing countries and transition economies. Although CIS countries are beginning to look at PPPs as a means to addressing their infrastructure challenges, for most of these countries PPP is a totally new concept and a model where there is no living memory of, and substantial project-focused capacity-building and training will be required in order to deliver successful projects.

1.1 Capability Gap

The vast majority of countries with economies in transition and developing countries in the UNECE region and beyond that are at the initial stages of developing national infrastructure investment strategies, including PPPs, need to improve their understanding, knowledge, capability, skills, and establish efficient processes that would allow them to properly develop and deliver their PPP strategies. The UNECE recognised this capability gap and undertakes PPP assessments in order to assist countries to develop their PPP strategies according to best international practice, so that they might successfully deliver much needed infrastructure on a large scale and co-ordinated basis, for the good of the citizen and at a cost that represents 'value for money'.

1.2 The UNECE PPP assessment in Kyrgyzstan

In addressing this capability gap in Kyrgyzstan, the UNECE, through its Team of Specialists on PPP and the UNECE International PPP Centre of Excellence, and in cooperation with the Ministry of Economy, held a series of meetings with key stakeholders involved in furthering PPP development in Kyrgyzstan (including lead and line ministries, financial institutions, private businesses and representatives of

intergovernmental organisations). The knowledge acquired from these meetings, together with the replies to the pre-visit questionnaire (see Annex II) helped to formulate a number of recommendations contained in this document.

The programme of consultative meetings in Kyrgyzstan took place from 10 to 14 September 2012 (see Annex III), and it was specifically designed to engage all of the major stakeholders in Kyrgyzstan who are involved with infrastructure development, both in the public and private sectors, as well as major international organisations. Most of the meetings with line ministries were at the level of Deputy Ministers, while those with the banking community and private businesses were at the level of senior executives. The consultations with the various stakeholders were informal in nature, and the knowledge acquired from these meetings together with the replies to the pre-visit questionnaire provided the basis for the PPP assessment report (*Box 1* above contains the rationale for UNECE PPP assessments).

Box 1 - UNECE PPP assessments

The purpose of the PPP assessment is to:

- make a thorough examination of the enabling environment and identify challenges that may face a country in its aim to attract private capital for infrastructure development; and
- consider areas where PPP pilot projects are needed and feasible.

1.3 Structure of the PPP assessment

The focus of this assessment is on options to facilitate financing of infrastructure development through the use of Public-Private Partnerships (PPPs), with a special emphasis on infrastructure projects in the areas identified in consultation with the stakeholders (see section 3 below). The assessment will also identify areas where potential pilot projects through PPPs could be used as a means to bring about private sector financing for infrastructure projects. In doing so, the assessment will touch upon a number of areas in the enabling environment related to PPPs and will identify areas that might need further consideration in order to attract the necessary private sector investment into infrastructure projects.

Besides this introduction, the assessment is divided into seven sections. The assessment will first dwell on the PPP model and how it has grown tremendously in popularity as an alternative procurement mechanism to provide essential public services, before it focuses on the infrastructure needs in Kyrgyzstan identified in consultation with the stakeholders. The assessment will then explore the relationship between environmental considerations and the need for infrastructure projects, which are so essential for the continuous economic and social development of countries with economies in transition. It will then touch upon areas in the PPP enabling environment that are crucial to attract private sector interest in infrastructure development, followed by an overview of renewable energy capabilities in Kyrgyzstan, both in terms of potential and also in terms of public sector capacity, and the role that PPPs play in this crucial sector in the Kyrgyz economy. The assessment will then elaborate on three projects identified in Kyrgyzstan that have the potential of being delivered as a PPP, and concludes by providing a number of targeted policy recommendations aimed at securing the viability of these projects that could serve as a launching pad for PPP development in the country.

2. What are Public-Private Partnerships (PPPs)?

PPPs are projects in the field of infrastructure development, and are defined by the UNECE as: innovative, long term, contractual arrangements for developing infrastructure and providing public services by introducing private sector funds, expertise and motivation into areas that are normally the responsibility of government.

PPPs are therefore arrangements between government (at that national, regional or municipal level) and private sector entities aimed at financing, designing, operating public sector facilities and services in a host of infrastructure sectors, including transport, water and waste water, education, energy, health and education. In other words, PPPs are a mechanism for attracting private investment into infrastructure development defined both as economic infrastructure, such as transportation and energy, and social infrastructure, such as schools and hospitals. Such partnerships are characterized by the sharing of investment, risk, responsibility and reward between the partners. The underlying logic for establishing partnerships is that both the public and the private sector have unique characteristics that provide them with advantages in specific aspects of service or project delivery. The most successful partnership arrangements draw on the strengths of both the public and private sector to establish complementary relationships.

The dual characteristics of a PPP are **project finance** (where private lending is provided on the basis of the revenue stream of an asset), and a **long-term contract** between the private and public sector (typically, 25 to 30 years), for the design, financing, construction, operation, maintenance and transfer (or a combination thereof) of public capital assets by the private sector. Some of the key advantages of PPPs are elicted in *Box 2*.

PPP is one of a number of ways of delivering public infrastructure and related services. It is not a substitute for strong and effective governance and decision making by government. In all cases, government remains responsible and accountable for delivering services and projects in a manner that protects and furthers the public interest.

Typically, a government agency will specify the outputs or services required. The job of producing detailed designs, finding the finance, organizing the construction and on-going management of the facility is let to

Box 2 - Key advantages of PPP's

The advantages of PPP's include the following:

- **On time and on budget delivery of projects;**
- **Innovation and diversity in the provision of public services;**
- **Value for money for the taxpayer through optimal risk transfer and risk management;**
- **Efficiencies from integrating design and construction of public infrastructure with financing, operation and maintenance;**
- **Competition and greater construction capacity (including the participation of overseas firms, especially in joint ventures and partnering arrangements);**
- **Accountability for the provision and delivery of quality public services through a performance incentive management/regulatory regime; and**
- **Effective utilisation of state assets to the benefit of all users of public services.**

a private consortium by way of a competitive tender. The private consortium is typically organized by a lead contractor who brings together financiers, engineering firms, construction companies and facilities management companies, to provide individual services.

According to international best practice, the PPP model offers a number of advantages over 'traditional' public procurement, especially as it increases the certainty of outcomes (that is, 'on time' and 'on budget' delivery). The key differences between the two procuring methods are contained in *Box 3* below.

Box 3 - PPPs as an alternative to 'traditional' public procurement

There are different ways in which the private sector can invest in public infrastructure projects. On one end of the spectrum we find the 'traditional' public procurement, while on the other end, we find outright privatisation. PPPs are essentially what comes in-between, and are different from both 'traditional' public procurement and privatisation of public assets. In the case of privatisation, for example, accountability for service delivery and ownership is transferred on to the private sector, while accountability in the PPP model remains vested in the public sector.

The key differences are:

- specifications in PPPs are measured in terms of 'outputs' rather than 'inputs' as in 'traditional' public procurement;
- the private sector is responsible to finance, build and operate the asset;
- the public sector 'purchases' the services through regular payments (service payments) or income generated (user fees) over the life of the contract;
- in a PPP, any costs overruns remain at the private sector's risk;
- risks associated with costs of design, construction, operation and maintenance, and demand for the use and service provided by the asset, are transferred from the public to the private sector in a PPP project;
- in a PPP, construction costs are funded by the private sector, thus relieving the pressure on government funding for infrastructure projects requiring significant capital investment; and
- the whole life-cycle approach in the PPP model vis-à-vis traditional procurement ensures that the private sector selects the most efficient and sustainable solution for the long term rather than the cheapest solution in the short term.

The PPP model has grown tremendously in popularity in the past years. This growing interest is mainly due to the lack of resources of governments to meet their growing infrastructure requirements and the desire of their citizens for better public services. Besides its attractiveness as a model that has the potential to bridge the so-called 'infrastructure gap', there is increasing evidence that the PPP model relative to 'traditional' public procurement tends to deliver projects to budget and on time, and these are core characteristics of the PPP model. Initially the PPP model was attractive to governments as it was considered as a financial mechanism for expenditures to be placed

'off balance sheet'. A shift from using PPPs for financial reasons can however be observed once governments realise that the PPP model can be effectively used to achieve greater efficiency and create added value. Besides being critical for the modernisation of infrastructure, better public services improve the lives of citizens and thus help countries achieving their Millennium Development Goals.

As compelling as PPP's can be, a major caveat remains: PPP projects are inherently complex, and require special expertise, knowledge and skills for their implementation. Governments often lack the capacity needed to effectively manage a PPP project and often find themselves at a strategic disadvantage to their more experienced private PPP counterparts. The issue of public sector capacity is addressed is section 5.2 below while some of the major drawbacks of PPPs are elicted in *Box 4* below.

Through PPPs, governments are more able to undertake projects for the benefit of their citizens, including the socially and economically disadvantaged. PPPs allow governments to approach projects which are essential to economic and social development and which they might otherwise have felt were necessary but that were hitherto unobtainable due to lack of the necessary funding. Most importantly, the PPP model embraces the Millennium Development Goals, in particular the challenges of sustainable development and decent livelihoods of citizens.

Box 4 - The major drawbacks of PPPs

The disadvantages of PPP's include the following:

- **PPP contracts are typically much more complicated than conventional procurement contracts;**
- **Each party bidding for a project spends considerable resources in designing and evaluating the project prior to submitting a tender;**
- **There are typically very significant legal costs in contract negotiation due to the complexity and long duration of the project;**
- **Given the difficulty in estimating financial outcomes over such long periods, there is a risk that the private sector party will either go bankrupt, or make very large profits. Both outcomes can create political problems for the government, causing it to intervene.**

3. Infrastructure Needs in Kyrgyzstan

International experience in the UNECE countries and beyond has consistently shown that infrastructure investment and development strategies and plans should begin with an understanding of the needs, be it on a national, regional, local or municipal level. Once the needs have been identified, strategic service models should then be developed for the delivery of public services and lastly an infrastructure plan developed for the delivery of the infrastructure required to support the delivery of the services. This sequence of needs, service model, and infrastructure represents international best practice for the efficient and cost effective delivery of infrastructure, which ultimately improves the quality of life of the citizen and the economic performance of a nation or region, in a meaningful way.

Typically, governments' needs focus on some or all of the following: growing a sustainable economy; creating opportunities; tackling the socially and economically disadvantaged; improving health and wellbeing; protecting the environment; safer communities; and the delivery of high quality and efficient public services.

Quite often public authorities tend to rush into "delivery" mode as they are naturally keen to see capital works commence, having made assumptions with respect to demand, without having first necessarily undertaken needs identification and subsequent programme and project appraisal, to ensure deliverability of solutions that address public needs.

Map of Kyrgyzstan

One of the key challenges facing governments in the UNECE region and beyond is to achieve the right balance between social and economic infrastructure on the basis of available resources. It is therefore important for public authorities to get their priorities right vis-à-vis the economic and social needs in the country.

One of the key questions posed to stakeholders in Kyrgyzstan during the consultations was precisely on what they considered as the key economic and social infrastructure needs today in Kyrgyzstan, and which of the two needs, in their view, should be given priority.

In respect of economic infrastructural needs, there appeared to be widespread consensus among the respondents and stakeholders that significant investment is required in the sectors of:

1. Energy;
2. Solid waste management; and
3. Transportation (road and rails).

PPP has been proven to work well, internationally, in all of these sectors. PPPs can be used in the energy sector in respect of Energy from Waste (combining solid waste management with renewable energy generation) and other Renewable Energy developments (hydropower, solar, wind, etc.).

In respect of social infrastructural needs, again there appeared to be widespread consensus that the following sectors are of priority; healthcare, education, and housing. All of these "accommodation" type projects are very well suited to the employment of PPP. These projects to develop facilities generally operate on an asset availability based contract, which in turn leads to much improved service at reduced life-cycle cost to the public sector.

When asked which was the greater need - economic or social - a slight majority of respondents indicated their belief that economic need is of a higher priority than social need in Kyrgyzstan today. From a PPP perspective, this view mirrored that of the PPP experts consulted during the preparation of this assessment, who argued that in its PPP policy, Kyrgyzstan might want to focus on 'hard' (economic) infrastructural projects initially before moving to 'soft' (social) infrastructure projects. It is therefore recommended that the PPP focus should first be on economic infrastructure projects, especially those which do not pose a burden on the public purse, before embarking on the social infrastructure projects that would entail periodic availability payments over the whole-life-cycle of these projects.

Several challenges to the delivery of Kyrgyzstan's needs were raised by respondents. From a funding perspective these included: lack of public capital and of government underwriting; efficient use of public resources; difficulty in accessing foreign capital; lack of available debt especially beyond a tenor of ten years; and onerous lending terms.

Political and institutional challenges identified, included: political instability; closer working between Ministries; decentralisation and increased local autonomy and municipal borrowing power; greater inter-municipality co-operation; greater consultation between government and private sector before decisions are taken; reform of public administration; reduced bureaucracy; improved PPP and commercial skills within the

public sector; more transparent procurement and greater liberalisation and independent regulation of existing markets; and increased outsourcing to encourage improved performance though competition.

It was roundly confirmed by respondents that neither sectorial Strategic Service Models, nor a National Infrastructure Plan, exist in Kyrgyzstan.

There was widespread agreement that the people at large knew very little about what PPP is and how it can benefit the country's economic and social development. The private sector also has little understanding of the PPP concept.

In view of the above considerations, most notably the specific infrastructure needs in Kyrgyzstan today as identified by the stakeholders consulted, the orientation of the assessment will be on green infrastructure projects with a special focus on renewable energy, which is such a critical sector in the Kyrgyz economy. But can sustainability and PPPs go hand in hand? This potentially conflicting aspect is considered next.

4. Can sustainability and infrastructure development go hand in hand?

From a sustainability point of view, the PPP model gives incentives to deliver public services in a more environmentally sensitive way. In a PPP, private companies have an incentive to consider which design features and construction materials will generate optimum whole life costs across the life of the contract. This might mean that a contractor chooses to invest in higher cost design features if those features will be offset by lower maintenance and running costs during the operational life of a contract and beyond. There is a problem of perception that environmental technologies are a luxury that government cannot afford. However, PPP projects have demonstrated that investing to deliver environmental improvements can lower running costs, reduce waste and have health and social benefits, such as better working conditions.

In order to integrate sustainable development into PPPs, a two-fold approach may be taken. The first step is to disseminate best practice case studies as to the reality of incorporating sustainability principles into PPP bids and operations, which would bridge the existing perception gap. The second step is to improve the policy coordination between the economic and finance ministries that have responsibility for a relevant PPP project or programme, and environmental ministries, in order to maximize the contributions of PPPs to sustainable development.

The responsibility of infrastructure projects – whether procured traditionally or as a PPP – often rests with the economy, finance and transport ministries rather than the environment ministries. The former group of ministries tend not to be well versed in environmental issues, included those related to climate change mitigation, whilst the environment ministries often lack the understanding of the economic and business basis of infrastructure projects. Public bodies involved in the procurement of infrastructure projects should therefore benchmark their strategies against their own Government's environmental policies. Furthermore, public bodies should ensure that sustainable development advisers are consulted in order to help the contracting authorities to ensure that sustainability considerations will be consistently included in infrastructure projects.

A strong argument is made to integrate the principles of sustainable development into infrastructure projects, by reflecting environmental considerations in the objectives of the projects, setting specifications and awarding projects to those bidders who fully match the green criteria. Public bodies can build into the contracts environmentally preferable products, such as avoiding ozone depleting chemicals, choosing low maintenance materials with low embodied energy and made from recycled materials when possible. They could also specify types of buildings, such as energy efficient buildings, which can be designed from the outset for disassembly and recycling.

Public bodies involved in the procurement of infrastructure projects could also send a clear signal to the private sector that sustainability will be rewarded in evaluation of bids and in the award of a contract. If this approach were to be pursued, the selected bids would need to demonstrate that they have understood the needs of the site and that they

have the ability to develop appropriate solutions which meet environmental requirements to conserve resources, minimise waste and reduce pollution both during construction and during the lifetime of the projects.

Furthermore, the final evaluation of tenders should not be based on price alone. The requirement in the public sector to achieve value for money for the taxpayer means looking beyond the initial price to take account of the whole life costs and quality. A low cost design may result in high maintenance and operating costs and negative environment impacts.

5. PPP enabling environment conducive to infrastructure projects

This section highlights the main areas in the country's enabling environment that are key to attracting private sector partners in infrastructure PPP projects. But before embarking on the PPP enabling environment, it would be useful to provide an overview of renewable energy projects and the importance of public sector capacity which is so crucial in the preparation and delivery of projects.

5.1 Renewable energy and PPPs

Renewable energy is energy that can be generated naturally and repeatedly in the natural environment. The underlying assumption is that renewable energy sources produce lower levels of pollutants, including greenhouse gases, than other sources of energy. They also do not deplete the natural resources available in the environment in the same manner or to the same extent, therefore mitigating fuel price risk and improving energy security.

Renewable energy is also perceived to help encourage sustainable energy supply and developing new technologies in consideration of the long-term needs of society. Renewable sources of energy can involve any number of different fuel sources. Solar power has fallen in price significantly in the last two decades, and significant investments are being made in photovoltaic farms around the world, including in developing countries (see case study of the Lopburi solar farm in Thailand in Annex I).

Wind is another source, though it is considered less reliable than other sources. Electricity can also be generated from wave and tidal power, although this technology is still at its infancy. Waste can also be used as an alternative fuel and it could either be incinerated or biogas could be extracted from organic waste to produce energy (see case study of the PPP waste-to-energy project in the City of Vancouver, Canada in Annex I). Biomass deriving from plant and animal matter is also considered as a renewable source to generate electricity.[1]

For renewable energy project development a PPP characteristically takes the form of a Design, Build, Finance, Operate (DBFO) arrangement, although a number of Build, Operate, Transfer (BOT) projects have also been developed. In a DBFO type of arrangement the government would specify the services required and the entity would design and build a specific asset for that purpose. In addition, the entity finances the construction and operates the asset for the contracted period and provides the requisite services.

A typical example of a renewable PPP project is the so-called "independent power producer" (IPP) plant. This usually involves the development of a new power generating

[1] For a more detailed information on the different renewable energy technologies, see study by the United Nations Economic Commission for Africa, "Building Public-Private Partnerships for Climate-Friendly Investment in Africa", November 2012.

facility by a private company that sells the power to a government utility company that distributes the power to individual customers. In the case of IPPs, the assets will belong to the private company but the power will be sold to the government (or a government power utility company) for distribution as a public service to customers. For IPPs, the critical form of PPP contract is the Power Purchase Agreement (PPA) between the private power generator and the government purchaser of the power. PPAs, which are common among all renewable energy sources, are very important given that before investing in IPP plants private entities and lenders want to be sure that there is a secure market for the future output of the facility. It is then the responsibly of the government-owned power utility company to decide on the best use of the output through its distribution strategies (to meet domestic needs and to export any surplus to neighbouring countries).

5.2 Public sector capacity

Public sector capacity and institutions are key to successful PPP projects to make sure that risks are adequately allocated between the public and the private sector. In the energy sector, for example, a process required to complete any IPP requires individuals within the public sector (including government-owned utility companies) who understand the disciplines and requirements of IPPs and, in particular, the typical expectations of the lenders. The financings of an IPP inevitably lead to a particular focus on cash flow issues in that the only cash flow available is that through the terms of the PPA itself. As a consequence, the scrutiny applied to the terms of this document and the capability of the counterparty to perform in accordance with the terms of the PPA, is very high. Lenders will require certainty as to the key risk allocation issues in the project documentation, and in particular, the PPA. Solid technical skills and knowledge are prerequisites for effective design, installation, commissioning, operation and maintenance of renewable energy plants.

Many of the capacity-building programmes in transition economies have focused too much on class room type training activities that are not well integrated into actual project development and implementation. A narrow set of capacity-building tools, mainly seminars and workshops, have been employed with little recourse to practical training and programmes based on the "learning by doing" approach advocated by the UNECE. It would therefore be beneficial to invest in pilot scheme projects through which public sector practical capacity-building and training could be achieved.

Capacity-building at various levels was identified by all stakeholders consulted in the preparation of this assessment as the most crucial need today to develop PPPs in Kyrgyzstan.[2]

[2] The need for training and capacity-building is not endemic in Kyrgyzstan and UNECE's experience is that training and capacity-building remain essential in enabling countries with economies in transition to develop their PPP programmes. In devising a capacity-building and training strategy, one should keep in mind that in order to be effecting and enduring, capacity-building and training should be a continuous, progressive and iterative process that is participatory, country-driven and consistent with national priorities and circumstances. Furthermore, this process has to be supplemented with the experiences of countries with a more mature PPP programme, whose best (and not so good) practices and lessons learned remain crucial in avoiding early mistakes and failures.

The lack of public sector capacity in Kyrgyzstan is one of the main drawbacks identified in this assessment to attract private sector interest in infrastructure development. This is not endemic to the renewable energy sector but is also applicable to other sectors where the private sector investment in infrastructure is envisaged (transport, healthcare, education, etc.).

The training is envisaged to be:

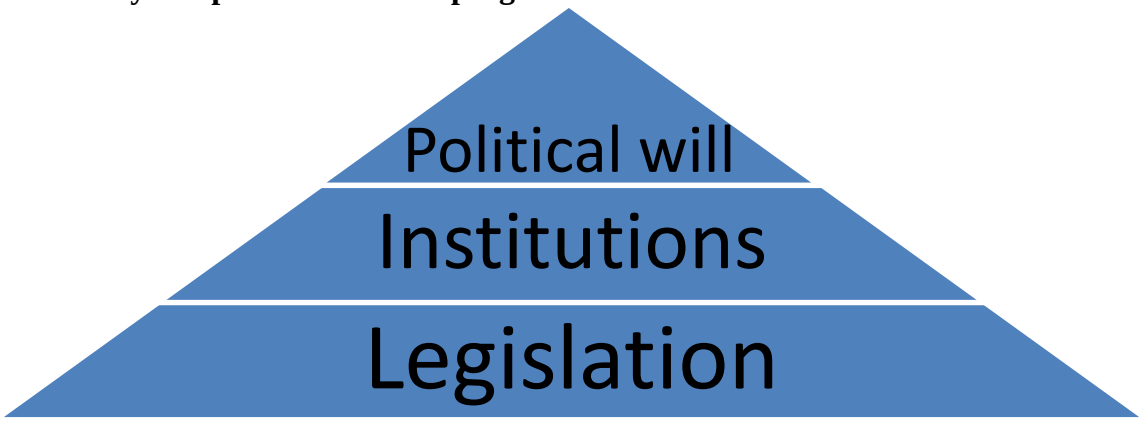
- project focused (adopting a 'learning by doing' approach); and
- once the basic skills are acquired, would eventually be delivered by local trainers using the academic institutions available in Kyrgyzstan.

The subject-matter of training and capacity-building is envisaged to be focused on:

- the gradual reduction of the overarching role of the State in the PPP process; and
- the need to create more space for the private sector to develop especially in the modernisation of Kyrgyzstan's infrastructure.

Adequately trained and experienced public officials in public-sector institutions (such in in the PPP Unit – see below) are one of the fundamental ingredients for a successful PPP programme, along with a robust legal framework supported by the necessary political will to steer the PPP process through its various stages. These three pillars of a PPP programme are depicted in the table below while *Box 5* below provides a checklist of the key points that governments should address for a successful PPP strategy.

Key components of a PPP programme



These three components have to be supplemented by an adequate PPP enabling environment that is conducive to attracting investors and lenders to participate in building the necessary infrastructure for the 21st century. Lenders and developers look beyond transaction-specific characteristics when making investment decisions. In selecting projects, they also consider the wider political, legal, and economic contexts which govern a project.

Box 5 - Checklist of the key points that governments should address if intending to implement a PPP approach

- A political will must exist to drive the country towards achieving better value for money in public service delivery;
- A financial and legal framework must be in place to enable the project to compete for long-term international investment;
- Fair risk sharing criteria must be established that permit a good chance of generating profitable returns for the private sector, whilst putting private sector investment at risk if services are not delivered at the service level required;
- There must be acceptance of the principle of whole life costing, and an absolute commitment to the long-term (15-30 years) funding of the facility/service by government;
- Officials must be able to define the services required in terms of output specifications rather than the usual input specification approach, with a willingness to accept creative solutions that can save money and improve the level of service;
- Training of public sector officials by experienced public and private sector bodies saves repeating errors identified elsewhere and shortens the learning and implementation time;
- A PPP task force, fully empowered to act for the financing arm of the government, should be established to manage and prioritise the project pipeline, as well as providing a 'bank' of expertise for municipalities and government departments to draw on;
- The final short list of companies will normally require negotiation. Do not resist 'step-in' rights for the investors to sort out poor performance. They are better placed than government to do this;
- Transparency is better than secrecy. Consult all stakeholders particularly employees. Manage adverse publicity. Standardise documentation where possible to simplify processes and reduce cost; and
- Be prepared for a fair balance of reward between the public and private sector if the project is refinanced at a later (lower risk) stage.

The 'reality check' for any government proposing to encourage a PPP programme, is to ask themselves the following:

- Is there a viable financial and legal framework able to support long-term private sector investment?
- Are we prepared to pay for advice on what problems have to be tackled and how to put them right?
- Can we, and any future government, give a commitment to pay for the services being delivered over the life of the contract, which may be 30 years?

If the answer to these three questions is No, then the Government may be advised to reconsider pursuing a PPP strategy.

Source: UNECE PPP Alliance: Contribution by Graeme Rowcroft, UK DTI 2004

The natural way of housing new public sector skills is through a PPP Unit, the main functions of which are elicted in *Box 6* below, which should take a prominent role in defining and implementing a robust PPP strategy leading to financially viable PPP projects.

Box 6 - The key functions of a PPP Unit:

- help develop and support the management of the project preparation process;[3]
- provide the policy, technical, legal and other support mechanisms to local authorities and government ministries that have the responsibility of putting the project together rather than undertaking the projects itself;
- help the relevant procuring authority[4] to more confidently manage the whole process (including engagement with external advisors) from the development of the initial project design through to the bid evaluation process and post financial close;
- take on the role of consulting with investors and communicate to line ministries their concerns regarding legal and institutional bottlenecks to the implementation of PPP projects;
- develop the market for PPPs, which can provide a consistency of approach across a wider range of projects – thus limiting the chance that the private sector might play one part of the public sector off against another;
- play a crucial role to maintain a strong dialogue with all players in the market;[5]
- hold regular seminars for the commercial advisers – legal, technical and financial; and
- engage with advisers and get their informal advice (which is a form of 'market testing') at the various phases of project development.

Source: UNECE Guidebook on Promoting Good Governance in PPPs

However, developing skills inside government presents a major challenge. There are a number of new skills that must be developed for PPPs, such as negotiation, contractual and financial skills. One of the key challenges is that instead of the traditional approaches, which focus on inputs, PPPs require skills that can identify the outputs of projects. These skills are generally not found within governments but these skills may be acquirable. The challenge is to retain skills acquired from the private sector within the public sector.

The very small PPP Unit in Kyrgyzstan is housed within Ministry of Economy. Although the staff in the PPP Unit is fairly competent in PPP matters, its number is insufficient and

[3] It is important to carefully prepare and develop projects, especially given the long-term contractual nature of many PPP deals and the scrutiny they will subsequently be subject to by lenders' credit committees and the public at large.

[4] Particularly one that is new to PPP or if the project is particularly new or complex.

[5] This often starts purely as a need to liaise over PPP technicalities and to provide the private sector with information. The role usually develops because the unit reports to public sector colleagues the key findings about market attitudes and companies' responses to public sector actions and statements, in addition to reporting details and views about the private sector's capacity.

it has to divide its time with other responsibilities. It would therefore be advisable to strengthen the PPP Unit by allocating more resources – both human and financial – in order to better fulfil its statutory role and to ensure that the newly-acquired PPP knowledge is translated into viable infrastructure projects in Kyrgyzstan.

5.3 PPP enabling environment

The enabling environment of a country can be loosely defined as the complex sum of conditions that allow or limit its economic and social development, depending on the actions and policies of various actors, especially governments. Conditions vary enormously across countries, ranging from a disabling or even oppressive environment in some cases, over restrictive or problematic environments, to models of good practice to be followed.

The relationship between the existing enabling environment and PPP development

A Government wishing to implement a PPP programme will need to consider early on in the project development whether there are any aspects of the existing enabling environment that would limit the scope of the PPP programme, and ultimately, the infrastructure projects.

All relevant elements of the enabling environment need to be considered, including the macroeconomic, business and financial climates, as well as the governance, legal and regulatory frameworks.

Among the key aspects of the PPP enabling environment are:

i. An adequate legal and regulatory framework;
ii. An appropriate governance framework: mitigation or elimination of political risks; and
iii. A robust business and financial climate: the availability of long term debt and equity.

5.3.1 An adequate legal and regulatory framework

The **legal framework** within which a PPP project operates is the whole system of laws, regulations and law enforcement of that country that may be relevant to, or have an impact on, a PPP project and on how the project is implemented and enforced. It is distinct from other external factors which will be of concern to the private sector such as the political environment and political stability of a country. The legal system encompasses:

1. Rule of Law;
2. Reliability of the Courts and the judiciary; and
3. Enforceability of International arbitration awards.

As such, the PPP legal framework goes beyond the PPP-specific legislation into areas such as:

i. public procurement laws;

ii. arbitration and dispute resolution laws;
iii. accounting and taxation laws;
iv. land acquisition laws;
v. foreign investment laws,
vi. labour laws;
vii. intellectual property laws; and
viii. budget laws.

The key principles for an adequate PPP legal framework are highlighted in *Box 7* below. These principles are based on the UNCITRAL work on privately financed infrastructure projects,[6] and provide internationally accepted and proven benchmarks against which legislative provisions should be measured.

Box 7 - Synthesis of key principles for an adequate PPP legal framework

- **Constitutional, legislative and institutional framework:**
  - no undue restrictions for private sector involvement in infrastructure projects;
  - power and capacity of a public authority to award the infrastructure (PPP) projects and to enter into the project (PPP) agreement with the private partner;
  - identify the sectors where PPPs projects may be awarded and those were they are specifically excluded.
- **Selection of the private partner:**
  - selection criteria and procedures, including on unsolicited proposals, should be clear, open, transparent and efficient;
  - concessions without competitive procedures should be awarded in exceptional circumstances set forth in the law.
- **Government support and guarantees:** public loans, subsidies, guarantees against adverse acts of governments, tax and customs benefits, guarantees related to the project site and other forms of government support should be explicitly set forth in legislation.
- **Repatriation of profits:** crucial that the repatriation of profits is not prohibited by legislation.
- **Tariff setting and tariff control:** restrictions on the private partner's freedom to establish tariffs and fees should follow established principles of "reasonableness", "fairness" or "equity".
- **Step-in rights**: statutory step-in right provisions or at least the possibility of stipulating such provision in the project agreement are crucial for lenders.
- **Expropriation/nationalization and compensation:** adequate statutory protection should be provided to investors, including a transparent procedure for compensation at market value.
- **Termination of the project agreement and compensation:** a clearly established procedure for compensation in case of early termination of the agreement should be available.
- **Dispute resolution:** arbitration in a neutral jurisdiction would provide investors with the assurance that disputes are resolved fairly and efficiently.

Source: based on UNCITRAL Legislative Guide on Privately Financed Infrastructure Projects

[6] UNCITRAL Legislative Guide on Privately Financed Infrastructure Projects, 2001.

Kyrgyzstan has in February 2012 enacted a PPP framework law which fares well with international PPP best practices. The law identifies, among other, a PPP concept, a scope of application of PPP projects, competence of authorized state agencies responsible for state regulation of PPPs, a procedure for holding tender, and the types of government guarantees and support to be provided to a private partner and/or project company.

A framework law is essentially a statute which is drafted in general terms and merely lays down a framework, mostly in the form of overall principles, objectives and guidelines. More detailed regulation is left to other, usually public bodies, principally the Government, administrative authorities, or in some cases and to some extent, the courts. This is precisely the situation with the PPP law in Kyrgyzstan, and the main challenges going forward in the PPP development is essentially the adoption and implementation of subsidiary legislation and administrative provisions (mostly taking the form of regulations and procedures).

Work on the subsidiary legislation in Kyrgyzstan started in 2012. Two out of twelve or so regulations and procedures envisaged in the PPP law were adopted in 2013 specifying how tender documents, including rules on undertaking a tender, should be prepared, and setting the rules on the creation of the selection commission and its competence.[7]

However, the scope of the procedure on preparing tender documents is restricted to the content of rules on conducting a tender, and it fails to specify, for example, how to undertake both the pre-qualification and the selection of a winner of the tender.

The PPP law provides that subsidiary legislation be in place within six months from its enactment, that is, by 28 August 2012. However, there are at least ten by-laws on the following issues that are still pending, namely:

1. list of infrastructure facilities and public services not subject to PPPs;
2. identification and mitigation of risks between the public and private partners;
3. forms of private sector participation in the PPP projects;
4. procedure for initiating a PPP project, including the rules on undertaking a feasibility study;
5. procedures on selecting a private partner, including the rules on undertaking a tender and final negations, selection of a winner, as well as on concluding a project agreement;
6. minimum required amount of investment for Government-approved PPP projects;
7. special fund to accumulate financial resources securing and guaranteeing the performance by the public partners of their obligations under the PPP agreements;
8. monitoring and evaluation of PPP projects;
9. PPP projects registry; and
10. model PPP agreement.

[7] The Procedure "On preparation of rules on conducting tender and tender documentation on public-private partnerships projects in the Kyrgyz Republic" and the Regulation "On tender commission for selection of private partners on public-private partnerships projects".

In addition, the PPP Law provides that within a period of six-months from its enactment (i.e. by 28 August 2012), a number of statutes shall be amended to introduce the PPP concept, such as the Land Code, Customs Code and Tax Code, and statutes on the 'Status of the capital city', 'the main principles of budgetary law', 'the municipal property', 'the status of the city 'Osh', 'the financial-economic standing of the local self-governance', 'the local state administration', and 'the local self-governance'. None of these proposed amendments have so far been presented to Parliament.

Three conclusions could be drawn from the current state of affairs of the legal framework that warrant particular attention:

1. there is a considerable delay in adopting subsidiary legislation and the deadline imposed by Parliament to conclude this work has elapsed;
2. the scope of one of the two by-laws adopted thus far seems rather restricted; and
3. the exercise of amending different legislation to reflect the PPP concept is far behind schedule.

These aspects of the legal framework need to be urgently addressed and the necessary reforms need to be accelerated in order to portray a positive signal to prospective investors in PPP infrastructure projects in Kyrgyzstan.

The **regulatory framework** for PPPs should provide:

i. Clarity of responsibilities: which Government department is responsible?
ii. Who should the private sector deal with?
iii. Do regulatory bodies exists, and if so, is there sufficient strength and capacity within regulatory bodies?
iv. Tariffs: are they too low to be economically viable? How are they reviewed/regulated?

International best practice suggests that in order to achieve strong private sector participation in infrastructure projects, a gradual shift in the role of the state from service provider to policy maker, planner, coordinator, facilitator, and buyer of infrastructure services should take place. In line with this shift, the existing regulatory arrangements should be assessed, and the possibility should be considered of devolving the regulatory functions to newly-created independent bodies, with the line ministries keeping the responsibility for policy making and planning in their respective sector. This separation of responsibilities would enhance the credibility of economic regulation and provide the necessary level of confidence to investors that important issues, such as those related to tariff matters, are handled without undue political interference and other pressure. There are essentially two options available to implement such as strategy: either having a separate regulator in each of the main infrastructure sectors; or setting up a single cross-sector regulatory body. International best practice suggests that the first option would be attain better results.

Economic regulation has two main objectives: (i) to ensure that consumers have access to essential services on a sustainable and affordable basis, and (ii) to encourage private

sector participation in the development of an infrastructure to provide those services. The functions of regulatory bodies are elicited in *Box 8* below.

Box 8 - Typical functions of the regulatory bodies:

i. setting tariffs and other service charges;
ii. establishing standards for the terms and conditions of the services provided;
iii. setting and enforcing market rules for the sector;
iv. monitoring the performance of the regulated entities;
v. issuing, reviewing and cancelling licenses;
vi. reviewing agreements; and
vii. arbitrating disputes within the sector.

It was observed that no such regulatory bodies with the functions elicited above exist in Kyrgyzstan. This state of affairs is not conducive to public sector participation in infrastructure projects, and appropriate policy intervention should be considered to address this limitation in the enabling environment.

5.3.2 Governance framework: mitigation or elimination of political risks

Political risks constitute a very sensitive species of risks. In theory, they are best managed by the public sector, and should logically be borne by it. However, this is not always the case, as the public sector may argue that political risks are part and parcel of any business transaction, and therefore should be borne by the private sector. This argument is endemic in a number of European countries, such as the United Kingdom. Political risks include the risk of changes in the legal framework, failure of the contracting authorities to respect their obligations, expropriation of property, the risk of political unrest, war, and labour-related interferences (including general strikes). The private sector is also very sensitive to political instability, and before investing in a country, the private sector wants assurances that a change in government is not followed by a seismic shift in PPP policy.

More specifically in the case of a PPP project in renewable energy, even if an independent power producer has a power purchase agreement with the government-owned utility provider that is acceptable to the investors, there remains a political risk associated with the potential acts or omissions of government. This will have a negative impact on the ability for that power purchase agreement to be properly performed in accordance with its terms. In such a scenario, the agreement will have little relevance as lenders will normally require that either the enabling legislative environment is sufficient to cater for these concerns, or more commonly it is required that the government enters into a separate agreement with the project company (and often with the lenders directly as well) which details the obligations of the government and what the consequences are if the government fails to perform.

Closely linked to the issue of political risks is the real or perceived level of corruption in the public sector. According to the Corruption Perceptions Index of Transparency International, Kyrgyzstan currently is ranked 154 out of 176 in the world. This level of corruption, even if just perceived, acts as a significant disincentive in attracting private capital to the country. Greater transparency in the courts and also public procurement processes is normally required in this case. Without transparency external investors are unlikely to invest in Kyrgyzstan given the other investment alternatives available elsewhere.

5.3.3 Business and financial climate: the availability of long term debt and equity

The economics of all PPP projects, including those of an independent power producer which typically have a long development period, are such that long-term debt (20 to 30 years) is required to allow the ability to deliver debt service coverage ratios that are reasonable to lenders and economic returns which are sufficient to justify the risks and investment involved.

Such long-term debt in Kyrgyzstan is scarce from any other institutions save for multilateral development banks. The lack of available debt especially beyond a tenor of ten years and onerous lending terms could be a challenge to the delivery of Kyrgyzstan's infrastructure needs. The scarcity of long-term debt is exacerbated by guarantees sought by lenders. Businesses expressed the view that personal guarantees sought by lenders were so onerous as to deem most development projects impracticable.

The absence of debt tenor matching the life cycle in a PPP project is not uncommon in countries getting started in PPPs, and it is normal that tenor corresponds to the shorter lifetime of projects procured traditionally. Refinancing could be used as a mechanism to overcome the shorter debt tenor within a PPP structure, but the main challenge in Kyrgyzstan remains the interests currently charged by the local debt providers - between 22% and 50% - that could seriously jeopardise the public sector affordability and therefore the viability of any potential PPP projects to the point where it would be impossible to bring them forward.

Equity constitutes circa 20 per cent of the capital that the private sector need to raise in any PPP project (with 80 per cent constituting long-term debt). Unless the private party has the capital itself to undertake the full equity financing required for a PPP project, there will be a requirement to find further equity to meet the equity component of the financial plan.

Although some of the multilateral development banks also provide equity there remains a lack of equity financing capacity in Kyrgyzstan. This lack of financing is exacerbated by the fact that those equity investors who will take these risks expect an equity return (that

is separate from the interest rate paid on the debt), which in the case of a power purchase agreement tariff on many renewable IPPs cannot deliver.

The multilateral development banks therefore play a crucial role in providing both equity and debt to ensure the viability of PPP projects in transition economies that are embarking on the PPP journey. This argument is also valid for IPPs in renewable energy projects.

6. Renewable energy capacity in Kyrgyzstan

The total electricity generation capacity in Kyrgyzstan amounts to 3.79 GW, 90 per cent of which is hydroelectric. There is huge hydroelectric capability in Kyrgyzstan given its potential of about 140 billion kWh per year, or tenfold the current production.[8] Solar and wind power generation also have great potential.

The country's hydropower infrastructure is the second largest source of Kyrgyz exports contributing 3.9 per cent to the GDP. Kyrgyzstan exports electricity to Kazakhstan, Uzbekistan, Tajikistan and China. By absolute indices of potential hydro resources and by concentration of potential hydro resources on the territory Kyrgyzstan has one of the highest potentials amongst CIS countries. The major part of hydropower resources (30 per cent) is concentrated in the basin of the Naryn River, the main river in Kyrgyzstan. It is estimated that the Naryn River can support 33 additional hydroelectric stations with an estimated capacity of 6,450 MW.[9]

Kyrgyzstan is also rich in solar resource. The average annual output of solar energy is about 1,500 - 2,500 kWh per square metre; also, approximately 2,600 sunshine hours are recorded annually. Small scale solar technologies are spreading rapidly throughout the country - especially in tourist attraction areas such as Lake Issyk-Kul.

The total wind potential is estimated at 1,500 MW and the most promising areas for wind power potential seem to be:

a. Chuisk district (North Kyrgyzstan)
b. Osh district (South Kyrgyzstan)
c. Issyk-Koul district (East Kyrgyzstan)
d. Djelal-Abad district (West Kyrgyzstan)

Despite its generating capability and potential, the current transmission infrastructure suffers great losses, amounting to 55.2 per cent of the total electricity entering the transmission system. These losses can be divided into two kinds: technical and non-technical. Technical losses occur in all transmission and distribution networks and cannot be entirely eliminated. They can however be kept to a minimum through good network design and maintenance. Non-technical losses occur as a result of the difference between the amount of electricity distributed to customers and the amount that is actually paid for. These losses therefore occur because of the following:

i. Theft;
ii. Faulty meters - resulting in the amount of electricity used being under-recorded;
iii. Incorrect records - resulting in some customers not being billed; and
iv. Non-payment.

The numerous disruptions of electricity to homes and businesses caused thousands of businesses to suffer large losses and to close, while many others moved to other

[8] Magomed Saaduev, "Challenges of hydropower development in Kyrgyzstan", 2012.
[9] The information in this section is based on EBRD data.

countries. The outdated electrical grid is a major constraint for new energy infrastructure in Kyrgyzstan. Plans to build a 240-mile 500kV transmission line as well as a new 220kV decongestion line connecting the northern and southern parts of the country should alleviate most of that concern. Plans are also being considered to build and replace several 220kV transmission lines in the southern region of Kyrgyzstan.

6.1 Tariffs

One of the main challenges to attracting private sector involvement in generating renewable energy in Kyrgyzstan remains the very low electricity tariffs. Currently, tariffs are approved by the Ministry of Energy and Industry and by Parliament. The current electricity tariffs do not reflect the costs of generation, transmission and distribution, and are ultimately deterring foreign direct investment into the sector.

A recent amendment to the Law of the Kyrgyz Republic "On renewable energy" (adopted in August 2012) related to pricing and return on investments could incentivize potential IPPs through a scheme of government subsidies. As a result of this amendment, public-owned utility companies must purchase the electricity generated by renewable energy sources at a special (subsidized) tariff which is set up for the period of cost recovery of the project. The tariff is set up by multiplying the maximal existing tariff for the consumers by a special coefficient as follows:

- for hydropower generation = 2.14 times;
- for solar energy generation = 6 times;
- for wind energy generation = 2.5 times;

But are these subsidies enough to attract IPPs to Kyrgyzstan? Under the scheme, a hydropower IPP would receive 1.498 Kyrgyz soms (circa 3 cents of a dollar) per unit generated (the existing maximal tariff for domestic electricity is 0.70 Kyrgyz soms per unit) while a solar energy IPP would receive 4.20 Kyrgyz soms (circa 9 cents of a dollar) per unit generated. The scheme also mitigates the demand risk by providing an assurance that public utility companies will purchase the electricity generated over the project life cycle.

It is however unclear if the scheme is enough to attract IPPs, while it completely excludes other forms of clean energy, such as that generated from waste. As a general rule, and in order to make it attractive for IPPs, a system of subsidies has to be complemented by other incentives[10] - including fiscal incentives – aimed at improving the financial returns on investment. These include:

- Tax exemptions; and
- Duty-free imports of equipment.

[10] For more information on incentives for renewable energy development, see World Bank REToolkit "A Resources for Renewable Energy Development", 2008,

In order to be effective, incentives should be:

- **Practical** – the administration of the incentive should be easily managed;
- **Transparent** – the information on the beneficiaries of the incentives should be disclosed; and
- **Limited in time** – the incentives should not be open-ended so as to avoid beneficiaries becoming overly dependent at the expense of the tax payer.

7. PPP pilot projects in Kyrgyzstan

Potential exists to implement a number of PPP pilot projects in Kyrgyzstan in various sectors, including in renewable energy. A number of PPP projects have already been identified by the Ministry of Economy of Kyrgyzstan and the Asian Development Bank.[11] The viability of these projects have also been reviewed by a number of reputable organisations, including Toyo University of Japan,[12] and it is not the intention of this assessment to duplicate the excellent work carried out by other international organisations.

The analysis in this section will thus focus on specific aspects of two projects earmarked for Bishkek and identified by the Municipality of Bishkek (solid waste management/waste-to-energy and street lighting), as well as projects in the energy sector identified in consultation with various PPP stakeholders, most notably the Ministry of Energy, as a priority area for the sustainable development of Kyrgyzstan.

7.1 Solid waste management/Waste-to-energy in Bishkek

Discussions with the Municipality of Bishkek highlighted the problem facing the City to manage its solid waste effectively. The sole authorised landfill has been in operation since 1973 and borders residential areas. In 2011, the volume of municipal solid waste handled by the landfill amounted to 2.2 million cubic metres, and the landfill is currently managed by the Bishkek municipal waste-removal entity 'Tazalyk', which operates at a loss as the fees collected from households for solid waste disposal are insufficient to meet its operating costs.

A by-product of decomposing organic waste is the generation of landfill gas (mostly methane), which besides creating bad odour, is also a greenhouse gas. In the case of the landfill in Bishkek, the methane produced is flared, thus releasing harmful emissions into the atmosphere. Gas flaring is one option of disposing of landfill gas. Another option is to process it and use it to generate renewable energy. This is one aspect of waste-to-energy projects, which have been very successfully implemented as PPPs around the world.

One example is the City of Vancouver, which has a population of 600,000. In this project, the private partner selected by the City designed, financed and constructed a cogeneration plant, which uses the landfill gas as fuel to generate enough electricity (7.4 MW per year) to supply 4,000 to 5,000 local homes. The power is sold by the private partner to a provincial utility, BC Hydro. Waste heat from the power generation process is recovered as hot water, which is sold by the private partner to a large (32 acre) tomato greenhouse complex adjacent to the plant, where the water is used for heating purposes. Using the landfill gases in this manner, rather than flaring them, results in further reduction of greenhouse gases, equating to the removal of 6,000 vehicles from Canada's roads. A more detailed case study on the project is contained in Annex I.

[11] See report by Robert Brown commissioned by the Asian Development Bank, "Enabling identification of PPP Projects and Capacity Building in Kyrgyz Republic", 2012.
[12] See report by Toyo University commissioned by JICA, "PPP Project Possibilities in Kyrgyz Republic", 2012.

Another way of managing waste is by incinerating it to produce renewable energy. Projects involving energy produced from waste incineration have been very successfully implemented as PPPs in cities around the world, such as in the city of Wenzhou, China.

In 2002, the municipality of Wenzhou entered into a contract with a local company, Wei Ming Environmental Protection Engineering, to build and operate a PPP waste-to-energy incinerator plant. The private partner designed, financed, built, operated, and maintained the incinerator plant, which had an estimated construction cost of 15 million US dollars. The contract term was two years to complete construction, followed by 25 years of operation and maintenance. At the end of the contract, the incinerator plant is turned over to the City government at no cost.

The incinerator plant has a design capacity of 320 tons of solid waste per day and electricity generation capacity of up to 25 million kWh annually. The plant began operation in 2003. The first phase of the plant was able to treat 160 tons per day. At 160 tons per day, the plant could generate 9 million kWh a year, of which 7 million kWh would be available for sale.

Solid waste management is a growing challenge in China, and encouraging private sector participation is a key strategic approach. To encourage PPP investments, China has also exempted waste-to-energy incineration facilities from corporate income tax for the first five years of operation and made them eligible for immediate refund of value-added taxes. Electricity network operators are also required to purchase electricity generated by qualified energy producers using renewable energy sources, when available.

Waste should be treated as a resource that if properly managed could generate renewable energy and reduces harmful emissions into the atmosphere. With the proper incentives, it is more probable that by extending the concept of waste management to include energy generation, resulting into an additional revenue stream for the private sector party (to complement the waste collection fees), would make the Bishkek waste management project more appealing to the private sector, while at the same time increases the likelihood of financial viability.

7.2 Street lighting in Bishkek

In our consultations with the Municipality of Bishkek, the need to improve street lighting in the city of Bishkek was raised. Data provided by the Municipality of Bishkek show that there are slightly over 30,000 light sources in the city, of which 6,700 requiring urgent repairs. The City spends some 440,000 US dollars per year in electricity and the cost of the repair work is assessed at circa 650,000 US dollars.

The Municipality of Bishkek identified street lighting as a priority project that could be procured as a PPP. The project involves the replacement of lamp posts by an LED photovoltaic system. The total cost of replacing the 30,000 units is approximately 40 million US dollars. The main revenue stream from the private sector is in the form of availability payments by the Municipality, that is, regular payments based on

performance. Other sources of income might derive from third party income generation initiatives, such as using the lampposts for advertising and as WiFi spots.

The information available on this project is not sufficient to provide the business case indicating when capital costs would be incurred and the revenue streams that could be established to fund the project. More studies are therefore needed to assess the viability of the project and the affordability of the Municipality to pay the regular availability payments to the private sector entity. Besides using tax payers' money, the Municipality of Bishkek could tap other funding alternatives, including:

- Green Investment Initiatives - prioritising energy efficiency and other renewables projects; and
- International Financial Institutions.

It is important to point out that third party income cannot be considered as the only source of revenue to cover the cost of the project.

Municipal street lighting projects have been very successfully procured as PPPs around the world. Modern street lighting technology enables efficiencies in the use of electricity by, for example, dimming lights and major flexibility in switch on/off times. The overall objective is not to turn off the light in order to make savings, but to use the light where necessary, when necessary and at the appropriate intensity level.

A detailed case study on a successful street lighting project based on these principles is in the City of Birmingham, United Kingdom. This case study is included in Annex 1. Another successful case study is in the City of Sheffield in the United Kingdom. The 25-year project involves:

- Maintenance of more than 60,000 street lights;
- 8,000 new street lights with LED;
- Improved visibility, light quality and service;
- Remote management system for individual lighting columns;
- 80 per cent energy savings.

It would be advisable for the Municipality of Bishkek to look at these and other case studies, some of which were presented at the UNECE seminar on PPPs in Bishkek in November 2012, to learn from their successes and to avoid repeating the same mistakes.

7.3 Hydropower generation

A number of dams exist throughout the country, such as in the regions of Talas, Issykul, Osh and Batken,[13] which could be used as a launching pad to attract IPPs in small and medium hydroelectric power plants. The main advantage of focusing on these plants first is that the necessary dams have already been erected and the only investment necessary is that related to the construction/restoration of the power plants.

[13] Source: Presidential Edict Number 365 dated 14 October 2008.

The potential for hydropower generation in Kyrgyzstan highlighted earlier is currently evenly matched with a series of challenges in the enabling environment, some of which have already been underlined, including:

a. Lack of competition in the energy sector resulting mainly from the monopoly of state-owned utility enterprises;
b. Lack of market mechanisms to set prices for retail electricity; and
c. Cumbersome process of obtaining permits and licenses.

From consultations with various stakeholders in Kyrgyzstan, it appears that these challenges are exacerbated by a degree of public-sector corruption (real or perceived), the independence of the judiciary and political instability, which all together act as a formidable barrier to attracting foreign direct investment.

Any policy intervention aimed at mitigating these real or perceived challenges would automatically improve the potential of private sector investment in PPP projects in Kyrgyzstan.

There are a number of examples from around the world of hydropower generation plants using the PPP model, including the Birecik Hydropower Project in Turkey. The project, completed in 2001, includes a reservoir and 672 MW in installed capacity, with a generating capacity of 2.5 billion kWh per year. The 1.25 billion US dollars project operates on a BOT model (build-operate-transfer), and the project company operates on the basis of an 86:14 per cent debt: equity split, with much of the debt provided by Export Credit Agencies - equivalent to 64 per cent of the total project cost, with the remaining debt provided by commercial loans from 44 commercial banks. The plant will be transferred to the Turkish Government in 2016 at the end of the 15-year concession period.

Investors are increasingly becoming risk averse and before lending to IPPs, they expect that the following formalities are in place at the very early stage of the process:

- Planning consents;
- Grid connection offer;
- Future power purchase agreement; and
- Construction contracts.

It is therefore important for the contracting authorities to work together with the private partner to ensure that these formalities are in place at the very early stage of the project development.

8. Recommendations and Conclusion

Infrastructure is the basis for a sustainable and inclusive economic growth that creates more jobs and reduces poverty. This is a widely shared vision in Kyrgyzstan. One of its key strategies in achieving this is through the development of a PPP programme. From transportation to water and energy systems, Kyrgyzstan needs investment and innovation to develop a more sustainable framework to create capacity for economic growth, and make better use of its natural resources.

The lack of infrastructure has been internationally recognised as a bottleneck to economic growth in any economy, and PPPs are a means to fulfil the vision and priorities for the nation's infrastructure needs by setting goals to align departmental policies, ensure best value from government spending, reduce duplication, and show how investments can reinforce one another. The PPP model has in-built mechanisms that avoid the enormous time delays and costs overruns in delivering major projects, and set the context within which decisions are taken at the state and local levels with a high degree of confidence.

But as hinted earlier, PPPs are complex arrangements that require public sector skills, institutions, political will and a supporting enabling environment that encompasses the legal, regulatory, governance, finance and business frameworks as the basis for their successful implementation. The assessment has attempted to highlight a number of challenges which require urgent attention and policy intervention that should help Kyrgyzstan in its quest to attract private sector capital into its infrastructure development. A number of these challenges are addressed below in a series of policy-oriented recommendations:

8.1 Developing Institutions and Procedures

8.1.1 Training and Capacity-building

Design and implement an extensive training and capacity-building programme to ensure that all stakeholders involved in the PPP process, including public officials, the banking sector, the business community and the public at large are fully aware of the PPP concept and its effective development.	***Recommendation 1***

8.1.2 Learning-by-doing approach

Training and capacity-building programmes should be integrated into actual project delivery, based on a 'learning-by-doing' approach, by investing in pilot scheme projects through which public sector capacity could be enhanced.	***Recommendation 2***

8.1.3 PPP Unit

Strengthen the PPP Unit within the Ministry of Economy by allocating more resources – both human and financial – in order to better fulfil its statutory role and to ensure that the newly-acquired PPP knowledge is translated into viable infrastructure projects in Kyrgyzstan.	***Recommendation 3***

8.1.4 Cooperation and coordination

Enhance cooperation and coordination among lead and line ministries, and encourage consultations between the lead ministries (economy and finance) and the environmental agencies.	***Recommendation 4***

8.2 Driving PPP Implementation

8.2.1 Fully costed infrastructure plans

Ministries and Municipalities develop fully costed infrastructure plans based upon needs analysis that include rigorous and transparent funding and affordability analysis.	***Recommendation 5***

8.2.2 More involvement of the private sector

Improve the mix between state and private sector to give more opportunities to the private sector to deliver public services.	***Recommendation 6***

8.2.3 Legal and Regulatory framework

The Government addresses selected areas in the legal and regulatory framework, namely: • **accelerate the adoption of subsidiary legislation;** • **propose amendments to legislation (Customs Code, Land Code etc.) to reflect the introduction of the PPP concept in the statute book as envisaged in the PPP Law; and** • **establish separate regulators in each of the main infrastructure sectors.**	***Recommendation 7***

8.2.4 Financial and Business Climate

The Government addresses selected areas in the business and financial climate aimed at: • **making lending more accessible to businesses;** • **encouraging long-term lending for infrastructure projects beyond the present tenor;** • **making lending terms less onerous to businesses;** • **stabilising local debt interest rates for long-term infrastructure projects,** • **providing the necessary framework to encourage the banking sector to accept more risk in building the economy; and** • **mitigating the costs associated with access to finance, which is so crucial for the PPP development.**	***Recommendation 8***

8.2.5 Governance Framework

The Government addresses selected areas in the governance framework aimed at: • **mitigating political risks associated with political instability, and the performance of the long-term contractual obligations;** • **combating corruption across the public sector; and** • **ensuring that PPP projects of national interest enjoy wide endorsement by the major political parties to provide the necessary assurance to the private sector that a change in government is not followed by a seismic shift in PPP policy.**	***Recommendation 9***

8.2.6 PPP pilot projects' focus

The PPP focus should first be on economic infrastructure projects (such as energy and solid waste management), before embarking on the social infrastructure projects (healthcare, schools and social accommodation) that would entail periodic availability payments from the public purse over the whole-life-cycle of these projects.	***Recommendation 10***

8.2.7 Solid waste management project in Bishkek

The solid waste management project identified by the Municipality of Bishkek to be: *Recommendation 11*

- **extended in scope to include energy generation from waste;**
  - **i. either by producing clean energy from landfill gas;**
  - **ii. or by producing clean energy from the incineration of waste.**

Extending the scope of the project to include energy generation would also increase the likelihood of financial viability.

8.2.8 Street lighting project in Bishkek

The street lighting project identified by the Municipality of Bishkek to be further explored and additional studies (such as an outline business case) that takes into account the affordability of the Municipality to pay the availability payments over the project life cycle should be considered. *Recommendation 12*

As part of this exercise, the Municipality should also consider tapping other funding alternatives, such as Green Investment Initiatives, to diversify the sources of funding.

8.2.9 Hydropower projects in Kyrgyzstan

The Ministry of Energy should pursue its strategy of attracting individual power providers in the hydropower sector. *Recommendation 13*

In doing so, the Ministry should focus on those plants where the dams have already been erected so as to lower the investment needed by the private sector.

Furthermore, the Ministry should ensure that a number of formalities are in place very early in the project development in order to attract interest from investors (especially the lenders). These include:

- **planning consents;**
- **grid connection offer;**
- **future power purchase agreement; and**
- **construction contracts.**

A sizeable infrastructure deficit exists in Kyrgyzstan and it will require significant political will to tackle the necessary challenges that are necessary to implement PPPs successfully. The PPP legislative reform currently underway is a very good start, but this should be supplemented by other initiatives – some of which are highlighted in this assessment - to improve the overall PPP enabling environment that is so fundamental to attract private capital in infrastructure development in Kyrgyzstan.