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**United Nations Development Programme**

**Government of the Kyrgyz Republic**

Evaluation of UNDP-GEF project

# Small Hydro Power Development

(Project ID: 3134; UNDP ID: 00073756)

**Mid-Term Evaluation Report**

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# abbreviations

ADB Asian Development Bank

CADII Central Agency on Development, Investments and Innovations

CAPS Central Asia Power System

CDM Clean Development Mechanism

CDR Combined Delivery Reports

CDS Country Development Strategy

CO Country Office

DSMP Directorate for Small and Medium-scale Power Projects in the Kyrgyz Republic

EBRD European Bank for Reconstruction and Development

FIT Feed-in tariff

GDP Gross Domestic Product

GEF Global Environment Facility

GHG Greenhouse Gas

GoK Government of Kyrgyzstan

IPPs Independent Power Producers

KfW Kreditanstalt für Wiederaufbau / German Bank for Reconstruction

KR Kyrgyz Republic

kWh Kilowatthour

Log-frame logical framework matrix

M&E Monitoring and Evaluation

MHPP Mini or Micro Hydropower Plants (<1.0 MW)

MoE Ministry of Energy

MoU Memorandum of Understanding

MTE Mid-Term Evaluation

MW Megawatt

MWh Megawatt hour

NGO Non-governmental Organization

PAR Project Annual Report

PB Project Board

PIR Project Implementation Reports

PMU Project Management Unit

PPA Power Purchase Agreement

Prodoc UNDP Project Document for “Small Hydro Power Development”

Project The project under evaluation: “Small Hydro Power Development”

RE Renewable Energy

Rehab Rehabilitation of power station that has fallen into disuse

SHP Small Hydro Power

SHPP Small Hydro Power Plant

SME Small and Medium Size Enterprise

TA Technical Assistance

UNFCCC United Nations Framework Convention on Climate Change

UNDP United Nations Development Programme

USAID U.S. Agency for International Development

# Executive Summary

The Project Document for the UNDP-GEF Project “Small Hydropower Development” in Kyrgyzstan was signed in January 2010.

During the design of the project in 2007-2009, Kyrgyzstan was experiencing serious energy shortages. The country was plagued with frequent blackouts stunting economic growth and adversely impacting the quality of life for all residents. With this backdrop, the Project design of 2010 consisted of the removal of legal and regulatory, capacity and financial barriers to the development of Small Hydropower (SHP) projects in Kyrgyz Republic (KR).

Since the signing of Prodoc in 2010, the country has undergone a remarkable transformation. In April 2010, the revolutionary change of the Government has happened. Due to the revolution the Project has started in June 2010. After the revolution the investment climate has been sharply worsened in the country; planned investments into SHP have been postponed indefinitely.

However, beginning from 2012 Government of Kyrgyzstan has adopted market-based policies in the power sector that among others included favorable tariff regimes for the Renewable Energy development including SHP development by the private sector. This mid-term evaluation (MTE) had the challenge of determining future directions of the Project that would most effectively meet the objectives of increasing the power generation of local SHP facilities.

The project development **goal** is to assist the Government of Kyrgyzstan in addressing the barriers to significantly increase SHP capacity by introducing a competitive private power framework at market-determined prices.

To achieve this goal, the Project was designed to achieve a number of outcomes:

* **Outcome 1:** Streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for small hydropower development.
* **Outcome 2:** Capacity available within DSMP to evaluate the economic and financial viability of small hydropower projects and within the Ministry’s RE Unit to monitor and enforce regulations related to SHP
* **Outcome 3:** Capacity available to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services.
* **Outcome 4:** Full feasibility and technical design studies for 5 small hydropower sites followed by construction of power stations.
* **Outcome 5:** Outreach programme and dissemination of project experience/best practices/ lessons learned for replication throughout the country.

To achieve the outcomes was expected among others by leveraging of USD 20 million in private sector investment over its four-year implementation period that would allow the development of an additional 20 MW of generation capacity from SHPPs prior to the completion of this Project and thereby reduce GHG emissions by about 250,000 tons of CO2 equivalent.

**Context and Purpose of the Evaluation**

The purpose of the mid-term evaluation (MTE) for this Project is to *evaluate the progress towards attainment of global environmental objectives, project objectives and outcomes, capture lessons learned and suggest recommendations on any adjustments needed.*

As such, the MTE will serve to:

* Strengthen the adaptive management and monitoring functions of the Project;
* Enhance the likelihood of achievement of Project and GEF objectives through analyzing project strengths and weaknesses and suggesting measures for improvement;
* Enhance organizational and development learning;
* Enable informed decision-making;
* Create the basis for replication of successful project outcomes achieved to date;
* Identify and validate proposed changes to the Prodoc to ensure achievement of all project objectives; and
* Assess whether it is possible to achieve the objectives in the given timeframe, taking into consideration the speed, at which the project is proceeding.

**Main Conclusions**

Main **achievements** of the project as of December 2012 have been:

* An Interagency Working Group created at the Ministry of Energy and Industry has developed a Package of the additions and/or changes to the Laws of KR; Draft Methodology on Tariff Determination for RES and SHP;
* Changes to the Law “On Renewable Energy” that introduced special factors for tariff increments for RES was adopted by the Parliament and signed by the President of KR on August 3, 2012;
* Draft of the Standard Agreement on Purchase and Sale the Power from Producers of Energy from Renewable Energy Sources (RES) has been developed;
* Number of trainings were organized and about 150 local specialists trained; Study tour to Montenegrofor MoE, DSMP and Parliament officers, NGO representatives on best practices of SHP and energy efficiency (EE) was organized;
* Technical capacities of Association of Renewable Energy Sources of KR, MoE, DSMP and Service Center on RES Development have been increased;
* 12 SHP sites selected for further research and updating hydrological database;
* Feasibility study and technical design study for Karakol (1,6MW) SHPP in Issyk-Kul oblast is developed;
* Feasibility studies and technical design of 2 mini HPPs developed in Naryn and Issyk-Kul oblast.
* Regularly updated Web-site [www.greenenergy.kg](http://www.greenenergy.kg)developed and launched;
* Gender research conducted and published on three languages;
* Manuals on micro and SHP, booklet on the Project activities were published and disseminated;
* Two International Seminars on RES and Energy Efficiency organized together with UNECE and MoE.

The most important conclusions regarding **project implementation** up to December 2012 include:

* The Project has made contribution towards the creation of a favorable legal and regulatory environment for developing SHP investments. This includes assistance to formulate changes and additions to the existing laws, methodologies and by-laws on tariff determination for RE, and guidelines for SHP developers on technical and financial issues. In spite the creation of enabling environment is not finalized yet there is a great likelihood for that.
* Project delays have been beyond the control of the Project and were mainly related to the revolutionary changes in April-June 2010 that among others resulted in back-off to the pre-project situation towards the legal and regulatory framework of SHP development and retreat of SHP investors from the investment commitments. However, the Project will now enter a phase where proper selection and implementation of SHP pilot projects (with TA from the Project side) will need to be managed in a manner to demonstrate the feasibility of SHP private investments in a Kyrgyz business environment. It must be noted in this regard that the MTE team disagrees with the recommendation of the Inception Report to focus on implementation of 2-3 community based mini HP projects on a grant financing basis. There are at least 2-3 SHP investment projects the investors of which have already undertaken some practical steps in project development and approached the Project for TA and that will be likely implemented as far as the creation of the enabling environment for SHP will be finalized (mostly by the assistance of the Project). Considering that the Project has USD 518,906 remaining in its budget as of December 12, 2012 that could be used for additional TA, the Project should be able to complete its activities over the a 3-year period ending December 2015.

Prospects for **sustainability** on this Project are based on the following issues:

* Project efforts to support efficient implementation to international standards and demonstrate reliable revenue streams of SHP investments;
* The Project design provides activities to ensure project replication. **Replication,** however, can only be assumed if the development of SHP pilot projects has been efficiently implemented to an international standard. As such, *the Project lacks adequate safeguards that would increase the likelihood of implementation to international standards*. These safeguards would include Project resources for building local SME capacity to an international standard for:
  + Careful planning and design of SHPPs;
  + Construction management that is on schedule and with budgets, and exerts control over the quality of construction;
  + Diligent operation and maintenance to reduce the risks of disruption of revenue streams; and
  + Dissemination activities to share the Project experiences of SHP developments.

Prospects for **sustainability** on this Project hinge on the following issues:

* Practically all stakeholders interviewed had a positive view of the Project and the outputs of the Project that have accelerated development of the enabling environment for SHP investments in Kyrgyzstan and asked UNDP Project to continue their efforts; Thus the Project will need to provide continued support to sustain policy dialogue with the GoK until the end of the Project on tariffs and other RE issues;
* GoK is supporting increase of generation tariff for SHP that will encourage and sustain the development of SHP after the completion of the Project;
* Majority of SHP project developers represent international companies in partnership with local firms.

**Recommendations**

1. *For Outcomes 1 and 2, c*ontinue development of legal and regulatory framework to encourage RE investments. It is very essential that when necessary, the policy development be continued after the Project end that would be ensured only if there is a capacity within the GoK and first of all MoE, for that. As such, the Project should consider additional capacity building activities to the MoE in order to better structure the Ministry, identify the main development goals and development long-term and short-term strategies for their achievement. Among others the Project may consider to provide short-term advisory service to the Ministry (e.g. short-term International Advisor may be designated to the Minister/Ministry) for SHP development.
2. *For Outcome 4, Develop a short-list of the pilot project candidates and select maximum 3 SHPs (regardless the type of project, whether it is rehabilitation or a new construction) for further investigations and financing*. The selection criteria should be elaborated and among others include technical audit of the proposed concept (pre-feasibility study) – it is very important pilot project to have a sound technical layout; due diligence of the investor company - only financially strong companies with experience in similar activities will be able to implement SHP project under the current circumstances when there is no practical experience in SHP financing, especially with involvement of private banks. In order to avoid inefficient expenditure of the Project resources, it is recommended to sign initially informal letter (e.g. LoI, MoU) with the investors and later some kind of Cooperation Agreement. Otherwise it may happen that the Project will provide TA and for whatever reason the project would not be financed. In parallel, the Project is encouraged to enter into the active discussion with the banks and explore possibilities of activation of their role in SHP development.
3. *For Outcome 3, continue to provide capacity building and TA to selected pilot projects on the full project development cycle* including:

* preparation of pre-feasibility studies;
* preparation of feasibility studies;
* technical oversight for detailed design;
* construction supervision and management. This assistance would include the services of a qualified construction manager, rigorous inspection routines, innovative contracting arrangements that build local capacity; and
* operations and maintenance.

This support is intended to ensure the first projects demonstrate international best practices for SHP implementation, construction management, quality control and SHP operations and maintenance.

**Lessons Learned**

* For projects having objectives in the area of sustainable energy policy changes, high-level government commitment and willingness is a condition for the change to actually happen;
* If the developed RE policy/strategy is not based on comprehensive analysis not only energy demand and technically feasible resources, but also general investment climate, existence of liberalized market, capacity to develop RE projects including SHP, environmental and social factors (that among others may prevent introducing of higher tariffs), the implementation of the Strategy even it is approved by the Government cannot be ensured;
* In the changing environment for the Project implementation application of adaptive management tools was necessary for achievement of the identified objectives and among them the adjustment of implementation plan. Combination of Project Management Team expertise and advise provided by the International Consultant, was a good practice towards the development of legal and regulatory framework for SHP development;
* In order to prevent the cancellation or at least suspension of the Project, the Inception Report suggested the implementation of community owned mini HP projects under the grant financing. However, after careful screening of the potential investors a number of pilot investment projects have been identified. The lessons learned is that even under the unfavorable business environment there might be potential investors ready to undertake a risk and the cooperation with them may play a crucial role in the Project implementation (e.g. without strong willingness of C.A.C.I, Imenite Ibragimov, DSMP and established cooperation with the Project, unlikely MTE would recommend the extension of the Project).

# introduction

This report summarizes the findings of the Mid-Term Evaluation conducted during November 19 – December 3, 2012 (Evaluation Mission for “Small Hydro Power Development” (herein referred to as the “Project”) implemented by the United Nations Development Program (UNDP), PIMS 3134 and with financing support provided by the Global Environment Facility (GEF). The Project Document (Prodoc) provides details for removal of key legal, capacity and institutional barriers to the development of small hydro power (SHP) projects in Kyrgyzstan and thereby accelerates sustainable SHP electricity generation by leveraging $20 million in private sector investmentsduring the 4-year duration of GEF support. Project activities include the creation of an enabling environment to encourage investments into SHP projects as well as other renewable energy projects in Kyrgyzstan. The Prodoc was signed in January 2010 with the expected completion date December 2013.

## Background

Since early 2000, there have been chronic shortages of electricity supply in Kyrgyzstan, which than in 2008-2009 had been translated into the biggest energy crisis. Official data for 2008-2009 show electric power generation dropped by 18.5% leaving a shortfall of an estimated 1.0-1.5 billion kilowatt hours. The shortfall between demand and supply was exacerbated by high losses within the extensive, inefficient and obsolete distribution system, which in 2008 were estimated at 42% of total electricity distributed. Power supply in during 2008-2009in many regions was characterized by frequent interruptions due to load shedding. Consequently, many households and enterprises had to switch to individual diesel generators to provide for back-up power when grid supply is not available.

The Country Development Strategy (CDS) identified promotion of renewable energy source as a powerful tool for the achievement of the strategic goal of the country, ensuring poverty eradication and environmental security.

The design of this Project took place in 2007-2009 when the Government of Kyrgyzstan (GoK) singled out SHP development as a priority in the Presidential decree No 365 of October 2008 “On specific measures of small and medium energy development in Kyrgyz Republic” (KR) and “Small and medium KR energy development program through 2012”. The Decree outlines program identifying a number of SHP projects which GoK would like to prioritize, including 28 new small and medium hydro power plants (HPP), 4 new small and medium HPP at existing irrigation systems and rehabilitation of 9 existing HPPs. It must be mentioned that currently, no state funding has been allocated to support program implementation. It is envisaged that investors will implement projects based on the enabling environment for a market-based approach that GoK wishes to create.

Though KR was supposed to be amongst a handful of Central Asian countries with sufficient hydropower resources for export. Currently, the total installed capacity of Kyrgyzstan is 3,746 MW, sufficient to provide more than 81% of the country’s power supplies.

The Naryn River contains one of the country’s main HPP complexes. Located in the southern regions, the complex consists of Toktogul HPP (installed capacity 1,200 MW, commissioned in 1975), Kurpsai HPP (800 MW, commissioned in 1982), Tash Kumyr HPP (450 MW, commissioned in 1987), Shamaldy-Say HPP (240 MW, commissioned in 1995), and Uch-Kurgan HPP (180 MW, commissioned in 1962).

The upper plant of the cascade is Kambarata 2 that is now under construction; only one out of three units has been commissioned in 2011. Other notable plants include the Atbashi HPP (40 MW) upstream of the Naryn River, and 13 small power plants, (installed capacity 42 MW) with annual power production 125 million kWh.

These HPPs are connected to the common power grid of Central Asian countries. The Central Asia Power System (CAPS) was created during the Soviet period and allowed to stabilize in optimal manner (by means of peak loads and power flows control) the operation stability of every republic power grid connected and to use the huge volumes of the reservoirs for needs of irrigation.

After collapse of the Soviet Union all the economical relations between the ex-Soviet republics disintegrated. From the beginning of 1990s water flows from the Toktogul Reservoir began to change according to the power needs of Kyrgyzstan. This has led to a conflict between irrigation water users of Uzbekistan and Kazakhstan and energy producers of Kyrgyzstan and Tajikistan. Kyrgyzstan, however, does not have access to sufficient coal and natural gas to increase power production in heating period. Kyrgyzstan had a big shortage of the electric power in winter time in the beginning of 2008. The government introduced strict measures aimed on reduction of power consumption of all customers, the tariffs were increased.

### Rationale for Developing SHPP in Kyrgyzstan

During implementation activities under the UN Framework Convention on Climate Change (UNFCCC) Kyrgyzstan identified the development of small and medium-size energy generation sources including non-traditional renewable energy sources as a priority area. In 2008 the GoK launched the “Small and Medium-size Energy Development Program until 2012”, which was developed as a part of the KR “National Energy Program for 2008-2010”, aiming at implementing activities on construction, reconstruction and modernization of HPP. According to this Program, the small and medium-size HPPs would be developed near to populated areas, which now experience difficulties with power supplies or are far from the existing national grid, and efficiently increase power capacity. The Program envisaged rehabilitation of 39 SHPPs and MHPPs as well as the construction of a number of new plants in different regions of KR.

SHPP development is extremely important to reduce the existing water conflicts between Kyrgyzstan and its neighbors; the power generated by SHPPs can be added to the load of the large HPPs to provide sufficient power during the winter season for heating. This would allow sufficient water to be stored in the Toktogul Reservoir at a time when it can be used for irrigation by downstream users in Uzbekistan and Kazakhstan.

Key Barriers to implementation of SHPP investments and the implementation of similar projects nationwide as identified in the ProDoc includes *legal,* c*apacity and institutional, financial constraints:*

* *Legal barriers:* The legal framework did not provide incentives for development of SHP;
* *Capacity and Institutional Barriers:*
* Lack of in-country capacity to develop “bankable” investment proposals, feasibility studies and business plans;
* Lack of experience of the local SMEs and/or consultants to professionally manage and supervise renewable energy projects through their development, procurement and commissioning stages.
* *Financial Barriers*
* High perceived risks of developing and financing renewable energy projects in Kyrgyzstan, leading to high interest rates, short pay-back periods and difficulties in getting access to the financing in general;
* Weak financial status of the local RE companies and problems in meeting the strict guarantee and collateral requirements of the possible financiers.

In addition, just before the effective start of the Project the political barrier due to the political instability in the country, was identified.

### Institutional Arrangements of the Kyrgyz Power Sector

Kyrgyz power sector consists of the following main stakeholders:

* Ministry of Energy (currently Ministry of Energy and Industry) of KR - overall policy maker;
* State Department on Regulation of Fuel-Energy Complex under the Ministry of Energy – responsible for tariffs and license issues;
* Directorate for Small and Medium-scale Power Projects in the Kyrgyz Republic - general issues related to HPP development (design, construction). Actual status of the DSMP has been changed since the Project start. According to the Order of the President of KR from February 20, 2012 the DSMP has been transferred to the Government. It is expected that in 2013 DSMP will get financing from the State budget and its status will be further specified;
* Electricity Wholesale Market;
* Electrcity Distribution Companies (JSC Severelectro, JSC Vostokelectro, JSC Oshelectro and JSC Jalalabadelectro - each company covers particular geographical region);
* JSC National Electric System (Grid) – electricity transmission (high voltage) lines, with the functions of system operator;
* JSC Electric Power Plants – joints all laarge power plants (HPPs and combined heat power plants CHPs).

The structure of the Kyrgyz power sector is presented on the below organigram:

Osh CHP

Toktogul cascade

Atbashi HPP

Bishkek CHP

**JSC**

**“National Electricity System**

**of Kyrgyzstan” (NESK)**

Export

JSC

“Jalalabadelectro”

JSC

“Oshelectro”

JSC

“Vostokelectro”

JSC

“Severelectro”

JSC

“Bishkekteploset”

JSC (private)

«Chakan HPP»

Customers

Customers

Customers

Customers

JSC “Electric Power Plants” (EPP)

Large Heat

Consummers

Large

customers

## Project Goals, Objectives and Expected Results

The project development **goal** is to assist the Government of Kyrgyzstan in addressing the barriers to significantly increase grid-connected small hydropower (SHP) capacity. The project is to achieve this goal by introducing a competitive private power framework to supply the grid with SHP-generated electricity at market-determined prices, assist the Government in closing private sector funded SHP investments. It is envisaged that this project will permit Kyrgyzstan to exploit a substantial portion of the 570-900 MW of its potential SHP capacity.

To achieve this goal, the Project was designed to achieve a number of outcomes:

* **Outcome 1:** Streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for small hydropower development.
* **Outcome 2:** Capacity available within DSMP to evaluate the economic and financial viability of small hydropower projects and within the Ministry’s RE Unit to monitor and enforce regulations related to SHP
* **Outcome 3:** Capacity available to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services.
* **Outcome 4:** Full feasibility and technical design studies for 5 small hydropower sites followed by construction of power stations.
* **Outcome 5:** Outreach programme and dissemination of project experience/best practices/ lessons learned for replication throughout the country.

The achievement of these outcomes was expected among others by leveraging of USD 20 million in private sector investment over the four-year implementation of the Project and thereby development of an additional 20 MW of power capacity from SHPPs prior to the completion of this Project. This, in turn, is expected to generate global benefits of almost 250,000 tons of CO2 over the same period and almost 113,000 tons CO2/yr thereafter in avoided greenhouse gas (GHG) emissions. Section 2 provides more detail on the achievements to date on the Project’s outcomes and outputs.

## Mid-Term Evaluation

### Purpose of the Evaluation

The purpose of the mid-term evaluation (MTE) for this Project is to *evaluate the progress towards attainment of global environmental objectives, project objectives and outcomes, capture lessons learned and suggest recommendations on any adjustments needed.*

As such, the MTE will serve to:

* + - Strengthen the adaptive management and monitoring functions of the Project;
    - Enhance the likelihood of achievement of Project and GEF objectives through analyzing project strengths and weaknesses and suggesting measures for improvement;
    - Enhance organizational and development learning;
    - Enable informed decision-making;
    - Create the basis for replication of successful project outcomes achieved to date;
    - Identify and validate proposed changes to the Prodoc to ensure achievement of all project objectives; and
    - Assess whether it is possible to achieve the objectives in the given timeframe, taking into consideration the speed, at which the project is proceeding.

In accordance with UNDP/GEF monitoring and evaluation (M&E) policies and procedures, all projects with long implementation periods are strongly encouraged to conduct mid-term evaluations. In addition to providing an independent in-depth review of implementation progress, this type of evaluation is intending to be responsive to GEF Council decisions on transparency and better access of information during implementation. MTEs are intended to identify potential project design problems, assess progress towards the achievement of objectives, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP/GEF projects), and to make recommendations regarding specific actions that might be taken to improve the project. It is expected to serve as a means of validating or filling the gaps in the initial assessment of relevance, effectiveness and efficiency obtained from monitoring. The MTE provides the opportunity to assess early signs of project success or failure and prompt necessary adjustments.

For these reasons, a MTE of this UNDP-GEF Project was conducted; the evaluation mission was fielded to Kyrgyzstan from November 25 to December 1, 2012.

### Key Issues to be Addressed

Key issues to be addressed on this MTE include:

* The appropriateness of the project concept and design in the context of the current events in Kyrgyzstan;
* Implementation of the Project in the context of effectiveness and efficiency in the delivery of its activities focusing on progress in establishing the information baseline, reducing threats, and identifying any difficulties in project implementation and their causes, and recommend corrective course of action; and
* Project impacts based on current outputs and outcomes and the likelihood of sustaining project results.

Outputs from this MTE will be used to chart future directions on this Project.

### Evaluation Methodology and Structure of the Evaluation

The methodology adopted for this evaluation includes:

* Review of project documentation (i.e. project documents, APRs/PIRs, Project Board meeting minutes, GEF quarterly project updates) and other pertinent background information;
* Interviews with key project personnel including the Project Coordinator, project consultants, and relevant UNDP staff (Country Office in Kyrgyzstan, GEF Regional Coordination Unit in Bratislava);
* Interviews with relevant stakeholders from Government (e.g. Ministry of Energy; the state agency on environmental protection and forestry) and other stakeholders, as necessary.

A full list of documents reviewed and people interviewed is given in Annex B. A detailed itinerary of the Mission is shown in Appendix C. The Evaluation Team for the UNDP-GEF project composed of an *International Consultant (Team Leader)* and a *Local Consultant*.

This evaluation report is presented as follows:

* An overview of project implementation from the commencement of operations in June 2010;
* Review of project results based on project design and execution;
* Conclusions and recommendations that can increase the probabilities of a successful conclusion; and
* Lessons learned from implementation of the project to date.

This evaluation has taken into consideration the GEF M&E policy available from:

<http://thegef.org/MonitoringandEvaluation/MEPoliciesProcedures/mepoliciesprocedures.html>**,**

The Evaluation also meets conditions set by the UNDP Document entitled “Handbook on Planning, Monitoring and Evaluating for Development Results”, 2009:

<http://www.undp.org/evaluation/handbook/documents/english/pme-handbook.pdf>

and the “Addendum June 2011 Evaluation”:

<http://www.undp.org/evaluation/documents/HandBook/addendum/Evaluation-Addendum-June-2011.pdf>

## Project Implementation Arrangements

Project implementation arrangements were determined in the Prodoc. Namely, the project should be implemented through the National Execution (NEX) execution modality by the Directorate for Small and Medium-scale Power Projects in the Kyrgyz Republic (DSMP) under the overall guidance of the Central Agency on Development, Investments and Innovations (CADII). Project board should be chaired by a senior representative of the CADII while DSMP should have the overall responsibility for project implementation through its appointment of a National Project Director (NPD). However, the whole institutional arrangement envisaged in the Prodoc has been changed due to the new political realities in the country by the Project start. In particular, after the revolution in April 2010 by the decree of the temporary Government of Kyrgyz Republic the CADII was winded up; as mentioned above, DSMP has been transferred to the Government. therefore, the project shifted towards the ministry of energy, which is expected to provide strategic directions and management guidance to project implementation. The Ministry of Energy appointed NPD. The Project Board consists of representatives of the relevant ministries and state committees/departments participating in the Project, the UNDP Country Office (CO), the NPD as well as representatives of the NGO community.. The day-to-day management of the Project is implemented by a Project Coordinator (PC). The PC is responsible for overall project coordination and implementation, consolidation of work plans and project papers, preparation of quarterly progress reports, reporting to the project supervisory bodies, and supervising the work of the project experts and other project staff. The PC is closely coordinating project activities with relevant Government and other institutions and hold regular consultations with project stakeholders.

# Key findings

## Project Progress and Achievements to Date

# The Project and its Development Context

1. **Project start and its duration**

The Project Document was signed on 29 January, 2010. The effective start of the Project, however, was delayed due to the unstable political situation in the country during the period of April to June 2010. These events led to widespread disturbances throughout the country, notably in Bishkek where there was looting in a number of Government buildings as well as the UNDP Country Office. In addition, there were social tensions and violent inter-ethnic clashes in the southern regions of KR. As a result, the President was expatriated from the country. The Interim Government managed to stabilize the country by July 2010; however, the impact of these revolutionary events seriously affected the investment attractiveness of Kyrgyzstan. This included planned SHPP investments which were postponed indefinitely.

The above mentioned seriously affected the Project time schedule. The Project started its activities in June 2010 with the Project Coordinator being recruited in December 2010. The Project Inception workshop was held in November 2011 and the first Project Board (PB) meeting was held in December 2011.

During Project implementation, there has also been the frequent changing of key officers within the MoEI that impacts the progress of the Project; this includes the Minister of Energy who has changed three times since July 2010 and the manager of DSMP who has changed twice. The late start of the Project was one of the reasons why the first PB meeting proposed a change to the Project terminal date set in the ProDoc as December 31, 2013 to December 31, 2014, a no-cost extension of one year; no evidence has been provided to the Evaluators of UNDP approval of this extension.

1. **Implementation status**

As mentioned above according to the Prodoc the Project was supposed to be implemented through the NEX execution modality by the DSMP under the overall guidance of the CADII. However, due to the political situation on May 11, 2010 The UNDP Resident Representative approved the local mechanisms for implementation of projects in accordance with Fast Tracking Procedure (FTP) that considered Direct Execution (DEX) modality for those projects which under normal activity were of NEX modality. On November 2, 2010 FTP has been extended until April 20, 2011; and on April 21, 2011 FTP has again extended to December 31, 2011. Since January 2012 the Project has been implemented under the NEX modality.

1. **External Factor: A Changing Power Sector**

As mentioned above, the Project Document was developed taking into account the October 2008 provisions of the “Small and Medium-size Energy Development Program until 2012”. In November 2009, the Resolution of GoK “On medium-term tariff policy on electricity and heat for the period of 2010-2012” was approved by the Prime-Minister, mandating that new tariff policy should be based on a full cost-recovery principles and cover generation, transmission and distribution costs; the equal tariffs should be applied to all categories of consumers. The increase of tariff level was planned in two stages, in January 1, 2010 and July 1, 2010. Electricity tariff levels were calculated based on assumptions that the overall losses would be steadily decreased (21% in 2010, 18% in 2011 and 15% in 2012). By 2011 of cross-subsiding practices would be eliminated, and finally, the tariff for electricity consumers should reach 1.9 SOM/kWh or USD 0.043 USD/kWh[[1]](#footnote-1) by July 1, 2011 (with exception of residents and pumping stations nearby Toktogul HPP).

However, due to the political developments in April-June 2010 the implementation of provisions of the Resolution “On medium-term tariff policy on electricity and heat for the period of 2010-2012” were suspended. As a result, the investments in SHP projects became financially non-feasible that along with the difficult political situation in the country had a very negative impact on attracting investors. As a result, investments in SHPP projects were not occurring including construction of the 5 pilot SHPPs as a part of this Project.

1. **Inception Report**

An International Technical Advisor was hired to prepare an Inception Report based on the two missions to Bishkek in August and November 2011, and consultations with key stakeholders (MoE, DSMP, RES Association of Kyrgyzstan) including during the Inception Workshop in November 2011. The Inception Report proposed repositioning of the project interventions in line with realities of implementing environment. The Inception Report among others revised the Project Result Framework by reducing of the number of pilot projects from 5 to 3 and changing these SHPP pilot projects from private sector SHP investment projects to community-based mini HPPs (more details are provided in Section 2.1.2 of this report). Based on these changes outputs 2.2, 3.1 and 4.2 were excluded from the new Project Result Framework. Finally, the Inception Report recommended the extension of the Project duration to December 2014. The proposed changes if accepted would lead to the Substantive Revision of the Project. However, no such Revision has yet been requested and approved.

### Project Outputs

Project implementation of technical assistance has been in accordance with the work plan towards the achievement of project outputs that were intended to create a favorable and supportive regulatory environment for potential SHPP investors (outcome 1), although with delays from the original schedule. Project outputs related to outcome 1 include:

* An Interagency Working Group created at the Ministry of Energy and Industry that provided the following outputs:
  + Package of the additions and/or changes to the Laws of KR; developed including: Land Code, Water Code, Code of KR on Administrative Responsibility, Customs Code, Law “On Energy Savings”, Laws of KR “On Natural and Permitted Monopolies in the KR”, “On State Statistics”, “On the National Academy of Science of the KR”, “On Electric-Power Industry”;
  + Draft Methodology on Tariff Determination for RES and SHP;
  + Adopted by the Parliament and signed by the President of KR changes to the Law “On Renewable Energy” that introduced special factors for tariff increments for RES;
  + Drafts of Technical Regulations for energy sector;
  + Draft Guidance on Conducting Tender for SHP investors;
  + Draft of the Standard Agreement on Purchase and Sale the Power from Producers of Energy from Renewable Energy Sources (RES).

Under the outcome 2 the following outputs have been achieved so far:

* Training module on usage of software on conducting financial and economical analysis of SHP projects;
* 4 seminars organized and about 150 local specialists trained in RE;
* Study tour to Montenegro *f*or MoE, DSMP and Parliament officers, NGO representatives on best practices of SHP and energy efficiency (EE);
* Technical capacity of Association of Renewable Energy Sources of KR, MoE, DSMP and Service Center on RES Development increased (through purchase of logistics and software); The geodesic equipment granted to DSMP.

Outputs of outcome 3:

* 12 SHP sites selected for further research and updating hydrological database;
* Study of hydropower potential of seven oblasts of KR conducted. On basis of research 2 pilot local communities in Naryn and Issyk-Kul oblasts selected.

Outputs of outcome 4:

* Feasibility study and technical design study for Karakol (1,6MW) SHPP in Issyk-Kul oblast is developed;
* Feasibility studies and technical design of 2 mini HPPs developed in Naryn and Issyk-Kul oblast.

Outputs of outcome 5:

* Regularly updated Web-site [www.greenenergy.kg](http://www.greenenergy.kg)developed and launched. As of December 3, 2012 8,076 visitors from 78 countries visited the site;
* Gender research conducted and published on three languages;
* Published manuals on micro and SHP in two languages. The booklet about activities of project were published and disseminated among key partners and stakeholders;
* A number of articles and interviews published in local media including electronic media;
* 5 Round-table discussions organized on Project activities;
* Two International Seminars on RES and Energy Efficiency organized together with UNECE and MoE.

In addition, the Project has mobilized additional co-financing. In particular, USD 100,000 financed by UNDP and has been covered the costs of Project Manager and other costs under Project Management (fee of Project Assistant, Travel costs, Audit costs, etc.)

However, the implementation of any pilot SHP projects has not started yet, due to the project being significantly hampered by a number of issues:

* **Delays in progress towards a more supportive legal and regulatory frameworks for SHP development (Outcome 1)**

The main challenge in the pre-project phase was to ensure the implementation of provisions of the Resolution of GoK “On medium-term tariff policy on electricity and heat for the period of 2010-2012” approved by the Prime-Minister in November 2009. The Resolution among others considered practical measures for this purpose, e.g. development of business plan for installation of meters; institutional re-arrangements; social security measures resulting from increased electricity tariffs; changes in the State budget for years 2010, 2011 and2012; debt forgiveness for debts incurred prior to December 2009;; introducing VAT for electricity sold into the Tax Code; and monitoring of SHP development by the Antimonopoly Agency).

* After the two-stage increase of the electricity tariffs in January 1, 2010 and July 1, 2010, the tariffs should reach the following values:

**Electricity tariffs for final consumers, SOM/kWh (including Taxes)**

|  |  |  |  |
| --- | --- | --- | --- |
| Consumer category | Tariff increase date | |  |
| 01.07.2008 | 01.01.2010 | 01.07.2010 |
| Population | 0.710 | 1.50 | 1.90 |
| Industry | 0.109 | 1.50 | 1.90 |
| Budgetary consumers | 1.135 | 1.50 | 1.90 |
| Agriculture | 1.090 | 1.50 | 1.50 |
| Pumping stations | 0.772 | 1.50 | 1.90 |
| Others | 1.158 | 1.50 | 1.90 |
| Population of Toktugul Region | 0.046 | 0.10 | 0.15 |
| Pumping stations of Toktugul Region | 0.051 | 0.10 | 0.15 |

The resolution also stated that all components of the regulated final tariff (for production, transmission, distribution, sales) should include profit to create a favorable investment environment. However, tariffs were decreased back to 2009 levels after the April-June 2010 Revolution making SHP investments in Kyrgyzstan unfeasible.

This outcome was completely beyond the control of the Project. Moreover, the Project has not been able to address any legal and especially regulatory changes with the post-revolutionary Government for SHP development in 2010 and partially in 2011. As such, the Project simply postponed implementation of Outcome 1 activities.

* The International and bilateral donors (e.g. USAID), IFIs (e.g. EBRD), private investors conducted separate studies and concluded that the existing tariff level was not providing incentives to the SHP investors, an opinion shared by MoE, Ministry of Economic Regulation and other relevant Governmental agencies. As a result, the Project resumed Outcome 1 activities in 2012 despite the lack of capacity within MoE to develop the appropriate legal and regulatory frameworks. Within the Evaluation Mission the Evaluation Team had a number of meetings with all key stakeholders and got an understanding that the UNDP Project was the only driving force in this direction. In fact practically during all meetings parties were emphasizing the exclusive role of the Project and expressing willingness for the Project to continue its efforts in development of the legal & regulatory frameworks, especially with regard of creation of mechanisms for implementation of the approved changes in the electricity tariffs, according to which the existing generation tariffs are subject of increase by multiplying by the determined factors (2.1 for hydropower) in accordance with the Law of KR On Renewable Energy Sources (version from October 10th 2011 and August 3rd 2012). Being practically the only developer of the legal and regulatory changes in the country, the Project could not pay the equal attention to all related issues. The technical report “Development of packaged recommendations for SHP Developers” (2012) prepared by the Project expert, states that the changes in the Renewable Energy Law have revolutionary rather than evolutionary character and need further development. The following issues have to be further elaborated:
* Changes in other Laws due to changes in RE Law;
* Creation of mechanisms for implementing SHP projects trough financial incentives and simplified procedures as provided in the RE Law, Law on Energy, etc. For example, an elaboration is required on PPAs for IPPs, and who will provide the difference in cost of generated electricity from the increased tariff;
* Clear procedure for tendering SHPP construction rights;
* Public-Private Partnership scheme for SHP development
* Guidelines for public-private partnerships in developing SHPs.

Finally, it must be mentioned that all the legal and regulatory initiatives to date have been elaborated by the local experts; inputs of international consultants are planned at the next stages. This strategy does not appear to be sound, and is likely to result in output inconsistencies, inefficient use of Project resources and late delivery of mechanisms for implementation of approved changes based on the international experience.

* **No progress towards development of CDM documentation (PIN, PDD) in order to generate additional revenues due to the CERs (Output 2.5)**
* .In August 2009, the Project through its international consultant, Mr. J. Laubach, conducted a review of CDM potential for SHP projects in Kyrgyzstan and concluded that with the low grid emissions factor and the depressed CER prices, CDM benefits would not be significant for the SHP projects. In addition, there is also a high transaction cost in preparing a CDM project including the preparation of PDD as well as validation and registration fees. The Project has concluded that other options for carbon crediting such as NAMAs needs to be explored.
* **Absence of the feasible SHP investment projects (Output 4.1.)**
* Usually development of feasibility studies and detailed construction designs lays on the investor side but the Project was also to provide TA for the development of feasibility studies (FS) and detailed construction designs in close collaboration with SHP investors.. A total of 5 feasibility studies was the Project target. At the commencement of the Project, five potential pilot projects were identified with total capacity of 19.6 MW[[2]](#footnote-2). However, as per Prodoc this was a preliminary list that might be subject to change on the basis of initial studies by companies Cotec and Seloga in accordance with their respective framework agreements with DSMP in 2009. Just after the Project start it became known that the investors of these pilot projects would back out due to the poor investment environment and an uncertain legal and regulatory framework and the Project decided to scale-down its target to one feasibility study for Karakol SHPP (1.6 MW). This decision seemed logical as feasibility studies developed before the completion of the legislative changes would likely require revisions that would need additional financial resources.
* The Inception Report did recommend the implementation of 2 micro community-based HPP projects (each 70 kW) in Naryn and Issyk-Kul oblasts; the feasibility study reports for these projects in Kensuu and Tortkul communities were prepared in November 2012. In case if the favorable legal & regulatory frameworks will be finalized in 2013 including the clear mechanisms and simplified procedures for SHP investments, there might be a chance to implement investment project(s) before the Project end. However, keeping in mind the past developments which made investments in SHP in Kyrgyzstan risky, the interest of investors may be not as high. Therefore, TA provided by the Project, especially at the early stages of SHP project development, will have a crucial role in the (positive) decision making by the potential investors.
* This output also confirms that feasibility studies prepared by the Project do not automatically lead to the actual investment and implementation. Moreover, the feasibility studies done by various donors such as UNDP are done to attract investors, without complete confidence that such an investor will be found, are raising the risk that the significant resources will be spent in a very inefficient way. This is in part due to these studies not being based on full geological investigations and topographic surveys; if they were, there would be more confidence in the technical, financial and environmental feasibility of these SHP projects. Therefore, at this time and with the available Project resources, the development of pre-feasibility studies for these SHPs appears more logical.
* Strengthening this point is the fact that there are also a number of other SHP reports that have been developed under other programs, however, with no investment commitments. One example involves Mercados, a company having developed pre-feasibility studies for 4 SHP sites and EBRD ready to provide financing. The problem is that the MoE was planning to tender these projects, and does not have any information pertaining to investor interest on this project.
* Finally, the feasibility studies for Karakol SHPP and 2 mini HPPs were developed by the local experts without involvement of international consultants. This will be a problem when there is investor interest. Typically, when such a development is started, investors try to secure financing from the banks which as a rule, is comprised of local banks sharing risks with international banks; as such, international standards for loan appraisal will apply, which among others require advanced feasibility studies completed to international standards.
* **Absence of SHP pilot projects financing of which is closed (secured) (Output 4.2.)**
* SHP projects must be financially feasible with the electricity tariff providing for full cost-recovery and certain profit. The investor then has either to be capable of securing project financing through equity financing or loans, and to satisfy terms and conditions for loan disbursement set by the financial institutions (FIs) and local banks. As a minimum requirement, FIs will require a technical audit of the proposed project and financial due diligence of the investor company.
* Another SHP development scenario is with a community-based pilot mini-HPP project with a significant grant component[[3]](#footnote-3). Unfortunately, these projects are not in line with the Project development objective because they do not promote development of a competitive SHP market which will have very limited impact and replicable potential. In addition, proper operation and maintenance of these mini HPPs will likely require further grant assistance.
* The Project has also established cooperation with other potential SHP investors and investigated possibilities of providing TA to their projects including:
  + Canadian Asia Central Investment (CACI) developing 2 SHP projects, rehabilitation of 1.8 MW Kalininskaja SHPP and construction of a new 18 MW Karakul SHPP; information on these projects are presented in a below text box 1. The investor is ready to start project development after approval for:
* documents allowing the SHP development to benefit from streamlined approval procedures of an amended RES;
* water rights;
* land tenure;
* Foreign Economic Activity Commodity Classification for imported E&M equipment and other materials for SHPP construction;
* “Iminite Ibragimov”, whose core business is coal mining in Batkenskaja Oblast. The grid electricity supply is currently unreliable. As such, the company in cooperation with the engineering-consulting company, Inkraft, has developed a project proposal for a 600 kW SHP to be located on an irrigation canal. The project will generate the following benefits:
* Cheaper and reliable power supply to the coal mines (power demand: 140 kW);
* Rehabilitation of pumping stations along the irrigation canal that will improve the state of irrigation and contribute to an increase of irrigated land;
* Enabling the company plans to diversify its activities into agriculture;
* Sale of excess electricity can be sold to the grid.

To date, Iminite Ibragimov has implemented the following activities**:**

Box 1: Brief description of SHP projects developed by CACI

1. Kalininskaya SHPP

Kalininskaya SHPP is the first SHPP rehabilitation investment project to complete a rehabilitation that was abandoned in 1997. The previous rehabilitation took place under a concessional agreement between the JSC Kyrgyzenergy and French company Mecamidi but was not implemented due to low tariffs. The proposed rehabilitation investment will renovate the headworks, and increase the annual output from 7 to 10 GWh.

1. Karakul SHPP

The layout of the new SHPP on the River Karasuu in the Jalalabad Oblast is under development. The capacity will be about 18 MW, annual output 110 GWh and capital costs around USD 25 million. The investor has concluded preliminary agreement with IFC and WB on project co-financing.

* Geological and topological surveys;
* Ordering of turbine, generator, and control system from a Chinese manufacturer with close to 60% of the equipment total cost already paid;
* Commencement of project design. However, due to high loan interest rates, the company it is financing all activities from coal mine revenues. The priority has been to purchase equipment (including transformer, steel pipes for penstock) and machinery (dozer, truck) rather than for feasibility study and design work. The company has approached the Project for assistance, understanding the importance of the completion of feasibility and design before the start of construction. During the meeting with the Evaluation Team Leader it was underlined that the project will be implemented even without UNDP/GEF assistance but if such assistance is provided the implementation will take much shorter time. Considering that the investor tends to save financial resources wherever possible, it is the Project opinion (this opinion is shared by the evaluators) that the design will not be reviewed by the third party; the oversight management (supervision) will be very limited (the later not only due to the insufficient budget for that but also due to lack of necessary capacity for that as well). Therefore, qualified TA would be very important factor for success of this project.
* There are a number of reasons why no pilot SHP project is under the implementation:
* No competitive private power framework to supply the grid with SHP-generated electricity at market-determined prices. The framework includes both, existence of attractive legislation for SHP development and corresponding mechanisms and procedures. As a result investors are not able to conclude long-term PPAs on selling 100% of the generated electricity at the price that would guarantee positive cash flow.
* The perception of high political risks and political instability for private SHP investments and in general, the energy sector. Many potential SHP investors including those ones that concluded framework agreements with the DSMP in 2009 such as the South Korean companies Seloga on November 21 and December 12, 2009 and Cotec PS on June 15, 2009, and who were going to invest USD 20 million in 5 SHPPs, have left the country after the revolution in 2010 and have not returned;
* No specialized fund or credit line in Kyrgystan for SHP development. Despite being approached by the Project three years ago, the ADB has not yet considered establishing such a fund. While recognizing the SHP potential in Kyrgyzstan, the criteria for creating a credit line would be (i) existence of corresponding legal environment; (ii) reliable private investors; and (iii) lowering of political risks. The pre-condition of loan approval is that the manufacturer of mechanical and electrical equipment be from an ADB member state. The loan to the GoK might have a grace period of 8 years; payback period of 24 years; interest rate 1.5%. For private investors the loan interest rate could be LIBOR rate (usually 3-4%; nowadays 1.5%) + 0.5%, a considerable improvement compared with local market rates. The representative of the Kyrgyz Investment and Credit Bank (KICB) had stated that if there is a feasible project, KICB could provide financing at preferable conditions (compared with market average) for SHP Greenfield projects.
* **Frequent changes in Government**
* The first meeting of the Project Board was only held in December 2011. The Government of Kyrgyzstan was represented at a high level by Minister of Energy and DSMP. However, since project inception in 2010, the Minister of Energy has changed 3 times three times; the manager of DSMP – twice.

Summary of achieving Project Outputs:

Significant delays in achieving project outputs/outcomes (in development of the legal & regulatory frameworks; implementation of pilot SHP projects is not started yet[[4]](#footnote-4)). However, this delay was due to the objective reasons and hence beyond the control of the Project due to the following:

* Doe to the political situation in the country the Korean investors of 5 SHP projects decided not to implement those projects. Of course, the Project could neither provide guarantee against political instability nor convince the investors to continue SHP development;
* The planned increase of electricity tariff in 2010 was not implemented and the feasibility of pilot projects was seriously affected;

Project progress to date against its intendedoutputs is provided in Table 1.

### Project Impacts

The Project activities and outputs have not yet made a significant impact to SHP investments due to the lack of an SHP investor-friendly environment. However, the MTE Team has observed that the GoK has embraced Project assistance that is having the impact of streamlined approvals based on the suggested legislative changes, and providing confidence to SHP investors that the procedures for final approvals to construct will be finalized soon. The Project has provided assistance to the GoK to:

* Draft legislation initiatives, changes in the Renewable Energy Law and associated bylaws;
* Improve awareness and understanding of all potential SHP investments through the posting of SHP technical information on a website.

To date the Project has not made a final selection of the pilot projects. Therefore GHG reductions directly or indirectly attributed to the Project cannot be estimated at this time

| **Table 1: Project Progress Observed in November 2012** | | |
| --- | --- | --- |
| **Project Strategy**  (taken from Prodoc) | **Indicators**  (taken from Prodoc and APR-PIR) | ***Observed November 2012*** |
| **Development Goal:** |  |  |
| **Project Objective:** To assist the Government in addressing the barriers to significantly increase grid-connected small hydropower capacity. | Power generation by grid-connected small hydro power stations  *Target:* Investment in at least 5 small hydropower sites by end of project resulted in:   * 285,140 MWh of electricity generated by project completion; * Reduction of 250,000 tons of CO2 over the 4-year MSP project life cycle. | * The process of creation of investment environment with favorable legal, regulatory and market instruments to encourage SHPP investments initiated; a number of legal changes prepared and consequently submitted for approval to the GoK * Capacities of government officers in the MoE, Ministry of Economic Regulation, DSMP improved through number of trainings, third country visits and “on-the-job” training. * If Project is extended to 2015 (see Recommendations for rationale for Project extension), GHG will be reduced due to the implementation of pilot project(s). |
| **Outcome 1:**  Streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for small hydropower development. | * Framework finalized and available for consultation by potential investors. * Report confirming that policy and framework arrangements are in place. * Guidelines available. * One-stop shop is operational. * Information brochure and website are available. | *In progress*:   * Elements of new and improved legal & regulatory frameworks developed and approved; among them additions to the Law on Renewable Energy considers establishment of special tariffs for RE is approved. However, the mechanisms for effective utilization of opportunities provided by these frameworks are still to be elaborated; * The draft of changes in legislations on land tenure, water use rights and review of Law on Renewable Energy to define/redefine role of Directorate for Small and Medium-scale Power Projects is developed and submitted for approval to the MoE; * The draft of a manual on procedures for the introduction of competition in the award of sites/concessions was developed and submitted for approval to the MoE; * The dart of a changes in legislations on one-stop shop for issuance of construction licenses was developed and submitted for approval to the MoE |
| **Outcome 2:**  Capacity available within DSMP to evaluate the economic and financial viability of SHP projects and within the Ministry’s RE Unit to monitor and enforce regulations related to SHP. | * Number of DSMP/Ministry staff who participated in and successfully completed capacity development programme. * Methodologies for the economic/ financial evaluation of small hydropower plants applied by DSMP * Methodology for calculating small hydropower tariffs to be paid to IPPs/to applied by DSMP * Documents Financial and other incentives to be provided and available to project developers * Guarantee and Risk mitigation instruments developed. * CDM projects registered. * Number of Ministry staff successfully trained. | *Partially completed:*   * Technical capacity of Association of Renewable Energy Sources of KR, MoE, DSMP and Service Center on RES Development increased (through purchase of logistics and software); the geodesic equipment granted to DSMP. * A number of trainings and seminars organized on RES, financial and economical analysis of SHP projects, RE for about 150 participants; * Study tour to Montenegro was organized for 15 representatives of MoE, DSMP, Parliament and NGOs; * Draft of methodology for calculation of tariffs and concept of pricing for SHP was developed |
| **Outcome 3:**  Capacity available to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services | * Teams trained in various categories of activities. * Technical assessment of projects. * Guidelines for maintenance, repair and modular SHP design. * Instrumentation to measure river flow installed. * Software developed for interpretation of data. * Published guidelines. * Capacity development material available. * Availability of qualified and certified companies for maintenance and repair services. | *In progress*:   * 12 SHP sites selected for further research and updating hydrological database; * Study of hydropower potential of seven oblasts of KR conducted. On basis of research 2 pilot local communities in Naryn and Issyk-Kul oblasts were selected. |
| **Outcome 4:**  Full feasibility and technical design studies for 5 small hydropower sites followed by construction of power stations. | * Feasibility reports. * Reports available. * Completion report. | *Partially completed:*   * Feasibility study and technical design study for Karakol (1,6MW) SHPP in Issyk-Kul oblast; * Feasibility studies and technical design of 2 mini HPPs developed in Naryn and Issyk-Kul oblast. |
| **Outcome 5:**  Outreach programme and dissemination of project experience/best practices/lessons learned for replication throughout the country. | * Outreach programme formulated; Project experience compiled, analyzed and disseminated. * Plan available. * Capacity development material prepared. Project experience and best practices compiled, published and available on website. | *Partially completed:*   * Regularly updated Web-site [www.greenenergy.kg](http://www.greenenergy.kg)developed provides information on project and13 potential SHP projects * Gender research conducted and published on three languages; * Published collection of normative acts of energy sector distributed to more than 100 specialists * A number of articles and interviews published in local media including electronic media; * Seminars and round-table discussions organized. |

## Project Design and Relevance

### Project Relevance and Country Drivenness

There is strong relevance of this Project to the GoK’s Small Hydro Development Strategy and towards poverty reduction where SHPPs and smaller hydropower plants will be able to supply power to the many areas whose population is below the poverty line and not serviced by the national power grid. Moreover, *the Project is relevant to Kyrgyzstan’s developmental priorities of secure energy supplies.*

Kyrgyzstan is a signatory to the UN Framework Convention on Climate Change (UNFCCC) and ratified the Kyoto Protocol on 13 May 2003. Kyrgyzstan has also established a Designated National Authority (DNA) to participate in the CDM. Therefore the project design and objectives were aligned with the national and regional environmental and economic priorities that existed at the time.

The project design and startup coincided with a turbulent period in the country and the establishment of the new government and new economic and political reforms. This came with frequent changes in personnel in key government positions. Therefore securing the participation of higher ranking Government officials and decision makers was not easy. While the Project Board took more than a year to be established, two Board meetings have been held in December 2011 and July 2012.

**In summary, country ownership and drivenness for this Project appears to be strong enough at this time.**

### Project Design and Implementation Approach

The Project design and implementation approach were developed during project preparations, and when the GoK approved the long-term strategy for SHP development and the short-term measures for its implementation. The power supply in many regions was characterized by frequent load shedding. Consequently, many households and enterprises were forced to switch to individual diesel generators to provide for back-up power when grid supply was not available. Therefore, the GoK was strongly motivated to increase and diversify its generation capacity through SHP plants and was driven by an acute energy crisis and related socio-economic concerns. For this purpose among others, the Directorate for Small and Medium-scale Power Projects in Kyrgyzstan was established with a mandate to support and promote investment in SHP by providing a full range of information, technical and advisory services to potential investors. DSMP, however, did not have enough capacity to promote the SHP development and its strengthening was one of the objectives of the Project.

The Project was designed to assist the GoK in streamlining its approaches to SHP development from its promotion to regulatory support and quality assurance of actual SHP investment submissions. Technical assistance from the Project was provided to GoK agencies to fill in gaps and strengthen various approval processes as identified in the Prodoc. Prior to the start of the Project the investors of 5 SHP projects have had signed agreements with GoK and committed investments for their implementation. Therefore, Project design did not consider any financial component; assistance to investors was limited to TA in preparation feasibility studies.

Implementation approaches to the Project have been strategic and conducted in a participatory manner based on close collaborative working relationships between stakeholders (mainly GoK including DSMP) and Project officers. A consequence to this approach has been support of GoK on the removal of barriers that has the impact of raising private sector confidence and interest in SHP investments. The MTE Team has observed that practically all stakeholders were positive in their assessment of a role of Project in creating the favorable business environment for SHP.

Implementation approaches to the Project included:

* Project startup concurrent with:
  + dialogue with GoK on the legal and regulatory framework;
  + building capacity of MoE, DSMP and potential investors to SHP projects;
  + preparing feasibility studies for pilot projects
* Construction of SHPPs; and
* Completion of Project by Year 4 with the dissemination of Project experiences and lessons learned to enhance replication.

While this approach is conducive to market transformation objectives of the Project, the level of effort for capacity building and technical assistance appears deficient: Project technical support for the SHPP projects has only been extended to preparing full feasibility studies. However, no project technical support has been extended yet to detailed design and construction supervision. These are components of the project cycle that carry considerable risk in terms of failure to meet international standards of project implementation;

**In conclusion, Project design and implementation approach has been leading to some of the Project’s intended outputs being achieved within a 2 year period of a project.**

## Project Implementation Arrangements

### Stakeholder Involvement, Linkages to Project and Other Interventions in Sector

The main stakeholders of the Project include governmental organizations, SHP project developers, NGOs and technical experts involved in the project implementation and related activities, SHP investors, donor agencies active in Kyrgyzstan's SHP sector. More specifically, Relevant Committees of the Parliament; Ministry of Energy; Ministry of Economy; State Administration for Energy Security; JSC Electric Power Plants; JSC National Electricity System of Kyrgyzstan; Imenite Ibragimov Ltd; MECAMEDI-Kalininskaja HPP Ltd; JSC Inkraft; Environmental movement BIOM; Department of Non-traditional and Renewable Energy of the Kyrgyz-Russian Slavik University; Private Entrepreneurs, etc. The Project has ensured participation of most of the stakeholders in implementation of Outcome 1; Project promoted the building of capacity of stakeholders; the Project results were disseminated to them.

The EBRD project “Strategic planning of Small and Medium HPPS development”, under which feasibility studies for rehabilitation of 4 SHPP were conducted, also focused on SHP promotion.

Given the broad range of stakeholder involvement and their contributions to the planning of the project, Stakeholder Participation in the Project Formulation phase is rated as Satisfactory**.**

### Management, Monitoring and Evaluation, Identification and Management of Risk

Management and M&E of the Project has been adequate based on a review of the Project PIRs that provide a clear picture of Project accomplishments and delays, risks and follow-up actions to mitigate risks. There is strong evidence of adaptive management during the project implementation as contained in the PIRs, interviews, project documents, and actions taken after the Project Inception Report in December 2011. While it appears some actions could have been implemented more quickly by the Project Team, some of the problems were outside the control or influence of the Project.

## Project Budget and Cost Effectiveness

Table 2 provides an overview of expenditures of the Project budget of USD 431,094[[5]](#footnote-5) to December 12, 2012. To date, about 45.4% of the Project budget has been expended. This leaves roughly USD 519,000 remaining in the budget (or about 54.6% of the total budget) to complete all Project activities. It must be noted that some budget lines have been added to the original budget; however, the expenditures under those budget lines (USD 29,229) represent only 6.78% of the total expenditures during 2010-2012. Considering the achievements of the Project to date, the cost effectiveness of the Project has been adequate.

Current co-financing that is confirmed for the Project is USD 100,000 from UNDP TRAC funds and USD 392,251 financed by the UN Fund (DaO) for the Activity 7 (Component 6), which as mentioned above, is not included in the scope of this MTE.

**Table 2: Project Budget and Expenditures (2010-2012)**

| **Fund ID** | **Donor** | **Budget line** | **Budget Description** | **Budget, USD** | **2010** | **2011** | **2012 (to December 12)** | **Remaining** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Outcome 1: Streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for small hydropower development** | | | | | | | | |
| 62000 | GEF | 71200 | International Consultants | 131,650 | 0.00 | 59,780.00 | 30,000.00 | 41,870.00 |
| 71300 | Local Consultants | 27,250 | 2,000.00 | 13,400.00 | 19,962.85 | -8,112.85 |
| 71600 | Travel | 6,600 | 1,453.24 | 479.86 | 5,433.92 | -767.02 |
| 72100 | Contractual Services - Companies | 0 | 0.00 | 4,182.49 | 343.68 | -4,526.17 |
| 72500 | Supplies | 0 |  |  | 104.52 | -104.52 |
| 72800 | Information Technology Equipment | 0 | 0.00 | 0.00 | 320.37 | -320.37 |
| 73100 | Rental & Maintenance-Premises | 0 |  |  | 769.82 | -769.82 |
| 74100 | Professional Services | 0 |  |  | 64.45 | -64.45 |
| 74200 | Audio, video and print production costs | 2,500 | 279.72 | 715.31 |  | 1,504.97 |
| 74500 | Miscellaneous Expenses | 0 | 0.00 | -52.71 |  | 52.71 |
| 76100 | Foreign Exchange Currency Loss/Gain | 2,000 | 0.00 | 133.66 |  | 1,866.34 |
|  |  |  | **Total Outcome 1** | **170,000** | **3,732.96** | **78,638.61** | **56,999.61** | **30,628.82** |
| **Outcome 2: Capacity available within DSMP to evaluate the economic and financial viability of small hydropower projects and within the Ministry’s RE Unit to monitor and enforce regulations related to SHP** | | | | | | | | |
| 62000 | GEF | 71200 | International Consultants | 54,650 | 0.00 | 0.00 | 9,966.00 | 44,684.00 |
| 71300 | Local Consultants | 32,750 | 5,200.00 | 20,427.07 | 17,330.03 | -10,207.10 |
| 71400 | Contractual Services - Individuals | 0 | 0.00 | 4,315.67 |  | -4,315.67 |
| 71600 | Travel | 19,600 | 0.00 | 0.00 | 25,688.21 | -6,088.21 |
| 72100 | Contractual Services - Companies | 55,000 | 0.00 | 0.00 | 193.27 | 54,806.73 |
|  |  | 72200 | Equipment and Furniture | 0 |  |  | 402.44 | -402.44 |
|  |  | 72400 | Communic & Audio Visual Equip | 0 |  |  | 3,074.30 | -3,074.30 |
|  |  | 72500 | Supplies | 0 |  |  | 478.85 | -478.85 |
|  |  | 72800 | Information Technology Equipment | 32,000 | 14,715.38 | 4,072.32 | 945.43 | 12,266.87 |
|  |  | 73100 | Rental & Maintenance-Premises | 0 |  |  | 212.54 | -212.54 |

| **Fund ID** | **Donor** | **Budget line** | **Budget Description** | **Budget, USD** | **2010** | **2011** | **2012 (to December 12)** | | **Remaining** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | 74200 | Audio, video and print production costs | 6,000 | 1,504.17 | 3,730.29 | 2,621.16 | | -1,855.62 |
|  |  | 76100 | Foreign Exchange Currency Loss/Gain | 0 | 0.00 | -4.60 |  | | 4.60 |
|  |  |  | **Total Outcome 2** | **200,000** | **21,419.55** | **32,540.75** | **60,912.23** | | **85,127.47** |
| **Outcome 3: Capacity available to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services** | | | | | | | | | |
| 62000 | GEF | 71200 | International Consultants | 40,650 | 0.00 | 0.00 |  | 40,650.00 | |
| 71300 | Local Consultants | 27,750 | 3,000.00 | 16,829.00 | 8,539.57 | -618.57 | |
| 71400 | Contractual Services - Individuals | 0 | 0.00 | 0.00 |  | 0.00 | |
| 71600 | Travel | 17,600 | 0.00 | 4,540.38 | 15,555.93 | -2,496.31 | |
| 72100 | Contractual Services - Companies | 15,000 | 0.00 | 238.62 | 403.83 | 14,357.55 | |
|  |  | 72500 | Supplies | 0 | 220.19 | 0.00 |  | -220.19 | |
|  |  | 72800 | Information Technology Equipment | 45,000 | 0.00 | 14,938.33 |  | 30,061.67 | |
|  |  | 73100 | Rental & Maintenance-Premises | 0 |  |  | 86.08 | -86.08 | |
|  |  | 73400 | Rental & Maintenance of Other Equipment | 0 | 2,198.92 | 0.00 |  | -2,198.92 | |
|  |  | 74200 | Audio, video and print production costs | 0 | 0.00 | 139.98 |  | -139.98 | |
|  |  | 74500 | Miscellaneous Expenses | 4,000 | 0.00 | 112.07 |  | 3,887.93 | |
|  |  | 76100 | Foreign Exchange Currency Loss/Gain | 0 | 0.00 | -305.98 |  | 305.98 | |
|  |  |  | **Total Outcome 3** | **150,000** | **5,419.11** | **36,492.40** | **24,585.41** | **83,503.08** | |
| **Outcome 4: Full feasibility and technical design studies for 5 small hydropower sites followed by construction of power stations** | | | | | | | | | |
| 62000 | GEF | 71200 | International Consultants | 72,650 | 0.00 | 0.00 | 9,980.00 | 62,670.00 | |
| 71300 | Local Consultants | 24,750 | 1,800.00 | 5,800.00 | 17,368.20 | -218.20 | |
| 71400 | Contractual Services - Individuals | 14,600 | 0.00 | 0.00 |  | 14,600.00 | |
|  |  | 72100 | Contractual Services - Companies | 180,000 | 30,847.49 | 0.00 | 3,077.32 | 146,075.19 | |
|  |  | 74200 | Audio, video and print production costs | 0 | 0.00 | 0.00 | 872.47 | -872.47 | |
|  |  | 74500 | Miscellaneous Expenses | 8,000 | 0.00 | 949.98 |  | 7,050.02 | |
|  |  |  | **Total Outcome 4** | **300,000** | **32,647.49** | **6,749.98** | **31,297.99** | **229,304.54** | |
| **Outcome 5: Outreach programme and dissemination of project experience/best practices/lessons learned for replication throughout the country** | | | | | | | | | |
| 62000 | GEF | 71200 | International Consultants | 38,650 | 0.00 | 0.00 |  | 38,650.00 | |
| 71300 | Local Consultants | 26,750 | 0.00 | 2,400.00 | 1,244.30 | 23,105.70 | |
| 71400 | Contractual Services - Individuals | 0 | 0.00 | 1,628.40 | 4,413.29 | -6,041.69 | |
| 71600 | Travel | 8,600 | 0.00 | 2,983.04 | 4,104.42 | 1,512.54 | |
|  |  | 72100 | Contractual Services - Companies | 0 | 0.00 | 0.00 | 1,611.90 | -1,611.90 | |
|  |  | 72500 | Supplies | 0 | 0.00 | 0.00 | 1,147.72 | -1,147.72 | |
|  |  | 72800 | Information Technology Equipment | 0 | 0.00 | 274.50 |  | -274.50 | |
|  |  | 74200 | Audio, video and print production costs | 6,000 | 1,504.07 | 110.06 | 881.10 | 3,504.77 | |
|  |  | 76100 | Foreign Exchange Currency Loss/Gain | 0 | 0.00 | -0.61 |  | 0.61 | |
|  |  |  | **Total Outcome 5** | **80,000** | **1,504.07** | **7,395.39** | **13,402.73** | **57,697.81** | |
| **Outcome 6: Project Management** | | | | | | | | | |
| 62000 | GEF | 71400 | Contractual Services - Individuals | 47,675 | 3,275.00 | 791.20 |  | 43,608.80 | |
|  |  | 71500 | UNV | 0 |  |  | -870.32 | 870.32 | |
|  |  | 72100 | Contractual Services - Companies | 0 | 0.00 | 3,300.00 |  | -3,300.00 | |
| 72400 | Communic & Audio Visual Equip | 0 | 325.00 | 0.00 |  | -325.00 | |
| 74500 | Miscellaneous Expenses | 2,325 | 2,380.80 | 4,951.00 | 3,226.88 | -8,233.68 | |
| 76100 | Foreign Exchange Currency Loss/Gain | 0 | -23.80 | -0.08 |  | 23.88 | |
|  |  |  | **Total Management** | **50,000** | **5,957.00** | **9,042.12** | **2,356.56** | **32,644.32** | |
|  |  | **PROJECT TOTAL** | | **950,000** | **70,680.18** | **170,859.25** | **189,554.53** | **518,906.04** | |

### Evaluation of Project

Table 3 provides an evaluation of the current outcomes of each Project output. Each output was evaluated against individual criterion of:

* *Relevance* – the extent to which the activity is suited to local and national development priorities and organizational policies, including changes over time.
* *Effectiveness* – the extent to which an objective has been achieved or how likely it is to be achieved.
* *Efficiency* – the extent to which results have been delivered with the least costly resources possible.
* *Results/impacts* – the positive and negative, and foreseen and unforeseen, changes to and effects produced by a development intervention. In GEF terms, results include direct project outputs, short-to medium term outcomes, and longer-term impact including global environmental benefits, replication effects and other, local effects.
* *Sustainability* – the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. Projects need to be environmentally as well as financially and socially sustainable.

The Project outputs were rated based on the following scale:

* *Highly Satisfactory (HS)*: The project has no shortcomings in the achievement of its objectives;
* *Satisfactory (S)*: The project has minor shortcomings in the achievement of its objectives;
* *Moderately Satisfactory (MS)*: The project has moderate shortcomings in the achievement of its objectives;
* *Moderately Unsatisfactory (MU):* The project has significant shortcomings in the achievement of its objectives;
* *Unsatisfactory (U)* The project has major shortcomings in the achievement of its objectives;
* *Highly Unsatisfactory (HU):* The project has severe shortcomings in the achievement of its objectives.

**The overall rating of the Project is MS**, mainly due to Project delays related to encountering or delays that were largely beyond the control of the Project during the development of the legal framework and SHP pilot process

**Table 3: Summary Evaluation of Project**

| **Project Strategy** | **Relevance** | **Efficiency** | **Effective-ness** | **Overall Rating** |
| --- | --- | --- | --- | --- |
| **Outcome 1:** Streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for small hydropower development | S | S | MS | S |
| **Outcome 2:** Capacity available within DSMP to evaluate the economic and financial viability of small hydropower projects and within the Ministry’s RE Unit to monitor and enforce regulations related to SHP | S | MS | MS | MS |
| **Outcome 3:** Capacity available to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services | MS | S | MS | MS |
| **Outcome 4:** Full feasibility and technical design studies for 5 small hydropower sites followed by construction of power stations | S | MS | MU | MS |
| **Outcome 5:** Outreach programme and dissemination of project experience/best practices/lessons learned for replication throughout the country | S | S | MS | S |
| **Monitoring and Evaluation** | S | S | S | S |
| **Overall Rating** |  |  |  | **MS** |

## Sustainability and Replicability

### Sustainability

In assessing the sustainability of the project, we asked “how likely will Project outcomes (from the 2010 Prodoc) be sustained after termination of the Project”. Sustainability of these objectives was evaluated in the context of financial resources, socio-political risks, institutional framework and governance and environmental factors, using a simple ranking scheme:

* *Likely (L):* very likely to continue and resources in place;
* *Moderately Likely (ML):* model is viable, but funding or resources may not be in place;
* *Moderately Unlikely (MU):* model is not viable or needs changing; and/or resources not in place; and
* *Unlikely (U):* model is not viable and resources are not in place

The evaluation for sustainability is shown on Table 4. It is important to note that the index is simply to facilitate an assessment of future sustainability and is not a rating of project management and their consultants. Instead, it is a rating of the project design and viability going forward, including availability of budget and resources for continuation.

Project sustainability is **likely**:

* Practically all stakeholders interviewed had a positive view of the Project and the outputs of the Project that have accelerated development of the enabling environment for SHP investments in Kyrgyzstan and asked UNDP Project to continue their efforts; Thus the Project will need to provide continued support to sustain policy dialogue with the GoK until the end of the Project on tariffs and other RE issues;
* GoK is supporting increase of generation tariff for SHP that will encourage and sustain the development of SHP after the completion of the Project;
* Majority of SHP project developers represent international companies in partnership with local firms.

| **Table 4: Assessment of Sustainability for Objectives** | | |
| --- | --- | --- |
| **Outcome** | **Assessment of Sustainability** | **Dimensions of Sustainability** |
| **Outcome 1:** Streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for small hydropower development**.**  **This includes:**  **Output 1.1:** Report streamlining land tenure, water use rights and review of Law on Renewable Energy to define/redefine role of DSMP  **Output 1.2:** Procedures for the introduction of competition in the award of sites/concessions for development  **Output 1.3:** Standard PPA to facilitate DSMP negotiations with IPPs  **Output 1.4:** One-stop shop for issuance of construction licenses and permits to developers | * *Financial Resources*: Financial resources are likely available to sustain new SHPP policies and regulations; * *Socio-Political Risks*: Thus far there are no practices for the development of SHP under the improved business environment that among others considers significantly higher generation tariffs; there are still socio-political risks that will change the current enabling investment environment (first of all, increased tariff) for SHP; * *Institutional Framework and Governance*: Institutional framework to regulate SHP will support the sustained growth of SHP investments after the completion of the Project; * *Environmental Factors*: Environmental impacts of SHP projects are considered benign.   ***Overall Rating*** | L  ML  L  L  **L** |
| **Outcome 2:** Capacity available within DSMP to evaluate the economic and financial viability of small hydropower projects and within the Ministry’s RE Unit to monitor and enforce regulations related to SHP. **This includes:**  **Output 2.1:** Suitable methodology for the economic/financial evaluation of small hydropower plants  **Output 2.2:** Standard financial evaluation methodology for calculating small hydropower tariffs to be paid to IPPs/to be charged to consumers  **Output 2.3:** Financial and other incentives to be provided to project developers  **Output 2.4:** Guarantee and risk mitigation instruments that facilitate IPP investment  **Output 2.5**: PIN and PDD to pursue options under CDM  **Output 2.6:** Capacity developed within the Ministry’s RE Unit to monitor and enforce regulations related to SHP | * *Financial Resources*: Possibility that there are insufficient financial resources at MoE to continue developing the methodologies and also incentives for SHP investors; * *Socio-Political Risks*: There is no such a risk envisaged; * *Institutional Framework and Governance*: The recent developments showed that the Institutional Framework may be *changed. In spite of* stable political situation the certain risk remains; * *Environmental Factors*: Environmental impacts of SHPP projects are considered benign.   ***Overall Rating*** | ML  L  ML  L  **ML** |
| **Outcome 3:** Capacity available to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services**. This would include:**  **Output 3.1:** Programme for updating the 30-year old hydrological data  **Output 3.2:** Guidelines and technical standards for small hydropower development  **Output 3.3:** Capacity developed within DSMP to design, evaluate and implement projects  **Output 3.4:** Local capacity for maintenance and repair services | * *Financial Resources*: With the creation of the enabling environment for SHP development, financing of SHP projects will be not an issue; * *Socio-Political Risks*: There is some risk that there will not be sufficient capacity unless there is strong domestic and international investor interest in SHP development. Only after development of such strong interest the capacity to develop and operate SHPPs will be sustained; * *Institutional Framework and Governance*: With increased interest in SHP development, a strengthened institutional framework is likely to be sustained; * *Environmental Factors*: Environmental impacts of SHPP projects are considered benign.   ***Overall Rating*** | L  ML  L  L  **L** |
| **Outcome 4:** Full feasibility and technical design studies for 5 small hydropower sites followed by construction of power stations. **This would include:**  **Output 4.1:** Reports on feasibility and design studies  **Output 4.2:** Reports on financial closure with identified investors  **Output 4.3:** Report on completion of construction of the 5 hydropower stations   * procedures and models adapted based on experience * tenders prepared for second phase of new sites. | * *Financial Resources*: Financial resources of the Project will be available to maximum 2 full feasibility and technical design studies for those ones, financing of which will be closed; for other projects this might be problematic; * *Socio-Political Risks*: In principle, the strong political support for SHP development can be expected; * *Institutional Framework and Governance*: Institutional framework for maintaining the SHP development including construction and operation is likely to be sustained; * *Environmental Factors*: Environmental impacts of SHPP projects are considered benign.   ***Overall Rating*** | ML  ML  L  L  **L** |
| **Outcome 5:** Outreach programme and dissemination of project experience/best practices/lessons learned for replication throughout the country. **This would include:**  **Output 5.1:** Plan to implement outreach/promotional activities targeting domestic and foreign investors  **Output 5.2:** Capacity development of DSMP to monitor and document project experience  **Output 5.3:** Published materials on project experience/best practices and lessons learned | * *Financial Resources*: Financial resources for maintaining Web likely will be available; * *Socio-Political Risks*: No such risks envisaged; * *Institutional Framework and Governance*: RE website developed by the Project, which is used to disseminate information on SHP sites is likely to be sustained; * *Environmental Factors*: Environmental impacts of SHPP projects are considered benign.   ***Overall Rating*** | L  ML  L  L  **L** |

### Replicability

The Project design provides activities to ensure project replication at a national and regional level. Replication, however, can only be assumed if the development of renewable energy projects has been efficiently implemented to an international standard. With remaining Project resources, Project personnel will need to maintain the momentum of SHP development and strengthening SHP project implementation replication potential by:

* Careful planning and design of SHPPs;
* Providing construction management oversight to ensure adherence to budget, schedule and quality of SHPP construction;
* Diligent operation and maintenance of SHP projects to reduce the risks of disruption of revenue streams; and
* Sharing Project experiences of SHP development through various dissemination activities and postings on the website.

# conclusions and recommendations

## Conclusions

The Project has made contribution towards the creation of a favorable legal and regulatory environment for developing SHP investments. This includes assistance to formulate changes and additions to the existing laws, methodologies and by-laws on tariff determination for RE, and guidelines for SHP developers on technical and financial issues. Though the creation of enabling environment for SHPP investment has not yet been finalized, the current activities of the Project ensure there will be greater likelihood of completion[[6]](#footnote-6).

Project delays have been beyond the control of the Project and were mainly related to the events related to political instability in Kyrgyzstan during the period of April to June 2010. This resulted in back-off to the pre-project situation towards the legal and regulatory framework of SHP development and the withdrawal of investors from the investment commitments.

The Project, however, is now entering a phase where SHP pilot projects are being properly planned and implemented in a manner to demonstrate the feasibility of SHP private investments in a Kyrgyz business environment. There are at least 2 to 3 SHP investment projects that are already being undertaken by SHP investors, using (approaching for) technical assistance being offered by the Project, and taking advantage of the enabling environment for SHP that was developed by the Project. The pre-MTE focus of the Project as recommended in the Inception Report was implementing 2 to 3 community-based mini-HPP projects that are financed through grants; this is not a preferred approach as it will not lead to any sustainable development of SHPPs after the completion of this Project.

Considering that the Project has USD 518,906 remaining in its budget as of December 12, 2012 that could be used for additional TA, the Project should be able to complete its activities over the a 3-year period ending December 2015.

Prospects for sustainability on this Project are based on the following issues:

* Project efforts to support pilot SHP project implementation using best international practices and demonstrating reliable revenue streams;
* The Project design provides activities to ensure project replication. Replication, however, can only be assumed if the development of SHP pilot projects has been efficiently implemented using best international practices. As such, the Project lacks adequate safeguards that would increase the likelihood of implementation to international standards. These safeguards would include Project resources for building local SME capacity to an international standard for:
  + Planning and design of SHPPs;
  + Construction management that is on schedule and with budgets, and ensures quality control over construction activities;
  + Diligent operation and maintenance to reduce the risks of disruption of revenue streams; and
  + Dissemination activities to share the Project experiences of SHP developments.

## Recommendations

The original 4-year duration of the Project was a reasonable timeframe to complete all activities. Unfortunately, the activities of Outcome 1 (Streamlined legal and regulatory framework for SHP development) were delayed during Year 1 of the Project; this delayed the start of Outcome 4 (Full feasibility and technical design studies of 5 SHP projects) that would have required 2 years for completion. The terminal date of the Project is now scheduled to December 2015.

Since the legislative changes (especially mechanisms) have not yet been finalized, there are the following possible scenarios for the financing of pilot SHPPs

* **Scenario A**: The legal mechanisms become operational in 2013 and first pilot projects to be able to start in 2013;
* **Scenario B**: The legal mechanisms do not become operational in 2013 but UNDP successfully finds pilot investment projects to implement under the current regulatory regime; and
* **Scenario C**: The legal mechanisms do not become operational in 2013 and UNDP does not find pilot investments

Scenario A is the likeliest outcome since the ongoing improvements to the legal and regulatory framework have been completed and in many cases, approved; and investors of potential pilot projects will be able to secure SHP project financing. If construction of the first SHPP is started in 2013 and the second one in early 2014, the Project will need another year for monitoring of construction SHPP operational performance.

Nevertheless, the likelihood of Scenarios B and C as the Project outcome cannot be excluded. Therefore, it is recommended that the Project makes a determination by June-July 2013, how the Project will implement its pilot SHP projects:

* If Scenario A is applicable, the Project should provide TA to CACI for the 18 MW greenfield SHP project and/or to “Iminite Ibragimov” for the 600 kW SHP Greenfield project and/or (other SHP projects, investment decision for which is made also can be considered);
* If Scenario B is applicable, the Project should provide TA to “Iminite Ibragimov” for its 600 kW SHP Greenfield project[[7]](#footnote-7) and for 2 to 3 pre-feasibility studies for the most promising SHP projects; and
* If Scenario C is applicable, provide TA for construction oversight and ownership transfer for the 70 kW Greenfield HPPs to the selected communities.

Based on current progress, the Project will require an extension of 2 years beyond December 2013 and a new terminal date of December 31, 2015 to be able complete all activities (for Scenarios A, B and C). As such, remaining resources of the Project will need to be utilized until the new terminal date of December 31, 2015 as follows:

The remaining resources of the Project are recommended to be used to:

1. *For Outcomes 1 and 2, c*ontinue development of legal and regulatory framework to encourage RE investments. It is very essential that when necessary, the policy development be continued after the Project end that would be ensured only if there is a capacity within the GoK and first of all MoE, for that. As such, the Project should consider additional capacity building activities to the MoE in order to better structure the Ministry, identify the main development goals and development long-term and short-term strategies for their achievement. Among others the Project may consider to provide short-term advisory service to the Ministry (e.g. short-term International Advisor may be designated to the Minister/Ministry) for SHP development.
2. *For Outcome 4, Develop a short-list of the pilot project candidates and select maximum 3 SHPs (regardless the type of project, whether it is rehabilitation or a new construction) for further investigations and financing*. The selection criteria should be elaborated and among others include technical audit of the proposed concept (pre-feasibility study) – it is very important pilot project to have a sound technical layout; due diligence of the investor company - only financially strong companies with experience in similar activities will be able to implement SHP project under the current circumstances when there is no practical experience in SHP financing, especially with involvement of private banks. In order to avoid inefficient expenditure of the Project resources, it is recommended to sign initially informal letter (e.g. LoI, MoU) with the investors and later some kind of Cooperation Agreement. Otherwise it may happen that the Project will provide TA and for whatever reason the project would not be financed. In parallel, the Project is encouraged to enter into the active discussion with the banks and explore possibilities of activation of their role in SHP development.
3. *For Outcome 3, continue to provide capacity building and TA to selected pilot projects on the full project development cycle* including:
   * preparation of pre-feasibility studies;
   * preparation of feasibility studies;
   * technical oversight for detailed design;
   * construction supervision and management. This assistance would include the services of a qualified construction manager, rigorous inspection routines, innovative contracting arrangements that build local capacity; and
   * operations and maintenance.

This support is intended to ensure the first projects demonstrate international best practices for SHP implementation, construction management, quality control and SHP operations and maintenance.

## Lessons Learned

Key lessons from this project include:

* For projects having objectives in the area of sustainable energy policy changes, high-level government commitment and willingness is a condition for the change to actually happen;
* If the developed RE policy/strategy is not based on comprehensive analysis not only energy demand and technically feasible resources, but also general investment climate, existence of liberalized market, capacity to develop RE projects including SHP, environmental and social factors (that among others may prevent introducing of higher tariffs), the implementation of the Strategy even it is approved by the Government cannot be ensured;
* In the changing environment for the Project implementation application of adaptive management tools was necessary for achievement of the identified objectives and among them the adjustment of implementation plan. Combination of Project Management Team expertise and advise provided by the International Consultant, was a good practice towards the development of legal and regulatory framework for SHP development;
* In order to prevent the cancellation or at least suspension of the Project, the Inception Report suggested the implementation of community owned mini HP projects under the grant financing. However, after careful screening of the potential investors a number of pilot investment projects have been identified. The lessons learned is that even under the unfavorable business environment there might be potential investors ready to undertake a risk and the cooperation with them may play a crucial role in the Project implementation (e.g. without strong willingness of C.A.C.I, Imenite Ibragimov, DSMP and established cooperation with the Project, unlikely MTE would recommend the extension of the Project).

# Appendix A – Terms of Reference

Mid-Term Evaluation of UNDP-GEF project

# Small Hydro Power Development

# INTRODUCTION

This Mid Term Evaluation (MTE) is initiated by the UNDP Kyrgyzstan as the Implementation Agency for this project and it aims to provide managers (at the Project Implementation Unit, UNDP Kyrgyzstan Country Office and UNDP-GEF levels) with strategy and policy options for more effectively and efficiently achieving the project’s expected results and for replicating the results. It also provides the basis for learning and accountability for managers and stakeholders.

This evaluation is to be undertaken taking into consideration the GEF Monitoring and Evaluation policy **(**<http://thegef.org/MonitoringandEvaluation/MEPoliciesProcedures/mepoliciesprocedures.html>**) and the UNDP-GEF Monitoring and Evaluation Policy (**<http://www.undp.org/gef/05/monitoring/policies.html>**).**

The MTE is intended to identify potential project design problems, assess progress towards the achievement of objective, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP-GEF projects), and to make recommendations regarding specific actions that might be taken to improve the project. It is expected to serve as a tool of validating or filling the gaps in the initial assessment of relevance, effectiveness and efficiency obtained from monitoring. The MTE provides the opportunity to assess early signs of project success or failure and prompt necessary adjustments.

The evaluation will play a critical role in the future implementation of the project by providing advice on: (i) how to strengthen the adaptive management and monitoring function of the project; (ii) how to ensure accountability for the achievement of the GEF objective;[[8]](#footnote-8) (iii) how to enhance organizational and development learning; and (iv) how to enable informed decision - making.

The evaluation will have to provide to the GEF Secretariat with complete and convincing evidence to support its findings/ratings. The evaluator should prepare specific ratings on specific aspects of the project, as described in the section IV of this Terms of Reference. Particular emphasis should be put on the current project results and the possibility of achieving the objective and outcomes in the established timeframe, taking into consideration the speed, at which the project is proceeding.

# Project overview

# Project document signature date is January 2010. Due to the political situation in Kyrgyzstan the project has started in June 2010 and expected completion date is December 2013. The Inception workshop was organized in November 2011. First Project Board meeting conducted in December 2011 where it was proposed to extend the duration of the project till December 2014, on a no-cost basis. The project is 4 years.

# The total project budget is US$ 22,230,000:

# GEF grant financing US$ 950,000;

# UNDP US$ 100,000;

# Government in kind contribution – US$ 800,000;

# MDG Carbon Facility -US $ 280,000;

# UNDP-EU IWRMP-US $ 200,000;

# Private sector – US$ 20,000,000).

The overall **objective** of this project is to accelerate sustainable small hydropower (SHP) electricity generation in Kyrgyzstan by leveraging $ 20 million in private sector investment over its four-year implementation period. This, in turn, is expected to generate global benefits of almost 250,000 tons of CO2 over the same period and almost 113,000 tons CO2/yr thereafter in avoided greenhouse gas (GHG) emissions. The project will do this by introducing a competitive private power framework to supply the grid with SHP-generated electricity at market-determined prices, assist the Government in closing private sector funded SHP investments. It is envisaged that this project will permit Kyrgyzstan to exploit a substantial portion of the 570-900 MW of its potential SHP capacity.

The project is designed to implement five components:

**Component 1:** To formulate a streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for small hydropower development in the country. The expected outputs under this component are:

* Adoption and implementation of new policies streamlining land tenure and water use rights for small hydro power developers;
* Revision of the Law on Renewable Energy to define/redefine role of the Ministry of Energy and its Directorate for Small and Medium-scale Power Projects in the Kyrgyz Republic (DSMP).
* Procedures for the introduction of competition in the award of sites/concessions for development.
* Standard PPA to facilitate DSMP negotiations with IPPs.
* One-stop shop for issuance of construction licenses and permits to developers.

**Component 2:** To develop capacity within DSMP to effectively address institutional issues and to evaluate the economic and financial viability of small hydropower projects, especially within the context of a least cost planning approach and to build capacity within the Ministry’s RE Unit to monitor and enforce regulations related to SHP. The expected outputs are:

* Suitable methodology for the economic/financial evaluation of small hydropower plants.
* Standard financial evaluation methodology for calculating SHP tariffs to be paid to IPPs and the tariffs to be charged to consumers, taking account the operating and investment recovery costs of project developers.
* Incentives to be provided to project developers such as reduction/elimination of import duties/taxes on equipment, income tax holiday for a specific duration, simplification of foreign exchange regulations, making it a requirement for distribution companies to purchase all electricity generated by SHP, establishing a portfolio to be eventually occupied by SHP in the electricity generation mix (a sort of SHP generation target), grant of longer-term generation licenses valid for 40-50 years (rather than 25-30 years), simplifying EIA procedures for SHP, building or participating in building access roads to SHP sites ear-marked for development. All these will be operationalised by the Ministry of Energy in consultation with other Government Departments.
* In addition, the project will explore possibilities for introduction of such risk mitigation instruments as hydropower energy production guarantee (in case power production targets are not met by developers) or insurance package to safeguard developer in case of non-payment for electricity already supplied. These instruments will be proposed following detailed assessment of risk profile of the pilot projects and discussions among the Ministry of Energy, Ministry of Finance, investors and finance/insurance entities, with the latter entrusted with responsibility to operationalize and manage the scheme. No GEF funds are to be used to capitalize or cover the additional costs of the guarantees.
* Develop and validate power sector baseline study and GHG emission factor for Kyrgyzstan power grid to facilitate and reduce costs of SHP project development under CDM mechanism. Prepare PDD, conduct validation, and facilitate national approval, registration and signature of the Emission Reduction Purchase Agreement (ERPA) for the first CDM project activity in Kyrgyzstan, i.e. the bundle of SHP projects for a total of 200 MW. The list of SHP projects for inclusion in CDM package is currently being discussed with the Directorate and potential investors; it will not include the pilot SHP projects (20 MW) to be supported via the proposed GEF grant in order to avoid any potential double counting of the resulting GHG emission reductions.
* Capacity developed within the Ministry’s RE Unit to monitor and enforce regulations related to SHP.

**Component 3:** To develop capacity within DSMP/country to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services. The expected outputs are:

* Programme for updating the 30-year old hydrological data.
* Guidelines and technical standards for small hydropower development.
* Capacity within DSMP to design, evaluate and implement projects.
* Local capacity for maintenance and repair services.

**Component 4:** To prepare full feasibility and technical design studies for the 5 small hydropower sites listed in Table 1 below (this is a preliminary list that may be subject to change on the basis of initial studies by Cotec and Seloga as per their respective framework agreements with the Government), followed by construction of the power stations. The expected outputs are:

* Reports on feasibility and design studies.
* Reports on financial closure with identified investors.
* Report on completion of construction of the 5 hydropower stations.

**Component 5:** To formulate an outreach programme and document/disseminate project experience/best practices/lessons learned for replication throughout the country. The expected outputs are:

* Plan to implement outreach/promotional activities targeting domestic and foreign investors.
* Capacity development of DSMP to monitor and document project experience.
* Published materials on project experience/best practices and lessons learned/website.

**Table 1: List of small hydropower plants for development**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Capacity, MW** | **Output, MWh/yr** | **Type** | **Expected**  **FIRR\*** | **Pay-back\*\*** |
| Leninopolskaya | 1.6 | 11,500 | Rehab | 14.15% | 14.98 |
| Chon-Keminskaya SHPP 1 | 5 | 35,920 | New | 14% | 15.14 |
| Chon-Keminskaya SHPP 2 | 5 | 35,920 | New | 17.45 | 9.93 |
| Chon-Keminskaya SHHP-3 | 5 | 35,920 | New | 15.62 | 12.16 |
| Karakolskaya SHHP | 3 | 21,550 | New | 14.68 | 14.81 |

\* Financial Internal Rate of Return \*\* The long pay-back periods are due to the presently low feed-in tariff of 0.02-0.025 US$/kWh set by the Govt.

# EVALUATION OBJECTIVES

The MTE is initiated by UNDP Country Office in Kyrgyzstan in line with the UNDP-GEF M&E guidelines in order to assess the overall project progress, make sure the project is on track to deliver the agreed outcomes, and produce recommendations on any adjustments needed.

The purposes of the MTE are:

1. To assess overall performance against the project objective and outcomes as set out in the Project Document, project’s Logical Framework and other related documents[[9]](#footnote-9);
2. To assess effectiveness and efficiency of the project at the mid-term point;
3. To critically analyze the implementation and management arrangements of the project;
4. To assess the progress to-date towards achievement of the outcomes;
5. To review planned strategies and plans for achieving the overall objective of the project within the timeframe;
6. To assess the sustainability of the project’s interventions;
7. To list and document initial lessons concerning project design, implementation and management[[10]](#footnote-10);
8. To assess project relevance to national priorities (including achieving gender equality goals);
9. To provide guidance for the future project activities and, if necessary, for the implementation and management arrangements.

In particular, this evaluation will assess progress in establishing the information baseline, reducing threats, and identifying any difficulties in project implementation and their causes, and recommend corrective course of action. Effective action to rectify any identified issues hindering implementation will be a requirement prior to determining whether implementation should proceed further.

Project performance will be measured based on Project’s Logical Framework Matrix (see Annex 3), which provides clear performance and impact indicators for project implementation along with their corresponding means of verification. Success and failure will be determined in part by monitoring changes in baseline conditions.

Recommendations of the evaluation should also include the following gender-related criteria[[11]](#footnote-11):

* Are women and men involved into project activity equally?
* Is the project maintaining a positive gender equality situation in improving national financing of Global Environmental Management, and in sound chemicals management in particular, in Kyrgyzstan?
* Is the project enhancing visibility and awareness of gender-related issues in Environmental Management, and in sound chemicals management in particular, in Kyrgyzstan?
* Is public awareness raising campaign considered women as a target group?
* Will the project benefit to women and men equally?

The evaluation must provide evidence‐based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to Kyrgyzstan. Interviews will be held with the following organizations and individuals at a minimum:

* UNDP Country Office;
* Project Team;
* GEF OFP, BD FP;
* State agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic (SAEPF);
* The Ministry of Energy and Industry of the KR (MEI);
* Directorate for Small and Medium-scale Power Generation Projects in the Kyrgyz Republic (DSMP);
* Business sector;
* NGOs;
* Other relevant International organizations.

# SCOPE OF THE EVALUATION

The evaluation will focus on the range of aspects described below. In addition to a descriptive assessment, all criteria marked with (R) should be rated using the following divisions: *Highly Satisfactory, Satisfactory, Marginally Satisfactory, Marginally Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.* All ratings given should be properly substantiated:

**1. Project concept/design, relevance and strategy**

*1.1 Project relevance, country ownership/drivenness (R):* the extent to which the project is suited to local and national development priorities and organizational policies, including changes over time as well as the extent the activities contribute towards attainment of global environmental benefits:

1. Is the project concept in line with the sectoral and development priorities and plans of the country, including MDGs?
2. Are project outcomes contributing to national development priorities and plans?
3. How and why project outcomes and strategies contribute to the achievement of the expected results?
4. Examine their relevance and whether they provide the most effective way towards results.
5. Do the outcomes developed during the inception phase still represent the best project strategy for achieving the project objectives (in light of updated underlying factors)? *Consider alternatives.*
6. Were the relevant country representatives, from government and civil society, involved in the project preparation?
7. Does the recipient government and other stakeholders maintain their financial commitment to the project? Has the government approved policies or regulatory frameworks in line with the project’s objectives?

*1.2 Preparation and readiness:*

1. Are the project’s objective and components clear, practicable and feasible within its timeframe?
2. Were the capacities of executing institution and counterparts properly considered when the project was designed?
3. Were lessons from other relevant projects properly incorporated in the project design?
4. Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval?
5. Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?

*1.3 Stakeholder involvement (R):*

1. Did the project involve the relevant stakeholders through information-sharing, consultation and by seeking their participation in the project’s design?
2. Did the project consult and make use of the skills, experience and knowledge of the appropriate government entities, NGOs, community groups (including women’s groups), private sector, local governments and academic institutions in the design of project activities?

*1.4 Underlying factors/assumptions:*

1. Assess the underlying factors beyond the project’s immediate control that influence outcomes and results. Consider the appropriateness and effectiveness of the project’s management strategies for these factors.
2. Re-test the assumptions made by the project management and identify new assumptions that should be made.
3. Assess the effect of any incorrect assumptions made by the project.

*1.5 Management arrangements (R):*

1. Were the project roles properly assigned during the project design?
2. Are the project roles in line with UNDP and GEF programming guidelines?
3. Can the management arrangement model suggested by the project be considered as an optimum model? If no, please come up with suggestions and recommendations.

*1.6 Project budget and duration (R):*

1. Assess if the project budget and duration were planned in a cost-effective way?

*1.7 Design of project M&E system (R):*

1. Examine whether or not the project has a sound M&E plan to monitor results and track progress towards achieving project objectives.
2. Examine whether or not the M&E plan includes a baseline (including data, methodology, etc.), SMART indicators and data analysis systems, and evaluation studies at specific times to assess results and adequate funding for M&E activities.
3. Examine whether or not the time frame for various M&E activities and standards for outputs are specified.

*1.8 Sustainability:*

1. Assess if project sustainability strategy was developed during the project design?
2. Assess the relevance of project sustainability strategy

**2. Project implementation**

*2.1 Project’s adaptive management (R):*

1. Monitoring systems
   * Assess the monitoring tools currently being used:

* Do they provide the necessary information?
* Do they involve key partners?
* Are they efficient?
* Are additional tools required?
  + Assess the use of the logical framework as a management tool during implementation and any changes made to it.
  + What impact did the retro-fitting of impact indicators have on project management, if such?
  + Assess whether or not M&E system facilitates timely tracking of progress towards project’s objectives by collecting information on chosen indicators continually; annual project reports are complete, accurate and with well justified ratings; the information provided by the M&E system is used to improve project performance and to adapt to changing needs.

1. Risk Management
   * Validate whether the risks identified in the project document and PIRs are the most important and whether the risk ratings applied are appropriate. If not, explain why.
   * Describe any additional risks identified and suggest risk ratings and possible risk management strategies to be adopted.
   * Assess the project’s risk identification and management systems:

* Is the UNDP-GEF Risk Management System[[12]](#footnote-12) appropriately applied?
* How can the UNDP-GEF Risk Management System be used to strengthen the project management?

1. Work Planning
   * Assess the use of routinely updated work plans.
   * Assess the use of electronic information technologies to support implementation, participation and monitoring, as well as other project activities.
   * Are work planning processes result-based[[13]](#footnote-13)? If not, suggest ways to re-orientate work planning.
2. Financial management
   * Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions. (Cost-effectiveness: the extent to which results have been delivered with the least costly resources possible.). Any irregularities must be noted.
   * Is there due diligence in the management of funds and financial audits?
   * Did promised co-financing materialize (please fill out the co-financing form provided in Annex 1)?
3. Reporting
   * Assess how adaptive management changes have been reported by the project management.
   * Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.
4. Delays
   * Assess if there were delays in project implementation and what were the reasons.
   * Did the delay affect the achievement of project’s outcomes and/or sustainability, and if it did then in what ways and through what causal linkages?

*2.2 Contribution of Implementing and Executing Agencies:*

1. Assess the role of UNDP, The Ministry of Energy and Industry(ME) of the KR, Directorate for Small and Medium-scale Power Generation Projects in the Kyrgyz Republic (DSMP against the requirements set out in the UNDP Programme and Operations Policies and Procedures[[14]](#footnote-14). Consider:
   * Participation in Steering Committees
   * Project reviews, PIR preparation and follow-up
   * GEF guidance
   * Operational support
2. Consider the new UNDP requirements outlined in the UNDP Programme and Operations Policies and Procedures, especially the Project Assurance role, and ensure they are incorporated into the project’s adaptive management framework.
3. Assess the contribution to the project from UNDP and assistance from the Ministry of Energy and Industry(ME)of KR, Directorate for Small and Medium-scale Power Generation Projects in the Kyrgyz Republic (DSMP)(i.e. policy advice & dialogue, advocacy, and coordination).
4. Suggest measures to strengthen UNDP’s soft assistance to the project management.

*2.3 Stakeholder participation, partnership strategy (R):*

1. Assess whether or not and how local stakeholders participate in project management and decision-making. Include an analysis of the strengths and weaknesses of the approach adopted by the project and suggestions for improvement if necessary.
2. Does the project consult and make use of the skills, experience and knowledge of the appropriate government entities, NGOs, community groups, private sector, local governments and academic institutions in the implementation and evaluation of project activities?
3. Consider the dissemination of project information to partners and stakeholders and if necessary suggest more appropriate mechanisms.
4. Identify opportunities for stronger partnerships.

*2.4 Sustainability:*

1. Assess the extent to which the benefits of the project will continue, within or outside the project scope, after it has come to an end; commitment of the government to support the initiative beyond the project.
2. The evaluators may look at factors such as mainstreaming project objectives into the broader development policies and sectoral plans and economies.

The sustainability assessment will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes. The sustainability assessment should also explain how other important contextual factors that are not outcomes of the project will affect sustainability. The following four dimensions or aspects of sustainability will be addressed:

* + *Financial resources:* Are there any financial risks that may jeopardize sustenance of project outcomes? What is the likelihood of financial and economic resources not being available once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining project’s outcomes)?
  + *Socio-political:* Are there any social or political risks that may jeopardize sustenance of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project?
  + *Institutional framework and governance:* Do the legal frameworks, policies and governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems for accountability and transparency, and the required technical know-how are in place.
  + *Environmental:* Are there any environmental risks that may jeopardize sustenance of project outcomes? The terminal evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes.

On each of the dimensions of sustainability of the project outcomes will be rated as follows:

* + *Likely* (L): There are no or negligible risks that affect this dimension of sustainability.
  + *Moderately Likely* (ML): There are moderate risks that affect this dimension of sustainability.
  + *Moderately Unlikely* (MU): There are significant risks that affect this dimension of sustainability
  + *Unlikely* (U): There are severe risks that affect this dimension of sustainability.

**3. Project results (outputs, outcomes and objectives)**

*3.1 Progress towards achievement of intended outputs, outcomes/measurement of change:*

Progress towards results should be based on a comparison of indicators before and after (so far) the project intervention.

To determine the level of achievement of project outcomes and objectives following three criteria should be assessed:

* *Relevance*: Are the project’s outcomes consistent with the focal areas/operational program strategies and country priorities?
* *Effectiveness*: Are the actual project outcomes commensurate with the original or modified project objectives? In case the original or modified expected results are merely outputs/inputs then the evaluators should assess if there are any real outcomes of the project and if yes then whether these are commensurate with the realistic expectations from such a project.
* *Efficiency*: Is the project cost effective? Is the project the least cost option? Is the project implementation delayed and if it is, then does that affect cost-effectiveness? Wherever possible, the evaluator should also compare the cost-time vs. outcomes relationship of the project with that of other similar projects.

Outcomes and the whole project should be rated as follows for relevance, effectiveness, efficiency:

* *Highly Satisfactory (HS):* The project has no shortcomings in the achievement of its objectives.
* *Satisfactory (S):* The project has minor shortcomings in the achievement of its objectives.
* *Marginally Satisfactory (MS):* The project has moderate shortcomings in the achievement of its objectives.
* *Marginally Unsatisfactory (MU)*: The project has significant shortcomings in the achievement of its objectives.
* *Unsatisfactory (U):* The project has major shortcomings in the achievement of its objectives.
* *Highly Unsatisfactory (HU):* The project has severe shortcomings in the achievement of its objectives.

# EVALUATION deliverables

The core product of the Mid-Term Evaluation will be the Mid-Term Evaluation Report that includes:

* Findings with the rating on performance;
* Conclusions drawn;
* Recommendations for improving delivery of project outputs;
* Lessons learned concerning best and worst practices in producing outputs;
* A rating on progress towards outputs.

The report is proposed to adhere to the following basic structure:

1. Executive summary

* Brief description of project
* Context and purpose of the evaluation
* Main conclusions, recommendations and lessons learned

1. Introduction

* Project background
* Purpose of the evaluation
* Key issues to be addressed
* The outputs of the evaluation and how will they be used
* Methodology of the evaluation
* Structure of the evaluation

1. The project and its development context

* Project start and its duration
* Implementation status
* Problems that the project seeks to address
* Immediate and development objectives of the project
* Main stakeholders
* Results expected
* Analysis of the situation with regard to outcomes, outputs and partnership strategy

1. Findings and Conclusions

4.1 Project formulation

* + - Project relevance
    - Implementation approach
    - Country ownership/Driveness
    - Stakeholder participation
    - Replication approach
    - Cost-effectiveness
    - Sustainability
    - Linkages between project and other interventions within the sector
    - Management arrangements

4.2 Project implementation

* + - Financial management
    - Monitoring and evaluation
    - Management and coordination
    - Identification and management of risks (adaptive management)

4.3 Results

* + - Attainment of outputs, outcomes and objectives
    - Project Impact
    - Prospects of sustainability

1. Conclusions and recommendations

* Findings
* Corrective actions for the design, duration, implementation, monitoring and evaluation of the project
* Actions to strengthen or reinforce benefits from the project
* Proposals for future directions underlining main objectives
* Suggestions for strengthening ownership, management of potential risks

1. Lessons learned

* Good practices and lessons learned in addressing issues relating to effectiveness, efficiency and relevance

1. Annexes

* Evaluation TOR
* Itinerary
* List of persons interviewed
* Summary of field visits
* List of documents reviewed
* Questionnaire used (if any) and summary of results
* Comments by stakeholders (only in case of discrepancies with evaluation findings and conclusions)

The Report will be supplemented by Rate Tables, attached in Annex 4 of this TOR

The Report will include a table of planned vs. actual project financial disbursements, and planned co-financing vs. actual co-financing in this project, according the table attached in Annex 1 of this TOR

The expected length of the report is around 50 pages in total. The first draft of the report is expected to be submitted to the UNDP Country Office in Kyrgyzstan within 2 weeks of the in-country mission for subsequent circulation to the key project stakeholders for comments. Any discrepancies between the interpretations and findings of the evaluator and the key project stakeholders will be explained in an annex to the final report.

# METHODOLOGY

An outline of an evaluation approach is provided below, however it should be made clear that the evaluation team is responsible for revising the approach as necessary. Any changes should be in-line with international criteria and professional norms and standards (as adopted by the UN Evaluation Group[[15]](#footnote-15)). They must be also cleared by UNDP before being applied by the evaluation team.

The evaluation must provide evidence-based information that is credible, reliable and useful. It must be easily understood by project partners and applicable to the remaining period of project duration.

Evaluators should seek guidance for their work in the following materials, which could be found at (www.undp.org/gef):

* UNDP Handbook on Monitoring and Evaluation for Results
* UNDP/GEF M&E Resource Kit
* Measuring Results of the GEF Biodiversity Programme

It is recommended that the evaluation methodology include the following:

* Documentation review (desk study), to include Project Document, GEF Project Implementation Reviews, Minutes of the Project Steering Committee meetings, GEF quarterly project updates;
* Interviews with Project Management Unit and key project stakeholders, including UNDP Country Office in Kyrgyzstan, GEF Regional Coordination Unit in Bratislava, the state agency on environmental protection and forestry under the government of the KR, SIEG, and other stakeholders, as necessary;
* In-country field visits, if necessary.

# EVALUATION TEAM

The evaluation will be undertaken by a team composed of an *International Consultant (Team Leader)* and a *Local Consultant*. They will receive the support of UNDP Country Office and Project Management Team, and will be assisted by a translator/interpreter (when needed).

The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The *International Consultant - Team Leader* will be responsible to deliver the expected output of the mission. Specifically, he/she will perform the following tasks:

* Lead and manage the evaluation mission;
* Design the detailed evaluation methodology and plan;
* Conduct desk-reviews and interviews in order to obtain objective and verifiable data to substantive evaluation ratings and assessments, including:
  + Assessment of Annual Plan implementation;
  + Assessment of the developed recommendation on participation of the public in the management of environmental protection foundations;
  + Assessment of advanced development methodologies on the environmental protection activities and taking them into account while collecting fines for environment pollution;
  + Assessment of improvement of the methodology on collection of fines for environment pollution;
  + Assessment of the activities on discussion and coordination of the methodologies that being developed;
  + Assessment of the activities on the pilot territory for testing of the practical usage of the developed methodologies;
* Draft the evaluation report and share with the key stakeholders for comments;
* Finalize the evaluation report based on the inputs from key stakeholders.

Qualification requirements for the *International Consultant - Team Leader*:

* Advanced university degree in engineering, environmental policies and protection or other policy related areas;
* Extensive (at least 10-year) experience and proven track record with policy advice and/or project development/implementation in environment (preferably specialization in economics of nature management, and financing of environment conservation activities, experience in development and promotion of methodological approaches that strengthen financing mechanisms and capacity in the area of environmental protection);
* Proven track record of application of results-based approaches to evaluation of projects focusing on financial mechanisms in environmental protection (relevant experience in the CIS region and within UN system would be an asset);
* Familiarity with priorities and relevant international best-practices in the field, and with UNDP Gender Mainstreaming Strategy;
* Knowledge of and recent experience in applying UNDP and GEF M&E policies and procedures;
* Excellent English communication skills, knowledge of Russian would be an asset;
* Demonstrable analytical skills;
* Good interpersonal skills.

The *Local Consultant* will provide input in reviewing all the project-relevant documentation and provide the Team Leader with a compilation of information prior to the evaluation mission. Specifically, the Local Consultant will perform the following tasks:

* Review the original documents;
* Participate in the design of the evaluation methodology;
* Organize the mission program, arrange and facilitate meetings with key stakeholders;
* Provide regular translation/interpretation as necessary;
* Draft related parts of the evaluation report, as relevant;
* Assist the International Team Leader in finalizing the draft report by incorporating inputs received;
* Provide other support services for the International Team Leader.

Qualification requirements for the *Local Consultant*:

* Masters degree (or equivalent) in environmental sciences (energy, climate change, business development or related area);
* At least 5-year experience in project development and/or evaluation, preferably in the field of environment protection (preferably specialization in economics of nature management, and financing of environment conservation activities, experience in development and promotion of methodological approaches that strengthen financing mechanisms and capacity in the area of environmental protection);
* Familiarity with gender issues;
* Excellent time-management skills;
* Excellent interpersonal and communicational skills;
* Proficiency in English and Russian, Kyrgyz language is an asset;
* Prior experience with UNDP would be an asset.

# management ARRANGEMENTS

The principal responsibility for managing this evaluation lies with UNDP Country Office in Kyrgyzstan. It will be responsible for liaising with the project team to set up the stakeholder interviews, arrange the field visits, coordinate with the Government.

These Terms of Reference follow the UNDP-GEF policies and procedures, and together with the final agenda will be agreed upon by the UNDP-GEF Regional Coordinating Unit and UNDP Country Office in Kyrgyzstan. UNDP Country Office in Kyrgyzstan will receive a draft of the final evaluation report and provide comments on it prior to its completion.

The evaluation mission will take place during **26 November – 1 December 2012**. The total duration of the assignment will be 15 calendar days. The following timetable is recommended for the evaluation:

Desk review, development of methodology 2 days

Interviews with stakeholders 5 days

Drafting report 3 days

Draft report circulation 3 days

Finalization of report 2 days

The final version of the evaluation report should be submitted in electronic format (MS Word) to UNDP Country Office in Kyrgyzstan no later than December 3, 2012.

Appendix B – Mission Itinerary (for November 26 - December 1, 2012)

The mid-term evaluation mission was conducted by Mr. Paata Janelidze, International Consultant, Evaluation Team Leader and Mr. Mikhail Toropov, Local Consultant, Evaluation Team Member in accordance with the objectives of the evaluation and obtained data relevant for making judgments regarding Project success and lessons learned.

| ***November 26, 2012*** *(Monday)* | | | | | |
| --- | --- | --- | --- | --- | --- |
| **#** | **Activity** | **Stakeholder involved** | | **Place** | |
|  | Arrival of Mr. Paata Janelidze |  | |  | |
| 1 | Meeting with Directorate for Small and Medium-scale Power Generation Projects in the Kyrgyz Republic (DSMP) on DSMP activities aimed at SHP development | Valery Dil, Director;  Sergey Frants , First Deputy Managing Director | | Bishkek, DSMP Office | |
| 2 | Meeting with State Agency on Environment Protection and Forestry (EPF) under the Government of KR, GEF OFP on Project implementation | Ms. Djiparkul Bekkulova, Head of Ecology Strategy and Policy Department  Mr. Bajgobil Talangutov, Director of Environmental Regulation Centre | | Bishkek,  EPF Office | |
| 3 | Meeting with UDSS, UNDP Kyrgyzstan on Security issues | Mr. Jan Nadolsky, Security Advisor for Kyrgyzstan | | Bishkek  UN House | |
| 4 | Meeting in UNDP CO, Environment Unit CO, UNDP Kyrgyzstan | Mr. Pradeep Sharma, DRR UNDP CO; Mr. Daniar Ibragimov, Programme Analyst, Environment for Sustainable Development Unit | | Bishkek  UN House | |
| 5 | Meeting with Association of Renewable Energy on Project and NGO issues | Mr. Rysbek Satylkanov Chairmen of Association of Renewable Energy , | | Bishkek,  Project Office | |
| 6 | Meeting with “Kelechek”, Tortkul village, Issyk-kul oblast, Ton rayon on Project and beneficiary issues | Mr.Kamchibek Chotoev, Farmer | | Bishkek,  Project Office | |
| ***November 27, 2012*** *(Tuesday)* | | | | | |
| 7 | Meeting in the Ministry of Energy and Industry of the Kyrgyz Republic: Overview of Energy Sector, SHP development: strategy, achievements to date; Project issues | Mr. Aftandil Kalmambetov, Minister  Mr. Almaz Stamaliev , Head of generation and distribution Department | | MoE office | |
| 8 | Meeting with the Contractor of European Union Project on development of Small Hydro Energy and Biogas technologies in Kyrgyzstan on experience on installation micro Hydropower Units | Bakyt Kartanbaev, Association of Renewable Energy, Project Coordinator | | Bishkek,  Project Office | |
| 9 | Meeting with private companies “Kalininskay SHPP - Mecamidi” and C.A.C.I. on private sector involvement in SHP development | Mr. Yvan Louis Paul Grac, General Director  Ms. Eleonora Kazakova , Executive Director | | Bishkek, “Kalininskay SHPP - Mecamidi” office | |
| 10 | Meeting with Asian Development Bank on ADB activities in power sector in and among them SHP | Mr. Mirdin Eshenaliev , Senior Project Officer | | Bishkek, ADB office | |
| 11 | Meeting with Kyrgyz Investment and Credit Bank (KICB) on KICB activities in power sector in and among them SHP | Mr. Bakyt Kumanbekov, Chief Corporate Banking Officer | | Bishkek, KICB office | |
| 12 | Environmental NGO BIOM: discussion of Project and NGO issues | Mr. Ilya Domashov , Deputy Chair of Board  Mr. Mihail Yakovlev, Program Coordinator | | Bishkek, Project office | |
| ***November 28, 2012*** *(Wednesday)* | | | | | |
| 13 | JSC “Inkraft” – Private sector;  Ltd. Iminite Ibragimov | Mr. Igor Kuon , Director  Mr. A. Khalbekov, Director | | Bishkek, Project office | |
|  | Working on Report |  | |  | |
| ***November 29, 2012*** *(Thursday)* | | | | | |
|  | Working on Report | |  | |  |
| ***November 30, 2012*** *(Friday)* | | | | | |
| 14 | Presentation of Draft Mid Term Evaluation Report | | Partners, Environment and Disaster Risk Management UNDP CO, UNDP Programme | | Bishkek |
|  | Working on Report | |  | |  |
| ***December 1, 2012 (Saturday)*** | | | | | |
|  | Departure of Mr. Paata Janelidze | |  | |  |

Total number of meetings conducted: 14

Appendix C – List of Persons Interviewed

This is a listing of persons contacted in Bishkek during the Evaluation Period for the MTE only. The Evaluation Team regrets any omissions to this list.

1. Mr. Pradeep Sharma, Deputy Resident Representative, UNDP CO Kyrgyzstan;
2. Mr. Daniar Ibragimov, Programme Analyst, Environment for Sustainable Development Unit, UNDP CO Kyrgyzstan;
3. Mr. Aftandil Kalmambetov, Minister of Energy and Industry of the Kyrgyz Republic;
4. Mr. Almaz Stamaliev , Head of generation and distribution Department, Minister of Energy and Industry;
5. Mr. Valery Dil, Director of Directorate for Small and Medium-scale Power Generation Projects in the Kyrgyz Republic (DSMP);
6. Mr. Sergey Frants , First Deputy Managing Director of DSMP;
7. Ms. Djiparkul Bekkulova, Head of Ecology Strategy and Policy Department, State Agency on Environment Protection and Forestry (EPF) under the Government of KR;
8. Mr. Bajgobil Talangutov, Director of Environmental Regulation Centre;
9. Mr. Mirdin Eshenaliev , Senior Project Officer, Asian Development Bank;
10. Mr. Bakyt Kumanbekov, Chief Corporate Banking Officer, Kyrgyz Investment and Credit Bank;
11. Mr. Rysbek Satylkanov, Chairmen, Association of Renewable Energy;
12. Mr. Bakyt Kartanbaev, Project Coordinator, Association of Renewable Energy;
13. Mr. Ilya Domashov , Deputy Chair of Board, Biom;
14. Mr. Mihail Yakovlev, Program Coordinator, Biom;
15. Mr. Yvan Louis Paul Grac, General Director, C.A.C.I;
16. Ms. Eleonora Kazakova , Executive Director, Kalininskay SHPP - Mecamidi;
17. Mr. Igor Kuon , Director, Inkraft;
18. Mr. A. Khalbekov, Director, Imenite Ibragimov;
19. Mr.Kamchibek Chotoev, Farmer, proponent of 70 kW HP project.

Appendix D – List of Documents Reviewed

1. Project Document;
2. Other Documents: Annual Work Plans for 2010, 2011, 2012; Combined Delivery Reports for 2010, 2011; Project Implementation Reports for 2011, 2012; Resolution of Project Consultative Board Meeting (Dec. 2011); Project Risk Log (as per ATLAS);
3. Project Inception Report, Prepared by Dr. Zoran Morvaj, International Technical Advisor, December 2011;
4. Development of packaged recommendations for SHP Developers, Project Report, 2012;
5. Kyrgyzstan’s Energy Sector Overview, Project Report, 2012;
6. Information for Board of the Ministry of Energy and Industry of the Kyrgyz Republic, Project Report, 2012 (in Russian);
7. Decree of the President of the Kyrgyz Republic “On specific measures of small and medium energy development in the Kyrgyz Republic”, 2008
8. Resolution on KR on Measures for Financial Sustainability of Energy Facilities, Enhance Transparency and Reporting in the Energy Sector;
9. Resolution on KR on Mid-term Strategy for Power Sector of KR for 2012-2017;
10. Resolution on KR on Mid-term tariff policy for electricity and thermal energy for 2010-2012;
11. National Bank of Kyrgyz Republic. Trends of Development of the Banking System, 2011;
12. Asian Development Bank, Diagnostic Study of electricity demand/supply and infrastructure limitations, 2010 (in Russian);
13. N.Abdyrasulova, N. Kravsov, Governance In Kyrgyzstan: An Institutional Assessment, 2009;
14. Integration Processes in Power sectors of Member States of the Eurasian Development Bank, 2012 (in Russian);
15. A.Omorov, Legislation for RE Development in Kyrgyz Republic, 2011 (in Russian);
16. Phase II – Strategic planning of Small and Medium HPPS development, Ministry of Energy of the Kyrgyz Republic and EBRD, AF-Mercados EMI, 2011;
17. Letter from C.A.C.I. on cooperation with the Project, 2012 (in Russian).

**APPENDIX E – REVISED LOG-FRAME (BASED ON LOG-FRAME IN TOR FOR MTE)**

**Including recommendations based on the Mid-Term Evaluation (given in *Bold/Italics)* and revisions *(*in ~~strike through text)~~**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **This project will contribute to achieving the following Country Programme Outcome as defined in CPD:** A.2.9: Global environmental principles integrated into grass roots poverty reduction efforts. | | | | | |
| **Country Programme Outcome Indicators:**  **Key Indicator (1):** Number of developed national action plans to implement commitments of KR under the UN environmental conventions.  **Key Indicator (2):** Discussion of all environmental initiatives among civic society, involving mass media.  **Key Indicator (3):** Transparent finance resource conversion mechanisms developed.  **Key Indicator (4):** National legislation adapted to international environmental commitments of KR. | | | | | |
| **Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one):** Mainstreaming Environment and Energy | | | | | |
| **Applicable GEF Strategic Objective and Program:** To promote on-grid renewable energy -CC-SP3-RE | | | | | |
| **Applicable GEF Expected Outcomes:** Total avoided GHG emissions from hydropower generation. | | | | | |
| **Applicable GEF Outcome Indicators:** Avoided GHG emissions from hydropower generation (tons CO2/kWh); and $/t CO2. | | | | | |
|  | **Indicator** | **Baseline** | **Targets**  **End of Project** | **Source of Verification** | **Risks and Assumptions** |
| **Objective** |  |  |  |  |  |
| To assist the Government in addressing the barriers to significantly increase grid-connected small hydropower capacity. | ~~Enable 285,140 MWh of electricity generated and 250,000 tons of CO~~~~2~~ ~~avoided.~~  ***The barriers are removed and SHP investment projects implemented*** | Negligible investments taking place in the grid-connected small hydropower sector. However, 2010 is a baseline in terms of existing sHPP against which any new sHPP will be credited to the project. | Investment in at least ~~3~~ ***2*** small hydropower ***projects resulted in some 50 GWh additional annual electricity generation and xxx t of CO2 reduction.*** ~~sites by end of project.~~  ~~Reduction of 20,000 tons of CO~~~~2~~ ~~over plant life cycle and an estimated 1750 Mwh/y of electricity generation.~~ | Project’s annual reports, GHG monitoring and verification reports.  Project final evaluation report. | Continued commitment of project partners, including Government agencies and investors/developers.  ***Risk: if the enabling environment for SHP investments is not created in 2013, pilot SHP projects might be not finalized by the Project end .*** |
| **Outcomes** |  |  |  |  |  |
| **Outcome 1:** Streamlined and comprehensive market-oriented, socially sensitive energy policy and legal/regulatory framework for small hydropower development. | Framework finalized and available for consultation by potential investors. | None available at the present time. | To be completed within 6 months from project inception report and approved by Government by the end of year 2012.  ***Corresponding mechanisms for implementation of the policy created by the end of 2013*** | Published documents. Government decrees/laws. | Commitment of the various Government institutions. |
| **Output 1.1:** Streamlining land tenure, water use rights and review of Law on Renewable Energy to define roles of responsible institutions- | Report confirming that policy and framework arrangements are in place. | Overlapping responsibilities of various Government institutions make the decision process very complicated. | ~~To be completed within 6 months from project inception report and approved by Government by the end of year 2012.~~  ***Policy advise is provided to the Ministry of Energy and Industry;***  ***Mechanisms for implementation of the policy created by the end of 2013*** | Published documents. | Commitment of the various Government institutions. |
| **Output 1.2:** Procedures for the introduction of competition in the award of sites/concessions for development. | Guidelines available. | Not available at the present time. | To be completed within 6 months from project inception report and approved by Government by the end of year 2012. | Published documents. | Commitment of the various Government institutions and project developers. |
| **Output 1.3:** Standard PPA to facilitate negotiations with IPPs and other interested mHPP developers. | Document available. | Not available at the present time. | To be completed within 6 months from project inception report and approved by Government by the end of year ***201***2. | Published documents. | Continued investor interest. |
| **Output 1.4:** Procedures for issuance of construction licenses and permits to developers streamlined, defined and prepared. | Information brochure and website are available. | Under the business-as-usual scenario, the average time to secure all required construction licenses and permits are 13 months. | To be completed within 6 months from project inception report and approved by Government by ~~the end of year 2012~~ ***July 2013***. | Published documents. | Continued investor interest. |
| **Outcome 2:** Capacity available to evaluate the economic and financial viability of small hydropower projects within the Ministry’s RE Unit and other project partners to monitor and enforce regulations related to SHP. | Number of people who participated in and successfully completed capacity development programme. | None available at the present time. | 5 projects sites evaluated by the end of year 2.  10 people trained during by the end of year 2012. | Training modules/number of staff trained.  Project report. | Concerned institutions willing to release staff for training. |
| **Output 2.1:** Suitable methodology for the economic/financial evaluation of small hydropower plants. | Methodologies applied | Not available at the present time. | To be completed within 6 months from project inception report and applied thereafter. | Project report. | Cooperation of Government entities and staff. |
| **Output 2.2:** Financial and other incentives to be provided to project developers. | Document available. | Not comprehensive document available at the present time. | To be completed within 6 months from project inception report and applied thereafter. | Project documentation. | Cooperation of Government entities. |
| **Output 2.3:** Guarantee and risk mitigation instruments that facilitate IPP investment elaborated within a framework of a RES policy. | Instruments proposed. | No such instruments available at the present time. | Instruments designed in year ~~2012~~ ***2013***. | Project reports. | Lending institutions ready to come on board. |
| **Output 2.4**: Pursue options sectoral carbon crediting. | Viable options identified. | None available to date. | To be completed by the end of year 2013. | Project documentation. | Cooperation of Government entities. |
| **Output 2.5:** Capacity developed within the Ministry’s RE Unit to monitor and enforce regulations related to SHP. | Number of Ministry staff successfully trained. | None available at the present time. | Five to Six Government and other staff trained by the end of year 2013. | Number of staff trained.  Project report. | Cooperation of Ministry and staff. |
| **Outcome 3:** Capacity available to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services. | Teams trained in various categories of activities.  Technical assessment of projects.  Guidelines for maintenance, repair and modular SHP design. | No such activity being implemented. | 3 projects technically assessed in year 2.  Manual for operations & maintenance developed in year 2, O&M procedures applied in at least 3 sites by end of project.  40 people trained in the various categories by the end of the project. | Project reports. |  |
| **Output 3.1:** Guidelines and technical standards for small hydropower development. | Published guidelines. | Not presently available. | Completed within first 12 months of project. Applied ~~in 3~~ ***to at least 2 pilot*** project***s*** ~~development sites~~. | Project reports. | Participation of Government institutions in drafting guidelines. |
| **Output 3.2:** Capacity developed to design, evaluate and implement projects. | Capacity development material available. | Not presently available. | Six staff trained during ~~year 2 of project~~ ***the development of pilot projects (feasibility study, detailed design, construction, supervision)***. | Project documentation. | Participation of ***Internatoional Consultant(s),*** Government entities in training programme. |
| **Output 3.3:** Local capacity for maintenance and repair services. | Availability of qualified and certified companies for maintenance and repair services. | None available now. | 30 people trained by the end of the project. | Project reports. | Availability of people with basic technical education. |
| **Outcome 4:** Full feasibility and technical design studies for 3 small community based hydropower plants followed by construction. | Feasibility reports. | Not presently available. | Construction of ~~3~~ ***2*** small hydropower stations completed by the end of the project generating ~~17~~50 ~~M~~***G***Wh/y thereafter. | ~~Site visits to power stations.~~  ***Construction supervision reports;*** Project reports. | Commitment and participation of Government institutions and project developers,  ***Participation of Banks (in case of loan co-financing)***. |
| **Output 4.1:** Reports on feasibility and design studies. | Reports available. | Non-existent at the present time. | Completed by the end of year ~~2012~~***2013***. | Project documentation. | All data made available to consultants. |
| **Output 4.2:** Report on completion of construction of the 3 hydropower stations. | Completion report. | No construction is being undertaken. | ~~3~~ ***2*** small hydropower stations constructed by the end of project. | Site visits and project reports. | Supportive institutional, legal and regulatory framework. |
| **Outcome 5:** Outreach programme and dissemination of project experience/best practices/lessons learned for replication throughout the country. | Outreach programme formulated. Project experience compiled, analysed and disseminated. | Lack of sufficient information to pursue programme. | 4-5 projects initiated in other areas of Kyrgyzstan by the end of the project. | Project final report and web site. | Growth of programme will be sustained. |
| **Output 5.1:** Plan to implement outreach/promotional activities targeting domestic and foreign investors. | Plan available. | No such plan available. | Completed ~~within 6 months of project inception report.~~ ***in the first quarter of 2013*** | Project documentation. |  |
| **Output 5.2:** Capacity development to monitor and document project experience. | Capacity development material prepared. | No capacity development programme. | 10 people trained by the end of project. | Project reports. | Appointment of staff by Government. |
| **Output 5.3:** Published materials on project experience/best practices and lessons learned. | Project experience and best practices compiled, published and available on website. | Lack of information on best practices and lessons learned. | Completed within 3 months of project end. | Project documentation and web site. |  |

**ANNEX F – RATE TABLES**

**Table : Status of objective / outcome delivery as per measurable indicators**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Objective** | **Measurable Indicators From Project Log-frame** | **End-Of-Project Target** | **Status Of Delivery\*** | **Rating\*\*** |
| **Objective** : To assist GoK in addressing the barriers to significantly increase grid-connected SHP capacity | Enable 285,140 MWh of electricity generated | Investment in at least 3 small hydropower sites by end of project |  | MS |
| Enable 250,000 tons of CO2 avoided | Reduction of 20,000 tons of CO2 over plant life cycle and an estimated 1750 MWh/y of electricity generation |
| **Outcomes** | **Measurable Indicators from Project Log-frame** | **End-of-Project Target** | **Status of Delivery** | **Rating** |
| **Outcome 1:** Streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for small hydropower development | Framework finalized and available for consultation by potential investors | Approved by GoK |  | S |
| Report confirming that policy and framework arrangements are in place | Approved by GoK |  | MS |
| Guidelines available | Approved by GoK; Competitive bidding for sites/concession areas completed |  | S |
| One-stop shop is operational | Approved by the GoK; All PPAs for 20 MW of capacity signed |  | MS |
| **Outcome 2:** Capacity available within DSMP to evaluate the economic and financial viability of small hydropower projects and within the Ministry’s RE Unit to monitor and enforce regulations related to SHP | Number of DSMP/Ministry staff who participated in and successfully completed capacity development programme | Six Government staff trained |  | MS |
| Methodologies for the economic/ financial evaluation of small hydropower plants applied by DSMP | Methodologies applied |  | S |
| Methodology for calculating small hydropower tariffs to be paid to IPPs/to applied by DSMP  Documents | Methodology applied |  | S |
| Financial and other incentives to be provided and available to project developers | Financial incentives provided to SHP developers |  | MS |
| Guarantee and Risk mitigation instruments developed | Instruments designed and applied to IPP investments |  | MS |
| Registered CDM projects | CDM projects registered |  | MU |
| Number of Ministry staff successfully trained | Five to Six Government staff trained |  | S |
| **Outcome 3:** Capacity available to assess hydrological resources, design, evaluate and implement projects, and provide maintenance and repair services | Teams trained in various categories of activities | 5 projects technically assessed |  | S |
| Technical assessment of projects | O&M Manual developed ; O&M procedures applied to at least 5 sites |  | MS |
| Guidelines for maintenance, repair and modular SHP design | 40 people trained in various categories |  | MS |
| Instrumentation to measure river flow installed; Software developed for interpretation of data | Update of 5 sites completed |  | MS |
| Published guidelines | Guidelines applied to 5 SHP development sites |  | MS |
| Capacity development material available | Six DSMP staff trained |  | MS |
| Availability of qualified and certified companies for maintenance and repair services | 30 people trained |  | MS |
| **Outcome 4:** Full feasibility and technical design studies for 5 small hydropower sites followed by construction of power stations | Feasibility reports | 5 FSs completed |  | MS |
| Completion report | 5 SHPPs constructed which generate 130.5 GWh of electricity annually |  | MU |
| **Outcome 5:** Outreach programme and dissemination of project experience/ best practices/ lessons learned for replication through-out the country | Outreach programme formulated; Project experience compiled, analyzed and disseminated | 8-10 projects initiated in other areas of Kyrgyzstan |  | S |
| Capacity development material prepared | 10 Government staff trained |  | S |
| Project experience and best practices compiled, published and available on website | Activities completed |  | MS |

###### \* Status of delivery colouring codes:

Green / completed – indicator shows successful achievement

Yellow – indicator shows expected completion by the end of the project

Red – Indicator show poor achievement - unlikely to be complete by end of Project

**ANNEX J – CO-FINANCING TABLE**

**Table: Co-financing table**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PIMS 3134**  **Co-financing (Type/Source)**  **2010-2012** | **IA own  Financing (UNDP) (mill US$)** | | **Government (mill US$)** | | **Other\* (mill US$)** | | **Total (mill US$)** | | **Total**  **Disbursement (mill US$)** | |
| **Planned** | **Actual** | **Planned** | **Actual** | **Planned** | **Actual** | **Planned** | **Actual** | **Planned** | **Actual** |
| * Grants | 0,1 | 0,1 | 0 | 0 | 0,48 | 0 | 0,58 | 0,1 | 0,58 | 0,1 |
| * Loans/Concessional (compared to market rate) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| * Credits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| * Equity investments | 0 | 0 | 0 | 0 | 20 | 0,554 | 20 | 0,554 | 20 | 0,554 |
| * In-kind support | 0 | 0 | 0,8 | 0,1 | 0 | 0 | 0,8 | 0,1 | 0,8 | 0,1 |
| * Other (\*) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Totals** |  |  |  |  |  |  |  |  | **22,33** | **0,754** |

\* Other is referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

1. USD 1.00 = SOM 43.5 in November 2009 [↑](#footnote-ref-1)
2. This was a preliminary list that was subject to change on the basis of initial studies by Cotec and Seloga as per their respective framework agreements with the Directorate under the GoK in 2009. [↑](#footnote-ref-2)
3. up to 100% [↑](#footnote-ref-3)
4. In fact Imenite Ibragimov has already started the implementation of 600 kW HPP (contract on E & M is signed); however, the Project did not provide TA yet [↑](#footnote-ref-4)
5. GEF resources only [↑](#footnote-ref-5)
6. Project is now focused on development of mechanisms for operationalizating the approved changes. Considering the support from all stakeholders including MoE to this initiative, it can be assumed that such mechanisms may be developed and approved within 3-4 month period. [↑](#footnote-ref-6)
7. As mentioned above Imenite Ibragimov will implement 600 kW project regardless the regulatory framework, i.e. [↑](#footnote-ref-7)
8. Moreover, according to the Guidelines on Gender Mainstreaming at the GEF, analysis of the monitoring and evaluation reports from the GEF projects shows that the projects usually do not monitor or report the progress on gender issues. Gender is one of the mandatory cross-cutting requirements in the UNDP and GEF and should be incorporated into any UNDP/GEF project cycle. [↑](#footnote-ref-8)
9. Such as UNDP KGZ Country Gender Mainstreaming Strategy (2008-2011) [↑](#footnote-ref-9)
10. Including achieving gender equality goals, setting gender-sensitive indicators and ensuring gender balance among the project’s beneficiaries and target groups [↑](#footnote-ref-10)
11. In relation to the abovementioned, it should be noted that there is increasing feminization of poverty in Kyrgyzstan (70% of poor and poorest are women according to a World Bank assessment). There is an exclusion of women’s groups from management of natural recourses, decision making in environment protection, and from raising awareness on this issue. Achieving Gender Equality goals is reflected in UNDP Global Gender Equality Strategy for 2008-2011 and in a road map on making women’s and men’s concerns an integral dimension of all aspects and areas of UNDP’s work. UNDP Kyrgyzstan also developed Country Gender Mainstreaming Strategy (2008-2011) and annual working plans for its implementation. [↑](#footnote-ref-11)
12. UNDP-GEF’s system is based on the Atlas Risk Module. See the UNDP-GEF Risk Management Strategy resource kit, available as Annex XII at http://www.undp.org/gef/05/monitoring/policies.html [↑](#footnote-ref-12)
13. RBM Support documents are available at http://www.undp.org/eo/methodologies.htm [↑](#footnote-ref-13)
14. Available at <http://content.undp.org/go/userguide/results/project/> [↑](#footnote-ref-14)
15. See http://www.uneval.org/ [↑](#footnote-ref-15)